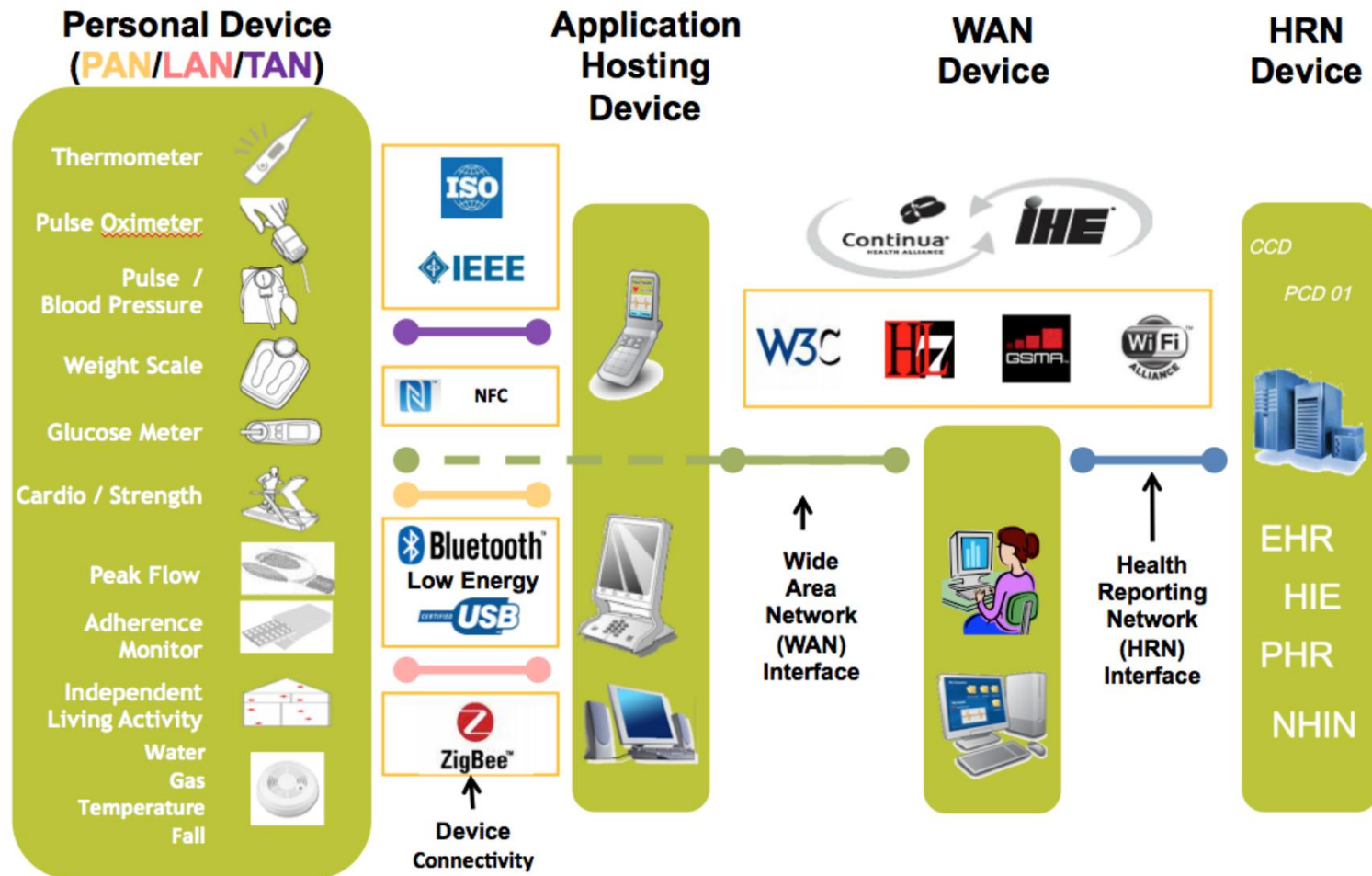


Personalised, remote patient health management

Ananda Sen Gupta
Founder & CEO
Trackmybeat Healthcare



Architecture of IoT for Health

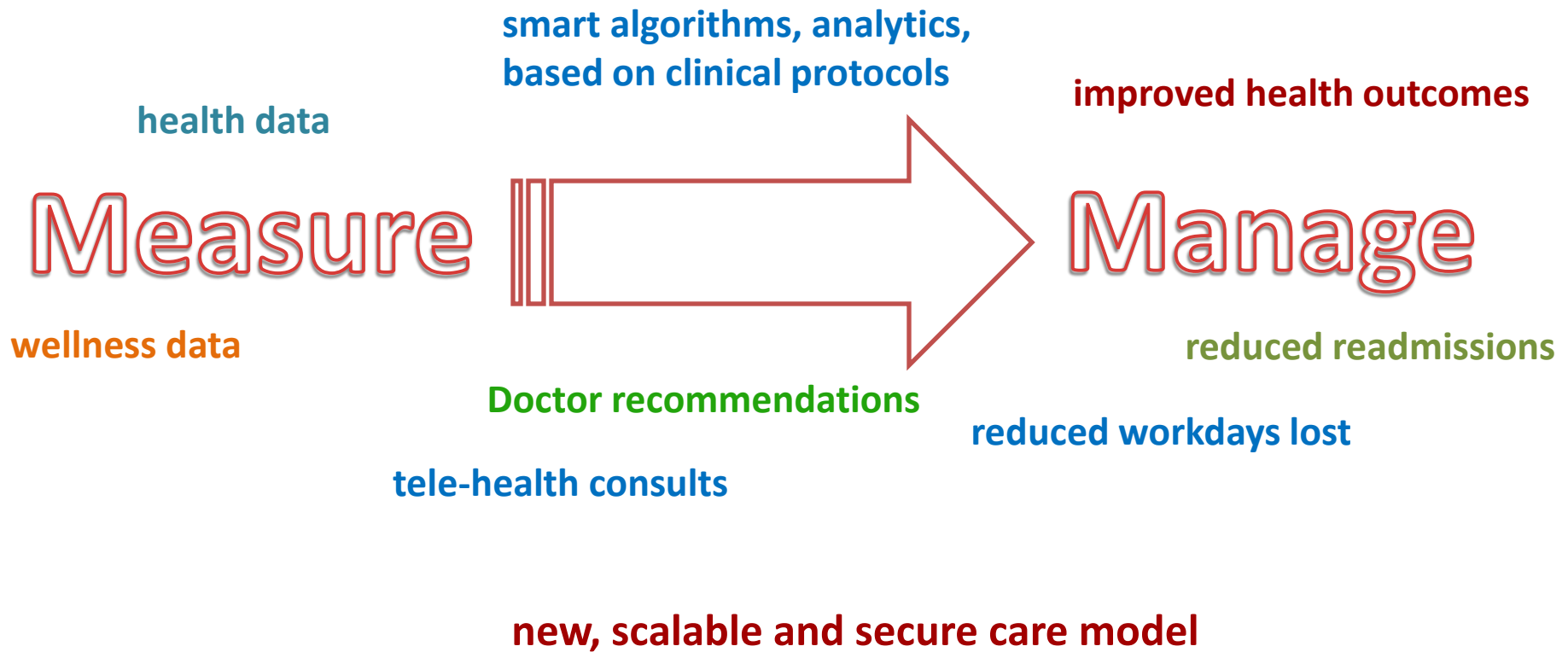


[Source: ITU-T Technical Paper HSTP-H810, July 2014]

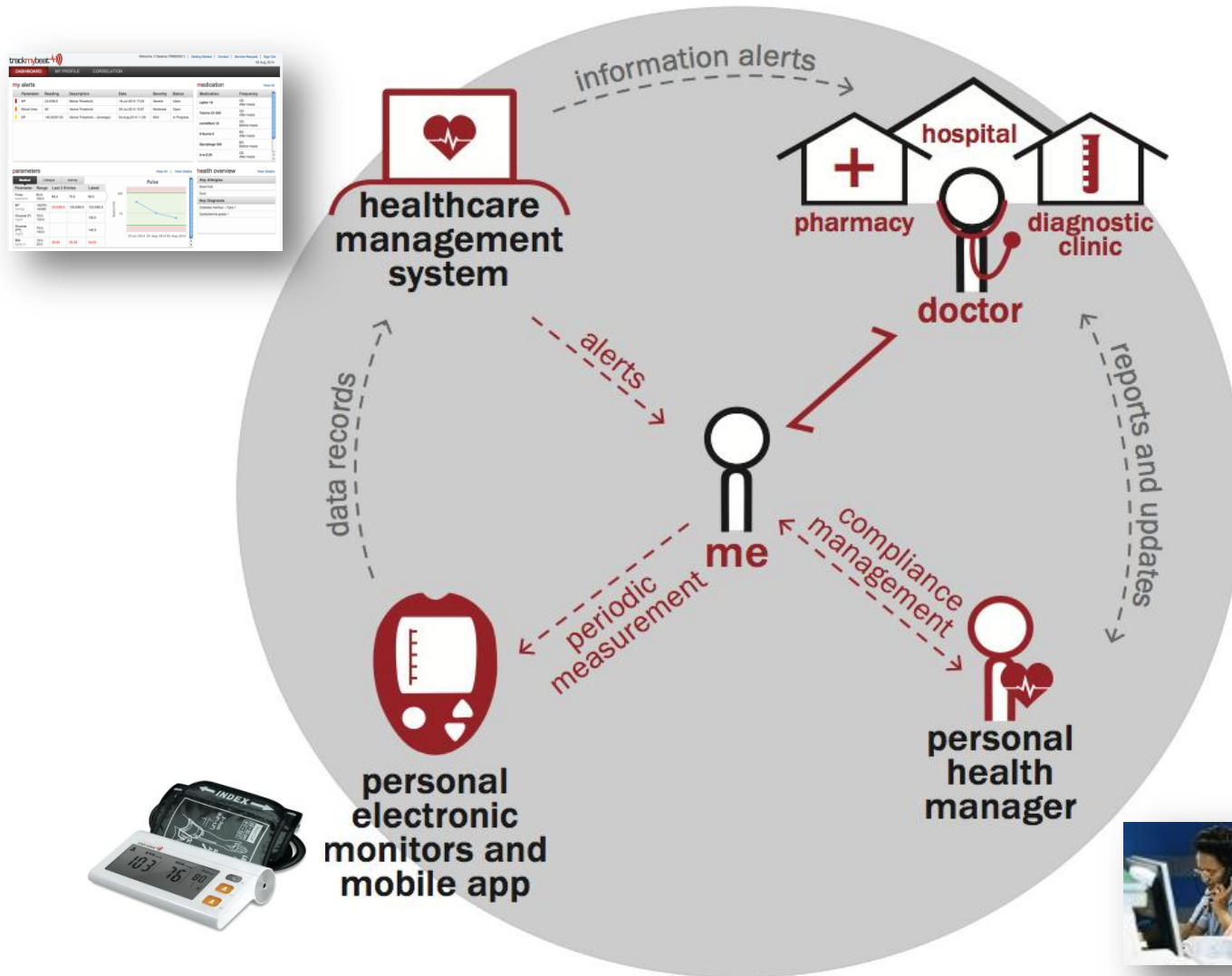
Healthcare IT is about *Healthcare*!

- The largest challenge is that doctors are averse to the use of technology
 - Doctors do not want to spend time learning to use information technology, unclear about RoI
 - Patients want to look for compassion in the Doctor's eyes and not see him typing into the system
- The focus needs to be firmly on improving patient health outcomes!

