TATA MEMORIAL CENTRE

A Grant-in-Aid Institute,
Department of Atomic Energy,
Government of India.

Cancer Care Continuum
Not just for India

Annual Report 2019 - 2020

The inauguration of Mahamana Pandit Madan Mohan Malaviya Cancer Centre & the Homi Bhabha Cancer Hospital in Varanasi by the Honorable Prime Minister, Shri Narendra Modi on 19th February 2019. Seen from the left: Chairman of Atomic Energy Commission, Shri KN Vyas; Vice-Chancellor of Banaras Hindu University, Mr Rakesh Bhatnagar; Director of Tata Memorial Centre, Dr. RA Badwe; Ex-Chairman of Tata Trusts, Mr Ratan Tata; Former Governor of Uttar Pradesh, Mr Ram Naik; Chief Minister of Uttar Pradesh, Mr Yogi Adityanath; Member of Lok Sabha, Mr Mahendra Nath Pandey; and Deputy Director of Centre for Cancer Epidemiology, Dr Pankaj Chaturvedi.

The distinguished dignitaries with the Prime Minister Shri Narendra Damodar Modi at the inaugural function of Mahamana Pandit Madan Mohan Malaviya Cancer Centre, Varanasi.

ANNUAL REPORT
2019 - 2020

Tata Memorial Centre

(A Grant-in-Aid Institute, Department of Atomic Energy, Government of India.)

- Tata Memorial Hospital, Mumbai.
- Advanced Centre for Treatment, Research & Education in Cancer, Navi Mumbai.
- Centre for Cancer Epidemiology, Navi Mumbai.
- Homi Bhabha Cancer Hospital & Research Centre, Visakhapatnam.
- Homi Bhabha Cancer Hospital & Research Centre, Mullanpur.
- Homi Bhabha Cancer Hospital, Sangrur.
- Mahamana Pandit Madan Mohan Malaviya Cancer Centre, Varanasi.
- Homi Bhabha Cancer Hospital, Varanasi.
- Dr. Bhubaneswar Borooah Cancer Institute, Guwahati.

The Tata Memorial Centre provided care to more than 1, 25, 000 new cancer patients in the year 2019.

Mission and Vision of Tata Memorial Centre

Mission

The Tata Memorial Centre's mission is to provide comprehensive cancer care to one and all, through its motto of excellence in service, education and research.

Vision

As the premier cancer centre in the country, we will provide leadership in guiding the national policy and strategy for cancer care by:

- **Promoting outstanding services through evidence based practice of oncology.**
- **Commitment of imparting education in cancer to students, trainees, professionals, employees, and the public.**
- **Emphasizing on research that is affordable, innovative and relevant to the needs of the country.**

The Governing Council

Chairman

Shri Kamlesh Nilkanth Vyas
Chairman, Atomic Energy Commission &
Secretary, Department of Atomic Energy,
Government of India.

Members, Ex-Officio

Mr Sanjay Kumar
Joint Secretary (Admin & Accounts),
Department of Atomic Energy, Government of India.

Dr. RA Badwe
Director, Tata Memorial Centre, Mumbai.

Co-opted Members

Mrs Richa Bagla
Joint Secretary (Finance),
Department of Atomic Energy, Government of India.

Dr Snehalata Deshmukh
Ex-Vice Chancellor, University of Mumbai.

Members

Dr. NK Ganguly
Former Director General,
Indian Council of Medical Research, New Delhi.

Mr Jayant Kumar Banthia
Ex-Chief Secretary, Government of Maharashtra.

Mr Vijay Singh,
Vice Chairman, Sir Dorabji Tata Trust, Mumbai.

Mr Lakshman Sethuraman
Head of Support Services, Sir Dorabji Tata Trust, Mumbai.

Permanent Invitees

Dr. CS Pramesh
Director, Tata Memorial Hospital, Mumbai.

Dr. SD Banavali
Director (Academics), Tata Memorial Centre, Mumbai.

Dr Sudeep Gupta
Director, Advanced Centre for Treatment Research & Education in Cancer (ACTREC), Navi Mumbai.

Mr Sanjeev Sood
Director Admin. (Projects), Tata Memorial Centre, Mumbai.

Dr Digamurti Raghunadharao
Director, Homi Bhabha Cancer Hospital & Research Centre (HBCHRC), Visakhapatnam.

Dr Amal Ch. Kataki
Director, Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati.

Dr Satyajit Pradhan
Director, Mahamana Pandit Madan Mohan Malaviya Cancer Centre, Varanasi.

Secretary

Mr. AN Sathe
Chief Administrative Officer, Tata Memorial Centre, Mumbai.

Tata Memorial Hospital in Mumbai is India's largest cancer centre.

Contents

Director TMC, Message

A canvas of cancer care was planned to cover 1.3 billion population of India. The Department of Atomic Energy picked up this gauntlet with a goal of reaching 0.15 million patients being cared for by the emerging network of TMC and offer uniform care to atleast 70% of million cancer patients seen annually in India and to achieve this by the end of 2020. The year 2019 began with inauguration of Mahamana Pandit Madan Mohan Malaviya Cancer Centre in Varanasi at the hands of Honorable Prime Minister of India, in presence of Mr. Ratan Tata. The systematic commissioning of Homi Bhabha Cancer Hospital (erstwhile Railway Cancer Hospital) had already cared for over 10,000 cancer patients in the first year, a number that is reached in 3-5 years by any new cancer hospital in India. The first bone marrow transplant was carried out in UP for a leukaemia patient; an ideal hub that would look after cancer patients in UP, the most populous state in India, where there is no state of art cancer care centre.

Two new facilities were unveiled one each at Sangrur (Punjab) and Visakhapatnam (Seemandhra) to expand or initiate diagnostic and therapeutic radiation. Two additional facilities for cancer care were planned. The first was expansion and refurbishment at BBCI in Guwahati and the second at Muzaffarpur in Bihar. The user mandate and architectural details were completed. The three prong strategy for cancer care: of creating Hubs and Spokes; the National Cancer Grid; and Navya, an online second opinion for cancer, has now treated over 0.15 million patients in TMC network, and offered uniform care to 70% of cancer patients in India, as envisaged in the DAE vision statement.

The most successful program to improve access to uniform care across India, the National Cancer Grid was extended to the global community in the form of Vishwam Cancer Care Connect (VCCC) in Vienna as part of the IAEA General Assembly in August 2019. Eleven countries have shown keen interest; training for cancer care has begun for doctors, nurses and paramedics from these countries from Africa, Central Asia and the Orient (SAARC).

A detailed data cleansing and audit was performed on three major trials in breast and oesophageal cancer for analysis planned during the second half of 2020. These trials are some of the largest trials in their class (clinical and public health) and are expected to have a major impact on screening and treatment of breast and oesophageal cancer. A major effort was begun to study some of the indigenous plant products in some novel trials in oral, breast, lung and pancreatic cancer. These plant products if proven effective will make treatment of cancer simple and cost-effective.

Creating human resources for cancer has been the mandate of TMC and we now have courses in oncology and all allied branches beginning in Varanasi, Guwahati, Vishakhapatnam and Sangrur with

affiliation to the local universities. This would facilitate creating trained workforce locally; such contribution from multiple sites will bolster human resource to look after cancer problem of India.

Six oral presentations were made in international meetings of repute (ASCO & ESMO) and many in other meetings. The total publications for the year stand at 488 and the impact factor of the journals where they were published reached a very high figure of 70.67.

We strive to make cancer insignificant so that the need for oncologist in society should be reduced. We work vigorously towards our irrelevance.

Dr. RA Badwe

Galaxy
of
Tata Memorial Centre

Director, TMC; Dr. RA Badwe
Director Academics, TMC; Dr. SD Banavali
Deputy Director Academics, TMC; Dr. SS Laskar
Chief Administrative Officer, TMC; Mr. AN Sathe
Chief Engineer, TMC; Mr Gurunam Singh Dhanoa
Chief Security Officer, TMC; Mr Johnson Lukose
Joint Controller of Finance & Accounts, TMC; Mr Suryakant Mohapatra
Head of Information Technology, TMC; Mr. VN Marathe

*All permanent medical staff in Mumbai & Navi Mumbai are affiliated to TMC.

Tata Memorial Hospital (TMH), Mumbai - Maharashtra

Director, Dr. CS Pramesh
Deputy Director, Dr. SV Shrikhande.

Advanced Centre for Treatment, Research & Education in Cancer (ACTREC), Navi Mumbai - Maharashtra

Director, Dr Sudeep Gupta
Deputy Director, Dr. HKV Narayan
Deputy Director Cancer Research Institute, Dr Prasanna Venkatraman
Deputy Director Cancer Research Centre, Dr Navin Khattry.

Centre for Cancer Epidemiology (CCE), Navi Mumbai - Maharashtra

Director, Dr Rajesh Dixit
Deputy Director, Dr Pankaj Chaturvedi.

TMC Cancer Hospitals across India

Director Admin. (Projects), Mr Sanjeev Sood.

Homi Bhabha Cancer Hospital & Research Centre (HBCHRC), Visakhapatnam - Andhra Pradesh

Director, Dr Digamurti Raghunadharao
Officer in Charge, Dr. DC Chaukar.

Homi Bhabha Cancer Hospital & Research Centre (HBCHRC), Mullanpur - Punjab

Officer in Charge, Dr. PS Pai.

Homi Bhabha Cancer Hospital (HBCH), Sangrur - Punjab

Officer in Charge, Dr. PS Pai.

Mahamana Pandit Madan Mohan Malaviya Cancer Centre (MPMMCC), Varanasi - Uttar Pradesh

Director, Dr Satyajit Pradhan
Officer in Charge, Dr Pankaj Chaturvedi.

Homi Bhabha Cancer Hospital (HBCH), Varanasi - Uttar Pradesh

Director, Dr Satyajit Pradhan
Ad-hoc Deputy Director, Dr Rakesh Mittal
Officer in Charge, Dr Pankaj Chaturvedi.

Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati, Assam

Director, Dr Amal Ch. Kataki
Officer in Charge, Dr Sarbani Ghosh-Laskar.

1

Projects Across India

- Funding
- Milestone
- Status
- TMC Finance, Simplified

Sangrur, Punjab
2015

Varanasi
2018

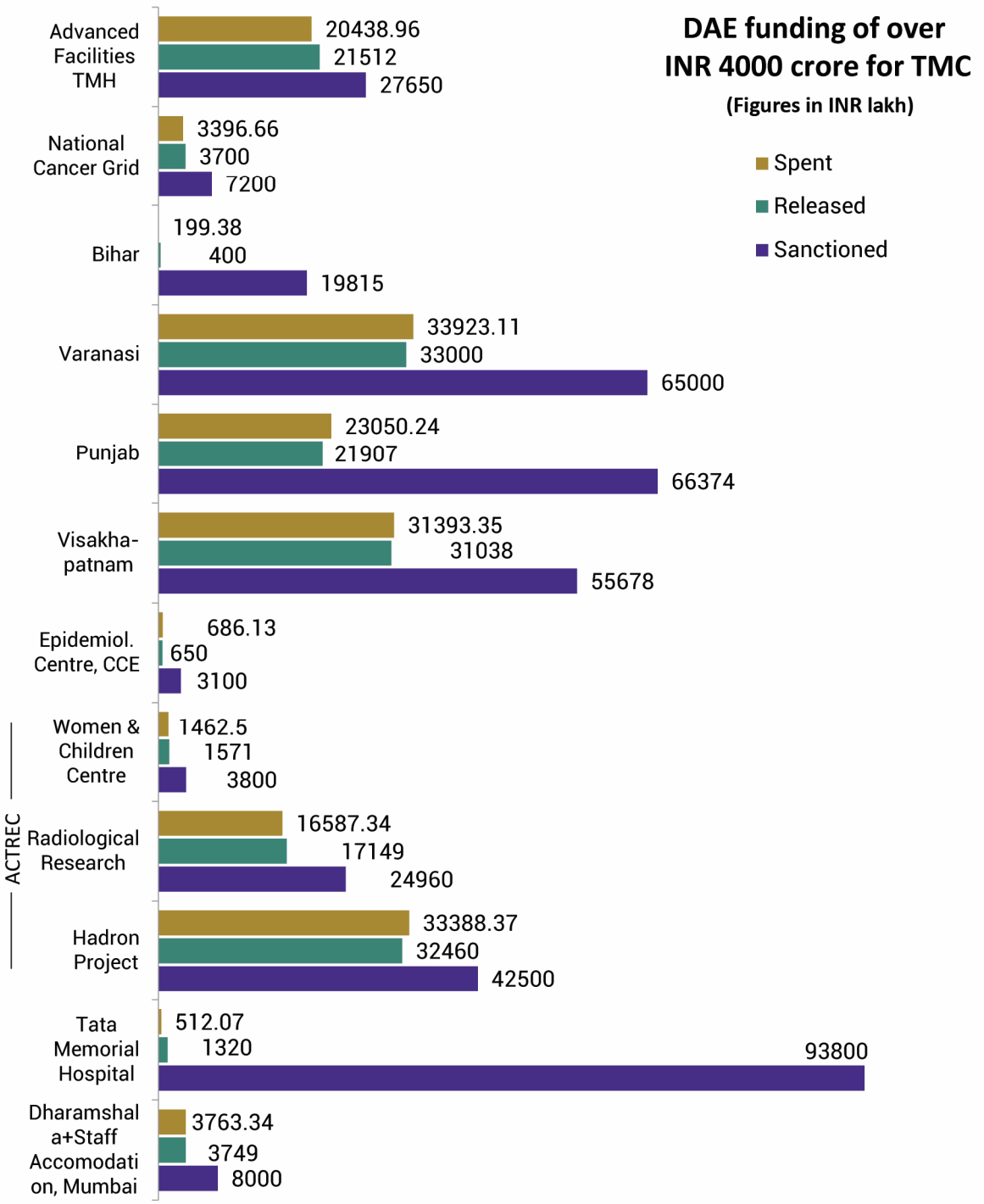
Guwahati
2018

Visakhapatnam
2014

ACTREC & CCE
Navi Mumbai
2005, 2015

TMH, Mumbai
1941

Funding


DAE funding of over INR 4000 crore for TMC
(Figures in INR lakh)
Spent
Released
Sanctioned
Advanced Facilities TMH
20438.96
21512
27650
National Cancer Grid
3396.66
3700
7200
Bihar
199.38
400
19815
Varanasi
33923.11
33000
65000
Punjab
23050.24
21907
66374
Visakha-patnam
31393.35
31038
55678
Epidemiol. Centre, CCE
686.13
650
3100
ACTREC
Women & Children Centre
1462.5
1571
3800
Radiological Research
16587.34
17149
24960
Hadron Project
33388.37
32460
42500
Tata Memorial Hospital
512.07
1320
93800
Dharamshala+Staff Accomodation, Mumbai
3763.34
3749
8000

Milestones

Calendar	Events	Place
2018	A new cancer hospital was proposed in the campus of Sri Krishna Medical College in Muzaffarpur, Bihar	Muzaffarpur, Bihar
	The Pediatric Oncology services in Visakhapatnam were introduced for the first time in August 2018	HBCHRC, Visakhapatnam
	The Preventive Oncology services were introduced for early detection of oral, breast & uterine cancers in the districts of Sangrur & Bhawanigarh	HBCH, Sangrur
	A new, patients' ward building was inaugurated by the Punjab Chief Minister Captain Shri Amarinder Singh on 12th November.	HBCH, Sangrur
January 2019	A new Anatomy Laboratory was established to develop surgical skills of doctors on cadavers in Navi Mumbai	ACTREC, Navi Mumbai
	A new Operation Theatre cum Intensive Care Unit ICU) was commissioned on 8th January.	ACTREC
February	Dr. SD Banavali, Director Academics (TMC) was selected as the "Lokmat Maharashtrian of the Year 2018"	TMH, Mumbai
	The first Run to create awareness about cancer in the city of Varanasi was organized on 3rd February	HBCH, Varanasi
	The Transfusion Medicine Centre was fully operational	HBCH, Varanasi
	A new state-of-the-art Linear Accelerator with IMRT, IGRT, VMAT, etc., facilities was inaugurated by Secretary DAE Dr. KN Vyas with Director TMC, Dr. RA Badwe, and Director BBCI, Dr. AC Kataki on 8th February	BBCI, Guwahati
	The "Healthcare Excellence Award for Outstanding contribution in Health Education" of Northeast India was presented to BBCI by the Honorable Health Minister of Assam, Dr Himanta Biswa Sarma in presence of Minister of State (Health), Assam, Shri Pijyush Hazarika on 9th February	BBCI

Calendar	Events	Place
February	Dr. SM Bhagabaty, Associate Professor, Department of Preventive Oncology, BBCI received the Healthcare Excellence award for "Outstanding work in Rural Health" from the Hon'ble Health Minister of Assam Government, Dr Himanta Biswa Sarma on 9th February	BBCI
	The Palliative Care department of BBCI received the "Leadership in Home Care Service Award 2019" by the Pratishruti Cancer & Palliative Trust, Dibrugarh, Assam on 9th February	BBCI
	Dr Gautam Sarma, Assistant Professor from the Department of Radiation Oncology was presented the "Most Contributing Consultant Award 2019" by the Pratishruti Cancer & Palliative Trust, Dibrugarh, Assam on 9th February	BBCI
	St. Jude India Childcare Centre was inaugurated in Guwahati on 10th February. It will house 24 children & free treatment to them will be provided under the "APARAJAYA" Scheme of Assam Gas Company Limited.	BBCI
19th February	The Honorable Prime Minister Mr Narendra Modi inaugurated the MPMMCC & HBCH, Varanasi. The UP Chief Minister, Mr Yogi Adityanath; the Secretary DAE, Shri KN Vyas; the Director TMC, Dr. RA Badwe; and, Mr Ratan Tata were present	HBCH & MPMMCC, Varanasi
	The book, "Where Light Enters the Earth" was released to commemorate the inauguration of cancer hospitals in Varanasi by Hon'ble Prime Minister, Mr Narendra Modi. The book was curated Ms Nishu Singh Goel.	MPMMCC
March	A Cancer Prevention program was launched to cover two Tehsils with a population of two lakhs in Sangrur	HBCH, Sangrur
	India's first fully automated BioBank for epidemiological studies was established at Navi Mumbai on 22nd March.	CCE, Navi Mumbai
April	The foundation stone for the Annex Building in Varanasi was laid by the Secretary DAE, Shri KN Vyas, and Director TMC, Dr. RA Badwe.	HBCH, Varanasi

