



# GOVERNMENT INDUSTRY DIALOGUE

EMPOWERING FUTURE

## eHealth - "India" update

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# Agenda...

- Introduction
- IFI Funded Programs
- Private Initiatives
- M-Health initiatives
- Summary

# IFI Funded Initiatives

# IFI Funded Programs/Initiatives

**There are over 33 programs/initiatives funded by IFI Funding Institutions such as World Bank, USAID, BMGF, WHO etc.,**

1. Micro Ensure
2. D-Tree International
3. Merrygold Health Network
4. Aastha
5. DiMPA Network
6. Arogya Ghar (kiosk based clinics)
7. Teledoc Initiative
8. Business in the bag (Vision Entrepreneurs)
9. Aravind Eye Care System
10. India Healthcare Delivery Project Nalgonda project
11. Sproxil
12. Sarathi 104 initiative
13. MOTECH
14. Beneficiary Verification System
15. eCompliance
16. Mobile Money Transfer through ASHA
17. Sure Start
18. Smart Card Initiative Project
19. Ziqitzia - Dial 1298 for Ambulance
20. SWASTH
21. PROJECT Ashwini BYRRAJU Foundation Telemedicine Project
22. Viva Sehat
23. Mobile phones for health monitoring
25. 108-Emergency Response Services
26. Highway Rescue Project
27. Mobile Data Management Software
28. Safe Motherhood and Child Survival Project
29. Distance Healthcare Advancement (DISHA)
30. Dial 104 for Health-HMRI
31. Rural Emergency Health Transport Scheme- EMRI (108)
32. Arunoday 108
33. Bihar Evaluation of Social Franchising and Telemedicine Project (BEST)

# Bringing Evidence based medicine to Frontline Health Workers

**D-Tree International & CARE**



## Scheme Overview

### Key Features

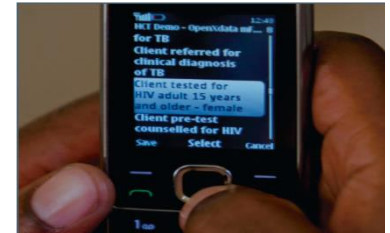
- ▶ Clinical protocols used to develop clinical decision support software that can be loaded onto mobile phones for use by Clinic staff and Community Health Workers
- ▶ Pilot programs in India and other countries in Africa as well
- ▶ To assist Auxiliary Nurse Midwives (ANMs) with the provision of antenatal care, delivery, post-natal care for the mother and newborn
- ▶ Formation of Electronic Medical Record for each patient in OpenMRS
- ▶ The ability to aggregate data and export these data in an easily readable format, intended to be imported into the state Health Information System

<b>Focus Area</b>	<b>Mother Child, Family Planning, HIV/AIDS, TB, Malaria, Chronic Diseases , General Primary Care</b>
<b>Funding Agency</b>	<b>Donors ( CARE, Gates Foundation etc.)</b>
<b>Geographical Coverage</b>	<b>India – Bihar</b>
<b>Beneficiary Segment</b>	<b>Children &lt; 5, Women, General population</b>
<b>Scheme Duration</b>	<b>In Bihar from 2011 onwards</b>
<b>Funding Amount</b>	<b>USD 199,855</b>

# Handheld based Mobile Data Management System

## National Tuberculosis Institute, Bangalore

### Scheme Overview



### Key Features

- ▶ India is home for 87 Lakh TB Patients, 2 Lakh MDR Patients
- ▶ Mobile application for patient registration and sample logistics
- ▶ Patient Detail entered using Android mobile phone - assigns unique patient identification number (UPIN), records number in Lab register
- ▶ Real time updating of treatment cards with android based technology and GPS/GIS coordinates enables real time monitoring of patient treatment in the field.

Focus Area	Tuberculosis
Funding Agency	WHO, Government of Karnataka
Budget Outlay	USD 1.7 mn in FY13
Geographical Coverage	Karnataka
Beneficiary Segment	General Population
Beneficiaries	All (rural/urban)

# Mobile Money Transfer for ASHA

## State Health Society, Eko Aspire Foundation, SBI

### Scheme Overview



### Key Features

- 18 SBI-EKO Customer Service Points established in Sheikpura district in Bihar
- ASHA Mobile number linked to their SBI-Eko savings account number
- Focused trainings organized for ASHA workers
- Restructuring and streamlining of payment processes and standardization of financial reporting at both district and block level was needed to improve administrative efficiency and facilitate payments
- High potential impact of ICT use

