

Essential Diagnostic Services System (EDSS) - Tamil Nadu

INTEGRATION OF ALL LABS IN GOVERNMENT HEALTH FACILITIES THROUGH HOLISTIC APPROACH

BACKGROUND

- ✓ Lab Services - a major contributor for Out-of-Pocket Expenditure (OOPE).
- ✓ Tamil Nadu - Minimal OOPE in public facilities (71st NSSO analysis) - Already implementing free drugs and diagnostic services through TNMSC.
- ✓ Conceptualized "EDSS Model" under Free Diagnostics Initiatives (FDI) of Govt. of India.
 - ◆ Helps in prevention, screening and treatment.
 - ◆ Aims to further reduce OOPE, to achieve the goals of **Universal Health Coverage**.
 - ◆ Ensuring availability of assured number of essential diagnostic tests at free of cost at various levels.
 - ◆ From HSCs to Apex Lab through "In House Hub & Spoke model".
 - ◆ Patient convenience and satisfaction - "Let the samples travel, Not the Patients"
 - ◆ Served as a good support mechanism during COVID-19 Pandemic.

OBJECTIVES & MERITS OF FREE ESSENTIAL DIAGNOSTICS

- ✓ To ensure the availability of a minimum set of diagnostics appropriate to the level of healthcare.
- ✓ To enable early, appropriate and focused treatment based on accurate diagnosis.
- ✓ To provide Screening tests enable secondary prevention (reduction in morbidity and mortality).
- ✓ To reduce high OOPE incurred by poor and underprivileged patients for diagnostics and reduce their burden.
- ✓ To detect emerging infectious threats.

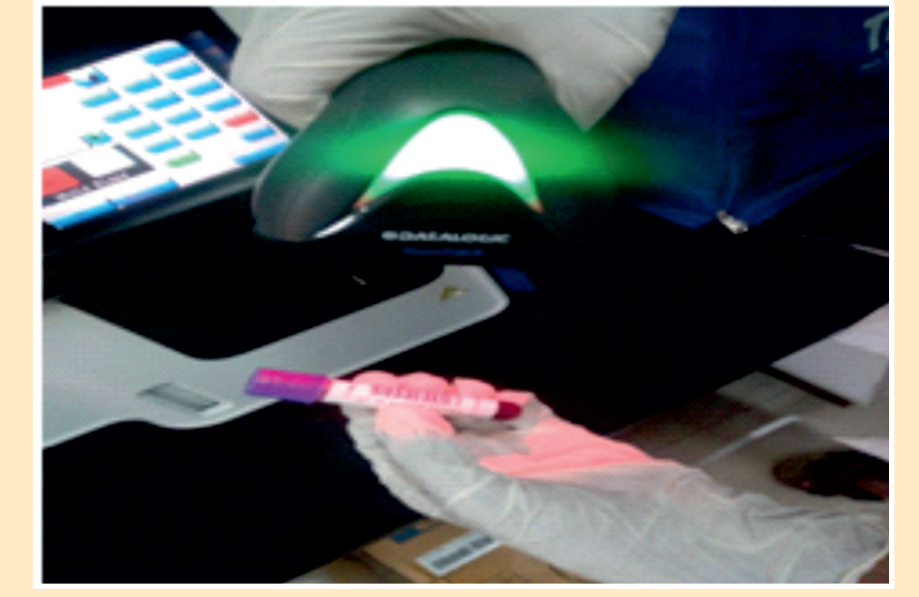


Establishing and Strengthening of Lab Information Management System - LIMS

- Result available online.
- Within the Assured Time Frame.
- Patient need not travel.
- Collecting the results at the Local Institution itself.



- ◆ Semi-autoanalyzer
- ◆ Cell counter
- ◆ Barcode reader
- ◆ Cables for interfacing
- ◆ Computer with UPS
- ◆ Barcode printer
- ◆ Printer A4
- ◆ Broadband connection



Barcode Code Scanning

Software for the Laboratories (LIMS) has been developed as part of the revamped Hospital Management Information System (HMIS 2.0).

