

Ultimate goal of a Healthcare provider is in creating Revolutionary wealth for society

Possible through Social Business



Yakshaprahna: an F.A.Q in 3000 BC.

- *Which is the greatest **gain**?*
 - ***Health!***
- *Which **wealth** is the best?*
 - ***Education!***
- *Which **treasure** is the best?*
 - ***Skill!***

Defining Health

- POSITIVE state of :

- PHYSICAL

- MENTAL

- SOCIAL

- SPIRITUAL

WELLBEING

- NOT JUST ABSENCE OF DISEASE

- World Health Organization

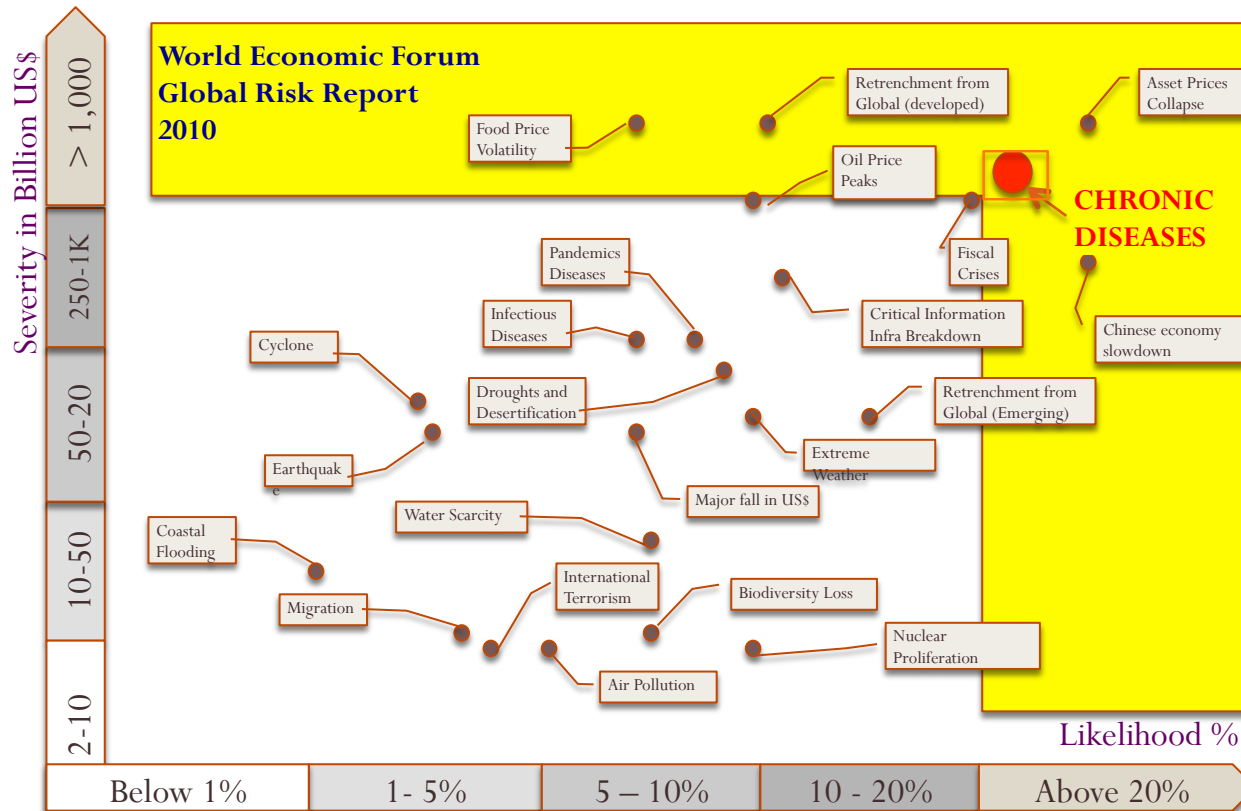
Holistically addressing

- Ensure Positive State of Wellbeing at all levels / Koshas

Physical	Mental	Social	Spiritual
<input type="checkbox"/> Annamaya	<input type="checkbox"/> Manomaya	<input type="checkbox"/> Vignangamaya	<input type="checkbox"/> Anandamaya
<input type="checkbox"/> Order in Biochemistry	<input type="checkbox"/> Intelligence -Q	<input type="checkbox"/> Emotional-Q	<input type="checkbox"/> To feel one with
<input type="checkbox"/> Functioning 5+5 Organs	<input type="checkbox"/> Memory	<input type="checkbox"/> community participation	<input type="checkbox"/> To give, sacrifice
<input type="checkbox"/> Fitness	<input type="checkbox"/> Analysis and Synthesis		

- also Ensure Absence of Disease :
 - Primary care, Proactive care(Screening regularly), Preventive care
 - Immunization

Global Risk Landscape: Healthcare for sustainability



“SEVERAL HEALTH PRIORITIES ARE CURRENTLY WELL-ESTABLISHED GLOBALLY, BUT

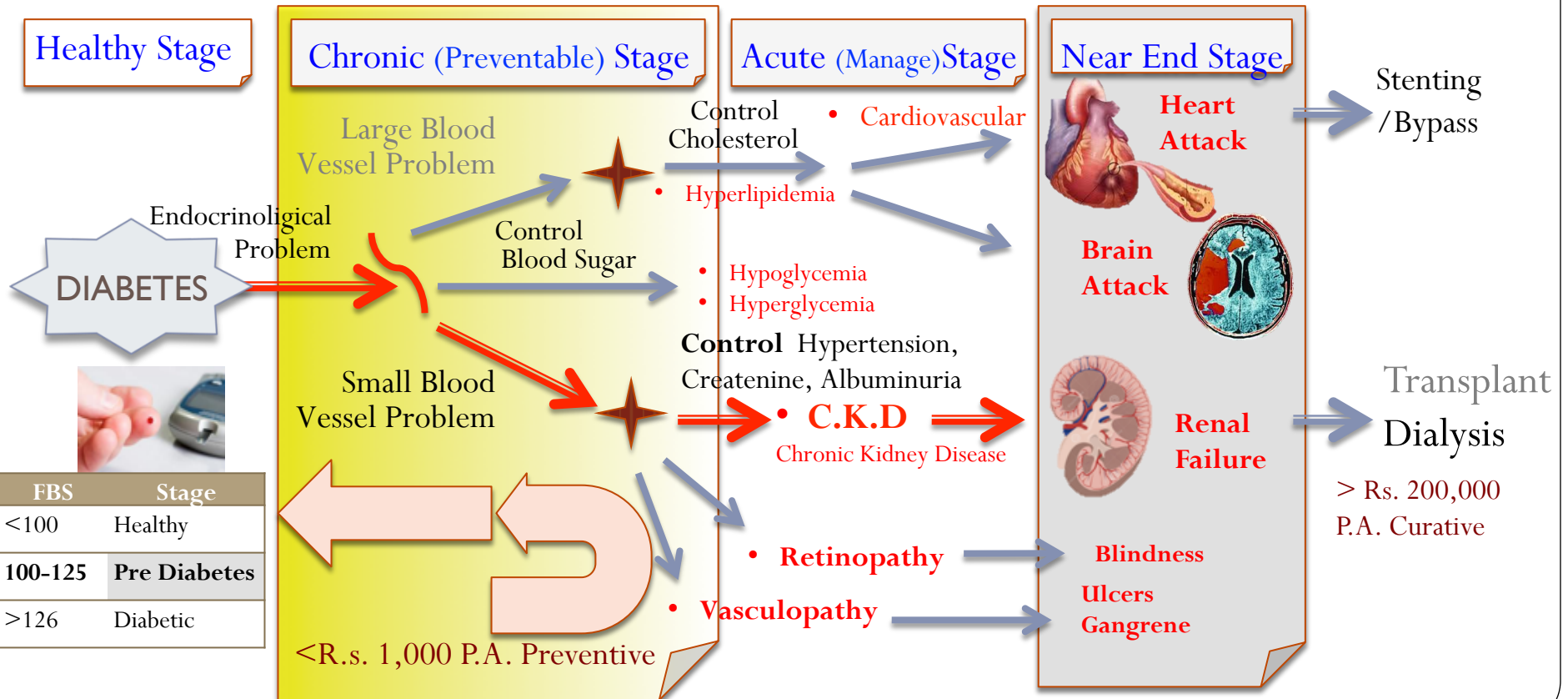
WE ARE STILL MISSING NON-COMMUNICABLE DISEASES AS A MAJOR HEALTH CHALLENGE FOR POVERTY REDUCTION AND SUSTAINABLE DEVELOPMENT

