Information Technology in Rural Healthcare

Based on the Post Tsunami Experience In Tamilnadu

SATHI

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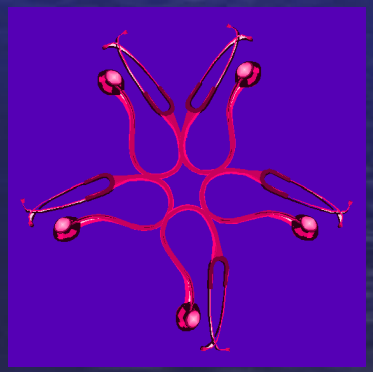
S.A.T.H.I.

Society for Administration of Telemedicine and Healthcare Informatics

A Resource Organization for

- Developing Software
- Training of personnel
- Field Testing
- Project management
  - Tsunami Relief
- Standardization



The concerns

- 70% of India is Rural, but 70 - 80% of Health Service providers are urban
- In a a disaster situation as well as epidemics, this need is for prevention as well as treatment
- While in such an Emergency, provisions and supplies can be sent to the needy,
- Disease and healthcare needs frequently create a need of reverse transfer with scarce diversion of resources

The Telemedicine solution

- Ensure access to specialists' services
- Ensure quality of services
- Enable people
  - to articulate their needs
  - participate in interactive sessions with experts
- Enable service provider to be need specific
- Strengthen the health care delivery system
- Increased efficiency of service provider -more coverage

Problems with Telemedicine

- Telemedicine effective in reducing Healthcare costs
- EMR and telemedicine - two different streams
- Tight integration of EMR with telemedicine helps growth of both
- Differing perspectives of doctor and IT persons
- Computer usage poor among doctors

Current status

- Despite all efforts, telemedicine yet to take off on a large scale. Reasons----
  - Lack of awareness
  - Still in innovation phase
  - High costs (no economy of scale)
  - Lack of standards
  - Low payment capacity of medical profession
- A comprehensive EMR lacking in most hospitals
- EMRs not integrated with currently available apps for telemedicine

Health Management after Tsunami in Tamilnadu

- Immediate Excellent
- Intermediate Excellent
- Long Term ???
  - Alcoholism
  - PTSD
  - Panic Reactions

Tsunami – the unfinished agenda *(in January 2005)*

- Survivors still in grip of fear & shock
- Loss of Family members and loved ones
- Anxious & depressed
- Displaced & unemployed
- Ignorant about tsunami
  - What was it?
  - Will it strike again?
  - How to be prepared?
  - How to cope with the after effects?
- Feeling of helplessness

The Healing Touch Project

- DISTINCTIVE FEATURES

- Community based
- Village level operable
- Integrated with present health system
  - vertically: primary - secondary - tertiary
  - horizontally: among the networked units
- Empowering the community
- Exemplary partnership
  - between Government, NGOs, Community and development support agencies

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The Telemedicine Network

Existing Superspeciality Telemedicine Centres I (AIIMS)

Existing Superspeciality Telemedicine Centres II

Existing Superspeciality Telemedicine Centres III

CHENNAI TELEMEDICINE CENTRE

Local Coordinator

TMC -1

TMC -2

TMC -3

TMC -4

TMC -5

TMC -6

TMC -7

TMC -8

First Phase

Second Phase

The partners

- Oxfam – Funding and administrative support
- SATHI – Technical support, designing and operationalization of telemedicine system
- Local NGOs – Implementation and coordination
- Government of TN
  - Service delivery
  - Frontline workers
  - Health subcentres/ PHCs
- Specialists' institutions (SCARF, AIIMS)

Facilitating Intervention

- Counselling (through Video Conferencing for the victim) in the presence of the health worker
  - The Health Worker may be a victim too
- Expert Backup
- Individual and group sessions possible
- No Travelling Required by the victims
- Continuous learning (on the job as well as on the spot.)
- Adaptability to the needs

Basis of Field Unit Locations

- Assessment of situation regarding health needs
- Availability of personnel to operate and use the systems
- Linkages with the Government systems and other health care facilities
- Management Support

FACE

ISED

PEDA

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Procedures Followed

- Check Background
  - Existing Health System
  - Of NGO
- Concept marketing
- Create MOU
- Install the systems
- Training
- Test Sessions
- Streamlining
- Create TCS Time Table
- Feedback
- Reporting Mechanisms