Calendar	Events	Place
May	The first Plastic Surgery services were introduced in Visakhapatnam	HBCHRC
June	The new Robotic Neuronavigation Testing Laboratory was developed by TMC & BARC in Navi Mumbai	ACTREC
	The Bone & Soft Tissue services were Introduced in Punjab for the first time	HBCH, Sangrur
	Dr. RA Badwe, Director, TMC was recognized by the ASCO (American Society of Clinical Oncology) as one of the worlds' top ten oncologists	TMC
	A state-of-the-art Linear Accelerator, named "Unique", donated by BPCL was inaugurated by the Chairman of AERB, Shri G. Nageswara Rao on 7th June.	TMH
July	Dr. RA Badwe, Director TMC was recognized by the World Prevention Alliance, France for his outstanding contribution to cancer control during the National Cancer Institute's (NCI) Directors meeting	TMC
	The new Radiotherapy Block was commissioned	HBCHRC
	Drs. RA Badwe and B. Ganesh authored a statistical data book titled, "Tata Memorial Centre-DAE Network of Cancer Registries in Nuclear Power Plant Locations".	TMH & CCE
August	As a first in India, the Ruthenium 106 (Ru106) eye applicator, a novel treatment for eye cancers with vision preserving capability was devised by the department of Radiation Oncology, TMH in collaboration with an independent unit of DAE, the Board of Radiation and the Isotope Technology (BRIT).	TMH
	First Bone Marrow transplant performed in Varanasi.	HBCH, Varanasi
17th September	The NCG-Vishwam 3C was proposed by Shri KN Vyas in Vienna, Austria, during the 63rd IAEA meeting.	DAE-TMC

Calendar	Events	Place
October	Merck Foundation Appreciation Award "Together We Fight Cancer" was conferred to Tata Memorial Centre	TMC
	Dada Saheb Phalke Icon Award for the Best Hospitality Social Worker was conferred to ward boy Mr. Firoj Khan.	TMH
November	The “CAR T-cell Therapy Centre with cGMP facility” was established in Navi Mumbai; first of its type in India	ACTREC
	Radiotherapy Block in Visakhapatnam was inaugurated.	HBCHRC
December	The Linear Accelerator commissioned in Visakhapatnam	HBCHRC
	The first renal dialysis was performed in a TMC hospital	ACTREC
	The Health Ministry of UP lauded the efforts of HBCH for their “Commendable performance in Ayushman Bharat” implementation on 2nd December	HBCH, Varanasi
	The first Linear Accelerator was commissioned	MPMMCC
	The first surgery at the second cancer centre in Varanasi was performed by Dr. RA Badwe on 5th December.	MPMMCC
January 2020	The Patient Registration Centre (PRC) was inaugurated by Dr. RA Badwe on 3rd January	MPMMCC
	The 3rd Linear Accelerator commissioned in Varanasi	MPMMCC
	2nd successful Bone Marrow Transplant was performed in Varanasi.	HBCH, Varanasi

Name of the Cancer Centre	Date of Proposal	Date of Commissioning	Functionality as of 2019	Pending Issues	Funds Sanctioned (in lakhs)	Funds Granted (in lakhs)	Funds Utilized (in lakhs)
Tata Memorial Hospital (**TMH**), **Mumbai.** (**629 - beds**)	October 8, 1935	February 28 & March 3, 1941	**Self-sufficient** to detect, to diagnose & treat cancer patients.	1. **Dharamshala** building on Haffkine's land almost structurally completed & interior works started. To be **commissioned by June 2020** 2. Architects & Project management consultants appointed for the **construction** of the **Main Hospital building**.	**8, 000** **93, 800**	**3, 749** **1, 320**	**3, 763.24** **512.07**
Advanced Centre for Treatment, Research & Education in Cancer (**ACTREC**), **Navi Mumbai.** (**120 - beds**)	VII Plan in 1983. Forty (40) acres by CIDCO in 1985; and twenty (20) acres from CIDCO in 1990	March 30, 2005	1. **Self-sufficient** to detect, diagnose & to treat cancer patients 2. The **Animal laboratory** commissioned in early 2019 3. **Phantom testing** with use of prototype robots started in late 2019 4. The **Infrastructure** was **augmented** in **2019** that improved patient facilities.	1. **Cyclotron** is at site and to be commissioned after testing by **end** of **2020** 2. The new Radiological Research Unit (**RRU**) building was completed till the 5th floor and would be **commissioned** by **end 2020** 3. The Outer structure of the Hematolymphoid, Women & Children Cancer Centre (**HWCC**) almost complete and to be **commissioned** in **early 2021** 4. Infosys funded **Asha Niwas**, a dormitory for 265 patients will be **functional** by **end 2020**.	**42, 500** **24, 960** **3, 800** -	**32, 460** **17, 149** **1, 571** -	**33, 388.37** **16, 587.34** **1, 462.50** -

Name of the Cancer Centre	Date of Proposal	Date of Commissioning	Functionality as of 2019	Pending Issues	Funds Sanctioned (in lakhs)	Funds Granted (in lakhs)	Funds Utilized (in lakhs)
Centre for Cancer Epidemiology (**CCE**), **Navi Mumbai.** (**Not for treatment**)	XI Plan in 2009	2015	1. **All proposed & approved departments functional** 2. **India's first BioBank** that stores 300 million samples.	-	**3, 100**	**650**	**686.13**
Homi Bhabha Cancer Hospital & Research Centre (**HBCHRC**), **Visakhapatnam.** (**125 - beds**)	XI Plan in 2011	June 2, 2014	1**. Surgical treatment** & **ICU admissions** are done at the **Visakhapatnam Port Trust Hospital** till the building in the campus is ready 2. **Radiation Therapy Block Commissioned in July 2019** 3. **First Linear Accelerator** put to use **from December 2019**.	**Main Hospital building** to be **commissioned** by **end of 2020**.	**55, 678**	**31, 038**	**31, 393.35**
Homi Bhabha Cancer Hospital (**HBCH**), **Sangrur.** (**105 - beds**)	XII Plan 2012	January 20, 2015	1. **Self-sufficient** to detect, to diagnose & to treat cancer patients 2. Recently **added another 100 bed.**	**Telemedicine** facilities **to be implemented** on priority basis.	**66, 374** **(For both hospitals in Punjab)**	**21, 907** **(For both hospitals in Punjab)**	**23, 050.34 (For both hospitals in Punjab)**
Homi Bhabha Cancer Hospital & Research Centre (**HBCHRC**), **Mullanpur.** (**350 - beds**)	XII Plan October 12, 2012	-	1. The **Hospital Buildings** are **almost completed** 2. **To be soon operational.**	**To be commissioned by May 2020.**			

Name of the Cancer Centre	Date of Proposal	Date of Commissioning	Functionality as of 2019	Pending Issues	Funds Sanctioned (in lakhs)	Funds Granted (in lakhs)	Funds Utilized (in lakhs)
Homi Bhabha Cancer Hospital (**HBCH**), **Varanasi.** (**179 - beds**)	February 2017	May 1, 2018	**Self-sufficient** to detect, to diagnose & to treat cancer patients.	The Hospital staff's **Residential quarters**, **kitchen** & **laundry** facilities were **under construction.**	**65, 000** **(For both hospitals in Varanasi)**	**33, 000** **(For both hospitals in Varanasi)**	**33, 923.11** **(For both hospitals in Varanasi)**
Mahamana Pandit Madan Mohan Malaviya Cancer Centre (**MPMMCC**), **Varanasi.** (**350 - beds**)	September 21, 2017	February 19, 2019	1. **Laboratory** and **Radiology (Diagnostic & Therapeutic)** services **(except MRI & PET)** were **operational** 2. **Day care services started** 3. **First surgery performed.**	1. Patchy & small internal work pending and due to be **fully operational by February 2020** 2. The Residential **Staff quarters** & **Dharamshala** for patients **under construction**.			
Homi Bhabha Cancer Hospital & Research Centre (**HBCHRC**), **Muzaffarpur.** (**100 - beds**)	February 2017	-	**Under construction**	The **Boundary wall work was given to CPWD, Patna.**	**19, 815**	**400**	**199.38**
Dr. Bhubaneswar Borooah Cancer Institute (**BBCI**), **Guwahati.** (**120 - beds**)	June 7, 2017	July 1, 2018	**Self-sufficient** to detect, to diagnose & to treat cancer patients.	**Upgradation, renovation & augmentation processes were underway**.	**1, 000 by DAE in 2017-18 & 4, 177 from TMC in 2018-20**		
National Cancer Grid (**NCG**)		2012	**~ 190 centres across India.**	**Renewal of E-journals** & implementation of **health records integration** at all NCG centres.	**1, 080**		

TMC Finance, Simplified

The nine (09) cancer hospitals of Tata Memorial Centre across India employed about 3600 full time staff members and resident doctors.

The ministrations provided by TMC included those of Service, Education and Research with the bulk of research being carried out at Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) and at the Centre for Cancer Epidemiology (CCE).

It was roughly estimated that the individual percentage expenditure of the above three components of TMC ministrations would approximately be: Service 62%, Education 14%, and, Research 24%.

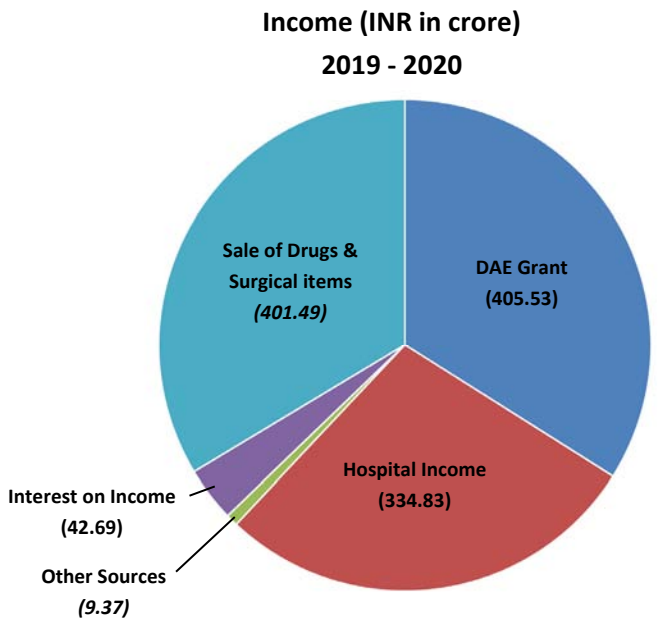
The TMC generated funds from DAE grants, income from patients, marginal profits from the sale of drugs & consumables, and from other sources like fixed deposits, etc.

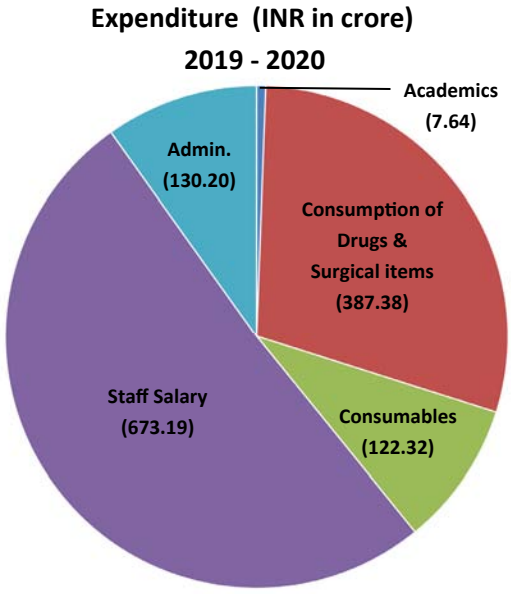
The TMC expenses included the salary of staff, maintenance of the physical assets, the investments in research & education, the cost of drugs & consumables, and other administrative outgoings.

Tata Memorial Centre's Income (in crore) ~ 1193.91				
DAE Grant	**Hospital Income**	**Sale of drugs & consumables**	**Interest on Income**	**Other sources**
405.53	**334.83**	**401.49**	**42.69**	**9.37**

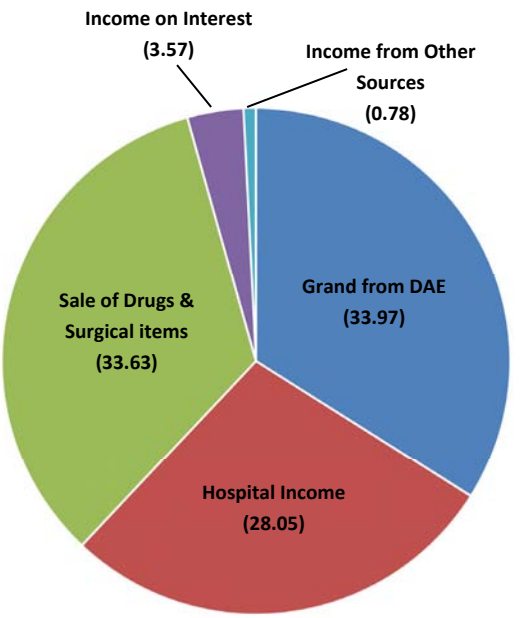
Tata Memorial Centre's Expenses (in crore) ~ 1320.13				
Academic	**Consumption of Drugs & Surgical items**	**Consumables**	**Staff salary**	**Administrative**
7.64	**387.38**	**122.32**	**673.19**	**130.20**

- Being a recent addition to TMC, the **Dr. Bhubaneswar Borooah Cancer Institute** in Guwahati was not included in the above calculations.
- The **Centre for Cancer Epidemiology** (CCE) in Navi Mumbai was not supposed to generate any income.
- The cancer hospitals in **Mullanpur & Muzaffarpur** in the States of Punjab & Bihar were not yet operational.
- The RT Block was operational only recently and the Main Hospital Buildings were not ready; the **HBCHRC** in **Visakhapatnam** would hence take some more time for substantial contribution.
- In **Varanasi**, the HBCH was fully operational in late 2018 and would need time to increase its private patient intake. The MPMMCC was operational in early 2019 and was expected to offer its full service by early 2020.
- It should be remembered that all costs of medical diagnostics & treatment were lower in those centres' falling under **Tier II and Tier III cities**.
- Till a couple of years ago **ACTREC** was only a research centre. With the shifting of certain services from TMH to ACTREC, the income was expected to grow in the coming years.

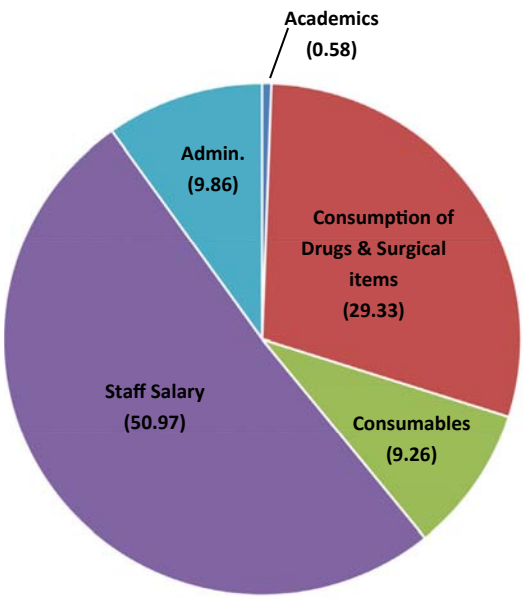




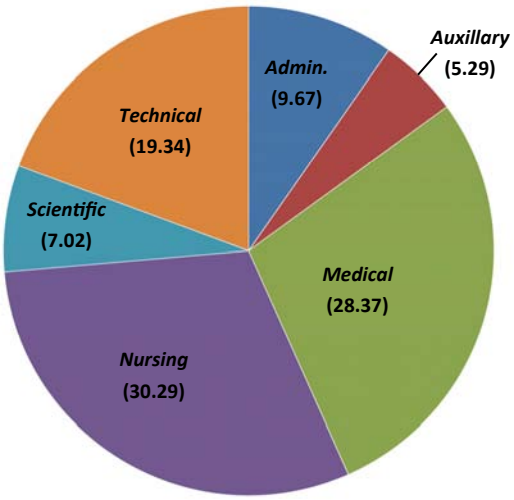
How the Paisa in a Rupee was Earned



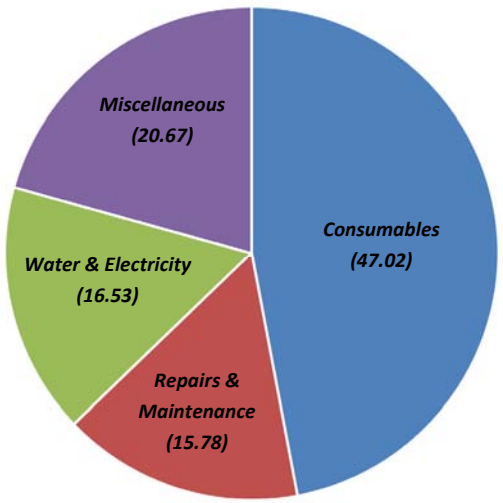
How the Paisa in a Rupee was Spent



Staff Salary of ~ INR 673.19 crore; Staff category salary (%)



Percentage Expenses of ~ INR 260.14 crore other than Staff salary & Sale of Drugs & Surgical items



2

Synopsis of TMC Cancer Hospitals

- Activities & Executive Summary
- Clinical Performance & Services
- Educational Activities
- Research

Activities & Executive Summary

The Tata Memorial Centre (TMC) with benevolence of the Department of Atomic Energy (DAE), Government of India (GoI) continued to set up successfully, the cancer hospitals in Tiers I, II and III cities across India. These hospitals included: the Tata Memorial Hospital (TMH) in Mumbai, Maharashtra; the Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) in Navi Mumbai, Maharashtra; the Centre for Cancer Epidemiology (CCE) in Navi Mumbai, Maharashtra; the Homi Bhabha Cancer Hospital & Research Centre (HBCHRC) in Visakhapatnam, Andhra Pradesh; the Homi Bhabha Cancer Hospital & Research Centre (HBCHRC) in Mullanpur, Punjab; the Homi Bhabha Cancer Hospital (HBCH) in Sangrur, Punjab; the Mahamana Pandit Madan Mohan Malaviya Cancer Centre (MPMMCC) and the Homi Bhabha Cancer Hospital (HBCH) in Varanasi, Uttar Pradesh; the Dr. Bhubaneswar Borooah Cancer Institute (BBCI) in Guwahati, Assam; and, the tenth cancer hospital under construction at Muzaffarpur in Bihar.

