Advancing a programme theory for community-level oral health promotion programmes for humanitarian migrants: a realist review protocol

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ABSTRACT

Introduction  Humanitarian migrants often suffer from poor health, including oral health. Reasons for their oral health conditions include difficult migration trajectories, poor nutrition and limited financial resources. Oral health promotion is crucial for improving oral health-related quality of life of humanitarian migrants. While community-level oral health promotion programmes for humanitarian migrants have been implemented (e.g., in host countries and refugee camps), there is scant literature evaluating their transferability or effectiveness. Given that these programmes yield unique context-specific outcomes, the purpose of this study is to understand how community-level oral health promotion programmes for humanitarian migrants work, in which contexts and why.

Methods and analysis  Realist review, a theory-driven literature review methodology, incorporates a causal heuristic called context–mechanism–outcome configurations to explain how programmes work, for whom, and under which conditions. Using Pawson's five steps of realist review (clarifying scope and drafting an initial programme theory; identifying relevant studies; quality appraisal and data extraction; data synthesis; and dissemination of findings), we begin by developing an initial programme theory using the references of a scoping review on the oral health of refugees and asylum seekers and through hand searching in Google Scholar. Following stakeholder validation of our initial programme theory, we will locate additional evidence by searching in four databases (Ovid Medline, Ovid Embase, Cochrane Library and Cumulative Index to Nursing and Allied Health Literature (CINAHL)) to test and refine our initial programme theory into a middle-range realist programme theory. The resultant theory will explain how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.

Ethics and dissemination  Since this study is a review and no primary data collection will be involved, institutional ethics approval is not required. The findings of this study will be disseminated in peer-reviewed journals, local and international conferences, and via social media.

Trial registration number  CRD42021226085.

Strengths and limitations of this study

- This study is the first using realist review to understand how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.
- The programme theory resulting from this study can inform the design and implementation of successful and context-specific community-level oral health promotion programmes for humanitarian migrants.
- Our research team is interdisciplinary, and we will also consult stakeholders from various relevant fields to ensure that our programme theory transcends disciplines.
- Since this study is a review of existing literature, theory making is limited by the availability, richness and quality of available evidence.
- Only studies in English and French will be included, which might lead to the exclusion of potentially relevant literature available in other languages.

INTRODUCTION

Humanitarian migrants—a term we use to include refugees, asylum seekers and internally displaced persons—are people who forcibly move away from their place of habitual residence and are in vulnerable conditions needing urgent protection. At the end of 2020, there were 82.4 million humanitarian migrants displaced worldwide due to human rights violations, conflict and persecution, including 48 million internally displaced persons, 26.4 million refugees, and 4.1 million asylum seekers. Humanitarian migrants disproportionately suffer from diseases such as tuberculosis, HIV and mental disorders and thus have a compromised health-related quality of life. In addition to poor health conditions, these populations often have compromised oral health conditions for reasons such as financial constraints, limited or no access to dental care, and the legacy of their difficult migration trajectories. Poor

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oral health further reduces the quality of life of humanitarian migrants.6

Good oral health enables individuals to speak, chew, breathe, taste, smile, socialise and enjoy life.7 Poor oral health can cause pain and discomfort, social and psychological problems, and loss of effective school or work hours.8 Oral diseases such as dental caries and periodontal diseases are associated with the risk of chronic diseases such as cardiovascular diseases and diabetes through sharing common risk factors.9 Poor oral health can compromise quality of life by causing pain, impairment of craniofacial functions such as chewing and speaking, and reduced aesthetics, leading the individual to social exclusion and stigmatisation.10 The negative sequelae of poor oral health are of the utmost importance for humanitarian migrants who are already vulnerable to fragile health, have limited finances and lack social support.11 12 Enjoying good oral health is a fundamental human right; therefore, programmes and policies aiming to improve the oral health of humanitarian migrants are imperative.13

Many community-level oral health promotion programmes have been developed and implemented to address humanitarian migrants’ oral health needs. These programmes intend to improve migrants’ oral health via two main approaches: oral health education and dental service provision.14 Oral health education programmes aim to increase oral health knowledge of humanitarian migrants and thereby instigating a change in oral health behaviour, potentially leading to improved oral health.15–17 For example, an oral health education programme in the USA provided brochures for refugee children and their caregivers to increase their knowledge of the oral health of children.18 Another example of oral health education programmes includes a programme providing a multilingual oral health education digital video disk (DVD) for refugees in Australia.19

