Government of Tamil Nadu

Health & Family Welfare Department

Quality of Care Strategy (TN QoCS)

TNHSRP
Access, Equity, Quality

Tamil Nadu Health System Reform Program
(Program for Results supported by World Bank)

WORLD BANK

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1. Introduction - Accelerating Transformation to a High-Quality Health System in Tamil Nadu

Health outcomes are a function of both quantity and quality of health services. Every year, around 8.6 million lives in low- and middle-income countries could be 135saved by high quality health systems (Lancet Commission 2018). Among those, 5 million deaths are due to poor quality among people using health care while 3.6 million from lack of access.

This Quality of Care(QoC)is also a bulwark against outbreaks like Anti-Microbial Resistance (AMR) and other public health emergencies. Cost of substandard/unsafe care is not just in terms of avoidable morbidity and mortality. There is also a huge economic cost (wasteful spending, catastrophic household expenditures, etc.). For the above reasons, QoC must be at the core of health system strengthening and needs to be addressed proactively. Quality of health care services is critical for achieving universal health coverage. As countries commit to achieving Health for All, it is imperative to ensure health services provided are effective, safe and people centered.

Tamil Nadu (TN) is one of the role model sin health for many other states in India. It has significantly improved acces sand utilization of health services over the past decades. Quality is the next frontier to further improve health outcomes for its people, and quality improvement in a systematic, strategic manner is the logical next step. This is all the more important in the context of epidemiological and demographic transition in TN, namely with an aging population and the increase in the burden of disease due to non-communicable diseases (NCDs), which is compounded with the already existing and increasing communicable diseases. There are more people with chronic and complex conditions whichneed highly skilled, continuous, people-centered and integrated care. Moreover, as TN moves up the ladder in socioeconomic development, people's expectations of health services also rise. The quality of health services needs to step up to keep pace with people's mounting expectations.

With this motivation, the Government of TN (GoTN) is highly committed to improving quality of care and has worked with a coalition of stakeholders in a consultative manner to develop this comprehensive Quality of Care Strategy (QoCS). The Tamil Nadu Quality of Care Strategy is the first of its kind in India to systematically improve quality of care using a comprehensive framework.

2. VISION & LOCAL DEFINITION OF QUALITY

Tamil Nadu defines quality of care as "people-centred, safe, timely, and integrated health services in line with established quality standards".

Box 1: Dimensions of the TN QoC definition

(I) People-centred: Positive experience provided to the patient, family and community at large in times of need, preferences and values

(ii) Safe: Delivering health services utilizing the safest means possible and reducing avoidable harm to both patients and providers

(iii) Timely – Reducing waiting time to the population and waiting time sufficiently short to prevent

patient harm

(iv)Integrated: Bridging gaps in patient care within clinical settings, comprehensive communication across the health sector to maintain seamless transition of patient care, the full range of health services throughout the life course

(v) Effective (Established quality standards): Provide evidence-based health care services to those who need them. Quality standards encompasses competent care standards and positive user experience standards.

- First and foremost, TN standards would be prioritized/applied
- Where TN standards do not exist, Indian standards would be adopted
- Where Indian standards do not exist, WHO and other international standards would be adopted

3. GUIDING PRINCIPLES

Box 2: Guiding principles for QoC in TN

(I) GoTN recognizes that quality is a core component of Universal Health Coverage (UHC) and is committed to guarantee quality health services.

(ii) There is no single silver bullet to improve quality of care. TN will therefore address QoC from different angles, using a set of prioritized interventions, taking into account what works well, the state's culture and values, health priorities, capacity of the health system and available resources. System-wide interventions at state level (macro level) will receive special attention

(iii) TN will build an ecosystem for quality in which all relevant stakeholders at all levels have a role to play. At the heart of this ecosystem are patients, their families and communities who are empowered to pro actively take care of their health, demand and seek quality care from the system and hold the system accountable for quality

(iv)TN recognizes that cultivating a culture that recognizes, values and strives for quality is as important as implementing specific technical interventions

(v) TN will measure selected relevant indicators related to competent care, user experience and health/patient outcomes in both public and private sectors as the entry point for quality improvement. Such information will be made public to inform citizens. Reporting on quality of care will be part of District and State Health Assemblies

(vi) Quality improvement in TN is a continuous journey. To improve quality, TN health system will be a self-learning, adaptive system – which continuously monitors quality of care, understands the quality problems, comes up with innovative solutions, identifies mistakes to avoid and success to scale up – while learning from and sharing its experience with other states and the global heath community. In light of this, the TN QoCS (including the QoC measures and interventions) is subject to periodic updates and fine-tuning

4. CULTURE OF QUALITY

Culture of quality as per the WHO handbook is generally understood to mean that, at all levels of a health system, there is an inherent and explicit recognition of the value of efforts to improve the quality of care, and such efforts are systematically promoted within an enabling environment that encourages engagement, dialogue, openness and accountability. In line with this, the TN QoCS recognizes the importance of the following:

- Leadership for quality at all levels
- Openness and transparency
- Emphasis on teamwork
- Accountability at all levels
- Learning embedded in system
- Active feedback loops for improvement
- Meaningful engagement between staff, service user and community.
- Empowering individuals while recognizing complex systems
- Alignment of professional and organizational values
- Fostering pride in care
- Valuing compassionate care
- Coherence of quality efforts with service organization and planning

5. SITUATIONAL ANALYSIS – "STATE OF QUALITY" IN TAMIL NADU

1. An Overview of TN's Health System

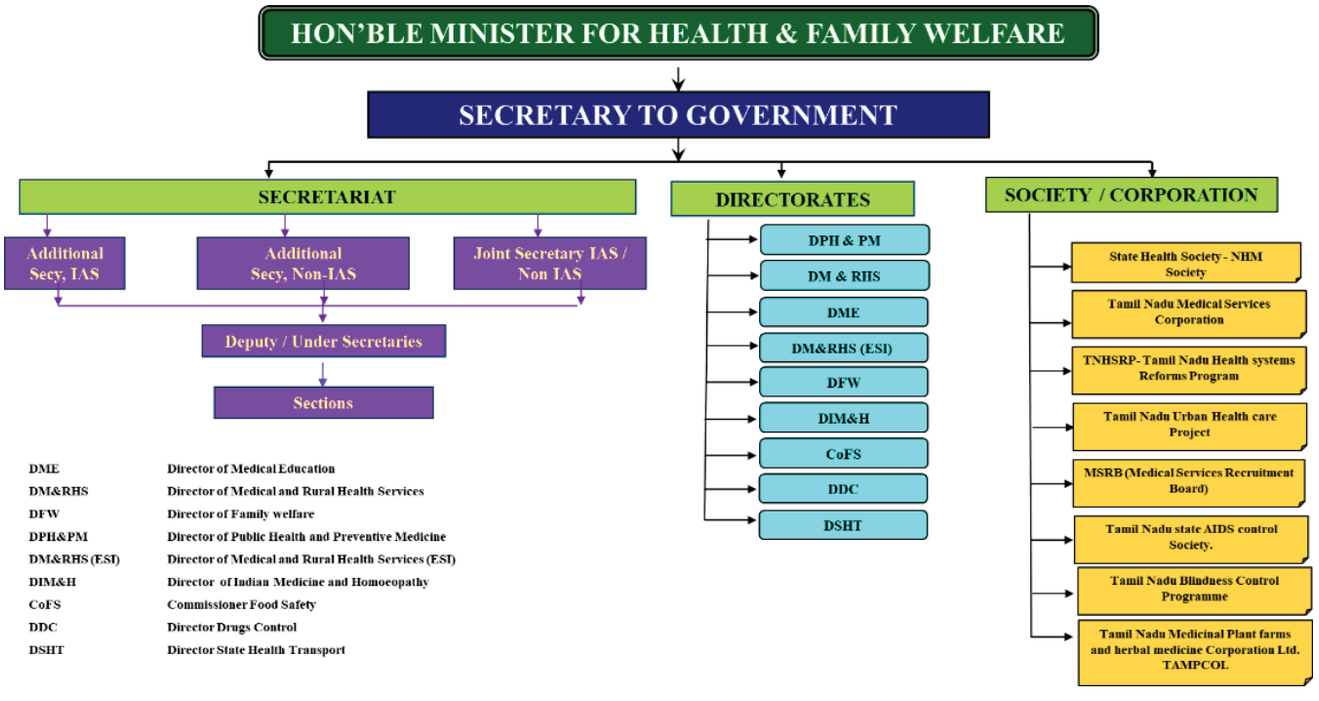
TN is the sixth most populous state in the country with a population of 72 million and a decadal population growth rate of 15.6%.It is one of the socially and economically progressive states in the country with 48% of its population living in urban areas and a female literacy rate of 73.4%. Scheduled caste represents 20% of the state's population, Scheduled tribes (ST) 1% and other backward classes contribute to 68%(Census 2011).TN is the second largest economy experiencing a steady economic growth rate[8.17% in 2018-19, Ministry of statistics and Programme Implementation) with a considerable decline in poverty – 12%. (WB brief Jan 2018)

