# Bridging Data and Action: The T4 (Test, Treat, Talk &Track) Mobile App for Evidence-Dr

# Implementation of Anaemia Mukt Bharat (AMB)

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# Background

- Anaemia is a condition in which the number of red blood cells or their oxygen-carrying capacity is insufficient to meet the body's physiological requirements, which vary by age, sex, smoking habits, and during pregnancy.
- Anaemia represents one of South Asia's most critical public health crises, with India bearing a disproportionate burden. Current prevalence rates are staggering: **58% of children aged 6-59 months**, **59% of pregnant women**, and **53% of non-pregnant women** suffer from anaemia (NFHS 2019-21).

## Anaemia Mukt Bharat (AMB) Programme

- The Anaemia Mukt Bharat is a flagship programme launched by the Ministry of Health and Family Welfare, Government of India in 2018.
- It uses the **6X6X6** strategy and aims to reduce the prevalence of anaemia among various groups.
- To implement the AMB strategy at the community level through camps, the program follows the '**T4**' model—**Test, Treat, Talk, and Track**—which constitutes the four core components of these camps.

**6 Beneficiaries**

**6x6x6 Strategy**

**6 Interventions**          **6 Institutional Mechanisms**

**Test:** Using digital hemoglobinometers to record participant's hemoglobin levels.
**Treat:** Distributing iron-folic acid (IFA) tablets and managing referrals for severe cases.
**Talk:** Counseling individuals on the importance of iron-rich foods, vitamin C, and protein for preventing and treating anemia.
**Track:** Monitoring individual progress and camp outcomes to ensure effective implementation and follow-up

6 Interventions

- National Anemia Mukt Bharat Unit
- Intra Ministerial Coordination
- Strengthening Supply Chain and Logistics
- Convergence with Other Ministries
- National Centre of Excellence and Advanced Research on Anemia Control
- Anemia Mukt Bharat Dashboard and Digital Portal-One Stop Shop for Anemia

6x6x6 Strategy

6 Institutional Mechanisms

- Prophylactic Iron Folic Acid Supplementation
- Deworming
- Intensified year-round Behavior Change Communication Campaign (Solid Body, Smart Mind) including ensuring delayed cord clamping
- Testing of Anemia using digital methods and point of care treatment
- Mandatory Provision of Iron Folic Acid fortified foods in public health programmes
- Addressing non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies, and fluorosis

6 Age groups

- Children 6-59 months of age
- Children 5-9 years of age
- Adolescents 10-19 years of age
- Women in reproductive age group (20-24 years of age)
- Pregnant Women
- Lactating Women (of 0-6 months child)

# Bridging the Digital Gap In Anaemia Management Under AMB

- **Persistent Implementation Gaps in AMB:** India's anaemia Mukt Bharat (AMB) program aims to reduce anaemia by 3% annually, yet faces major challenges in systematic identification and continuous tracking of anaemic individuals across diverse regions.

- **Limitations of the T4 Approach:** The Test–Treat–Track–Talk model is hindered by the absence of an integrated system to reliably capture testing volumes, classify anaemia severity, and monitor beneficiaries through referral, treatment, and recovery.

- **Core Problem–Lack of Real-Time Tracking:** Despite approval of point-of-care digital hemoglobinometers (cutting test time to 1–3 minutes) and full funding support, the health system lacks a real-time digital mechanism to ensure uninterrupted follow-up and continuity of care.

- **Innovation Filling a Critical Digital Gap:** The solution introduces the first comprehensive digital platform under AMB for real-time data collection, digital reporting, and automated tracking of severe, moderate, and mild anaemia cases.

- **Strengthening Program Efficiency and Impact:** The platform enhances inventory and supply chain management, supports community-level IEC dissemination, and enables data-driven decisions–significantly improving program transparency, efficiency, and outcomes

# Innovation

- The innovation is a digital platform for anaemia management, that enables real-time beneficiary tracking, monitoring, reporting, inventory management, and community-level IEC dissemination to strengthen prevention, treatment and overall program efficiency. Originally piloted as the T3 App in Jharkhand, this user-friendly platform has evolved to seamlessly integrate all four components called as T4 under anaemia Mukt Bharat program (AMB) :

🔬 **Test**: Streamlined anaemia screening and diagnostic support tools

💊 **Treat:** Offers comprehensive treatment information and healthcare facility directories

📊 **Track:** Enables systematic monitoring of haemoglobin status and treatment progress using IFA supplements, FCM, or IV Iron Sucrose as prescribed by Government of India  AMB guidelines

💬 **Talk:** Delivers targeted awareness campaigns about anaemia causes, prevention, and management strategies

Core Features and Capabilities

- **Multi-Stakeholder Platform:** Supports diverse user roles including ANMs, RBSK Medical Teams, Staff Nurses, Lab Technicians, and CHOs through secure, role-based access controls.
- **Comprehensive Data Management:** Enables real-time beneficiary data management across all target populations with integrated testing and treatment protocols, advanced follow-up tracking, and automated alert systems.
- **Operational Excellence:** Provides real-time inventory management, monthly progress reporting with analytics dashboards, comprehensive counseling resources, and multi-level administrative monitoring capabilities.