Dental service provision programmes intend to improve the oral health of humanitarian migrant populations through provision of dental care, such as dental restorations or extractions, by volunteer or remunerated dentists, dental students and non-governmental organisations.12 19 20 An example is the dental restoration programme for Dinka and Nuer refugees living in Nebraska, aiming to restore and replace the lower anterior teeth extracted during childhood following local cultural practices.19 Some community-level oral health promotion programmes for humanitarian migrants incorporate both oral health education and dental service provision interventions for enhanced effectiveness. For instance, an oral health promotion programme for Chilean refugees in Sweden provided oral health instructional sessions as well as scaling and root planning at the baseline visit.21

Some programmes train humanitarian migrants to work as community oral health workers (COHWs) to provide oral health education and/or basic dental services for their own community.22 23 COHW programmes aim to account for acute shortage of dental staff in settings with inadequate resources such as refugee camps, as well as to increase the cultural competency of the programme interventions.16 20 For instance, a programme in Ghana tutored volunteers of the Liberian refugee camp ‘Gomoa Buduburam’ as COHWs to provide preventive oral healthcare and emergency dental treatment for the camp members.22

Notwithstanding the presumed importance of these programmes, there are scant evaluation data accompanying their descriptions in the literature. Community-level oral health promotion programmes for humanitarian migrants are necessarily complex interventions implemented in complex and ever-changing social situations.24 25 Contrary to clinical treatments, which generally have a linear pathway of action,24 public health programmes are not finite treatments or singular schemes; they include design, implementation, regulation and management of the services.28 Further, the success of these programmes depends on client reasoning, behaviours and decision making, and how these elements unfold within the context of the specific programme, the clients’ lives and the wider setting.26 27 As a result, each programme will yield unique outcomes in each specific context.

Traditionally, evaluations of community programmes focus on effectiveness; that is, evaluating the effect of the intervention on its outcome. Such an approach, however, often misses the important role of contextual factors: that is, how the outcomes of a specific intervention are moderated by myriad elements within which the intervention is implemented, such as interpersonal relationships, legislations and the infrastructure of the delivered services.28 To render community-level oral health promotion programmes most effective for humanitarian migrants, understanding the underlying causal pathways through which the contexts interact with the clients involved to produce programme outcomes is essential.29

The purpose of this study is to understand how community-level oral health promotion programmes for humanitarian migrants work, for whom, in which contexts and why.

METHODS

Methodology

Realist review, also referred to as ‘realist synthesis,’ is a theory-driven literature review methodology developed by Pawson et al41 to inform evidence-based policy. It employs an explanatory approach to develop an understanding of how complex programmes work, for whom, under what circumstances and settings and why.29 Using a causal heuristic called ‘context–mechanism–outcome (CMO) configurations’, realist reviews seek to explain how the context (particular aspects of the conditions within which a programme is implemented, such as individuals, culture, interpersonal relationships and legislations) can impact the mechanism (eg, participants’ reasoning and responses to the programme resources, which will depend on their values, beliefs and cognition) through
which the outcome (intended or unintended) occurs. During the review process, CMOs are constructed and refined through an iterative examination of peer-reviewed and grey literature that can shed light on how these programmes work. These CMOs are then incorporated and synthesised into a programme theory, which explains how the programmes work, in what contexts, for what populations and why.

A realist review begins with an initial ‘rough’ programme theory and ends with a refined realist programme theory. The realist philosophy is premised on the idea that all programmes are ‘theories incarnate’; the implementation of a programme puts to test the theory about what can cause behaviour change in the target population. A realist review thus begins by drafting an initial programme theory, which proposes hypotheses explaining how a programme works. This initial programme theory can be drawn from existing relevant substantive theories or developed by theorising the programme into a theory of action (what a programme is expected to accomplish) or a theory of change (why a programme is expected to work), preferably populated with realist elements of context, mechanism and outcome. The initial programme theory is then tested and refined during the review process using the identified CMOs into a realist programme theory at the middle-range level; that is, a theory that is not too abstract to detach from the context of a programme and not too specific to pertain to only one programme. The final programme theory can then serve as an evidence-based tool for designing and implementing context-specific programmes with optimised effectiveness.