Basis of Central Unit Location

- Availability of Qualified Psychiatrists
- Willing for Voluntary Work
- Familiarity with the affected areas
  - Physical Proximity
  - Language Problems
  - Previous Work Done
- Management Support

Development & operationalization processes

- Health needs assessment
- Designing of telemedicine network
- Advocacy & Orientation of all stakeholders
- Capacity building of community mental health team (frontline workers of Government, NGOs and community)
- Advocacy and social mobilization of IMA, Indian Association of Psychiatrists)
- Sensitization of women self help groups

Training through Telemedicine system

- Training modules developed
  - Based on assessed needs
  - Human Rights perspective
  - Incorporates WHO guidelines – relief worker and affected people
  - On the job training and continuous training
  - Innovative interactive and participatory training methodology
  - supported by audiovisuals

Lessons Learnt

- Community based telemedicine system is
  - Sustainable
  - Excellent force multiplier
  - Effective facilitating tool for mental health assistance
- Coordination among multiple partners necessary for operationalization.
- Difficulties in ISDN connectivity
- Better awareness about telemedicine needed

Next steps

- Scaling up programme reach
  - To address problem adequately
  - To utilize available expertise in mental health more efficiently
    - Overcome Language barrier
  - To reach the unreached
    - More effective utilization of systems setup
    - Cover more areas
- Develop rapidly deployable units for disaster management
  - Need for Mobile Units

Expected outcomes of pilot

- A developed operational Model of telemedicine system that
  - ensures access to needed healthcare services
  - operable at village level
  - sustainable
- Capacity built : Community Health Team, NGOs, specialists institutions
- Package of Rapidly deployable Telemedicine Unit for disaster response developed and ready.

Current Status (Feb 2006)

- Funding provided for Three Units only (One in Centre at SCARF + 2 in periphery)
- Independent Evaluation in Progress
- Over a six month period (from one peripheral centre)
  - Over 150 patients examined online
  - Tele counselling provided for 49 patients
  - Prevention of two possible suicides
  - Gradually decreased need felt for Mental Health support

Problems faced by us

- New Technology
- Service Taking Too long
  - Connectivity
  - Identification of Specialists
  - Identification of Caring Institution
  - NGO Coordination
- Funding
- Language Issues

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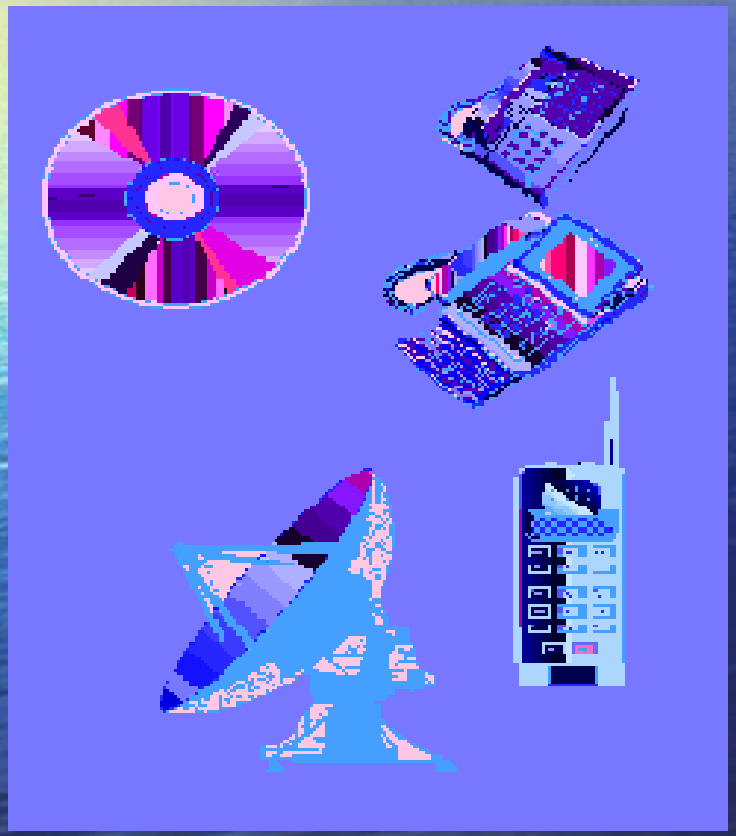
Connectivity Problems

