“SAMVED” HACKATHON 2026

PharmCode Rx

- **Problem Statement ID - PS-002**
- **Problem Statement Title - Smart Health Solutions For Solapur Municipal Corporation**
- **Theme - Smart Health Solution**
- **Team ID - 30F1302F**
- **Team Name - PharmCode Rx**

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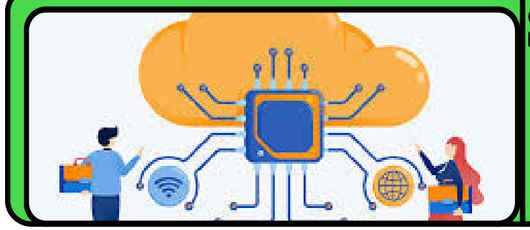
Pharmacist + PharmCode Rx = Smart Health Management Svstem

STAGE 1: DATA COLLECTION

- Pharmacists as first - level data collectors
- Centralized digital health platform



STAGE 2: BACKEND SERVER AND API

- Scalable backend architecture and data management
- RESTful API design and integration

STAGE 3: AI AND ML POWERED MONITORING AND DETECTION

- AI and ML based disease prediction
- Rule-based outbreak alerts

सत्यमेव जयते
Ministry of Health & Family Welfare

STAGE 4: GOVERNMENT AUTHORITIES

Prototype Using HTML

- Prototype will be made using HTML

SYSTEM ARCHITECTURE

1. Citizen / Patient
2. Pharmacist + PharmCode Rx
3. Backend server / API
4. Database + AI analysis engine
5. Admin dashboard
6. Government health authorities

Feasibility, Challenges and Risk Mitigation

Feasibility

A] Technical Feasibility :

- Uses existing technologies, A.I. and Cloud databases.

B] Operational Feasibility :

- Integrates into existing pharmacy workflow and minimal training required

C] Economic Feasibility :

- Uses existing pharmacies instead of new infrastructure and Government, PPP funding possible

Potential Challenges and Risks

- Data privacy and security concerns
- Incomplete or incorrect data entry
- Resistance to adoption by pharmacists
- AI false positive / false negatives
- Digital divide in rural areas

Strategies to Overcome Challenges

- Role based access and data encryption
- Mandatory fields + validation checks
- Incentives and certification for pharmacists
- Human-in-the-loop verification for AI alerts
- Offline mode and low-bandwidth design

Impact, Benefits and Scalability

Target Audience

- Citizens / Patients
- Pharmacists and Healthcare Workers
- Doctors and Hospitals
- Government and Public Health Authorities

Overall Benefits

- Citizen-centric healthcare delivery
- Data-driven governance decisions
- Scalable national health intelligence system

Scalability Potential

- Pilot : 1 District (100-200 Pharmacies)
- State-level scale : 50000+ daily records
- National Scale : Millions of real-time health signals/day.

Social Impact

1] Early disease detection
2] Improved accessibility to healthcare
3] Promotes preventive healthcare culture.

Economic Impact

1] Reduced healthcare expenditure
2] Lower burden on hospitals
3] Increased efficiency in allocation

Environmental Impact

1] Optimized use of medicines
2] Lower paper work
3] Reduced unnecessary travel to hospitals

Research and References

Pharmcode Rx – References & Research Foundations
***] Public Health & Surveillance**
World Health Organization (WHO) – Disease Surveillance & Digital Health https://www.who.int
Integrated Disease Surveillance Programme (IDSP), India https://idsp.mohfw.gov.in
***] AI & Digital Health**
WHO – Ethics & Governance of AI for Health https://www.who.int/publications
NITI Aayog – National Strategy for Artificial Intelligence https://www.niti.gov.in
***] Pharmacy & Community Healthcare**
WHO – Role of Community Pharmacists in Public Health
Indian Pharmaceutical Association (IPA) https://www.ipapharma.org

***] Digital Governance & National Programs**
Ayushman Bharat Digital Mission (ABDM) https://abdm.gov.in
National Health Mission (NHM), India https://nhm.gov.in
***]Methodology Basis**
Government health reports
WHO guidelines
Published AI-health surveillance studies