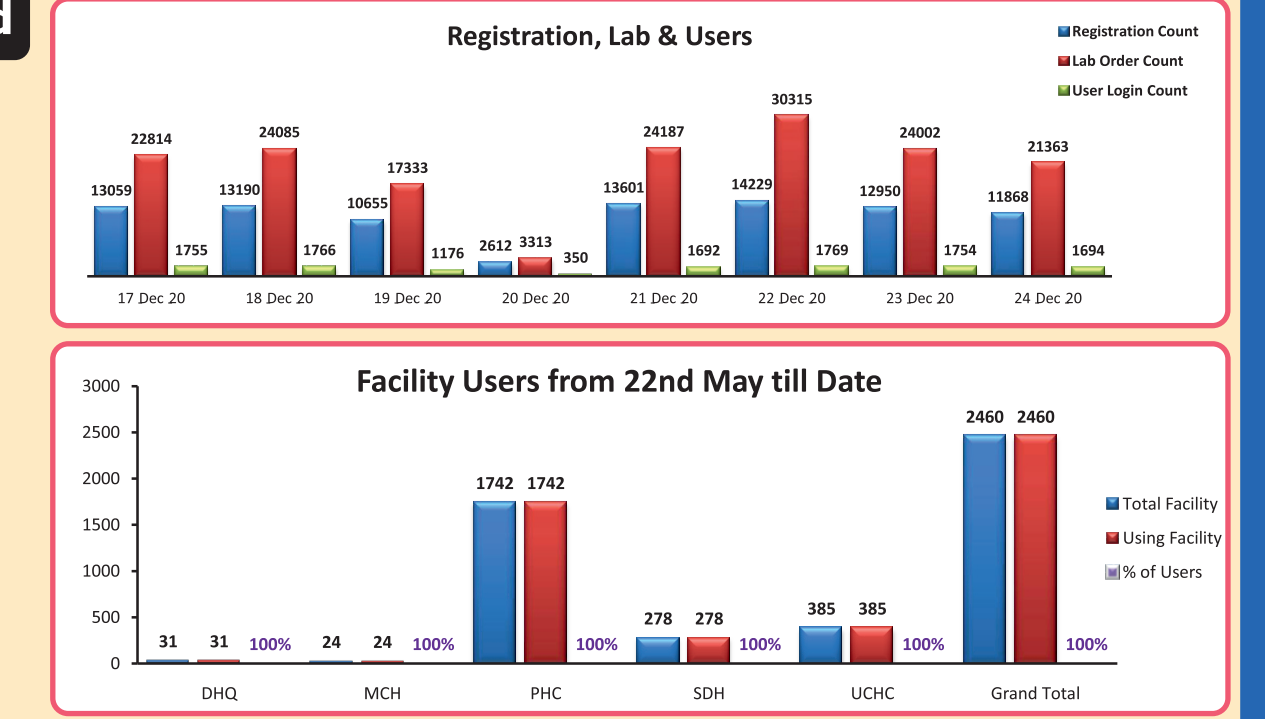
LABORATORY INFORMATION MANAGEMENT SYSTEM (LIMS)

Login Screen, Patient Registration, Lab Test Order, Result Printout, Consolidated Report, District Wise Test Count Report, Lab Consolidated Test Wise Report, Order Transportation Report

Laboratory Information Management System - Dashboard

FACILITY Wise Summary Till 24-12-2020						
S.No	Facility Type	Total Facility	Using Facility	% of Users	User Login Count	Lab Order Count
1	DHQ	31	31	100%	202	32056
2	MCH	24	24	100%	370	154386
3	PHC	1742	1742	100%	1245	985470
4	SDH	278	278	100%	776	353404
5	UHC	385	385	100%	387	352037
Grand Total		2460	2460	100%	3480	1677358

ONBOARD FACILITY STATUS TILL 24-12-2020 (07:00 PM)				
S.No	Modules	Total Facilities	Facility - Using	Facility - Not Using
1	Registration	2460	2442	18
2	Lab Order	2460	2351	109
3	User Login	2460	2460	0



DESCRIPTION OF THE MODEL

1. Assured Test Menu

Sl.No.	Level of Health Facility	No. of Assured Tests at each level	No. of Facilities planned to provide FDI
1.	Health Sub centre	5	8713
2.	Primary Health Centre (including UPHC)	20	1741
3.	Block PHC	25	385
4.	Sub District Hospital	42	273
5.	DHQ	62	29
6.	Non Apex Level (*MCH)	146	21
7.	Apex Level (*MCH)	192	2

