National Health Mission – Tamil Nadu – Implementation of Cancer Prevention and Control Policy for State - Approved – Orders – Issued.

Health and Family Welfare (EAP II-1) Department

G.O (Ms) No.228

Dated :02.06.2020
Sarvari, Vaigasi- 20
Thiruvalluvar Aandu 2051

Read:

From the Mission Director, National Health Mission, letter No.2191/NPCDCS/P14/2020, Dated: 12.03.2020.

ORDER:

The Cancer is a leading cause for morbidity and mortality in developing and developed countries. The increasing burden of cancer in absolute numbers of new cancer cases and cancer deaths in India due to population growth and changing life styles is of concern and in recent years has ceased the attention of health care planers in the country. Cancer prevention and control consists of a continuum of preventive, early detection, treatment and palliative care interventions that aim to reduce the occurrence, suffering and death from cancer while improving survival and quality of life of cancer patients. Hence, a robust method is to have a systematic way to screen individuals for common cancers of Public Health importance so that such cancers get addressed and are put under control. Screening, treatment and follow up is the most practical approach for cancer control, an area in which the Government of Tamil Nadu already took the lead in the entire country by introducing and sustaining a large scale flagship programme for Cancer screening and treatment across the State starting from 2012. By 2030, the goal should be to achieve a $1/3^{rd}$ reduction in premature deaths caused by cancer in Tamil Nadu. The Government of Tamil Nadu can achieve this goal of $1/3^{rd}$ reduction in mortality by focusing on strengthening human resources, diagnostic and treatment facilities depending on the levels of health care. Additionally, placing efficient teams and units at State Institute, strengthening Tertiary Cancer Care Center (TCCC), Regional Cancer Centers (RCC) and the District Head Quarters is vital for achieving this. While utilizing the current strengths, the goal can be achieved by focusing on all the key elements and may be elucidated in the way of Policy.

2. The Mission Director, National Health Mission, in his letter read above has furnished the draft State policy for Cancer Prevention and Control for approval of the Government.

3. The Government, after careful examination, have decided to approve the Cancer Prevention and Control Policy for State as annexed to this Government Order.

(BY ORDER OF THE GOVERNOR)

BEELA RAJESH
SECRETARY TO GOVERNMENT

To
The Mission Director, State Health Society, Chennai – 6.
Copy to:
The Finance (Health-I) Department, Chennai-9.
The Health and Family Welfare (Data Cell) Department, Chennai-9
Stock File / Spare Copy.

//Forwarded by Order//

SECTION OFFICER

Annexure

(G.O.(Ms)No.228, Health and Family Welfare (EAP II-1) Department, Dated: 2.6.2020)

Tamil Nadu State Policy for Cancer Prevention and Control

Introduction:

Cancer is a leading cause for morbidity and mortality both in developing and developed World. The increasing burden of cancer in absolute numbers of new cancer cases and cancer deaths in India due to population growth and changing life styles is of concern and in recent years has ceased the attention of health care planers in the country. Cancer prevention and control consists of a continuum of preventive, early detection, treatment and palliative care interventions that aim to reduce the occurrence, suffering and death from cancer while improving survival and quality of life of cancer patients.

Cancer is a complex disease caused by multiple modifiable risk factors such as increasing age, genetic predisposition, life style factors such as Tobacco use in any form,arecanut chewing in any form, Alcohol drinking in any form, poor nutrition, being overweight or obese, lack of regular physical activity, chronic infection with certain Bacteria and Viruses such as Helicobacter pylori, Hepatitis B (BHBV) and C (HCV) viruses, 13 types of Human Papilloma viruses (HPV) particularly HPV 16 &18, Human immunodeficiency virus (HIV) and Epstein-Barr virus (EBV) and environmental risk actors

Cancer has a multi-causal etiology such as lifestyle related risk factors, Environmental and Biological agents, Chemical pollutants in the air, Tobacco and Viruses. Certain microorganism of Public Health importance such as Hepatitis B (HBV), Hepatitis C virus (HCV), Human Papilloma Virus (HPV) of 16 & 18 types and Helicobacter pylori Bacteria increase the risk for Liver, Cervical and Stomach cancers respectively. Infection with HIV substantially increases the risk of certain specific cancers such as cervical cancer. The challenge of cancer control greatly depends on addressing the Lifestyle related practices such as Physical inactivity, Tobacco use, intake of Alcohol, Trans-Fats etc.

Many health systems face challenges with regard to early detection of cancer. This could be because of the different ways in which the disease presents across all age groups. Population aging and lifestyle changes are the major drivers that further increase the cancer burden in the country. Going forward, it is essential to increase the awareness in the community about the most common cancers. In addition, health care personnel need to be trained to detect the signs and refer the patients for early treatment to higher facilities. At advanced stages of the disease, multidisciplinary team of specialists with advanced infrastructure and equipment for specialized care are needed to treat the patient. Thus, through specific efforts to impede the progress of disease at each and every stage, we can aim to reduce the morbidity and mortality due to cancer. Detection of symptoms when the patient presents in the early stage of the disease to a public health facility depends on the skilled health care providers but can often be missed.

Hence, a robust method is to have a systematic way to screen individuals for common cancers of Public Health importance so that such cancers get addressed and are put under control. Screening, treatment and follow up is the most practical approach for cancer control, an area in which the Government of Tamil Nadu already took the lead in the entire country by introducing and sustaining a large scale flagship programme for Cancer screening and treatment across the State starting from 2012. However, a policy document which shows a vision for the State in a holistic manner is what is aimed in presenting this document.

Disease burden

Global NCD burden

- NCDs currently cause more deaths than all other causes combined and NCD deaths are projected to increase from 38 million in 2012 to 52 million by 2030.
- Four major NCDs (Cardiovascular diseases, Cancer, Chronic respiratory diseases and Diabetes) are responsible for 82% of NCD deaths.

- Approximately 42% of all NCD deaths globally occur before the age of 70 years
- 48% of NCD deaths in low- and middle-income countries (LMICs) and 28% in high-income countries occur in individuals aged less than 70 years.

Global Cancer burden

Worldwide there were 18.1 million cancer cases and 9.6 million deaths due to cancer in the year 2018 [GLOBOCAN 2018]. Lung cancer (2.1 million cases) was the commonest among both sexes combined. Globally, common cancers affecting men were Lung (1.4 million) followed by Prostate (1.3 million) and Colorectum (1.1 million). The order among women was Breast (2.1 million), Colorectum (823, 300), Lung (725,350) and Cervix (569,900) cancers. Leading causes of deaths due to cancer were Lung (1.2 million) and Liver (548,400) among men Breast (626,700) among women [GLOBOCAN 2018].

India

NCD burden

In India, out of 9.78 million total deaths due to all causes, NCDs related deaths are around **5.87 million** deaths which accounts for 60 % of all deaths. India shares more than two-thirds of the total deaths due to NCDs in the South-East Asia Region (SEARO) of WHO.

Cancer burden

India ranks third among countries in the world with an estimated incident cancer burden of 1.2 million new patients and second in the world with 785,000 deaths due to cancer in the year 2018. The corresponding age-standardized rates (ASR) per 100,000 populations were 89.4 and 61.4 respectively [GLOBOCAN 2018]. The Indian Council of Medical Research (ICMR) has developed a network of 29 population-based cancer registries (PBCR) under the National Cancer Registry Program (NCRP) currently under

the auspices of National Centre for Disease Informatics and Research (NCDIR) for eliciting cancer incidence pattern throughout the country [NCRP, 2016].

