

## Protocol

# Program and policy evaluations of oral health initiatives: a scoping review protocol

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## ABSTRACT

**Background:** Oral health has historically received limited policy attention, and India's National Oral Health Programme (NOHP) has not undergone a formal evaluation. This scoping review aims to systematically map global evidence on program and policy evaluations of oral health initiatives to inform future evaluation strategies, adoption of best practice approaches, and policy development in India.

**Methods:** This review will follow the Joanna Briggs Institute (JBI) 2020 methodology and PRISMA-ScR (Preferred reporting items for systematic reviews and meta-analyses extension for scoping reviews) guidelines. A comprehensive search will be conducted in Scopus, Embase (via Ovid), and PubMed, supplemented by hand-searching and citation tracking. Screening will follow a two-step process based on the Population-Concept-Context (PCC) framework. Two independent reviewers will conduct screening, with discrepancies resolved through discussion or consultation with a third reviewer. Data will be extracted into a structured Excel sheet, with quantitative data summarized descriptively and qualitative data synthesized narratively. The review will identify and map and summarise the existing evaluation frameworks, methodologies, outcome measures, strengths, and gaps in oral health program and policy evaluations globally. It will also highlight best practice strategies that could be adapted for India's NOHP.

**Conclusions:** Findings will guide policymakers and program planners in developing robust evaluation strategies, adopting global best practices, and integrating oral health into broader health systems, ultimately improving population-level oral health outcomes and reducing inequalities.

**Keywords:** Health policy evaluation, Program implementation, Global health strategies, Evaluation frameworks, Evidence synthesis

## INTRODUCTION

Oral health is a critical component of overall health and well-being, influencing nutrition, communication, social participation, and quality of life.<sup>1</sup> Oral diseases includes broad spectrum of conditions such as dental caries, periodontal (gum) disease, tooth loss, oral cancer, orodental trauma, and congenital anomalies like cleft lip and

palate.<sup>2,3</sup> Collectively, these are among the most prevalent noncommunicable diseases (NCDs) worldwide, affecting nearly 3.5 billion individuals.<sup>4</sup> The economic burden of oral diseases in India is estimated at INR 613.2 billion (USD 7.3 billion) annually.<sup>5</sup> Despite the clear linkage between oral health and overall health outcomes, oral diseases have historically received limited policy

attention, leading to underinvestment in prevention and integration within broader health systems.<sup>6</sup>

To address these challenges, several countries have implemented structured oral health programs and policies at national and subnational levels. Many of these initiatives have undergone systematic evaluations to assess their effectiveness, cost-efficiency, and sustainability. For instance, countries such as the United Kingdom, Australia, and Brazil have regularly evaluated their national oral health strategies, incorporating lessons into policy updates and program redesign.<sup>7-10</sup> These evaluations have covered diverse aspects including school-based oral health education, integration of oral health into primary care, intersectoral collaboration, capacity-building in the dental workforce, and assessment of information, education, and communication (IEC) materials.<sup>11-13</sup> Findings from such evaluations have led to policy modifications, improved delivery mechanisms, and inclusion of oral health in broader universal health coverage agendas.

In India, the NOHP was launched in 2014 with the vision of “attaining optimal oral health for all by 2020”. The program emphasized preventive, promotive, and curative oral health care, with special focus on integration into primary health care.<sup>14</sup> However, since its implementation, no formal program evaluation has been conducted to assess its effectiveness, coverage, or policy outcomes. Existing information is limited to periodic administrative reports and small-scale implementation studies, which do not provide a comprehensive understanding of its performance or long-term impact. The last nationally representative oral health survey in India was conducted nearly two decades ago, underscoring a significant data gap in oral health monitoring and program assessment.<sup>14</sup>

Moreover, although India has developed oral health policy drafted in 2019, these have not been officially published or implemented at a national scale. The absence of structured evaluation mechanisms limits opportunities for program improvement, accountability, and policy learning. Therefore, we aimed to map and synthesize existing global evidence on how oral health programs and policies have been evaluated. Understanding the frameworks, methodologies, outcomes, and policy implications from other countries can inform India’s future evaluation strategies and guide the integration of oral health into broader public health systems.

The objectives of this scoping review are: i) to map and summarise the characteristics of existing program and policy evaluations related to oral health across various international contexts, ii) to explore the evaluation frameworks, methodologies, and outcome measures used in assessing oral health programs and policies, iii) to determine the key strengths, and gaps in the current evidence base on oral health program and policy evaluation.

## **METHODS**

We will follow the JBI 2020 methodology for scoping reviews and will be reported according to the PRISMA-ScR checklist.<sup>15,16</sup>

### ***Search strategy***

We will systematically search Scopus, Embase (via Ovid), and PubMed to identify studies on the evaluation of oral health programs and policies. The key terms used to construct the search strategy are presented in Table 1, with the full detailed search strategy provided in Table 2. In addition, reference lists of included studies will be hand-searched to capture further relevant articles (snowballing), and a forward citation search will be conducted to identify studies that have cited previously published work.