# Objectives

The digital initiative aims to enhance AMB program efficiency and impact through:

- **Comprehensive Database Development**: Establishing a robust database of AMB beneficiaries across diverse geographies and age groups.
- **Real-Time Digital Reporting**: Strengthening digital systems to enable instantaneous data collection, analysis, and dissemination.
- **Enhanced Monitoring Systems**: Improving case tracking through regular monthly progress reporting and systematic follow-up.
- **Community Engagement**: Facilitating Information, Education, and Communication (IEC) material sharing through accessible digital platforms.
- **Supply Chain Optimization**: Supporting effective inventory and supply chain management for anaemia interventions.
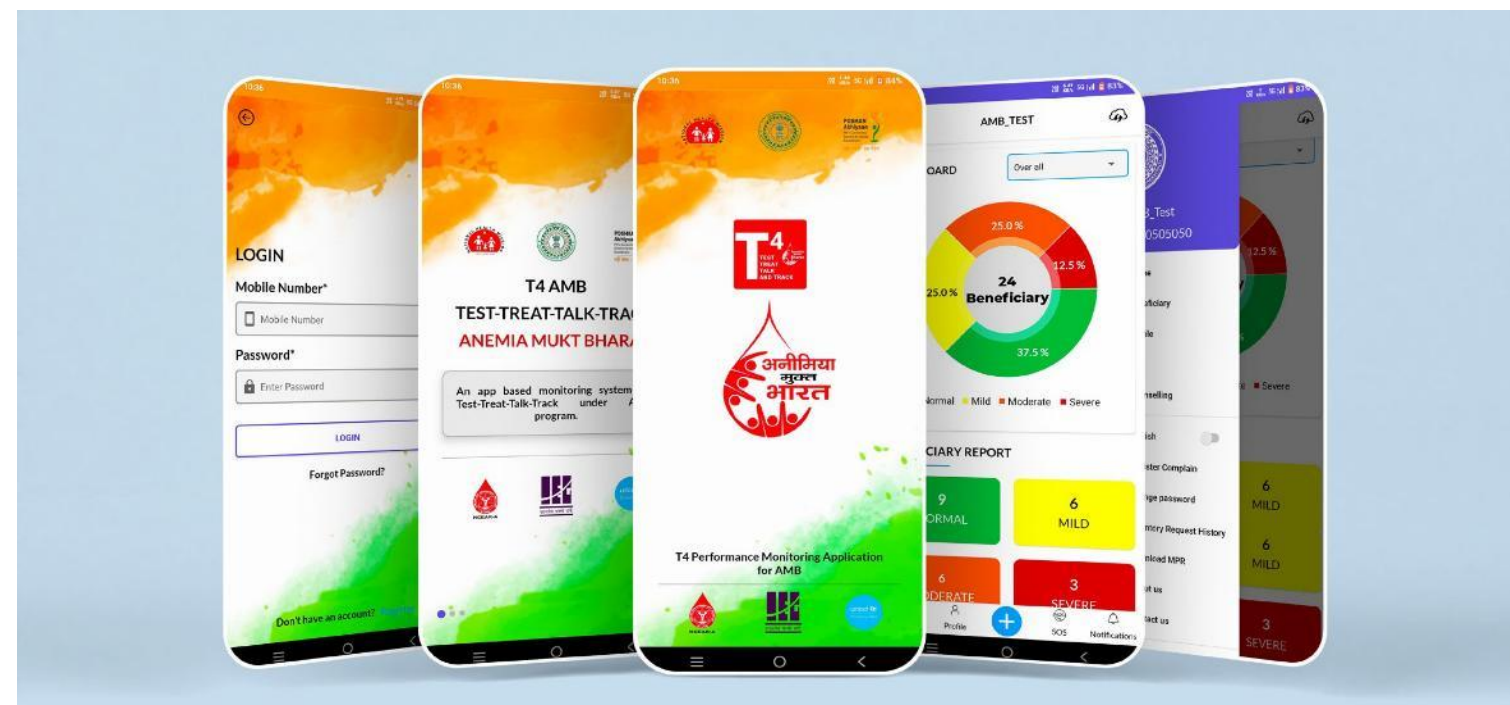
# Methodology



## *Preliminary Data and Prototype Development*

- This innovation represents a proven demand-driven development model, emerging from direct collaboration with government officials, Jharkhand and successfully piloted in 2021 using comprehensive state population data.

