

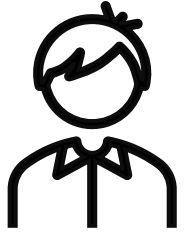
Point-of-Care Diagnostic
Test for Sickle-cell Anemia
**Affordable Lab-quality Test at the
Doorsteps**

CAHOTECH Pitchfest 2024



October 2024

Problem : Sickle-cell Disease (SCD)



Suraj – 9 years old

Born in a village in
Nuapada, Odisha

Frequent debilitating
fevers

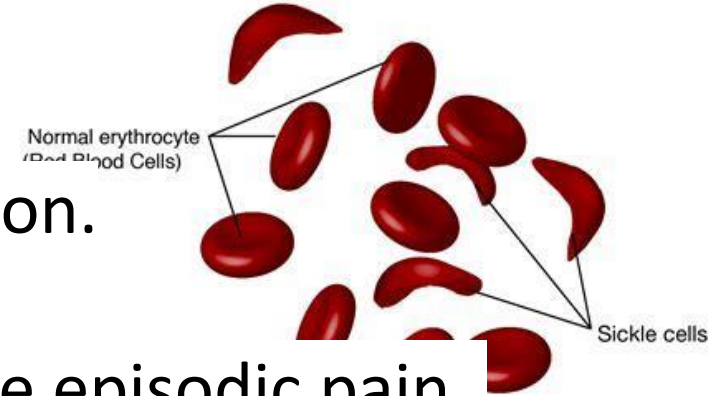
Had to travel 250 KMs
for a sickle-cell test

SCD is an inherited hemoglobin disorder in which red blood cells (RBCs) become crescent- or sickle-shaped due to a genetic mutation.

RBCs become rigid and impair circulation.

Leads to anemia, organ damage, severe episodic pain, and premature death.

HU, Blood transfusion (mgmt.) BMT, Gene Therapy (Cure)



Problem – Access to accurate Tests for early diagnosis

Problem : SCD in India and the World



25

Thousand

babies per year born
with Sickle-cell
Disease

India – 3rd highest number of SCD births in the world



10

Lakhs

SCD patients
identified so far



10

%

Estimated
Carriers

India



3

Lakhs

babies per year
with Hb disorders



15

Lakhs

New patients
per year with
Hb disorders



30

%

die before
age of 18

Global

Effective interventions needed

Solution : Point of care Tests – Benefits

1



Population Screening

- Sickle-cell Anemia

- ✓ Reduce turnaround times
- ✓ Lower overall costs
- ✓ Effective counselling

2



Newborn Screening

- Sickle-cell Anemia

- ✓ Reduce turnaround times
- ✓ Lower overall costs
- ✓ Early detection & management

3



Treatment Monitoring

- HbF quantification

- ✓ Reduce turnaround times
- ✓ Modulate medicine dosage
- ✓ Lower overall costs



Gold Standard Tests: HPLC / Electrophoresis

- 3-5 days – sample to report
- High skill requirement
- Laboratory setup
- INR 20-40 lakh equipment costs
- INR 500-900 per test costs

Early Diagnosis & Prognosis – NHM Mission Goals

Solution : Highlights

Trueheme™



Sicklercert®



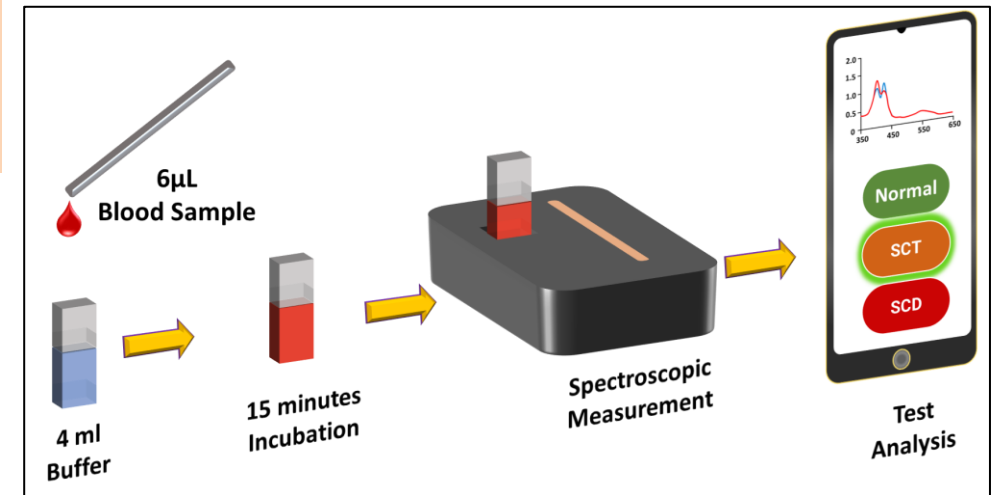
- ✓ CDSCO Mfg. Licenses Approved
- ✓ DHR HTA Recommended
- ✓ Indian patent granted
- ✓ Trademark granted
- ✓ Global Patents filed