### ***Inclusion and exclusion criteria***

The eligibility criteria for this review will be defined using the PCC framework (Table 3), in accordance with JBI methodology for scoping reviews. This framework provides a structured approach to ensure a systematic and transparent selection process by clearly defining the population of interest, the core concept under investigation, and the relevant contextual factors.

### ***Screening (two-step process)***

The first step will involve title and abstract screening, where two researchers will independently assess each record against the eligibility criteria. Studies meeting the criteria will be marked as “included,” or “may be” while those that clearly do not meet the criteria will be marked as “excluded.” Any disagreements will be resolved through discussion between the researchers or, if necessary, consultation with a third reviewer.

The second step will involve full-text screening. The full texts of potentially eligible studies will be independently reviewed by 2 researchers. Discrepancies will be discussed in a consensus meeting, and if agreement cannot be reached, 3<sup>rd</sup> reviewer will make final decision.

### ***Charting the data and summarizing the results***

A structured data extraction form has been developed in Microsoft excel (Table 4) to systematically capture relevant information from the included studies. Quantitative data will be summarized using descriptive statistics, including frequencies and proportions where applicable, to evaluate the extent to which key evaluation components were reported or implemented across studies. Qualitative or non-quantifiable information such as contextual factors influencing program implementation, details of evaluation methodologies, and policy development processes will be synthesized narratively.

**Table 1: Key terms used to construct the search strategy.**

Domain	Keywords / search terms
Program / policy	Programme evaluation
	Policy coherence
	Policy integration
	Oral health program
	Dental program
	Health promotion
	Oral health education
	National oral health program
Study type/ evaluation	Evaluation study
	Policy analysis
	Process evaluation
	Outcome evaluation
	Impact evaluation
	Cost-effectiveness study
	Mixed-methods study
Disease condition	Stomatognathic disease
	Dental diseases
	Oral microbiome
	Oral disorder
	Oral cancer
	Oral lesion
	Oral manifestations
	Oral immunological diseases
	Oral inflammatory diseases
	Oral symptoms

**Table 2: Search strategy.**

Domain	Search String (PubMed)	Hits on 19/06/2025
#1	(programme evaluation[Title/Abstract] OR policy coherence[Title/Abstract] OR policy integration[Title/Abstract] OR dental Policy[Title/Abstract] OR oral Health Program[Title/Abstract] OR oral health policy health promotion[Title/Abstract] OR oral health education[Title/Abstract] OR national dental programme[Title/Abstract] OR policy[Title/Abstract] OR oral-health promotion programs[Title/Abstract] OR OHPPs[Title/Abstract] OR OHPP[Title/Abstract] OR oral health plan[Title/Abstract] OR National oral health program[Title/Abstract])	88,023
#2	(Stomatognathic Disease*[Title/Abstract] OR Mouth[Title/Abstract] OR Tooth Diseases*[Title/Abstract] OR Mouth Disease*[Title/Abstract] OR Dental Diseases*[Title/Abstract] OR Oral microbiome*[Title/Abstract] OR Oral disorder*[Title/Abstract] OR Oral cancer[Title/Abstract] OR Oral lesion*[Title/Abstract] OR Oral manifestations*[Title/Abstract] OR Oral health[Title/Abstract] OR Oral immunological diseases*[Title/Abstract] OR Oral inflammatory diseases*[Title/Abstract] OR Oral symptoms*[Title/Abstract] OR Oral infection*[Title/Abstract])	312,952
#3	#1 AND #2	3857
#4	Filters: from 2000 – 2025 #3 AND #4	
#5	(programme evaluation[Title/Abstract] OR policy coherence[Title/Abstract] OR policy integration[Title/Abstract] OR dental Policy[Title/Abstract] OR oral Health Program[Title/Abstract] OR oral health policy health promotion[Title/Abstract] OR oral health education[Title/Abstract] OR national dental programme[Title/Abstract] OR policy[Title/Abstract] OR oral-health promotion programs[Title/Abstract] OR OHPPs[Title/Abstract] OR OHPP[Title/Abstract] OR oral health plan[Title/Abstract] OR National oral health program[Title/Abstract]) AND (Stomatognathic Disease*[Title/Abstract] OR Mouth[Title/Abstract] OR Tooth Diseases*[Title/Abstract] OR Mouth Disease*[Title/Abstract] OR Dental Diseases*[Title/Abstract] OR Oral microbiome*[Title/Abstract] OR Oral disorder*[Title/Abstract] OR Oral cancer[Title/Abstract] OR Oral lesion*[Title/Abstract] OR Oral manifestations*[Title/Abstract] OR Oral health[Title/Abstract] OR Oral immunological diseases*[Title/Abstract] OR Oral inflammatory diseases*[Title/Abstract] OR Oral symptoms*[Title/Abstract] OR Oral infection*[Title/Abstract]) Filters: from 2000 – 2025	3,598

Note: For EMBASE and Scopus, searches will be conducted using predefined search strategies, which will be adapted as necessary to meet the specific requirements of each database.