The Government program comprises of work programmes implemented through Directorates, Departments, Societies and Corporation under the Department of Health and Family Welfare (DoHFW). The health services are implemented mainly through four directorates – Directorate of Public Health and Preventive Medicine (DPH&PM), Directorate of Medical and Rural Health Services (DM&RHS), Directorate of Family Welfare (DFW)and Directorate of Medical Education (DME). There is also a separate Directorate for the Indian System of Medicine and Homeopathy providing health services through alternate system of medicine. Tamil Nadu Food Safety and Drug Administration (TNFSDA) carries out activities related to food safety and quality control of drugs. The State Health transport department procures and maintains vehicles of the health department. Tamil Nadu Medical Services Corporation procures and supplies drugs, equipment and consumables for the entire health departments of the State.

Keysocieties are National Health Mission (NHM) and Tamil Nadu Health Systems Project (TNHSP) and the Tamil Nadu AIDs Control Society (TANSACS). NHM focuses on public health management and service delivery by providing additional flexi funding for innovations and to address gaps in

service delivery. Key areas of focus of NHM includes RMNCH+A, communicable diseases, NCDs, urban health, mental health, quality of care and health system strengthening including forging partnerships with the private and non-government sector for improving service delivery.TNHSP, World Bank funded Project in 2005 is now responsible for 108 emergency ambulance schemes, Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS) and Tamil Nadu Urban Health Project (TNUHP) funded by Japanese International Cooperation Agency (JICA).

Figure- 1. Tamil Nadu DoHFW Organogram



The state has 37 Revenue Districts and for better management of public health services, the state has been divided into 42 Health Unit Districts in addition to Chennai Corporation. Health services in state are provided both by the public and private sector. Tamil Nadu has a unique model of public health care delivery system functioning through its three Directorates. The primary level services are provided through 8713 Health Sub Centers (HSC) and 1806 Primary Health Centers (PHC) managed by the Directorate of Public Health and Preventive Medicine. The secondary level care is provided through the 29 District hospitals and 273 Sub District hospitals managed by the Directorate of Medical and Rural Health Services and tertiary care is provided through the 24

Government Medical Colleges and 49specialty hospitals attached to it, which functions under the Directorate of Medical Education.

The Health department has staff strength of over one lakh persons serving for an average of 6.5 lakh out-patients and 70,000 in-patients per day. There is a strong presence of public health services in the state, with 63% of the population using the public health facilities. Eighty six percent of the households in the poorest wealth quintile seek care at the Government health facilities. The rural population are more likely to use the Government health facilities. Inter district variation does exist, which ranges from 42% in Kanyakumari and 82% in Nilgiris.

Table 1: Health outcomes in Tamil Nadu

Indicator	Tamil Nadu	India
Maternal Mortality Ratio (MMR) (SRS 2015-17)	63	122
Infant Mortality Rate (IMR) (SRS 2017)	16	33
Neonatal Mortality Rate (NMR) (SRS 2017)	11	23
Under 5 Mortality Rate (U5MR)(SRS 2017)	19	37
Percentage of Men with hypertension (15-49 yrs) (NFHS 4)	17.6	15
Percentage of women with hypertension (15-49yrs) (NFHS 4)	11.5	11
Percentage of Men with hypertension under control (NFHS 4)	0.7	0.5
Percentage of Women with hypertension under control (NFHS 4)	1.5	1.1
Percentage of adult women (15-49) ever screened for cervical cancer (NFHS 4)	23.1	22.3
Percentage of adult women (15-49) ever screened for breast cancer (NFHS 4)	15.4	9.8
Percentage of adult women (15-49) ever screened for oral cancer (NFHS 4)	12.1	12.4
Percentage of current contraceptive users ever told about side effects of the current method (NFHS 4)	76	46.6

Table:2. Coverage of Key Services

Indicator	Tamil Nadu	India
Average Out patients attending public health facilities	6,50,000	
Percentage of women with at least four ANC visits (NFHS 4)	81.2	51.2
Percentage of women with full ANC care (4 ANC visits, 100 days of IFA tablets/ syrup, 1 TT inj) (NFHS 4)	45	21
Percentage of institutional delivery (NFHS 4)	99	78.9
Percentage of cesarean section deliveries (NFHS 4)	34.1	17.2
Average Out of pocket expenditure per delivery in public health facility INR (NFHS 4)	2609	3197
Modern contraceptive prevalence rate (Adoption of any modern method) (NFHS 4)	53.5	52.6
Percentage exclusive breastfeeding for six months (NFHS 4)	48.3	54.9
Percentage of early initiation of breast feeding (NFHS 4)	54.7	41.6
Percentage children (12-23 months) fully immunized (NFHS 4)	69.7	62
Mortality rate from RTA/100,000 accidents (WHO & TN Dept. of HFW)	22.4	16.6
Suicide rates per 100,000. (NCRB 2014)	23.4	10.6

2. Present Status of Quality of care

TN is working towards improving quality, but considering the fragmentation of efforts, quality of care has to be prioritized and strengthened further as a cross cutting agenda for strengthening the health systems in the state. A fundamental quality of care challenge is the limited and fragmented nature of QOC data.

a. Patient outcomes

What has been happening in maternal health outcome is a good indication of the quality challenge in Tamil Nadu. Despite near-universal facility-based deliveries, and recent reduction in maternal deaths (from 90 deaths per 100,000 births in 2005 to 63 deaths per 100,000 births in 2015-17, which is better than India average), the MMR is yet to be brought down in par with the countries of similar development. This points to challenges in quality of institutional deliveries. Quality of ANC is also an issue of concern. While 81 percent of women receive four or more ANC checkups, only 43 percent of pregnant women receive all recommended services during the visits (NFHS-4), reflecting challenges in quality of care. Rates of caesarean section births stand at 34 percent, which is substantially higher than global recommendations of 15 percent. As caesarean sections are associated with increased short-term risks, increased risks for future pregnancies, and higher costs, the elevated rate of caesarean sections is another indication of challenges in the quality of maternal health care in Tamil Nadu.