**Patient and public involvement**

While patients or members of the public were not involved in the development of our protocol, we will consult and seek input from multiple stakeholders during the review process. Our stakeholders group is yet to be determined; however we will include categories such as (1) internationally-renowned migrant oral health researcher, (2) community-level oral health promotion programme designer; (3) programme director; (4) service provider (oral health educator or dental service provider); (5) service user (humanitarian migrant); and (6) realist researcher. The involvement of the stakeholders is further explained in the methods and dissemination sections.

**Objectives**

1. To develop an initial programme theory explaining how community-level oral health promotion programmes for humanitarian migrants work. This initial programme theory will be shared with the stakeholders for feedback.
2. To conduct database and complementary searches to identify relevant data sources and elicit CMO configurations which will be used to test the initial programme theory.
3. To refine the initial programme theory using the CMOs into a realist programme theory at the middle-range level. The refined theory will be shared with the stakeholders for feedback.

**Study design**

This realist review protocol uses Pawson’s five stages for conducting a realist review, which are: (1) clarifying the purpose of the review and the research question and drafting an initial programme theory; (2) identifying relevant studies; (3) quality appraisal and data extraction; (4) data synthesis; and (5) dissemination of findings. These steps are iterative, with the reviewers moving back and forth between stages.

**Clarifying the scope of the review and drafting an initial programme theory**

This study contributes to the Migrant Oral Health Project (MOHP)’s programme of research funded by the Canadian Institutes of Health Research (CIHR) to advance an understanding of how community-level oral health promotion programmes can best help humanitarian migrants. Our team is interdisciplinary with expertise in both quantitative and qualitative methods, and includes the following domains: Dentistry, oral public health, social sciences, epidemiology and health services research. During our initial meeting, the team confirmed that by humanitarian migrants, we mean refugees, asylum seekers and internally displaced persons. Community-level oral health promotion programmes are those aiming to improve the oral health conditions of humanitarian migrants through delivering interventions at the community level (rather than the individual level). For example, an oral health education programme including presentations and group discussions delivered in a community organisation for newly arrived refugees can be considered a community-level oral health promotion programme.

The review will commence with this broad question: How do community-level oral health promotion programmes for humanitarian migrants work, for whom, in which circumstances and why? More specific questions to be answered in this review will include:

- How do community-level oral health promotion programmes for humanitarian migrants achieve their outcomes?
- Which contextual factors impact these programmes’ outcomes and how?
- What mechanisms are triggered by these contextual factors and how do these mechanisms lead to the observed outcomes?

**Drafting an initial program theory**

The next step to our realist review will be to draft an initial programme theory explaining how community-level oral health promotion programmes for humanitarian migrant populations achieve their outcomes. For this aim, we will use the bibliographies of a recent scoping review on the...
identifying relevant resources for testing the
and French.

Moreover, the reviewers will conduct hand searching in
Google and Google Scholar to identify papers with more
information about the pathways through which these
programmes lead to their outcomes, how contexts may
impact these pathways or how humanitarian migrants
may respond to programme activities, including those
published after our team’s scoping review. A potential
search strategy for these databases would be ("refugee" OR
“internally displaced” OR “internal displacement”
OR “asylum seeker” OR “refugee claimant” OR “migrant”
OR “humanitarian migrant”) AND (“oral health” OR
“dental” OR “dentistry” OR “teeth” OR “tooth”).

One reviewer will screen the articles’ bibliographies
with the assistance of another reviewer to identify studies
potentially having more information about the three
mentioned types of programmes. The reviewers will
read a minimum of 10 papers and will attempt to draft
a theory of action and/or a theory of change for these
programmes, which will then be populated by the CMO
configurations identified in the papers. Following, the
reviewers will look for substantive theories relating to the
observed CMO patterns in the initial programme theory.

The drafted initial programme theory will then be shared with stakeholders for comments and feedback.
We will consult with stakeholders regarding which CMOs to prioritise in our review and will ask for additional
evidence. In accordance with our available time and resources for this project, we will select up to 10
CMOs for testing in our realist review process. We will incorporate the comments and feedback received from
the stakeholders to further complete and finalise our initial programme theory. This initial programme theory
will serve as a framework for data collection and analysis during the review process.