Focus Area	Primary Care
Funding Agency	Norway India Partnership Initiative ( NIPI)
Budget Outlay	USD 39.2 mn (2013-17)
Geographical Coverage	India - Bihar
Beneficiary Segment	ASHA workers
Beneficiaries	~ 400, Plan to expand more than 6 Districts
Scheme Duration	2010 onwards

# Private Sector Initiatives



# Private Sector Initiatives

## There are more than 40 Private sector initiatives

1. Embrace
2. Mobile Medics Healthcare
3. uNotify
4. Eyeway
5. Mera Doctor
6. E health point
7. mDiabetes
8. Mobile Cath Lab
9. Uplift Health Mutual Fund
10. mDhil
11. Electronic Program Management Software
12. Rural Telemedicine Centre
13. Vision Centres
14. Maternal Health Reporter
15. First Care- Rural Health Project
16. Srikon Healthcare Services
17. Name-based Information Tracking System
19. Nationwide Primary Healthcare Services
20. Nokia Life Healthcare Service
21. Piramal E-swasthya
22. E Choupal Health
23. Swasth Health Centre
24. Distance Healthcare Advancement
25. Narayana Hrudayalaya
26. TouchHb
27. Apollo Telemedicine Network Foundation
28. Vatsalya Hospitals
29. SMART pill Box for TB patients
30. Mobile Care Support and Rx Manager
31. Hello Doctor (24x7)
32. Unique Identification Mobile Verification
33. Wireless Health Incident Monitoring System
34. Project DISHA
35. Handhelds for health
36. Freedom HIV / AIDS
37. Healthline 24x7
38. Integrated Rural Health Pilot
39. Vitagoat
40. mPedigree
41. MediAngels
42. Biosense

# A low cost Infant Warmer

Embrace



## Scheme Overview



## Key Features

- ▶ Over 20 million low-birth-weight and premature babies are born every year around the world, and over 4 million die within their first month of life.
- ▶ The design looks like a miniature sleeping bag that incorporates a phase change material, which stays at a constant temperature for up to 6 hours
- ▶ The AccuTemp Heater warms the WarmPak to 98.6F, a temperature critical to a child's survival
- ▶ The WarmPak absorbs heat from the AccuTemp Heater, and slowly releases this heat over a period of time to the newborn, when placed in the BabyWrap. No electricity comes in contact with the baby



### Scheme Overview



### Key Features

- ▶ 4 different devices used to help ensure adherence to drug regimen – uBox (pill dispenser) , uPrint (fingerprint identification), uPhone (software equipped mobile phone) , uMessage (SMS)
- ▶ All devices send information to a centralized information management system
- ▶ **Technology Used:** Phone, Computer, App, Smart Pill Box, SMS, Biometric Authentication and Reader

Focus Area	TB
Funding Agency	Private
Budget Outlay	USD 0.55 mn
Geographical Coverage	Bihar, Delhi, Rajasthan, Maharashtra, Orissa, UP
Beneficiary Segment	General Population
Beneficiaries	5.02 million
Scheme Duration	2007 onwards

# uChek™ Urine Analyzer

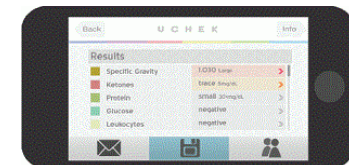
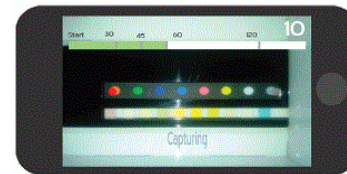
## Biosense

### Scheme Overview



### Key features

- ▶ It is a progressive semi-automated urinalysis system
- ▶ It makes use of the smartphone's camera to automatically read urine dipsticks
- ▶ 10 Parameters through routine urine analysis
- ▶ Leukocytes, Ketone, Nitrite, Urobilinogen, Bilirubin, Protein, Glucose, Specific gravity, Blood and pH, Albumin to Creatinine ratio (ACR), Blood Glucose



# ICT Enabled Eye Care Outreach

L V Prasad Eye Institute, Aravind Eye Hospitals, IL&FS

## Scheme Overview



### Key features

- ▶ Small facilities set up to extend eye care service delivery to remote and rural communities
- ▶ Centres equipped with basic ophthalmic equipment – run by technician who provides minor care; centre linked with nearby base hospital for consultation via video-conferencing
- ▶ Only Patients requiring tertiary or secondary care support are required to visit the hospital, thus saving tangible amount of time & money for the patient

Focus Area	Eye Care
Funding Agency	Donations, out of pocket
Geographical Coverage	Andhra Pradesh, Tripura
Beneficiary Segment	General Population
Beneficiaries	1.5 million (Jan 2009) / ~50,000 / VC

