Working for Individuals
Connecting Communities
Enabling Broad definitions of
Health
Bringing Innovations to your Home

Contents
What can these women teach you about Informatics?
Informatics for resource poor environment is not just great.. Its essential.

It’s clear that existing paradigms of informatics wont work.. But that’s an opportunity not a threat

These women don’t have iPhones, they barely know about their own health. They struggle saving 2 Cents a day. What can we do about them.

A lot but
1) Take an integrated social determinant of health approach
2) Make local technologies with local context and use local computing resources.
3) Use digital health mediators.
4) Work at communities levels rather than individual
Embed Technologies into Communities

A sense of group and communities is central to these rural areas.

Current technology is deeply insular.

We need to adapt technologies that allow easy sharing of data and interpretation at their level.
Design Inspiration

Colour
Solutions

E-Chatai: An internet of things Carpet to encourage participatory health

E-Sanchalak: A meeting Assistant on Raspberry PI enabling informatics approach to healthcare

E-Inspiration Book: A hybrid digital physical device to develop health communication
Participation Pod
1) Interactive Touch Switches
2) Sound Analysers for Participation Metrics
3) AI Algorithms to give feedback and enable greater participation

Unbreakable
Bendable
Runs on mobile batteries
Discussing Health and its social determinants (social commitments, Savings and Loans, Agriculture, Livelihoods)
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<th>Her status</th>
<th>Pregnancy Information</th>
<th>Her Number</th>
<th>Her SHG Helper</th>
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New status update (Maa's name)
Interoperability

1) Working with village health workers
2) All results go to the Bubbles Cloud which then are shared with different stakeholders via phone SMS and App
Explaining the Sanchalak. We worked with RGMVP team explaining the benefit of the Sanchalak and how it works.
Kids seeing the e-CHATAI and trying to stand on it and break it!

(we passed the child test..cant say that about many informatics solutions can we..)
The Sanchalak attracts curious young minds
Inspiration Tablet (Prerna Takhti)

Flipbooks are used as tools by SHGs to share and explore. Using the power of technology it is feasible to develop systems that can augment already printed flipbooks.

Prerna Takhti will be designed to bring Audio-visual interactions into the knowledge sharing sessions.
Combines digital and physical books to allow for an interactive experience.

Sensors inside book sense the user participations and capable of picking up answers to quizzes to understand efficacy of information dissemination.

Extendable to childrens education and other domains.
Learnings and Results

SHG Movement has more than 1.4 million women enrolled in 142,000 groups

Each of the group now regularly discusses health and exchange information

Pregnant women registration and tracking has jumped by 28.9%

Child vaccination is up from 68% to 89%
Opportunistic Collection:
Data on a mobile has the option of sending data when connectivity is available. People often figure out how to be connected when needed.

Data to SMS:
Program systems so important data can be pushed as a coded SMS to a SMS Server. SMS Server can upload the data.

Data to Voice:
Use IVRs and DTMF for data upload.

Local Network:
Identify Upload Spots via GPS, crowd sourced.

Offer Free WiFi Hotspots at Block HQ.
Beyond the resource poor
Communities and information mediated through communities is a powerful change agent (Patient Support Groups, Cohort Assessment)
Health Information is hard for an individual to consume

Mediator who interpret information are a strong value

Creating the next generation of value providers who interpret health data for me is an important aspect
YOUR PERSONAL RECORDS
(PAPER)

YOUR PERSONAL DATACENTRE

Dependable Quality Care,
In your neighbourhood

Precision Health
Approach

4D Clinics
SEIZURE / FITS

Is the patient unconscious or having active fits?

**EMERGENCY MEASURES**

- Ensure the client is safe. Place in a lateral long (frenzy) position. Do not place anything in the mouth.
- Give 4x10ml racemide syrup.
- Continue IV dextrose 5% in saline chloride 0.9% slowly (10 drops per minute).