Table 1:

Common cancer incidence pattern in India by gender, Year 2012-2014 (Range giving ASR of the least and the highest observed in PBCRs)

SITE-Men	ASR	Range	SITE-Women	ASR	Range
Lip, oral	13.9	2.4 – 28.5	Breast	24.7	6.7 – 41.0
Lung	7.8	2.2 – 37.9	Cervix	14.7	4.9 – 30.2
Stomach	6.2	1.7 – 50.2	Ovary	5.5	1.7 – 15.2
Large bowel	5.8	1.8 – 11.2	Lip, oral	4.3	1.4 – 11.4
Oesophagus	5.5	1.0 – 33.0	Large bowel	3.1	1.2 – 8.9
Larynx	4.2	1.3 – 9.2	Lung	3.0	0.7 – 40.8

ASR – Age standardized rate per 100,000 population

Breast cancer emerged as the most common cancer even when cancers among both sexes were combined. In India, among men, the commonest cancer was Oral cancer (ASR:13.9) followed by Lung (7.8), Stomach (6.2), Colorectum or Large bowel (5.8) and Oesophagus (5.5). Among women, the order was Breast (24.7), Cervix (14.7), Ovary (5.5), Oral cancer (4.3) and Colorectum (3.1). An interesting observation from Table 1 was that for any cancer, there was at least 5-fold difference between the least and the highest incidence rates observed in individual PBCRs in India [GLOBOCAN 2018; NCRP, 2016].

Tamil Nadu

A systematic and continuous registration of occurrence of new cancers through PBCRs has been in vogue in the state for the past 35 years: Madras Metropolitan Tumour Registry (MMTR) since 1982 covers 4.8 million population (entirely urban) residing within the metropolitan limits of Chennai (formerly Madras) city and DindigulAmbilikkai Cancer Registry (DACR) since 2003 covers 2.2 million population (predominantly rural)

residing in Dindigul district. Case-finding was done predominantly by active methods from multiple data sources: cancer and specialty hospitals in government and private sectors, pathology labs, imaging centres, supportive and day care facilities and vital statistics division.

Figure 1: Variable cancer incidence Urban vs. rural areas

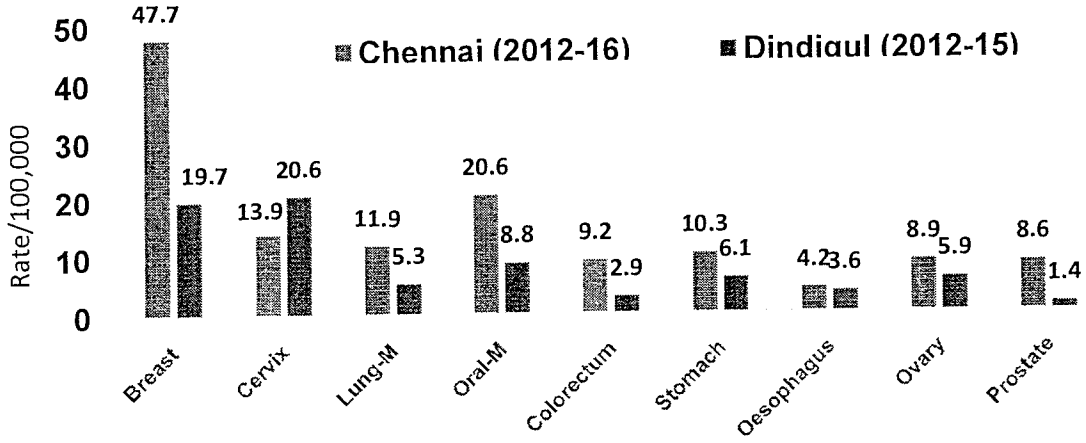
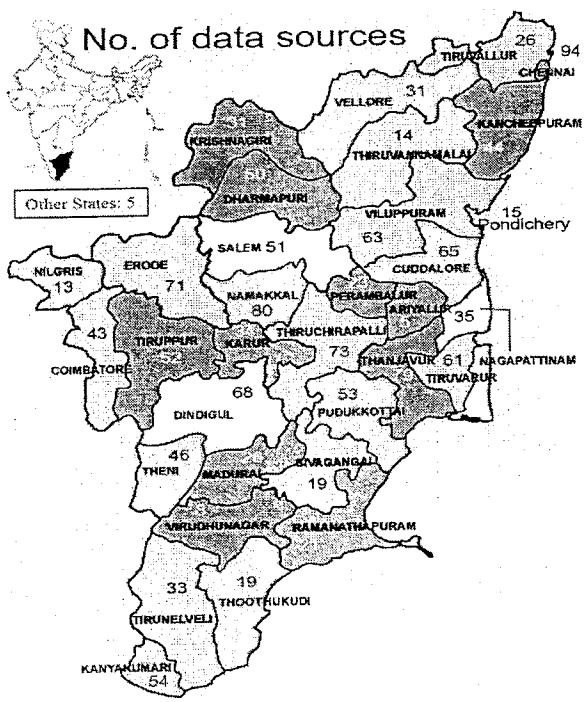


Fig. 1 shows a variable cancer incidence pattern between Chennai and Dindigul districts among the urban and rural populations respectively [NCRP 2016; Swaminathan et al., 2017; Swaminathan et al., 2009]. This paved the way for the state-level cancer surveillance through the Tamil Nadu Cancer Registry Project since year 2012.

Figure 2: Tamil Nadu Cancer Registry Project (TNCRP)
(MoH&FW, Govt. of TN – Cancer Institute (WIA) study)



- To elicit the realistic burden of cancer in Tamil Nadu
- To study variations in cancer incidence and serve as launch-pad for epidemiological investigations
- To evaluate the on-going state-funded cancer screening/early detection programs

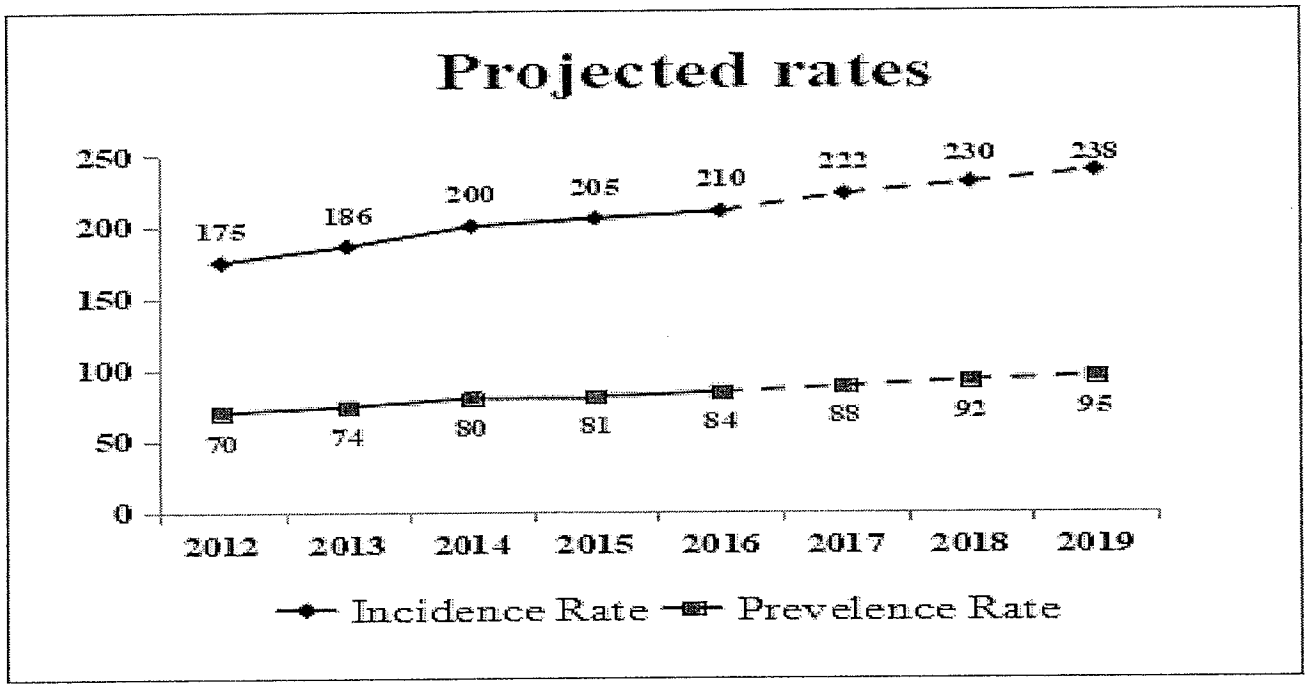
The TNCRP is a joint study by the department of health and family welfare, government of Tamil Nadu and the Cancer Institute (W.I.A), Chennai. Fig. 2 elicits the objectives of TNCRP and its framework from >1500 data sources till date. Two government orders [G.O. 2012; G.O. 2018] were enacted towards making cancer as a notifiable disease in Tamil Nadu aiding in efficient data collection on incident cancers. TNCRP registers incident cancers occurring among 76 million resident population of Tamil Nadu, the largest covered by any cancer registry in the world.

