

with other specified complications
view all

of knew replacement surgery and is going through physiotherapy
situations in B.P. due to intense pain resulting in rise in sugar levels as
abetic and is on strict diet plan from last 8 months. Last prescribed
be replaced with alternatives.

Ahmad

of fluctuations in B.P. due to intense pain resulting in rise in sugar levels as
diabetic and is on strict diet plan from last 8 months. Last prescribed
to be replaced with alternatives.

Ahmad



COGNITIVE HEALTHCARE INTERNATIONAL

COLLABORATION WITH AWT

PROPOSAL FOR TECHNOLOGY
ENABLED SMART HEALTHCARE
DELIVERY SYSTEM



INTRODUCTION TO COGNITIVE HEALTHCARE INTERNATIONAL (CHI)



LIVE LONGER, HAPPIER & HEALTHIER!



CHI was established in 2016 to define a **roadmap to accomplish this future!**

Traditional medical centers exercise sick-care, implying that a patient has to manifest **mild to severe symptoms before any treatment will commence**. All diagnosis is based on a **brief visit to a distracted doctor with incomplete real-time medical metrics** like Blood Pressure, Pulse Rate, Blood Glucose levels, and context.

Now, with the advances in technology, such IOT, AI/ML, etc., we are able to transform this flawed model into a **preventive SELF-care Platform** with the help of:

- ✓ Wearable medical devices
- ✓ Point-of-care mini-lab instruments
- ✓ Real-time data transmission
- ✓ Intelligent algorithmic alerts
- ✓ Online symptom checkers / standardized treatment pathways
- ✓ Tele-consults
- ✓ e-pharmacies etc.

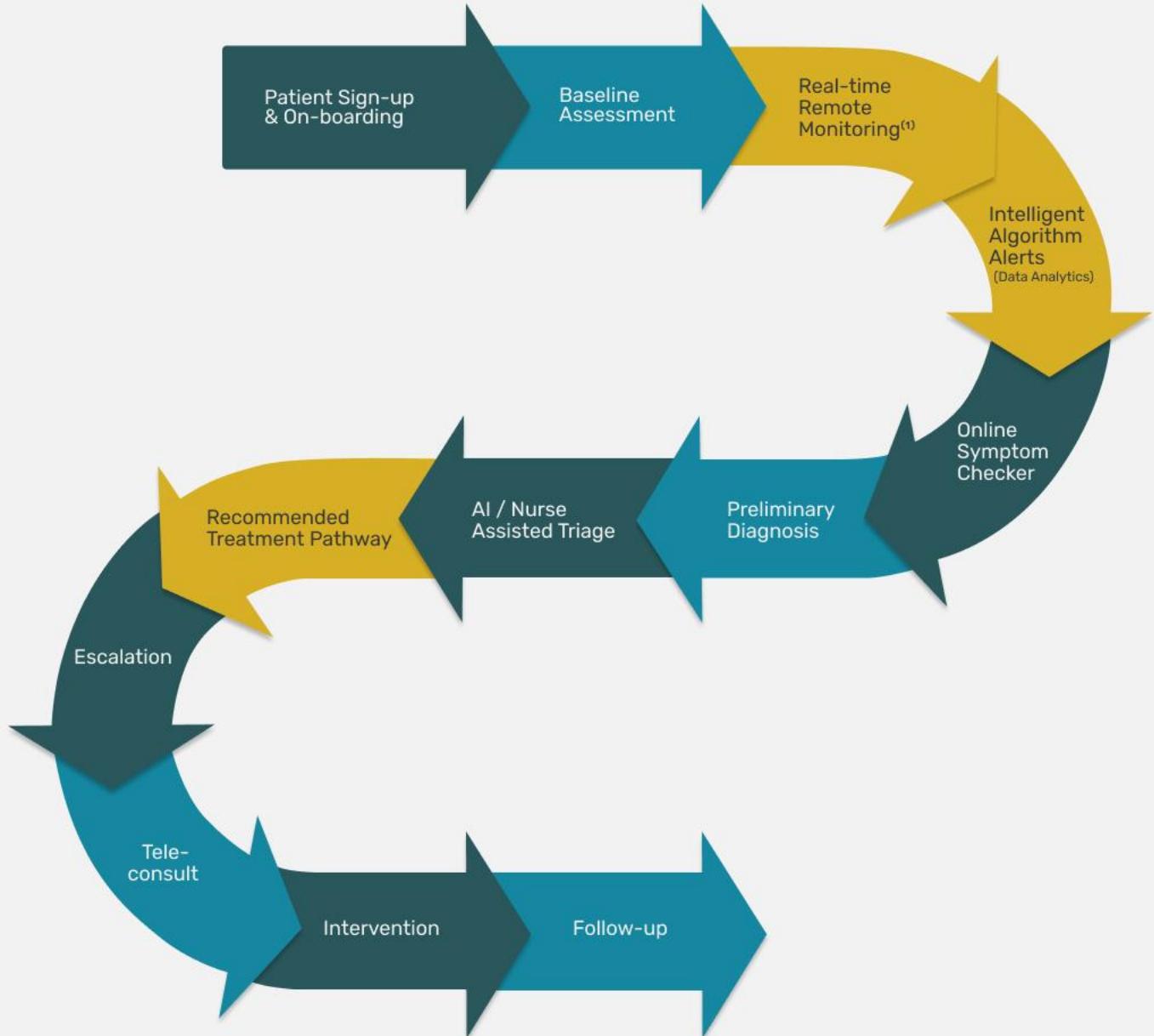
Our platform integrates the latest in technological advancements to create a holistic approach for patient self care, **offering better prognosis at a lower price point along with an enhanced patient experience**, defining the future of healthcare.

HEALTHCARE TRANSFORMATION

Imagine that - with the help of wearable devices - vitals of a chronically or acutely ill patient are **remotely monitored** by real-time **intelligent algorithms**.

These algorithms will triage and alert responsible persons who will proactively intervene based on **data-centric** comprehensive dashboards – transforming “Sick” care to “Preventive” care!

We have developed EXACTLY the platform which enables this PARADIGM SHIFT and is our RAISON D'ETRE!



(1): wearable sensors, etc. with remote data transmissions

WHAT MAKES “CHI APPROACH” DIFFERENT?

Patient-centric as opposed to tech-centric. Not just a “Technology” offering rather a comprehensive approach to healthcare delivery consisting of productivity enhancements & patient care. In fact “Technology” only an enabler and part of a all-encompassing solution.

Partnering with healthcare providers as opposed to technology providers. Founding members have diverse background in medicine, ICT and investments.

Offering a **holistic approach** that covers all aspects of chronic healthcare not just any one metric. The goal is **overall patient well-being and “Happiness”** delivered at attractive economic terms.

Offering a **partnership model** and not just “selling” a solution

Developing a scalable platform with customizable solutions (applications, etc.) that are based on open source technology and **NOT dependent on third party proprietary offerings.**

A keen focus on healthcare delivery economics: not just how to accommodate sensors and technology but **how to optimize the overall solution.**

CLIENTS & PROJECTS

Cognitive Healthcare International (CHI) clients and projects are:

 The Aga Khan University Hospital AGA KHAN UNIVERSITY HOSPITAL (AKU) <i>REMOTE MONITORING DEVICES</i>	 Latifa Hospital Pediatrics & Neonatology Conference LATIFAH MATERNITY HOSPITAL (UAE) <i>CTG FOR REAL-TIME FETAL MONITORING OF PREGNANT WOMEN</i>	 BAYADA® Home Health Care BAYADA (USA) <i>ADVANCED HOMECARE & SELF CARE</i>	 Jefferson Health. JEFFERSON HOSPITAL SYSTEM (USA) <i>DIABETES & ONCOLOGY CARE REMOTELY TO PATIENTS</i>	 GETZ PHARMA <i>CLINICAL STUDY OF CONGESTIVE HEART FAILURE (CHF)</i>
 SHIFA INTERNATIONAL HOSPITAL <i>REMOTE MONITORING SOLUTION</i>	 MOFFITT CANCER CENTER <i>CHI'S CANCER CENTER SOLUTION</i>	 RASHID HOSPITAL (DUBAI HEALTH AUTHORITY) <i>WEIGHING SCALES & SPHYGMOMANOMETERS FOR CONGESTIVE HEART FAILURE PATIENTS</i>	 THE DUBAI DIABETES CENTER PILOT PROJECT AT DUBAI DIABETES CENTER <i>REMOTE MONITORING DEVICES GLUCOMETERS & MOBILE APPS FOR DIABETES PATIENTS</i>	 CHUGHTAI LABS (PAKISTAN) <i>PROVIDING V.ICU SOLUTION FOR HOMECARE PATIENTS</i>



COGNITIVE
HEALTHCARE
INTERNATIONAL

CLINICAL TRIALS



01. CHF TRIAL AT RASHID HOSPITAL DUBAI

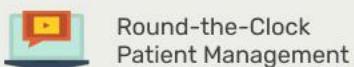
OBJECTIVES & STATISTICS

TRIAL OBJECTIVES

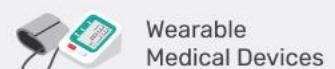
A study evaluating the use of Remote Patient Monitoring towards Decreasing the Hospital Readmission Rates in Congestive Heart Failure (CHF) Patients (NYHA III and IV) in a Tertiary Care Hospital in the United Arab Emirates

PRIMARY OBJECTIVE

Decreasing the Hospital Re-admission Rates in Congestive Heart Failure (CHF) Patients



Round-the-Clock Patient Management



Wearable Medical Devices



24/7 Real-time Monitoring



Time-to-time Evaluations

PRE-TRIAL STATS

1 OUT OF 6
PATIENTS RE-ADMITTED
IN 1-5 MONTHS



SECONDARY OBJECTIVE

Use of remote monitoring devices for:

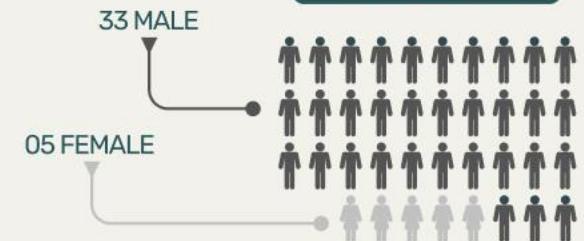
01. Early detection of clinical decompensation in patients
02. Evaluate the clinical efficacy & accuracy of the devices
03. Promote better compliance by the use of CHI Health Buddy App
04. A.I. in generating automated rule-based responses as per clinical criteria

PROCESS FLOW

PRE-TRIAL STATS
1 OUT OF 6
PATIENTS RE-ADMITTED
IN 1-5 MONTHS

38

PATIENTS



03+ MONTHS



0

RE-ADMISSIONS

03 DEVICES

- B.P. Meter
- ECG
- Weight Machine

CHI HEALTH BUDDY

- For Patient Test Compliance
- Test Schedules
- Alerts & Notifications

COMMAND CENTER

- 24/7 Doctor & Nurses Monitoring
- Escalations & Interventions
- Patient Management
- Reports & Stats

68
TOTAL ESCALATIONS

90+ DAYS
STUDY DURATION

RASHID
HOSPITAL
DUBAI

حكومة دبي
GOVERNMENT OF DUBAI

هيئة الصحة بدبي
DUBAI HEALTH AUTHORITY

02. DIABETES TRIAL AT DDC

DUBAI
DIABETES
CENTER

حكومة دبي
GOVERNMENT OF DUBAI

هيئة الصحة بدبي
DUBAI HEALTH AUTHORITY

NO. OF PATIENTS	PRIMARY OBJECTIVE
38	Decrease the HbA1C <i>in patients lost to follow up and poor glycemic control</i>

By effectively using
**TELE-MONITORING
DEVICES**

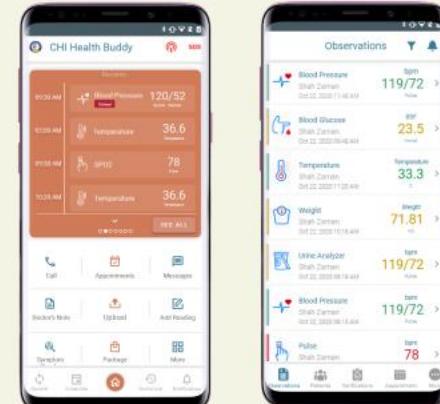
DISCRETE CONTINUOUS



SPO2,
Pulse

Electronic
Pill Dispenser

By monitoring health
data via
CHI MOBILE APPS

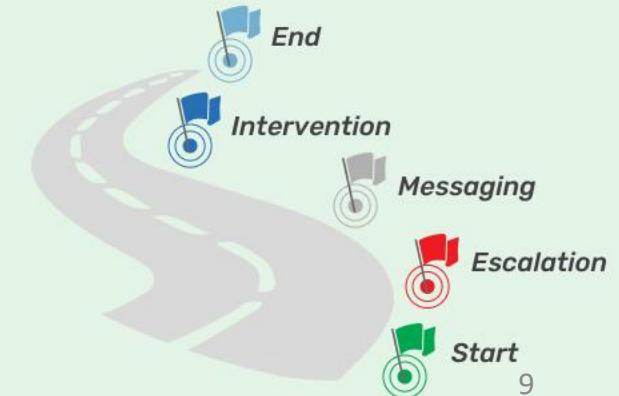


HOW?

