Innovations towards Rural Health Care:
some efforts of TeNeT / RTBI, IIT Madras

ashok Jhunjhunwala, IIT Madras, ashok@tenet.res.in
It Started with an email in 2000

- A email arrived from an Internet kiosk in a remote village:
  - A potential epidemic of Chicken Pox

- Instant response from the Government Doctors
Eye-care followed

- Large percentage of blindness in India is due to cataract: curable
  - Screening Eye camp for outreach

- Palaniammal, a 60 year old woman in Melur

- web camera photo: Remote feedback by Eye hospital

Till recently Eye Ailments that could only be detected this way...
- And finally to video conferencing
  - also a Online Patient database created
    - for patients to register in advance
    - to help the hospital schedule and track the patients
  - A computer test for colour blindness added
Video Conferencing continued

- but now with Veterinary doctors
- and then moved on
  - to video-consulting for GP, gynecology and pediatrician problems
A Heart patient from Melur (about 600kms From Chennai) being counsulted by Cardiac surgeon.
Remote Medical diagnostic kit (ReMeDi) consisting of BP, temperature, ECG measurement & stethoscope at just Rs15000
Now a New ReMeDi Telemedicine Kit

- BP, Temperature,
- Stethoscope, ECG
- Digital microscope
- Spiro meter
- EYE-Slit Lamp

- DSP platform for efficient data and image processing
- Data from Rural Patient transmitted to Doctor using 3G mobile / Bluetooth

- Yet, the progress has been Slow
  - Business model still fragile
First Care Health: leveraging RHP

- **Attempt to Leverage potential of existing RHPs through ICT to improve rural health outcomes**

- **Rural Healthcare Providers**
  - Diverse paramedical and alternate healthcare backgrounds
  - Diploma/ cert in an alternate system (Sidha, homeopathy, naturopathy), lab technology, pharmacy, Vocational nursing

- **Why them?**
  - Primary Contact: Acquired trust of local people
  - Consistent Presence and Availability
  - Understands the cultural and economic dynamics of people

- **What do they need?**
  - Training (do’s and don’t)
  - Linkages to doctors for consultation
  - Linkage to Labs for testing
  - Medicine Basket
  - Patient health record on cloud using mobile
First-care: Village Health Practitioners

Pilot in 35 villages in a district
RHPs chosen by polling villagers
High enthusiasm to learn and comply
Clear benefit in practice
Discontinued as RHPs are not recognised
Monitoring Mother and Child Care Programs

- Integrated Child Development Scheme: nutrient-supplement to children based on weekly monitoring child’s growth
  - Program marred by absenteeism and corruption
  - Monitoring using a simple phone at health centers
    - Unique authentication of mother using voice-authentication
    - Using voice recognition to capture Child growth and supplement obtained using mother’s voice
  - Piloted in Dhar and Gunawat districts of Madhya Pradesh

- Digitizing Patient data through Voice
  a. Mother & Child visiting AWC (Health Center)
  b. User entering and authenticating data using mobile phone
  c. The data entered by the mother is available in a digitized format on ICDs web portal on real time basis
Thanks