Table 2:Cancer incidence statistics by gender, Tamil Nadu, Year 2016

	Male (M)	**Female (F)**	**M + F**
No. of New cases	29,014	36,566	65,580
% to total cancers	44.2	55.8	-
Crude Incidence Rate (CIR)/ 100,000	74.5	93.8	84.2
Cumulative Risk of acquiring cancer(0-74 years)	One in 12	One in 11	One in 11

In the period 2012-2016, a total of more than 4,00,000 notifications on new cancers were received in TNCRP. After eliminating duplicates, non-residents and other non-cancer conditions, a total of 65,580 incident cancers were registered in year 2016 with a female preponderance (1:1.26). The overall incidence rate of occurrence of cancer was 84.2 per 100,000 population (Male: 74.5; Female: 93.8). The cumulative risk of acquiring cancer in one's lifetime (0-74 years of age) was one in 12 among women and one in 11 among men in Tamil Nadu (Table 2).

Figure 3: Cancer Incidence & Prevalence Data Tamil Nadu (2012 -2015 and prediction for 2019)



The observed incidence rates and estimated cancer prevalence rates during the period 2012-2015 in TNCRP and the corresponding predicted rates until year 2019 are depicted in Fig. 3. An increasing trend was forthcoming with an estimated 70,000 new cancers (92 per 100,000) and 1,75,000 prevalent cancers (231 per 100,000) in Tamil Nadu in the year 2019.

Figure 4: Crude incidence rate (CIR) by district and sex, All cancers together, Tamil Nadu, Year 2016

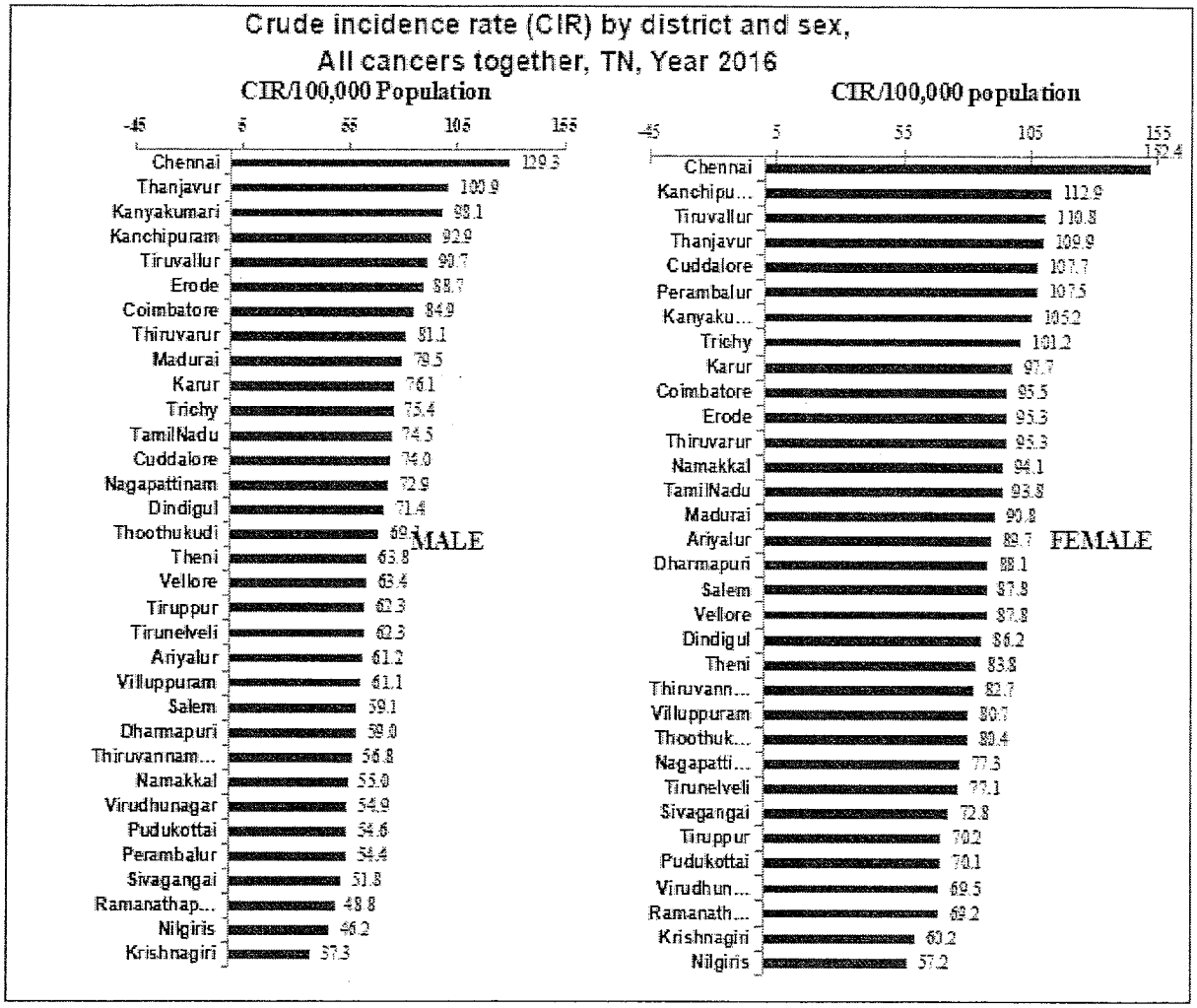


Fig. 4 depicts the incidence rates of occurrence of all cancer together by district among men and women in year 2016. The highest incidence rate was observed in Chennai city among both men (129.3 per 100,000 population) and women (152.4) while the least rate was observed in Krishnagiri district among men (37.3) and in Nilgiris among women (57.2). There were 11 districts among men and 13 districts among women out of a total of 32 districts which witnessed cancer incidence rates that were above the average rate for the whole of the state.

Table 3: Common Cancers by sex in Tamil Nadu, Year 2016

(Range giving the least (L) and highest (H) CIR along with corresponding districts)

State: Tamil Nadu, Year 2016

Cancer Statistics by sex – All sites

	Male	Female	M + F
No. of New cases	29,014	36,566	65,580
% to total cancers	44.2	55.8	-
Crude Incidence Rate (CIR)/100000	74.5	93.8	84.2
Cumulative Risk (0-74 years)	One in 12	One in 11	One in 11

Common cancer incidence

Men (N= 29,014)			Women (N=36,566)		
Site	No.	CIR	Site	No.	CIR
Stomach	2563	6.6	Breast	9575	24.6
Mouth	2410	6.2	Cervix	7548	19.4
Lung	2305	5.9	Ovary	1930	5.0
Large Bowel	1855	4.8	Large Bowel	1362	3.5
Tongue	1607	4.1	Mouth	1355	3.5
Esophagus	1375	3.5	Stomach	1271	3.3
Larynx	1328	3.4	Corpus Uteri	1231	3.2
Leukemias	1298	3.3	Thyroid	1121	2.9
Lymphomas	1172	3.0	Lung	936	2.4
Prostate	1164	3.0	Esophagus	877	2.3

Table 3 gives the crude incidence rates of top 6 ranking cancers among men and women in Tamil Nadu in the year 2016 along with the range of least and highest rates observed with corresponding districts. The commonest cancer among men was stomach (6.6 per 100,000 population) followed by mouth (6.2), lung (5.9) and large bowel (4.8). When tongue and mouth were combined as oral cavity, then it emerged as the top most cancer (10.3). Among women, the order was breast (24.6), cervix (19.4), ovary (5.0), large bowel (3.5), mouth (3.5) and stomach (3.3). A variable incidence of cancer was observed between districts in Tamil Nadu as given in the range of the least and the highest incidence rates with a difference of at least 4-folds for every cancer.