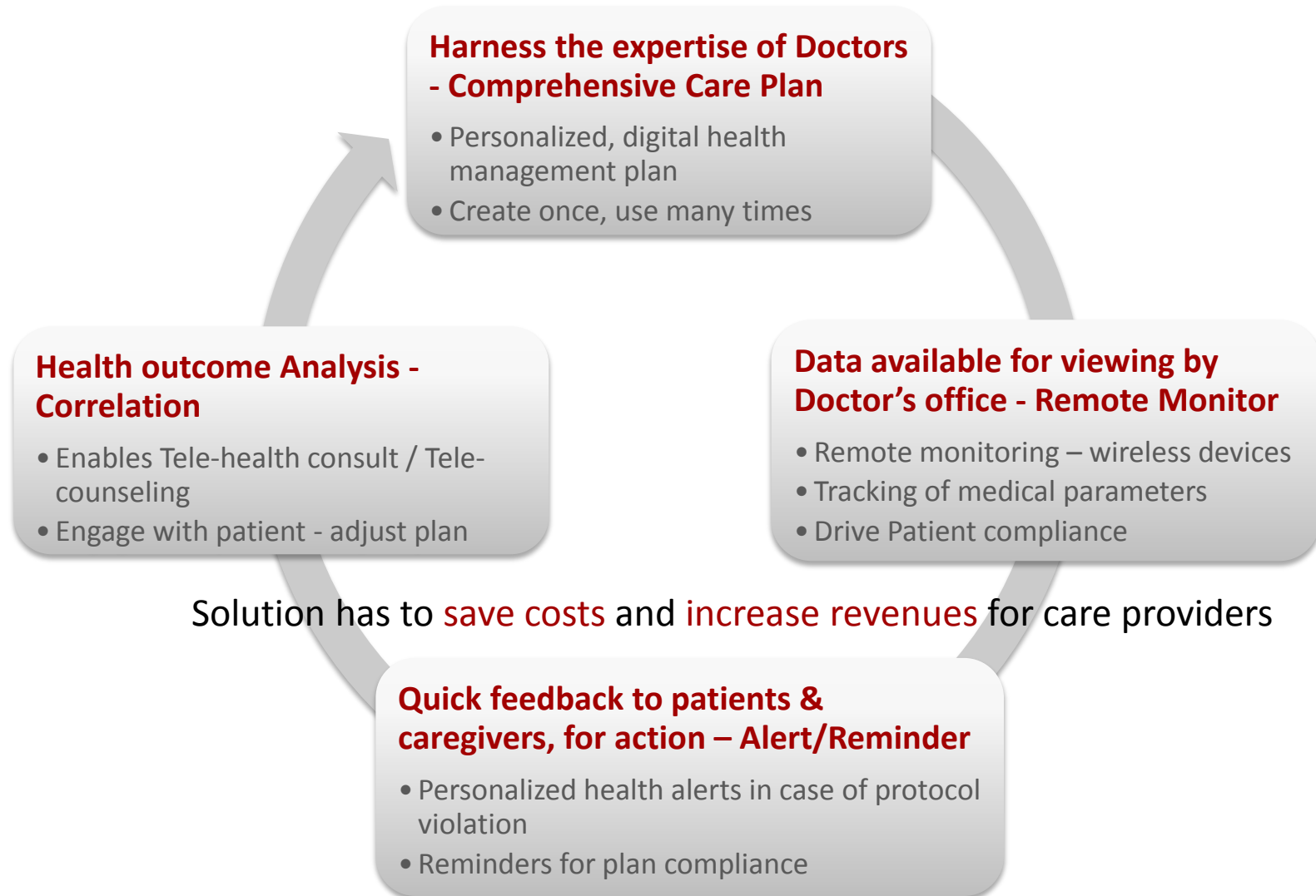
Bridging the gap



Patient-centric Service Model



A structured approach



Template driven Care Plan

Personal Information

Name: Haley Patrick

Age: 27

Gender: Female

Contact No. +1-6654582680

Key Diagnosis:

Doctor Information

Name: Alex Parish (Registration No. AST002401)

Contact No. : +1 7191899191

Created through a
standard template

Medical parameters to be monitored

Parameter	Frequency	Next date	Comments
BP	1 per day	12-Mar-2016	Test BP
Pulse	1 per week	16-Mar-2016	Test Pulse
HbA1c	1 per week	24-Mar-2016	Test Blood Sugar

Other Investigations

Investigation	Frequency	Next scheduled	Comments
Pathology	1 per day	12-Mar-2016	R & M test
Cardiology tests	1 per day	14-Mar-2016	Echocardiogram

Doctor Interaction

Doctor's name	Kind of review	Date of review	Instructions
John Legend	Alternative medicine	12-Mar-2016	Alternate Meds
Adam Hash	Endocrinology	20-Apr-2016	For Hypothalamic disorders
Henier Green	General Physician	12-Mar-2016	General Health Check Up

Care Manager Interaction

Care Manager's name	Kind of review	Date of review	Instructions
Ross Gellar	Home sugars reviewed	12-Mar-2016	Review home sugar
Ross Gellar	Lipid control reviewed, ordered if due	23-Mar-2016	Control lipid

Lifestyle parameters

Parameter	Target / Unit	Frequency	Instructions
Alcohol Intake	1.0 unit	2 per day	Limit Alcohol intake
Waist Hip Ratio (WHR)	0.75 ratio	1 per week	Check Waist to Hip r

Activity parameters

Parameter	Target / Unit	Frequency	Instructions
Cycling	5.0 km	1 per day	
Jogging/Running	3.0 km	1 per day	

Medicine details

Medicine	Strength	Frequency	Instructions	Brand	Start Date	End Date
Brufane	500	OD	After meals		12-Mar-2016	04-Mar-2024
Calcium Sandoz	500	OD	After meals		17-Mar-2016	15-Mar-2017