**Act**

**Measure**

- Give 50ml of 50% glucose IV
- Treatment for IF pg 63
- Give diazepam 10mg IV slow infusion over at least 5 minutes or intramuscular 4mg IM/IV dose
- Give intravenous 2g IV if more available, prn/fix G SIV IV. Refer client the same day
- Refer client the same day

**Check glucose, if < 63 mg/dl or unable to recognize**

- If greater than or equal to 20 weeks pregnant or not pregnant
- If < 20 weeks pregnant or not pregnant

**Evaluate**

- Temperatures greater than or equal to 80°F

- Fits do not respond to 2 doses of diazepam/lorazepam or Fits last longer than 30 minutes or Client does not recover consciousness between fits

**Repeat after 30 minutes if fit continues**

- Give phenytoin 20mg/kg IV through different line to discontinued over 60 minutes
- If fit continues repeat phenytoin 10mg/kg IV (through different line to discontinued) over 30 minutes
- Refer urgently to hospital

**Refer the client same day if**

- Need further investigations
- Reduced level of consciousness more than one hour after fit
- Glucose level < 63 mg/dl after one hour or client with glycogen storage disease
- New weakness, stupor/men, visual disturbance, facial palsy, unable to count 3 out of 3 objects (like hand, nose, pen) or recent headaches
- BP is greater than or equal to 150/100 one hour after fit has stopped
- Subdural abscess, intoxication or withdrawal
- Head injury within past 6 weeks
- Pregnant or up to 1 week postpartum

**Protocols**

- Previous TIA warning, stroke or head trauma?
- Client known with epilepsy?

**Refer for specialist assessment if diagnosis uncertain.**

**Routine Checkup**

- Confirm that client indeed had a fit confirming no symptoms of part of or whole body, with or without transient, incontinence, post-fit depression and confusion.

- Episodes of weakness or disturbance of speech for < 24 hours?

**Stroke or Transient Ischaemic Attack likely pg 76**

- Episodes of acute anxiety?

**Panic Attack likely pg 96**

- Collapse following hot heating, nausea, precipitous standing or intense pain with rapid recovery? BLACKOUT likely pg 97
Pink Rickshaw Designs Smart Mirror

Healthy Look Inside
Thank You
Pink Rickshaw Design (PRD) is a world class system design firm that aims to provide one-stop-shop for research, design, and development of technologies and human centered solutions. We focus on problem-centric approach to system design. Our experts have developed a unique socio-technical approach to understanding a problem domain and then proposing technological solutions that can address the issues. While developing products for every user, our expertise lies in building rugged products for resource poor environment. We have built products for health and education for rural India.
PRD is a boutique health design firm which provides a multitude of expertise at the intersection of science, design and technology.
Kanav Kahol

Dr. Kanav Kahol did his PhD in Computer Science from Arizona State University. Formerly Dr Kahol served as a professor in Arizona State University where he worked with Dr Leeland Hartwell a nobel laureate in Biology. He has also been an adjunct faculty in Mayo Clinic and continues to be adjunct faculty in Arizona State University and in New York Academy of Medicine. Dr Kahol was also the head of division of affordable health technologies in Public Health Foundation of India. Dr Kahol is the inventor of Swasthya Slate a mobile tablet that does 50 diagnostic tests on a mobile platform and also the paperless clinic implemented in Mohalla Clinics by Delhi government. Dr Kahol is winner of several awards that include Amazing Indian Award by TimesNowTV, Innovator of the year (2015) and his work have been featured in New York Times, LA Times, Washington Post, Times of India amongst many. He has published several journal and conference papers and serves on the editorial board of Journal of Biomedical Informatics.
Dr. Priyamvada (Pia) Tripathi completed her PhD in Computer Science on the topic of computational creativity. Pia has a strong background in human computer interaction, patient experience and has worked in Mayo Clinic, Scottsdale, Barrow Neurological Institute Phoenix and BannerHealth Phoenix USA and collaborated with Massachusetts Institute of Technology (MIT), Boston, USA. Pia has published several journal and conference articles on creativity in organizations and research in healthcare organisations. Pia is also a published writer and makes frequent contribution to DailyO portal run by India Today group in India and has contributed to several newschannels as an expert like India Today TV, CNN IBN and NewsX. She will serve as the Head Patient Experience and Quality.
Sabyasachi Paldas

SabyaSachi Paldas is a diploma holder from the National Institute of Design, Ahmedabad. He passed in 1994 with a specialisation in Industrial Design. Sabya has been involved in the design of the Lullaby Warmer Prime and Infant Resuscitators for GE Healthcare. He has had leadership roles in teams that created brands, spaces and experiences like Apollo Pharmacy, Barista, Kaya Skin Clinic, Ginger, EasyDay, ChokoLa, Evok, etc. Sabya will serve as the head of research and innovation.