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Invitation for Expressions of Interest

On

Implementation Research for the Reduction of Neonatal Mortality

ICMR invites Expressions of Interest (EoI) for Participation in the Multidistrict Implementation Research Study Aimed at Accelerating the Reduction of Preventable Neonatal Mortality in Selected Districts

Background

The problem

Neonatal Mortality continues to be the biggest contributor to Under-5 mortality in India. Every year about 5,00,000 newborns die in India before reaching the 28-day milestone. India endorsed WHO's Every Newborn Action Plan (ENAP) following which, the India Newborn Action Plan (INAP) was launched in 2014 in an effort to reach the Sustainable Development Goal (SDG) of as low as 12/1000 neonatal mortality rate (NMR) by 2030. India has made progress in reducing preventable newborn deaths. The countrywide NMR is 20/1000 live births in 2020 as per the SRS bulletin. There are large interstate (4.5 times) and inter-district (8 times) variations in NMR between the lowest and highest performing states and districts respectively. To reach NMR SDG 2030 target, it was observed that, 430 (59%) districts would need a higher rate of improvement than they had up to 2017.

India's Newborn Action Plan

The national newborn action plan focuses on implementation of evidence based-interventions guided by the principles of Integration, Equity, Gender, Quality of Care, Convergence, Accountability, and Partnerships. The strategic intervention packages are developed around the six pillars of Preconception & antenatal care, Care during labor & childbirth, immediate newborn care, Care of healthy newborns, Care of small and sick newborns, and care beyond newborn survival. The Government of India has rolled out many programs and schemes across this continuum of six pillars for example, Pradhan Mantri

SwasthaMatritva Yojana for Antenatal Care, early pregnancy registration, Janani Shishu Suraksha Karyakram, Navjat Shishu Suraksha Karyakram, Dakshata program, Antenatal corticosteroids, I/M Gentamicin by ANM, Mother's Absolute Affection (MAA) program, LaQshya and more. These interventions are at various levels of implementation and effectiveness.

Challenges in Implementation

Success of implementation of health interventions is subject to the type of the health environment depending upon the availability of health care facilities and infrastructure, supply-chain management, skilled personnel, community awareness and health seeking behaviour of individuals. Depending on these factors the health system environment in which an intervention is being implemented can be classified into three broad types, a well-functioning health system, weak to transitional health system or a poorly functioning to non-existent health system, each implying an incremental difficulty level for implementation. A key challenge for a delivery of packaged neonatal interventions under various health system environments is developing and sustaining synergistic linkages between individuals, families, healthcare system and community while maintaining cost-effectiveness and scalability of the intervention.

Role of Implementation Research

An array of evidence-based interventions including processes and tools to improve neonatal survival are available and have been published in a number of recent global guidelines, which are in various stages of national level policy consideration, adaptation, and adoption. These interventions can be classified on the basis of their relevance to each of the six pillars as discussed above. Some examples are:- immediate initiation of KMC (iKMC) after birth, community initiated-KMC (C-KMC), safe use of antenatal corticosteroids after preterm birth, early and effective CPAP usage, outpatient treatment of infections, better labour monitoring to prevent birth asphyxia, early initiation of breastfeeding, delayed cord clamping, early enteral feeding, safe referral systems, better data capture and utilization. Some are new interventions and others are newer innovations in the delivery of known interventions. While many interventions have been studied one by one, implementation of an integrated Package of interventions (two or more interventions combined) have been found to be effective in reduction of neonatal mortality up to 85% from baseline in various studies. The choice and intensity of interventions in the package and testing the implementation of various interventions in different health environments as described above may lead to development of implementation models uniquely suited to them.

A decentralized district level planning is the focus of National Health Mission (NHM). A key feature of implementation research is to develop district level strategies to improve effective coverage of priority interventions while operating within the framework of national and state level guidelines and programs, leveraging the resources already allocated by districts/ states to maximize impact.

Purpose of the call

This is a call for expressions of interest for implementation research to learn how to improve newborn survival through implementation of a package of innovations in newborn care interventions as well as novel ways of comprehensively delivering evidence-based interventions like iKMC, C-KMC, early and effective CPAP usage, early initiation of breastfeeding, delayed cord clamping, safe and improved referral system, and other interventions described above, in various settings as a closed system/ continuum from

community level, to primary health care facility, to a hospital, including transition and referral to a facility and transition to home after discharge.

The interventions should focus on small and sick newborns apart from essential newborn care. They should be strategically planned to implement these interventions in district-wide approaches that address key health system challenges and improve effective coverage of priority interventions while remaining within the provisions of the health system.

Research Question

How to achieve single-digit Neonatal Mortality Rate in selected districts in India through implementation of evidence based, context-specific interventions in various settings and health systems?

Expected Outcomes

The following outcomes are expected from the research project that shall be developed and implemented by the team under the guidance of ICMR:

- A reduction in Neonatal Mortality Rate to achieve a single digit NMR in the selected districts
- Generation of knowledge about human resources, finances and material inputs as well as process modifications required to reach the desired change in NMR.
- Improved and sustained district-wide coverage of interventions like i-KMC, C-KMC and others as described above, which are known to improve newborn survival, with a particular focus on small and sick newborns.
- Contribution to the local evidence on effect of these interventions on infection prevention and control and antimicrobial resistance in newborn units.
- Development of effective and sustainable strategies for implementing and scaling up of evidence-based, high fidelity, context-specific interventions to reduce neonatal mortality
- Increased access and better knowledge and awareness of access to these evidence-based interventions among healthcare seekers and providers.
- Enhanced understanding of the facilitators and barriers to the adoption, implementation, and sustainability of interventions in the country.
- Increased collaboration between researchers, practitioners, and policymakers to facilitate the translation of research findings into policy-ready interventions developed through a defined process that is relevant to the Indian healthcare system.
- Strategies developed through the implementation research process to integrate the strengthening of healthcare systems and health interventions into national programs in a feasible and scalable manner.
- Research could secondarily establish districts ready for the addition of new interventions over time such as interventions like non-invasive surfactant and preconception care.