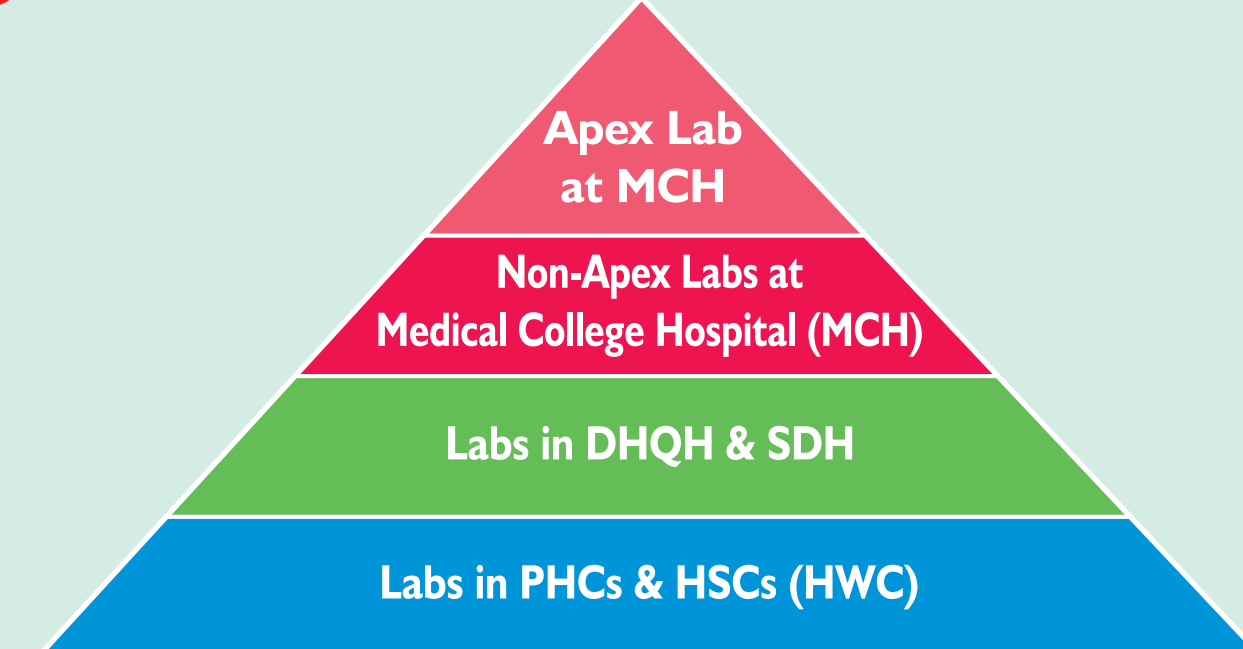
*Medical College & Hospital Lab

NOTE : ALL THE ABOUT TESTS ARE DONE THROUGH IN HOUSE MODEL.

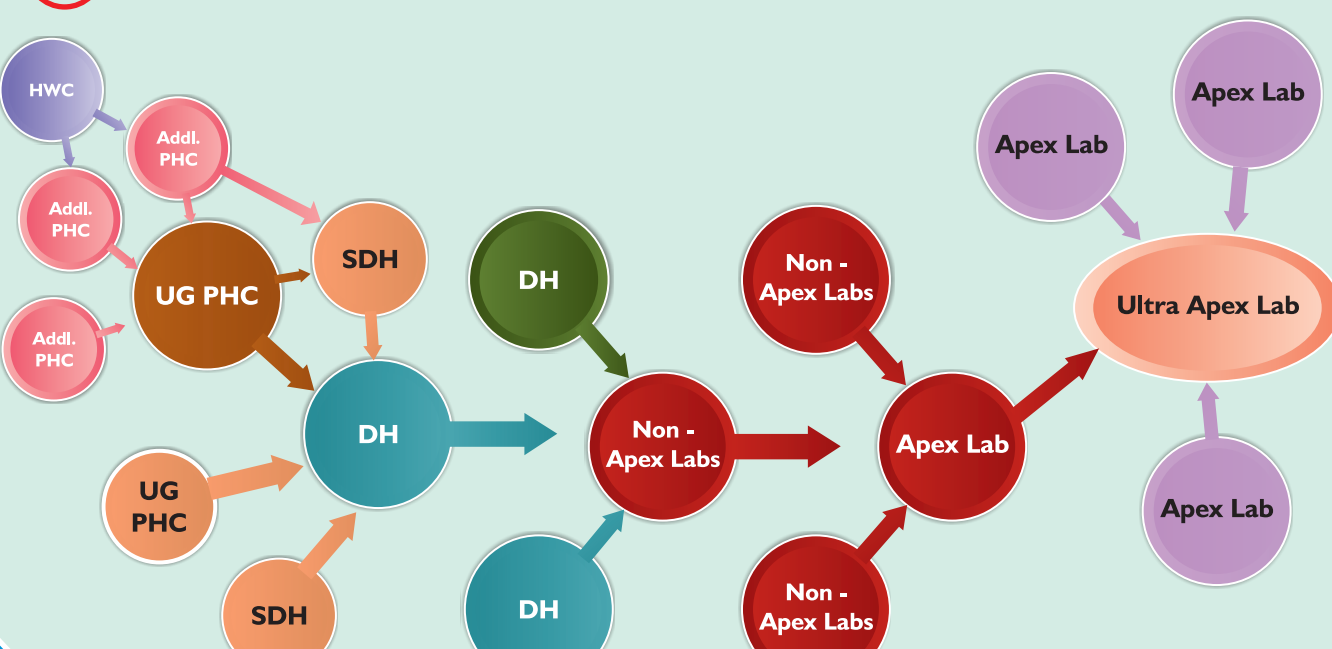
3. Strengthening of existing laboratories