By managing & monitoring
health data via
CHARMS SOFTWARE



By maintaining patient compliances
through
**PATIENT ESCALATION &
MANAGEMENT**

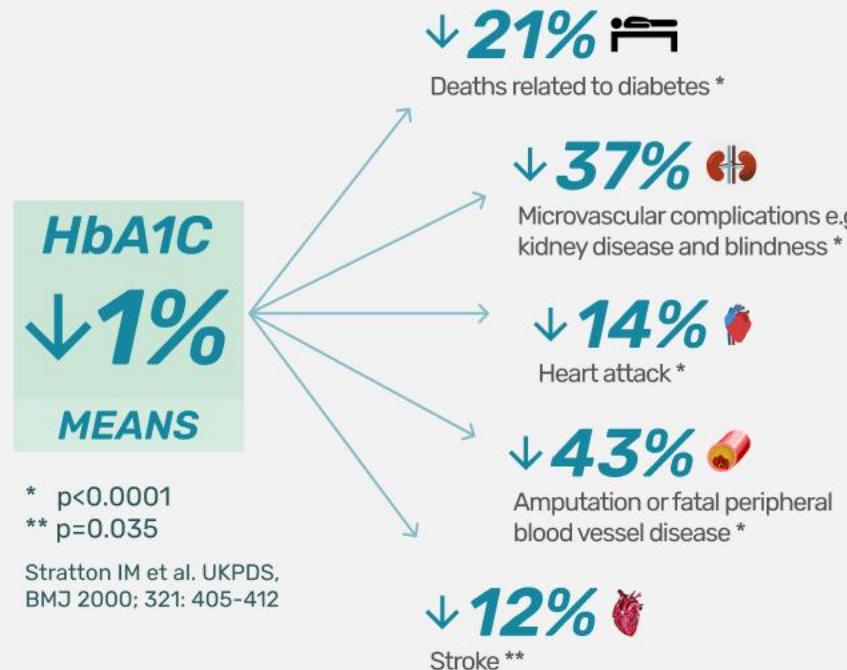


Benefit of 1% reduction in HbA1c

HbA1c is most relevant marker for Diabetes Management

Average HbA1C change for new patients:
Target is at least 0.5-1% decrease over 90 days

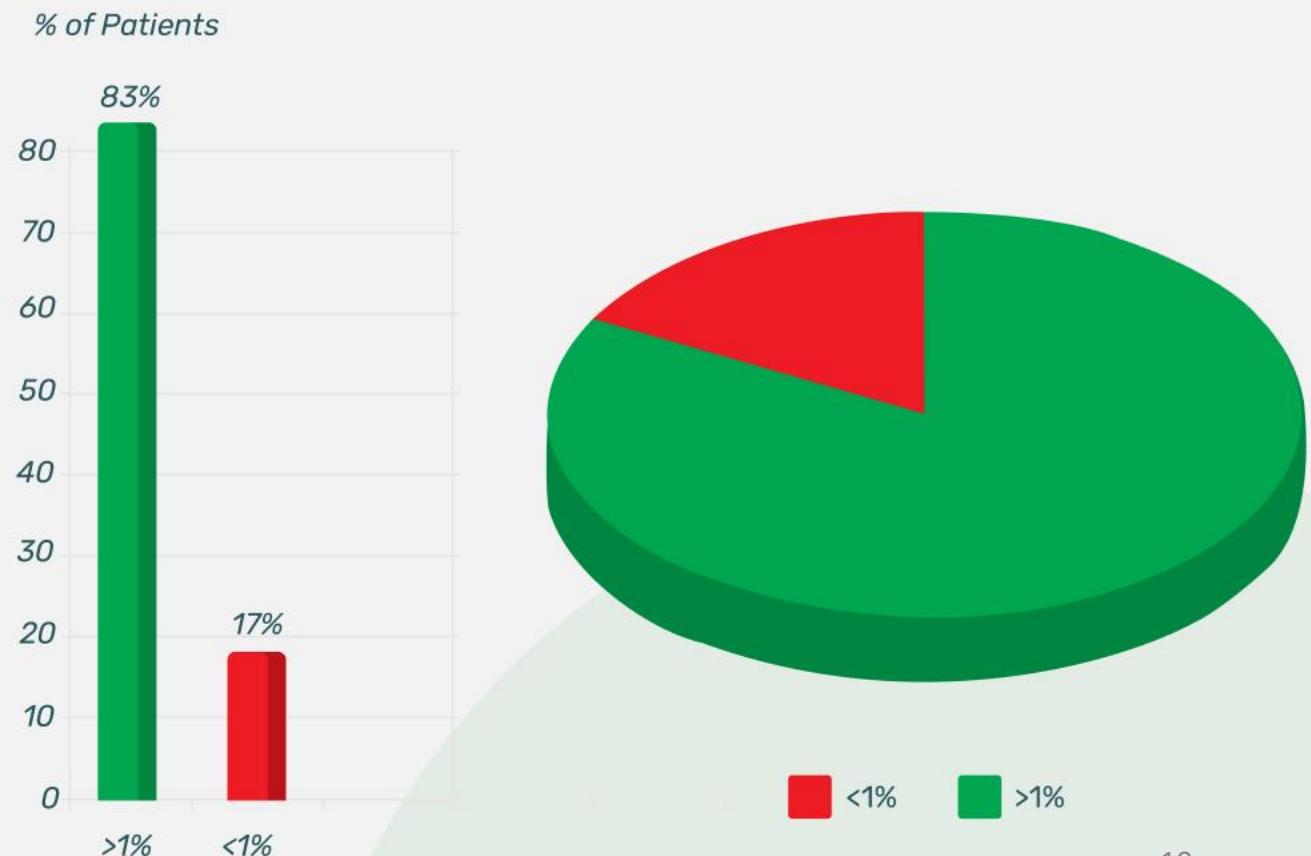
Every 1% decrease on HbA1c results in reducing complications.



Study Results

HbA1C Change
in 38 Patients

2.82%
Avg. Change in HbA1C





SMART HEALTHCARE NETWORK

TECHNOLOGY ENABLED SMART
HEALTHCARE DELIVERY
SYSTEM



PROBLEM STATEMENT

TOTAL NUMBER OF PHYSICIANS



PER 1000 PEOPLE
IN PAKISTAN

PER 1000 PEOPLE
IN WORLD

TOTAL NUMBER OF BEDS



PER 1000 PEOPLE
IN PAKISTAN

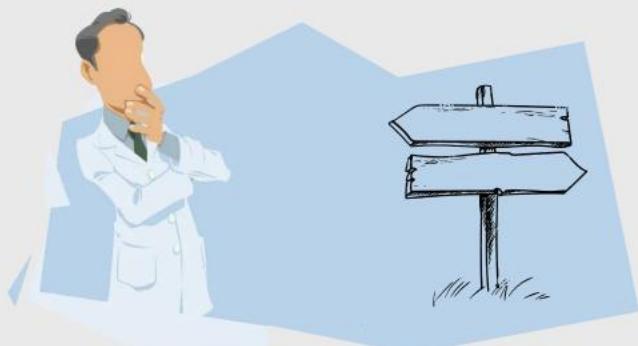


PER 1000 PEOPLE
IN WORLD

LACK OF PHYSICIANS & SPECIALISTS

LACK OF HOSPITAL BEDS

IMPROPER DIAGNOSIS & TREATMENT PLAN
BECAUSE OF NO PATIENT MEDICAL RECORD



NON-STANDARDIZATION - DOCTOR
BIASES & SUBJECTIVE DIAGNOSIS



WAIT TIMES & TRAVEL TIMES CAUSE DELAYS IN
TIMELY DIAGNOSIS & TREATMENT PLANS

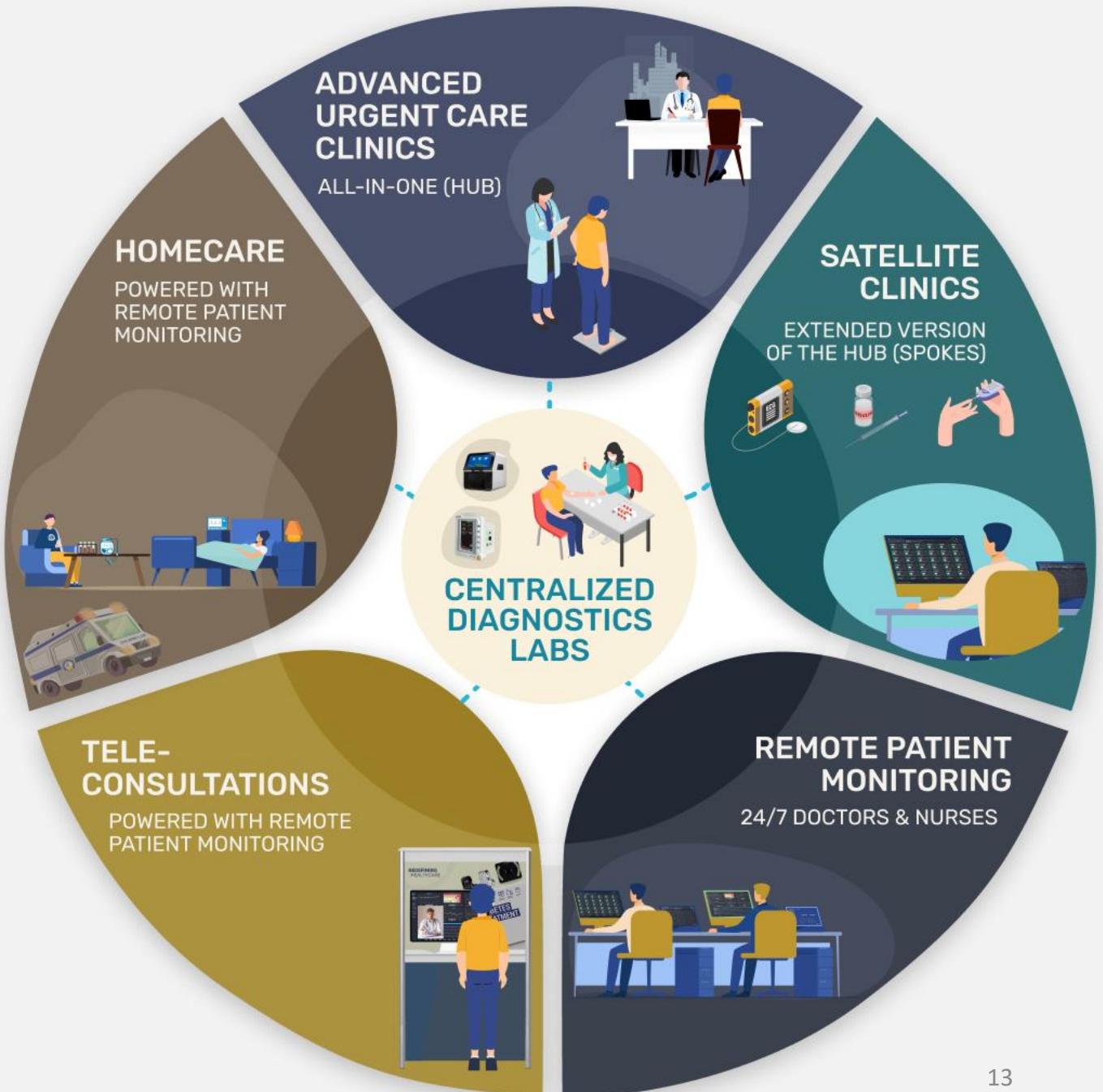


THE LEGACY OF
BRICK-AND-MORTAR IS TOO HIGH

SOLUTION

SMART HEALTHCARE NETWORK

A network of state of the art **Advanced Urgent Care Centers & Satellite Clinics** powered by IOT based remote monitoring devices and CHI's eHealth software that make Tele-Consultations as good as in person consultations home healthcare as good as IPD.



OBJECTIVES

SMART HEALTH NETWORK



COST-EFFECTIVE CARE with focus on
SPEED, ACCURACY & PREVENTION!