This can be stand alone or
received from EMR, and
appended to

Confidential

Leads to Action Plans

Care Manager Task Plan

Summary Alerts **Task View**

Search Task Details

Task Type Patient Name Age Filter Clear

Task Date	Task Type	Task Detail	Patient Name	DOB	Primary Physician	Care Program
18-Mar-2016	Schedule Appointment	Dr Mistry	William Johnson	23-Jan-1978	Dr. P. Foreman	Diabetes Care Program
18-Mar-2016	Monitor Patient Progress	Review CarePlan	Jacob Moore	24-Aug-1974	Dr. D. House	Cardiac Care Program
18-Mar-2016	Approve Medication	Prescription Profile	John Smith	05-Jan-1977	Dr. M. Wilson	Diabetes Care Program
18-Mar-2016	Patient Counselling	Foot Care	James Walker	29-Apr-1982	Dr. P. Foreman	Diabetes Care Program

This can be fed back to the EMR appending to the tasks

Patient's Daily Plan

Key Diagnosis Allergies

Export Calendar

August 2015

today < >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15

Medical Parameter

Other Investigations

Lifestyle Parameter Details

Activity Parameter Details

Parameter Name	Target Value	Frequency	Comment
Pranayama	30.0 min	1	
Walking	3.0 km or 45.0 min	3	

Patient receives daily reminder set as per the plan. This can be by text, email or in App messages

Patient data captured in App

The image displays three sequential screenshots of the TrackMyBeat mobile application interface.

Screenshot 1 (Left): The 'Welcome!' screen. It features a red header bar. Below it, there are two input fields labeled 'User Name' and 'Password', followed by a red 'Login' button. The 'trackmybeat' logo is at the bottom.

Screenshot 2 (Middle): The 'Welcome, John Doe. What are you measuring now ?' screen. It has a red header bar with the user's name 'John Doe'. Below the header, there is a list of measurement options: 'Caloric Intake', 'Exercise', 'Problems Faced', and 'Weight'. A red arrow points from the 'Problems Faced' button to a red callout box. Below the list, there is a note 'switch on device before selection.', a question 'Not John Doe?', and a red button with a back arrow. The 'trackmybeat' logo is at the bottom.

Screenshot 3 (Right): The 'Enter applicable readings' screen. It has a red header bar with a home icon. Below the header, there is a section for selecting meal types: 'ALL' (highlighted in red), 'Lunch', 'Snacks2', 'Dinner', 'Snacks1', and 'Breakfast'. Below this, there are input fields for 'Size (oz)' (set to 20), 'Protein Count (Optional)' (set to 70 Grams), and 'Calorie Count (Optional)' (set to 1800 Calories). There is also a 'Date Time' field showing '2016-06-12 18:27'. Below this section is an 'Upload Data' button and a note: 'If you would like to enter data of different date. please use the TMB online portal or contact your TMB professional.' The 'trackmybeat' logo is at the bottom.

Callout Box: A red box with white text that reads: 'The parameter list is auto configured based on the patient's care plan, can be updated remotely as needed'.

Patient data captured from devices



Solution is pre-integrated, and can be connected to any device.

Health Monitoring

- Data can be captured from
 - EMR's (integration required in back end)
 - Connected devices, wearables (wireless interface)
 - Activity information (direct data entry or web interface)
- Specific parameters will be tracked over time based on the Health Management Plan
- All activity and communication with patients is safe and secure, with standards that support a HIPAA compliant medical practice.
- We only use industry-standard datacenter security practices, and technical protocols, including SSL and HTTPS encryption. Thus we help mitigate the risk that texting patients or using insecure third-party apps.

Monitoring as per Plan



Welcome, V Saxena (TMB00001) | [Getting Started](#) | [Contact](#) | [Service Request](#) | [Sign Out](#)

07 Nov, 2015

DASHBOARD

CORRELATION

MY PROFILE

HEALTH MANAGEMENT PLAN

my alerts

[My Alert Rules](#)

medication

[View All](#)

	Parameter	Reading	Description	Date	Severity	Status
	Glucose (PP)	280.0	Diabetes	29-Oct-2015 10:00	Severe	In Progress
	Glucose (F)	200.0	Diabetes	29-Oct-2015 08:00	Severe	In Progress
	Difficulty in Breathing		Having breathing problems	03-Nov-2015 22:02	Moderate	In Progress
	BP	160.0/100.0	Stage 1 Hypertension	29-Oct-2015 10:20	Moderate	In Progress
	Glucose (PP)	140.0	Pre-diabetes	05-Nov-2015 10:15	Mild	In Progress
	BMI					

Medication	Frequency
Glyciphage	BD After meals
Lipitor	BD After meals
combiflam	SOS After meals
	OD

Parameter Name	Group Type	Rule Owner ID	Nationality	Gender	Age From	Age To	Active From
BP	Individual	TMB Test TMB003			0	100	12-Jun-2015

Pre-set Alert Rules

81/57

90/63

100/70

140/90

154/99

169/109

parameters

[Add reading](#)

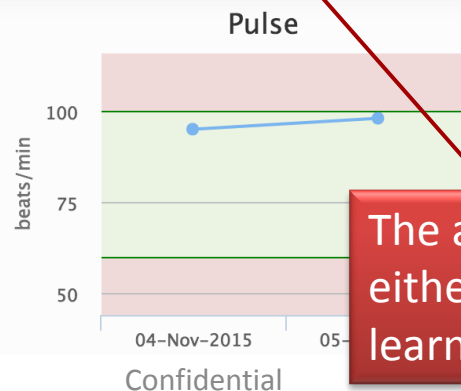
[View All](#)

[View Details](#)

health overview

[View Details](#)