Clinical Value Proposition

- ✓ Disease, Trait & Normal classification
- ✓ 98% Sensitivity, 99 % Specificity
- ✓ Single drop of finger prick blood
- ✓ Quantitative results in 15 minutes

Economic Value Proposition

- ✓ Cost-effective as recommended by DHR HTAIn
- ✓ Automated analysis with digital results
- ✓ Reduced repeats/missed cases



Test Workflow

Market Opportunity

80 M

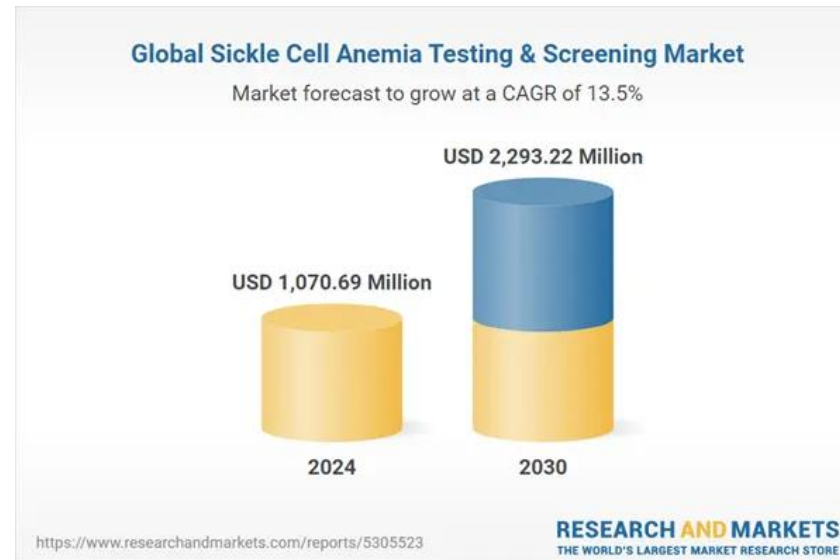
Sickle-cell tests
India – next 3-5 years
INR 700Cr+ GoI Budget allocation

100 M

Sickle-cell tests
India – next 3-5 years
New-born, follow-on HbF tests

300 M

Sickle-cell tests
Africa, ME – next 5-7 years



Business Model and GTM

Business Model

- Sale of devices (one-time) and kits (recurring revenue)
- Per test bundled pricing for specific project implementation

Go-to-Market

Govt

- Molbio Diagnostics as sales channel partner
- State specific distribution partners

NGOs

- Direct – RFPs

Private

- State level Distributors

Global

- Molbio Diagnostics global sales network



Healthcare Unicorn

Global Manufacturing, sales
and Distribution partner.

Competitive Landscape

Lab Tests

HPLC

ELECTROPHORESIS

RT-PCR / PCR

Sanger SEQUENCING

Optical MICROSCOPY

MASS-SPECTROSCOPY

Quantitative & Aids in Treatment
High-Throughput / Batch-Testing

Bulky & Expensive Instruments

Skill Intensive & Venous Blood

Longer Turn-Around-Time

Power Intensive & High Cost per Test

← POCD Test →

HPOS Technology

Point-of-Care Diagnostic Test for SCA

← Device: TrueHEME
Kit: SickleCERT →
Algorithm: AbLightCLASS



Quantitative & Batch-Testing POC Test

Digital Readouts & Reports

Borderline Cases Handling

D2D Testing & Field Camps

Suitable for Dia-/Pro-gnosis

Rapid Tests

Solubility Test

Lateral Flow Assays:

HemoTypeSC

SickleSCAN

MeriSCREEN

SickleCHECK

VoXpress

Alpine

RapiCHEX

NavigeneHB

Low-Cost and Fast TAT
User-Friendly for Field-Testing

Qualitative (Bands / Lines)

Subjective (Misses Borderline)

Less Reliable (Fails in Sickle-Thal)

Not for Management (% HbF)

HPOS Technology offers the **combined merits** of both the “Lab Tests” and “Rapid Tests” with an affordable battery-powered handheld **Device** and cost-effective **Kit** for POC Testing from **Drop-of-Blood** for SCT vs SCD **Classification** as good as **HPLC**

Core Team



ShanMukha



Prof. Sai Siva Gorthi,
Indian Institute of Science
Founder-Director
20 years of R&D, startup
experience