-Dr Ala Alwan, Assistant Director General for NCDs W.H.O

“WHAT HAS HAPPENED IN THE WESTERN WORLD IN 50 YEARS IS HAPPENING IN 15 YEARS IN THE DEVELOPING WORLD.”

Dr Gojka Roglic, Medical Officer for the Department of Chronic Diseases and Health Promotion at WHO, Switzerland

Take a "U" Turn: Prevent the Preventable



Preventive care On Diabetes For

Base of the Pyramid

Proposal for Year 2013-2014

Presentation for Rotarians



On a
Saturday
Morning
at a
Rotary
convention



Why?

3 : 1

Context: Sustainable Philanthropy

- Most of us did “chequebook Philanthropy” and received the glory till now.
- In today’s Globalization the expectation for Philanthropy has changed. It is not the amount donated, but Outcomes, Impacts are the benchmarks
- **Even Rotary** need to change the strategy to be relevant in public image. Needs corporate precision and the projects need to be
 - Sustainable, Big, large number of beneficiary

Results	Goal	<u>Reduced Mortality and Morbidity from Non-Communicable Disease</u>
	Outcome	<ul style="list-style-type: none"> • Delay / Prevention of disease • Improved Quality of life • Wellbeing (Physical, Mental Social, Spiritual)
Implementation	Output	<ul style="list-style-type: none"> • 10 Integrated PHCs rolled out • 50 Health professionals trained, deployed • 500 Volunteers enabled • Sustainability ensured
	Activities	<ul style="list-style-type: none"> • Conceptualize, design, Implement and operationalize through Pilot • Interact with Govt., corporate and other agencies for reimbursement of costs • Campaign, Brans build
	Inputs	<ul style="list-style-type: none"> • Funds, Equipment, Expertise • Volunteers, Trainers, Clinicians • Place (PHCs), Mobile Vans

Service above self:

I sought my soul, my soul I could not see

I sought my god, my god eluded me

I sought my brother, I found all three

100% Result Driven Service

Structure: Healthcare as a Social Business

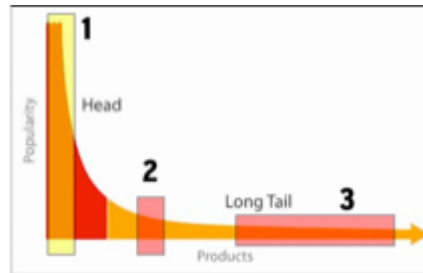
Success shall not to be measured by Profit alone, as today's healthcare enterprises have engaged in Profiteering. The structure of the Delivery organization should be based on tenets of Social Enterprise i.e "Triple Bottom Line"-3BL



Frugal Innovation: Obtaining **More** (output) with **Less** (Resources) for **More** (people)



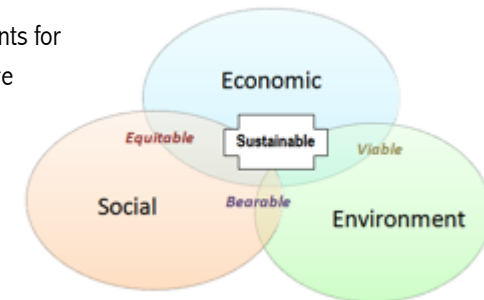
Quality Assured



Large Social Impact (long-tail)

The binding points for Sustainability are

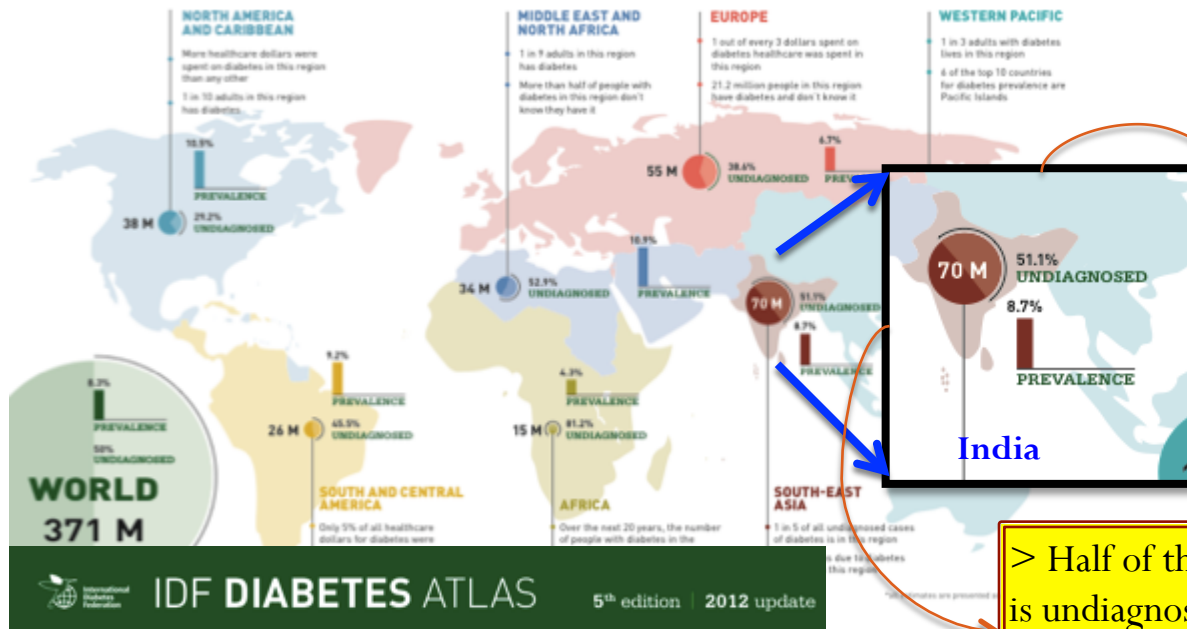
- Equitable,
- Viable,
- Bearable



Sustainable

The Problem: Tsunami of Non Communicable Diseases (NCD)

Diabetes, Cardiovascular, Hypertension, Cancer, Pulmonary



180 million at Risk from NCDs, 55% of deaths are due to NCDs and can be prevented or at fraction of cost

Chronic Disease Profile (Yr 2011)	Urban Population (372 mil 31%)	Rural population (828 mil, 69%)	At Risk Pre Condition
Hypertension(HT)	112 mil	48mil	214 mil.
Diabetes(DM)	42 mil	18 mil	180mil
Heart related (CVD)	44 mil	20 mil	190 mil
Respiratory (COPD)	20 mil	14 mil	120 mil.