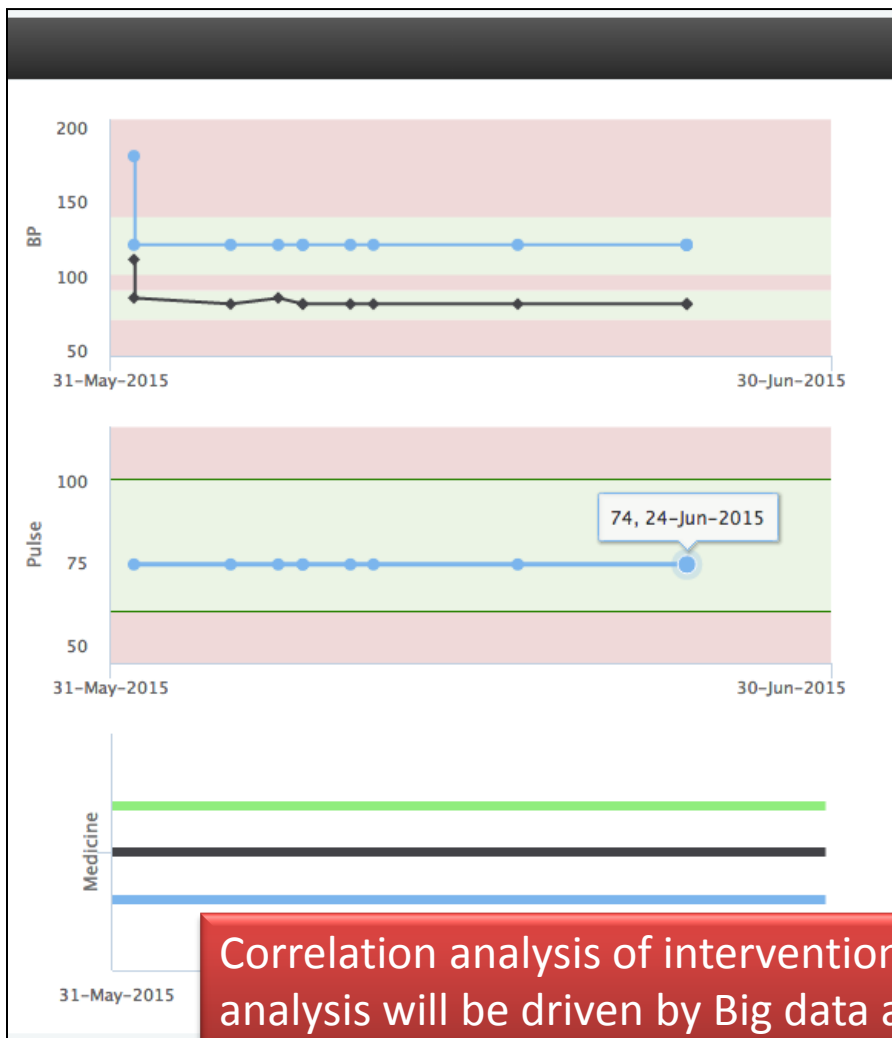
Medical	Lifestyle		Activity	
Parameter	Range	Last 2 Entries		Latest
Pulse beats/min	60.0-100.0	95.0		98.0
BP mmHg	100/70-140/90		150.0/120.0	124.0/87.0
Glucose (F) mg/dl	70.0-100.0	98.0	200.0	80.0
Glucose (PP) mg/dl	70.0-140.0	138.96	280.0	140.0



The alert rule can be customised, either manually or based on machine learning.

Impact analysis of Plan

Individual Accountable Care



Patient Population View

Diabetes Population View

Cardiac Population View

Stroke Population View

Search Diabetes Population Detail

Subscriber Name

Age

On Plan ▾

90 days ▾

Filter

Subscriber Name	DOB	Glucose (F)	Glucose (PP)	HbA1c
John Smith	15-May-1975	130 01-Mar-16 09:45 30 day avg :120	180 10-Mar-16 15:20 30 day avg : 175	7.30 05-Mar-16 17:50
William Johnson	12-Aug-1969	200 25-Feb-16 10:30 30 day avg : 190	300 11-Mar-16 14:50 30 day avg : 285.5	9 03-Mar-16 12:05
Jacob Moore	07-Oct-1988	115 11-Mar-16 11:36 30 day avg : 120.5	160 22-Feb-16 13:10 30 day avg : 155.6	6 13-Mar-16 11:56
Jackson Thomas	04-Jan-1973	122 13-Feb-16 15:45 30 day avg : 125	180 01-Mar-16 09:45 30 day avg : 185	7 10-Mar-16 15:20
James Walker	15-Mar-1987	90 18-Feb-16 17:45 30 day avg : 110	160 25-Feb-16 10:30 30 day avg : 175	6.2 11-Mar-16 14:50
Ethan Davis	21-Apr-1962	120 29-Feb-16 13:02 30 day avg : 125.8	160 11-Mar-16 11:36 30 day avg : 155	6.8 22-Feb-16 13:10
Michael Scott	09-Dec-1989	110 09-Mar-16 14:10 30 day avg : 105.5	170 13-Feb-16 15:45 30 day avg : 168	7 01-Mar-16 09:45
Olivia Lewis	31-Jun-1965	100 15-Feb-16 16:56	120 18-Feb-16 17:45	6 25-Feb-16 10:30

