



भारतीय आयुर्विज्ञान अनुसंधान परिषद  
स्वास्थ्य अनुसंधान विभाग, स्वास्थ्य एवं परिवार  
कल्याण मंत्रालय, भारत सरकार

Indian Council of Medical Research  
Department of Health Research, Ministry of Health  
and Family Welfare, Government of India

No: School IR/Oral Health/2023-NCD-II

Date: 30/06/2023

### Request for Expression of Interest (EOI)

#### For ICMR's Multistate Implementation Research Study on Dental Caries prevention for School children

**Background:** The Global Burden of Diseases 2019 reported that untreated tooth decay is the most common health condition affecting half of the global population, most of whom are from middle and low-income countries.<sup>1</sup> WHO Global Oral Health status Report 2022, highlights oral health neglect with an estimated global average prevalence of caries of deciduous teeth to be 43% and estimated global average prevalence of caries of permanent teeth to be 29%.<sup>2</sup> The National Oral Health Survey Report 2004, depicts that the caries prevalence in India was 51.9%, 53.8%, and 63.1% at ages 5, 12, and 15 years, respectively, in different parts of India.<sup>3</sup> This reflects the high burden of dental caries among the Indian population posing a public health challenge and hence needing urgent attention for prevention and control of the disease condition.

#### Rationale of conducting this study

Dental caries is preventable. The tooth decay and loss of teeth in primary and mixed dentition may cause a variety of malocclusion, pain, loss of school hours, disturbed sleep, poor mastication, nutrition and reduced QoL. Behaviour modification in children is easier, and when oral health promotion starts early, it can significantly reduce the burden in the latter part of life. Implementing school-based oral health programs, especially brushing, have showed a significant reduction in DMFT (decayed, missing due to caries & filled teeth) status in children. School-based intervention can play an essential role in reducing oral health disease burden in lower and middle-income countries. Therefore, the aim of this EOI is to identify researchers from across the country to join the team being constituted for ICMR's Multistate Implementation Research Study on dental caries prevention in school children. The selected researchers shall be invited to join the research team and shall collaborate to develop full proposal. The goal is to reduce the burden of dental caries in children and promote oral health in the country.

#### Research Question

How school-based tooth brushing/interventions and positive oral health behavior can be implemented for preventing dental caries in children?

- *Population:* Primary school children nationwide
- *Interventions:* Oral Health Education and school-based tooth brushing intervention/other intervention
- *Outcome Parameters:* Acceptability, adoption, feasibility, cost effectiveness, fidelity, sustainability of school based toothbrushing/intervention to be assessed.
  - Impact of toothbrushing/intervention to be assessed on caries prevention by DMFT score (Decayed, missing due to caries, and Filled Teeth)

<sup>1</sup><https://vizhub.healthdata.org/gbd-results>

<sup>2</sup><https://www.who.int/publications/i/item/9789240061484>

<sup>3</sup><https://dciindia.gov.in/Download/NOHSBOOK.pdf>

## Objectives

- To develop an evidence-based model for the implementation of tooth brushing/interventions and oral health behavior modification in schools for improving oral health which is practical, scalable, sustainable and flexible as per local needs.
- Encourage collaboration and partnerships among government agencies, non-governmental organisations, oral health experts, and community-based organisations to improve Oral Health in India

## Target group:

Children in primary schools in Rural and Urban parts of India preferably in age group of 6-10 years. To begin with 4-6 districts with one district per state in 5 zones of the country (North, South, East, West, Centre, Northeast) can be chosen.

## Consolidated Framework for Implementation Research/Strategies that address implementation problems and allow scale up of the framework (may not necessarily include these points)

### Suggestive Implementation model

- A. Intervention Characteristics/Research inputs
  1. Oral health behaviour modification through creating awareness by oral health education- Development of modules for creating oral health awareness regarding healthy mouth, oral hygiene maintenance, risk factors awareness, oral health problems and emergency management for improving knowledge and practices of teachers, school staff, children, parents and caregivers.
  2. Dental caries prevention, arrest & Oral health promotion interventions- Development of implementation model for Group Post meal supervised Tooth Brushing/other oral health intervention for control of risk factors or for arresting caries in School
  3. Developing Strategies for Motivation to children for sustainability of positive oral health behavior/intervention
- B. Development of sustainable Supportive framework for prevention and control of dental caries
- C. Monitoring & Evaluation strategies for effective implementation-Strategies for identifying barriers & facilitators for implementation and developing practical, scalable and sustainable solutions as per local needs and developing iterative implementation models. Measurable process and outcome indicators will be critical for assessing the research project. Reproducibility and local adaptability will be key for scaling up a successful model in future.

*Please note:* The list is indicative. You may suggest other interventions that can be taken up for consideration during the development of final proposal.

## Research Design:

Adopting the principles of the implementation research framework:

- Using mixed method designs that combine qualitative and quantitative methods.
- if the circumstances call for it, a cluster-randomized trial approach can be utilized.

## **Process Evaluation/Research output:**

- Description of how interventions were implemented and their cost
- Coverage of intervention
- Quality of intervention
- At baseline and post intervention, impact of toothbrushing/intervention can be assessed on caries prevention using DMFT score

## **Expected outcomes.**

**Primary Outcome Parameters:** Acceptability, adoption, feasibility, cost effectiveness, fidelity, sustainability of school based toothbrushing/intervention can be assessed.