Diabetes leads to other NCDs

Diabetes affecting young population, (40s) can be a nullify the “demographic dividend of India”

> Half of the population is undiagnosed
> 20% of 30+ are at pre diabetes /Diabetes

Impact of Diabetes is 3 times more on BoP, leading to economic Ruin of the entire family

Why Diabetes to begin with?: Silent Destroyer, leader of NCDs

Organs that will be Affected by Diabetes

Every fifth diabetic person is an Indian³
One person dies of diabetes every 10 seconds;
a limb is lost every 30 seconds.

Every year due to diabetes:
~ 24,000 people lose vision;
~ 38,000 have kidney failure;
a similar number develop major heart complications.

Loss of productivity US\$236.6B²

Total spend on diabetes US\$2.8²

80% could be saved if detected and managed early !!

Eyes

Kidney

Pancreas

Foot



Brain

Arteries

Heart

Blood Vessels

Nerves

Diabetes :

1. Holistically Addressing Diabetes, you are addressing all the triggers for other **Non-Communicable Diseases**, like Hypertension, Cardiac, Kidney etc.,

2. General awareness of the “Sweet Disease” Madhu Meha is high even among rural folks

Setting the Objective

It is said “Begin with end in mind”.

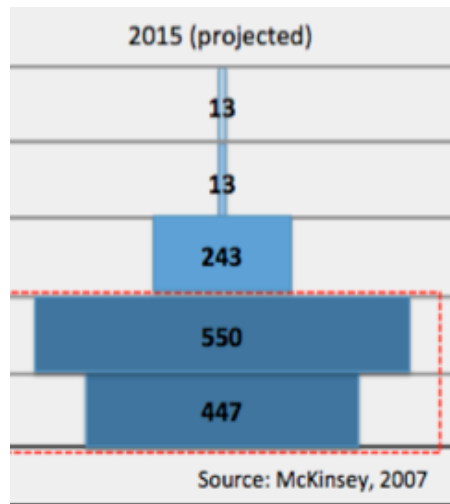
Any project has stakeholders and stakeholders have objectives (end results). However the objectives need to be constrained within the triad of scope, schedule and resources that are critical boundaries for successful project completion. For clarity the objectives are enumerated at 3 levels namely, Fundamental (RI level, 10 yrs.), Strategic (District 3-5 yrs.), Means (Club, 1 Yr.) level.

Levels of Objective	Objectives	Rationale
	Prevention of damage from Diabetes (NCDs) with early detection and management	Disease Burden from Diabetes in India is alarming (US\$ 230 mil). 63 mil affected and 180 mil in pre-diabetes. It is crippling the individual socially and economically. It can be prevented / postponed with Integrated intervention
	Outreach program with 10 Integrated NCD PHC within for real results with real subscribers	<ul style="list-style-type: none"> A. Innovation led {Information technology, Structure}, Value based {max health outcome /Rupee spent} B. Social Impact {10 x 40,000 population,} C. Sustainable {economic, social, ecological} D. Integrated around patient medical condition
	Fund and execute a mission mode Pilot through a SPV under District Grants for Projects	Rotary needs one scalable health cause similar to “Pulse-Polio” to make a difference. Disease Prevention and treatment is one of 6 areas listed under future vision. Better health (through prevention) is inherently less expensive than poor and worsening health condition that is only addressed through expensive curative procedures

Target segment : BoP under S-E-G

Just economic criteria (e.g. earning \$4 - \$8/ day) alone will not suffice to fit the product into the space. The suitable criteria for selecting India target segment are Socio Economic classification and further tune with Geographic i.e. Towns that have population between 1 and 5 hundred thousand, having > 100 villages in Cluster

Economic



Annual Household Income in 000s

Socio-Economic

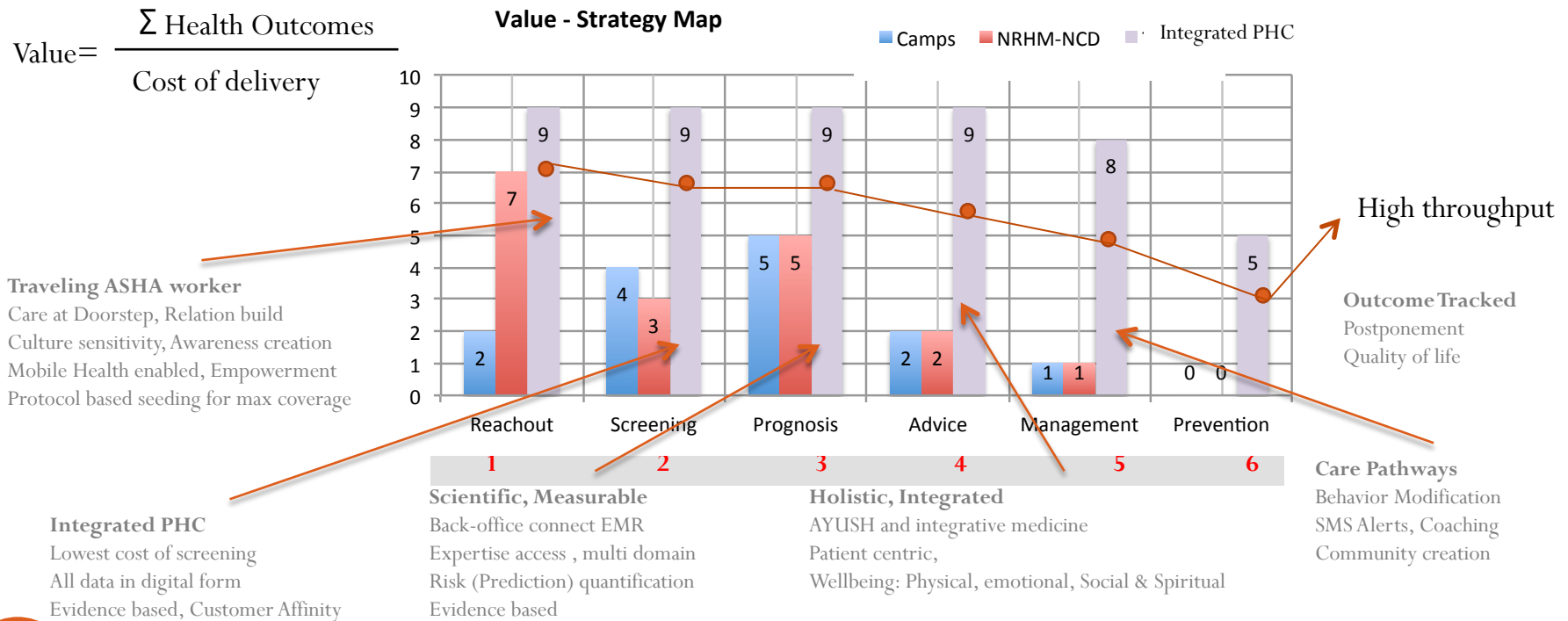
Education / Occupation	Socio-Economic Classification Grid						
	Illiterate	School upto 4 years / Illiterate but no formal schooling	School 5-9 years	SSC/HSC	Some college but not graduate	Graduate / Post Graduate general	Graduate / Post Graduate Professional
1 Unskilled workers	E2	E2	E1	D	D	D	D
2 Skilled workers	E2	E1	D	C	C	B2	B2
3 Petty Traders	E2	D	D	C	C	B2	B2
4 Shop owners	D	D	C	B2	B1	A2	A2
5 Entrepreneurs Employees None	D	C	B2	B1	A2	A2	A1
6 Entrepreneurs Employees < 10	C	B2	B2	B1	A2	A1	A1
7 Entrepreneurs Employees > 10	B1	B1	A2	A2	A1	A1	A1
8 Self-employed professionals	D	D	D	B2	B1	A2	A1
9 Clerical/Salesmen	D	D	D	C	B2	B1	B1
A Supervisory level	D	D	C	C	B2	B1	A2
B Officers/Executives : Junior	C	C	C	B2	B1	A2	A2
C Officer/Executives : Middle/Senior	B1	B1	B1	B1	A2	A1	A1