Certain vertical programs systematically monitor patient outcomes, such as TB and Leprosy. These patient outcomes reflect quality of care of such vertical programs, rather than quality of the entire health system. However, it is worthwhile to examine them as a part of the "state of quality". The treatment success rate of TB in 2017 was 71% in TN which was almost similar to the national average of 70%. It is to be noted that the treatment success rate was almost 82% in public sector compared to 55% in private sector. In the Leprosy program new grade 2 disability cases identified was 1.85/million which was much lower compared to India which was 3.34/million. In relation to the Non Communicable Diseases (NCDs), NFHS 4 has identified that only0.75% of men and 1.5% of women had their hypertension under control.

b. Patient satisfaction/experience:

As per NFHS 4, in TN almost two thirds in rural area and half in urban area access public health facility for their health needs. Among those not seeking care at public health facility, "poor quality of care" was cited by 37%of people and long waiting times by 47% of people as reasons as per NFHS-4.There have been several initiatives to improve experience of women for Ante NatalCare (ANC)and delivery services like the birth companion program, maternity picnic, bangle ceremony and birth waiting rooms. All these initiatives have also contributed to the current high coverage – 98.9% ofinstitutional deliveries in the state. (NFHS-4)

However, there are concerns still existing to be addressed. For example, lack of awareness about vaccination and obstacles such as child's illness and inconvenient timing of vaccination appear to be the main reasons for incomplete or non-vaccination. In a study examining the drop in age-appropriate vaccination coverage in Tamil Nadu, Murhekar et al. (2017) found that among mothers whose children were not fully vaccinated the main reason for no or partial vaccination was lack of knowledge about the immunization schedulein 14 percent of women. In addition, 10 percent were unaware that they had to come back for the second and third doses. Almost 12 percent of children were inappropriately vaccinated , either before the recommended age of vaccination or the interval between the two doses was shorter than recommended. The majority of inappropriately vaccinated children in Tamil Nadu received vaccines before the recommended age (Murhekar et al., 2017).

Patient satisfaction measurement has been undertaken as a part of the national Mera Aspatal app and is implemented across all public health facilities and few empanelled private hospitals.While this initiative captures the patient satisfaction on a few parameters, a comprehensive and actionable monitoring of patient satisfaction is to be done in the state. Furthermore, patient experience has not been measured in TN. Patient experience is regarded as a core component of healthcare quality and conceptualized as patient's experiences of care with feedback received from patients regarding their experiences. While patient satisfaction is about whether a patients'

expectations about a health encounter were met and what the patients felt about their care.Patient experience is about whether something that should happen in a health care setting actually happened or how often it happened. Patient satisfaction and patient experience are often used interchangeably, but while they are related, they are very distinct concepts. Two people who receive the exact same care, but who have different expectations for how that care is supposed to be delivered, may feel different levels of satisfaction. As such, measuring and improving patient experience is more powerful in improving quality of care.

c. Content of care

While 81 percent of women attend the recommended four or more ANC visits, only 43 percent of pregnant women receive all recommended services during ANC visits. Institutional deliveries are 99% in the state, but the caesarean section rate in the state is 34% which is higher than the global recommendation of 15%. Adoption of any method of family planning is 52% (NFHS 4) in TN of which 94% are female sterilization, 0.4% is male sterilization and the remaining includes onlytemporary methods. Poor adoption of temporary contraceptives is visible. There is inter-district variation of contraceptive prevalence rate ranging from 23% (Virudhunagar) to 65% (Coimbatore). The status of fully immunized children was around 69.7% with variation among districts ranging from 39% (Nagapattinam) to 93% (Tiruppur). The state has impressive coverage for the maternal and child health services, however there are variations in the content of the service among districts.

TN is dealing with a dual burden of disease, while emerging and re-emerging communicable diseases continues to be a problem, there is a growing burden of NCDs. NCDs account for nearly 69 percent of deaths and 65 percent of disability-adjusted life years.An aging population also indicates evolving health care and health system requirements that will need to be met. Cardiovascular disease, diabetes, and cancer are the leading causes of death for those above the age of 40. Almost one-third of the adult population is overweight, and 12 percent of women and 10 percent of men have hypertension (NFHS-4). Furthermore, only 1.5percent of women and 0.7 percent of men with hypertension have it under control (NFHS-4), indicating both supply and demand-side challenges to the management of risk factors for NCDs as well as quality of NCD

management. While in 2016, NCDs were the leading cause of death for individuals above the age of 40, suicide and violence, cardiovascular disease and transport injuries were the leading causes among ages 15-39. The incidence of suicide and violence is particularly high among those aged 15-39yrs.

d. Structural Quality

Almost 63 percent of the state's population choose public facilities when a household member is ill (which is higher compared to other states except for Kerala), but this ranges from 42 percent in Kanyakumari district to 82 percent in the Nilgiris. Notably, the poor are more likely to seek care at public facilities – 86 percent of households in the poorest wealth quintile typically seek care at government facilities, compared to 27 percent of households in the richest wealth quintile. Rural households are also more likely to use the public sector than urban households (74 percent versus 53 percent, respectively).

Tamil Nadu has forwarded the agenda of quality through accreditation, National Quality Assurance Standards (NQAS), which is for the primary and secondary level health facilities is being implemented in the State and as on 1st Dec 2019, 28 District (Dt) and Sub District hospitals (SDHs) and45 Primary health centers (PHC) and Community Health Centers (CHCs) are NQAS certified. One hundred and fifty PHC/CHCs had internal assessment completed, ofthese 68 facilities had score of 70% in assessment. The medical colleges in the state are yet to be accredited. Kayakalp an initiative to promote cleanliness and enhance quality of public health facilities is implemented across the state and 24 health facilities have received Kayakalp award during the year – 2018-2019.

The state has a mechanism of centralized procurement and supply of drugs and equipment through TNMSC which has ensured availability of quality drugs to all facilities. The state also has a Medical Recruitment Board which is a single recruiting agency for all the departments within the public health system.

BOX -3. Some Quality Achievements in Tamil Nadu

Timely – Average response time of ambulance services in the state has led to significant reduction from 15.04 min in 2017 to 13.48 min in 2018, and within the City from 11mins in 2017 to 8.36 mins in 2018. Working for further progress to reduce response time.

Safe – Post-delivery complications has declined from 18.8% (DLHS-3) to 13.9% (DLHS-4). Efforts are being taken to reduce it further

Integrated - Though concentrated efforts are made integrating with nutritional services, anaemia still continues to be a major problem among children - 50.4 % (NFHS 4) and women in the reproductive age -54.8% (NFHS4), this still remains as a challenge

People Centred - Many initiatives like maternal picnics, birth companion, bangle ceremony, etc. have improved the patient experience at public facilities especially related to deliveries, which is evident through the increased percentage of deliveries in public facilities from 48.4% (NFHS-3) to 66.7% (NFHS 4), now shifting focus from coverage to provision of quality delivery care

Effective - 28 Dt & SDHs and 45 PHCs &CHCs are NQAS certified. Internal assessment and gap analysis is in progress to certify the remaining primary and secondary health facilities cover the remaining primary and secondary health facilities. Process for NABH accreditation in 10 medical colleges initiated.

3. An Overview of TN's Journey in improving Quality of Care

Improving QoC is not new to TN as various quality improvement initiatives started in early 1990. The very first initiative was to improve quality of medical supplies through the establishment of Tamil Nadu Medical Services Corporation (TNMSC), which was the first model for the country in centralized standardized quality procurement of drugs, equipment and medical supplies. The TNHSP initiated the process of National Accreditation Board for Hospitals & Healthcare Providers (NABH) accreditation for district hospitals and International Organization for Standardization (ISO) certifications of PHCs. Subsequently the TNHSP also started monitoring the clinical quality of care indicators in all the DH/SDHs. Quality circles were also established in all the hospitals of TN to promote continuous peer learning and review for improving quality. However, these initiatives were not systematic or sustained beyond the TNHSP period.

In parallel to these initiatives in TNHSP, implementation of the National Quality Assurance Standards (NQAS) certification for health facilities was started in TN by NHM in the year 2015-16. This initiative established state and district level quality assurance committees and supported various facilities for NQAS certification. As of now 45 PHC/CHCs and28 secondary care facilities have received NQAS Certification in the state.