SMART HEALTHCARE NETWORK

Patient Wellbeing

Homecare

24/7 Access

Tele-Medicine

Specialized Services (pathology, etc.)

Trained Staff

Out-patient care

Cost Reduction

Reduced Hospital Footprint
Reduce Pooling
Reduced ER / ICU Visits

Reduced Hospitalizations

Early Discharge

Lower Re-admissions

Predictive Healthcare

Intelligent Systems

Real-time Vitals Monitoring

“Big Data”

IoT / 5G

PROPOSED BUSINESS MODEL

SMART HEALTHCARE NETWORK

PORTER'S FIVE FORCES

New Entrant Threat MEDIUM

- Product portfolio is diverse and difficult to replicate
- We have a 3-to-5-year lead, especially on developing a holistic solution ONLY.

Competition LOW

- Most of the NEW health-tech rivals focus on tele-consult and medicine delivery.
- Hospitals are mostly unwilling to cannibalize existing model of "Sick" care since it is highly lucrative

Threat of Substitutes LOW

- Remote patient monitoring / diagnostics is still a new concept
- No "Substitute" on horizon

Customer Power LOW

- High switching costs since data / devices are our property.
- Devices are given "Free-of-charge" to "Hook" the customers for the long term.

Supplier LOW

- With a diverse base of suppliers (multiple sources), we control the entire supply chain.
- Directly deal with the OEM manufacturers and work with them to customize / white-label our products

PROPOSED BUSINESS MODEL

SMART HEALTHCARE NETWORK

SWOT ANALYSIS

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">✓ Comprehensive platform that has a clinical data to prove its efficacy.✓ Wide device selection.	<ul style="list-style-type: none">✗ No large-scale implementation.✗ Lack of a viable large partner to support expedited expansion.
OPPORTUNITIES	THREATS
<ul style="list-style-type: none">✓ Massive market that is largely untapped.✓ First mover advantage via scale and scope.	<ul style="list-style-type: none">✗ New entrants or incumbents may start to encroach.

PROPOSED BUSINESS MODEL

SMART HEALTHCARE NETWORK

CUSTOMER SEGMENTATION

Customers can be segmented based on a 2-dimensional grid, as follows:



PROPOSED BUSINESS MODEL

SMART HEALTHCARE NETWORK

STRATEGY CANVAS - HOSPITALS

EXCEL

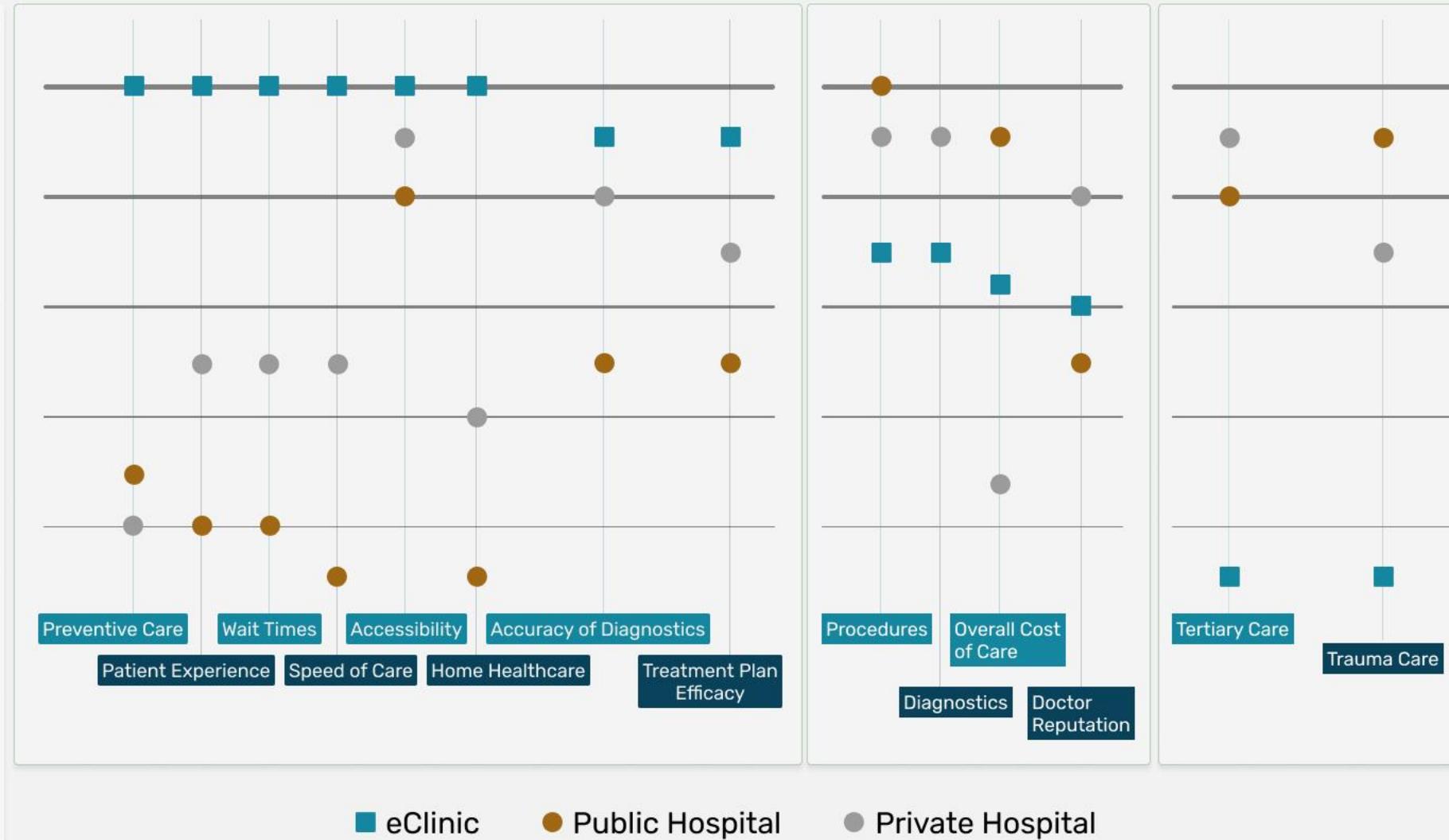
We will create a NEW category that focuses on:

- Patient experience
 - No wait times
 - 60-minute care commitment
- Preventive care
 - Remote patient monitoring
- Accessibility
 - Home Healthcare
 - Tele-consult

We will be cost competitive by reducing our footprint and avoiding expensive tertiary care capabilities.

COMPETE

IGNORE



PROPOSED BUSINESS MODEL

SMART HEALTHCARE NETWORK

STRATEGY CANVAS - CLINICS

EXCEL

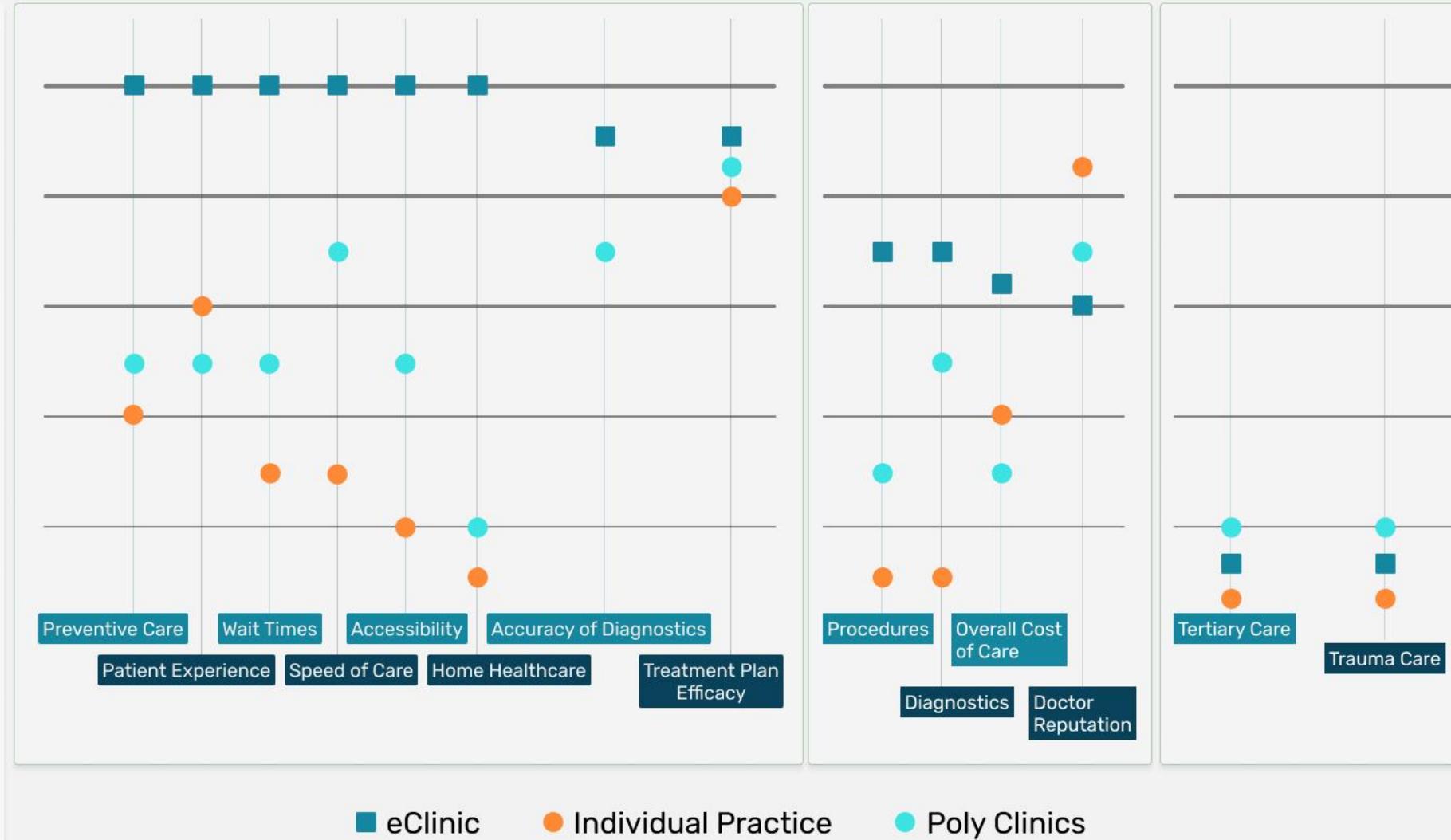
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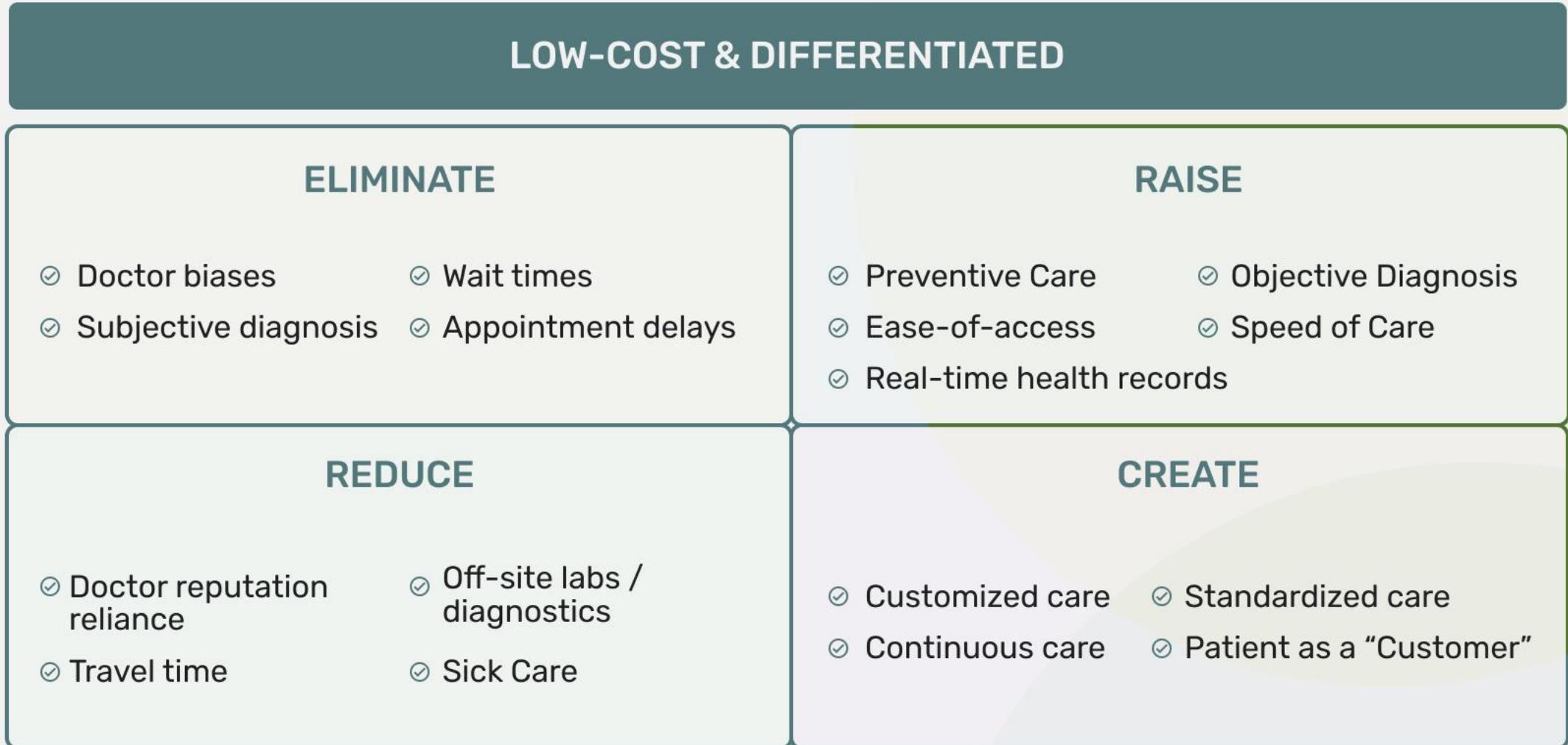
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 - Remote patient monitoring
- Accessibility
 - Home Healthcare
 - Tele-consult

We will be cost competitive by reducing our footprint and avoiding expensive tertiary care capabilities.