Identifying relevant studies
Our searches at this stage will be guided by the initial
programme theory and will aim to identify data sources
to test the CMOs in the initial programme theory.
With the advice and recommendations of a university-
based librarian, we will conduct a systematic search of peer-reviewed and grey literature in five databases:
Ovid Medline, Ovid Embase, CINAHL, ProQuest and
PsycInfo. The developed search strategy for the Ovid
Medline database is shown in box 1. The search strategy
will be converted for use in the four additional databases.
We will conduct all database searches on the same day. We
will not include any date of publication restrictions in our
searches. Language of studies will be restricted to English
and French.

We will conduct searches in Google and Google Scholar
to identify additional relevant resources for testing the
initial programme theory. Some search strategies used at
this stage are mentioned in table 1.

A search of the bibliographies and citations of retrieved
peer-reviewed articles will also be conducted through
reference searching and citation searching to identify
other pertinent studies that were not included in our
initial database searches.

Based on the extensiveness and depth of the identified
literature in our searches, the reviewers will decide about
conducting additional searches (eg, with modified search
terms or additional databases.) Additional searches will
be conducted with the assistance of a librarian and will
be aimed at identifying the specific elements of context,
mechanism, outcome and their interactions mentioned
in our initial programme theory to provide more detailed
and specific explanations of our CMOs. In case there are
insufficient data regarding oral health programmes for
humanitarian migrants, we will draw on literature from
other domains (eg, health) or other target populations
(eg, immigrants) if we realise that they have the same
mechanisms at play.

Study selection and screening
The identified articles will be exported to EndNote refer-
ence manager where duplicate articles will be removed.
The remaining articles will then be uploaded to Cov-
dence, an online tool for managing systematic reviews.
One reviewer will conduct title and abstract and full-text
screening for the identified resources, which will be
checked by a second reviewer.

Box 1  Search strategy for the Ovid Medline database

1. exp Refugees/
2. refugee.tw,kf.
3. refugees.tw,kf.
4. exp "Transients and Migrants"/
5. exp "Emigrants and Immigrants"/
6. "Emigration and Immigration"/
7. exp Undocumented Immigrants/
8. humanit* migra*.tw,kf.
9. asylum seek*.tw,kf.
10. internat* displac*.tw,kf.
11. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
12. exp Oral Health/
13. exp Dentistry/
14. oral healthcare.tw,kf.
15. exp Dental Health Services/
16. exp Fluorides, Topical/ or exp Fluorides/
17. exp Mouth Diseases/
18. exp Periodontal Diseases/
19. exp Dental Caries/
20. 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
21. (oral* adj3 health*).tw,kf.
22. (dental* or dentist* or tooth or teeth or caries or carious or peri-
odont*).tw,kf.
23. 20 or 21 or 22
24. 11 and 23
The inclusion criteria for the studies in title and abstract and full-text screening stages will be (1) relevance to the initial programme theory and its CMOs; and (2) containing information about contexts, mechanisms, outcomes and/or their interactions. Resources containing only descriptive information about outcomes will be excluded.

Unlike Cochrane systematic reviews, realist reviews do not aim to be comprehensive; rather, the aim is to establish an equilibrium between comprehensiveness and saturation. Therefore, we will stop our searches when we have obtained enough evidence to support, refute or refine our initial programme theory.

### Quality appraisal and data extraction

#### Quality appraisal

In realist reviews, the unit of analysis is not the entirety of a study but the evidentiary fragments in the study. While the rigour of data is often based on the plausibility of the methods through which the data were generated, in realist reviews, data can be drawn from any part of a paper, not just the results section. Therefore, using standard checklists to make judgements about the rigour of the whole body of the paper may not be appropriate, as these checklists may only account for a small portion of the relevant data in the paper. The most important decision to be made about data quality is the contribution each paper can make to the construction and refinement of the programme theory, usually stemming from the ‘pieces’ of data and not the entire body of the paper.

Rigour in realist reviews refers to the credibility, plausibility and trustworthiness of the methods used to generate data and depends on two criteria: trustworthiness (how much the methods used to obtain data are plausible and can be trusted) and coherence (whether the data are consistent and logical with explanatory breadth). Since the information used in different parts of a paper will have been generated through specific means and methods serving specific purposes, assessing the rigour of the methods used to generate each data fragment might prove overwhelming or impossible and is not recommended by realist researchers. Furthermore, sometimes circumstantial data identified in less rigorous data sources can contribute to constructing a convincing theory. Therefore, instead of evaluating and rating data quality, we will attempt to identify sufficient data to construct plausible programme theories underpinned by coherent arguments.