Tamil Nadu State Cancer Policy

Our Vision

- The overall vision for Tamil Nadu is to have a system of Cancer control establishment at all levels of health care which will reduce the State Cancer Incidence, Morbidity and Mortality rates by 2030 in line with the expected SDG goals.
- The key elements to achieve this vision will be to focus on Individuals in the community who will be made aware of desired practices or behaviour which are to be adopted for preventing Cancer and also to increase the awareness of and access to existing early Cancer detection and screening services in the health facilities.
- The State will move towards a population based Cancer registry system with linkages to facility based data along with the development of Hospital based Cancer registries.
- The State will strive to have a network of equitable accessible State-of –the-Art Cancer treatment facilities with potential for providing high end treatment and serve as specialized Centres for Cancer care besides carrying out research on Cancer.

Goals

- To achieve the SDG goal of 1/3rd reduction in premature deaths caused by Cancers both in Paediatric and adult population by 2030.
- To reduce the Cancer burden and improve the quality of life of Cancer patients in Tamil Nadu.

Guiding objectives

The Tamil Nadu State Cancer policy also identifies appropriate objectives that are consistent with this vision. The achievements of these guiding objectives will reduce the burden of Cancer in Tamil Nadu through consistent and effective application of knowledge and efforts aimed to

- Reduce the incidence of Cancer in Tamil Nadu through health promotion and prevention activities.

- Promote awareness and care seeking behaviour among the population through community targeted efforts that address the behavioural risk factors for Cancer especially tobacco use.
- Sustain and enable further the early detection through education of public, patients and professionals and through cost effective, evidence based screening technologies.
- Provide equitable access to care appropriate for those who develop Cancer by ensuring that the services received by needy are appropriate to clinical needs.
- Establish collaboration between the Government institution and the Communities for the efforts towards combating Cancer.
- Ensure Population based Cancer Registry system and strengthened hospital based registry system
- Ensure availability of Palliative care to those who need them in Tamil Nadu.
- Ensure availability of high end diagnostic and treatment facilities for providing conformal and organ conservation treatment to achieve best outcomes possible.
- Strive for ensuring availability of skill trained HR at all levels of Cancer Care.
- Promote high quality research on all aspects of Cancer control.
- Integrate 'Health and Wellness clinic' concept by integrating Yoga into the continuum of care for Cancer.

Tamil Nadu Cancer Care Strategy:

The key components of Cancer Care Strategy will include the following,

- Resources and Administration
- Health promotion and Prevention
- Strengthening the Screening Services
- Strengthening of Cancer Treatment
- Cancer Registry

Resources and Administration:

- To implement **Cancer notification** across the State and ensure placing a **full fledged Cancer registry system**.
- Governance and Health administration would ensure that a framework for 'Tamil Nadu Cancer Control Policy' is drawn and periodically updated.
- To ensure that the Strategy and action plan are structured in line with the Policy framework focusing on health promotion, prevention and management of Cancer.
- Establish State level expert group committee for Cancer Control & Prevention activities.
- Establishment of District level Cancer Control co-ordination Committee.
- To integrate and coordinate the services at all levels of health care for delivering quality service for the beneficiaries.
- To weigh and monitor the HR and infrastructures in Tertiary level Cancer Care institutions and provide continued support for equipping them as for the need in a systematic and sustained manner.
- To ensure that Oncology department in its entirety is **uniformly present** in all Medical College Hospitals and those Medical College Hospital without the department will be strengthened by establishing the same.
- To ensure that a State level initiative is taken to prescribe a standard, uniform treatment guidelines by taking inputs from International & National guidelines so that all Cancer care institutions follow uniform guidelines and avoid institutional level modifications or variations.
- Rationalization of Staff strength in existing Oncology department (Medical Oncology, Surgical Oncology and Radiation Oncology) on a periodic basis to assess institutions which are over burdened and those with less work load on a day to day basis. It would be a policy approach to do rationalization exercise on a periodic basis to ensure that the institutions catering to a large number of Cancer patients are

also provided with appropriate/required number of Human resources to match their work load.

Health Promotion and Prevention:

- Health promotion is defined as a process of **enabling people** to increase control over and to improve their health or activities directed toward increasing the level of wellbeing and actualizing the health potential of Individuals, Families, and Communities.Health promotion includes motivating people to embrace behaviours that improve their emotional and physical quality of life and reduce their risk for morbidity and premature mortality.
- Awareness creation and sensitization of general public, Primary care Physicians and health workers needs to be a priority when framing the IEC strategy.
- Knowledge about the causes of cancer and interventions to prevent and manage the disease has to reach the community through effective IEC Strategy.
- It is required **toplan health promotion activities** in a centralised manner through National Health Mission-Tamil Naduto overseeand implement a proper IEC strategy which uses various strategies such as mass media approachlike short **Videos, Posters, Pamphlets, Hoardings, Social media, Web site** etc for Cancer prevention activities.
- Human Papilloma Virus (HPV) Vaccination should be explored as a definite strategy for prevention. The Vaccination can be piloted after necessary clearance at National and State level. Though the cost of the vaccine is a dissuading factor, the future may hold prospect for lower priced/indigenously produced HPV vaccine.
- The State will also aim for establishing Cancer counselling unit at SCI, TCCCs and RCCs.

- Tobacco Control and Alcohol Cessation will be given due prominence in coordination with respective programs (NTCP & NMHP) as they will synergise the activities aimed at prevention of Cancer.

Screening and Early detection Services

- The most important component in the fight against common cancer is detecting pre-cancerous lesions and early Cancers which are totally amenable for treatment.

- Screening procedures are a vital aspect of Comprehensive Healthcare which is the best way to identify pre-cancer and early stage Cancers without symptoms. Identification in pre-symptomatic/asymptomatic phase is the key for screening program.

- Early detection of cancer greatly increases the chance for successful treatment.

- Early diagnosis of cancer generally increases the chances for successful treatment by focusing on detecting symptomatic patients as early as possible. Delays in accessing cancer care are common with late-stage presentation, particularly in lower resource settings and vulnerable populations. The consequences of delayed or inaccessible cancer care are lower likelihood of survival, greater morbidity of treatment and higher costs of care, resulting in avoidable deaths and disability from cancer. Early diagnosis improves cancer outcomes by providing care at the earliest possible stage and is therefore an important public health strategy in all settings.

Cancer screening services in TamilNadu:

In order to detect the two major cancers affecting Women namely Cervical cancer and Breast cancer at an early non symptomatic stage, Government of TamilNadu has steered a program way back in 2012 during the erstwhile Tamil Nadu Health Systems Project and now sustained & expanded under National Health Mission, Tamil

Nadu.They include program for screening, follow and treatment of Cervical and Breast Cancers and also one separately for Oral Cancers which affects both sexes.

The approaches include;

1) Facility based screening program for Common Cancers
2) Population based Health education and referral for screening
3) Population based screening for Oral cancers.

Facility based Screening Program:

Screening services for Cervical and Breast cancer are being established in all Primary, Secondary and Tertiary care facilities in TamilNadu where a trained NCD staff Nurse is the point of contact. A NCD Staff Nurse carries out the screening tests for women visiting the Health facility and refers according to a protocol to higher centers for disease confirmation and further follow up.

Population based Health education and Referral

- The Village Health Nurse at the Health Sub Centre (HSC) provides Health education for common Cancers at the community level and motivates people for screening. Since 2019, there is also Population based NCD screening program at selected districts and Corporations at the household level in the Health Sub Centre (HSC) area primarily by Woman Health Volunteer identified from network of TNCDW.
- In Population based NCD screening program the women Health volunteers in addition to screening for Hypertension and Diabetes at house hold, they also counsel and motivate women for undergoing Cancer screening at the nearest PHC.
- Also, the female population in the Community will be taught about self breast examination and maintenance of genital hygiene. They also look for suspicious signs and symptoms for common cancers and refer them in time to the nearest PHC.