COMPETE

IGNORE





SOLUTION SMART HEALTHCARE NETWORK



24/7 AVAILABILITY OF PHYSICIANS & SPECIALISTS COMPLEMENTED BY TELECONSULTATION



SPECIALIZED HOME CARE THAT REDUCES THE LOAD ON IPD

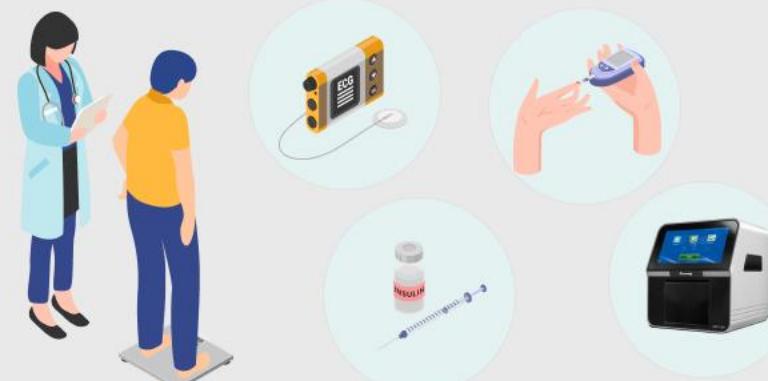


COMPREHENSIVE PATIENT DASHBOARDS TO ENSURE ACCURATE DIAGNOSIS AND TREATMENT PLAN

- VITAL TRENDS
- GRAPHICAL REPRESENTATION
- SYMPTOM CHECKS



**STANDARDIZATION
BEST IN TERMS CLINICAL PATHWAYS**



STATE-OF-THE-ART TESTING & COMMUNICATION INFRASTRUCTURE THAT ENSURES NO WAIT TIME

Start as low as **1500 to 3000 sq. ft.** area coverage for Advanced Urgent Care Centers

Technology Enabled Highly Flexible



**VERY LOW COST OF SCALING
WITH EASY SET UP & HIGHLY EXPANDABLE**

OUR UNIQUE SELLING PROPOSITION

REMOTE MONITORING



TELE-CONSULTATION

- Send real-time accurate data seamlessly
- Instant diagnostics to Caregiver

HOMECARE

- Patient Health Trends
- Graphical Representation
- Generate Alerts & Notifications

01.

CHI'S eHEALTH PLATFORM



02.

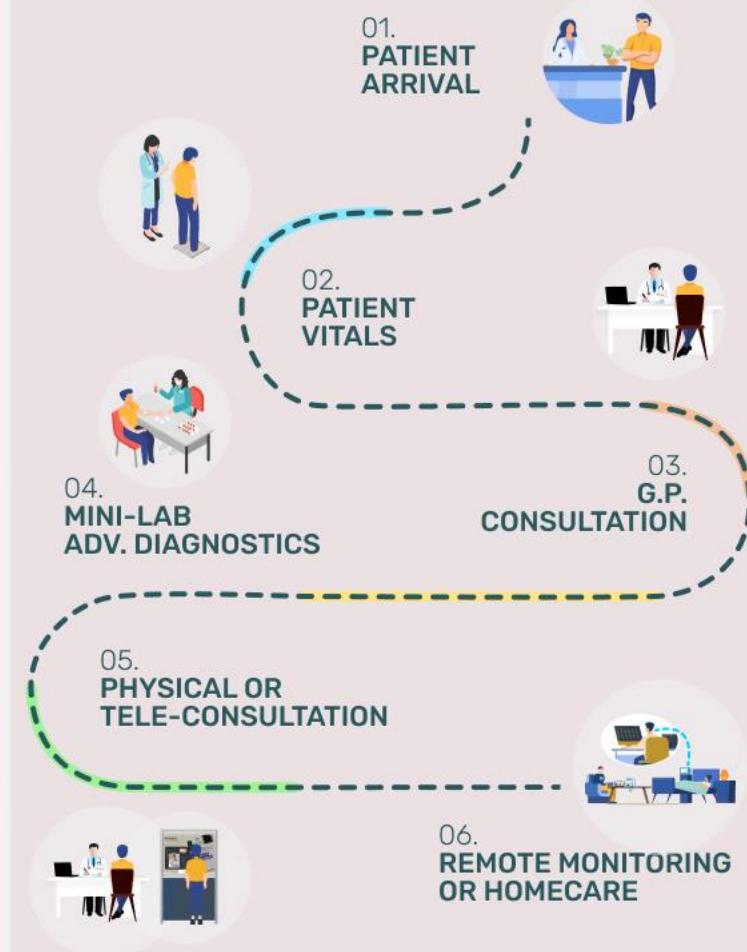
COMPLETE EMR

Connected to Remote Devices & sends real-time results to:

- Doctors
- Command Center

60 MINUTES TURN-AROUND TIME

03.



THE eCLINIC WAY

3 PILLARS

STANDARDIZATION



- 🕒 A.I. Based Symptom Checker
- 🕒 Best in terms Treatment Pathways
- 🕒 Trainings
- 🕒 Well Defined SOPs

INTEGRATION



- 🕒 60 min turn around time
- 🕒 State-of-the-art Equipment for Diagnostics

CONTROL



- 🕒 Measure & control the operations at eClinic
- 🕒 Operational, Financial & System Statistics for Analysis



COGNITIVE
HEALTHCARE
INTERNATIONAL

FINANCIALS & PARTNERSHIP MODEL

PARTNERSHIP PROPOSAL



RELATIONSHIP:

- ⊖ JV setup to pursue a “Smart Healthcare Network (SHN)” with focus on quality of care – precise, affordable, prompt, - that is driven by state-of-the-art technology (remote monitoring, tele-consult, etc.) along with latest best practices in medicine.

OWNERSHIP DISTRIBUTION:

- ⊖ Equal (50 / 50) ownership in the business.
- ⊖ Board of Directors will have equal representation; all decisions will be based on mutual consent

CAPITAL COMMITMENT:

- ⊖ AWT will provide necessary fitted-out real-estate for the setup and expansion of the SHN.
- ⊖ CHI will be responsible for the technology (software, computer hardware, training, etc.).
- ⊖ All the medical equipment, etc. for the clinics will be jointly funded on a pro-rata basis.

EXPECTATIONS (CHI):

- ⊖ Provide virtual care / remote monitoring platform.
- ⊖ CHI will be awarded the management and operations contract for the SHN.

EXPECTATIONS (AWT):

- ⊖ Provide necessary market clout for the successful roll-out of the SHN.
- ⊖ Setup the centralized Labs and Diagnostics Center.

SYNERGIES WITH AWT



⑤ Pharmacies

- ⑤ Smart Health Network will enable AWT to expand its existing footprint of Pharmacies quickly and efficiently.
- ⑤ The existing Pharmacies can be converted to satellite clinics, with potential to increase their revenues many fold.



⑥ Labs and Collection Centers

- ⑥ Smart Health Network will enable AWT to expand its existing footprint of Labs and collection centers quickly and efficiently.
- ⑥ More collection centers will increase revenues for the central lab.
- ⑥ The existing Labs and collection centers can be converted to satellite clinics, with potential to increase their revenues many fold.



SYNERGIES WITH AWT



⑤ Real Estate

- ⑤ Real Estate is a great strength of AWT and our smart health network can leverage that for speedy expansion.



⑥ Askari Insurance

- ⑤ Smart Health Network can help Askari Insurance serve their clients effectively and at a reduced cost.



⑦ Army Medical Corps

- ⑤ Smart Health Network can help Army Medical Corps serve entitled clientele of more than eight million people more effectively and at a reduced cost.



⑧ Centralized Control Center

- ⑤ CHI'S E-Health Platform will enable AWT to have control over the operations of the healthcare facilities through our advanced KPI Dashboards.



FINANCIAL MODEL



PKR million	DISCOUNTED CASHFLOW ANALYSIS					
	ONE	TWO	THREE	FOUR	FIVE	SIX
CAPEX	211	242	278	320	736	
Delta Working Capital	130	179	231	223	368	
Operating Cash Flow	27	99	178	323	759	991
Terminal Value						16,518
Free Cash Flow	(313)	(323)	(331)	(220)	(346)	17,509

Cost of Capital	15%
Risk Free Rate (rf)	12%
Perpetual Growth Rate (g)	6%
Initial Investment (PKR million)	(1,532)
Internal Rate of Return	95%
Net Present Value (PKR million)	6,538

GP Fees (Full) PKR	2,000	1,500	1,200
Patient Arrival Rate (Peak)	3.5	4.125	4.5
Patient Arrival Rate (Off-peak)	2	2	2
Net Investment	(1,532)	(1,770)	(1,979)
Internal Rate of Return	95%	79%	66%
Net Present Value	6,538	4,930	3,703

ASSUMPTIONS:

- ⌚ Preliminary cashflow analysis was conducted to arrive at overall financial justification.
- ⌚ We assumed an unlevered cost of capital (~ equity) to be 15 percent.
- ⌚ Perpetual growth rate (g) was assumed to be 6 percent.

RESULTS:

- ⌚ A highly comprehensive "Smart Healthcare Network" will require an investment of circa PKR 2.1 billion over the next 5 years.
- ⌚ Overall Internal Rate of Return (IRR) for the project over next 6 years is a highly favorable circa 73 percent.
- ⌚ Net Present Value (NPV) – at a cost of capital of 15 percent – is higher than PKR 4 billion.

SENSITIVITY ANALYSIS

- ⌚ If we reduce our full GP fees to 1500, it will drop the overall IRR to 79 percent and NPV to PKR 4.93 billion.
- ⌚ If we further reduce the GP fees to 1,200, it will drop IRR further to 66 percent and NPV to PKR 3.7 billion.

	<u>Split</u>	<u>GP Fees</u>		
Full paying (PKR)	20%	2,000	1,500	1,200
25% discount (PKR)	20%	1,500	1,125	900
50% discount (PKR)	50%	1,000	750	600
75% discount (PKR)	10%	500	375	300
Average Fee (PKR)		1,250	938	750
Peak Patient Arrival Rate		13.5	15.4	16.5
Off-Peak Patient Arrivate Rate		3.5	4.1	4.5
GP to Specialist Multiple		2		
Hybrid discount		75%		

ASSUMPTIONS:

- ⦿ Full paying customers are charged PKR2,000/- for the General Practitioner (GP) consultation, but this will be subject to discounts (25%, 50%, 75%, etc.) based on patient's financial means. We assume that majority of the patients will be offered significant discount resulting in average fee of circa PKR1,250/-.
- ⦿ We will run sensitivities on the GP Fees (1,500 and 1,200) to better understand the financial impact
- ⦿ We will expect – on average – 13.8 and 3.6 patients per hour during Peak (morning / evening) and Non-peak (night) respectively.
- ⦿ Specialist consultation charge will be "2x" of GP charges.
- ⦿ Where our GP refers a patient to the specialist (Hybrid), patient will be offered a 75 percent discount on the GP Fees to lessen the overall financial burden.