The maternal and child health programs also implemented various quality improvement activities like the state level emphasis on quality ANC in 1990s, peer assessment and certification of facilities within the state, maternal death audits, the modified emergency obstetric warning system for timely referral (MIOS) and, more recently, the Labour Room Quality Improvement Initiative Guideline (LaQshya) - the labour room quality initiative program which certifies the labor wards. On the regulations front, the state brought in the clinical establishment act (CEA) and amended the rules in 2018, making registration of private entities mandatory with Directorate of Medical Services. Vertical programs like HIV / TB etc. havealso initiated parallel quality improvement mechanisms within their respective programs like accreditation of labs, etc. The GoTN also has been ensuring various licenses and registrations required for the hospital to function like fire safety, pollution control, etc. and will continue to do so as a part of the endeavor to facilitate quality of care.

The state currently has a myriad of data management systems like the Pregnancy and Infant Cohort Monitoring and Evaluation (PICME) for capturing mother and child related information and Health Management Information System (HMIS) consisting Hospital management system (HMS), Management Information System (MIS), College Management System (CMS) and University automation system (UAS). HMS and MIS are two major applications of the health department where data flows from community till tertiary care centres and vis-à-vis. Apart from this there are around 120 software applications being used by health staff at various settings like community, hospitals, labs, supply chain management and administration.

IT based health applications / Health Management Information system (HMIS)platform in the State are in silos having fragmented patient medical history which limits the health provider to access the available patient information. Unique Health Identifier across the health applications and common master list of facilities, address, family folders, variables are gaps in the existing HMIS. The existing HMIS in the current state cannot respond to needs in real time at the individual and/or population level. Currently data management systems do not record information related to quality of care across all the domains with respect to individual facilities or programmes. However, there are few programs and facilities which are NQAS accredited, which collect limited information on quality. Due to this disparity of recording quality of care, the data management system is not capturing information on quality across the facilities in the state comprehensively. Along with this there is no effort in recording any quality of care related information from the private sector.

Reflections:

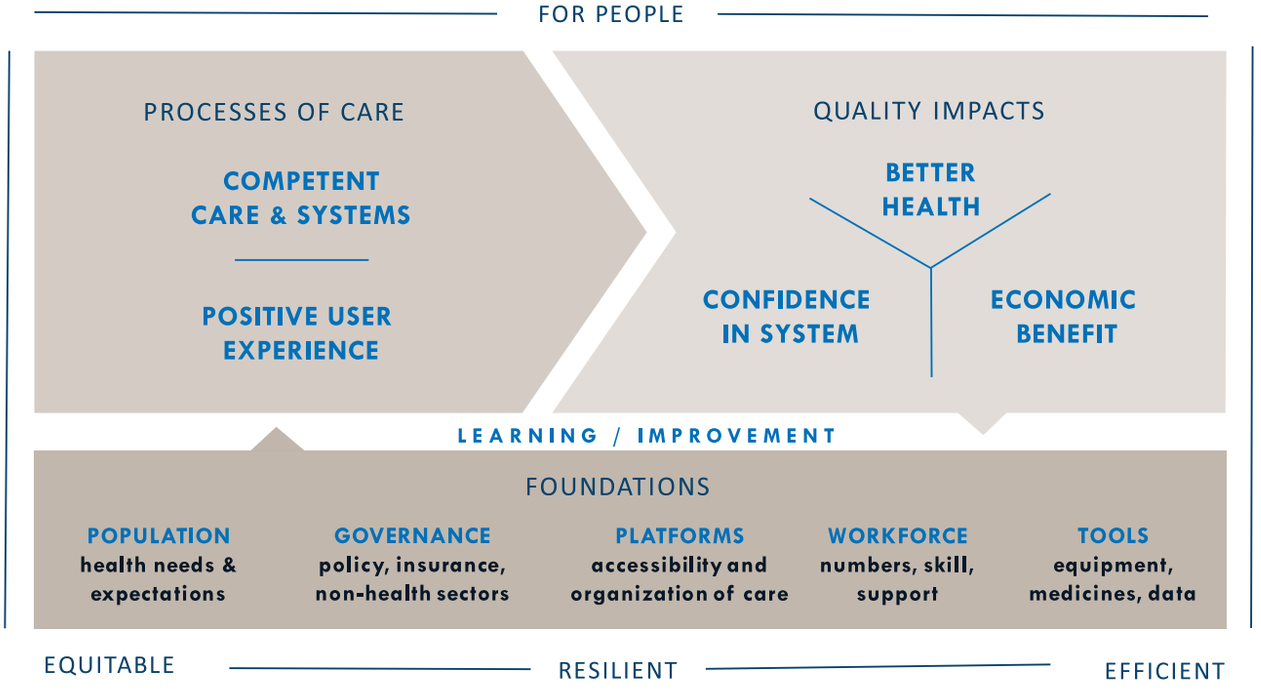
TN is working towards improving quality, but the efforts have been constrained by various factors:

- Quality has not received the prominence it deserves in the health system strengthening agenda
- There has not been a concerted effort to monitor quality of care routinely to provide an entry point for quality improvement (especially at the provider level as well as in the private sector)
- Quality improvement has been fragmented, unsystematic, not at scale and not guided by a QoC strategy
- Quality improvement has been focused on (i) structural quality, including certification / accreditation and (ii) the facility level, targeting the provider-patient interface (also known as the micro level) without adequate attention to other system-wide reforms (macro and meso levels) which have a more sustainable impact on quality of care
- There has not been a systematic effort to introduce (i) an ecosystem for quality in which all relevant stakeholders have a role in quality improvement and (ii) a culture for quality
- Patients and citizens have not been at the center of the quality improvement efforts. They are not fully empowered to take charge of their health, demand for quality and hold providers accountable for quality. Patient experience has not been captured for improvement

6. A CONCEPTUAL FRAMEWORK FOR QUALITY OF CARE IN TAMIL NADU

The Lancet Global Health Commission for Quality Health Systems provides a comprehensive framework for assessing, measuring and improving QoC. (Fig:2) This framework has been adopted and fine-tuned to guide the development of the TN QoC Strategy.

Fig: 2 Framework for Quality Care



7. ALIGNMENT OF TN QoCS WITH NATIONAL AND STATE HEALTH PRIORITIES

National and State Health Priorities

The priorities of India's National Health Policy (NHP) 2017 are to reduce Under Five Mortality to 23 by 2025 and MMR from current levels to 100 by 2020; reduce infant mortality rate to 28 by 2019; reduce neo-natal mortality to 16 and still birth rate to "single digit" by 2025.; to achieve and maintain the cure rate of >85% in new sputum positive TB cases and reduce incidence of new cases; to reach elimination status by 2025. The NHP also emphasizespatient centered qualitycare which is gender sensitive, effective, safe and convenient healthcare services to be provided with dignity and confidentiality. There is need to evolve and disseminate standards and guidelines for all levels of facilities and a system to ensure that the quality of healthcare is not compromised.

In line with this, the TN Health Policy -Vision 2030 document prioritizes reduction of Under five mortality to 6 by 2030; MMR from current levels to 29 by 2030; infant mortality rate to 9 by 2019; neo-natal mortality to 5 and still birth rate to "single digit" by 2025; to achieve and maintain the cure rate of >85% in new sputum positive TB cases and reduce incidence of new casesto reach elimination status by 2025.