Breast Cancer:

In order to improve breast cancer outcomes and survival, early detection is critical. There are two early detection strategies for breast cancer: early diagnosis and screening. Limited resource settings with weak health systems where the majority of women are diagnosed in late stages should prioritize screening and early diagnosis programmes based on awareness of early signs and symptoms and prompt referral to diagnosis and treatment. At the Community level, promoting Breast Self Examination (BSE) will enhance the chances for self reporting of abnormal swelling in Breast.

Early diagnosis strategies focus on providing timely access to cancer treatment by reducing barriers to care and/or improving access to effective diagnosis services. The goal is to increase the proportion of breast cancers identified at an early stage, allowing for more effective treatment to be used and reducing the risks of death from breast cancer.

Cervical Cancer:

Screening aims to detect precancerous changes, which, if not treated, may lead to cancer. Women who are found to have abnormalities on screening need follow-up, diagnosis and treatment, in order to prevent the development of cancer or to treat cancer at an early stage.

For Cervical Cancer, WHO has concluded that;

- Screening should be performed at least once for every woman in the target age group (30-49 years) when it is most beneficial;
- HPV testing, cytology and visual inspection with acetic acid (VIA) are all recommended screening tests;
- Cryotherapy or Loop electrosurgical excision procedure (LEEP) can provide effective and appropriate treatment for the majority of women who screen positive for cervical pre-cancer;
- "screen-and-treat" and "screen, diagnose and treat" are both valuable approaches.

  Regardless of the approach used, the key to an effective programme is to reach the largest proportion of women at risk with quality screening and treatment. Organized screening programmes

designed to reach most women at risk are preferable to opportunistic screening.

Strengthening of Cancer Care:

The following action will be followed by the State to strengthen the ongoing Cancer care system.

- Establishment of Cancer Care Grid
- Establishment of Apex State Cancer Institute
- Establishment of Tertiary Cancer Care Centres
- Establishment of Regional Cancer Care Centres
- Establishment of Chemotherapy unit at District Head Quarters Hospital
- Establishing and maintaining Cancer data registries
- Cancer Rehabilitation Unit at the district hospital and medical college hospital level
- One specialized Histopathology diagnostic unit at District head Quarters Hospital
- Telemedicine/mobile medicine
- Paediatric Cancer Care

Establishment of Cancer Care Grid:

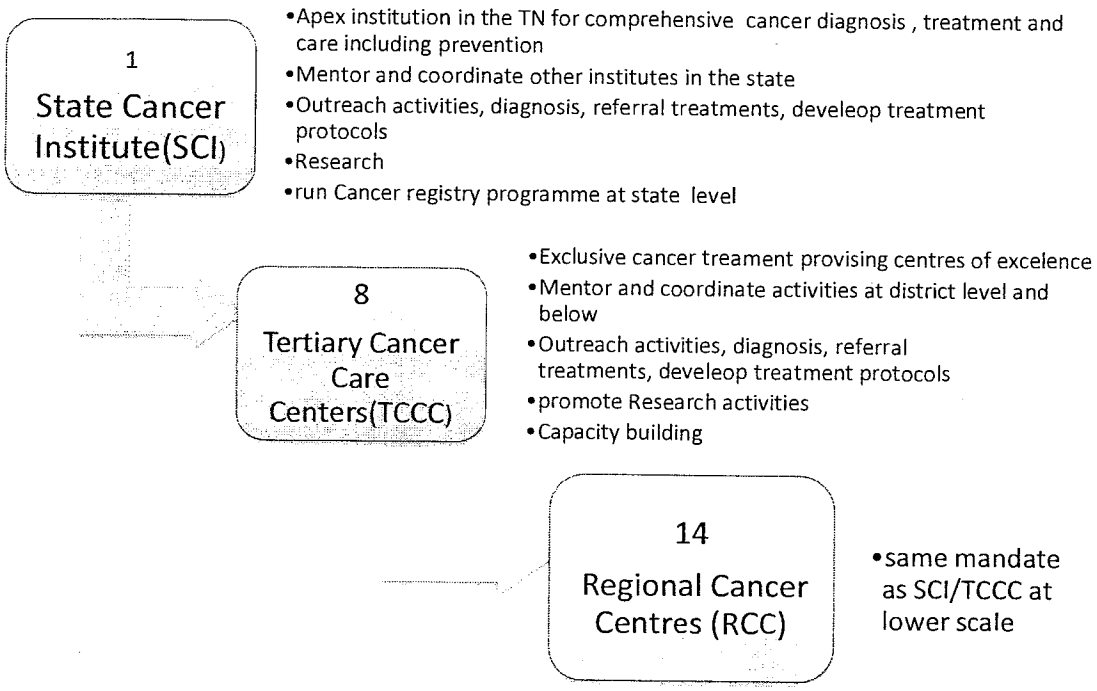
The National Cancer Grid is a network of major Cancer Centres, Research Institutes, patient groups and Charitable Institutions across India with the mandate of establishing uniform standards of patient care for prevention, diagnosis and treatment of Cancer, providing specialized training and education in Oncology and facilitating collaborative basic, translational and clinical research in Cancer.

At present, only very few Government institutions are the members of National Cancer Grid. Tamil Nadu Cancer Care Grid has to be established which will provide a network of all Cancer care providing facilities across the entire state. Also, it has to be ensured that all the facilitiesget enrolled in both State and National Cancer Care Grid so that the entire State can

provide seamless care from prevention to treatment, palliation and rehabilitation.

State Model for Prevention and Control of Cancer

In order to achieve the objectives stated, a structure for smooth and efficient implementation of Cancer care will be established.



Establishment of Apex State Cancer Institute - a State of the Art Tertiary Center for Treatment, Research and Education in Cancer:

Adyar Cancer Institute in Chennai is functioning as State level higher treatment centre for Cancer. To tackle the rising burden of Cancer in our state, it is high time to develop a Government center as Apex State Cancer Institute so that all elements of Cancer control, from surveillance to Palliative care, will be delivered in one roof. Hence, the State of the Art Tertiary Center for Treatment, Research and Education in Cancer care will be established in one of the Government Medical College Hospitals preferably Government Arignar Anna Memorial Cancer Institute, Kancheepuram which is currently the Regional Cancer Centre for TamilNadu catering exclusively to Cancer patients. This Apex center will be

- Catering people suffering from Cancer from all over the state.
- With a 1000 bedded Cancer in patient facility
- With well equipped and functional departments of Medical Oncology, Surgical Oncology, Radiation Oncology, Nuclear Medicine, Neurosurgery, Gynaec-Oncology, Pediatric Oncology, ENT, Anesthesia, Pathology, Radiology and Palliative care.
- Providing high end Radiological and Molecular level diagnostic facilities
- Screening services for all common Cancers
- Providing high end conformal and organ conservation treatment modalities
- Facilitating capacity building for all cadres in Cancer care for strengthening Government programs
- Hand holding professionals from peripheral hospitals for the treatment of complicated cases.
- Serving as Center of Excellence in Nuclear Medicine
- With 50 bedded Palliative care in-patient facility
- Providing Hospice services for Palliative care patients
- Providing rehabilitation services for Cancer patients
- Holding state level Cancer Registry maintaining both Institutions based and Population based Cancer data.
- Facilitating Research activities pertaining to Cancer.
- Providing Post Graduate/Diploma/Fellowship courses in various Oncology fields for Doctors and Staff Nurses.
- Contributing to development of standard treatment guidelines
- Providing patient friendly facilities like Service apartments, Prayer Halls, Yoga/Meditation Hall, etc.

Establishment of Tertiary Cancer Care Centers:

The aim is to deliver comprehensive care from diagnosis and treatment to supportive integrative therapies. Oncology Departments in certain Medical College Hospitals will be converted into Tertiary Cancer Care Centers which will act as centers of excellence in Cancer care across

the state. This will eliminate the need for patients to visit multiple locations and to travel long distance for disease confirmation and treatment.