FINANCIAL MODEL

Year ONE ASSUMPTIONS		
CONSULTATION FEES	Split	Fees (PKR)
GP	20%	1,250
Specialist	60%*	2,500
Hybrid	20%	2,813
Average Fees		2,313
*: There is a general trend that most of the patients prefer to see a specialist hence we assume large proportion of patients are referred to specialist.		
Hybrid refers to patients that start with the GP and are then referred to the Specialist, where GP's fee is discounted by 75 percent.		
Average fee based on the proposed split.		
Patient Arrival (per hour)	Hours	Arrivals
Peak	12	13.5
Non-peak	12	3.5
Tele-consult	12	1.0
Daily Patients		216
This includes arrivals at the main Urgent Care Center (AUCC) and the attached satellite clinics.		
Remotely conducted; we assume this figure will grow significantly over the years.		
REVENUES	PKR million	
Gross Consultation Revenue	155.84	
Services Revenue	50%	77.92
We expect medical services (lab work, radiology, etc.) to provide incremental revenue of circa 50 percent of gross consultation revenue.		
Total Revenue	233.77	
Consultation Commissions	54%	84.16
Under current market conditions, doctors receive circa 50 to 60 percent of the gross billings.		
Net Revenue	149.61	
OPEX		
Payroll	33%	49.56
Includes base salaries for the doctors and gross salaries for rest of the staff.		
Rent, Utilities, Insurance	10%	15.61
Supplies	17%	25.04
Includes all the medical supplies and lab consumables.		
Marketing	5%	7.48
Miscellaneous	4%	5.91
Total OPEX	103.61	
Operating Profit	20%	46.00
Mgmt. / License Fees [F]	15%	35.06
CHI will provide all the management and operating services along with a comprehensive platform license for the technology.		
Depreciation	10.32	
Total CAPEX per clinic is estimated at circa PKR42 million, which will be depreciated based on useful asset life.		
EBIT	0.62	
Taxes	20%	0.12
Assumed a net effective tax rate of 20 percent.		
Net Profit	0.49	
# of Urgent Care Centers	5	
We start out with 5 Urgent Care Centers and incrementally grow it over the following years to 30.		
Total Net Profit	2	



FINANCIAL MODEL



	YEAR ONE		YEAR TWO		YEAR THREE		YEAR FOUR		YEAR FIVE		
CONSULTATION FEES	Split	Fees (PKR)	Growth	Fees (PKR)							
GP	20%	1,250	15%	1,438	15%	1,653	15%	1,901	15%	2,186	Annual increase in the fees will mimic the inflationary trends.
Specialist	60%	2,500	15%	2,875	15%	3,306	15%	3,802	15%	4,373	
Hybrid	20%	2,813	15%	3,234	15%	3,720	15%	4,277	15%	4,919	
Average Fees		2,313		2,659		3,058		3,517		4,045	
PATIENT ARRIVAL RATE	Hours	Arrivals									
Peak	12	13.5	10%	14.9	10%	16.3	10%	18.0	10%	19.8	
Non-peak	12	3.5	15%	4.0	15%	4.6	15%	5.3	15%	6.1	24-hour operations will allow more and more patients to utilize off-peak timings.
Tele-consult	12	1.0	200%	3.0	100%	6.0	50%	9.0	25%	11.3	As tele-consult concept is widely accepted, we expect significant growth.
Daily Patients		216		263		324		387		446	
REVENUES	PKR million										
Gross Consultation Revenue	155.84		217.80		308.74		425.21		562.36		
Services Revenue	50%	77.92	50%	108.90	48%	148.20	45%	191.34	40%	224.94	Service revenue will drop as more satellite and tele-consult patients are added.
Total Revenue		233.77		326.70		456.94		616.55		787.30	
Consultation Commissions	54%	84.16	54%	117.61	54%	166.72	54%	229.61	54%	303.67	Based on high demand for "Good" doctors, we expect it to stay consistent.
Net Revenue		149.61		209.09		290.22		386.94		483.63	
OPEX											
Payroll	30%	49.56	31%	64.82	30%	87.06	28%	108.34	25%	120.91	
Rent, Utilities, Insurance	10%	15.61	10%	21.82	9%	26.12	8%	30.96	6%	29.02	Economies of scale will help with lowering overall expenses.
Supplies	17%	25.04	17%	35.00	14%	40.63	13%	50.30	12%	58.04	
Marketing	5%	7.48	5%	10.45	5%	14.51	5%	19.35	5%	24.18	
Miscellaneous	4%	5.91	4%	8.26	4%	11.46	4%	15.28	4%	19.10	
Total OPEX		103.61		140.35		179.79		224.23		251.24	
OPERATING PROFIT	20%	46.00		68.74		110.43		162.71		232.39	
Mgmt. / License Fees	15%	35.06	15%	49.01	15%	68.54	15%	92.48	15%	118.10	
Depreciation		10.32		10.32		10.32		10.32		10.32	
EBIT		0.62		9.41		31.57		59.90		103.97	
Taxes	20%	0.12	20%	1.88	20%	6.31	20%	11.98	20%	20.79	
Net Profit	0%	0.49	4%	7.53	9%	25.25	12%	47.92	17%	83.17	
# of Urgent Care Centers		5		10		15		20		30	
Total Net Profit		2		75		379		958		2,495	In steady-state, this business has the potential to generate ~PKR2.5 billion in profit.



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ADVANCED URGENT CARE CLINICS



ADVANCED URGENT CARE CLINIC

BASIC ENHANCED

CONSULTATION

- G.P. Consultation (Comprehensive Physical Examination)

TELE-CONSULTATION

- Specialist Tele-Consultation
 - Endocrinologist
 - ENT
 - Cardiology
 - Neurologist etc.

REMOTE MONITORING SYSTEM

- Chronic
- Acute / Post-op
- Palliative

ADVANCED URGENT CARE CLINICS

PATIENT VITALS

- Blood Pressure
- Blood Glucose
- ECG
- Pulse Rate
- SpO2
- Temperature
- Body Composition Analysis
- Ear/Nose/Throat examination
- Auscultation via digital Stethoscope
- Nebulization
- IV Medication

MINI-LAB (INSTANT DIAGNOSTICS)

- | | |
|--------------------------|-----------------------|
| • Spirometry | • Complete Blood work |
| • X-rays | • Urine Analysis |
| • Ultrasound | • CTG |
| • ECG | |
| • Sleep apnea monitoring | |

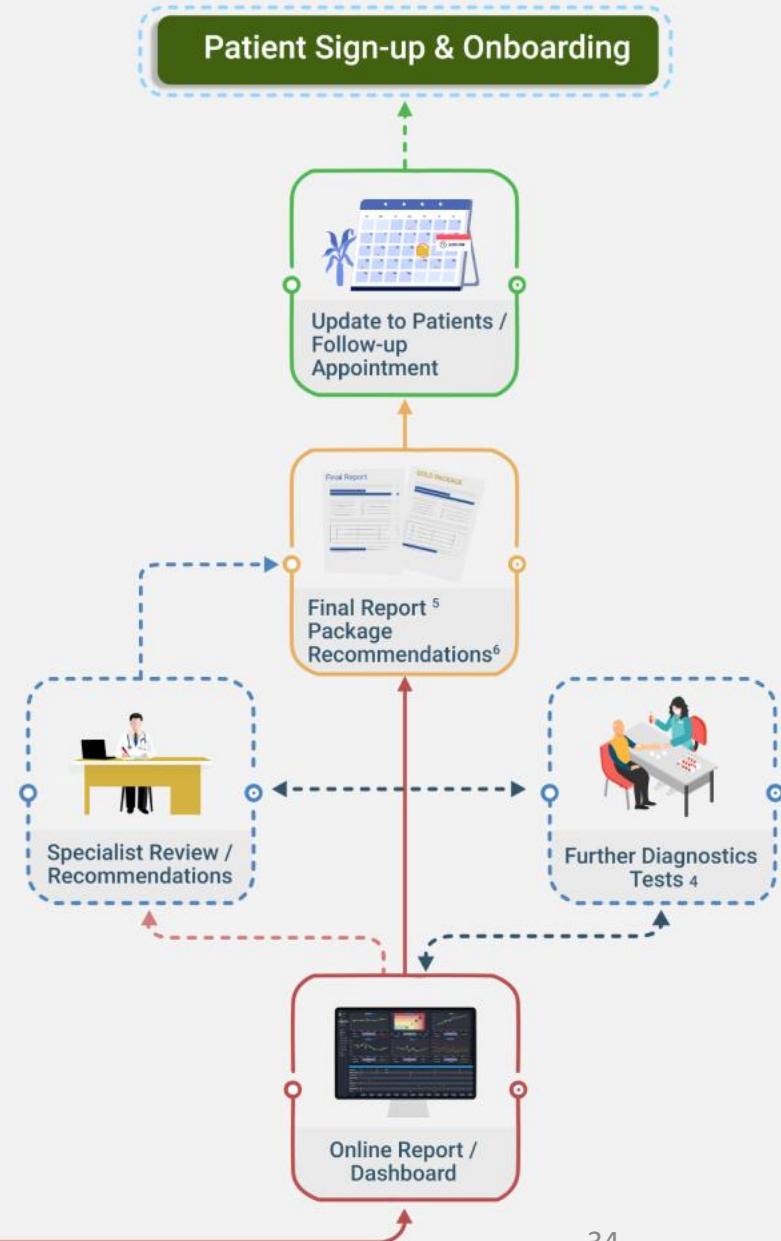
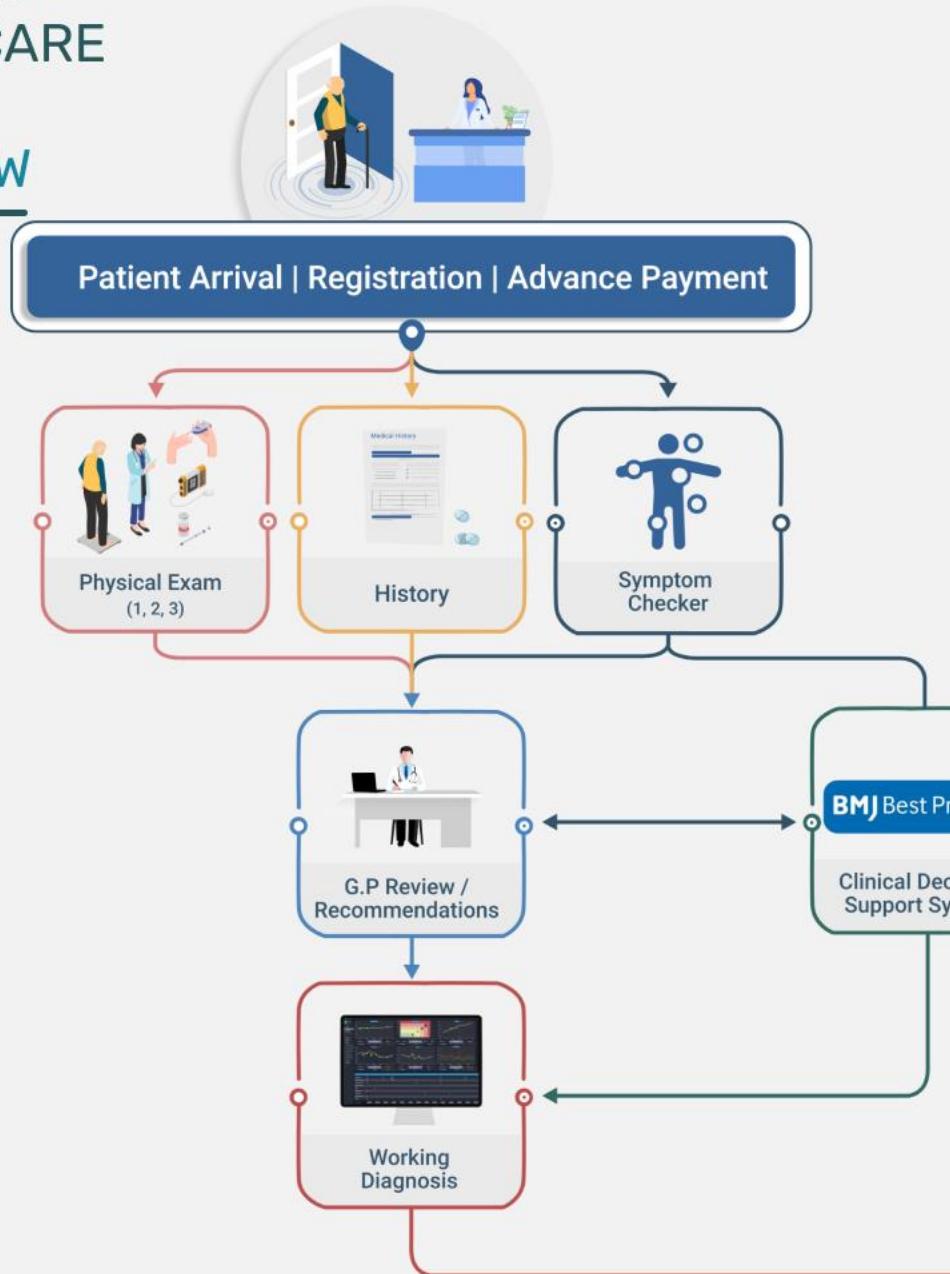
PHARMACY

- Medicines
- Medicine Delivery

HOMECARE

- Chronic
- Acute / Post-op
- Palliative

ADVANCED URGENT CARE CLINIC WORKFLOW



ADVANCED URGENT CARE CLINIC LAYOUT

FLOOR PLAN

Reception

Waiting Room

Lab

X-Ray Room

Consultation Rooms

For Nurse Vitals

For Consultations





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SATELLITE CLINICS



SATELLITE CLINIC LAYOUT

FLOOR PLAN OF CHI SATELLITE CLINIC

- Reception
- Waiting Room
- Examination Rooms
- For Nurse Vitals
- For Tele-Consult
- Pharmacy





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HOME CARE



HOME CARE

Assisted Home-Care aims to **reduce unnecessary and avoidable hospitalization**, by providing home health care services against a myriad of non-acute, non-critical medical conditions* that can be managed at home with the help of professional staff and reliable devices.