Under the XII Five Year Plan, the DAE Apex Committee for the development of Cancer Institutions in India (ACCII) was constituted for development of indigenous technologies & equipment for cancer prevention, early detection & its treatment. The Chairman of this committee was Dr. RA Badwe, Director of TMC. In order to provide better health facilities to the common man, cancer institutions in India were provided assistance for buying equipment and/or carrying out research projects. The committee rendered help in providing more than twenty-five (25) Bhabhatron (Telecobalt) and eleven Imagin (Conventional simulator) to cancer centers across India. They also provided more than thirty-five (35) Telecobalt radioactive sources through the Board of Radiation & Isotope Technology (BRIT).

Almost 20% of all the dedicated cancer hospitals in India were under the aegis of DAE and managed by Tata Memorial Centre.

In India, there was only one doctor to attend to 1800 cancer patients. Bearing this in mind, the expansion of TMC cancer hospitals across India was planned to offer cancer treatment to over two lakh new patients annually and, to augment the bed strength to more than 3, 500. Across India in the year 2019, TMC had approximately 1000 hospital beds and offered their cancer expertise to over one lakh (~ 1, 20, 000) cancer patients, which was just under 10% of India's cancer burden.

Audit

The approximate figures from the accounts department suggested that Tata Memorial Centre spent around INR 930 crore in the financial year 2019 - 2020. Of this figure, approximately 62% of the expenses were incurred for Service, 24% for Research, and 14% for Education.

Employee Specifics

The TMC had staff strength of around 3600 employees across India that included full time staff and Resident doctors. Among the employees, approximately 45% belonged to the Reserved category (1654): seven hundred seventy-one (771) belonging to Scheduled Caste (SC); one-hundred six (106) to Scheduled Tribe (ST); seven hundred forty-seven (747) to Other Backward Classes (OBC); and, thirty (30) to Nomadic Tribes (NT). Additionally, thirty-two (32) differently challenged persons having special needs were employed: physical, twenty-two (22); and, visual & hearing, five each.

The overall male to female ratio was roughly 59:41. However, in the Central Government Pay Matrix Band 9-16, the women outnumbered men in a ratio of 57:43; and, in pay matrix 1 to 5, the men outnumbered women in a ratio of 81:19.

Residential and family accommodations for Staff members was provided as and when the Staff quarters were available. Unmarried employees were provided accommodations in hostels as per the requirement and availability. To and fro transport facility was provided to those residing in the Staff quarters.

In the year 2019, four hundred seventy-nine (479) new employments were made across India and one hundred ninety-five (195) employees were promoted. There were fifty (50) employees who superannuated and, another twenty-two (22) who resigned from TMC for varied reasons. Around fifteen-hundred (1500) individuals were under the government pension scheme till December 2019.

Maternity Leave was granted to forty-six (46) employees and one hundred forty-two (142) women availed of the Child Care Leave in 2019. The Paternity Leave was availed of by sixty-three (63) men.

Twenty-six (26) advanced skill courses were conducted for the TMC staff in the year 2019 that included those for doctors, nurses and technicians across the country.

Committees were in place to address all grievances and to provide protection to all the categories of employees, namely: the Internal Complaints Committee, the Grievance Redressal Committee, and the Radiation Safety Committee.

Public Service

The total number of new patient registration in all the TMC cancer centres across India was more than one-lakh (1, 10, 000). Of these, over 70% patients were registered in the General category and whose treatment costs were additionally subsidized.

The TMC cancer centres across the country charged the lowest amount for medicines, consumables, and professional fees in the respective city/town; with maximum concessions for life-saving drugs falling to lower than 50% of the Maximum Retail Price (MRP).

As a first in India, the TMC started a new specialty in healthcare, Kevat (Patient Navigation course) in the year 2018: A specialized workforce of trained professionals that helped patients manage their medical experiences, coordinated their care, and assisted them through the navigation of complex and multi-step medical system. These navigators were empowered to address multitude of patients' needs including communication and counseling.

For the poor and needy cancer patients, further subsidy was provided under the various Central and the local State Government healthcare schemes to the tune of more than INR 65 crore. The Ayushman Bharat scheme was availed of by over 7% of the new patients in Varanasi and, 35% availed of the local concessional schemes offered by Punjab State government. About 7% of the new patients made use of the various government concessional schemes in Maharashtra. The other beneficiary schemes included the Health Minister Cancer Umbrella Fund, Government of India; the Bihar Chief Minister's Relief Fund; the Women & Child Welfare fund, Department of Atomic Energy; and, the Mahatma Jyotiba Phule Jan Arogya Yojana scheme, Maharashtra Government. There were also many individuals and corporates (through their Corporate Social Responsibility) who donated generously in varied manner to provide aid and financial assistance to patients and the hospitals.

All TMC cancer centres were filmless and, almost cashless & paperless. The use of smart cards across all centres ensured cashless transactions. All medical reports and diagnostic images were made available to the patients in electronic formats. Patients could avail of online registration facility, and of viewing their medical records from their homes or from within the hospital through electronic kiosks. There was seamless patient referrals that ensured that the patients did not have to re-register on being referred to / or opted for treatment at any TMC cancer hospital across India.

Smart card transactions from TMH & ACTREC crossed INR 350 crore; that from the other cancer centres across India, around INR 60 crore.

The unique and uniform aspect of the cancer services offered across TMC & its cancer centres across India was based on Disease Management Groups (DMGs) that encompassed most medical disciplines, including those of prevention, diagnosis & treatment, and palliation to focus on the specific anatomic region of cancer origin. There were eleven (11) such DMGs that covered the entire human body anatomical sites, viz: Adult Hematolymphoid, Bone & Soft Tissues, Breast Oncology, Gastrointestinal, Gynecological, Head & Neck, Neuro-oncology, Pediatric Hematolymphoid, Pediatric Solid tumor, Thoracic Oncology, and Uro-oncology. These DMGs would pave way towards offering the eventual goal of individualized cancer management. Every patient's cancer was discussed by the specific DMG members comprising of specialists from various specialties in medicine. This unique approach was in place in TMH & ACTREC for the last 12 years and was implemented at the other TMC cancer hospitals across India.

For those seeking second opinions and for patients who could not travel to any TMC cancer centres, there was the online facility called the TMC-Navya (started in 2016). This service had over 300 cancer specialists in their team and provided expert consultation to more than 35, 000 patients from all over India and from other countries.

All cancer patients registered with any TMC cancer hospitals could travel in any train bogie marked "Handicap Compartment" in the country. Additionally, for consultation and treatment, every cancer patient could avail of the travel concessions by road, rail, or air from their permanent residence to any TMC cancer centre in the country. The concessions varied from free to 50% discount.

For the general public who sought information, the Medical Superintendent of the hospital was the Public Information Officer (PIO) for all medical & dispensary issues and those related to patient services; the Chief Administrative Officer of the hospital for issues other than the aforementioned. The Public Relations Officer (PRO) was the Grievance Officer for all the patients' complaints filed through the Centralized Public Grievance Redress And Monitoring System (CPGRAMS) of the Dept. of Administrative Reforms & Public Grievances, Government of India.
The Director of the hospital was the Appellate Authority.

Andhra Pradesh

The Homi Bhabha Cancer Hospital & Research Centre (HBCHRC) in Visakhapatnam, Andhra Pradesh was opened to the public from 2nd June 2014.
Cancer patients from the neighboring cities and the States of Telangana, Orissa and West Bengal also visited HBCHRC for treatment.
The Plastic Surgery services were introduced from 25th May 2019.
The Radiation Treatment (RT) Block commissioned in July 2019, was officially inaugurated on 30th November 2019. The first Linear Accelerator was used for cancer treatment from December 2019. The commissioning of the RT Block saw over 200 patients being treated with radiotherapy in the month of December 2019.

By the end of the year 2019, medical, pediatric, surgical, gynecological, head & neck, radiation and palliative oncological services were offered to cancer patients. These services were added to the already established Day-care, Preventive Oncology, and Physiotherapy clinics.

The centre also extended its oncological services to the staff members of Bhabha Atomic Research Centre (BARC), the Visakhapatnam Port Trust (VPT), and the Rashtriya Ispat Nigam Limited (Vizag Steel Plant).

There was over 20% increase in the new patient registration and all the existing departments showed an increase in numbers of up to 30% over the year 2018. The Palliative Care services were offered to almost 5000 patients and more than 400 Home Care visits were made. The Physiotherapy services were provided to over 1000 patients.

The main hospital block was 75% complete and would be commissioned by middle of the year 2020. A new Out-Patients' Department (OPD) with six rooms and empanelment of the Yuvajana Sramika Rythu (YSR) Aarogyasri scheme of State of Andhra Pradesh would be initiated soon.

Assam

The well established Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati in Assam was handed over to the DAE and thence to Tata Memorial Centre from 1st July 2018.

The BBCI was the topmost hospital in the State of Assam for recording the highest numbers of pre-authorization for the Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) scheme since its launch in September 2018. The number of patients who availed of the local or State or Central Government financial subsidies grew manifolds to reach a figure of almost 25, 000; a 400% rise over that in the year 2018.

The hospital along with its Preventive and Palliative Medicine departments received accolades from the Assam government for their exemplar public service contributions.

A new state-of-the-art Linear Accelerator for the Dr. Bhubaneswar Booroah Cancer Institute (BBCI) was inaugurated by Dr. KN Vyas, Chairman, Atomic Energy Commission (AEC) and Secretary, Dept. of Atomic Energy, Government of India of India on 08.02.2019. The Chairman also Inaugurated the St. Jude India Childcare Centre of Northeast India on 10.02.2019 that had the facility to provide residential accommodation for twenty-four (24) childhood cancer patients. Here, the treatment was provided free of cost to all childhood cancer patients through the APARAJAYA Scheme of Assam Gas Company Limited. Director TMC, Dr. RA Badwe graced both the occasions.

In the end of the year 2018, a new Private Out-Patients Department was inaugurated and, the year 2019 saw an 18% increase in private patient registrations. The new patient registration increased by 15% to reach almost 15, 000. The increased numbers of operating theatres resulted in performance of over 2000 surgeries in the year; an increase by 35%.

The number of Chemotherapy wards were increased that resulted in a 143% rise (of over 45, 000) in the number of chemotherapy cycles administered in the year 2019.

For administration of chemotherapy, there was doubling in the number of Day-care patients. The figure reached almost 25, 000; 20% of the numbers in the larger Tata Memorial Hospital. All the services revealed increased numbers over those in 2018.

Bihar

The 10th TMC cancer hospital was proposed for Muzaffarpur, Bihar. This cancer centre would be constructed on the 15-acre land given by the Bihar government in the campus of Sri Krishna Medical College in Muzaffarpur. The DAE allocated an initial fund of INR 20 crore for this project. The engineers issued the work order on 26.03.2019 and the boundary work would be executed through Central Public Works Department (CPWD), Patna.

Maharashtra

Tata Memorial Hospital (TMH):

The Tata Memorial Hospital in Mumbai started in March 1941 as Tata Memorial Hospital for Cancer & Allied Diseases.

The work on the plot of land in Haffkine's Institute (to be called the Platinum Block) was ongoing & the structural work till the 14th floor of the 15-storey Dharamshala was completed. Alongside, the interior works of the Dharamshala was ongoing from the ground floor upwards. The Dharamshala was scheduled to be commissioned by March 2020.

Architects and project management consultants were appointed for the construction of the hospital building on the same land.

The Department of Radiation Oncology was augmented with a new Linear Accelerator in the Golden Jubilee Building that was inaugurated by Mr G. Nageswara Rao, Chairman Atomic Energy Regulatory Board (AERB) on June 7, 2019.

The Department of Radiodiagnosis replaced its analog conventional radiography system with the latest Digital Radiography machine in the Main Building that was inaugurated by Dr. RA Badwe in November 2019.

To reduce long waiting periods for radiodiagnostic investigations, the Department of Radiodiagnosis extended its services to 12 hours in a day from 8am - 8pm for 6 days in a week. With this, the new patients' waiting was reduced to only 3-5 days for their CT or MR examinations. There was hence an increased number of patients scanned by about 25% over the year 2018.

Approximately 25% of the General patients were provided with financial assistance through the various local, State and National schemes; 15% of the patients were provided accommodation. The year 2019 saw over twenty (20) community outreach programs by the department of Preventive Oncology that evaluated almost 900 individuals who would have otherwise had to visit the hospital.

There was an increasing trend for online patient registrations with almost 30% of new patients registering online.

The patient registrations revealed a marginal decrease over the previous year, from around 74, 000 in 2018 to about 72, 000 in 2019. This was attributed to the commissioning of TMC cancer hospitals across India that catered to over 30, 000 new cancer patients.

The General to Private patient ratio was 55:45. Almost all the department and services showed a moderate increase in their workload as compared to the year 2018.

The Advanced Centre for Treatment, Research & Education in Cancer (ACTREC):

The ACTREC in Navi Mumbai, established on 30th March 2005, was undergoing diverse expansion.

The year 2019 witnessed an important milestone in cancer therapy. A "Chimeric Antigen Receptor (CAR) T-cell Therapy Centre" with the Current Good Manufacturing Practice (cGMP) facility at Biosafety Level 2 was inaugurated in November 2019. This centre was the first of its kind in the country and, was completely dedicated for the clinical manufacturing of CAR T-cells and conducting Phase I/II clinical trials on patients.

The Animal Laboratory was commissioned in January 2019 to enhance surgical skills of doctors. The Robotic Neuronavigation Testing Laboratory was established in collaboration with Bhabha Atomic Research Centre (BARC). The Prototype Robot was in place and, validation using phantoms was ongoing. The Cyclotron for the Proton Beam Therapy was installed at the site and its testing and commissioning would begin by end 2020. The state-of-the-art Hadron Therapy facility would provide the extremely expensive and precision based radiation therapy at affordable cost to the Indian patients.
The Radiation Research Unit (RRU) was a joint collaboration between TMC, the Radiation Medicine Centre (RMC) and the Radiological Physics & Advisory Division (RPAD) of BARC and supported by Power Grid Corporation. Its structure till the 5th floor was completed. The RRU was expected to be commissioned by end 2020.
The outer structure of the Hematolymphoid, Women & Children Cancer Centre (HWCC) was almost ready. This would have facility for 70 Day-care beds, 14 Operation theatres, wards with 165 beds, 18 ICU beds, 26 recovery beds and six (06) casualty beds.

All the laboratories were awarded the National Accreditation Board for Testing and Calibration Laboratories (NABL) certification till April 2021. The ACTREC Institutional Ethics Committee (IEC-III) was reaccredited by National Accreditation Board for Hospitals & Healthcare Providers (NABH) in March 2019 and by the Strategic Initiative for Developing Capacity in Ethical Review (SIDCER) in November 2019. The Human Leukocyte Antigen (HLA) laboratory with the Transfusion Medicine department was relocated as an independent unit at ACTREC for the benefit of bone marrow transplant patients.

The first kidney dialysis unit was installed in December 2019.

Major upgrades were carried out to the infrastructure at ACTREC that included a dedicated patient hold area, patient counseling room and improved patient facilities. The Intensive Care Unit bed strength was increased from seven to thirteen. On 17th September 2019, the "World Patient Safety Day" (as per WHO declaration) was celebrated with a week-long function for patients' & staffs' awareness.
The Infosys funded ASHA NIWAS, a patient dormitory to accommodate 265 patients and their family for long term stay would be functional by end of 2020.

During 2019, there were 232 on-going projects at ACTREC; 219 of these projects received financial support of INR 4.92 crore from governmental agencies such as DBT, DST, ICMR, etc. In addition, 13 new extramurally funded projects were sanctioned INR 2.51 crore; all received within the calendar year. Research carried out by faculty of the Centre resulted in 155 total publications in the year 2019; of which, 117 were in reputed international journals, 17 in widely circulated Indian journals, 14 were book chapters and, one a book. The total publications also included one volume and five articles of Conference Proceedings. Besides, in 2019, a research invention culminated into a US patent. All the clinical, laboratory, and imaging departments in ACTREC showed around 10-15% increase in numbers over those in the year 2018.