Each Tertiary care Center,

- Will have well equipped Medical Oncology, Radiation Oncology and Surgical Oncology departments with other supporting Departments.
- Will have 200- 300bedded Cancer in-patient facility
- Will facilitate capacity building for all cadres in Cancer care for strengthening Government programs
- Will hand hold professionals from peripheral hospitals in treatment of complicated cases.
- Will provide Post Graduate/Diploma in various Oncology fields for Doctors and Staff Nurses.
- Will have 20-50 bedded palliative care in-patient facility
- Will act as Referral centers for other institutions in Cancer care.
- Will facilitate Tele-medicine activities and Virtual tumor Board for Regional centers

List of Tertiary Cancer Care Centers to be established in TamilNadu:

1. Rajiv Gandhi Government General Hospital, Chennai
2. Stanley Government General Hospital, Chennai
3. Government Multi Super Specialty Hospital, Chennai
4. Royapettah Government General Hospital, Chennai
5. Coimbatore Medical College Hospital
6. Thanjavur Medical College Hospital
7. Tirunelveli Medical College Hospital
8. Madurai Medical College Hospital

This list may not be all inclusive as it will adopt and add up all the newly formed Medical Colleges in the State over the Course of time.

Establishment of Regional Cancer Care Centers:

All basic diagnostic and treatment facilities will be made available in Regional Cancer Centers which will be established in all Medical College Hospitals in TamilNadu. It will be a 50 - 100 bedded Cancer facility with necessary Human Resource and Equipment.

List of Regional Cancer Care Centers to be established in TamilNadu:

1. Chengalpet Medical College Hospital
2. Dharmapuri Medical College Hospital
3. Kanyakumari Medical College Hospital
4. Govt. Mohan Kumaramangalam Medical College Hospital, Salem
5. Pudhukottai Medical College Hospital
6. Sivagangai Medical College Hospital
7. Tiruvarur Medical College Hospital
8. Thiruvannamalai Medical College Hospital
9. Theni Medical College Hospital
10. Thoothukudi Medical College Hospital
11. Trichy Government Medical College Hospital
12. Vellore Medical College Hospital
13. Villupuram Medical College Hospital
14. IRT Perundurai Medical College Hospital, Erode

Medical education at the level of SCI

The Apex State Cancer Institute and the Tertiary Cancer Care Centers in Government sector and a few private institutions will play a key role in generating trained manpower in Cancer control through conducting super specialty, postgraduate, post-doctoral, fellowship, graduate and diploma level academic programmes in different areas such as Radiotherapy, Surgical Oncology, Cancer Research (Biotechnology), Cancer Epidemiology, Nursing, Blood Banking, Laboratory Technology, Cyto-pathology, Microbiology, Radiation Physics, etc. The Apex State Cancer Institute will also run a Community Oncology division to generate trained manpower for

planning and executing community lead activities. The following is the list of academic courses related to oncology.

Table 1: List of academic courses that will be run by the proposed State Cancer institute

Course name	Duration
MCh (Surgical Oncology)	3 Yrs
MCh (Head and Neck Oncology)	3 yrs
MCh (Gynec-oncology)	3 yrs
MD (Radiotherapy)	3 Yrs
MD (Radio diagnosis)	3 Yrs
MD (Pathology)	3 Yrs
DM (Medical Oncology)	3 Yrs
DM (Paediatric Oncology)	3 Yrs
Doctoral research programme	2 yrs
Post-Doctoral Certificate Course in Oncopathology	2 Yrs
Advanced training in Diagnostic Imaging	1 Yr
Fellowship in Head & Neck Surgery	2 Yrs
Fellowship in Gynaecologic Oncologic Surgery	2 Yrs

Table 2: List of courses to be offered by the proposed SCI to support specific Cancer Care & Allied services

Course name	Duration
Certificate Course in Palliative Care	8 weeks of distance learning program
Post basic Diploma in Oncology Nursing	1 yr
Certificate Course on Cytotechnology	1 Yr
Certificate Course for Cytotechnician	1 yr
Certificate Course on Histotechnology	1 Yr
Certificate Course on Quality excellence program in Pathology	1 yr
Certificate Course in Psycho-Oncology	1 Yr

Data Management unit at TCCC/SCI

A strong and efficient data management team will be set up at TCCC and SCI level. They will be required to collect, analyze and disseminate results in form of monthly and annual reports. They will be networked with the units under them for data reporting which will be done as part of the existing HMIS system.

Cancer Rehabilitation Unit at the District hospital and Medical college hospital level

The Cancer rehabilitation unit will help patients regain strength, physical functioning and independence that they may have lost due to Cancer or its treatment.

Objectives:

- Improving physical strength to help offset limitations caused by Cancer and Cancer treatment
- Increasing the Individual ability to care for himself or herself and reducing support needed from caregivers
- Providing support to adjust to actual, perceived, and potential functional & physiological losses due to Cancer and Cancer treatment
- Managing symptoms of Cancer and its treatment side effects including fatigue, sleep problems and pain.

The Cancer rehabilitation team will be established in all District Head quarters Hospitals and Medical College Hospital under Palliative care services. The suitable Man Power from various programs like National Program for Palliative care, National Program for Health care of Elderly, Program for Occupational Health, National Mental health Program etc will be engaged in providing rehabilitation services for Cancer patients. The Cancer rehabilitation team will be composed of the following members,

- Palliative care Medical Officer will lead the Cancer rehabilitation team
- Psychiatrist
- Psychologist (Specialized in Oncology)
- Physiotherapist
- Rehabilitation nurse
- Dietitian
- Social worker helps with coping skills and lifestyle changes.

Since Oncology is a Super-Specialization, it is preferable that the rehabilitation team have either prior work experience in an oncology setting or should have completed courses such as Fellowships / Diploma / PG Diploma / M.Phil specific to Oncology.

Cancer Care at District Hospital Level:

Dedicated chemotherapy unit will be placed at District Headquarters Hospital level:

A lot of Cancer patients fall out of treatment due to long waiting hours and out-of-pocket expenditure incurred for repeated visits to tertiary care institution for Chemotherapy. Under Daycare Chemotherapy component of NPCDCS, a Day care Chemotherapy unit is established in all District Head Quarters Hospitals so that patients on completion of their first cycle of Chemotherapy in a tertiary care institution need not go to the same institution repeatedly for the rest of the Chemotherapy cycles.

The treatment decision for the diagnosed Cancer patients will be decided in tumour board at tertiary care hospital and the first Chemo cycle also would be given there. Then the follow up or maintenance chemotherapy which involves more cycles will be given at District Headquarters hospital.

To ensure that the follow up or maintenance chemotherapy is delivered at the District Headquarter hospital, Physician andStaff Nurse in each district have been trained in Day Care Chemotherapy at Medical Oncology Department of Rajiv Gandhi Government General Hospital at State level. The current provision for the Day Care Chemotherapy will continue as a State policy for the benefit of Cancer patients.

One specialized Histopathology diagnostic unit at District head Quarters Hospital in Districts without Medical Colleges:

The biggest challenge in the Cancer screening program is ensuring Histopathological tests and to confirm the diagnosis. At present, the facility for histopathological examination is available only in the Medical College Hospitals which are already overburdened as they cater to the service needs of neighbouring districts without a Medical college. There are 13 districts which do not have a Medical College Hospital and therefore lacks provision of Pathology laboratory services. The public who opt for tests in private Pathology laboratories incur heavy Out-of-pocket Expenditure (OOPE). In order to maintain the continuum of care, Histo-Pathology laboratories are

being established at the District Head Quarters Hospital level in 10 districts without Medical colleges. The Institute of Pathology at Madras Medical College Chennai will act as the Apex institute for providing the necessary guidance for establishing the Pathology laboratories. This ongoing initiative will continue as a policy of the State to empower Districts without Medical Colleges to improve their Histopathology services.