Geographic

City	Population
Tier-1	
Tier-2	
Tier-3	
Tier-4	
Tier-5	
Tier-6	< 500,00
Tier-7	>100,000

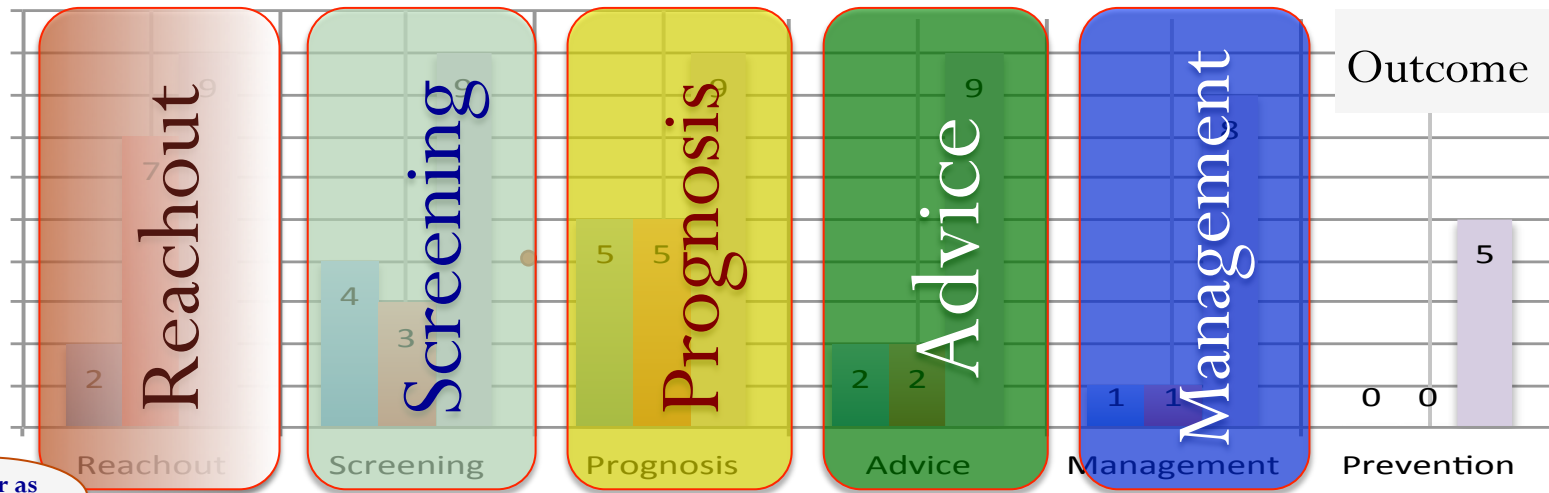
6-Step Process: Value focused delivery across the care cycle

Critical Success Factor: Financial efficiency / throughput, keeping value high



Affordability and Access Driven by Technology

Modular Implementation: Start with any vertical



D O M A I N
Technology

Sensor as Service

Anywhere, Anytime Access

D4D: Data for Development

SENSOR NETWORK

MOBILE HEALTH

Behavior Modification & Reachout

Cloud Infrastructure: Device, Protocol, Telemedicine, Delivery, EMR/PHR

BIG DATA / ANALYTICS

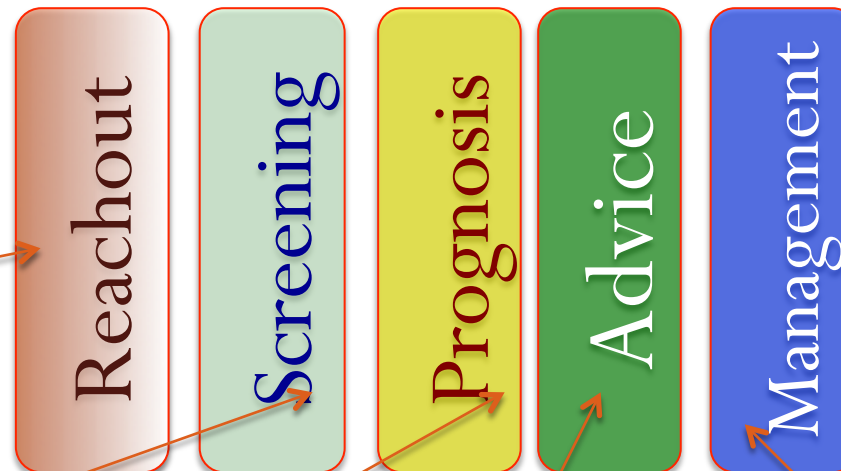
Disease Surveillance, Predictive Care

Centennial Model for Prevention

Modular Implementation: Start with any vertical



Traveling ASHA worker
 Care at Doorstep, Relation build
 Culture sensitivity, Awareness creation
 Mobile Health enabled, Empowerment
 Protocol based seeding for max coverage



$$\text{Value} = \frac{\sum \text{Health Outcomes}}{\text{Cost of delivery}}$$

High throughput

Outcome

Outcome Tracked
 Postponement
 Quality of life

6 Step Process

- ✓ Affordable
- ✓ Accessible
- ✓ Acceptable

Integrated PHC
 Lowest cost of screening
 All data in digital form
 Evidence based, Customer Affinity

Scientific, Measurable
 Back-office connect EMR
 Expertise access , multi domain
 Risk (Prediction) quantification
 Evidence based

Holistic, Integrated
 AYUSH and integrative medicine
 Patient centric,
 Wellbeing: Physical, emotional, Social & Spiritual

Care Pathways
 Behavior Modification
 SMS Alerts, Coaching
 Community creation

1-Reach out:

Protocol driven, Risk stratification at Family level



ASHA workers, Volunteers



Diabetes has multiple problem attributes: It is primarily an Endocrinological problem . However, it also manifests as Renal, Vascular, Retinal problem and so on. Need to Integrate care delivery around patient and not federated around clinical specialty

Coverage of Chronic NCDS

1. **Diabetes,**
2. Cardio Vascular, 3. Hypertension, 4. Acute Lower Respiratory Illness

1Reachout: ICT enabling mobile Health workers

Patient Enrollment & Diagnosis

Capture patient health data on a mobile device to provide timely diagnosis of medical conditions and recommend accurate treatment plans.