#### Data extraction

We will use MaxQDA, a software used for qualitative data analysis for data extraction and analysis. This software will allow us to iteratively refine our codes. One reviewer will read the included papers in full and extract parts of the data that can contribute to our theory development and refinement, which will be checked by a second reviewer. When confusion or concern arises (eg, lack of adequate information), the reviewers will contact the authors of the papers to request additional information or clarification.

We will indicate each paper’s characteristics in a Microsoft Excel spreadsheet. The following information will be included: (1) bibliographic details: title, author, journal and year of publication; (2) study type and design; and (3) target population, intervention and type of programme.

### Data analysis and synthesis

The data analysis process will involve identifying elements of context, mechanism, outcome and their

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**Table 1 Complementary searches in Google and Google Scholar**

| Search type | Search aim | Example | Search strategy |
|-------------|------------|---------|----------------|
| Searches for relevant community-level oral health promotion programmes for humanitarian migrants | To identify relevant CMOs for testing the initial programme theory | Dental service provision programmes | (“refugee” OR “internally displaced” OR “internal displacement” OR “asylum seeker” OR “refugee claimant” OR “migrant” OR “humanitarian migrant”) AND (“oral health” OR “dental” OR “dentistry” OR “teeth” OR “tooth”) AND (“service” OR “treatment” OR “restoration” OR “care” OR “examination” OR “prevention” OR “preventive” OR “dentist” OR “clinic”) |
| Searches for specific CMOs | To identify more detailed descriptions of elements of context, mechanism, outcome and their interactions in a specific CMO | Context: experience of war | (“refugee” OR “internally displaced” OR “internal displacement” OR “asylum seeker” OR “refugee claimant” OR “migrant” OR “humanitarian migrant”) AND (“oral health” OR “health” OR “dental” OR “dentistry” OR “teeth” OR “tooth”) AND (“war” OR “conflict” OR “persecution” OR “violence” OR “trauma” OR “traumatic”) |
| Searches for substantive theories | To identify substantive theories that support the refined CMOs, allowing them to be abstracted to the middle-range level | Self-efficacy | (“self-efficacy” OR “empowerment” OR “empower” OR “confidence”) |

CMO, context–mechanism–outcome.
inter-relationships in the data fragments. Both quantitative and qualitative data types can be used for identifying any of these elements. For instance, to identify mechanisms, qualitative data obtained from interviews can be a pathway to identifying participants’ reasoning, while a multiple-choice question in a questionnaire survey can be used for the same purpose. Outcomes can be identified through quantitative data, while in certain cases, such as identifying unintended outcomes, qualitative data might prove useful. Contexts can be identified using quantitative categorical variables or qualitative data such as participant quotes in interviews or the constant comparative technique. While contexts are rarely the exact same as the categorical variables in quantitative studies or the theme titles in qualitative studies, they can provide clues for the reviewers and guide the inquiry regarding contexts.

Underlying mechanisms are often implicit in data and may not necessarily appear at the empirical level. For example, the participants’ reasoning occurs in their minds and might not be explicit in the data. Therefore, mechanisms need to be identified using ‘retroduction,’ an analytic technique to uncover hidden causal factors lying behind the identified patterns and the changes to those patterns. Retroduction encompasses unearthing causal mechanisms using induction (developing theories from empirical evidence), deduction (testing theories against evidence) and abduction (creative thinking).

Identifying the interactions between the elements of context, mechanism and outcome is of the utmost importance in realist reviews and has been emphasised by realist researchers. The accompaniment of terms relating to the elements of context, mechanism or outcome may indicate a possible interrelationship between them. Conjunction terms such as ‘and,’ ‘so’ and ‘but’ can also indicate a relationship between these elements.

The identified CMOs will be used to test and refine the initial programme theory. Relevant formal theories supporting these CMOs will be sought to advance our realist programme theory at the middle-range level, allowing our findings to be transferable to similar contexts.

We will consult our stakeholder group regarding the final programme theory; their comments and feedback will be applied to further improve and finalise the final realist programme theory.

ETHICS AND DISSEMINATION

Dissemination of findings

The findings of this review will be reported according to the principles of ‘Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) publication standards for realist synthesis’, which outlines the key elements to include in the abstract, introduction, methods, results and discussion section of a realist review. With the advice and input from the stakeholders, we will make recommendations regarding how to implement community-level oral health promotion programmes for humanitarian migrants most effectively.