**Secondary Outcome Parameters-** Impact of toothbrushing/intervention to be assessed on caries prevention like DMFT score (Decayed, missing due to caries, and Filled Teeth)

**Intermediate outcomes:** outcome measures to assess the progress of implementation and to develop an iterative model like plaque index and acceptability (by children, school staff & teachers and oral health professionals), feasibility and barriers in implementation can be assessed.

*Please note:* These outcome variables are indicative. You may include other outcome measures during the development of final proposal.

## **Format of Expression of Interest (EOI) to be submitted (Max two pages)**

### **A. Rationale of proposed study including the choice of sites (states and districts) where the implementation shall be carried**

The proposal should clearly state the rationale for the study, the recommended sites (states and districts) and the likelihood of utilization of the model by stakeholders in the future. The proposal can also provide evidence from previous research on the topic in the county or elsewhere and describe any district or state-specific challenges related to implementation for the target group(s).

### **B. Implementation Strategy**

Provide a clear and detailed description of the intervention(s) being implemented, including the target population, the intervention components, and the implementation strategies.

You may include preparatory activities, mapping, a timeline, steps of implementation, measures of outcome, data management and deliverables.

### **C. Address feasibility and scalability**

Address the feasibility and scalability of the proposed intervention or policy, including the resources needed for implementation, the capacity of the implementing organization, and the potential for wider adoption and scale-up.

### **D. Research Team**

Summarize and justify the composition of the research team, based on the expertise of the individual team members in designing and implementing the project. Also, highlight the skill set and expertise the members shall bring to the research team that shall be constituted by ICMR for the development of the final protocol and research project implementation.

## **E. Established relationships with state and district health systems and educational institutions**

Operational feasibility would be key for this implementation research study. Include the collaborations that have been established with the potential stakeholders and participants including state and district health and educational systems, along with the management of select institutions.

### **Illustrative Budget outline (additional to the two-page limit)**

The final site budgets for the proposal will be developed by the selected research team(s) under the guidance of ICMR. In this EOI, provide an estimated budget outline (no budget justification required at this stage) under the following headings: staff, recurring contingency, data management, travel and equipment.

### **One-page CV of the principal investigator and other key investigators in a single pdf (additional to the two-page limit)**

Please provide a one-page CV of the PI and other key investigators from each identified area. Each CV should include:

- Academic and professional qualifications
- Current position and affiliation
- Up to five most relevant previous research grants
- Up to five most relevant previous publications

### **Duration of the project:**

The project duration will be up to three years. An additional period of up to 6 months for preparatory activities (with no additional costs) can be incorporated into the project proposal.

## **1. Review process:**

The EOI documents for the Multistate Implementation Research Project on school based oral health Interventions will be evaluated and shortlisted by the Indian Council of Medical Research (ICMR). The ICMR team will screen the applications for technical accuracy and eligibility. The shortlisted teams will then collaborate to develop a detailed proposal, under the guidance of ICMR Headquarters. The proposal will be evaluated based on factors such as study design, feasibility, data management capabilities, prior experience, engagement with public health and education systems, and potential for seamless integration. The feasibility and suitability of integration of the proposed methodology in the final proposal to be developed under the guidance of ICMR Headquarters shall also be considered while shortlisting the EOI.

## **2. Who can submit the EOI?**

The EOI can be submitted through ONLINE MODE ONLY by scientists/ professionals who have regular employment in Medical or Dental Institutes/ Research Institutes/ Universities/ Colleges/ Government and semi-government organizations and NGOs (documentary evidence of their recognition including DSIR certificate should be available).

## **3. Points to be kept in mind while submitting the EOI**

1. The EOI must address the specific research question that is mentioned in the call text.
2. Collaborative, multi-centre, interdisciplinary research initiatives from the applicant will be encouraged.
4. Descriptive studies, systematic reviews and secondary data analysis will not be considered

5. Should focus on outcomes that are translatable into policy.
6. Evaluation of the development of indigenous technologies and solutions relevant to the Indian context may be prioritized
7. Foreign collaboration is not allowed under the call.

Interested parties should fill out the Google form at the below link and submit an **Expression of Interest (EOI)** as per the Format given above. Only shortlisted PI will be contacted.

Link - <https://forms.gle/CZpTrS8kpuJZ7bDD6>

#### Timeline

Activities	Date
Release of Call	<b>30<sup>th</sup> June 2023</b>
Last date for submission of EOI	<b>31<sup>st</sup> July 2023</b>
Shortlisting of EOIs	<b>17<sup>th</sup> August 2023</b>
Proposal Development Workshop	<b>27<sup>th</sup> August 2023</b>
Submission of a full proposal	<b>31<sup>st</sup> September 2023</b>

**For any queries related to the call, please contact-**

**Dr Nitika Monga**

Program Officer Oral health

Division of Non-Communicable Diseases

Indian Council of Medical Research Ansari Nagar,

New Delhi – 110029

Email: [nitika.monga@icmr.gov.in](mailto:nitika.monga@icmr.gov.in)