Outcome

as well as Population Health

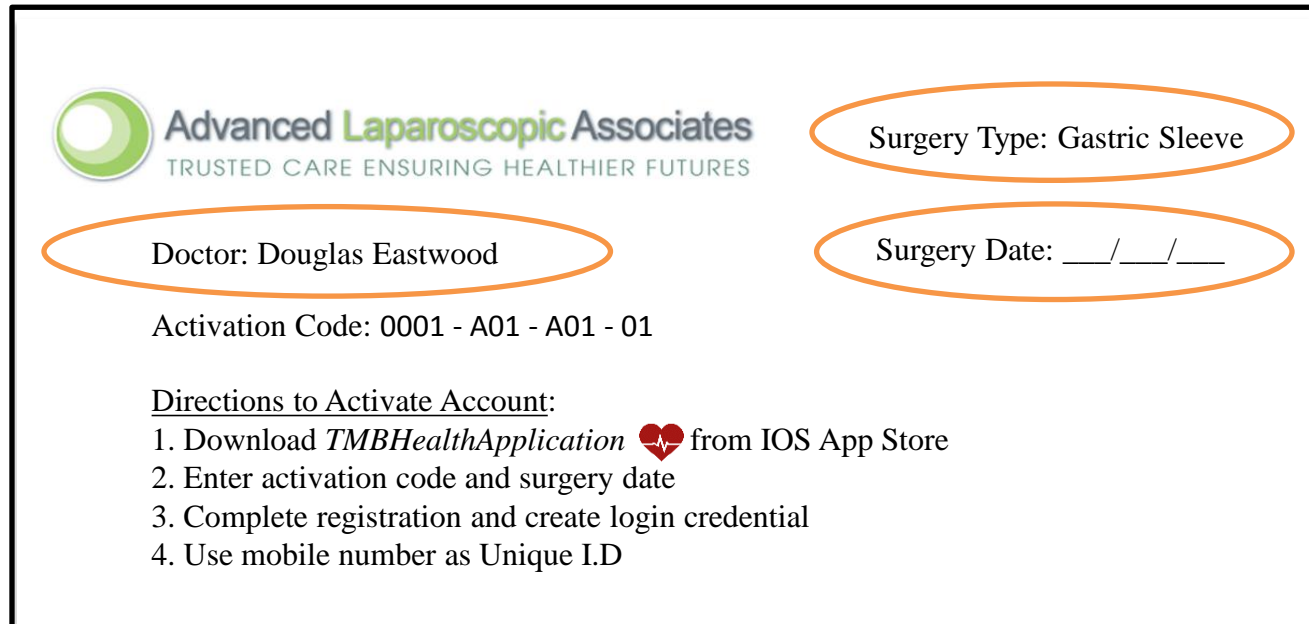
Analytics

11:36


Correlation analysis of intervention vs outcome, as well as Population Health analysis will be driven by Big data analytics

US deployment - compliance

- Activation card given to patients in perioperative period




The image shows a patient activation card for Advanced Laparoscopic Associates. The card features the company logo and name at the top left. Below the logo, the doctor's name 'Doctor: Douglas Eastwood' is circled in orange. To the right, the 'Surgery Type: Gastric Sleeve' is also circled in orange. Below the doctor's name, the 'Activation Code: 0001 - A01 - A01 - 01' is listed. To the right of the code, the 'Surgery Date: ___/___/___' is circled in orange. At the bottom, there are 'Directions to Activate Account' with a list of four steps: 1. Download TMBHealthApplication (with a heart icon) from IOS App Store, 2. Enter activation code and surgery date, 3. Complete registration and create login credential, and 4. Use mobile number as Unique I.D.

 **Advanced Laparoscopic Associates**
TRUSTED CARE ENSURING HEALTHIER FUTURES

Doctor: Douglas Eastwood

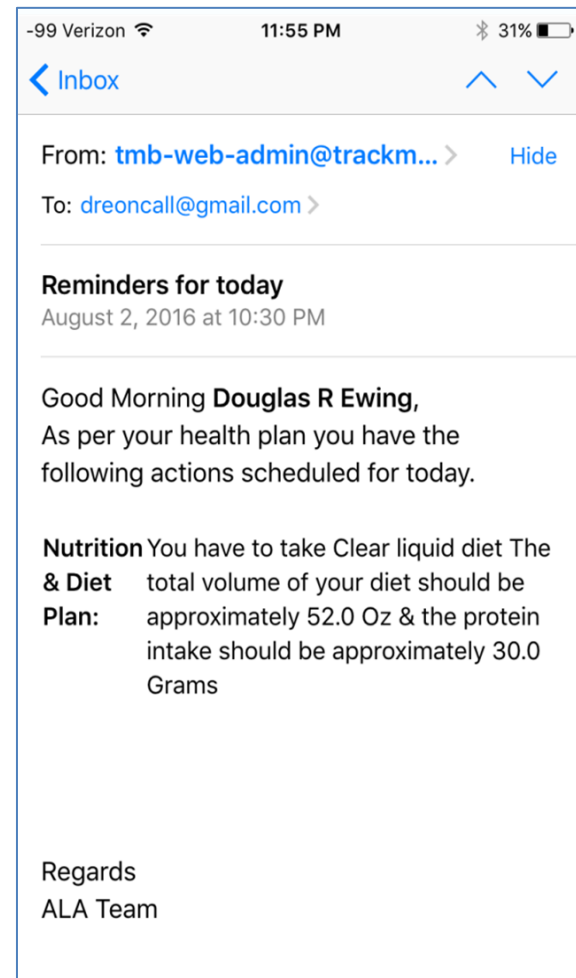
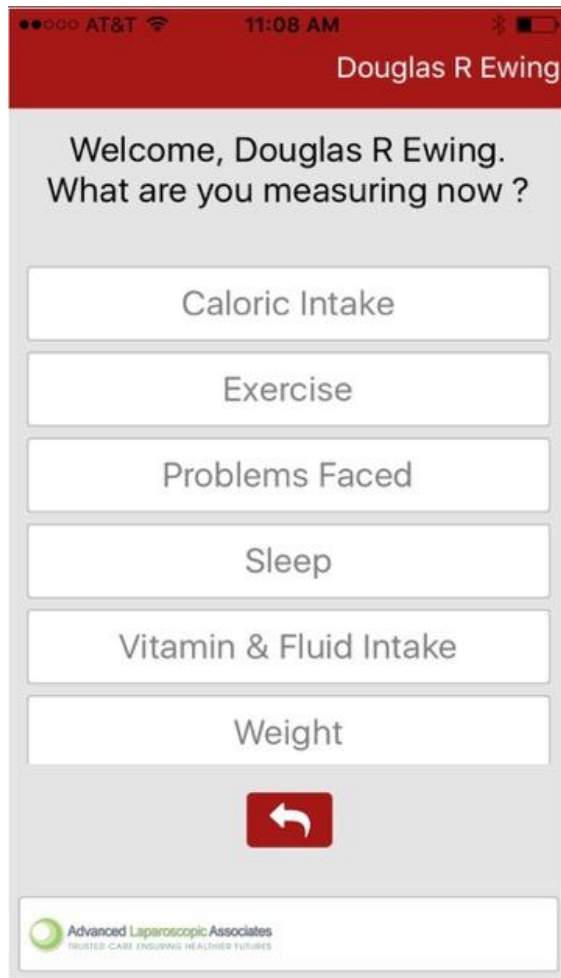
Activation Code: 0001 - A01 - A01 - 01