*These can broadly be categorized as chronic or sudden onset health issues conditions that require prolonged or short-term home care.

Home Healthcare services include:

- 24/7 Nurse on call
- Digital Health Records through CHI Health Buddy (Patient App)
- Tele-Consultation with GPs & Specialists (if needed)



HOME CARE JOURNEY

TESTIMONIAL



CHUGHTAI LAB
ONE NATION - ONE LAB

" This technology is a life saver. We were able to save lives because of timely alerts generated by the system

1. Vitals Monitoring (Ongoing)

Patient checking vitals through Remote Monitoring Devices & 24/7 Nurse Support



2. Call General Practitioner OR Book Appointment (Specialist)

Call G.P OR Book Tele-Consultation appointment with Specialist



3. Tele-Consultation

Tele-Consultation with Specialist



4. Mobile Mini Lab to Your Home

Our mobile Mini Lab will reach you at your home for advance diagnostics



5. Tele-Consultation

Tele-Consultation from home after getting instant test results



6. In-App Prescription & Medicine Delivery

You'll get in app prescription and medicine will be delivered at your doorstep



7. VIRTUAL ICU AT HOME

Setting up a 24/7 health monitor at patients home for continuous monitoring



Homecare Journey
ENDS



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HOME CARE VIRTUAL ICU

CHALLENGES

- ▢ In-patient ICU care is quite **expensive** and **not readily available**
- ▢ Prolonged ICU care is not only a **major financial burden** but becomes a challenge for the loved ones who have **to be present at all times**
- ▢ The **risk of Hospital acquired infections** is **very high** both for the patient and the family
- ▢ There is a **lack of affordable ICU level care for patients in the comfort of their own home**
- ▢ Besides ICU level care, even **reliable and efficient home based management of chronic diseases** such as diabetes is **not available for patients with limited mobility.**

OBJECTIVES



Decrease the burden on hospital ICUs



Provide ICU level care from the comfort of patient's home



Save time and money



Constant monitoring of the health status



Utilize state of the art remote monitoring technology



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HOME CARE CASE STUDIES



CASE STUDY - VIRTUAL ICU

Duration: 3 months

Patient: Case A

Diagnoses: **Brain tumor, low oxygen saturation due to pneumonia, bedsores**, semi-conscious (GCS score: 4/15).

History: Patient was operated upon for her **brain tumour in early December**. Developed bilateral pneumonia two weeks after surgery and has been there since. No significant improvement over time. **On supplemental oxygen and tube feeding.**

Problem: The **ICU costs are building up and the family has to be present outside the ICU at all times to provide medicines and other necessities as needed**. This is causing both financial and physical difficulties.

CHI RESOLUTION

Patient was shifted to her home and **monitored via Virtual ICU setup by CHI. The vitals of the patient are monitored 24/7 by CHI's Command Center Doctors & Nurses.**

CHI's **effective & timely interventions along with visiting nurses everyday** is helping the patient's condition to remain stable.

Takeaways: **CHI is keeping the cost affordable for the family
The family of the patient is at ease and comfortable**





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TELE- CONSULTATIONS



TELE-CONSULTATIONS POWERED BY REMOTE MONITORING DEVICES

INSTANT RESULTS TRANSMISSION



STETHOSCOPE



ULTRASOUND



ECG (Live)

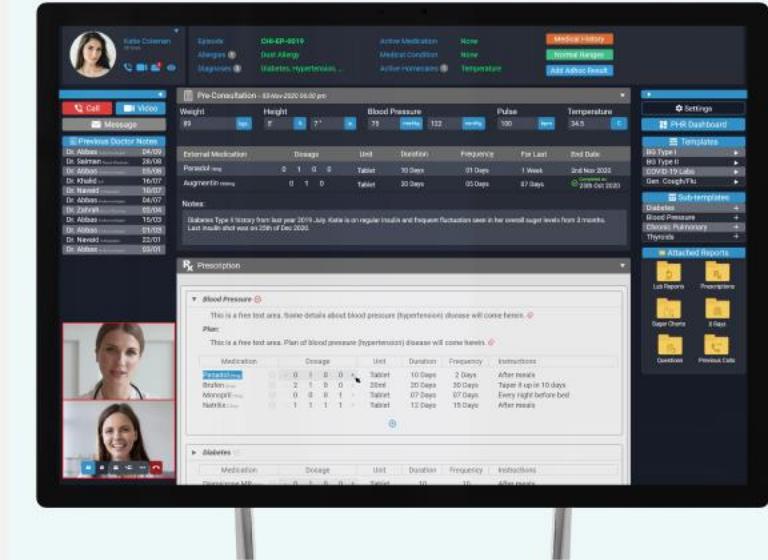


VIRTUAL ICU

GRAPHICAL VISUALIZATION OF PATIENTS' DATA



COMPLETE EMR



ENDPOINT SECURITY

- Ⓐ All communications between client & servers utilises TLS v1.2/1.3
- Ⓐ Diffie-Hellman key exchange is used for TLS v1.2
- Ⓐ Tokens and other sensitive information is exchanged using another layer of Public Key Infrastructure (PKI)
- Ⓐ Two Factor Authentication (2FA) can be enabled for specific APIs (like user authentication), which can use:
 - Ⓐ Google Authenticator for validation
 - Ⓐ Simple PIN code (via SMS/email etc.) for validation
- Ⓐ IP addresses are blocked (for configurable time) after three attempts of Unauthorised Access to any endpoint



SHARED URL SECURITY

- ⌚ As part of integration, you create your PKI keys and
 - ⌚ Configure the public key into your Epic deployment.
 - ⌚ Configure the private key into CHI deployment.
- ⌚ The URL payload is encrypted using the public key (in hyperspace)
- ⌚ The payload can only be decrypted by the correct private key configured on CHI deployment.
- ⌚ The URL link only initiates the video call; it does NOT provide any further patient details or access to the patient EMR
- ⌚ With 2FA enabled, the webpage opens only when a correct PIN code is entered.





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ICCM

INTEGRATED **COVERAGE &** **CARE**

MODEL



INTEGRATED COVERAGE & CARE MODEL (ICCM)

An integrated model that combines **insurance cover** with **holistic preventive care** from the same provider.

1. Insurance Company operates:

a. State-of-the-art technology-enabled patient monitoring platform, that includes:

 Wearable devices to analyze patient vitals.

 Diagnostic engine to evaluate real-time patient vitals data and issue intelligent alerts.

 Patient dashboard – comprehensive graphical snapshot of patient's health markers.

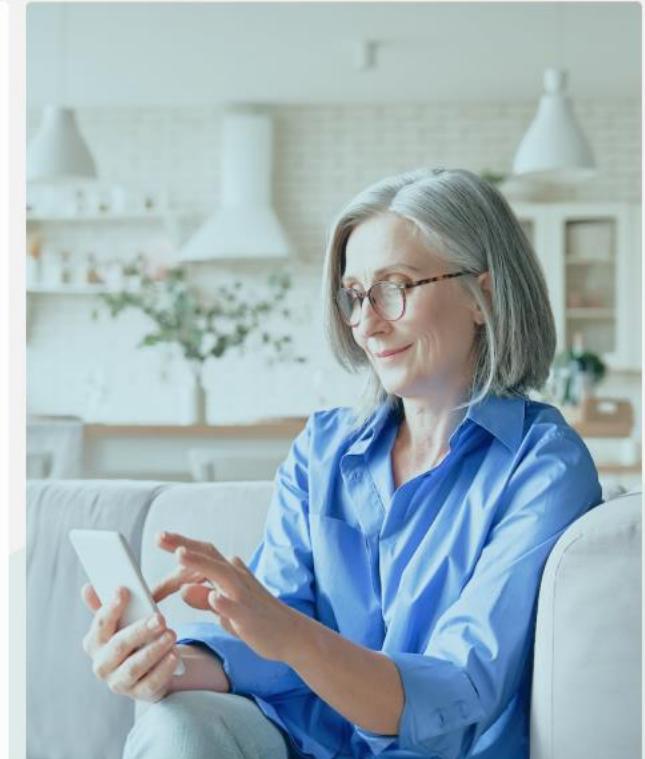
 AI-enabled online symptom checker.

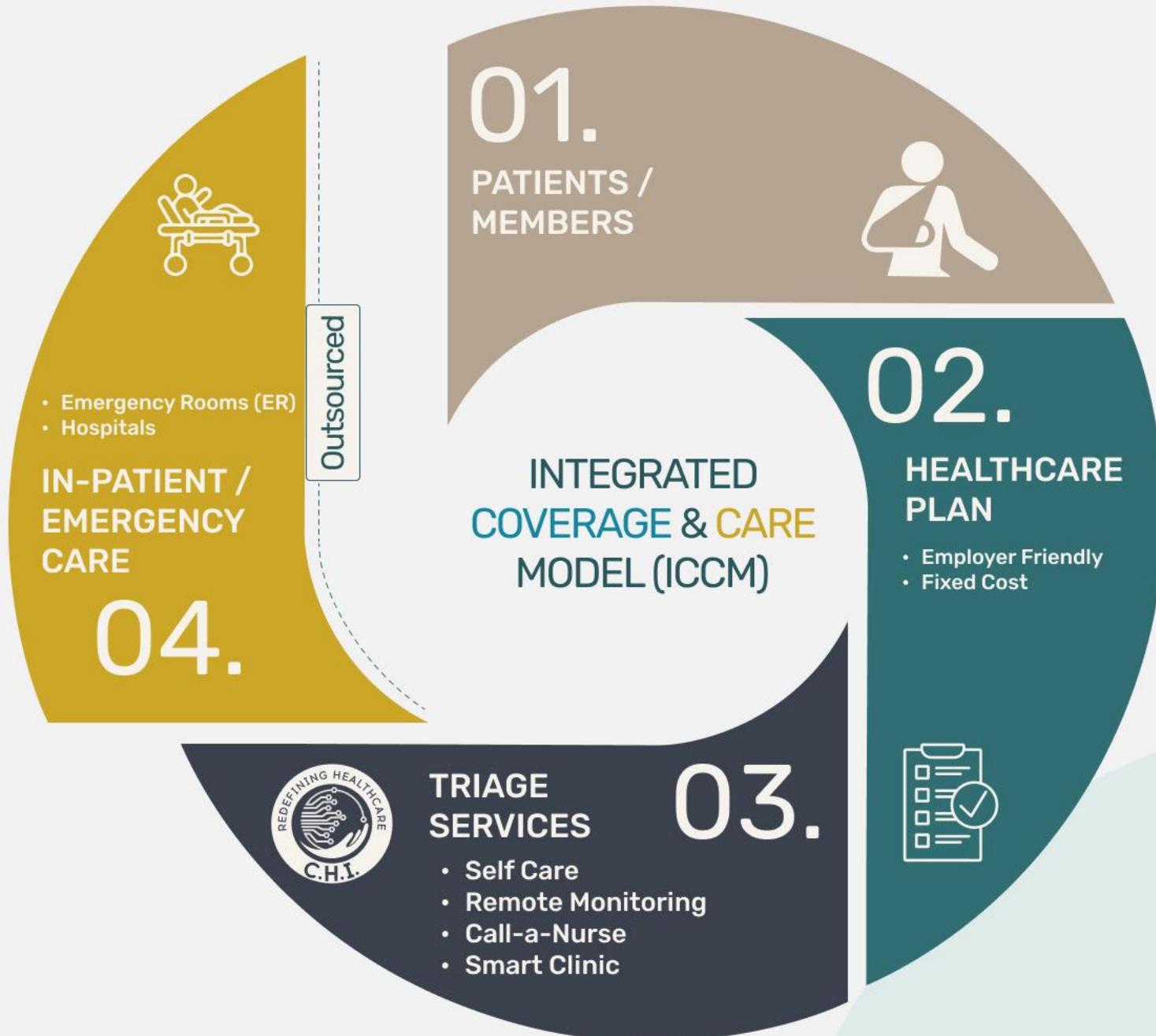
 Standardized treatment pathways.