Telemedicine/mobile medicine

Telemedicine technology can serve to redistribute the Oncology work force in a rational way where ever needed. The convenience of Teleoncology may serve to minimize the progression of the disease through timely intervention. Telemedicine can be utilized for

1. Weekly teleconferences: 14 RCCs can consult with teams at TCCC levels to discuss the case management and referral.
2. A Virtual tumor board at the level of RCC for hand holding District hospitals with Day Care Chemotherapy units, Palliative care units and Cancer Rehabilitation unit to ensure multidisciplinary care for patients diagnosed with Cancer.
3. Telepathology services: On-site evaluation of cytology preparations plays a critical role in minimally invasive procedures. Due to shortage of pathologist, having a pathologist for on-table Cyto evaluation for all minimally invasive and organ conservation procedures becomes difficult. Therefore Telepathology through stream lining high-definition video Microscopy can help in getting reports for the on-table cytology immediately and thereby increasing the success of such surgical procedures.
4. Teleconsultation for field activities: For those battling life-threatening illnesses, distance can be a critical limitation in achieving fast and high-quality care. To help patients stay well while staying closer to home and living their lives, Teleconsultation can be utilized by Community Staff Nurse, ANM and field staff like ASHA to get opinion from Doctor on certain procedures or minor intervention to be carried

out at the household thereby improving the quality of life of the patients.

Hence efforts will be initiated to develop Telemedicine facilities in all Cancer care institutions in phased manner.

Pediatric Cancer Care:

- Early diagnosis is an important tool to identify and increase the cure rates of many childhood Cancers. At present there is a gap due to absence of exclusive Pediatric Oncology Services.
- The routine general examination should be done periodically which is an integral part of early diagnosis.
- To encourage 100% Hepatitis 'B' Vaccination in order to prevent Liver Cancers.
- Incorporating Pediatric Oncology as one of theSpecialityOncology department in all Medical Colleges and Tertiary Cancer Care Centers.
- Childhood Cancer services would be integrated with all levels of Cancer care in State Cancer Grid.

CANCER REGISTRY:

Establishing and maintaining Cancer data registries

A Cancer registry is an information system designed for the collection, storage, and management of data on Cancer patients. Registries play a critical role in Cancer surveillance, which tells us the current status and to plan for steps to be taken to reduce the Cancer burden. Surveillance data may also serve as a foundation for Cancer research and also serves as a guiding light to plan and evaluate Cancer Prevention and Control interventions.

Cancer Registry helps to

- Determine and define Cancer patterns among various population or sub-population in their socio-economic, cultural or occupational context
- Monitor Cancer trends over time

- Guide planning and evaluation of Cancer control efforts
- Help prioritize Health resource allocations for Cancer Care at different levels of health care
- Advance Clinical, Epidemiological, and Health services research pertaining to Cancer Control.

The continuing Cancer surveillance till date, through population-based Cancer registries has provided significant leads for Cancer control and led to pioneering state wide population-based Cancer screening and early detection programs. Hence Government of TamilNadu decided to make Cancer as a compulsorily 'Notifiable Disease' under TamilNadu Public Health Act 1939. The Government order No.66, dated 22.02.2018 mandates notification of Cancer by Government and Private institutions all over the state. As per this Government Order, every Cancer incidence has to be compulsorily notified to Directorate of Public Health and Preventive Medicine through Deputy Director of Health Services at district level.

Currently the State wide Population Cancer Registry is located at the Cancer Institute (WIA), Adyar, Chennai and has been continuously collecting data since 2014 from 2078 data sources in the state and certain other reporting sites in India. It is efficiently managed and maintained by well experienced Registry staff who actively collect data from the above sources and collate. The Tamil Nadu Cancer Control Programme may be effectively monitored and evaluated using the State wide cancer registry data. This State wide cancer registry will continue to function from the Cancer Institute and will closely interact with the proposed Government State Apex Cancer Institute which will be the State of the Art Tertiary Center for Treatment, Research and Education in Cancer care and with the Tamil Nadu Health services and the cancer control establishment".This will be carried out through the Integrated Cancer Registry, a collaborative Cancer surveillance program of the department of Health & Family Welfare, Government of Tamil Nadu and Cancer Institute (W.I.A), Chennai using the online data reporting system. The Cancer Institute (W.I.A) will technically support the State Apex Cancer Institute in evolving Cancer registration activities.

Palliative Care Services

Govt. in the G.O (M.S) No: 262 Health & Family Welfare (EAP II-I) dept dated 07.06.2019 has already approved the State level Palliative Care Policy. Since Palliative Care is closely associated with most of Cancer Patients, the excerpts from the overall Policy is presented here below to make the overall description complete.

Concept of Palliative Care:

A World Health Organization statement describes palliative care as "an approach that improves the quality of life of patients and their families facing the problems associated with life threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."

More generally, the term "palliative care" may refer to any care that alleviates symptoms, whether or notthere is hope of a cure by other means. In addition to improving quality of life and helping with symptoms, Palliative care can help patients understand their choices for medical treatment. Palliative care can behelpful at any stage of illness and is best provided from the point of diagnosis. Palliative care can beprovided along with curative treatment and does not depend on prognosis.

Principals of Palliative care:

- Affirms life and regards dying as a normal process
- Neither hastens nor postpones death
- Provides relief from pain and other distressing symptoms
- Integrates the psychological and spiritual aspects of care
- Offers a support system to help patients live as actively as possible until death

• Offers a support system to help patients' families to cope with the patient through the entire courseof illness until death and also throughout the bereavement process undergone by the family.

Palliative care is care that helps people live their life as fully and as comfortable as possible when living with a life-limiting or terminal illness. It is often given to people with advanced cancer but palliative care can be used at any stage when cancer is active.

- Palliative care helps to reduce the severity of symptoms and treatment side effects in cancer patients like reducing pain, nausea, constipation, diarrhea, intra cranial tension etc
- Palliative care helps in addressing the mental trauma faced by cancer patients.Counselling and support services helps in reducing depression, anxiety, fears, worries or conflicting emotions experienced by cancer patients.
- Palliative treatments help to slow the growth or spread of cancer if it cannot be cured.
- Palliative treatments help to reduce bone pain and stabilize impending fractures.
- Palliative care helps to integrate the psychological and spiritual aspects of care
- Palliative care offers a support system to help patients' families to cope with the patient through the entire course of illness until death and also throughout the bereavement process undergone by the family.

Aim

To ensure that palliative care is available and accessible to the majority of the needy in Tamil Nadu by a thrust through the primary health care approach

Objectives

- Pain relief management
- Establishment of District HQ level – palliative care units with separate wards and dedicated nurses
- To Train Medical officers and Nurses in palliative care management

Our hope is that improving access to palliative care in a large hospital through link-nurses will improve care and knowledge about palliative care will increase in the hospital so that more patients will have access to the service.