- ✓ Base line Gap Analysis of all Lab equipment and necessary hardware done and strengthened the labs in Pilot Tiruvallur district.
- ✓ Creation of State and District Programme Management Unit District Technical Lab Advisory Committee (DLTAC).
- ✓ Establishing Laboratory Information and Management System (LIMS).
- ✓ Funds provided to procure necessary Lab reagents.
- ✓ The quantity of equipment, consumables, Hardwares and reagents depend on the case load at different levels.

2. Designating the level of Institutions

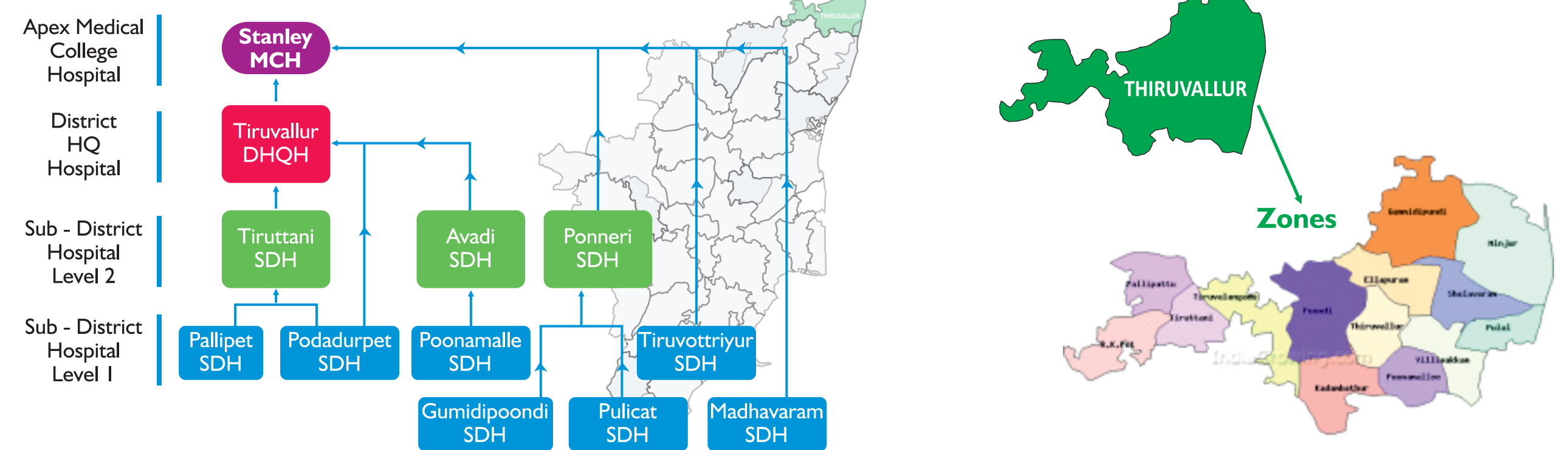


4. Hub and Spoke Model