 Secure Tele-consult services – ability to view patient vitals data (via dashboards) in real-time.

b. Smart clinics (that include majority of the diagnostic services).

c. Call-a-Nurse Triage Service (available 24/7).





OBJECTIVE & BENEFITS OF ICCM

Objective: Minimize the use of Emergency or Inpatient Care (by default the most expensive care) by providing real-time preventive and tiered primary care.

1. Incentive alignment



a. All stakeholders – patient, doctor and insurer - work towards preventive care as opposed to sick care.

- i. Patient monitoring the vitals and responsible for high levels of **medication compliance**.
- ii. Doctors adhering to latest published treatment pathways leading to **standardized and optimum care** – balanced approach with respect to care and cost!
- iii. Insurer supporting the patient and the care provider by **waiving any pre-authorizations**.

2. Patient Role – Step towards Self-Care:



- a. Smart pill box use allowing high levels of **medication compliance**.
- b. Use of **Symptom checker tools**
- c. Use of **Clinical Decision Support tools**
- d. **Analyze vitals** based on the available data analytics (patient app and portal)
- e. **Call-a-Nurse Service** – first port of call
 - i. Built-in tele-consult capabilities

3. Employer Friendly



Employer can **setup a healthcare plan** that consists of:

- a. **High-Deductible Catastrophic Insurance**
 - i. Only for extreme cases / events
 - ii. Traditional insurance underwriting
- b. **Healthcare Account – Employee Discretion**
 - i. **Fixed amount** (may be linked to employee health) funded each year
 - ii. **Employee (as patient) manages her healthcare** with online monitoring (wearable devices) / diagnostics (AI-BOT symptom checkers, etc.) technology and Triage Nurse (24/7) services.
 - iii. Rollover of unused amount; **retention tool** over time.
- c. **Part of Employee Performance Review**
 - i. Healthy employee is a **Productive Employee!**
 - ii. **Financial reward** for Improved Healthcare

4. Triage service – Preventive Care



a. **Nurse / GP acts as the gatekeeper – triage master**

- 1. Online Symptom Checker --> Standardized Treatment Pathways --> GP Consult
- 2. Specialist Escalation
 - a. Tele-consult
- 3. Urgent Care Referral: diagnostic services required
- 4. Home Care Referral: patient preference
- 5. ER admission



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STATE-OF-THE-ART **CANCER** **CENTER**

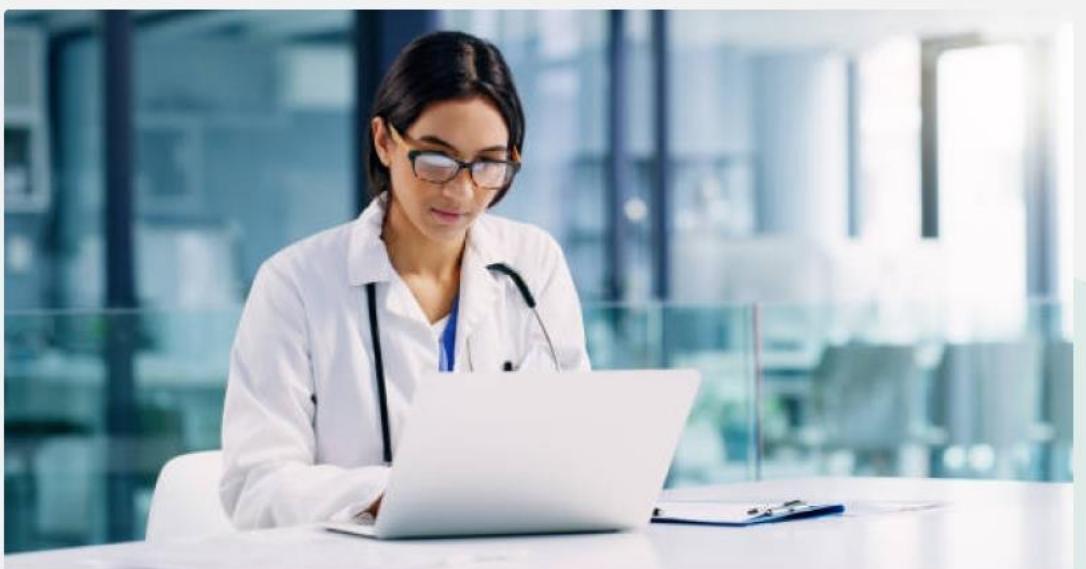
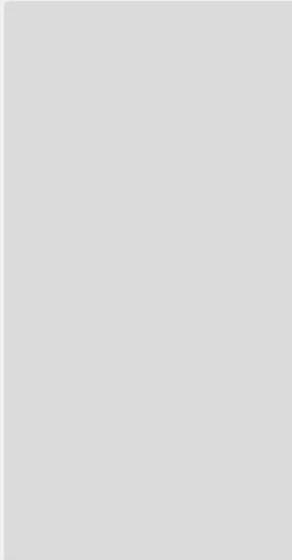


STATE-OF-THE-ART CANCER TREATMENT

Digital technology along with **WEB3.0** will enable remote healthcare management of not only basic needs but also **SPECIALTY CARE**.

Non-invasive **CANCER treatment** is an ideal candidate for such an application.

Currently pursuing discussions with multiple **highly reputable Cancer Centers in the USA** to setup a Joint Venture (JV) in order to bring **Next-Generation cancer treatment to the region**



STATE-OF-THE-ART CANCER TREATMENT

Partner will provide:

- ✓ *Latest Treatment Pathways*
- ✓ *Standardized Operating Procedures (SOPs)*
- ✓ *JCI certificate assistance*
- ✓ *Specialists / Sub-specialists Tele-consults*
- ✓ *Diagnostics (circa 20 percent of the cases)*

C.H.I. will provide:

- ✓ *Cancer Center (Real-estate)*
- ✓ *Nursing Staff*
- ✓ *Doctors (junior Oncologists)*
- ✓ *Patient On-boarding*
- ✓ *Patient Treatment Implementation*
Includes equipment
- ✓ *Diagnostics Capability (circa 80 percent)*
- ✓ *Patient Dashboard*
- ✓ *Remote Monitoring*
- ✓ *Homecare / Treatment*





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MAMMOGRAPHY CENTER

A.I. DIAGNOSTICS & ANALYSIS



PROBLEM STATEMENT STATISTICS


1 in 8

woman will develop invasive **breast cancer** over the course of her lifetime

21.4%

of all cancer cases recorded in the UAE last year

but there is **HOPE** with early detection through:



**Mammography
(or ultrasound)**



Regular breast examination

PROBLEM STATEMENT

WHY MAMMOGRAM?

For every **1,000** women who have a screening mammogram

100*
out of 1,000

will return for additional mammogram and/or ultrasound due to something seen in the initial mammogram

20*
out of 1,000

will find what was seen in the imaging is likely not cancer & return in 6 months to keep watch on the finding

5
out of 1,000

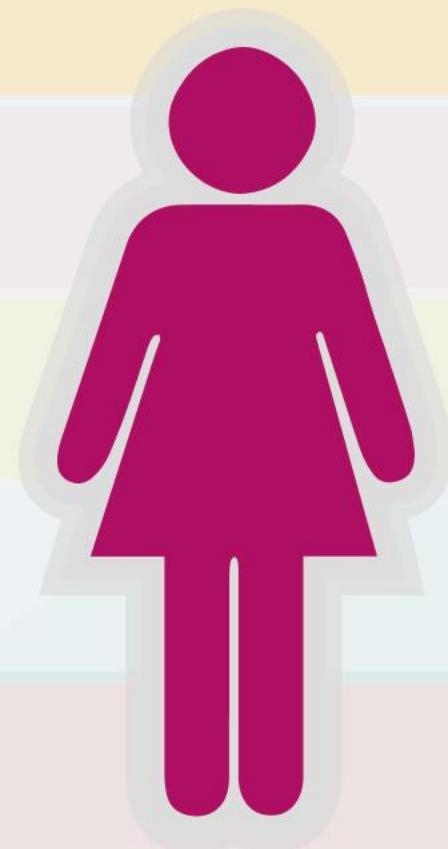
will be diagnosed with breast cancer

61
out of 1,000

will have the additional imaging & find nothing is wrong

19
out of 1,000

will have minimally invasive needle biopsy



*This will be lower for women who have had prior mammograms & higher for women who are having their first mammogram.

Source: <https://www.mammographysaveslives.org/>

PROPOSITION MAMMOGRAM CENTER

We will be your
DIGITAL SOLUTION PARTNER
by offering our services to strengthen
AWT's commitment to high quality
healthcare



01. **INFRASTRUCTURE & STAFFING**
02. **SOFTWARE & DIAGNOSTICS**
03. **CONSULTANCY**



PROPOSITION

01. INFRASTRUCTURE & STAFFING

A. SETUP THE MAMMOGRAPHY CENTER¹

i. HARDWARE EQUIPMENT

Mammography Equipment Selection and procurement - extensive relationships with multiple vendors of Radiology equipment.

ii. HARDWARE CONFIGURATION

Procure, install and commission all the necessary hardware.

B. STAFFING²

RADIOLOGY LAB TECHNICIANS

Provide trained radiology lab technicians to operate the equipment and deal with the patients.

1. Appropriately fitted-out location for the center will be provided by AWT.
2. AWT will provide admin (receptionist, etc.) and facility maintenance services (security, janitorial, etc.).



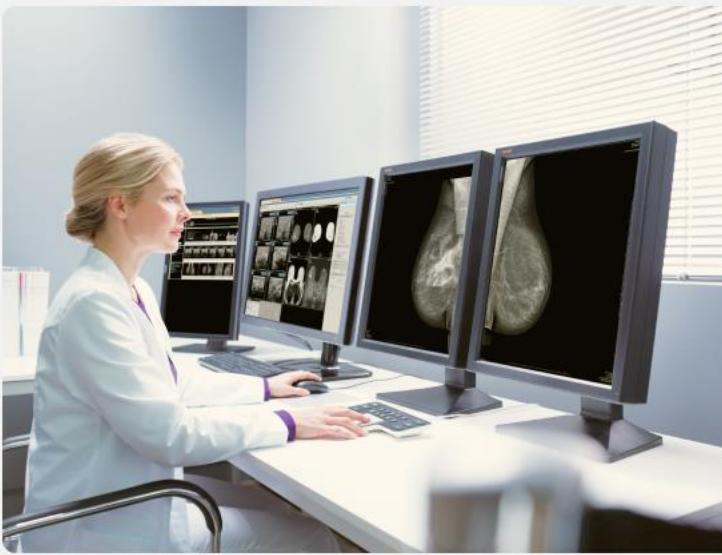
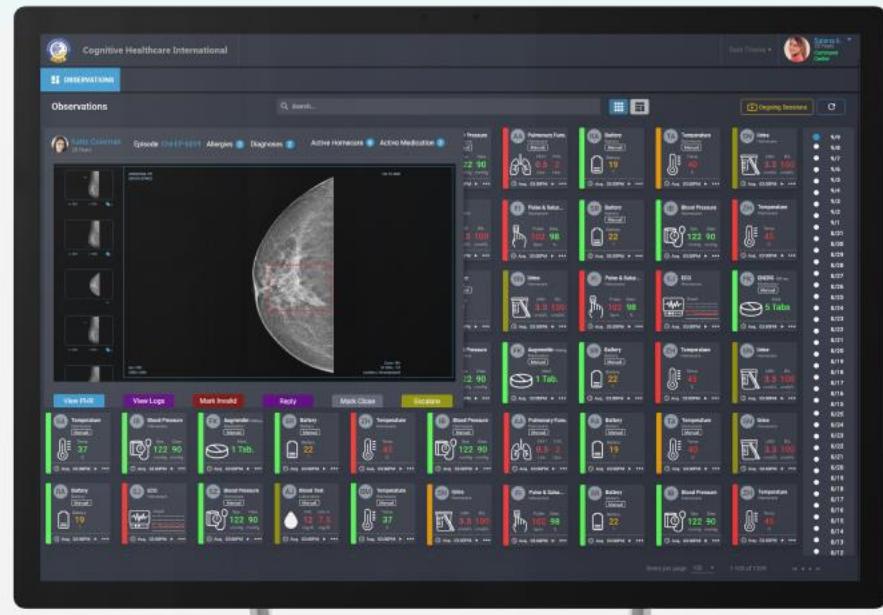
PROPOSITION

02. SOFTWARE & DIAGNOSTICS

A. CLINICAL MANAGEMENT SYSTEM (CMS)

B. PATIENT DASHBOARDS & REPORTING

Provide necessary PACS³ and DICOM⁴ software for image capture and display; it is integrated with patient dashboards for remote interpretation and feedback.