Record health measurements



Record medical history and known medical conditions



Record patient location with GPS and provide timely follow-up care



Overcome linguistic challenges by allowing for input in 22 local vernacular languages



Pull up patient data without unique identification using phonetic search



Instantly calculate risk for certain diseases by running rules on captured data

Case Management

Assign patients to specific treatment plans based on their diagnosis and keep your field staff and patients up-to-date with their pending responsibilities.



Automatically generate task lists for field agents



Record and send voice reminders to patients in local vernacular

Patient Education

Create and distribute rich content to field agents to help in delivering information and educational programs to patients.



Insights

Create custom dashboards for roles ranging from field staff to director with real-time field level analytics that give them continuous insight into the operations.



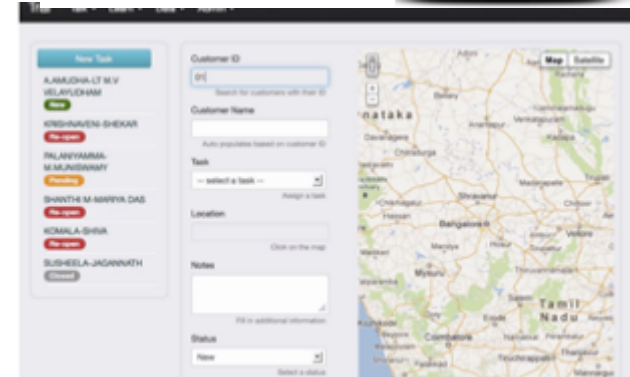
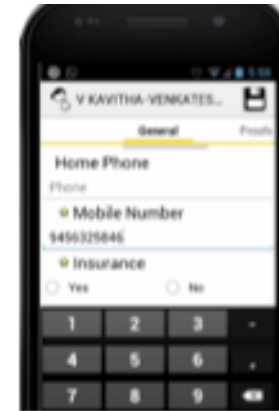
Dashboard



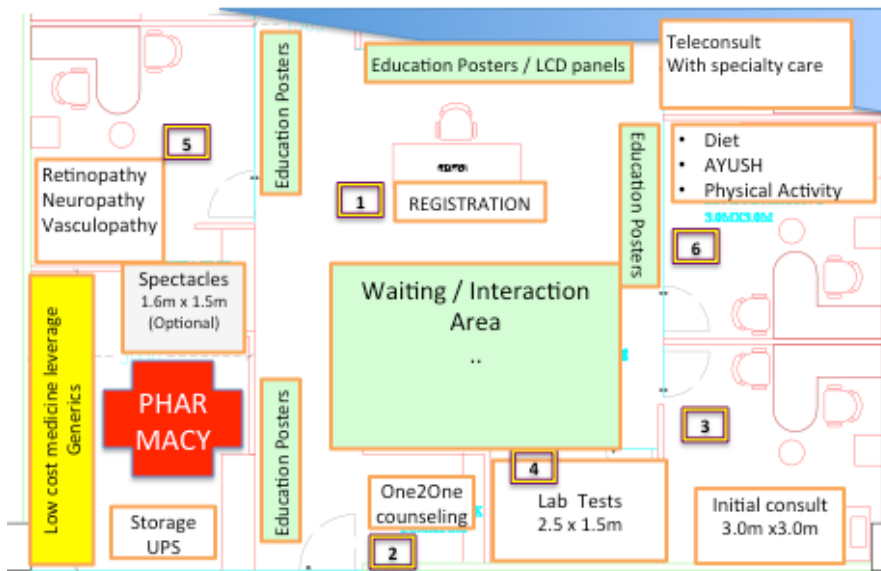
Track patient outreach and field staff movement on a map



Field staff can view performance metrics in real time



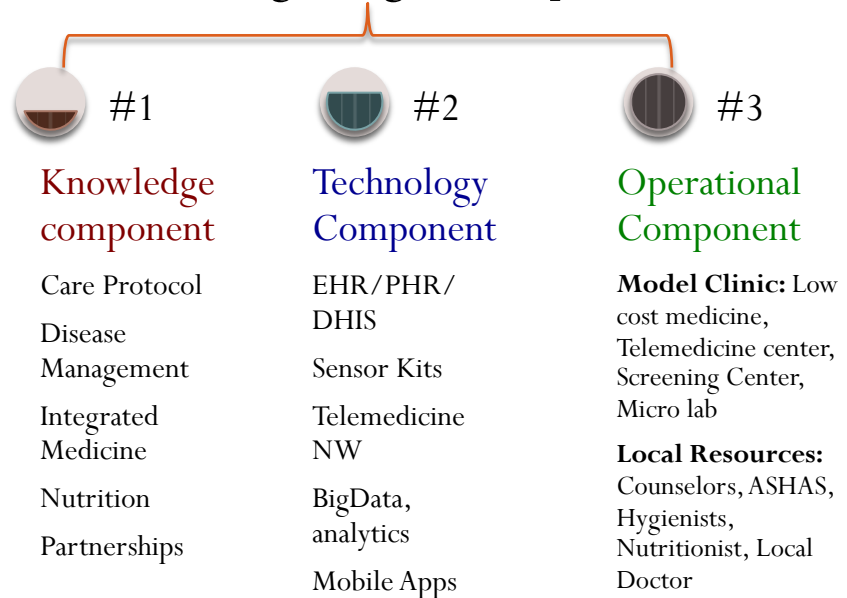
Integrated PHC for Prevention. Model Layout



Creating Consumer Experience: @ MICRO CLINIC

India has moved on from traditional to Modern retail format. Even the needy demand same experience. The PHC is integrated around patient's need to screen, refer and manage and deliver under one roof as a **Convenient Daycare clinic**