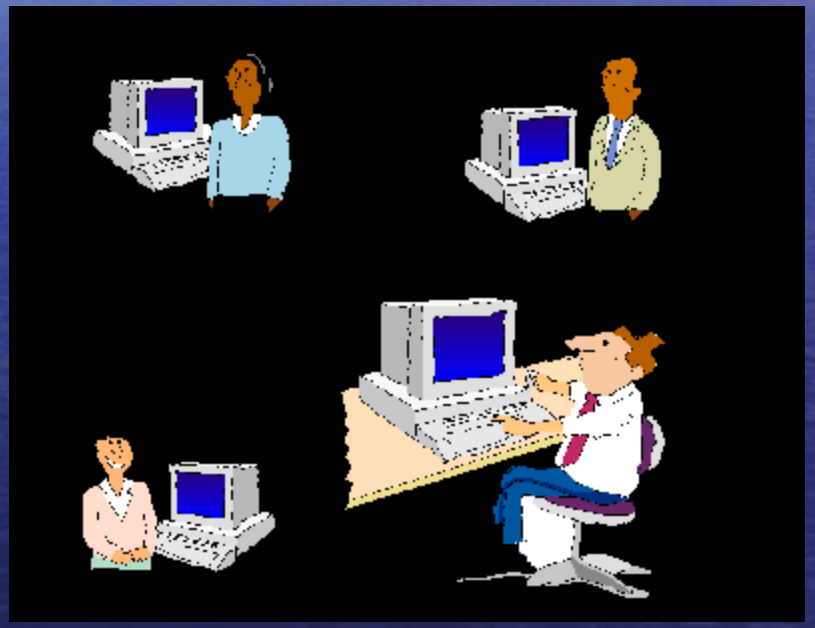


- PSTN Line
  - Not Enough Bandwidth
- ISDN Line
  - Not all exchanges have it
  - Within 2.5 Kms of Exchange
  - Immobile
- Mobile Phone (CDMA /GSM)
  - Service unreliable/ Low Bandwidth
- VSAT
  - Too expensive or only for Govt
- Internet/ADSL/WiFi
  - to be tested

Exchanges themselves got flooded

NGO Coordination Problems

- Unfamiliarity
- Fixed Mindset
- Looking for Doles
- Cross Restrictions
- Unwillingness to spend
- Flagging off of Interest



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Three Phases of Disaster Management (Healthcare)

- Immediate
  - Evacuation/Transfer/Manage Acute Injuries
- Intermediate
  - Drinking water / Sanitation / Food / Stopping Epidemics
- Rehabilitation
  - Mental Health
  - Occupational Therapy

Acute Stage Management

- Help in Evacuation
- On Site Injury Care
- Know when and where to shift
- Possible to wheel patient in OT

Running and Functional Systems work better in Emergencies

- Emphasis on Mobile Units
- Satellite / Mobile connectivity
- Pre Trained Staff to be sent with the equipment
- Would help to have pre-trained local volunteers

Intermediate Stage - Epidemiology

- Data Collection
- Online Mass Training of Health Workers
- Program Evaluation
- Prevention and control
- Disease surveillance
- Monitoring
- Efficient health measures
- Administration

Suggestions and Planning for future disasters

- Create Delivery Network
- Pre Response to Trauma
- Mock Testing
- Pre Arrange Funding (From Funding Organizations)
  - ?Sign MOUs Immediately

Suggested Future Actions

- Creation of National Population Database
  - Smart Cards/Key Numbers
    - Driving License?, Election Card?, Social Security Number?, Ration card?
- Database of Stakeholders
  - NGOs / Government / Private Players
- Database of Health Service Providers

Suggested Future Actions *--cont*

- Penetrating IT into Healthcare
  - Role of Indian Assocaition of Medical Informatics
  - Knowledge Kiosks
- Computerization of all Patient records
  - Standardization Issues
  - Data Locations
    - ?Personal
    - ?Web server
- Involve Rural centres and Hospitals in Training and Disaster Planning

Lessons from our experience

- Telemedicine Possible in far flung Rural Areas
- Special issues to be tackled for the same
  - Connectivity
  - Language
  - Capacity Building
  - Orientation
- Such a Telemedicine system can improve health care delivery
- Can also provide timely help in Disasters

Acknowledgements

SATHI Team
OXFAM