The Centre for Cancer Epidemiology (CCE):

The CCE in Navi Mumbai was commissioned in the year 2015, and established India's first fully automated Biobank on 22nd March 2019. The bank had the capacity to store 300 million blood samples sourced from the population, at minus 80 centigrade in a completely automated bio-bank for large cohort and case-control studies.

The International Agency for Research on Cancer (IARC) recognized the CCE as an IARC Regional Hub for cancer registry to strengthen cancer registries in South East Asia. Accordingly, it established cancer registries in Bhutan, Nepal, and Myanmar. The CCE also worked to monitor cancer burden in areas surrounding Nuclear Power Plants by establishing cancer registries, and by conducting and monitoring baseline surveys in areas around existing and new nuclear power plants.

The department of Medical Records, Biostatistics & Epidemiology published a statistical data book in July 2019, authored by Drs. RA Badwe & B. Ganesh and, titled "Tata Memorial Centre-DAE Network of Cancer Registries in Nuclear Power Plant Locations".

Punjab

The Homi Bhabha Cancer Hospital (HBCH) in Sangrur was started on 20th January 2015. It grew rapidly with plans to procure newer diagnostic equipment and to introduce more surgical facilities. Bone & Soft Tissue oncology services were started in June 2019. The HBCH was the only hospital in entire Punjab State to offer frozen section and Immunohistochemistry facilities.

The preventive programme on Early Detection for Oral, Breast & Cervical Cancer was initiated in the end of year 2018 in the district Sangrur & Bhawanigarh. This facility was clubbed with Mukh Mantri Punjab Cancer Raahat Kosh Scheme (MMPCRKS) and the Ayushman Bharat Scheme to extend financial support to the patients during treatment. Fellowship courses in post-doctoral subjects and B.Sc. courses for paramedical staff were started from June 2019.

The Interventional Radiology services were soon to be offered early in the year 2020; the only facility in Punjab and for the adjoining States like Haryana, Himachal Pradesh & Jammu and Kashmir.

Molecular Imaging (PET, SPECT-CT) were also to be introduced in early 2020, being the only facility within a radius of ~ 120 km from Sangrur.

The augmentation of patient bed strength recently doubled the number of patient admissions to over 2500. The Day-care patient admission for chemotherapy also doubled, resulting in increased numbers for all diagnostic services. The number of surgeries reached a figure of almost 2000 in the year 2019.

The buildings of the Homi Bhabha Cancer Hospital & Research Centre (HBCHRC) in Mullanpur were almost complete and the centre was expected to be commissioned by May 2020.

Uttar Pradesh

The year 2019 saw the inauguration of the nineth TMC cancer hospital, the second in Varanasi, the Mahamana Pandit Madan Mohan Malaviya Cancer Centre (MPMMCC) of 350 beds by the Honorable Prime Minister of India Shri Narendra Modi on 19th February 2019. Shri Narendra Modi also acknowledged the fully operational first cancer hospital in Varanasi, the Homi Bhabha Cancer Hospital (HBCH) of 179 beds (operational from May 2018). To mark this occasion a book, "Where Light Enters the Earth" was released. The book was curated by Ms Nishu Singh Goel. The foundation stone for the Annex Building at Homi Bhabha Cancer Hospital, Varanasi was laid by Secretary DAE, Dr. KN Vyas in the presence of Director TMC, Dr. RA Badwe in April 2019.

The patient load at HBCH, Varanasi increased and more facilities were introduced to provide better care for cancer patients. The Raja Ramanna Centre for Advanced Technology (RRCAT) in Indore donated the "OncoDiagnoScope", a low-cost compact laser based diagnostic instrument to HBCH at Varanasi, for screening large population for oral cancers, early in the year 2019.

The Transfusion Medicine centre at HBCH became fully operational in February 2019. The first Bone Marrow Transplant in Varanasi was a success, and was performed at Homi Bhabha Cancer Hospital (HBCH) in August 2019.

There was marked increase in the numbers of patients who required admission; the numbers going above 6000 in the year 2019. Almost 5000 surgeries were performed.

The chemotherapy ward saw a turnover of more than 25000 patients that was almost 20% of that in the larger Tata Memorial Hospital. The number of patients who availed of the diagnostic services increased manifolds. The Varanasi cancer centres offered very persuasive and intense medical Social Services that enabled almost 1000 of the over 10,000 new cancer patients to avail of the State and Central Government subsidized health schemes. Almost 1500 patients registered to avail of the preventive oncology services.

The MPMMCC was opened to cancer patients, initially as a Day-Care facility & to evaluate follow-up patients of HBCH, Varanasi from May 2019. The diagnostic services were initiated from July 2019 and surgical & radiation treatment started from December 2019. Full-fledged medical services were expected to be offered from early 2020.

The Uttar Pradesh government appreciated the sincere & persuasive efforts of HBCH management for their commendable performances that promoted and popularized the Ayushman Bharat scheme in December 2019.

To create cancer awareness in the general public, a Run was organized by the staff of HBCH for the first time in Varanasi in February 2019.

The National Cancer Grid (NCG) of India

The NCG grew to a large network of nearly 200 cancer centres, research institutes, patient advocacy groups, charitable organizations and professional societies. Between the member organizations of the NCG, the network treated thousands of new patients with cancer annually (over 7, 00, 00) that was over 60% of India's entire cancer burden. It was expected that with this standardization of cancer care across these centres, the survival of cancer patients would improve by 5-7%. A new process of Group Negotiations was ongoing to achieve reduced cost of cancer equipment, drugs and consumables. The NCG organized travelling schools in varied subsets of oncology to reach out to geographically inaccessible areas in the country like the Northeast.

On 17th September 2019 in Vienna, on the sidelines of 63rd General conference of International Atomic Energy Agency (IAEA), Shri KN Vyas, Secretary DAE & Chairman AEC launched the **"NCG-Vishwam Cancer Care Connect" (NCG-Vishwam 3C)**. The NCG was thus made open to the cancer hospitals and other relevant institutes from foreign countries. Dr. RA Badwe, Director, TMC gave the details of NCG and how it could be extended to the foreign hospitals and the benefits which they would accrue. This global cancer network would share best practices of the NCG and work towards eliminating disparities in cancer care worldwide, by creating uniform standards of patient care, developing human resource for cancer prevention and, to manage global collaborative multicentric research in cancer. Countries like Sri Lanka, Bangladesh, Russia, Kazakhstan, Vietnam, Nepal, United Arab Emirates, Afghanistan, Jamaica, Bangladesh, Myanmar, and Zambia agreed to have their premier hospitals to be a part of NCG-Vishwam.

The demand for the popular TMC-Navya second opinion cancer services grew, and their services were availed of by more than 30, 000 individuals from over 60 countries.

Academics

There were over 250 resident doctors enrolled for degree courses in various subsets in Oncology. More than 800 students registered for nursing, laboratory and technical courses. More than 500 medical observers from India and abroad visited the cancer hospitals under TMC.

In the year 2019, around 700 scientific articles were published; one hundred eighty-three (183) in national and four hundred ninety-five (495) in international journals. There were thirty-three (33) book chapter contributions and one book written by the TMC staff across India. About 200 conferences in oncology and allied subjects were organized by the medical and paramedical staff.

Education

Kevat, a one-year Patient Navigation course, the only standardized academic program of such nature in the country, entered its second year. The first batch (2018) of 30 students passed out in August 2019. Of them, 15 were chosen for a one-year fellowship.

The Educational facilities at every TMC cancer centre across India was being gradually implemented. The Bachelors and Masters (B.Sc. & M.Sc.) courses in paramedical subjects were started in Punjab. Conferences and Continuing Medical Education (CME) programmes were regularly held in Sangrur, Visakhapatnam and at HBCH, Varanasi. There were many publications by the staff members from Sangrur and Visakhapatnam.

The BBCI offered Masters Degrees (MD & M.Ch.) in Radiotherapy & Surgical Oncology respectively. They also offered many Fellowship courses in various branches of medicine along with certificate & diploma courses in paramedical branches. Many conferences & workshops were conducted during the year along with publication of over 40 articles in medical journals.

The 17th conference on “Evidence Based Management of Cancers in India - EBM 2019” was held from 28th February to 3rd March 2019 at TMH, Mumbai. The Hospital Day Oration was delivered by Prof. Helmut Friess on: “Curing Pancreas Cancer in the 21st Century”.

The TMC continued to be a well recognized training center in the field of cancer education and also research by several organizations across the world; including the World Health Organization (WHO), the International Atomic Energy Agency (IAEA) and the International Network for Cancer Treatment and Research (INCTR).

The Tata Memorial Centre initiated training programmes for African & Sub-Saharan country doctors and nurses under the Indo-African Forum Summit III entered its second year.

The annual fellowship & exchange programs for cancer research and education continued between King’s College, London and the TMC.

Research

The Clinical and Basic Research positively impacted the care of cancer patients in India. Basic and animal research was carried out in ACTREC. The three Institutional Ethics Committees (IECs) that were recognized nationally and internationally, ensured the highest scientific and ethical standards of research at Tata Memorial Centre. There were two IEC were in TMH and one in ACTREC. The TMH Institutional Ethics Committee extended all the support, training and guidance for constituting the fourth IEC at MPMMCC in Varanasi from the third quarter of the year 2019; the Standard Operating Procedures (SOPs) for this IEC were based on the TMC's Ethics Committee SOPs. The designated members & researchers of the IEC at Varanasi were trained by IEC members from TMH & ACTREC.

In the year 2019, the ethics committees received 273 projects for review. The committees approved 245 projects over 36 meetings conducted in 2019. Out of these 245 projects, 71% were Investigator initiated and 22% were Dissertations for the post-graduation students under Homi Bhabha National Institute (HBNI).

The TMC also provided the financial support for the research studies through the grants available from DAE. Sixty five percent (65%) of the projects were funded through Intra Mural grants and 35% projects received grants from other sources (Extra Mural). Seven theses were submitted to HBNI from research projects completed in 2019. More than six-hundred and twenty (620) research projects were undertaken during the year.

Achievements / Newer Techniques

- The ACTREC was the **largest Bone Marrow Transplant Centre for Oncology in India** (number of patients undergoing BMT per year 60 to 70; of whom 30% were treated free).
- The **first Bone Marrow Transplant in Varanasi** was performed at **HBCH** in August 2019.
- The department of Radiation Oncology of TMH in collaboration with the Board of Radiation and Isotope Technology (BRIT), an independent unit of DAE, for the first in India, devised **the Ruthenium 106 eye applicator for treatment of eye cancers** as a treatment **with vision sparing functionality** in August 2019.
- A statistical data book, "**Tata Memorial Centre-DAE Network of Cancer Registries in Nuclear Power Plant Locations"** was published by **Dr. RA Badwe** & **Dr. B. Ganesh** in July 2019.
- A **"Chimeric Antigen Receptor (CAR) T-cell Therapy Centre"** with the Current Good Manufacturing Practice (cGMP) facility at Biosafety Level 2 was inaugurated at ACTREC on 18th November 2019. This facility was the first of its kind in the country and was dedicated for the clinical manufacturing of CAR T-cells and the conduction of Phase I/II clinical trials on patients. It will offer Cellular therapies for very specific indications.

Awards

- **Dr. SD Banavali**, Academics Director TMC was nominated as the **"Lokmat Maharashtrian of the Year 2018"** in January 2019, by the Government of Maharashtra.
- **Dr. RA Badwe**, Director TMC was recognized by the ASCO (American Society of Clinical Oncology) as **one of the top ten oncologists in the world.**
- **Dr. RA Badwe**, Director TMC was recognized by World Prevention Alliance in France for his **outstanding contribution to cancer control** during the National Cancer Institute's Directors Meeting in USA, July 2019.
- The Merck Foundation Appreciation Award of **"Together We Fight Cancer"** was conferred to **Tata Memorial Centre** in October 2019.
- The Healthcare Excellence Award of Northeast India for "**Outstanding contribution in Health Education**" was presented to **Dr. B. Borooah Cancer Institute** (BBCI), Guwahati by the Honorable Health Minister of Assam, Dr Himanta Biswa Sarma on February 9, 2019.
- The **Leadership in Home Care Service Award 2019** was presented to the **Palliative Care Unit** of **BBCI**, Guwahati by the Pratishruti Cancer & Palliative Trust, Dibrugarh, Assam.
- The **Dr. B. Borooah Cancer Institute,** Guwahati **topped the list of ten (10) hospitals** in the State of Assam for **implementation of the AB-PMJAY Scheme.**
- The **HBCH, Varanasi** received **award of appreciation** for commendable performance in **implementing the Ayushman Bharat scheme** by the Health Ministry of UP in Lucknow on December 2, 2019.

Participation

- The TMC was represented by Tata Memorial Hospital, Mumbai at the three-day **15th Pravasi Bhartiya Diwas Convention** in Varanasi from 21-23 January, 2019. The theme of this event was **"Role of Indian Diaspora in building New India"**. This convention was inaugurated by the **Honorable Prime Minister, Shri Narendra Modi** and, the Chief Guest for the function was the Prime Minister of Mauritius, Mr. Pravind Jugnauth.
- The Tata Memorial Centre participated in the **"Parmanu Tech 2019"** conference organized by the Ministry of External Affairs & the Department of Atomic Energy on 6th February 2019 in New Delhi. Discussed during the conference were issues related to Nuclear Energy and Radiation Technologies. **Dr Jitendra Singh,** Union Minister of State (Independent Charge) of the Ministry of Development of the North Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances & Pensions, Atomic Energy and Space, **delivered the keynote address**.

Future Plans

To ensure Make in India:

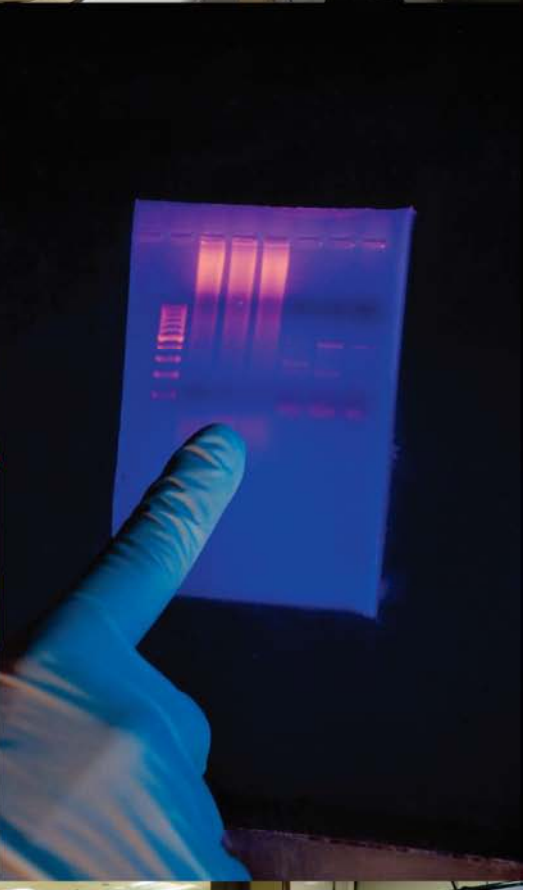
- To fabricate cheaper and affordable Indian made implants for limb preservation in patients with bone cancer / tumors.
- There would be 30% indigenization in Proton Beam Therapy Machine that was proposed to be commissioned in 2020.
- To support the administration of National Cancer Care in India for creation of a Hub & Spoke model; a sustainable management module for other Institutions, as conducted in TMH.
- To successfully commission and run a high performance computing facility to work in the field of Artificial Intelligence (AI) and Genomics, and,
- To establish a cost-effective Cellular Therapy Unit for treatment of specific cancers with cutting edge treatment like CAR T-cell and others.