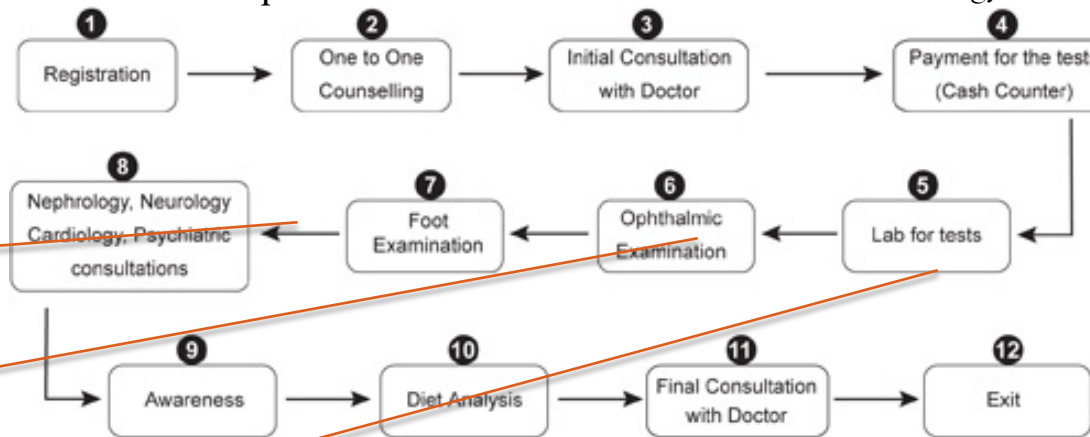
Integrating 3 Components



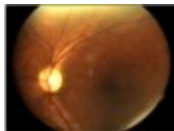
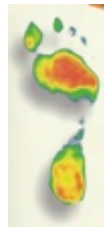
Diabetes has multiple problem attributes: It is primarily an Endocrinological problem . However, it also manifests as Renal, Vascular, Retinal problem and so on. Need to Integrate care delivery around patient, available locally and not federated around clinical specialty

2-Screening: Coverage across the Disease manifestation

Sample Process: Src: Karnataka Institute of Diabetology



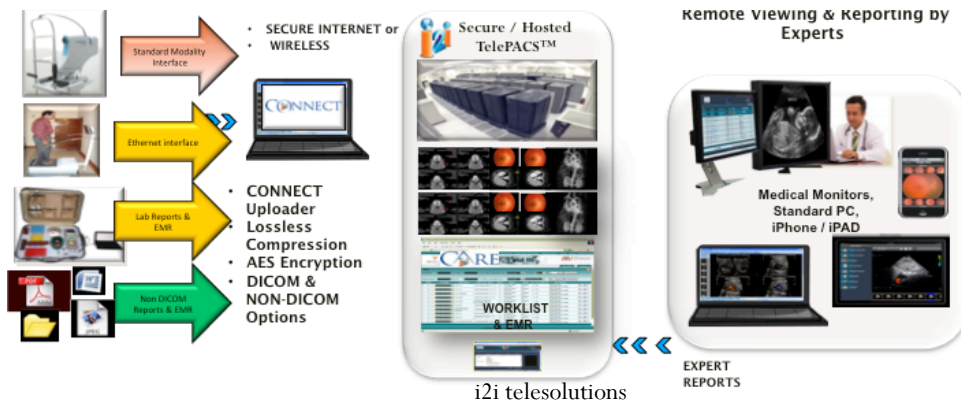
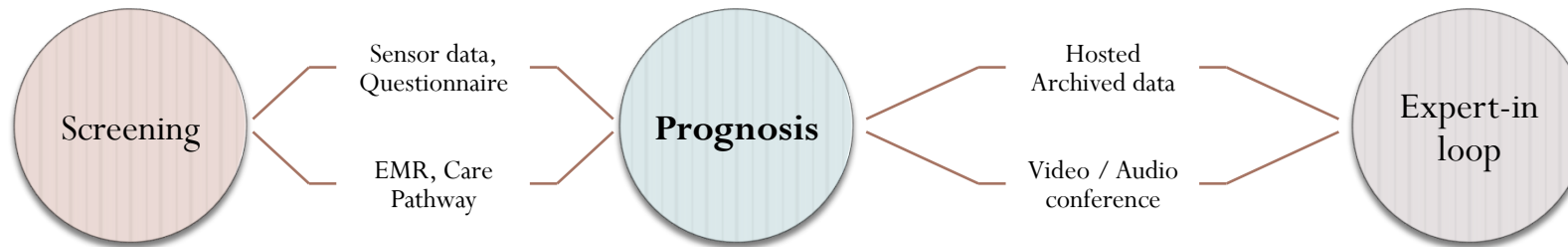
Conducted by Trained Paramedics: Opportunity for Rural employment



Test	Cost
Glucose	40 Paisa
Lipid Profile	15 Rs.
Kidney function test	12 Rs.

Screening Schedule	Time (mints.)	Time Distribution	
		Paramedic	Tele Expert
Measure Vitals (BMI, BP, ECG, Temp..)	6	8	x
Blood (or Urine) sample collection	6	6	x
Retinopathy Screening	6	6	x
Neuropathy /Vasculopathy Screening	6	8	x
Consultation	8	x	x
Creating Diabetic-Q card & Report Advice	10	10	5
Total	42	38	5

3-Prognosis: Tele Expert advice, EMR,



Key Success to Prevention is **Visualization** of Disease. For e.g. Fundus image/Lipid levels against healthy baseline. This has “Hawthorne effect” on the individual which empowers him to self manage the care which requires long term effort.

Further based on vital parameters and clinical examination, the prediction of transition from **Chronic to Acute** condition is presented in a scientific way based on data and analytics.

Step-4 Advice

Advice is generated from Expert's inputs and care pathways. It is generated to be Patient centric based on Sex, Age, Culture, lifestyle, economic status. It is calendar of action in the daily life of the patient. The orientation is not absence of Disease but overall wellbeing

Value 4.1: Diet Advice: Fit to Local, enjoyable, Cuisine
Welcome change in Diet enables compliance

TOMATO DOSA For 1 serving (3 Dosas):

Calories	319 kCal
Carbohydrate	55.3 gm
Protein	10.5 gm
Fat	6.8gm



Diet Plan



Counseling

Value 4.2: 1 to 1 counseling, Eliminate chronic stress



Value 4.3: Exercise to fit daily routine, monitored
Reinforcement by provider motivates compliance



Exercise Plan



Medication

Value 4.4: Medication using Generics reduce cost: 1/3rd to 1/10th. Affordability ensures treatment compliance

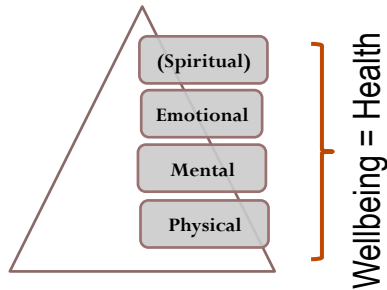
Exercise Plan:

	Walking		Cycling		Yoga	
	Intensity	Duration	Intensity	Duration	Intensity	Duration
Mon	Medium	30	medium	30		
Tue						
Wed	Medium	30	medium	30		
Thu						
Fri	Medium	30	medium	30		
Sat	Medium	30	medium	30		
Sun						

Schedule	#	Branded	Rate	Price	Locost	Rate	Price
1-1-1	3	X	₹ 0.55	₹ 1.65	Metformin	₹ 0.39	₹ 1.17
0-0-1	1	Y	₹ 18.00	₹ 18.00	Atorrastitin	₹ 2.20	₹ 2.20
0-0-1	1	Z	₹ 4.50	₹ 4.50	Atemol	₹ 0.28	₹ 0.28
Total cost per day				₹ 24.15			₹ 3.65
Cost Per Month-->				₹ 724.50	5 times Saving -->		₹ 109.50