# Other M-Health Initiatives

# mHealth initiatives in India

Organization	Platform	Type of service	Initiative
Bharti Airtel, Healthfore	Voice calls from mobile phones	Remote healthcare advisory	<ul style="list-style-type: none"> <li>▶ Bharti collaborated with Healthfore, a division of Religare Technologies Ltd, in association with Fortis Hospitals as knowledge partner to launch Mediphone. The service allows Bharti's mobile subscribers to avail professional medical advice on their mobile phones. To ensure accurate medical diagnosis, Healthfore has appointed accredited doctors and well qualified nurses to attend customer calls and recommend solutions.</li> </ul>
Arogya World, Nokia	Multi-lingual SMS	Education and awareness	<ul style="list-style-type: none"> <li>▶ Arogya World, a US based non-profit organization, launched its diabetes prevention mHealth program in India. In association with Nokia, the initiative plans to reach out to one million consumers in rural and urban areas over the next two years and aims to raise awareness about diabetes and its prevention through text messages in multiple languages.</li> </ul>
Uninor, handygo Technologies	IVR and SMS	Education and awareness	<ul style="list-style-type: none"> <li>▶ Uninor launched a health application "Wellness World" in association with VAS provider handygo Technologies for its subscribers across the country through IVR and SMS platforms. The application provides up to date information about heart care, women's health, diet and nutrition, HIV and STDs, sexual health, stress and love, relationship and adolescent issues.</li> </ul>
Tata DoCoMo	IVR	Education and awareness	<ul style="list-style-type: none"> <li>▶ Tata DoCoMo launched "Sparsh", a mobile IVR-based service that provide information on issues related with sex and reproductive health. The service is available in regional languages.</li> </ul>
Narayana Hrudayalaya and SANA	Open source applications; smartphones	Remote data collection, monitoring; diagnostic and treatment support	<ul style="list-style-type: none"> <li>▶ Narayana Hrudayalaya and SANA, a research group at Harvard/MIT, planned a mHealth project for early screening and detection of chronic diseases. The project uses open-source telemedicine platform that encodes medical assessments on smartphones and interfaces with diagnostic devices such as ECG, Ultrasound and X-ray/CT-scanners.</li> </ul>

# mHealth initiatives in India

Organization	Platform	Type of service	Initiative
ZMQ Software Systems	Software application on mobile phones	Remote monitoring	<ul style="list-style-type: none"> <li>ZMQ Software Systems is developing Mobile Care, Support and Treatment Manager (MCST). The solution is expected to enable HIV/AIDS patients to use their mobile phones to access their lab tests and medical history reports. The system can also be used for nutritional planning, create alerts to remind them to take their medication and connect with a help line.</li> </ul>
Government of Andhra Pradesh	SMS; internet	Disease and epidemic Outbreak tracking	<ul style="list-style-type: none"> <li>The Government of Andhra Pradesh has pilot tested an Acute Encephalitis Syndrome Surveillance Information System (AESSIMS) in one of its districts. The program enables local health workers to use mobile phones (or web-based technologies) to report incidences of the disease to the AESSIMS system. The system helps decision-makers to access and analyze data in real time through a variety of tools, including Geographical Information System (GIS) based maps.</li> </ul>
Ericsson and Apollo	Mobile broadband	Diagnostic and treatment support	<ul style="list-style-type: none"> <li>Ericsson and Apollo Telemedicine Networking Foundation (ATNF) entered into a Memorandum of Understanding (MoU). Under the terms of the agreement, Ericsson and ATNF planned to implement telemedicine applications over broadband-enabled mobile networks across India. The initiative is anticipated to decrease costs and improve healthcare outcomes, especially across rural populations.</li> </ul>
ZMQ Software Systems and Delhi State AIDS Control Society	Mobile games	Education and awareness	<ul style="list-style-type: none"> <li>ZMQ Software Systems developed a HIV/AIDS awareness game in collaboration with Delhi State AIDS Control Society. The games had been developed keeping in mind the different demographic mix of India and can run on a number of handsets. The games are supported on the most basic to the sophisticated versions of handsets. The primary objective of the application was to educate people and spread awareness in a fun-filled and engaging manner.</li> </ul>
Jiva Institute	Handheld mobile devices; web application	Diagnostic and treatment support	<ul style="list-style-type: none"> <li>Jiva Institute launched a project, TeleDoc, that provided handheld mobile phone devices to village health workers. This enabled communication with doctors who use a web application to help diagnose and prescribe for patients.</li> </ul>



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