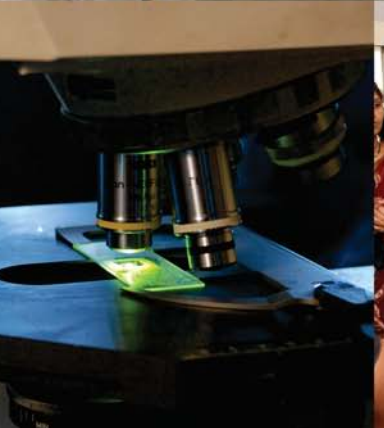






PHILIPS



Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
General New Patient Registrations (1)	29,699	1306	4862	3929	12,152	11,404	**63,352**
Private New Patient Registrations (2)	14,364	255	188	35	1080	1591	**17,513**
Total New Patients: 1+2, (3)	44,063	1561	5050	3964	13,232	12,995	**80,865**
Patient Referrals for Investigations (4)	14,627	1246	1109	1284	336	296	**18,898**
Patients Referred for Consultation & Expert Opinion (5)	7258	SNA	1242	SNA	SNA	SNA	**8,500**
Preventive Oncology Patients (6)	5630		636	266	1726	1397	**9,655**
(3+4+5+6) **Total Patient Registrations**	**71,578**	**2807**	**8037**	**5514**	**15,294**	**14,688**	**1,17,918**
Inpatient Services							
Bed Strength	640	120	125	100	180+350	260	**1,775**
Number of Admissions	28,726	5614	852	2568	6146	8704	**52,610**
Average Length of Stay (Days)	5.33	5.05	5.34	3.82	09	10.8	**6.55**
Bed Occupancy (percentage)	88	81	69.26	53.8	78	63.1	**72.19**
Surgical Oncology							
Major Operative Procedures	8641	2506	721	800	1270	2061	**15,999**
Minor Operative Procedures	43,288	1563	85	1018	2828	1234	**50,016**
Robotic Surgery	228	SNA	SNA	SNA	SNA	SNA	**228**
Medical Oncology							
Day Care: General Patients	1,37,269	22,383	6776	12,021	23,300	43,833	**2,45,582**
Day Care: Private Patients	35,456	4028	SNA	SNA	2100	1448	**43,032**
Number of Bone Marrow Transplants	SNA	58			01	SNA	**59**

Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
Digestive Diseases & Clinical Nutrition							
Endoscopies	7492	18	SNA	SNA	SNA	8075	**15,585**
Nutrition Clinic	25,547	SNA			8215	3832	**37,594**
Anesthesiology, Critical Care & Pain							
Number of ICU Admissions	2095	2675	781	1523	171	1656	**8,901**
Patients in Recovery Ward	7850	2500	SNA	SNA	612	DNA	**10,962**
Pain Clinic	8616	768		163	186	SNA	**9,733**
Radiation Oncology							
External Beam Therapy	8073	1186	201	1275	1104	3381	**15,220**
Brachytherapy	3897	325	SNA	379	SNA	228	**4,829**
Treatment Planning / Beam Modification	17,916	1660	201	1275	DNA	818	**21,870**
Imaging Services							
Conventional Radiography	85,741	3170	2724	1035	8807	10,430	**1,11,907**
Ultrasound / Color Doppler	44,493	2080	3483	2255	3025	8889	**64,225**
Mammography	15,534	1566	1667	1167	1082	SNA	**21,016**
C.T. Scan (Diagnostic)	41,543	6743	807	5541	9938	13,137	**77,709**
C.T. Scan (for Radiotherapy Planning)	SNA	1450	231	1289	1047	633	**4,650**
M.R.I Scan	9372	3763	SNA	1068	2436	1543	**18,182**
Interventional Radiology	12,462	1441		989	SNA	SNA	**14,892**
Bone Densitometry	SNA	SNA		SNA			**SNA**

Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
Nuclear Medicine							
PET-CT Scan	16,962	2882	SNA	SNA	2807	SNA	**22,651**
SPECT-CT Scan	5281	SNA			SNA		**5,281**
SPECT Scan	SNA					905	**905**
C.T. Scan (Diagnostic)	DNA	NA				SNA	**00**
High Dose Therapy	SNA	SNA				145	**145**
General Medicine							
ECG	41,179	3693	781	SNA	6732	5204	**57,589**
Echo Cardiography	12449	1814	SNA		SNA	SNA	**14,263**
Pulmonary Function Tests	5125	SNA					**5,125**
Laboratory Diagnostics							
Pathology - Histopathology + IHC + Frozen Section	2,29,379	14,433	7698	5981	8521	15,538	**2,81,550**
Biochemistry	42,32,273	66,045	9480	1,14,295	68,082	3,50,836	**48,41,011**
Cytopathology	20,988	SNA	2037	3395	2769	3032	**32,221**
Molecular Pathology	5507		SNA	SNA	01	69	**5,577**
Microbiology	2,31,440	18,004	2846	11,070	14,343	13,214	**2,90,917**
Hematopathology	SNA	61,082	11,962	28,368	69,181	56,383	**2,26,976**
Cytogenetics		30,980	SNA	SNA	423	DNA	**31,403**
Flow Cytometry & Molecular Hematopathology							
Bone Marrow Aspiration Morphology	SNA	7610	90	SNA	SNA	325	**8,025**
Flow Cytometric Immunophenotyping		7973	SNA			SNA	**7,973**
Molecular Hematopathology		9900				64	**9,964**

Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
Transfusion Medicine							
Blood Components Prepared [Whole Blood + Packed Red Cells + Platelets (RDP) + Fresh Frozen Plasma + Cryoprecipitate + Factor VIII Deficient Plasma]	60,116	4864	SNA	SNA	3831	10,286	**79,097**
Single Donor Platelets (SDP) prepared	5272	1118			361	SNA	**6,751**
Specialized Procedures (Irradiation of Blood Products + Granulocyte Harvest + Therapeutic Leukapheresis + Therapeutic Plasma Exchange)	39,120	4788			11		**43,919**
Laboratory Investigations (Blood Grouping + Cross Matching + Antibody Detection)	1,05,565	14,169	937		18,706	22,612	**1,61,989**
HLA Laboratory							
HLA Typing	SNA	1469	SNA	SNA	SNA	SNA	**1,469**
Antibody Screening		132					**132**
Other Clinical Services							
Central Venous Access Device (CVAD) Clinic	17,763	SNA	80	SNA	SNA	180	**18,023**
Stoma Clinic	8311		SNA			85	**8,396**
Occupational Therapy	16,536				1175	SNA	**17,711**
Physiotherapy	22,940	11,268	766	3333	7395	2261	**47,963**
Speech Therapy	13,242	SNA	SNA	SNA	SNA	113	**13,355**
Psychiatry and Clinical Psychology	3886					SNA	**3,886**

Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
Dental Services							
General Dentistry	26,912	4999	136	SNA	SNA	1161	**33,208**
Prosthetic Services	1403	145	SNA			SNA	**1,548**
Tissue Bank							
Allografts Produced	10,520	SNA	SNA	SNA	SNA	SNA	**10,520**
Palliative Medicine							
Number of Patients	19,316	SNA	4658	SNA	66	16,181	**40,221**
Home Care Visits	3607		416		12	329	**4,364**
Medical Social Service							
No. of Beneficiaries for Financial support	4700	127	230	123	2500	23,753	**31,433**
No. of Beneficiaries for Accommodation	8377	3143	00	381	725	113	**12,739**
Education							
Residents doctors & Others	202	49	00	09	DNA	00	**260**
Fellows (Medical)	20	07	13	06		15	**61**
Kevat, Patient navigation Course	30	SNA	SNA	SNA	SNA	SNA	**30**
Nursing Trainees	121	02	00	15	DNA	507	**645**
Paramedical Students	24	00	01	37		54	**116**
Medical Physicists Trainees	21	02	00	02		04	**29**
Medical Laboratory Trainees	37	03	08	02		05	**55**
Medical Observers	508	00	00	NA		19	**527**

Cancer Centres / Hospitals	TMH	ACTREC	Vizag	Sangrur	Varanasi (HBCH + MPMMCC)	BBCI	Total
Research Profile							
Extramural Projects	24	130	01	01	SNA	15	**171**
Pharmaceutical Company Sponsored	13	00	00	NA		01	**14**
Intramural + Extramural Projects	18	232	00			DNA	**250**
Institutional Intramural Projects	44	81	00			SNA	**125**
Nil Funding	102	00	00			DNA	**102**
Postgraduate Student Thesis (Dissertation)	44	00	06			08	**58**
Publications							
International	345	118	02	NA	09	21	**495**
National	139	23	00		DNA	21	**183**
Books	33	00	00		00	00	**33**
Book Chapters	18	14	00		00	01	**33**
Conferences / Workshops / Seminars	105	57	02	12	02	14	**192**

***DNA: Data Not Available; SNA: Services Not Available; NA: Not Applicable**

TMH: Tata Memorial Hospital, Mumbai, Maharashtra
ACTREC: Advanced Centre for Treatment, Research, and Education in Cancer, Navi Mumbai, Maharashtra
Vizag: Homi Bhabha Cancer Hospital & research Centre, Visakhapatnam, Andhra Pradesh
Sangrur: Homi Bhabha Cancer Hospital, Sangrur, Punjab
HBCH: Homi Bhabha Cancer Hospital, Varanasi, Uttar Pradesh
MPMMCC: mahamana Pandit madan Mohan Malaviya Cancer Centre, Varanasi, Uttar Pradesh
BBCI: Dr. Bhubaneswar Borooah Cancer Institute, Guiwahati, Assam
The Centre for Cancer Epidemiology (CCE) at Navi Mumbai, Maharashtra does not offer treatment to patients
The 300-bed Homi Bhabha Cancer Hospital & Research Centre (HBCHRC) at Mullanpur, Punjab was not operational
A 200-bed Cancer Hospital was planned for Muzaffarpur in Bihar

Clinical Services

In the year 2019, over 1, 25, 000 cancer patients were managed by TMC across India (India's cancer burden was ~ 11, 60, 000). More than 70, 000 surgeries were performed (including over 200 Robotic surgeries) and 60 Bone Marrow Transplantations were carried out. The total bed strength of all the cancer centres of TMC was about 1300 and it was planned to soon augment the number of beds to more than 3000. The average bed occupancy was about 75 %. Bone Marrow Transplants were also performed in Varanasi for the first time.

In the 20th century, the management of cancer patients involved the referral of patients from one clinician to another at various stages of diagnosis and treatment without an integrated approach that was confusing to both, the doctors and the patients. There were not many evidence-based guidelines and this resulted in uncoordinated patient care, no standardized protocols and with poor patients' outcomes. To avoid these issues and to offer standardized and evidence-based care to all cancer patients, TMC came up with the multidisciplinary approach towards cancer management.

The Tata Memorial Centre (TMC) initiated the multidisciplinary approach for management of cancer from around the year 2006 and by the year 2008, had constituted eleven (11) robust & well-oiled multidisciplinary Disease Management Groups (DMGs) that encompassed all the common cancer sites in the human body. All patients were registered with the DMG they fell under depending on the site and nature of their cancer; and, not to any individual doctor. Each DMG had members from medicine, surgery, radiotherapy, pathology, imaging, psychology, psychiatry, palliative care, physio/ occupational therapy, scientists, social worker, etc. This concept was implemented at all the TMC cancer hospitals across India. The existing DMGs included: 1. Adult Hematolymphoid; 2. Bone & Soft Tissue; 3. Breast Oncology; 4. Gastrointestinal; 5. Gynecology; 6. Head & Neck; 7. Neuro-Oncology; 8. Pediatric Hematolymphoid; 9. Pediatric Solid Tumors; 10. Thoracic Oncology and, 11. Uro-Oncology. All commonest cancers and their variants were covered by these DMGs.

All the TMC cancer centres across India were well connected through internet and used common softwares for all departments that made viewing of patient data from any centre by any or many other TMC cancer centres easy. The introduction of smart cards and computerization in all section of the hospitals made all transactions cashless and nearly paperless. The documents of the Imaging procedures were stored electronically and all imaging departments were filmless. Computerization along with optimal internet connectivity among all cancer hospitals of TMC across India made cross consultation easy with regular and facilitated videoconferencing as well. There was regular use of teleradiology; the provision for telepathology was underway, and would be introduced in the near future.

All the new cancer patients were attended to and their evaluation initiated on the same day of their registration in the hospital. This initial evaluation was performed by a senior faculty from either the surgical, medical or radiation oncology department. Every DMG met at least once a week for almost every patients evaluation. The overlapping steps involved in each of these DMG meetings included: Exchange of clinical information; Suggestions of appropriate Investigations; Decision making; Best Treatment options for patient; and, Counseling the patient on the decisions made by the respective DMG.

Professionals from different disciples within the appropriate DMG evaluated the patients together and decided upon the best diagnostic investigations and/or course of treatment. All the suggestions were based on the scientific institutional or national or international, evidences / guidelines. These dynamic interactions between various professionals were interdependent on each other's point of view and offered the best management to the patients.

Such DMG or multidisciplinary approach towards cancer eliminated delays in diagnosis and ensured initiation of early appropriate therapy. The presence of supportive service members addressed the patients' psychological / rehabilitation / social / economic needs. The Quality of Life and support till Complete Remission or death was also considered in all cases. In this manner, cancer management became more individualized within the framework of established scientific standards that would be specific to the patient with cancer. Such mechanisms would also improve the Overall Survival and the Quality of life of cancer patients.

Each DMG also provided for patients group meetings that gave opportunities to cancer patients and their care-takers to interact with other patients having similar cancers, to share their experiences & ways of coping with their cancers, and their mental, social & physical challenges.

The Palliative Medicine department addressed the need to alleviate the patients' ensuing issues related to those with indolent cancer & those with intractable pain. These patients were offered psychological guidance and provided them with measures that improved their quality of life, as well as of their care-givers, and included patients in their end-of life stage. The departmental staff made many visits to residences of patients' who were unable to visit the hospital. More than 4000 home care visits were made in the year 2019. Telephonic consultations were also provided.

The Preventive Oncology department screened for common cancers in men and women at a very nominal rate; especially for oral, lung & esophagus in men; and for oral, breast & uterus in women. Early cancer detection camps were regularly held in slum areas, small colonies and for certain public staff like the BEST bus drivers, taxi-drivers, etc. Where cancers were detected early, prompt therapy was initiated. Counseling was also provided by the department that included the detrimental effects of tobacco & alcohol consumption; the need & benefit of self-breast examination, and to keep good genital hygiene. More than 9000 persons attended these preventive clinics.

The Medical Social Service offered support to all cancer patients, especially for the poor and needy. The needy and poor patients were offered way of guidance, free nutritious meals, free / subsidized accommodation, finance etc. More than 40,000 patients benefitted through the department.

All services in the hospital including drugs and consumables were provided to all patients at cheaper cost than that available elsewhere in their respective cities and, at significantly lower rate than their Maximum Retail Price (MRP).

Through the registered mobile numbers of patients, their important hospital related notifications including appointments, recalls, report alerts, report availability, etc. were sent as messages (sms). Patients could view their own medical data online from home or through electronic kiosks in the hospitals. Where the patients' investigational values were alarming, they were red flagged on the system for early remedial action by the doctors.

As a first in India, the TMC introduced the Kevat program that trained individuals to help and guide patients' through their arduous sojourn in the hospital where they had to traverse across myriad of interactions with different departments and their procedures.

Besides active patient management, the there was a second opinion facility called the TMC-Navya, whereby, online expert second opinions were offered to cancer patients from the comfort of their homes.


TATA MEMORIAL CENTRE
GRADUATION CEREMONY
2019

Academics Director TMC, Message

Tata Memorial Centre (TMC) is a Grant-in-aid institute under department of Atomic Energy and is a stand-alone post-graduate institute under Homi Bhabha National Institute (HBNI), which is a deemed to be University under Department of Atomic Energy. TMC stands tall on 3 pillars of Service, Education & Research and here I will discuss about the pillar of Education. For the last more than 75 years now, TMC has been contributing in the development of trained manpower in the field of oncology for the entire nation by imparting knowledge through various educational and research activities.

TMC does not train MBBS students; however we have B.Sc. and M.Sc. courses in oncology nursing, clinical research, radio-physics, etc. We also run technological and skill development courses. Since 2017 we have started "Kevat" a unique, first of its kind in India, patient navigator training course. We offer MD courses in 8 subjects namely anesthesiology, microbiology, nuclear medicine, palliative medicine, pathology, radio-diagnosis, radiotherapy and transfusion medicine. We offer DM in six subjects - Critical Care, Gastroenterology, Interventional Radiology, Medical Oncology, Onco-pathology & Pediatric Oncology; and, M.Ch. in four subjects viz. Gynecological Oncology, Head & Neck surgery, Plastic surgery & Surgical oncology. We also offer Ph.D.s in both health-sciences and life-sciences. There are 18 Principal Investigator (PI) Labs in the Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) at Kharghar, Navi Mumbai that takes in up to 25 new Ph. D. students each year.

Most of the teaching activities are carried out under HBNI University and all our medical courses are MCI recognized. About 200 post graduate medical students were registered in 2019 at TMC. We have in place collaborative student-exchange programmes with Seth GS Medical College & KEM Hospital, the Wadia Children's Hospital, and the Lokmanya Tilak Municipal Medical College & General Hospital, for training of our MD students and, I would like to take this opportunity to thank the Deans & respective Department Heads of these medical colleges for all the help extended.

TMC runs various HBNI Fellowships as well as TMH Fellowships. For the coming year we have received approval to start 3 new certified HBNI Fellowships in Pulmonary Oncology, Molecular Hemato-Pathology, Maxillo-Facial Onco Surgery; as well as MSc in Nuclear Medicine and Information Technology. We have put in a proposal to the regulatory authorities for starting the programme of "Nurse Practitioner" so that we have more hands to take care of our patients & free the students for more training, especially in allied branches & research activities. We also offer six-months

trainee / observership in all the fields of oncology. TMC is recognized as a Training Centre in Cancer Education and Research by several National & International Organizations including WHO, IAEA, INCTR, and Governments of various African & SARC countries. In the year 2019, thirty-five overseas specialists visited TMC for a period ranging from one month to a year. In addition, approximately 500 specialists, including dental surgeons, DM /M.Ch. / DNB / Fellowship students, from all over India visited TMC as observers. We are always looking to start courses / training programs to develop manpower that would help improve care & outcomes of cancer patients, not only in India, but also other LMICs. We are proud to say that nearly half of the people working in the field of oncology in India have at least sometime in their career, received some type of training at TMH.

Since the last four years, we are trying to catch the students in their formative years. The TMC in collaboration with Kings College London & Tata Trusts organizes “Summer School in Oncology”, a training programme for two (2) weeks for undergraduate and post-graduate medical students. Nearly 150 selected students from Government Medical Colleges from across the country are hosted by TMC and exposed to various aspects of oncology. After successful completion of this programme, five topmost participants are given chance for internship at Kings College London for one month. We hope this will attract some bright minds to the field of oncology.

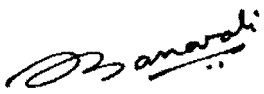
In addition to the courses, TMC as well as individual departments and Disease Management Groups (DMGs) conduct various CME activities all throughout the year, including our Annual Meeting on Evidence Based Medicine. These CMEs are very popular amongst the oncology community. At TMC, we always try to give value based education. Last year, a number of special lectures were organized in the field of Medical Humanities. We also hope to conduct courses for students to develop soft skills, especially in the field of effective communication.