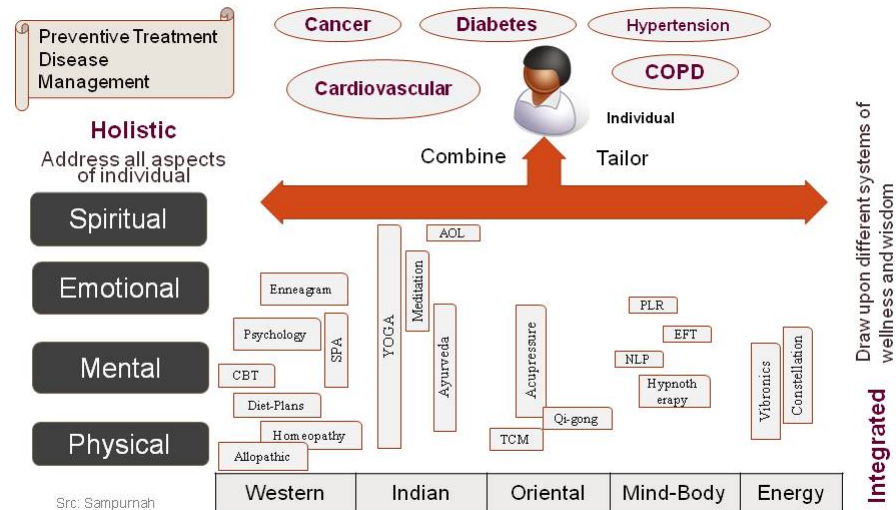
Step-5 Wellness Management

W.H.O. Definition
Of Health



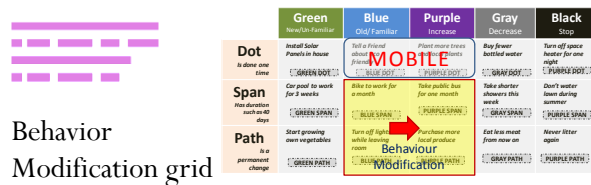
Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Wellness is an active process of becoming aware of and making choices toward a more successful existence



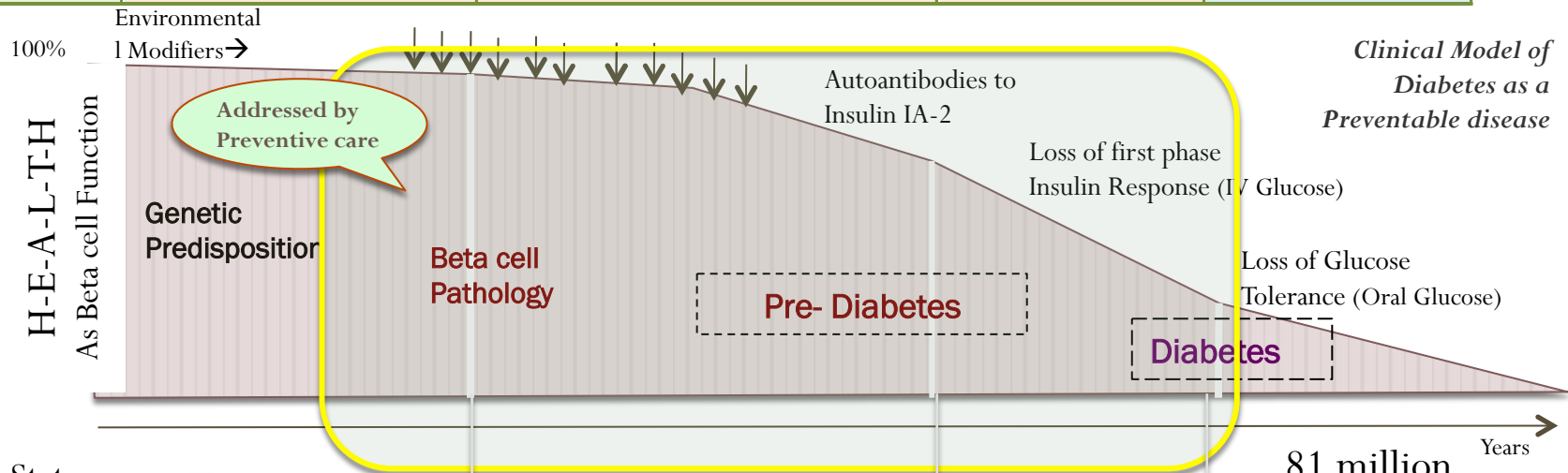
Src: Sampurnam

Treatment
Compliance

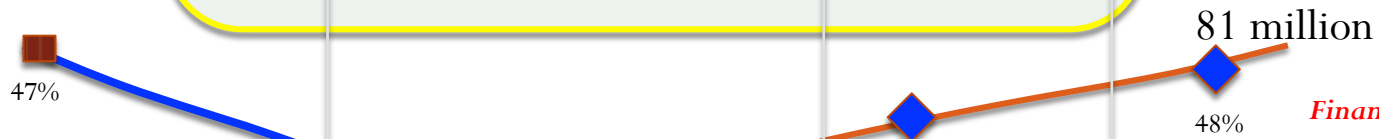


Value 5.1: Addressing through Holistic and integrative (Alternative) medicine
Value 5.2: Treatment Compliance and wellness management through behavior modification

Stages of Disorder	#1	#2	#3	#4
Classification of Health condition	At Risk (Healthy, asymptomatic)	Symptomatic (Pre)	Un Complicated (Chronic)	Complicated (Acute)
Fasting Blood Sugar	<100	<100 to 125>	>126	+ Other. Vascular, Renal, Retinal
HbA1C	< 5.7%	<5.7% to 6.4%>	> 6.5%	



Health Status
Age-Risk factors



Financial Model of Diabetes as a Preventable disease

Health Expenses
Future value discounted



24

Prevention as Outcome ←

Years →

Implementation Model

Financial and Business related

Note: These are budgetary figures, Actual Numbers may vary while implementation

We need inclusive Revenue Models to Sustain

Post-Pay Based	<p>“Pay-per visit: PPV User fee based model</p> <ul style="list-style-type: none"> • Base consultation charges=x • Lab and diagnostic charges =y • Generic Drugs = z <p>Total fees $F = x + y + z$</p>	Pre-Paid Based	<p>Membership Model (Subscription) Annual enrollment =X Monthly subscription =Y</p> <ul style="list-style-type: none"> • Unlimited teleconsult • N #, Free visit, Tests, consult • Generic Drug, supplement <p>Total fee $F = X + (12 \times Y)$</p>
	<p>PPV+ Co-pay model Visit Charges</p> <ul style="list-style-type: none"> • Base consultation charges=x • Lab and diagnostic charges =y • Generic Drugs = z • P=part or whole is reimbursed by a sponsor/NGO / Govt. <p>Total fees $F = x + y + z - P$</p>		<p>Micro Insurance for Health</p> <ul style="list-style-type: none"> • Annual Insurance=X' → to Micro Insurance • Society=Y' → Co-op / SHG • Co Pay = Z <p>Micro Insurance pays part for Outpatient and takes care of catastrophic care as well</p> <p>Total fee = Formulated $\{x, y, z\}$</p>