Outline of the study:

Design

It will be an implementation research study with districts as units of intervention. It will have a pre-post quasi-experimental, mixed methods design, following the elements of Consolidated Framework for Implementation Research (CFIR).

Target Population:

Newborns that are born during the study period, in the entire district and their mothers and family members will form the target population.

Setting

Various levels of health system at which the intervention will be implemented can be at community level, at a first referral unit, in transit post-referral, at a hospital during admission, during post discharge follow-up.

Research Teams

Research teams will comprise of an implementation support team, monitoring team (qualitative research team and quantitative research team). NHM and other healthcare functionaries at local facility, community, district and state levels will be an integral part of the project and they will be the main implementers of the interventions while the implementation team will support them in delivering these interventions.

Key interventions

The key interventions and activities will be spread across 4 phases

- (1) Preparatory & formative phase and baseline assessment
- (2) Planning and strategy development phase
- (3) Implementation phase and
- (4) Consolidation phase

Formative Phase: will be done to assess research gaps and to identify baseline values for neonatal mortality at district level and other deliverables. Qualitative identification of barriers and facilitators will be made.

Planning and strategy development phase: An implementation model will be developed, starting from understanding of the current model of implementation (Model 0). Learning during formative research will be utilized to co-plan the implementation model (Model 1) through participatory planning with stakeholders at various levels, who may be doctors, nurses, ANMs, district and state level health administrators, community leaders, mothers and their families. The Model-1 of implementation will thus be developed.

Implementation phase: The Model-1 developed will be implemented by the local health personnel with support from the implementation team and its implementation will be observed by a monitoring team independently. The implementation will consist of iterative cycles of Plan-Do-Study-Act, which will involve implementation of the model planned followed by qualitative and quantitative outcome monitoring by the program learning team. Periodic review meetings will be conducted every 2-3 months for concurrent outcome assessment and development of newer adaptive models. The cycles will be repeated till the desirable process outcomes are attained.

Consolidation phase: The implementation team will hand over the implementation entirely to the local health teams, while monitoring team will continue to assess the implementation and outcomes.

Outcome Measurement

Outcome measurement of NMR will be done through a time series analysis.

Scope

The beneficiaries of interventions will be pregnant women, peripartal women, newborns, families of these women and newborns.

Format of Expression of Interest (EOI) to be submitted (Maximum Two Pages)

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

The proposal should clearly state the rationale for the study, the recommended sites, and the likelihood of sustainability of the intervention. The proposal can also detail the outcomes of previous similar studies.

B. Implementation Strategy

Provide a clear and detailed description of the intervention(s) to be implemented, including the target population, the intervention components, the implementation framework, strategies, and outcome indicators. The proposal may also include preparatory activities, mapping, a timeline, and steps of implementation, measures of outcome, data quality management, and deliverables.

C. Address feasibility, scalability, and sustainability

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

The proposal should 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 the ICMR for the development of the final protocol and research project implementation.

E. Established relationships with state and district health systems and other stakeholders

Partnerships with local government agencies, NGOs, communities, etc. will be a key factor for this implementation research study. Therefore, the proposal should include the collaborations that have been established with the potential stakeholders and participants including state and district health systems, local communities, community leaders, and faith healers among others.

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, equipment, and meetings.

One-page CV of the principal investigator and other investigators (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
- Experience in undertaking projects on neonatal health from the public health perspective

Review process:

The EOI documents for the ICMR's Multidistrict Implementation research study aimed at accelerating the reduction of preventable neonatal mortality in selected districts will be evaluated and shortlisted by the 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. The proposal will be evaluated based on factors such as study design, feasibility, data management capabilities, prior experience, engagement with public health 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 shall also be considered while short listing the EOI.

Who can submit the EOI?

The EOI can be submitted through ONLINE MODE ONLY by scientists/ professionals who have regular employment in Medical Institutes/ Research Institutes/ Universities/ Colleges/ Government and semi-government organizations and NGOs.

Points to be kept in mind while submitting the EOI

- The EOI must address the specific research question that is mentioned in the call text.
- Collaborative, multi-center, interdisciplinary, innovative research initiatives from the applicant will be encouraged.
- Descriptive studies, systematic reviews, and secondary data analysis will not be considered
- Should focus on outcomes that are translatable into policy.
- Evaluation of the development of indigenous technologies and solutions relevant to the Indian context may be prioritized.

How to Apply?

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

Link- <https://forms.gle/6E6yXFChUeKJXhaJ8>

Timelines

Activities	Date
Release of the Call	7.08.23
Last date for submission of EOI	28.08.23 till mid-night
Shortlisting of EOIs	15.09.23
Proposal Development Workshop	25.09.23
Submission of a full proposal	31.10.23

For any queries related to the call, please contact

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- Rachel A Haws and others, Impact of packaged interventions on neonatal health: a review of the evidence, *Health Policy and Planning*, Volume 22, Issue 4, July 2007, Pages 193–215, <https://doi.org/10.1093/heapol/czm009>
- India State-Level Disease Burden Initiative Child Mortality Collaborators. Subnational mapping of under-5 and neonatal mortality trends in India: the Global Burden of Disease Study 2000-17. *Lancet*. 2020 May 23;395(10237):1640-1658. doi: 10.1016/S0140-6736(20)30471-2. Epub 2020 May 12. PMID: 32413293; PMCID: PMC7262604.