Directions to Activate Account:

1. Download *TMBHealthApplication*  from IOS App Store
2. Enter activation code and surgery date
3. Complete registration and create login credential
4. Use mobile number as Unique I.D

- Based on activation code, Health Plan is auto-generated
- Mobile App gets configured with applicable parameters
- Patient calendar gets auto generated with reminder system

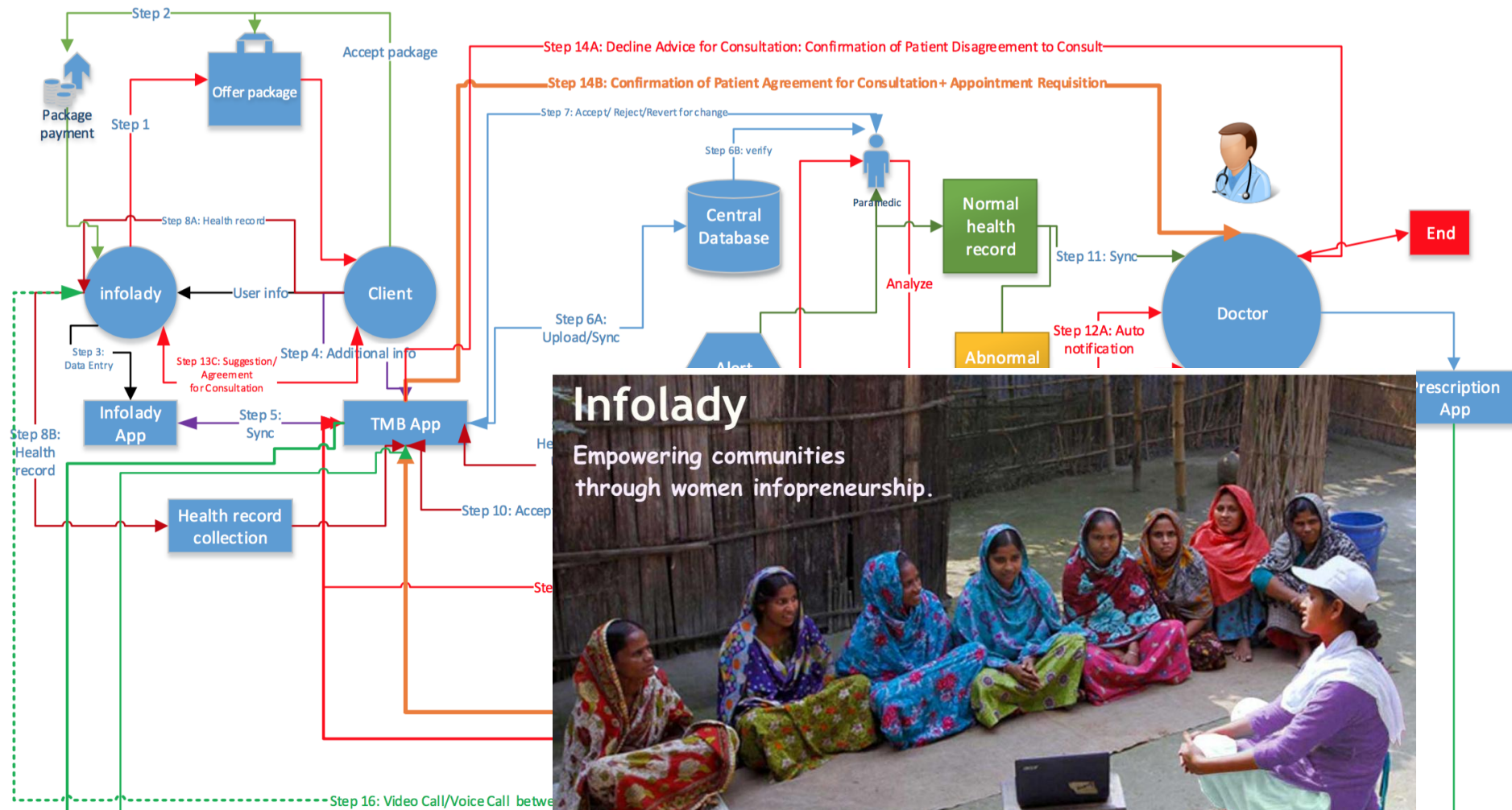
Monitoring and Reminders



- Based on information from monitoring, and expected outcomes, doctor offers advice, and adjusts Health Plan

Rural Health deployment

Flowchart of Dnet-Infolady-Lifechord-Track My Beat Telemedicine Service



Rural Health worker function

- Local Health worker offers following services:
 - Registers patient
 - Takes health readings with connected devices
 - Organizes diagnostic tests and captures data
 - Makes appointment with remote doctor
 - Organizes Skype call
 - Prints prescription
 - Dispenses medication

Connected device readings

Shri Ram

Welcome, Shri Ram .
What are you measuring now ?

Blood Pressure

Blood Sugar

Weight

Temperature

Please switch on device before selection.

Not Shri Ram ?

Click Here

trackmybeat



**blood pressure
monitor**



Shri Ram

✓ Reading Successful

Systolic: 109

Diastolic: 69

Pulse: 72

Upload Now

Upload Later - Save Data

Return to Home Screen

trackmybeat



weighing machine



Patient002

Upload Complete !