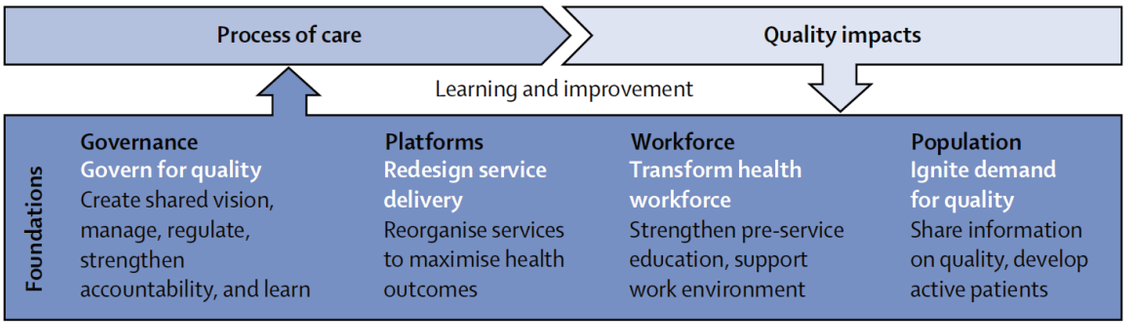
Tamil Nadu – Key Health Priorities

As outlined in Vision 2023, the GoTN aims to achieve SDG 3 "to ensure healthy lives and promote well-being for all at all ages." This involves strengthening of primary and secondary care centers and upgrading tertiary care hospitals. After achieving high level of coverage of services, the state would now make a strategic shift to provision of quality care. A special focus is given to NCDs using a two-pronged strategy: (a) preventing NCDs through population-based interventions to raise awareness and induce lifestyle changes and (b) improving the capacity for early screening, diagnosis, treatment, and follow-up in health facilities. Trauma and disaster management systems will be strengthened to ensure that an emergency patient reaches the hospital within an hour "golden hour". TN also prioritizes bridging intra-district and inter-district disparities by strengthening existing government programs and schemes to address the quality and infrastructure gap in the state.

8. PRIORITIZED INTERVENTIONS TO IMPROVE QUALITY OF CARE IN TAMIL NADU

The Lancet Commission recommends four universal actions for strengthening foundations and improving process of care to have an impact on quality:

Fig: 3, Framework for Quality Care (section)



Such four universal actions are highly relevant to Tamil Nadu and therefore central to the TN QoC Strategy. Interventions to improve QoC in TN over the next 5 years will be prioritized on the basis of these 4 universal actions:

- Universal Action 1: Govern for Quality
- Universal Action 2: Redesign service delivery to optimize quality
- Universal Action 3: Transform the health workforce
- Universal Action 4: Ignite population demand for quality care

Strategies and interventions to address these universal actions can also be categorized as "macro", "meso" or "micro" based on the level at which they are implemented:

- Macro interventions are characterized by those that would be implemented by the state government or other state-level stakeholders. These are system-wide interventions that aim to change regulations, standards, financing and other large-scale engagements.
- Meso interventions are characterized by those that would be implemented at a sub-state level (district, sub-district) through coordination or improved communication.

- Micro interventions are those implemented at the interface between health workers and patients. These do not include macro and meso intervention that may also have an impact on the providers- users interface.

Strategies to improve quality of care in low and middle-incomecountries have generally focused on micro interventions, but evidence has shown that these interventions have only limited impact. It is critical to think beyond the micro level and implement interventions at the meso and particularly macro levels that bring about system-level foundational changes that have long-term impact at large scale. Therefore,Tamil Nadu has prioritized a number of interventions at the macro and meso levels. These will also be complemented by a set of prioritized interventions at the micro level. Table -3,details the interventions which will be taken up by the state for QoC improvements for the next five years.

Table: 3. List of prioritized QoC interventions:

Interventions are at three levels: macro, meso and micro. Macro interventions will be prioritized because they are system-wide, at scale and have more sustained impacts.

Levels / Characteristics	Domain	Area of Intervention	Selected/Prioritized Interventions
MACRO Characteristics: - by State govt or other state-level stakeholders - System-wide interventions via regulations, standards, large scale engagement, etc. - tends to be more sustainable and at scale for impact	Ignite population demand for quality	Formalized citizen engagement and empowerment	Annual TN District and State Health Assemblies with resolutions /actions to improve health (including quality of care)
		Population-level health literacy	Development and implementation of social and behavior change communication (SBCC) Strategy to empower citizens/patients to (i) take charge of keeping themselves healthy, (ii) comply with treatment when they are sick, (iii) understand and demand for quality care and hold providers accountable for quality
		Public reporting on quality of care	Publicize the results of (i) facility quality scorecards and (ii) facility accreditations
	Govern for quality	Quality monitoring and comparative benchmarking	▪ Quality scorecards for different levels of facilities to monitor quality of care ▪ Periodic quality surveys
		Institutional arrangements for quality in DOHFW	Permanent Quality Assurance Committee in the health department established at state-level including a dedicated officer for quality in all the directorates
		External evaluation and	NQAS certification of primary and secondary level

		accreditation	facilities and NABH accreditation of tertiary level facilities
		Medicine regulations	Anti-microbial steward ship programme to be made an integral part of the health system
		Self-regulations by professional associations (e.g. IMA)	Professional associations/ Groups to create SOPs / best practices / protocols for their respective subjects
		Professionalization of facility administration/management	▪ Administrative reforms which improves healthcare facility management. ▪ Training facility in-charge in facility management and administration ▪ Integrated facility management department in all larger institutions
		Private sector engagement	▪ Extend quality focus to private sector institutions including mandating accreditation and registration as per CEA ▪ Collect, analyze and publicly display quality of care data from private sector institutions, including those empaneled under the CMCHIS (same as public facilities) ▪ Strengthening Corporate social responsibility (CSR) investments for improvement of quality of care for statewide consolidated investments for impact. Corporate consortium for quality healthcare ▪ Augmenting performance-based outsourcing

			of non-clinical services (kitchen, laundry, housekeeping, etc.) in public hospitals so that they can focus on patient care
	Redesign service delivery for quality / models of care	Quality-oriented service delivery redesign	• Establishment of emergency department in all medical colleges and district hospitals under TAEI as part of the regional trauma system initiative subsuming earlier concepts like zero delay and casualty. ▪ Day care services in the relevant specialties for reducing the duration of stay and improving quality of care
	Transform the health work force	Pre-service medical education reforms	Reforming the delivery of the national medical education content through improved methods (including adult learning techniques and more hands-on skills training)
		Improve work environment	▪ Ensuring specialists / paramedical health functionaries availability based on patient load and service provision ▪ Career development through TN QoCS, OR etc. ▪ Ensuring availability of specialized nurses and paramedical staff in OT, Labour room, ICU, Emergency care etc. encouraging specialization of paramedical personnel
	Incentives and finance	Performance based financing	Institutional performance-based incentives for quality (like resource allocation funds), matching grant for CMCHIS performance, functional and

			financial autonomy for specialized institutes
		Non-financial incentives	Individual performance non- cash incentives for quality of care (leaves, exchange program, sponsored for trainings, etc.) / Recognition of excellence/quality
MESO (Subnational levels) Characteristics: - Implemented at sub-national level (district, sub-district, etc.) through coordination or improved communication	Networking of providers	Quality improvement collaboratives	▪ Strengthening existing quality improvement collaborative and networks at district level. ▪ Mentors from best practice facilities to provide support to other facilities within the district
	Strengthening of district planning and management	District planning and management	District quality committee strengthening
		Referral system management	Establishing a seamless inter and intra facility referral feedback system
	Networking of patients	Peer support and expert patient groups	Formation of patient groups for chronic conditions (DM, HTN, CVD, cancer, etc.), Safe motherhood groups (ANC, lactating), Yoga groups, etc.
MICRO (providers-patients interface) Characteristics: - Implemented at the interface between health workers and	Facility	Improvement of supplies and infrastructure,	Institutionalizing periodic facility improvement plans based on gap analysis for infrastructure and supplies support.
		Clinical audit and feedbacks	Conducting audits for various care related issues like – prescription, C-sections, case sheet, near miss, mortality, morbidity, etc. with a feedback and action taken report
		Mortality and morbidity reviews	
		Adverse event reporting	Strengthening and scaling of the pharmacovigilance and adverse event system

patients. - These do not include macro and meso intervention that may have an impact on the providers- users interface.			beyond the medical colleges
		Continuous quality improvement cycles	Set up and operationalize all institutions with quality circles and other committees related to quality of care.
	Health care worker	Clinical mentorship	Assess and provide supportive supervision for adopting clinical standards/ protocols, safety check list and clinical decision support tools for quality care
		Supportive supervision	
		Clinical standards/pathways/protocols	
		Safety checklists/protocols	
		Innovative job aids/clinical decision support tools	
	Individual patients	Patient education	Develop counseling capacities of the facilities to address various patient related issues at the facilities.
		Innovative (apps for patients)	Develop apps related to patient information or self-management tool
		Patient feedback on experience of care	Patient experience study systems to be put in place in all facilities