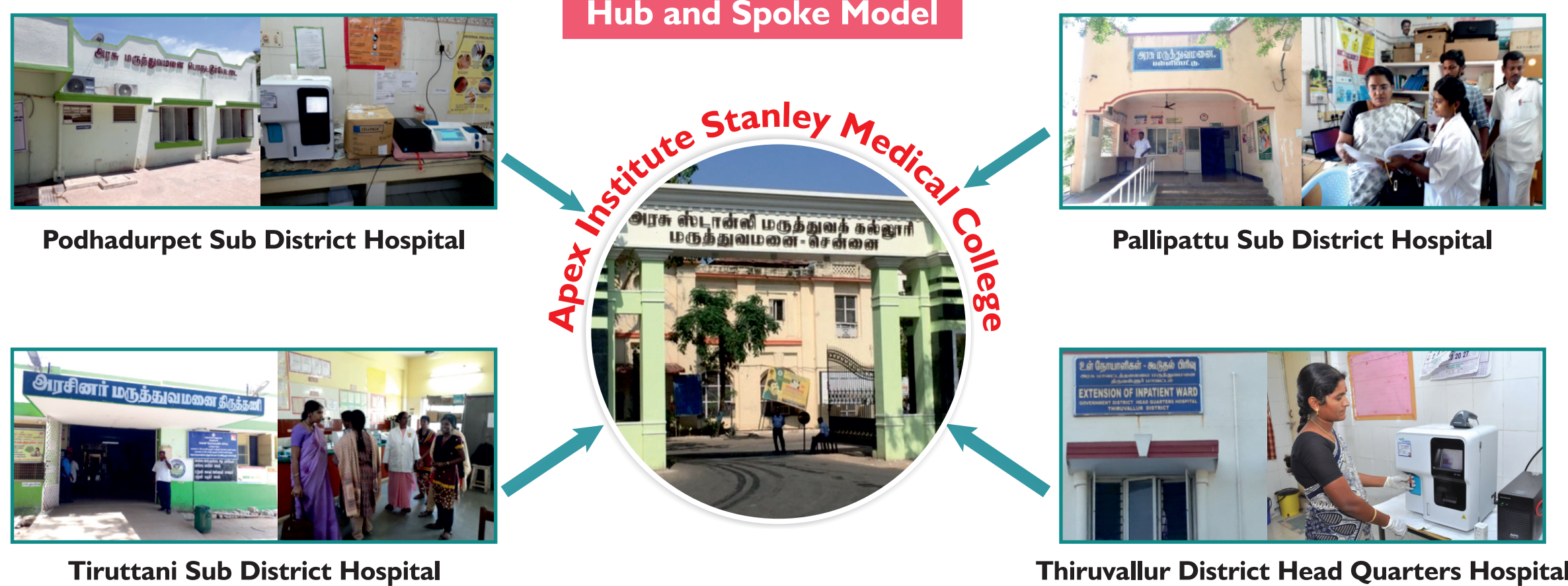


PILOT PROJECT IN TIRUVALLUR DISTRICT

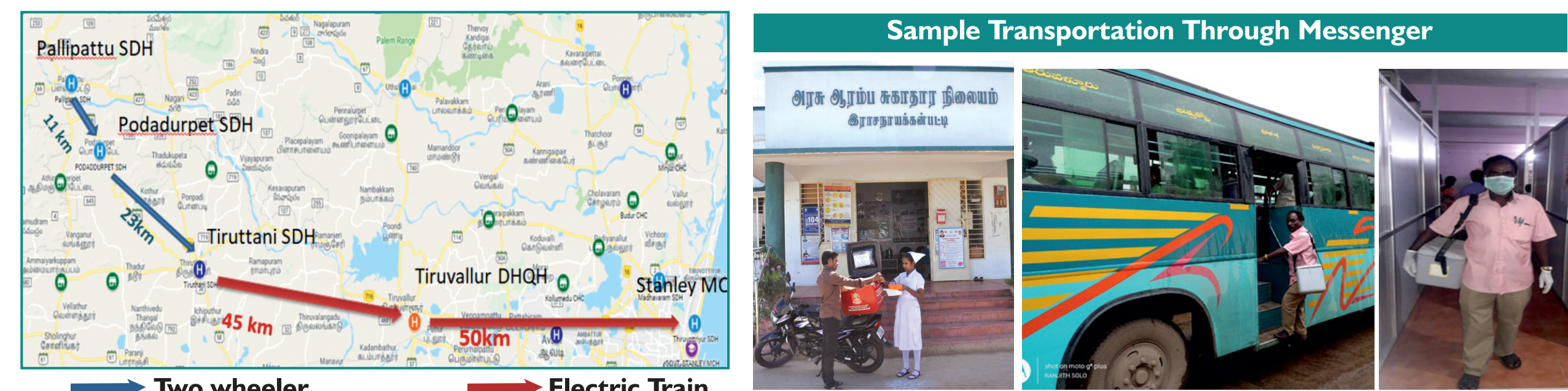
Hub & Spoke Model - District divided into 3 ZONES



Hub and Spoke Model



MOVEMENT OF SAMPLES AND TRANSPORTATION IN ZONE-I TIRUVALLUR DISTRICT



RESULT OF PILOT :

- ✓ Number of In house Lab Tests has increased dramatically.
- Monthly reports show that **18,88,981** number of In house lab tests were performed during the period July 2019 to August 2020 in Pilot district.
- ✓ 5,403 Nos. of samples as been transported through Hub and Spoke Model.