I take this opportunity to thank all the students who work day and night, and are really the lifeline of this hospital; without whose support, we would not be able to take care of the nearly 70,000 patients who come to TMH, and, also those registered at our upcoming outreach centers in Varanasi, Sangrur, Vizag, Mullanpur, Guwahati, etc. I will also like to take this opportunity to thank Director TMC, Dr. RA Badwe & the entire administration of TMC for their constant support. With their support we have improved the accommodation for our residents and hope to improve it further in the near future. We have increased the pay scales of both resident doctors & research students recently, which they all really deserve.

I also take this opportunity to thank the Vice Chancellor and the entire HBNI team for all their help and cooperation over the years. I would also personally like to thank the Dean Academics (Projects), Dr Kailash Sharma, for his constant support & guidance. I would also like to thank my deputy Dr Siddharth Laskar and the entire staff of Academic Section for all their help and support.

Lastly, some advice to you all young students who have just graduated: I would request you to use the knowledge acquired in the true spirit. Please allow your patients to take treatment with dignity. Please do not make them and their relatives feel guilty by offering treatments beyond their abilities especially those with questionable benefit! Let there be fusion of science and human values. Think out of the box & help us better take care of our patients.

I wish you all the very best.



Dr. SD Banavali

Academics

Professor SD Banavali, Director (Academics) was in charge of all the educational activities at Tata Memorial Centre (TMC) along with Deputy Director (Academics) Prof. Sidharth Laskar, and Prof. Sarbani Ghosh Laskar (In-charge Students Affairs). The Tata Memorial Centre was affiliated to Homi Bhabha National Institute (HBNI) Mumbai, a Deemed University, under Department of Atomic Energy (DAE), Government of India (GOI) for imparting Post Graduate (PG) training in Oncology and other Broad specialties, and all these courses were recognized by the Medical Council of India (MCI), New Delhi and the HBNI University.

The Mumbai units of Tata Memorial Centre comprised, the Tata Memorial Hospital (TMH), the Advanced Centre for Treatment, Research & Education in Cancer (ACTREC), and the Centre for Cancer Epidemiology (CCE), where the present academic activities exist. Additionally, similar academic activities were also underway at the Dr. B. Borooah Cancer Hospital in Guwahati, Assam.

Moreover, the TMC was in the process of starting similar academic activities/courses in various other cities like Sangrur (Homi Bhabha Cancer Hospital) in Punjab, Varanasi (Homi Bhabha Cancer Hospital and the Mahamana Pandit Madan Mohan Malaviya Cancer Centre) in Uttar Pradesh, and

Tata Memorial Hospital, Mumbai

ACTREC, Navi Mumbai

Dr. Bhubaneswar Borooah Cancer Institute, Guwahati

HBCH, Varanasi

HBCHRC, Visakhapatnam

HBCH, Sangrur

Visakhapatnam (Homi Bhabha Cancer Hospital & Research Centre) in Andhra Pradesh, where the academia would impart similar training as in Mumbai.

The TMC continued to provide the highest standard of patient care through its services & research, and built capacities by imparting knowledge through various educational activities.

Broad Speciality & Super Speciality Courses

The following Broad specialty and Super specialty courses were conducted at Tata Memorial Centre, Parel, Mumbai (about 202 Post Graduate Medical students were registered in 2019 for PG courses in various disciplines):

SuperSpeciality Courses: DM in Medical Oncology, Paediatric Oncology, Critical Care Medicine, Gastroentrology, Oncopathology, Interventional Radiology; and, M.Ch. in Surgical Oncology, Gynec Oncology, Plastic & Reconstructive Surgery, and Head & Neck Oncology.

MD Degree Courses: MD in Anaesthesiology, Pathology, Radiation Oncology, Radio-diagnosis, Microbiology, Immuno-Haematology & Blood Transfusion, Palliative Medicine, and Nuclear Medicine.

Other Courses & Exchange Programmes

1. **Ph.D. & Paramedical PG Courses**: TMC conducted Ph.D. courses in Life Sciences and Health Sciences. It also conducted M.Sc. in Nursing, Nuclear Medicine & Molecular Imaging Technology, and in Clinical Research.
2. **Six months training program at Tata Memorial Centre**: The primary aim was to train various specialists on sponsorship basis in oncology and other supportive branches. Approximately twenty (20) Oncology trainees took training at TMC for six months (twice in a year). Twenty-six (26) Technology students were trained at TMC for six months (twice in a year).

3. The institute had collaborative **students exchange program** with Seth G.S. Medical College & KEM Hospital, Wadia Hospital for Children and Lokmanya Tilak Municipal General Hospital in Mumbai.

4. Approximately 505 specialists including dental surgeons visited Tata Memorial Centre as **Observers from all over India** in the year 2019.

Training of International Students

The Tata Memorial Center was a recognized training center in cancer education and research by several National and International organizations, including the World Health Organization (WHO), the International Atomic Energy Agency (IAEA) and the International Network for Cancer Treatment (INCTR). The Hospital offer education through various activities like PG courses and training through short-term observership and various training programs.

Overseas trainees and observers at Tata Memorial Centre

In the year 2019, thirty-five (35) overseas medical specialists from various countries visited the Tata Memorial Centre as observers for a period ranging between one to six months. The countries included:

Bangladesh	Spain	USA
Korea	Canada	Hongkong
Nepal	Myanmar	Dubai
Germany	Oman	New Zealand
Mauritius	United Kingdom	Yemen

The Tata Memorial Centre took initiative in training of African, sub-Saharan country doctors, nurses under the Indo-African Forum Summit III, in the field of Oncology for periods ranging from one to six months. This program would be continued for three (03) more years at TMC; four to five doctors enrolled every year.

Training of Medical Students

The Tata Memorial Centre in collaboration with Kings College, London organized “A summer school in Oncology - 2019” training program for two weeks for the Under and Post Graduate medical students. One hundred forty-eight (148) students selected from Government Medical colleges in India participated. After successful completion of this program, seven (07) participants were given a chance for internship at the King’s College, London for two weeks, at no cost to them.

Degree Courses

Name of Course	Duration	Approved By	Students	Recognized By	Passed
M.Ch. (Surgical Oncology)	3-year Superspeciality courses (Post MD)	Approved By Medical Council Of India (MCI)	24	Homi Bhabha National Institute	17
M.Ch. (Gynecological Oncology)			02		02
M.Ch. (Plastic Surgery)			04		02
M.Ch. (Head & Neck Oncology)			04		04
D.M. (Medical Oncology)			16		14
D.M. (Critical Care)			02		02
D.M. (Pediatric Oncology)			03		02
D.M. (Gastroenterology)			02		02
D.M. (Interventional Radiology)			02		00
D.M. (Onco-pathology)			03		00
M.D. (Pathology)	3-year broad Speciality courses (MD) Homi Bhabha National Institute (HBNI) approved		12		11
M.D. (Anesthesia)			20		20
M.D. (Radiodiagnosis)			17		10
M.D. (Radiotherapy)			16		14
M.D. (Microbiology)			00		01
M.D. (Immuno Hematology &			03		05
M.D. (Nuclear Medicine)			06		04
M.D. (Palliative Medicine)			03		02
Advanced Diploma in Radiotherapy Technology (ADRT)	2-year plus one year internship	Maharashtra State Board of Technical Education Directorate of Technical Education, Maharashtra Government	13	Maharashtra State Board of Technical Education, Government of Maharashtra	07
Advance Diploma in Medical Imaging Technology (ADMIT)			20		16
Post Graduate Diploma in Fusion Imaging Technology	1-year plus one year internship	HBNI university approved	10	Homi Bhabha National Institute	10
M.Sc. Clinical Research	2-year plus one year internship	HBNI university approved	10		09
M.Sc. Nursing	2-year course	HBNI university approved	05		02
M.Sc. Nuclear Medicine & Imaging Techniques	2-year plus one year internship	HBNI university approved	05		00
Ph.D. (Health Science)	5 years	HBNI university approved	00		07
		Total	202		163

Ethics Committees

Research was always a mandate of this institution since it was conceptualized in 1933 and thrown open to the general public in 1941. The World War II turmoil and the Indian independence struggle bustle, hampered scientific methodology to be applied to research. This was compounded by the prolonged handing over of the institute from the Tata's to eventually the Department of Atomic Energy, Government of India in 1962. The consolidation of this largest cancer centre in India took time due to incremental augmentation of the facilities, and then to become a teaching institute under the University of Bombay in 1980. With streamlining of service facilities including radiation therapy & chemotherapy, intensive care unit, education, and the sowing of seeds for the future National Cancer Grid, the management focused on the need to organize the process of research that would authenticate these studies in the future and have national as well as international impact.

To this end, the Hospital Ethics Committee (later, the Institutional Ethics Committees) was formed in the year 1996. This committee oversaw patient's care and the ethical aspects of research and education.

In the year 1997, the Hospital Scientific Review Committee (HSRC), later being incorporated in the Institutional Ethics Committees (IEC), was formed with the mandate to set the highest standards in clinical research; to formulate institutional policies and guidelines for clinical trials; to have quality control measures on the data and its analyses; and, to be at the forefront as national standard of reference.

The ACTREC project was revived in the year 1997 to initiate basic & translational research. The impetus was the sanctioning of the Cancer Research Institute (CRI) in 2002, and of the Cancer Research Centre (CRC) in 2005, by the Atomic Energy Commission (AEC). The augmented scientific research facilities in TMH & ACTREC led to forging of many international collaborations for research; chiefly with the International Atomic Energy Agency (IAEA), the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the Union for Cancer Control (UICC), the American Cancer Society (ACS), the International Network for Cancer Treatment & Research (INTCR) etc. The TMC also became a sister institute of the famed MD Anderson Cancer Centre in Texas, USA.

All of the TMC research activities, including its ethical and safety aspects, were monitored by the Clinical Research Secretariat (CRS), the Department of Atomic Energy Clinical Trials Centre (DAE-CTC), the Institutional Ethics Committee (IEC), the Data Safety & Monitoring Unit (DSMU), and the TMC Research Administration Council (TRAC). There were two IEC's (IEC - I, II) at TMH, the third IEC (IEC-III) was at ACTREC and the fourth (IEC- IV) was recently introduced at MPMMCC in Varanasi.

Research Secretariat, Clinical & Department of Atomic Energy Clinical Trials Centre

Clinical Trials Centre

The Clinical Research Secretariat (CRS) along with the Department of Atomic Energy Clinical Trials Centre (DAE-CTC) played a key role in facilitating research in field of oncology at the Tata Memorial Centre since its inception. The mandate of CRS included promoting clinical research, training and education of researchers and research staff, ensuring scientific and ethical conduct of clinical trials and propagation of practice of evidence based medicine across the country.

In the year 2019, following activities were conducted in each of the above mentioned domains:

1. Promoting Clinical Research

A. Augmentation of Infrastructure:

i. Dedicated statistician cell was created in CRS with the two statisticians supported by senior Biostatisticians from ACTREC and CCE in Navi Mumbai.

ii. Central Pharmacy: For the storage of all trial related drugs at required temperature in compliance with the Schedule Y (Investigator Product Management), International Conference on Harmonisation-Good Clinical Practice {(ICH-GCP)-E6} with controlled access. In addition, for storage of trial medicines under strict temperature control, a walk-in cooler along with automated alarm system for temperature deviations was installed.

iii. Filing Storage space: Two Filing storage spaces to store all of the clinical trial records in compliance with ICH-GCP were available. Both were dedicated storage spaces with controlled access to only authorized trial personnel.

iv. Monitoring Room: The CRS had two dedicated well-equipped trial monitoring rooms. In addition to CRS Monitoring Room situated at Main Building, there was provision for an additional Monitoring room for monitoring in the expanded CRS area at the Homi Bhabha Block (HBB). This facilitated the monitoring of plan lay-out by the sponsors & investigators of clinical trials as well as the conduct of monitoring visits.

v. A dedicated consenting room was being isolated in the CRS to facilitate recording of Patient Audio Video Consenting.

vi. In addition, space was provided for staff and for infrastructural support for National Cancer Grid at CRS Hub, Main building.

B. Statistical support for the Clinical Trials:

The statisticians at CRS provided expert help to the clinical researchers in designing of trial, sample size calculation, randomization list generation and analysis. The CRS also provided statistical analysis software (SPSS version 20.0+) for all the investigators. In 2019, statistical support was provided for 125 clinical trials and projects in the following areas:

Analysis	234
Randomization list generated	19
Randomization Assistance	03
Sample size	48
Design	43

In addition, the CRS supported the process of central randomization on an ongoing basis for 30 trials. Besides the in-house statisticians, CRS coordinated & provided on-site services and consultations of senior biostatisticians from ACTREC and CCE to expedite and resolve the statistical queries and address the needs of researchers on a timely basis.

C. Financial support for the clinical trials: A total of 14 Intramural trials (ongoing & new) were supported through the DAE-CTC and, a total of INR 90, 91, 463 were provided as financial grant.

D. Translation facilities for Informed Consent Forms (local/vernacular languages) for Clinical Trials: A dedicated Translator supported the constantly increasing translation work burden. The Translator provided the expert help to the clinical researchers in Informed consent translation and back translation in both Marathi and Hindi languages. A total of 76 clinical trial consent forms were translated in Hindi and Marathi languages.

E. Publications of results of clinical research supported by DAE-CTC: A total of 12 Publications were made with the result of Clinical research supported by DAE-CTC.

F. Network and Database Administrator: The CRS had a dedicated Network administrator responsible for the designing, development and testing of new features in the Clinical trial applications. These included:

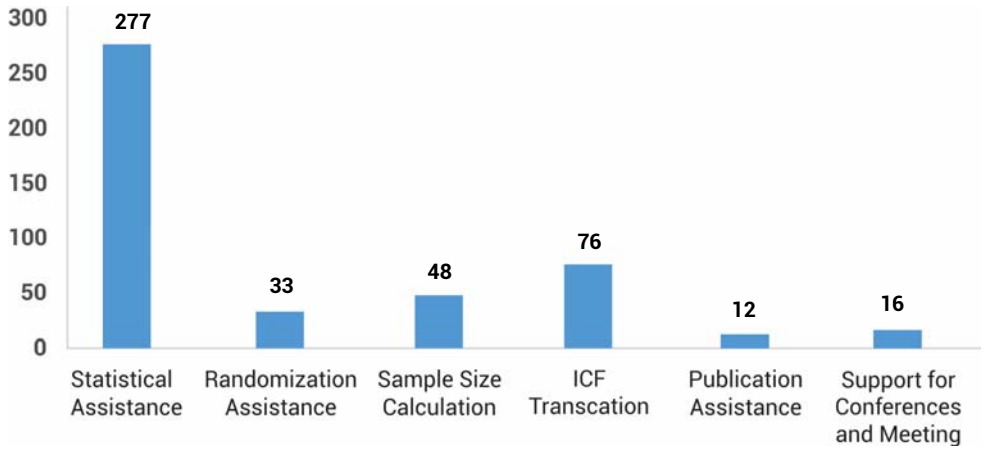
- Design and implementation of software projects using C# Visual Studio 2017.
- Design, create, and implement database systems based on the end user's requirements.

- Development of database tables and to create procedures.
- The new Software developed: the harmacy stock management system (CRS Department), the Pollution Study (Breast DMG), the Cosmesis Study (Breast DMG), and the Conference Data Management Software.
- CRS initiated the process of setting up of centralized Clinical Trial Database Management System (CTMS).

G. **Support to Conferences and Meetings:**

Sixteen (16) conferences & meetings were supported for the year 2019. In addition, the CRS provided logistical & advisory inputs to many other meetings and events. Further assistance was provided while availing of Maharashtra Medical Council's Continuing Medical Education (MMC-CME) credit points application.

Graphical representation of support provided



H. Standard Operating Procedure (SOP):

The CRS was involved in conducting numerous trials including Investigator initiated, pharma sponsored, collaborative studies (International and National) and the thesis of postgraduate students. A detailed SOP was designed to conduct research at TMC. The SOP's were designed to have uniform standard, quality assurance and quality control for conducting the clinical studies/research at TMC. The key elements of the SOPs were: Assessing Protocol Feasibility; Clinical Trial agreement with Sponsors or Contract Research Organizations (CRO); Interaction with IEC; Study/Research team responsibilities; Communication with sponsor or CRO; Site initiation, activation, conduct & close out; Reviewing and obtaining Informed Consent forms; Recruiting the Study subjects; Source documentation; Managing Investigational Product; the Archival of essential documents; Safety reporting; Clinical Research Pharmacy Management; Managing Biological samples; Reimbursement Policies; and, study team Training and study handover, transfer of patients between TMH and ACTREC.

The SOPs were designed to ensure execution of research in accordance with Institutional guidelines, updated applicable national guidelines, and regulations (e.g. Schedule Y, Indian GCP, ICMR guidelines, ICH GCP).

The SOP for training and education was given to the research team of TMC. It was mandatory that every research staff should be trained and must be aware of the TMC SOP before he/she could conduct research. The CRS was also developing SOPs for statistical support and would thus streamline the services.

2. Training and Education of Researchers

A. **Clinical Research Methodology workshop:** This was organized on 27 - 28 July in 2019 to train researchers on various aspects of trial design and analysis. A total of 245 delegates (local and national) attended the conference.

B. **M.Sc. Clinical Research:** The CRS was actively involved in the M. Sc. Clinical Research course. There were twenty students in first & second year of their courses. Nine (9) students were doing Internship training in various Disease Management Groups (DMG) after successfully completing their M.Sc.