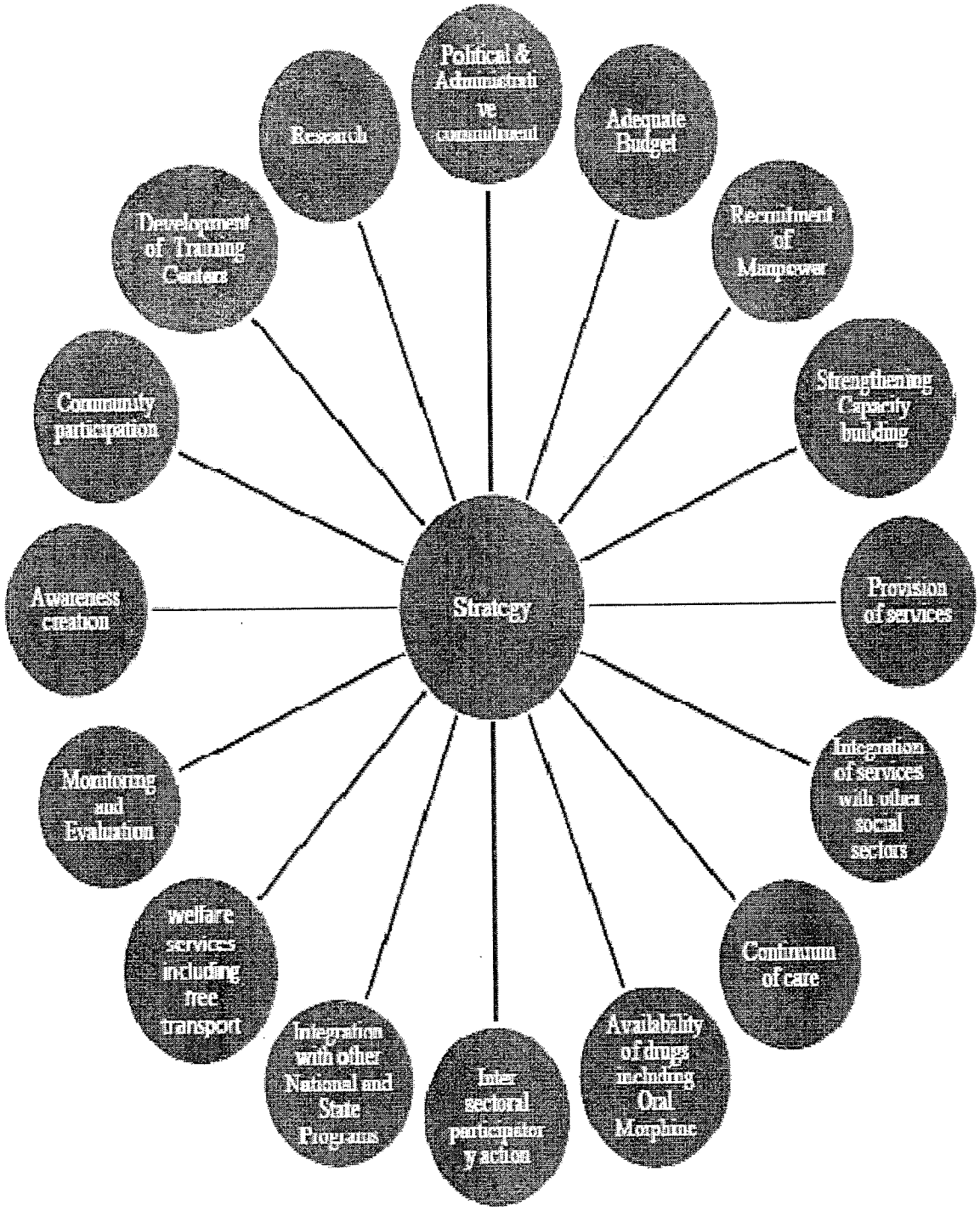
Integration of Palliative Care into Public Health Care Systems:

In 2014, The World Health Assembly (WHA 67.19) had resolved that palliative care is "an ethicalresponsibility of health systems" and that integration of palliative care into public health care system is essential for the achievement of the Sustainable Development Goal on universal health coverage.WHA 67.19 called upon WHO and Member States to improve access to palliative care as a corecomponent of health system, with an emphasis on primary health care and community/home-basedcare.As palliative care is an integral part of care for all patients, and the most beneficial approach to care forpatients with advanced disease, it is important and justified that the state of TamilNadu integrates painrelief and palliative care services to health care systems at all levels.

Strategy:

With a view to respond to the present and future needs in Palliative care, the strategy must beHolistic one to evolve palliative care as a multi pronged approach with welfare support and integration with other related National programs/ sectors. The strategy may contribute to an environment for continued expansion and improvement of palliative care service delivery across the health system. The state strategy will reflect the current service

environment and challenges, strengthened by an implementation plan and a monitoring and evaluation framework.



Strengthening of Palliative care services in TamilNadu

- The National Health Mission, TamilNadu steered intensive efforts to take the palliative care services both at institutional and community level.
- Institutional palliative care services for all patients with debilitating diseases were implemented in TamilNadu in a phased manner under National Program for Palliative care (NPPC) supported by National Health Mission.
- Palliative care unithas been implemented in all District Head Quarters Hospitals and all the Medical college Hospitals.
- Oral Morphine Tablets are made available in all District Head Quarters Hospitals.
- In each district, a team of Medical Officer and Staff Nurses have been sanctioned. The team is supported by 2 multipurpose hospital workers appointed through outsourcing.
- The Medical Officers from each district were trained in pain palliation and Morphine management and Nurses in Palliative care nursing.
- Home Based Palliative Care services have been implemented in 210 blocks and will be expanded to all the blocks.
- Palliative care services are provided at patient's home by Community Palliative and Geriatric care Staff nurses by 1 Staff nurse per block.

Conclusion

By 2030, the goal should be to achieve a 1/3rd reduction in premature deaths caused by cancer in Tamil Nadu.

We can achieve this goal of 1/3rd reduction in mortality by focusing on strengthening human resources, diagnostic and treatment facilities depending on the levels of health care. Additionally, placing efficient teams and units at State Institute, strengthening TCCC, RCC and the district HQs is vital for achieving this. While utilizing the current strengths, the goal can be achieved by focusing on all the key elements elucidated in this Policy document.

References

NCRP (National Cancer Registry Program) Three-year Report of 27 Population-Based Cancer registries in India: 2012-2014. National Centre for Disease Informatics and Research of Indian Council of Medical Research, Bengaluru, 2016.http://pbcr.ncdirindia.org/index.aspx

- *GLOBOCAN (Global Burden of Cancer) 2018. International Agency for Research on Cancer, Lyon, France, 2018. https://gco.iarc .fr/today/ home*
- *Swaminathan R, Shanta V, Rama R, et.al., Cancer incidence and mortality in Chennai, India. In: Cancer incidence in five continents, vol XI, International Agency for Research on Cancer (IARC), Lyon, France, 2017. http://ci5.iarc.fr/CI5-XI/PDF/Asia/435600499.pdf*
- *Swaminathan R, Selvakumaran R, Sampath P, et. al. Cancer incidence and mortality in Dindigul-Ambilikkai, India. In: Cancer incidence in five continents, vol XI, International Agency for Research on Cancer (IARC), Lyon, France, 2017. http://ci5.iarc.fr/CI5-XI/ PDF/ Asia/ 435601199. pdf*
- *https://phfi.org/the-work/research/the-india-state-level-disease-burden-initiative/*
- *https://niti.gov.in/content/death-rate*
- *http://www.who.int/palliativecare/en/*
- *archives.who.int/eml/expcom/expcom15/applications/newmed/palliative/PAL_Summarynational ncdsubmit.in/NCDDetails.aspx?Id=5*
- *https://phfi.org/the-work/research/the-india-state-level-disease-burden-initiative/*
- *https://niti.gov.in/content/death-rate*
- *http://www.who.int/palliativecare/en/*
- *http://www.who.int/selection_medicines/committees/expert/19/applications/PalliativeCare_8_A_R.pdf*
- *http://archives.who.int/eml/expcom/expcom15/applications/newmed/palliative/PAL_Summary_editors.pdf*
- *http://palliativecare.in/tag/course/*
- *https://www.ncbi.nlm.nih.gov/pubmed/28797849*
- *https://mohfw.gov.in/documents/policy*
- *https://www.nationalncdsubmit.in/NCDDetails.aspx?Id=5*
- *https://www.census2011.co.in/census/state/tamil+nadu.html*
- *http://dspace.sctimst.ac.in/jspui/bitstream/123456789/2134/1/MPH_6151.pdf*
- *https://kerala.gov.in/palliative-care*
- *https://palliumindia.org/cms/wp-content/uploads/2014/01/palliative-care-policy-Kerala-109-2008-HFWD-dated-15.4.08.pdf*
- *https://palliumindia.org/cms/wp-content/uploads/2014/01/maharashtra-palliative-care-policy-2012.pdf*
- *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3140096/*
- *http://www.tnhealth.org/healthdirectorates.htm*
- *G.O (M.S) No: 262 Health & Family Welfare (EAP II-I) dept dated 07.06.2019*

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SECRETARY TO GOVERNMENT

//True Copy//

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