Close App

Return to Home Screen

trackmybeat



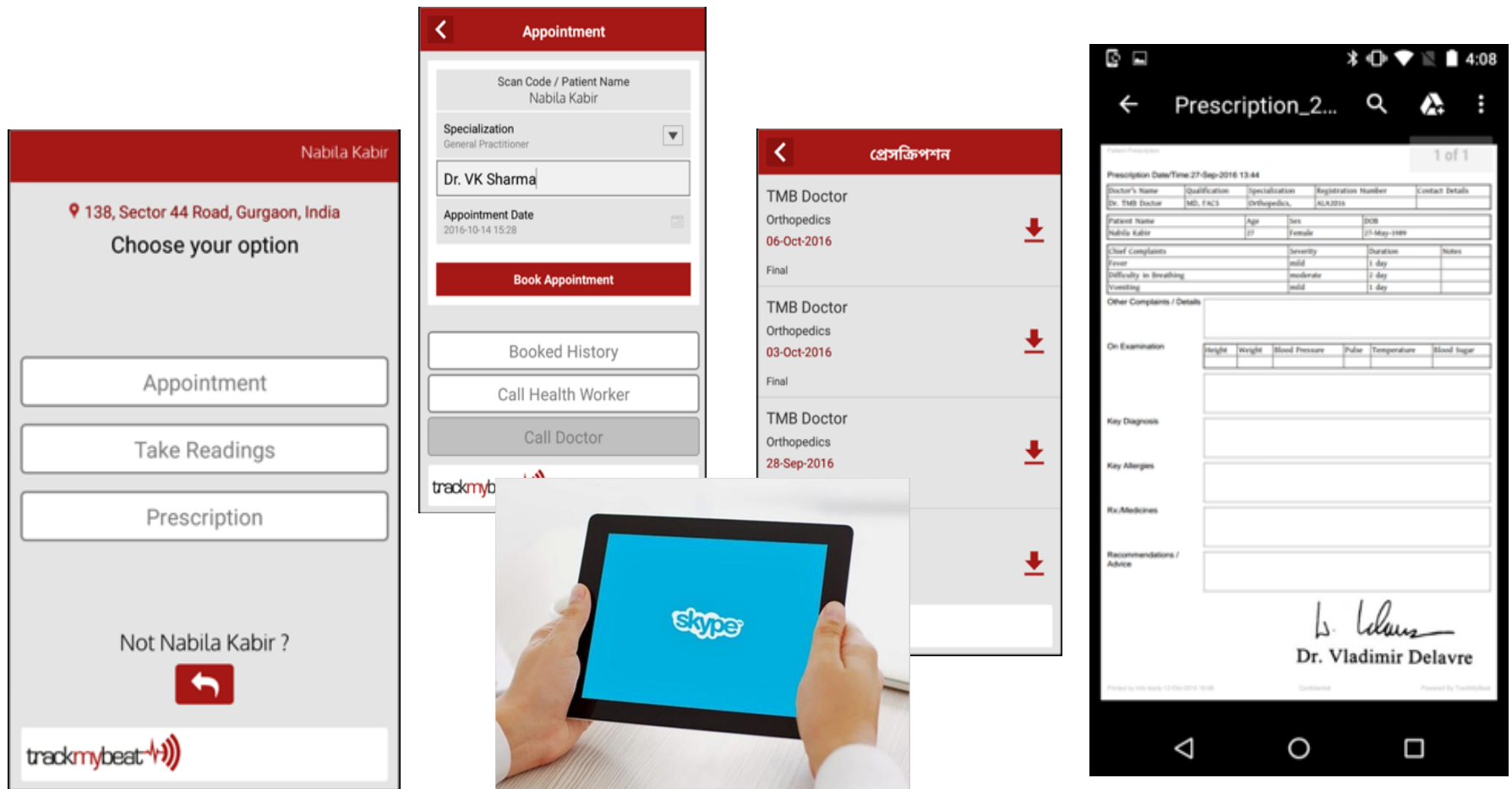
glucometer



Hb meter

Telehealth with remote prescription

- Health worker Mobile App



THANK YOU

Contact: ananda.sengupta@trackmybeat.com

Meet the team

A company built on strong ethics and deep expertise in technology and healthcare

We have watched for many years the apathy of the medical system and the clear lack of incentives to keep people healthy, and our loved ones being affected by that.

With many years in the communications and health industry, we have now devised *a better way to track and communicate healthcare information* - so that any medical professional, health worker or caregiver can take action to help people achieve health and wellness. The approach supplements doctor care, and scales easily.



[Ananda Sen Gupta](#)
CEO & Founder

- + 20 years in communications technology, health IT
- + Start-up experience: executive team of DTI, acquired by Agilent
- + Executive roles in multiple organizations



[Dr. Vishwakirti Sharma](#)
Co-founder

- + Clinical program management and product development
- + Experience at large healthcare practices in India



Confidential



[Charles \(Chuck\) Parker](#)
Business Development Lead

- + Former Executive Director of Continua Health Alliance.
- + 25 years experience in healthcare technology, policy, regulation, strategic design of evaluation and measurement strategies.
- + Led national programs for practice transformation.



Meet the Advisors



[Dr. George Smoot](#)
[Chief Scientific Advisor](#)

- + **Nobel Laureate in Physics 2006**
- + Director, Paris Center for Cosmological Physics, University of Sorbonne Paris
- + Professor, Physics Department, University of California, Berkeley



[Rajendra P Gupta](#)
[Advisor](#)

- + Advisor to the Union Minister, Health & Family Welfare, Government of India
- + Board Member, International Society for Telemedicine & eHealth (ISfTeH)
- + Advisor, Vital Health (Mayo Clinic & Noaber Foundation Joint Venture)
- + Former Member, World Economic Forum's Global Agenda Council - Digital Health
- + Former Board Member, Care Continuum Alliance, USA



[Biju Nair](#)
[Board Member](#)

- + CEO of HYL A Mobile, USA
- + A telecommunications industry leader
- + recognized entrepreneur – with several start up creations and successful exits (Sapience acquired by Synchronoss, PCTel acquired by Smith Micro).



[Dr. Atul Adya](#)
[Technology Advisor](#)

- + Architect, large-scale distributed systems, Google.
- + Previously, Architect in Microsoft in the Windows Live Core division and Architect in the Data Programmability team of the SQL Server;