Two manuscripts will be written to report the findings of this study, one encompassing the initial programme theory, and another reporting the refined realist programme theory regarding how community-level oral health promotion programmes for humanitarian migrants work. The manuscripts will be submitted for publication in peer-reviewed journals. The findings of this review will also be presented in oral and poster format in scientific local and international conferences. Moreover, we will disseminate the findings of this review through the MOHP website and via social media.

Ethics approval

Since this study is a review and synthesis of the literature, and that our consultations with stakeholders will not include primary data collection, institutional ethics approval is not required.

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Contributors

MEM and BN conceptualised the study. NE and MMN developed and piloted the search strategies. NE designed and drafted the realist review protocol, which was critically reviewed and revised by MEM, MMN and BN. All authors have approved the final version of the manuscript.

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Competing interests

None declared.

Patient and public involvement

Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication

Not applicable.

Provenance and peer review

Not commissioned; externally peer reviewed.

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REFERENCES

1 Key migration terms: international organization for migration (IOM), 2020. Available: https://www.iom.int/key-migration-terms [Accessed 24 Jun 2020].
2 UNHCR. Global Trends in Forced Displacement - 2020: UNHCR, 2021. Available: https://www.unhcr.org/606b638e37/unhcrlobal-trends-2020 [Accessed cited 2021 September 13].
3 Belser M. The health of immigrants and refugees in Canada. Can J Public Health 2005;96 Suppl 2:S30–44.
4 Keboa MT, Hovey R, Niculau B, et al. Oral healthcare experiences of humanitarian migrants in Montreal, Canada. Can J Public Health 2019;110:453–61.
5 Keboa MT. Understanding oral health and dental care pathways of refugees and asylum seekers in Montreal. McGill University Libraries, 2018.
6 Sheiham A. Oral health, general health and quality of life. SciELO Public Health, 2005.

7 Locker D. Concepts of oral health, disease and the quality of life. Measuring oral health and quality of life;111997:24.

8 World Health Organization (WHO), Oral health. Available: https://www.who.int/health-topics/oral-health#tab=tab_3 [Accessed 17 Jun 2020].

9 Li X, Kolltveit KM, Tronstad L, et al. Systemic diseases caused by oral infection. Clin Microbiol Rev 2000;13:547–58.

10 Beenadi D, Reddy CKVC. Oral health related quality of life. J Int Soc Prev Community Dent 2013;3:1–6.

11 Redwood-Campbell L, Thind H, Howard M, et al. Understanding the health of refugee women in host countries: lessons from the Kosovo re-settlement in Canada. Prehospital Disaster Med 2008;23:322–7.

12 Singh HK, Scott TE, Henshaw MM, et al. Oral health status of refugee torture survivors seeking care in the United States. Am J Public Health 2008;98:2181–2.

13 Glick M, Williams DM, Kleinman DV, et al. A new definition for oral health developed by the Fdi world dental Federation opens the door to a universal definition of oral health. Br Dent J 2016;221:792–3.

14 Keboa MT, Hiles N, Macdonald ME. The oral health of refugees and asylum seekers: a scoping review. Global Health 2016;12:59.

15 Geitman PL, Hunter Adams J, Penrose KL, et al. Health literacy, acculturation, and the use of preventive oral health care by Somali refugees living in Massachusetts. J Immigr Minor Health 2014;16:622–30.

16 Gibbs L, Waters E, Christian B, et al. Teeth tales: a community-based child oral health promotion trial with migrant families in Australia. BMJ Open 2015;5.e007321.

17 Gunaratnam P, Sestakova L, Smith M, et al. Evaluation of a multilingual oral health DVD for newly arrived refugees. Health Promot J Austr 2013;24:159.

18 Akrashidi M, Hameed A, Cervantes Mendez MJ, et al. Education intervention with respect to the oral health knowledge, attitude, and behaviors of refugee families: a randomized clinical trial of effectiveness. J Public Health Dent 2021;81:1–10.

19 Fox SH, Willis MS. Dental restorations for dinkia and nuer refugees: a confluence of culture and healing. Transcult Psychiatry 2017;54:652–72.

20 Htoo M, Mickenautsch S. Oral health care in camps for refugees and displaced persons. World Health Organization, 2000.