Estimated Cost Schedule, Hybrid

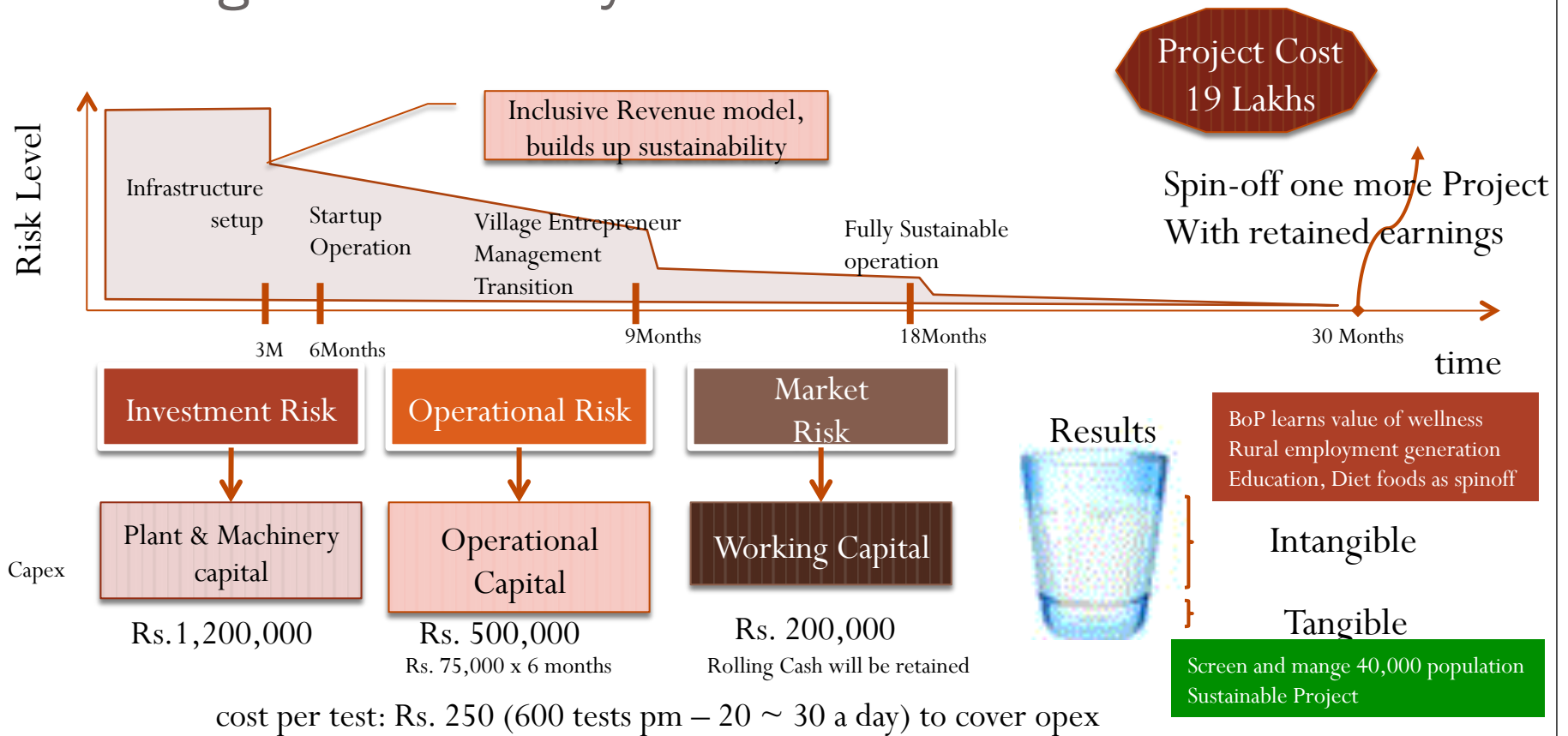
Capex-1	Qty	Price	Cost
Portable Compact Lab- Accuster	1	₹ 2,00,000	₹ 2,00,000
Ophthalmic Prescreener- 3Netra	1	₹ 4,50,000	₹ 4,50,000
Neuropathy, Vasculopathy -	1	₹ 1,20,000	₹ 1,20,000
Integrated Vital measurement (ECG, NIBP,..)	1	₹ 25,000	₹ 25,000
I2I Tele solution (Telemedicine+ EMR)	1	₹ 1,05,315	₹ 1,05,315
Tablets- (Android/Windows)	4	₹ 15,000	₹ 60,000
Server+ Wi-fi network	1	₹ 1,20,000	₹ 1,20,000
Solar with UPS (1.5 / 0.8 KVA)	1	₹ 1,20,000	₹ 1,20,000
Total Capex / PHC			₹ 12,00,315

Opex-1	Remuneration	#	Cost P.M.
Paramedic (Technician & Dietician)	₹ 25,000	2	₹ 50,000
ASHA Workers	₹ 10,000	2	₹ 20,000
House Keeping staff	₹ 2,000	1	₹ 2,000
Consumables	₹ 3,000		₹ 3,000
			5 ₹ 75,000



- | | |
|--|-------------------------------|
| 1.Hb, fasting and PP sugar, lipids, LFT | Rs 50/- |
| 1.b creatinine(with eGFR) | Rs 75/- (opt only if CKD +ve) |
| 2.HbA1c | Rs 40/- |
| 3.Ophthalmic examination(3Nethra) | Rs 90/- |
| 4.Foot neuropathy/ Vasculopathy evaluation | Rs 40/- |
| 5.Microalbuminuria | Rs 20/- |
| 6. BP, 5 lead ECG, BMD | Rs 10/- |

Achieving Sustainability: Timeline for One center



Key Results for Rotary

- **Contribute to 3 of 6 areas of Focus**
 - Primarily Disease Prevention and treatment.
 - secondarily Maternal & Child care, economic and community development
- **Social Good: Following are broad benefits to the villagers**
 - **Sociocare: ensure sustainability and scalability**
 - ASHA workers, aspirational goal.(micro entrepreneurs). Avoid mindless urban migration
 - Empowering a housewife on health and socially has 3 fold benefit
 - spiritual orientation and cultivation of human values to eradicate Caste and other social ailments. Leads to social inclusion, inculcating moral values, leadership
 - **Package New order Vocational skills for sustainability:-**
 - Train and certify Wellness skills that can lead to operational scalability and sustainability
 - e.g. Diploma in Lab technician, Ophthalmic assistant, Nutriment advisor, Health IT, Metabolic coach. Use of herbal medicine for minor ailment, Hygiene, maternal care

Despite Governments' efforts and being signatory to Millennium Development Goal, It has not been able to take off on cracking NCD problem. Pnly Private-Public-NGO –Rural entrepreneur partnership can make difference

Rotary Rajarajeshwarinagar Centennial

Proposal and way forward

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