- Through repeated refinements based on stakeholder feedback, the application achieved full state-wide implementation in Jharkhand by 2022, demonstrating seamless integration within existing public health systems.

- The success was systematically disseminated through government forums, leading to formal scaling requests and implementation in Uttarakhand in January 2025, with the Chief Minister's personal launch on 9 January 2025.

- Based on demonstrated effectiveness across both states and comprehensive feedback from state officials, the Ministry of Health and Family Welfare has now expressed formal interest in nationwide adoption of the AMB T4 App across all Indian states.

## *Hardware and Software Requirements*

- Requires a smart phone with android operating system

- The minimum android version should be 9.0 and above, to avail all features in/of the application.

## *Installation of the T4 AMB APP*

- The AMB T4 app can be downloaded from the Google Play Store, and an internet connection or mobile data is required on the device.

- After searching for the AMB T4 app in the Google Play Store, a page will appear prompting the user to install the application.

- The user must then click the 'INSTALL' button to begin the installation.
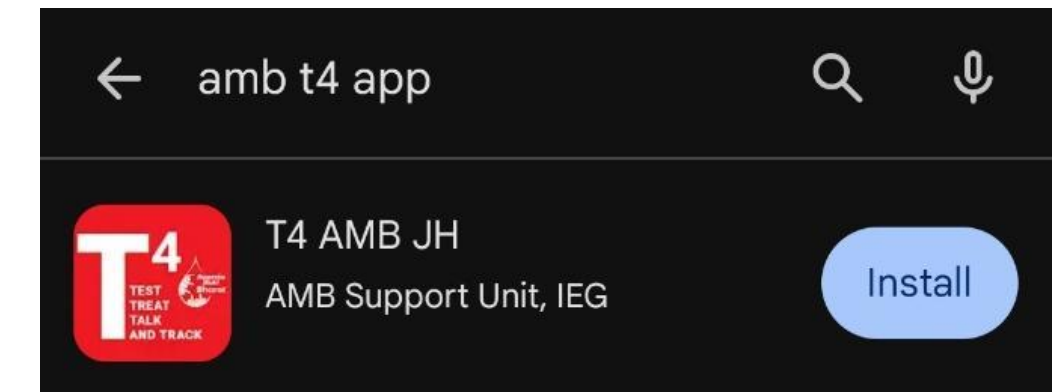
# Target Population

- Children aged 6-59 months
- Children aged 5-9 years
- Adolescents aged 10-19 years
- Pregnant women
- Lactating women
- Women of reproductive age

# Unique Features of the T-4 Application

**1** Real time status of Hb prevalence

**2** Tracking of beneficiaries Under treatment

**3** SMS based module may help for alert / remind on follow up

**4** Comprehensive evaluation of treatment effectiveness

**5** Identification of High-risk Areas (Hotspots)

**6** App can widely spread message after beneficiaries achieve normal level of Hb

# Potential for Scalability and Real World Impact

## I. Demonstrated Success

**Operational Status:** Successfully deployed in Jharkhand (since 2021) and Uttarakhand (launched: January 2025 by the Chief Minister).

**Government Endorsement:** Ministry of Health & Family Welfare (Govt. of India) has expressed interest in nationwide adoption.

**Committed Expansion:** Fourteen additional Indian states have committed to implementation.

**Evidence-Based Development:** Built through direct collaboration with government officials using demand-driven methodology.

## II. Scalability Architecture

*Technical Excellence*:

- Cloud-based infrastructure supporting unlimited users without performance degradation.
- Modular design enabling customization for specific regional requirements.
- Open API framework facilitating integration with existing health information systems.
- Minimal hardware dependency on standard smartphones.

## III. Real-World Impact Potential

**Extensive Reach:** Capable of empowering thousands of frontline health workers and benefiting millions across the Indian subcontinent.

**Enhanced Care Continuity:** Systematic tracking expected to significantly increase treatment completion rates.

**Cost-Effective Implementation:** Utilizes existing digital infrastructure to maximize return on investment while minimizing additional expenditures.

## Overview



## User Registration



## User & Admin Dashboard



**Adding Beneficiaries, Test & Treatment Details**

**Beneficiary List**          **Inventory Management**

# Thank You

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