21 Zimmerman M, Bornstein R, Martinsson T. Simplified preventive dentistry program for Chilean refugees: effectiveness of one versus two instructional sessions. Community Dent Oral Epidemiol 1993;21:143–7.

22 Ogunbode EO, Mickenautsch S, Rudolph MJ. Oral health care in refugee situations: Liberian refugees in Ghana. J Regul Stud 2000;13:326–35.

23 Roucka TM. Access to dental care in two long-term refugee camps in western Tanzania: programme development and assessment. Int Dent J 2011;61:109–15.

24 Pawson R, Greenhalgh T, Harvey G, et al. Realist review—a new method of systematic review designed for complex policy interventions. J Health Serv Res Policy 2005;10 Suppl 1:21–34.

25 Pawson R. The science of evaluation: a realist manifesto. London: SAGE Publications Ltd, 2013: 47–80. https://methods.sagepub.com/book/the-science-of-evaluation

26 Pawson R, Greenhalgh T, Harvey G. Realist synthesis: an introduction. Manchester: ESRC Research Methods Programme, University of Manchester, 2004.

27 Jagosh J. Realist synthesis for public health: building an ontologically deep understanding of how programs work, for whom, and in which contexts. Annu Rev Public Health 2018;39:40–61.

28 Wong G, Westhorp G, Pawson R. Realist synthesis: RAMESES training materials. London: The RAMESES Project, 2013.

29 Pawson R. Evidence-based policy: a realist perspective. SAGE, 2006.

30 Astbury B, Leeuw FL. Unpacking black boxes: mechanisms and theory building in evaluation. Am J Eval 2010;31:363–81.

31 Marchal B, Kegels G, Van Belle S. Theory and realist methods. Doing Realist Research. 1st edn. Los Angeles: Sage Publications, 2018: 80–9.

32 Wong G. Data gathering in realist reviews: looking for needles in haystacks. Doing realist research. Los Angeles: SAGE, 2018.

33 Marchal B, Kegels G, Van Belle S. Theory and realist methods. Doing Realist Research. London: Sage, 2018: 147–66.

34 Wong G. Data gathering in realist reviews: looking for needles in haystacks. Doing realist research. Los Angeles: SAGE, 2018.

35 Wong G, Westhorp G, Pawson R. Quality standards for realist syntheses and meta-narrative reviews. 24. London: RAMESES, 2014.

36 Booth A, Wright J, Briscoe S. Scoping and searching to support realist approaches. Doing realist research London: Sage, 2018: 147–66.

37 Pawson R. Middle range theory and program theory evaluation: from provenance to practice. Mind the gap: perspectives on policy evaluation and the social sciences 2010;16:171–203.

38 Wong G, Greenhalgh T, Westhorp G. Quality standards for realist syntheses and meta-narrative reviews. 24. London: RAMESES, 2014.

39 Booth A, Wright J, Briscoe S. Scoping and searching to support realist approaches. Doing realist research London: Sage, 2018: 147–66.

40 Pawson R. Digging for Nuggets: How ‘Bad’ Research Can Yield ‘Good’ Evidence. Int J Soc Res Methodol 2006;9:127–42.

41 MacDonald M, Pauly B, Wong G, et al. Supporting successful implementation of public health interventions: protocol for a realist synthesis. Syst Rev 2016;5:54.

42 MacQDA. The art of data analysis 2021. Available: https://www.macqda.com/ Evidence-based policy: a realist perspective. SAGE, 2006.

43 Kuckartz U, Rädiker S. Analyzing qualitative data with MAXQDA. Springer, 2019.

44 Westhorp G. Development of realist evaluation models and methods for use in small-scale community based settings. United Kingdom: Nottingham Trent University, 2008.

45 Pawson R, Greenhalgh T, Wong G. Retroduction in realist evaluation: the RAMESES II project, 2017. Available: http://www.ramesesproject.org/media/RAMESES_II_Retroduction.pdf.

46 Jagosh J. Retroduction theorizing in Pawson and Tilley’s applied scientific realism. J Crit Realism 2020;19:121–30.

47 Pawson R, Manzano-Santaella A. A realist diagnostic workshop. Evaluation 2012;18:176–91.

48 Astbury B. Making claims using realist methods. Doing Realist Research London: Sage Publications, 2018.

49 Wong G, Greenhalgh T, Westhorp G, et al. RAMESES publication standards: realist syntheses. BMC Med 2013:11:21.