The support included:

- Coordinating entrance exam and interview.
- Coordinating lectures and study material.
- Managing lectures, invigilating exams.
- Managing honorarium payments to invited faculties for conducting lectures.
- Managing the mini library and arranging for the study books.
- Rotations through the various external postings for comprehensive training.
- Maintaining leave records and attendance.

3. Evidence Based Management (EBM) Meeting 2019

The important aim of the CRS / DAE-CTC was to propagate and to promote the practice of evidence-based medicine, especially in cancer. These Evidence Based Management meetings were started about a decade and half ago.

The philosophy behind the meeting was to identify and answer focused questions relevant to oncology practice in India. National faculties and International faculty members were invited every year who were experts in their field of oncology. The deliberations that would typically go on for 2-4 days and included talks on a particular topic in context with the Indian scenario.

The **XVII Annual EBM** was focused on three modules, namely: a) Hepato-Pancreato-Biliary Malignancies, b) Clinical Genomics in Hemato-Oncology, c) Cancer-Associated Thrombosis which were simultaneously organized from 1st to 3rd March 2019. The meeting was a huge success with 761 participants as delegates. Three (03) EBM books were published during this conference that were available on TMC website and were easily accessible to all. There were two Preconference workshops on "Contouring and planning SBRT for Pancreatic & Liver cancers" on February 27, 2019 and "Bioinformatics for Molecular Pathologists: A hands on workshop" from February 26-28, 2019.

Professor Helmut Friess, Chairman, Department of Surgery in Munich, Germany gave the Tata Memorial Hospital Day Oration on "Curing Pancreas Cancer in the 21st Century".

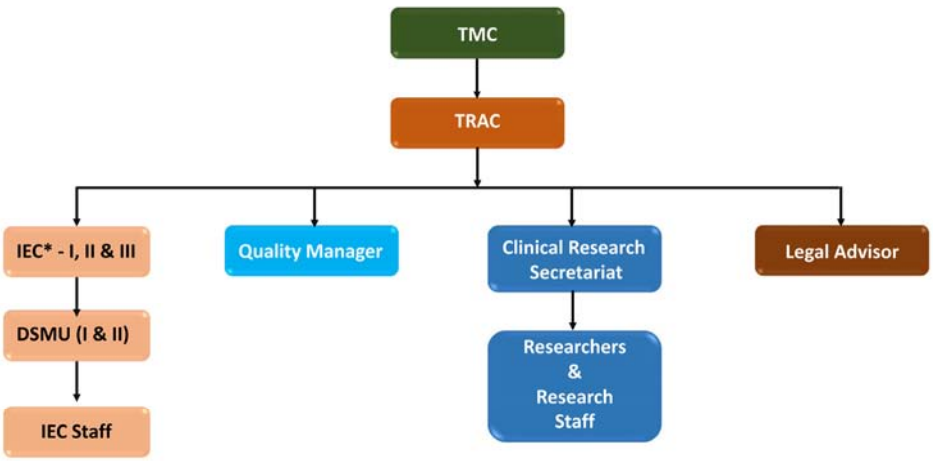
The three (03) books published in the year 2019:

1. Evidence Based Management of Cancers in India: Clinical Genomics in Hemato-Oncology (Part A)
2. Evidence Based Management of Cancers in India: Guidelines for Hepato-Pacreatico-Biliary Malignancies (Part B)
3. Evidence Based Management of Cancers in India: Guidelines for Cancer-Associated Thrombosis (Part C).

TMC Research Administrative Council (TRAC)

The TMC Research Administrative Council (TRAC) was constituted in the year 2008 and, had a broad mandate that maintained and improved all aspects of basic, translational and clinical research at the Tata Memorial Centre (TMC).

Human Resource Protection Program (HRPP) Organization Chart



**IEC=Institutional Ethics Committee; DSMU=Data Safety Monitoring Unit*

The focus was specifically on the following areas:

- Established the Human Research Protection Program and its implementation.
- Set directions, priorities and thrust areas for research as per institute's mandate.
- Suggest and review the proposals for collaborations between TMC, with other Indian or international Institutions, Groups, Individuals or industry. When required, to suggest the names of possible Principal and Co-investigators within TMC for this collaboration.
- Review pre-proposals for sponsored research and suggest the names of possible Principal and Co-investigators within TMC.
- Review the expenditure and the income incurred on hospital services, the laboratory and administrative functions, for investigator initiated and sponsored research conducted in TMC.

Policy decisions

- Re-constitution of the Institutional Ethics Committees as per the new Clinical Trial (CT) rules 2019.
- Distribution of research projects among the four IECs.

Activities

- The support, training and guidance for constituting the Institutional Ethics Committee at the Mahamana Pandit Madan Mohan Malaviya Cancer Centre (MPMMC), Varanasi - a TMC cancer centre. The IEC was functional from December 2019.
- National Accreditation Board for Hospitals and Healthcare Providers (NABH) surveillance conducted on March 28-29, 2019 that ensured compliance to the National Accreditation Board for Hospitals & Healthcare Providers (NABH) requirement.
- The Institutional Ethics Committee (IEC-lll) at Advanced Centre for Treatment, Research & Education in Cancer (ACTREC) was accreditation by the World Health Organization WHO)/ the Strategic Initiative for Developing Capacity in Ethical Review (SIDCER).
- Processing Grant applications for Terry Fox International Research awards.
- Quality Improvement plans included Audits of functioning of IEC I, II, & III; and of research projects at regular intervals.
- Financial support was granted for fifty-five (55) research projects in year 2019.
- Assistance was extended to accounts department on queries for non-functional research accounts.
- The TRAC in association with Pfizer pharmaceutical company, organized a training course on “Investigator's Responsibilities and Good Clinical Practice (GCP)” for the investigators.

Publications

- Approximately 50 presentations / publications were made in peer review journals of the research studies supported through institutional grants.

Future Goals

- Phase II of Institutional Review Board (IRB) Portal for research project's life cycle.
- Quality control program for research projects.
- Monitoring progress of research studies supported by institutional funds.
- Developing online education models for researchers and staff.
- Capacity building for Scientific & Ethical review process.

3 The National Cancer Grid

The National Cancer Grid

The National Cancer Grid (NCG), an initiative of the Department of Atomic Energy, Government of India, was created in 2012 with the broad vision of creating uniform standards of cancer care across India. Seven years later, it has grown to a large network of 193 cancer centres, research institutes, patient advocacy groups, charitable organizations and professional societies. Between the member organizations of the NCG, the network treats over 700,000 new patients with cancer annually, which is over 60% of all of India's cancer burden. Incorporating all stakeholders of cancer care in India, it is a strong, unified and powerful voice in the fight against cancer

The Mission Statement of the National Cancer Grid

The National Cancer Grid will create a network of cancer centres across India with the mandate of establishing uniform standards of patient care for prevention, diagnosis, and treatment of cancer, creating adequate trained human resources, and facilitating collaborative basic, translational and clinical research in cancer.

Funded primarily by the Government of India through the Department of Atomic Energy, the NCG has revolutionized cancer care in India by establishing the largest cancer network in the world.

Uniform standards of care: NCG Consensus Guidelines

Uniform standards of patient care are likely by consensus on implementation of uniform cancer care to patients from all over the country at their doorsteps by adopting Evidence-Based guidelines for treatment. The National Cancer Grid guidelines on management of common cancers has been endorsed by all participating centres and is periodically modified as new evidence is generated. Adherence to these consensus guidelines is also being evaluated by conducting institutional peer reviews of the constituent centres. Currently a voluntary initiative, teams of experts drawn from other NCG centres conduct site visits after months of exchange of data and performance metrics, to identify strengths and gaps, and opportunities for improvement which are then shared with centres as a peer review report.

NCG Centre for Global Health: The "Vishwam" 3C

Low and Middle Income Countries (LMICs) face very similar issues in cancer control within their healthcare systems. Challenges in many countries are remarkably similar and include inadequate public health expenditure, socioeconomic disparities, lack of awareness amongst the general public,

late stages of presentation, lack of access to even basic cancer care facilities, inadequate infrastructure, and almost non-existent healthcare regulations and standards. There have been requests from several LMICs to share best practices from the National Cancer Grid experiences, and also benefit from some of its resources. The NCG Centre for Global Health would partner with several countries globally to work towards reducing the burden of cancer in those regions. As a first step towards addressing the burden and concerns regarding cancer, especially for the underprivileged population in the third world countries and for humanity in its entirety, the NCG "Vishwam" was launched.

Shri KN Vyas, Secretary, Department of Atomic Energy (DAE) and Chairman, Atomic Energy Commission (AEC), in the presence of Dr. RA Badwe, Director, Tata Memorial Centre (TMC) launched NCG Vishwam Cancer Care Connect on 17th September 2019 in Vienna on the sidelines of the 63rd General conference of International Atomic Energy Agency (IAEA). The NCG, India was thus opened for participation by cancer centres and other relevant institutes from foreign countries in a common fight against cancer. Dr. RA Badwe enumerated the benefits that the foreign hospitals would accrue through their active participation in the NCG Vishwam. Participating countries would benefit in different ways through the NCG Vishwam Connect, such as NCG Virtual Tumor Boards, NCG guidelines for management of common cancers; second opinion service for patients / physicians; availability of Massive Open Online Courses (MOOCs) amongst others.

Ms May Abdel-Wahab, Director of the Division of Human Health under the Department of Nuclear Science & Applications (NAHU) of the IAEA called this a comprehensive package to help bridge the gap in cancer care, and underlined IAEA's support to this initiative. Eleven countries expressed interest immediately after the launch. Hospitals from Sri Lanka and Bangladesh conveyed their appreciation for offering the NCG to foreign countries through a video message. Several hospitals from Russia, Kazakhstan, Vietnam, Nepal, United Arab Emirates, Afghanistan, Jamaica, Bangladesh, Myanmar and Zambia have agreed to become part of the NCG-Vishwam.

External Quality Assurance Schemes (EQAS)

Quality assurance programmes are underway in surgical pathology and being planned in radiation oncology. A web based platform has been created as an External Quality Assurance Service (EQAS) in surgical pathology (H&E and Immunohistochemistry), similar to the College of American Pathologists' (CAP) programme. This service is provided free to member institutions and has been simplified to create a hassle-free experience for participating centres. Regular feedback with scores and suggestions for performance improvement are shared confidentially with member organizations. The success of this programme has spurred similar quality assurance project plans for other diagnostic laboratories and radiation oncology.

Leveraging technology for patient care

Modern cancer treatment is increasingly complex and mandates that multidisciplinary teams are actively involved in treatment decisions. Three initiatives of the NCG ensure that gaps in quality of treatment decisions are narrowed.

Second opinion service for patients: “Navya”

The first, the TMC-NCG-Navya solution is a second opinion service for patients across India and other countries across the world. Patients can upload copies of their investigation reports, radiology and pathology images, which are curated by a group of trained individuals, who then convert these into a structured format, including patient preferences and opinions. This structured data is shared using a mobile app with experts across the NCG along with evidence and experienced based treatment options using cutting-edge machine learning technology. NCG experts provide an expert opinion which is then transcribed and fed back to patients in easy to understand language.

NCG Virtual Tumor Boards

The second initiative, the NCG Virtual Tumor Boards (VTB) work on leveraging the proven benefits of getting multidisciplinary teams to work on treatment decisions. Complex clinical situations in cancer are presented to peers with expertise and experience in cancer care using a web-based platform; anywhere upto 150 experts log on at a pre-specified time and discuss optimal treatment of patients from cancer centres across the country. In addition to assisting with treatment decisions for individual patients, the process reinforces the importance of multidisciplinary treatment decision making, and provides an excellent opportunity for participants to learn from collective experience and expertise of a large number of oncologists.

Price Discovery Cell / Group Negotiation for Equipment, Drugs & Consumables

Exploiting the volumes of individual cancer centres, an effort is being made to have group negotiations for equipment, drugs and consumables. Small and medium sized cancer centres find it difficult to negotiate competitive prices with equipment manufacturers and the pharmaceutical industry. By aggregating the demand for these, the NCG is working on a solution wherein “price discovery” of commonly used, high-value items are negotiated with industry, thereby passing on the benefits to member centres and onwards to patients. Using transparent policies for tendering and a web-enabled e-tendering platform, this initiative will bring down current costs of cancer care significantly.

Continuing Medical Education: NCG National Cancer Library

The NCG is a platform for exchange of specific expertise and skills and is likely to reduce the gap in outcomes between more and less experienced centres. It facilitates mentorship and proctoring of specific skills between centres, matching needs with institutions with the requisite expertise. In addition, the NCG has facilitated free unrestricted access to major cancer journals and books to all member centres thereby enabling specialists in these centres to be updated on the latest advances and research in cancer. E-access to over a hundred journals and books on cancer are provided to all NCG members, thereby providing a resource which would have been otherwise out of reach for the smaller centres. Inter-library loans and specific manuscript requests are also handled routinely by the NCG Virtual library.

Unique Educational Initiatives: "Travelling Schools of Pathology and Oncology Nursing"

Recognizing the difficulty of specific regions of the country like north-east India to travel to major cities to participate in continuing medical education programmes, the NCG regularly organizes the "travelling school of pathology", a fresh initiative which takes training in surgical pathology to the doorsteps of these regions. A team of expert pathologists and surgeons drawn from experienced NCG centres travel to several cities in the north east, conducting a series of workshops along with local faculty and trains hundreds of pathologists and surgeons in best practices in cancer surgery and pathology reporting. Follow up workshops and contact meetings are planned to reinforce the learning from these workshops. Based on the success of the workshops in surgical pathology, similar workshops have also been conducted in oncology nursing. The travelling school of surgical pathology is being replicated in other parts of the country as well including Karnataka, Andhra Pradesh and Punjab.

Training in Cancer Research Methods: International Collaboration on Research; Methods Development in Oncology: CreDO Workshop

The NCG also conducts highly specialized workshops on clinical cancer research methods, training researchers from across the country and abroad. In an intensive residential workshop, assisted by 30 faculty, close to 60 participants convert one page concept sheets on research ideas by junior faculty and trainees into full fledged research protocols ready for submission to ethics committees and granting organizations over six days. In addition to this resulting in several projects being submitted and initiated, this also enables participants to mentor their colleagues and students in their respective institutions. The international Collaboration in Research methods Development in Oncology (CReDO) is supported by the National Cancer Institute (NCI), USA, King's College London, American Society of Clinical Oncology (ASCO), Cancer Research UK (CRUK), Indian Council of

Medical Research (ICMR) and endorsed by the European Organisation for Research and Treatment of Cancer (EORTC), Medical Research Council (MRC), UK, and the Australia & Asia Pacific Clinical Oncology Research Development (ACORD) initiative, Australia. Three editions of this highly successful workshop have been held to date.

NCG funded Multicentric Collaborative Research

The NCG facilitates and funds collaborative multicentric research in cancers common or unique to India. By fostering a culture of cooperation and close collaboration between centres, it creates a far more efficient system of conducting clinical trials. The focus of research is on finding cost effective, readily implementable interventions in all levels of cancer care in the country, thereby emphasizing its commitment to provide affordable, equitable cancer care across the country. There is a strong commitment to data sharing, which is a mandatory requirement for funding by the NCG. So far, eleven large multicentric studies have been supported by the NCG. A recent MoU with the Department of Biotechnology, Government of India will scale up these efforts considerably.

Integration with the National Health Authority

The National Health Authority (NHA) is an attached office of the Ministry of Health and Family Welfare (MoHFW) with full functional autonomy and was constituted to have a focused approach and effective implementation of the Pradhan Mantri Jan Arogya Yojana (PM-JAY) scheme. The PM-JAY, or the Ayushman Bharat National Health Protection Mission aims to cover the costs of hospital care and treatment for approximately 500 million people representing the poorest 40% of India's population. The NHA has partnered with the NCG in ensuring that the reimbursement scheme incorporates quality by authorizing treatment protocols which are adherent to the NCG guidelines. The NCG is also working with the NHA to rationalize treatment packages and tariffs under the PM-JAY scheme, and empanelling more of the NCG member organizations for treatment under the scheme. This collaboration is likely to be a game changer in introducing quality parameters and metrics in what has been a largely unregulated healthcare delivery system.

Future Plans

Future plans of the NCG include a concerted and systematic effort at health promotion and cancer awareness, targeted at the general population. This is towards a longer term impact by improving awareness of cancer as a potentially curable disease if detected early, and adoption of healthier lifestyles. Augmentation and optimization of palliative care facilities in India is a priority area: A study to evaluate the gaps in provision of palliative care has already been undertaken by the NCG. With a long-term plan to formulate a robust health technology assessment plan for cancer in India, initial steps are being taken to evaluate "value" of various modern cancer treatment. State and regional "chapters" of the NCG have been initiated to further disseminate the standardization to

even more centres. The NCG guidelines are also now being stratified as “optimal” and “optional” to guide patients as well as public health policy makers. Data aggregation from the NCG member organizations has been a challenge primarily due to lack of electronic health records in many centres, and disparate systems which do not communicate with each other in the rest. The NCG has partnered with iSPIRT (*https://ispirt.in/*) with an ambitious plan to democratize health records both for healthcare providers as well as for patients.

Summary

The National Cancer Grid has grown over the past seven years into a large and cohesive organization with significant impact on cancer care, training and education, research and policy in India. It serves as an exemplar for other disease groups to emulate and make a difference in overall healthcare delivery in India. It also serves as a model for other Low and Middle Income Countries (LMICs) to adopt for a systematic and comprehensive approach to cancer control. With the continued spirit of collaboration and cooperation between the centres and the ongoing support from the DAE, it seems certain that its role will further expand and transform the way cancer is treated in the country and globally.