9. STAKEHOLDERS AND THEIR ROLES IN TAMIL NADU'S ECOSYSTEM FOR QUALITY

There is a myriad of stakeholders in TN within and outside the health sector. In addition to the public and private health care providers, various associations and civil societies have their role in providing and monitoring quality of service delivery in the state. Together, they constitute TN's ecosystem for quality. A list of stakeholders and their roles has been provided in the table below:

Table: 4. Stakeholders and their roles in QoC

STAKEHOLDERS	ROLES IN QoC
Within the Health Sector	
Department of Health and Family Welfare Administration	Policy, strategies, standards, regulations, oversight, regulation, resource mobilization
Drug controller	Licensing and quality control
Government apex / research institutions	Insights for policy/strategy/data/standards
Providers of facilities at all levels in TN (public and private)	Provide quality healthcare service
Medical colleges (public and private) Nursing colleges (public and private) Paramedical colleges Dental colleges	Transform pre-service training Provide quality healthcare services, Continuous professional development
PM-JAY, CMCHIS, Insurance	Empanel public and private hospitals and purchase services that meet quality standards, hold hospitals accountable
Accreditation agencies	Accreditation/certification of health facilities
Professional associations IMA, IAP, FOGSI Private sector associations in the healthcare e.g. AHPI, NATHEALTH, health chapter of FICCI and CII etc.	Advisory, behavior change, capacity building/CPD for members, self-monitoring Feedbacks on new regulations

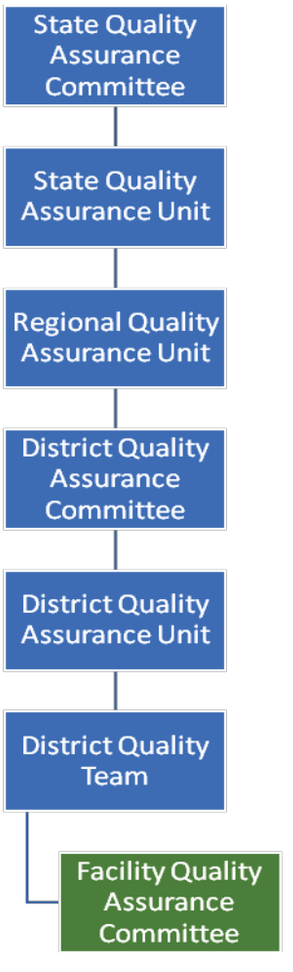
Outside the Health sector	
Department of Finance	Provision of finance
Procurement agencies: PWD, ELCOT, TNMSC	Procurement of infra, equipment, drugs, services, etc. and adequate supply chain managementfor quality service delivery
Municipal Corporations	Oversight, regulation and service delivery
Departments of Roads and transport, police, electricity, water supply, urban local bodies and civil supplies	Support functions for quality service delivery
Social Welfare - Women and Child Development& Tribal welfare	Nutrition, women and child welfare service delivery
Mass media organizations (TV, radio, newspapers, etc.)	Awareness generation, information sharing &creates demand for quality services
Patient societies/community groups – NGOs/civil societies	Peer support/peer education, patient advocacy Holding provider accountable for quality of services
AERB certification, pollution control, fire etc.	Certification

10. ORGANIZATIONAL STRUCTURE FOR QUALITY WITHIN THE HEALTH SECTOR

As per G.O 445 (2014) & 479 (2017) State and District level committees and Regional, State and district level units, are formed under NHM. Major roles & responsibilities of the existing committees is vested with quality certification like NQAS, Kayakalp and LaQshya.

Under this QoCS, it is proposed to work through the existing organizational structure. However the scope and membership of the organizational structure will be expanded to ensure implementation of the QoCS. It is proposed that the membership amendment will be done only for the state level unit, whereas, the scope will be amended for all the committees and units. It is also proposed to include a facility quality assurance committee.

Fig 4: Organization Structure of Quality Committees at different level



The QoCs strategy document, incorporating the proposed changes has been approved and adopted by the Govt vide G.O. No: 155 dated 24th March 2020. The contents of the strategy document will be disseminated to all the stakeholders. All the members of the committees at various levels will be provided with detailed information on the roles and responsibilities.The amendments to the existing organizational structure in terms of the composition and scope of work are given below:

1.State level Quality Assurance committee (SQAC)

The SQAC is chaired by the Secretary to the Government, DoHFW and MD, National Health Mission (NHM) is the member secretary. The committee has 28 members which includes the heads of various departments and projects. The members of the committee will remain the same. However, the scope of activity of this committee will be added with the following additional activities:

1. Provide overall guidance & direction for the development and adoption of TN QoC Strategy
2. Review periodically the TN QoC Strategy implementation and make course corrections,as and when required.
3. Approve annual action plan for implementation of TN QoC Strategy (including priority interventions)

2.State Quality Assurance Unit

The state quality assurance unit has membersfrom NHM and other state disease control programs and consultants at state level for quality assurance. This unit meets on a quarterly basis. It is proposed to include nodal officers from various departments (DPH/DMS/DME, etc) and projects (TNHSRP).

The proposed additional roles and responsibilities includes:

1. Monitoring the score cards of the facilities and ranking of health facilities.
2. Monitoring audits – Clinical, Morbidity and Mortality.
3. Support for certification of health facilities in the state (NQAS/NABH).
4. Ensuring conductof State level health assemblies
5. Recommend interventions / address issues identified by the State and District Health

Assemblies

6. Plan and support implementation of interventions recommended in the TN QoCS and State TN Health policy – Vision 2030 and CME Policy
7. This unit would also prepare necessary documents and reports including presentations for meetings of State Quality Assurance Committee and ensure sharing of the minutes of themeetings with relevant stakeholders.

3.Regional Quality Assurance Unit

This Unit is headed by the Joint Director of Health Services (JDHS) of the respective regions and has nine more district level members from various departments, Government medical colleges, and quality nodal officers from the district. Activities mentioned below are added to the current scope of work of this committee:

1. Monitoring the score cards of the facilities and ranking of health facilities
2. Monitoring audits – Clinical, Morbidity and Mortality
3. Support for certification of health facilities in the state (NQAS/NABH).
4. Recommend interventions / address issues identified by the District Health Assemblies
5. Plan and support implementation of interventions recommended in the, TN QoCS and State TN Health policy – Vision 2030 and CME Policy

4. District Quality Assurance Committee

This committee is headed by District collector and has membersfrom 30 various departments, societies, projects, private healthcare sector, legal representative, professional bodies, etc and meets once in three months. Apart from their original scope of work to monitor the accreditation of health facilities, the below mentioned activities are added:

1. Ensure adoption of score cards, support monitoring and improve performance on scorecards.
2. Monitor and review functioning of Quality Assurance Committee meeting at the facility level.

3. Participate and monitor audits at the district /facility level and provide supportive supervision to health workers in the district
4. Support certification/ accreditation of health facilities in the district
5. Ensuring participation in District level health assemblies and address the issues identified
6. Review implementation of interventions rcommended in the TN QoCS
7. Provide feedback to the facilities of the districts

5.District Quality assurpance unit:

This unit has membership of Deputy Director of Family welfare who is the convener of this unit and assisted by clinician, program assistant and cnsultants and is convened every month. It is proposed to additionally include the below activities in this unit's scope of work:

1. Review implementation and performance of score cards.
2. Support certification/ accreditation related activities of health facilities in the district
3. Monitor implementation of interventions recommended in the TN QoC
4. Provide feedback to the facilities of the districts

6.District quality assurance team:

The district quality assurance team is headed by theHospital Superintendent of the DHQH/ MedicalSuperintendent of Medical College of District.