Sairam Chinta
Co-Founder
22+ years of industry
experience



Bhaskar Varanasi
Co-Founder
18+ years of industry
experience



Srinivas Sripada
Advisor
28+ years industry experience



Arun B
Executive Director
21 years of healthcare exp. Global
co, startup



Veerendra Kalyan J
Technical Lead
6 years of industry, R&D
experience



Sujith Vijayan
Product Design Lead
12 years of industrial
design, mfg. experience

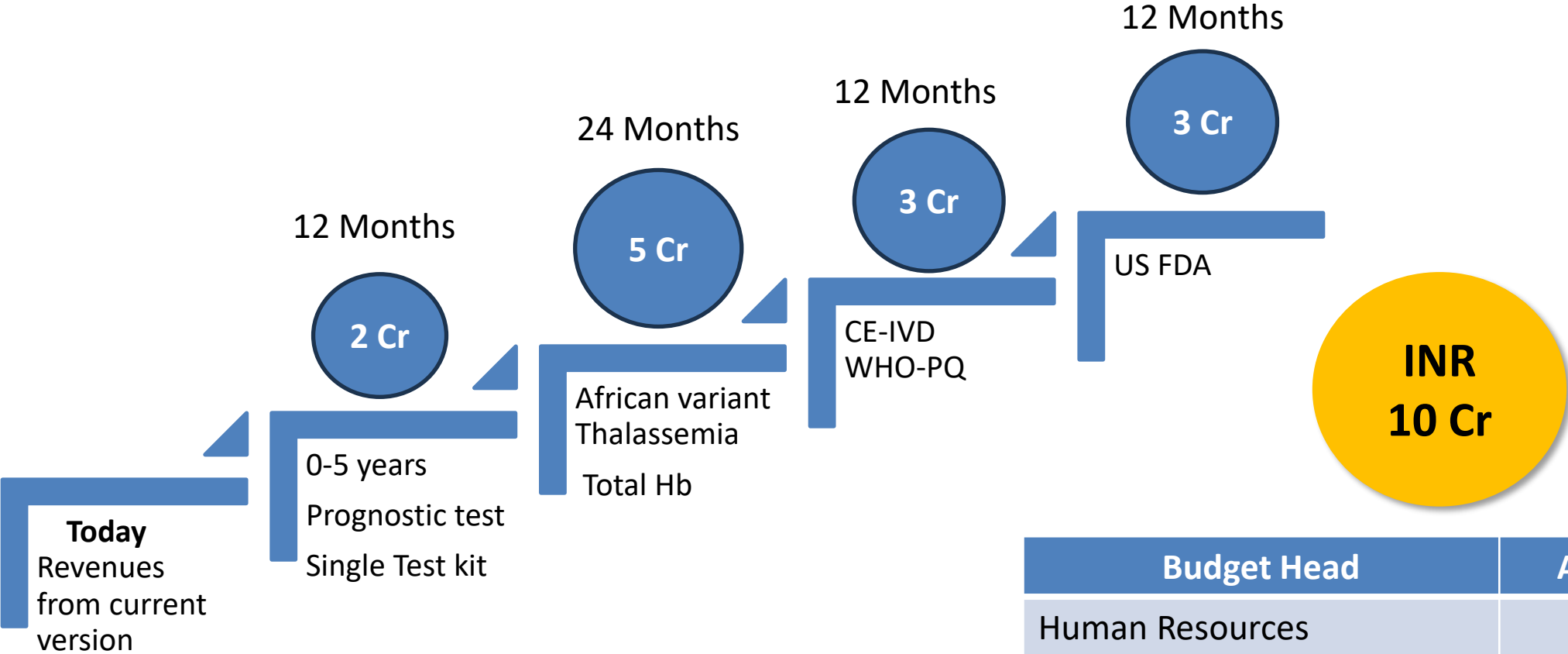


Yatish Dasari
Operations Leader
10 years of sourcing,
operations experience



Lokanathan Arcot
IVD Design Leader
8 years of IVD Industry
experience

Financials and Funding Required



	FY 25	FY 26	FY 27
Revenue Projections	INR 10 Cr	INR 30 Cr	INR 100 Cr

Budget Head	Allocation
Human Resources	40%
Consumables & Devices	20%
Clinical & Analytical studies	30%
Regulatory submissions	5%
Travel & overheads	5%

Traction and Milestones



- CSR Project funded by IOCL – Project Chandana
- Deployed 422 Trueheme devices across 3 districts in Southern Karnataka
- 100,000+ tests have been distributed.
- 70,000+ people have been screened.

Next Key Milestones

- Test simplification
- < 5 years age group
- Thalassemia
- African variants
- Global regulatory approvals



Closing

Support our Mission

To scale an innovative product that solves a **global** public health challenge from **India**