**Table 3: Eligibility criteria for the selection of studies.**

Domain	Inclusion criteria	Exclusion criteria
<b>Population</b>	Any population group (children, adults, elderly, vulnerable populations) targeted by oral health programs or policies	Opinion, commentaries, case series, case reports and letter to the editors
<b>Concept</b>	Evaluations of oral health programs or policies, including process, outcome, impact, and cost-effectiveness evaluations	
<b>Context</b>	Global studies conducted at any level (community, national, or international)	
<b>Language</b>	English	

**Table 4: Data extraction form.**

Domain	Variables / Items
<b>Bibliographic details</b>	Author(s)
	Year of publication
	Journal/Source
	Study characteristics
	Country/Region
	World Bank income classification (high, upper-middle, lower-middle)
	Study design (e.g., cross-sectional, evaluation study, policy analysis, mixed methods)
	Funding source (if reported)
<b>Program characteristics</b>	Name of the program/policy
	Year of initiation
	Target population (general, children, elderly, vulnerable groups)
	Level of implementation (national, state/province, community)
	Governance structure (lead agencies, ministries involved)
	Financing mechanism (public, public-private, insurance-linked, donor-supported)
<b>Evaluation characteristics</b>	Type of evaluation (process, impact, outcome, cost-effectiveness, policy evaluation)
	Evaluation framework/model used
	Indicators measured
	Data sources used
	Evaluation timeframe
<b>Program outcomes</b>	Coverage
	Oral health indicators
	Service utilization
	Equity in access
	Financial protection/cost burden reduction
<b>Factors influencing success or challenges</b>	Patient or community satisfaction
	Policy environment and political commitment
	Health system integration
	Community participation and cultural acceptability
	Workforce availability and training
	Sustainability and scalability
Logistics, funding constraints, lack of evaluation	

## DISCUSSION

This protocol outlines the methodology for a scoping review that aims to systematically map international evidence on program and policy evaluations of oral health initiatives. Despite the global burden of oral diseases and their recognition as a major public health issue, the evidence on how oral health programs and policies have been evaluated remains fragmented and poorly synthesized. Most reviews and studies have focused on

clinical interventions or individual behavioral change strategies rather than on programmatic or policy-level evaluations. Consequently, there is a lack of consolidated understanding of how different countries assess the effectiveness, efficiency, and equity of oral health programs and policies.

This review will address this critical evidence gap by synthesizing global experiences of oral health program and policy evaluations. By including a wide range of

study designs and evaluation types, the review will provide an overview of existing evaluation frameworks, methodologies, and outcome measures used internationally. The findings will also inform stakeholders about common strengths and challenges in implementing evaluation frameworks within diverse health system contexts.

Furthermore, this review aligns with global priorities outlined in the World Health Organization's Global Oral Health Action Plan (2023-2030), which emphasizes strengthening health system capacity and integrating oral health into universal health coverage.<sup>17</sup> At the national level, it complements the objectives of India's NOHP, which underscores evidence-based policy formulation and evaluation as key strategies for improving oral health outcomes.<sup>18</sup> By mapping global evidence, the review can provide valuable insights for both policymakers and program implementers seeking to enhance oral health strategies and promote equity in access and service delivery.

### **Strengths and limitations**

This protocol has been developed with contributions from a multidisciplinary team of experts in oral health, health policy, program evaluation, evidence synthesis, and public health. The integration of such diverse expertise will enhance the comprehensiveness and methodological rigor of the review. The broad scope of this review, encompassing both program and policy evaluations of oral health initiatives across different countries, will allow for a comprehensive synthesis of global practices. This approach is expected to improve the generalizability of findings and increase their relevance for informing policy and program development.

However, certain limitations should be acknowledged. As is common in scoping reviews, this study will not include a formal quality appraisal of the included literature, which may limit the ability to assess the strength of the evidence. Furthermore, restricting the search to English-language publications may result in the omission of relevant evaluations reported in other languages, introducing potential language bias. Despite these limitations, this review will provide an important foundation for identifying gaps in evidence and guiding future research and policy initiatives in the field of oral health program evaluation.

### **CONCLUSION**

This scoping review will provide a comprehensive synthesis of the global evidence on the evaluation of oral health programs and policies, addressing a critical gap in the current literature. By mapping the range of evaluation frameworks, methodologies, and outcomes applied internationally, the review will generate valuable insights into best practices, challenges, and gaps in program and policy evaluation. These findings will have important

implications for strengthening oral health systems globally, including informing the design, implementation, and assessment of India's NOHP and future policy initiatives. And also, the review will serve as a vital resource for researchers, policymakers, and program implementers, supporting evidence-informed decision-making and fostering the integration of oral health into broader public health agendas to improve population health and equity.

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