The members would include heads of the various clinical and para-clinical specialties, Nursing matron, Pharmacists, Hospital mangers etc and meeting is held every month.

Apart from their current scope of the work, the following activities mentioned below are included

1. Monitoring the score cards implementation and performance on scorecards
2. Provide supportive supervision to the health workers and facilities in the district
3. Support certification/ accreditation related activities of health facilities in the district
4. Support implementation of interventions recommended in the TN QoC
5. Provide feedback to the facilities of the districts

In addition to the existing committees, QoCS includes addition of a facility level quality assurance committee.

7.Facility Quality Assurance Committee

This Facility Quality Assurance Committee is being introduced in the organizational structure and below are the details of the membership and roles and responsibilities of the committee.

1. Medical college Hospitals

Chair Person	Hospital Superintendent / Dean
Members	Representative from all clinical departments and representatives from Pathology, Microbiology, Biochemistry &Community Medicine.
Member	Nursing Matron / Nursing Superintendent
Member	Officer -In charge of Medical Records Dept
Member	Chief Pharmacist
Member	Lab technician
Member	Outsourcing representative
Member	Representatives from Community/ patients organization

Additional members as per the need of the institution

2. District/Sub District Hospitals

Chair Person	Hospital Superintendent of the DH/SDH
Members	Heads of different departments of the facility
Member	Nursing Superintendent
Member	Officer -In charge of Medical Records Dept
Member	Chief Pharmacist
Member	Lab technician
Member	Outsourcing representative
Member	Representatives from Community/ patients organization

Additional members as per the need of the institution

3. Primary health Centers/Community Health Centers

Chair Person	Medical Officer in-charge
Members	Medical Officer
Member	Staff nurse
Member	Pharmacist
Member	Lab technician
Member	ANM
Member	Sanitary worker /Grade -4 worker
Member	Representatives from Community/ patients organization

Additional members as per the need of the institution

Roles & Responsibilities of Facility Quality Assurance Committee

1. Conduct of monthly quality committee meetings
2. Ensure data collection & reporting of score cards
3. Perform routine clinical & care related audits in the facility
4. Perform various activities for certification of the facility
5. Document, monitor, report & resolve grievances of patients in the facility
6. Implement various quality improvement interventions as outlined by TN QoCS
7. Implement, monitor, audit, course correction, feedback, and documentation of TNQoCS for that facility

While State committees/ Units will be involved in planning, supporting and monitoring the activities, the District level committees/ Units will provide a supportive/ Implementation role.

The newly formed facility level quality assurance committee will be involved in implementation.

11. MEASURING QUALITY OF CARE IN TAMIL NADU

Challenges in quality measurement in TN:

The health information systems mostly report indicators / measures of access and utilization.There are only a few health outcomes that are being measured at the population level. There are few vertical programs like RNTCP, Leprosy and HIV control programs which monitor patient outcomes. However other programs do not collect information related to patient outcomes, including NCD which are a rising health challenge in Tamil Nadu. Other dimensions of quality of care such as clinical processes, care integration, effectiveness, safety, and people-centeredness related measurements are either nascent or non-existent in Tamil Nadu. Within the state, strategies and measures have been applied mostly to the public sector, even though a substantial portion of the population uses the private sector.

The state has planned to adopt a small list of meaningful quality indicators and measure them well over time, and such indicators will focus on care, competency, community, user experience and address clinically meaningful patient-centered outcomes in both public and private sector.The quality related indicators will be measured at various levels (facility, district and state).

Some of the quality indicators will be collected through the HMIS on a regular basis and some on periodic basis through surveys in a strategic manner to generate quality information which cannot be obtained regularly from HMIS.The data collected will be used for decision making at all levels and for discussions in district and state health assemblies. The data will also be used for recognition or reward for good performance (e.g. pay for performance, non-financial incentives) and for all quality improvement initiatives at macro, meso and micro levels.

List of Quality measures (Indicators) and their measurement strategy

1. State level

S.No	Indicators	Definition	Structural / Clinical Process / Outcome	Quality sub-domain	Frequency	Level of measurement	Data source
1	Proportion of individuals with hypertension whose blood pressure is under control	No: of individuals age 30+ whose blood pressure is under control ---------- No: of individuals age 30+ with hypertension under treatment	Patient Outcomes	Effective	Annually	State	STEPS Survey
2	Proportion of individuals with diabetes whose blood glucose is under control.	No: of individuals age 30+ whose blood glucose is under control ---------- No: of individuals age 30+ with Diabetes under treatment	Patient Outcomes	Effective	Annually	State	STEPS Survey

3	Cervical Cancer 5-year survival rate	No: of cervical cancer patients survived life for 5 years after diagnosis ----------x100 No: of cervical cancer patients diagnosed during the same period	Patient Outcome	Integrated	Annually	State	Cancer registry
4	Breast cancer 5-year survival rate	No: of Breast cancer patients survived life for 5 years after diagnosis ----------x100 No: of Breast cancer patients diagnosed during the same period	Patient Outcome	Integrated	Annually	State	Cancer registry
5	Oral Cancer 5- year survival rate	No: of Oral cancer patients survived life for 5 years after diagnosis ----------x100 No: of Oral cancer patients diagnosed during the same period	Patient Outcome	Integrated	Annually	State	Cancer registry

6	Alcohol intake Proportion of past alcoholics who have stopped drinking due to some health reason or on advice from a doctor/ health worker during the last 12 months	No. of alcohol drinkers who had stopped drinking due to some health reason or on advice from doctor/ Health worker ---------- No. of alcohol drinkers who have not consumed any alcohol in the last 12 months	Patient Outcomes	Effective	Annually	State	STEPS Survey
7	Smoking Tobacco Proportion of past smokers who have stopped smoking on advice from a doctor/ health worker during the last 12 months	No. of past smokers who had stopped smoking on advice from doctor/ Health worker ---------- No. of past smokers surveyed	Patient Outcomes	Effective	Annually	State	STEPS Survey
8	Salt Intake Proportion of surveyed individuals who think it is most important to reduce salt intake	No. of individuals who think who think it is most important to reduce salt intake --- No. of individuals surveyed	Patient Outcomes	Effective	Annually	State	STEPS Survey

9	Age appropriate full vaccination	Children 0-23 months who received vaccinations as per the recommended schedule ---------- Total children in the age group of 0-23 months	Patient Outcome	Integrated	Once in 2 years	State	HMIS
10	Percentage of IFT calls of the total 108 calls	No: of IFT calls in the month ----------x100 Total number of 108 calls	Structural	Effective	Quarterly	State	HMIS/ 108, IFT calls
11	Percentage of referrals received feedback from the referred center	No: referrals received feedback from the referred center ----------x100 Total number of referrals	Structural	Effective	Quarterly	State	DPH, DMS& DME
12	Percentage of districts with functional Quality Assurance Committee (QAC)	No: of districts with functional Quality assurance committee ----------x100	Structural	Effective	Quarterly	State	HMIS

	[Functional refers to conduct of QAC meeting every month in all the hospitals and issues addressed]	Total Number of Districts in the State.					
13	Percentage of health facilities with NQAS/NABH accreditation	No: of health facilities with NQAS/NABH accreditation ----------x100 Total no: of health facilities in the State.	Structural	Effective	Monthly	State	HMIS
14	Percentage of facilities publicly reporting quarterly on the facility score cards	No: of health facilities publicly reporting quarterly on the facility score cards ----------x100 Total no: of health facilities in the State	Clinical Process	Effective	Quarterly	State-aggregated from District	DPH, DMS& DME
15	Percentage of facility in charges who have completed management and administrative	No: of facility in charges who have completed management and administrative training	Structural	Effective	Annually	State	DPH, DMS& DME

	training under TAN-QuEST	----------x100 Total no: of health facilities in the State					
16	Percentage of facilities using performance-based contracts for non-clinical services	No: of facilities using performance-based contracting for non-clinical services ----------x100 No: of health facilities having non clinical services contract	Structural	Safe	Annually	State	HMIS
17	Average Score on provider satisfaction (using a digital platform)	Score on all provider satisfaction survey ---------- No: of Service providers surveyed	Process	People centered	Monthly	State – Facility aggregated indicator	HMIS
18	Average Score on patient experience survey	Score on all patient experience survey conducted ---------- Total No: of patients surveyed	Process	People centered	Yearly	State	Patient experience survey