3. PACS: Picture archiving and Communication System
4. DICOM: Digital Imaging and Communications in Medicine

PROPOSITION

02. SOFTWARE & DIAGNOSTICS

C. i. A.I DIAGNOSTIC TOOL

Our robust A.I. based diagnostic solution helps analyzing the mammogram at its best.

Overall accuracy levels achieved are approaching circa 95 percent on a data set consisting of circa 450k images.

You will experience:

- Significantly improved diagnostic performance
- Detected up to an additional 6 cancers per 100 presented
- Could potentially reduce benign biopsies up to 31%
- Improved consistency of interpretation, both inter and intra-operator.



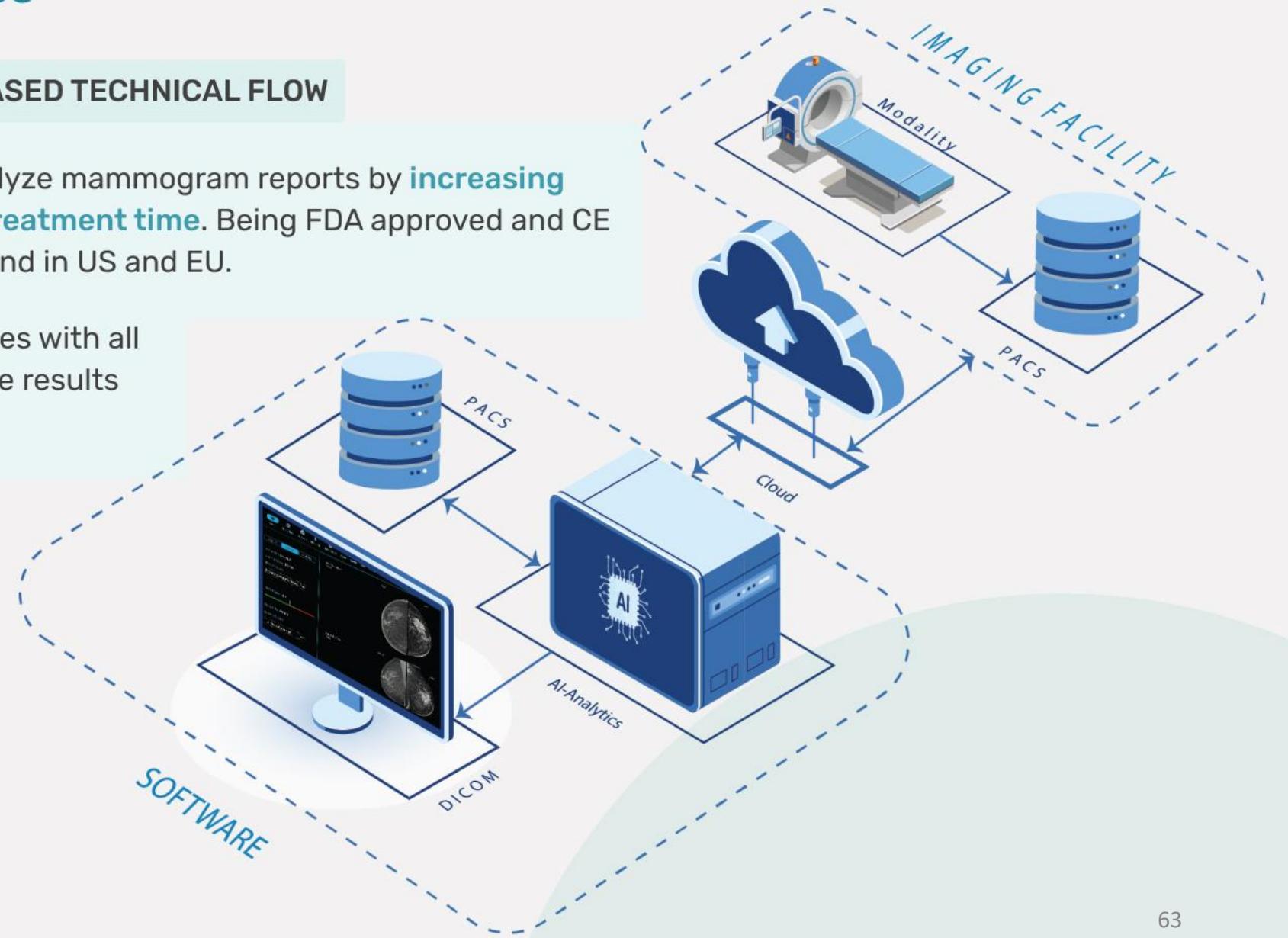
PROPOSITION

02. SOFTWARE & DIAGNOSTICS

C. ii. A.I DIAGNOSTIC TOOL CLOUD BASED TECHNICAL FLOW

A.I Diagnostic Tool is designed to analyze mammogram reports by **increasing diagnostic accuracy & decreasing treatment time**. Being FDA approved and CE marked, it is considered a trusted brand in US and EU.

This A.I Diagnostic Software integrates with all major PACS & automatically sends the results (findings) to the reporting system.

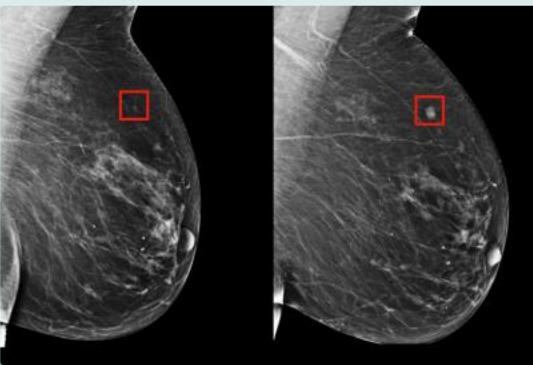


PROPOSITION

03. CONSULTANCY

TELE-RADIOLOGY SERVICES

- i. In addition to automated diagnostics, provide highly trained and qualified radiologists to provide necessary scan feedback.
- ii. Current relationships with multiple cancer centers will be instrumental in providing prompt turnaround services.



MAMMOGRAPHY IMAGES



FEEDBACK BY RADIOLOGISTS





APPENDIX



- Domestic passenger flights suspended in Pakistan ▶ P9
- Terror attack on Sikh-Hindu temple in Kabul kills 25 ▶ P10

Khaleej Times

in f y o khaleejtimes.com

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India's International Bank

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More details:
Send SMS 'HOME' TO 4532

[1522711]

CABINET DECIDES

Huge incentives for malls, shops, hotels, factories

Staff Report

DUBAI — The UAE Cabinet on Wednesday announced a 20 per cent discount on the utility bill of shopping malls, commercial shops, hotels, hotel apartments, and factories.

The concession totalling Dh86 million applies for a period of three months starting from April 2020.

The Cabinet, chaired by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, approved a series of decisions that benefit subscribers of the Federal Authority of Water and Electricity, and support the retail, hotel and industrial sectors. The move is part of the UAE's efforts to ease the impact of the Covid-19 pandemic.

These commercial and indus-

Dubai explores real-time monitoring, virtual check-ups for diabetics

Forty patients were given home-monitoring devices that regularly send data to the Dubai Diabetes Centre

Staff Report

Diabetics need regular medical check-ups to prevent complications. But what if a patient could get all the monitoring done at home and doctors could receive updates in real-time? Experts in Dubai have started a study that could determine how virtual check-ups and telemonitoring could benefit people with diabetes.

The Dubai Diabetes Centre (DDC) on Tuesday announced that they are currently testing a telemonitoring system, with 40 patients selected for the research. Home monitoring devices, a smart pill box, mobile technologies and a software were all provided to track daily patient data, allowing specialists to plan interventional strategies.



POSITIVE NEWS OF THE DAY

Your newspaper is safe to handle, say experts

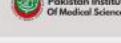
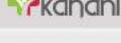
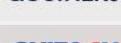
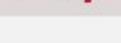
Anjana Sankar

DUBAI — Scientists and top health researchers from across the world have said that newspapers remain safe to handle as newsprint does not spread coronavirus. According to the World Health Organisation, "the likelihood of an infected person contaminating commercial goods is low and the risk of catching the virus that causes Covid-19 from a package that has been moved, travelled, and exposed to different conditions and temperate is also low".

Without a single incident of coronavirus being transmitted through printed materials, experts say the 'proof is in the print' when it comes to the safety of

COMPETITIVE LANDSCAPE

Cognitive Healthcare International (CHI) has the **most diverse and comprehensive suite of services**, complemented by a large library of fully integrated medical devices.

	Online Appointment	Video Calling	Integrated IOT Devices to complement Teleconsult	Homecare	IOT Devices for Patient Monitoring at Home	Control Room for Patient Monitoring	Clinic Management System with EMR	Mini-Lab
 CHI	✓	✓	✓	✓	✓	✓	✓	✓
 Oladoc	✓	✓						
 Sehat	✓	✓						
 PIMS Online	✓	✓						
 Marham	✓	✓						
 Sehat Kahani		✓						
 doctHers		✓						
 Shifa4u	✓	✓		✓				

What Our Patients Say About Us

By affiliating our treatment plans with CHI's remote patient monitoring procedures, we have received great feedback from our patients on their improving conditions.



Her life changed. She's a normal person after the surgery... full of life and joy ... i wish the team in rashid hospital all the best ... thank you very much for helping Zabiba



ZEBIBA MIFTA

16 DEC 21 - 16 MAR 22



My dad gets seen by nurses and doctors every week but after receiving this remote monitoring devices from CHI, we're so relieved that someone is watching out for my dad when we are not with him. We get informed on all criticalities by CHI's devices & their team. Thank You CHI from the Bloushi family!



ALI HASSAN AL BLOUSHI

16 AUG 21 - 16 NOV 21



CHI devices are easy to use plus they bring you peace of mind knowing that i am being watched by trained staff from other end. Thank you CHI!



MOHD. AKRAM RASOOL

07 AUG 21 to 07 NOV 21



The experience is more than I expected & even after the given time by CHI for trial, I am so used to it that still using it & feel safe that I am being taken care of through mobile app & can reach them 24/7. I am very much satisfied with their service 😊



MOHD. REZE
ABDOLRAHIM BAKHT

16 SEPT 21 - 16 DEC 21



Great way to keep up with my blood pressure and water retention monitored from the comfort of my home. Saved time for extra trips to hospital. Felt secured with easy to use devices. I highly recommend this monitoring.



DARYL PULVERA

30 SEP 21 - 28 DEC 21



My dad has been really sick lately, diagnosed with heart failure, which has been really difficult for my family and I to grasp. He's 64 years old and requires constant monitoring, back & forth hospital visits and follow ups on all his medications, which became quite stressful to manage. Ever since we started using CHI services, it has been a lot more peaceful.

The more we used CHI's services, the less our hospital visits became. The devices provided are very easy to use and read, and the medical staff at the command center is ever so helpful, constantly monitoring & taking over when my dad's condition worsened. Ever since we started using CHI, dad hasn't been readmitted to the hospital once.

I'm really thankful to CHI for offering amazing remote monitoring service and not only would I wish to continue using the home-care service, but would also recommend this service to others.



MEERA - DAUGHTER OF
ATEF KEMAL MOUNZER

16 SEPT 21 - 16 DEC 21



Ever since I got discharged from the hospital, I've been using CHI homecare service to monitor my Blood pressure & weight. Service is great, they give devices that are very easy to use and provide quick results. Definitely will recommend CHI home care service to others. Thank you. God Bless 🙏



MARIETA BAJE DAIZ

30 SEP 21 - 28 DEC 21



I'm really happy that a service like CHI exists! I'm 70 and my heart condition has only gotten worse with age. I don't have the strength to make countless trips to the hospital, and it overburdens my wife as well. CHI really impressed me with their quality service and frequent follow ups, without having to leave my home.



LAKHIVIR SINGH

16 MAR 22 - TILL DATE