Zone wise Total No. of samples transported July 2019 to March 2020	
Zone I	1194
Zone II	1536
Zone III	2673
Total	5403

PILOT HELPED US

- ✓ To do a detailed thorough landscape gap analysis-to understand the availability of lab equipment & hardware status during this period.
- ✓ To plan for resource allocation and fund allocation based on needs.
- ✓ This pilot period was taken as a time opportunity to map all blocks with all three tiers of nearest Labs for future Hub and Spoke sample transportation during up scaling.
- ✓ Served as a good support mechanism during COVID-19 Pandemic.

LESSONS LEARNT - OBSERVATIONS

- ✓ Hub and spoke model function effectively.
- ✓ Co-ordination between hub and spoke hospitals to be strengthened.
- ✓ Sample transportation - a key issue (Time the sample reaches the apex institution & Mode of transport).
- ✓ Really a boon for patients and society.
- ✓ Needs decentralized planning and monitoring district monitoring.

CHALLENGES - SOLUTIONS PLANNED

- ✓ Internet Connectivity in rural areas - ensuring exclusive connection without interruption (choice of connectivity by the institutions).
- ✓ Continuous availability of reagents - fixing rate contract tender of reagents by TNMSC Ltd.
- ✓ Maintenance of Cold chain in sample transportation .
- ✓ Exclusive storage and transportation as per GOI Guidelines of FDI.
- ✓ Ensuring Proper Turnaround Time for Lab results.
- ✓ Monitoring by Nodal officer (District & State) and LIMS monitoring ensured.
- ✓ Work load in Hub Labs Increases exponentially - issue of HR - Lab Technician addressed.

POTENTIAL FOR SCALE UP - UPSCALING OF EDSS TO ALL DISTRICTS - ACTIVITIES PLANNED

- Formation of Core Expert Committee (Internal & External)
- State wide Gap analysis of Equipment and Hardware component done.
- Strengthening of all Labs with Infrastructure (Lab Equipment and Hardware Equipment)
- Strengthening of Human Resources
 - Recently filled up all posts of Lab Technician in all PHCs
 - One IT Coordinator for LIMS per district is to be outsourced
- Ensuring constant availability of Reagents in all levels (TNMSC)
- LIMS - Software Ready - inter linking of all Spokes with HUB Level Apex Labs
- Hub & Spoke Operationalization
- Strengthening the Monitoring Team/Capacity Building (SPMU/DPMU/DLTAC)

BENEFICIARIES IN IMPLEMENTATION

All the patients visiting the Government Health Facilities.

STAKE HOLDERS IN IMPLEMENTATION

- ◆ National Health Mission, Tamil Nadu.
- ◆ Department of Medical Education, Chennai.
- ◆ Department of Public Health and Preventive Medicine.
- ◆ Electronics Corporation of Tamil Nadu (ELCOT), Chennai.
- ◆ Department of Medical and Rural Health Services, Chennai.
- ◆ Tamil Nadu Medical Services Corporation (TNMSC), Chennai.
- ◆ Tamil Nadu State Health Department - IT team (HMIS).

REFERENCES :

- National Health Mission-Free Diagnostics Service Initiative - Guidance Document for Implementing Laboratory Services in States, MoHFW, Govt of India.
- WHO model of essential in vitro diagnostics , first edition - May 2018.
- Implementing Laboratory Information System in Army corps of Engineer's water Quality Testing Laboratory - SAGE journal dated Oct 1, 2001.
- Availability of essential diagnostics in primary care in India - Mikashmi Kohli et al- Oct 2018, The Lancet.
- G.O (Ms) No 438 H&FW dept (EAP-II-2) Dated 01.10.19.

CONCLUSION

This programme of Lab strengthening will be really a boon to the public by reducing OOPE (Out-of- Pocket Expenditure) and makes diagnostic services easily available, accessible and quality driven at free of cost to needy public.

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"LET THE SAMPLES TRAVEL, NOT THE PATIENTS"