19	Percentage of labs implementing EQAS	No: of labs that are EQAS certified ----------x100 No: of labs	Clinical Process	Effective	Quarterly	State	DMS/DME

2. District level

20	Percentage of referrals received feedback from the referred center	No: referrals received feedback from the referred center ----------x100 Total number of referrals	Structural	Effective	Quarterly	District	DPH, DMS& DME
21	Percentage of facilities with functional Quality Assurance Committee (QAC) [Functional refers to conduct of QAC	No: of facilities with functional Quality assurance committee ----------x100 Total No: of facilities in the Districts	Structural	Effective	Quarterly	District	DPH, DMS& DME

	meeting every month and issues addressed]						
22	Percentage of facilities participating in the Mentorship programme within the district	No: of facilities with Mentorship programme within the district ----------x100 Total No: of facilities in the Districts	Structural	Effective	Quarterly	District	DPH, DMS& DME

3.Facility level

23	Average score on patient satisfaction Survey.	Score on all Patient satisfaction survey conducted ---------- Total patients surveyed	Process	People centeredness	Monthly	Facility	Patient satisfaction survey
24	Average score on Family planning (FP)clients survey on quality counselling on FP	No: of FP clients who were provided quality counselling on contraceptive methods ----------	Process	People centeredness	Monthly	Facility	FP Patient satisfaction survey

	methods.	Total FP clients surveyed					
25	Percentage of births by Caesarean section among primi gravida	No: of primi women delivered by C-section in an institution in a particular month ----------x100 Total number of primi women delivered in that institution during the same month	Process	Effective	Monthly	Facility	HMIS
26	Percentage of patients over 30years old whose blood pressure was measured	No: of PHC patients over 30 years of age whose blood pressure was measured during the month ----------x100 Total number of PHC patients above 30 years attending the OP during the month	Process	Effective	Monthly	Facility - PHC	NCD-NHM

27	Percentage of women with positive VIA undergoing follow-up Colposcopy within 6 weeks of VIA test	No: of women who had undergone follow up colposcopy within 6 weeks of VIA test ----------x100 No: of women found positive by VIA and had completed 6 weeks time in that facilityin a particular month	Process	Integrated / Timely	Monthly	Facility-PHC, CHC, SDH, DH	NCD-NHM
28	Percentage of women with positive VIA undergoing follow-up Colposcopy within 1 week of VIA test	No: of women who had undergone follow up colposcopy within 1 week of VIA test ----------x100 No: of women found positive by VIA in that facility in a particular month	Process	Integrated / Timely	Monthly	Facility-MC	NCD-NHM
29	Percentage of women who tested positive with CBE screened with USG/ mammogram	No: of Women who tested positive with CBE who were screened with USG/ mammogram within 6 weeks of CBE ----------x100	Process	Integrated / Timely	Monthly	Facility-PHC, CHC, SDH, DH	NCD-NHM

		No: of women found positive by CBE and had completed 6 weeks in that facility in a particular month					
30	Percentage of women who tested positive with CBE screened with USG/ mammogram	No: of Women who tested positive with CBE who were screened with USG/ mammogram within 1 week of CBE ----------x100 No: of women found positive by CBE in that facility in a particular month	Process	Integrated / Timely	Monthly	Facility-MC	NCD-NHM
31	Microbiological surveillance reporting positive for pathogenic organisms in OTs	No: of microbiological surveillance in OT found + for pathogenic organisms in the month ---------- No: of functioning OTs during the month	Process	Safe	Monthly	Facility	DPH/ DMS/ DME

32	**Surgical Site infection (SSI)rate** Percentage of women who had developed surgical site infection with 30 days following surgery.	Number of patients who had SSI within 30 days following surgery ----------x100 No: of surgeries performed during the month	Patient Outcomes	Safe	Monthly	Facility	DPH/ DMS/ DME
33	**Percentage of drug stock out against the essential drugs for OPD in a month**	No: of drugs of essential drug list not available in a month in the facility ----------x100 Total No: of drugs in the essential drugs for OPD	Structure	Effective	Monthly	Facility	HMIS
34	**Average Score on provider satisfaction (using a digital platform)**	Score on all provider satisfaction survey ---------- No: of Service providers surveyed	Process	People centered	Monthly	Facility	HMIS
35	**Critical Equipment functionality in**	No: of critical equipment available and functional. ----------	Structure	Effective	Monthly	Facility	HMIS

	ICU/HDU/PHC	Total No: of critical equipment					
36	**Critical Equipment down time in ICU/HDU/PHC**	No: of days a particular critical equipment was not under working condition in a month ---------- Total No: of days in a month	Structure	Effective	Monthly	Facility	HMIS
37	**Critical lab Equipment functionality in ICU**	No: of critical lab equipment available and functional. ---------- Total No: of critical lab equipment	Structure	Effective	Monthly	Facility	HMIS
38	**Critical lab Equipment down time in ICU**	No: of days a particular critical lab equipment was not under working condition in a month ---------- Total No: of days in a month	Structure	Effective	Monthly	Facility	HMIS

39	**ICU readmission rate** ICU readmission rate within 24hrs after transfer out.	No: of patients who were readmitted in the ICU within 24hrs after transfer out in a month ----------x100 Total No: of patients admitted in the ICU during the same month.	Process	Effective	Monthly	Facility	HMIS

Note: In this spirit of continuous quality improvement, indicators to measure quality will be reviewed on an annual basis and adjustments to the indicators will be made as appropriate.

12. HMIS AND DATA SYSTEMS FOR QUALITY MONITORING

The existing HMIS and data management systems focuses more on the service delivery parameters and has limited information on quality of care delivered. The quality indicators identified and the interventions at macro, meso and micro levels would need to be generated through a systematic and comprehensive HMIS / data management systems.

For all the data to be collected through HMIS, the health system may not have provision at this moment; however, DoHFW is working towards revamping HMIS and would address these issues in near future through a comprehensive and integrated HMIS. The revamped HMISis proposed to include QoC indicators, facility score cards and dashboard supported with GIS. It would also include individual's personal health record with timeline along with service delivery dates, place of service delivery, compliance of treatment, service delivery outcomes apart from plethora of information which will comprehensively address the requirement for monitoring and evidence - based decisions.

However, the proposed comprehensive HMIS for the state would take some time to hit the ground. In the interim till the HMIS is functional, anopen data kit (ODK), or google sheets or Excel sheets or a paper-based reporting system will be used for collection and compilation of information for monitoring and decision making for the indicators for which data is not available through existing HMIS. It is however to be noted that there could be still few indicators for which only survey could provide an update; depending on such indicators, DoHFW would either rely on national surveys being conducted (such as NFHS) or conduct its own surveys (such as STEPS).

HMIS and data management systems of the state are being updated to allow better monitoring of quality data that includes not only elements of structural quality but also competent care, patients

experience and outcomes. Measurement and monitoring of this comprehensive approach to quality will allow better management and improvement of quality of care over time, accelerating the transformation to a high-quality health system in Tamil Nadu.

Quality of Care Strategy (TN QoCS)

Health Systems Quality Interventions in Tamil Nadu

State level Interventions

- Ignite population demand for quality
- Govern for quality
- Redesign service delivery
- Transform the health Workforce
- Incentivize/performance based financing

District level Interventions

- Networking of providers
- Strengthening district planning and management
- Networking of patients

Facility level Interventions

- Facility level improvements
- Support & Supervision of health care worker
- Improving patient education.

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