9
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
RESERVE BANK
GUARANTEED BY THE
I PROMISE TO
PAY THE BEARER
THE SUM OF TWO
THOUSAND RUPEES
GOVERNOR

4 TMC Financial Audit

- Action Taken Report
- Auditors Report
- Statement of Account

ACTION TAKEN REPORT ON AUDITOR'S OBSERVATIONS FOR THE YEAR 2019-20

Paragraph No of Auditor's Report	Auditor's comments (to be reproduced in full)	Action Taken	Expected month and year for completion of Action
(1)	(2)	(3)	(4)
1	We have audited the attached Financial Statements of **Tata Memorial Centre (the Centre)** which comprises Balance Sheet as at 31st March, 2020 and the Statement of Income and Expenditure Account, the Statement of Receipts and Payments Account and Notes to the Financial Statements for the year ended on that date including a summary of significant accounting policies and other explanatory information, as required by the Bombay Public Trusts Act, 1950 (the Act).	This is a statement of fact and information. No action required	
2	In our opinion, the accompanying financial statement give the information required by the Act in the manner so required, we report that: (a) In the case of the Balance Sheet, of the state of affairs of the Centre as at 31st March, 2020. (b) In the case of Income and Expenditure Account, of the Excess of Expenses over Income of the Centre for the year ended on that date.	This is a statement of fact and information. No action required	
3	We conducted our audit in accordance with the Standard on Auditing (SAs) issued by Institute of Chartered Accountants of India. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements' section of our report. We are independent of the entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained in sufficient and appropriate to provide a basis for our opinion.	This is a statement of fact and information. No action required	

A.N. SATHE C.A.O., TMC

श्री. सुर्यकांत मोहपात्रा
MR. SURYAKANT MOHAPATRA
संयुक्त नियंत्रक (पुंजी और खाता) टी.एम.सी.
JT. CONTROLLER (F & A) TMC
टाटा स्मारक अस्पताल
TATA MEMORIAL HOSPITAL,
डॉ. अर्नेस्ट बोर्जेस मार्ग,
DR. ERNEST BORGES MARG,
परेल, मुंबई - 400 012.
PAREL, MUMBAI - 400 012.

4	The trustees are responsible for the preparation and fair presentation of these financial statements in accordance with the aforesaid Accounting Standards generally accepted in India and for such Internal Control as management determines is necessary to enable the preparation of Financial Statements that are free from material misstatements, whether due to fraud or error. In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has realistic alternative but to do so. Those charged with governance are responsible for overseeing the entity's financial reporting process.	This is a statement of fact and information. No action required	
5	Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Standards on Auditing issued by the Institute of Chartered Accountants of India, will always detect a material misstatement when it exists. Misstatement can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.	This is a statement of fact and information. No action required	

A.N. SATHE C.A.O., TMC

श्री. सुर्यकांत मोहपात्रा
MR. SURYAKANT MOHAPATRA
संयुक्त नियंत्रक (पुंजी और खाता) टी.एम.सी.
JT. CONTROLLER (F & A) TMC
टाटा स्मारक अस्पताल
TATA MEMORIAL HOSPITAL,
डॉ. अर्नेस्ट बोर्जेस मार्ग,
DR. ERNEST BORGES MARG,
परेल, मुंबई - 400 012.
PAREL, MUMBAI - 400 012.

KAILASH CHAND JAIN & CO. (Regd.)
CHARTERED ACCOUNTANTS
"Edena" 1st Floor,
97, Maharshi Karve Road,
Near Income Tax Office,
Mumbai - 400 020.
e-mail : mail@kcjainco.com, kcjainco@gmail.com

Phone : 022-22009131
022-22065373
022-22005373
Fax : 022-22089978

AUDITOR'S REPORT

The Chairman,
Governing Council of Tata Memorial Centre,

Opinion

We have audited the attached Financial Statements of **Tata Memorial Centre (the Centre)** which comprise the Balance Sheet as at 31st March, 2020 and the Statement of Income and Expenditure Account, the Statement of Receipts and Payments Accountand the Notes to the Financial Statements for the year ended on that date including a summary of significant accounting policies and other explanatory information, as required by the Bombay Public Trusts Act, 1950 (the Act).

In our opinion, the accompanying financial statements give the information required by the Act in the manner so required, we report that:

(a) In the case of the Balance Sheet, of the state of affairs of the Centre as at 31st March, 2020.
(b) In the case of Income and Expenditure Account, of the Excess of Expense over Income of the Centre for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with the Standards on Auditing (SAs) issued by Institute of Chartered Accountants of India. Our responsibilities under those standards are further described in the 'Auditor's Responsibilities for the Audit of the Financial Statements' section of our report. We are independent of the entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Management's Responsibility for the Financial Statements

The trustees are responsible for the preparation and fair presentation of these financial statements in accordance with the aforesaid Accounting Standards generally accepted in India and for such Internal control as management determines is necessary to enable the preparation of Financial Statements that are free from material misstatements, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and

using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so. Those charged with governance are responsible for overseeing the entity's financial reporting process.

Auditor's Responsibility for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Standards on Auditing issued by the Institute of Chartered Accountants of India, will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

For Kailash Chand Jain & Co.
Chartered Accountants
Firm Regn No: 112318W

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

Saurabh Chouhan
Partner
Membership No: 167453
Date: 09th November, 2020
Place: Mumbai
UDIN: 20167453AAAAMV4980

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

BALANCE SHEET AS AT 31ST MARCH, 2020

In ₹

PARTICULARS	Schedule	As at 31.03.2020	As at 31.03.2019
CAPITAL FUND AND LIABILITIES			
Capital Fund	1	-	-
Earmarked / Endowment Fund	2	2,89,64,92,858	2,39,53,18,387
Academic Fund	3	15,23,98,767	13,52,35,172
Current Liabilities & Provisions	4	23,66,28,45,263	19,92,39,09,439
TOTAL		26,71,17,36,888	22,45,44,62,998
ASSETS			
Fixed Assets			
Gross Block		10,15,30,37,396	8,81,06,56,752
Less:Provision for Depreciation		4,45,59,69,817	4,10,84,53,227
Net Block		5,69,70,67,579	4,70,22,03,525
Capital Work - in - Progress		8,94,99,82,253	7,26,04,18,717
Total	5	**14,64,70,49,832**	**11,96,26,22,242**
Current Assets, Loans and Advances	6	10,31,51,63,492	9,27,07,92,089
Capital Fund	1	1,74,95,23,564	1,22,10,48,667
TOTAL		26,71,17,36,888	22,45,44,62,998
Significant Accounting Policies	13		
Notes on Accounts	14		

As per our report of even date attached
For Kailash Chand Jain & co.
Chartered Accountants
Firm Reg No. 112318W

KAILASHCHAND JAIN & CO. * Chartered Accountants * MUMBAI

Saurabh Chouhan
Partner
Membership No. : 167453
Mumbai

For and on behalf of the Governing Council

Mr. S Mohapatra	Mr. Anil Sathe	Dr. C S Pramesh	Dr. R A Badwe
JCFA, TMC	CAO, TMC	Director, TMH	Director, TMC

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 MARCH 2020

in ₹

		Year Ended 31.03.2020	Year Ended 31.03.2019
A) INCOME			
Grant in Aid - Govt of India	7	4,05,52,31,326	3,32,91,26,362
Hospital Income		3,34,83,45,799	2,96,07,28,701
Sale of Drugs and Surgical Goods		4,01,49,62,358	3,54,68,76,848
Interest Income	8	42,68,86,043	34,37,91,160
Other Income	9	9,37,16,618	9,42,91,040
TOTAL (A)		**11,93,91,42,145**	**10,27,48,14,111**
B) EXPENDITURE			
Academic Expenses		7,63,62,202	6,90,72,397
Consumption of drugs and Surgical Goods	10	3,87,38,24,861	3,16,33,03,122
Consumables		1,22,32,11,802	1,08,45,66,540
Staff Cost / Salaries	11	6,73,19,19,415	5,53,62,32,371
Other Administrative Expenses	12	1,30,19,98,129	1,26,93,83,468
TOTAL (B)		**13,20,73,16,409**	**11,12,25,57,898**
Excess of Income over expenditure before Depreciation and Provisions on retirement benefits of employees (A-B)		(1,26,81,74,264)	(84,77,43,787)
Less : Depreciation		53,59,07,573	45,56,53,690
Less : Provision for Retirement Benefits			
Gratuity		20,37,52,106	5,30,71,070
Pension		2,35,77,66,406	63,68,41,125
Leave Encashment		18,95,40,522	11,98,25,460
Balance being deficit / (surplus) for the year trf to Balance Sheet		**4,55,51,40,871**	**2,11,31,35,132**
Significant Accounting Policies			
Notes on Accounts			

As per our report of even date attached
For Kailash Chand Jain & co.
Chartered Accountants
Firm Reg No. 112318W

Saurabh Chouhan
Partner
Membership No. : 167453

KAILASHCHAND JAIN & CO. * MUMBAI * Chartered Accountants

For and on behalf of the Governing Council

Mr. S Mohapatra	Mr. Anil Sathe	Dr. C S Pramesh	Dr. R A Badwe
JCFA, TMC	CAO, TMC	Director, TMH	Director, TMC

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 1 - CAPITAL FUND

in ₹

PARTICULARS	As at 31.03.2020		As at 31.03.2019	
CAPITAL FUND				
Balance at the beginning of the Year	(1,221,048,667)		(3,074,454,468)	
Add: Non Recurring Grant Utilised during the year	3,923,687,184		3,771,130,000	
Add: Recurring Grant utilised for Capital Expenditure	12,968,674		7,680,824	
Add: Assets purchased from Donation	84,428,529		178,547,821	
Add: Assets purchased out of Sponsored Project & Workshop Fund	5,581,588		9,182,287	
Add : Others - Actrec	-			
	2,805,617,308		**892,086,464**	-
Less: Deficit/ (surplus) Transferred from the Income & Expenditure Account	4,555,140,871		2,113,135,132	
Total		**(1,749,523,564)**		**(1,221,048,667)**

A.N. SATHE * C.A.O., TMC *

KAILASHCHAND JAIN & CO. * Chartered Accountants * MUMBAI

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

SCHEDULE 1-A - NON RECURRING GRANT

in ₹

PARTICULARS	As at 31.03.2020		As at 31.03.2019	
Balance at the beginning of the Year *	609,010,000		390,140,000	
Add: Interest	-		-	
Add: Grant Received During the year	3,515,100,000		3,990,000,000	
Total	4,124,110,000		4,380,140,000	
Less: BARC Grant Utilsed for RRU	122,951,530			
Less: Grant Utilised for SUPPORT TO PAEDIATRIC/BMT PATIENTS	32,400,000			
Less: Grant Utilised for Plan Cancer Registry	(28,714)			
Less: Grant Utilised for Captial Expenditure	3,923,687,184		3,771,130,000	
Balance	45,100,000		609,010,000	
Total		**45,100,000**		**609,010,000**

A. N. SATHE C. A. O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

SCHEDULE 1-B - WOMEN AND CHILDREN WELFARE GRANT

in ₹

PARTICULARS	TMH & ACTREC	VARANASI	VIZAG	SANGRUR	BBCI	TOTAL
Balance at the beginning of the Year *	12,216	-	2,300,000		-	2,312,216
Add: Grant Received During the year	217,000,000	15,000,000		5,000,000	3,000,000	240,000,000
Total	217,012,216	15,000,000	2,300,000	5,000,000	3,000,000	242,312,216
Less: Grant Utilised for Women and Children Welfare	212,728,983	12,500,000	1,734,050	3,501,881	3,000,000	233,464,914
Balance	4,283,233	2,500,000	565,950	1,498,119	-	8,847,302
Less: Grant Utilised for Revenue Expenditure					-	
Total	**4,283,233**	**2,500,000**	**565,950**	**1,498,119**	**-**	**8,847,302**

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 2- EARMARKED / ENDOWMENT FUND

in ₹

PARTICULARS	As at 31.03.2020						As at 31.03.2019					
EARMARKED / ENDOWMENT FUND	SCIENCE & RESEARCH FUND	SAMJAL MISTRY FUND	DONATION	PROJECTS	WORKSHOP	TOTAL	SCIENCE & RESEARCH FUND	SAMJAL MISTRY FUND	DONATION	PROJECTS	WORKSHOP	TOTAL
A.												
Balance at the beginning of the Year	241,494,150	18,404,843	1,400,552,617	678,624,389	56,242,388	**2,395,318,387**	227,621,149	18,404,843	1,269,359,310	614,905,121	51,003,088	**2,181,293,511**
Addition during the year			1,218,534,217	522,581,397	80,412,315	**1,821,527,929**			905,839,126	488,004,082	77,238,912	**1,471,082,120**
Re-grouping						-						-
Interest on Saving / Bank FD received	15,656,725	1,166,165	9,592,187	38,967,556		**65,382,633**	13,873,001	938,955	7,856,247	30,994,246		**53,662,449**
Dividend		9,118				**9,118**		3,534				**3,534**
TDS Projects & Others				3,353,600		**3,353,600**				6,605,113		**6,605,113**
Total (A)	**257,150,875**	**19,580,126**	**2,628,679,021**	**1,243,526,942**	**136,654,703**	**4,285,591,667**	**241,494,150**	**19,347,332**	**2,183,054,683**	**1,140,508,562**	**128,241,999**	**3,712,646,726**
B. Utilisation / Expenditure towards objective of fund												
Revenue Expenditure			736,753,177	476,290,738	84,869,495	**1,297,913,409**			603,954,245	452,869,688	71,831,810	**1,128,655,743**
Capital Expenditure			84,428,529	4,863,585	718,003	**90,010,117**			178,547,821	9,014,485	**167,802**	**187,730,108**
Transfer to Samjal Scholarship		587,642				**587,642**		471,244				**471,244**
Transfer to Samjal Partient welfare		587,641				**587,641**		471,245				**471,245**
Total (B)	-	**1,175,283**	**821,181,705**	**481,154,323**	**85,587,498**	**1,389,098,809**	-	**942,489**	**782,502,066**	**461,884,173**	**71,999,612**	**1,317,328,340**
Closing Balance at the end of the year (A-B)	**257,150,875**	**18,404,843**	**1,807,497,315**	**762,372,619**	**51,067,205**	**2,896,492,858**	**241,494,150**	**18,404,843**	**1,400,552,617**	**678,624,389**	**56,242,388**	**2,395,318,387**

A.N. SATHE C.A.O., TMC

ASHOKHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 3 - ACADEMIC FUND

in ₹

PARTICULARS	As at 31.03.2020	As at 31.03.2019
Opening Balance	135,235,172	117,603,233
Add :- Addition During the year	76,362,202	69,072,397
	211,597,374	**186,675,630**
Less : Deduction During the year	59,198,607	51,440,458
Total	**152,398,767**	**135,235,172**

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 4 - CURRENT LIABILITIES AND PROVISIONS

in ₹

PARTICULARS		As at 31.03.2020		As at 31.03.2019
A) CURRENT LIABILITES & DEPOSITS				
Deposits				
- From Student	25,111,956		19,876,533	
- From Patient	2,496,117,945		2,067,050,906	
- From Suppliers & Contract	218,937,165	2,740,167,066	187,946,575	2,274,874,014
Other Current Liabilities				
Undisbursed and Unclaimed Salaries		1,753,766		1,623,030
New pension scheme liability		8,164,103		6,621,265
Sundry Creditors-Capital		166,877,067		52,052,740
Other Liabilities		279,592,278		279,146,823
Book OD		282,007,443		401,179,844
Inter Unit Adjustment		255,620,317		65,895,086
Statutory Liabilities		16,732,093		31,780,101
Outstanding Expenses				
- Salary	630,734,430		597,413,907	
- Operational Expenses	1,275,868,786	1,906,603,216	795,373,913	1,392,787,820
Unutilised Grant from Govt of India c/f*				
- Recurring Grant	327,800,000		-	
- Women & Childern Welefare Fund	8,847,302		2,312,216	
- Non Recurring Grant	45,100,000	381,747,302	609,010,000	611,322,216
TOTAL (A)		**6,039,264,650**		**5,117,282,940**
B) PROVISIONS(for retirement benefits of employee)				
Gratuity				
a) Current	218,742,085		209,655,331	
b) Non current	1,391,760,178	1,610,502,263	1,197,094,829	1,406,750,160
Leave Encashment				
a) Current	227,659,790		219,076,038	
b) Non current	1,370,638,719	1,598,298,509	1,189,681,952	1,408,757,990
Pension				
a) Current	500,338,571		453,259,196	
b) Non current	13,914,441,269	14,414,779,840	11,603,754,240	12,057,013,436
TOTAL (B)		**17,623,580,612**		**14,872,521,586**
TOTAL (A+B)		**23,662,845,263**		**19,989,804,525**

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

SCHEDULE 5 - FIXED ASSETS

DESCRIPTION	GROSS BLOCK				DEPRECIATION						NET BLOCK	
	Cost / Valuation as at the beginning of the year (01/04/2019)	Total Additions / adjustments during the year	Deletions / Ajustment	Cost / Valuation at the end of the year (31/03/2020)	As at the beginning of the year (01/04/2019)	Depreciation on the opening balance	Depreciation on Additions during the year	Total Depreciation during the year	On Deletion / Adjustment	Total up to the year end (31/03/2020)	As at the Current year-Ended 31/03/2020	As at the Previous year-Ended 31/03/2019
A. FIXED ASSETS :												
1. LAND:												
a) Freehold	197,608			197,608	-			-		-	197,608	197,608
2. BUILDINGS :												
a) On Freehold Land	1,846,657,673	26,992,306		1,873,649,979	287,048,782	30,100,521	344,402	30,444,923	-	317,493,705	1,556,156,274	1,559,608,891
3. PLANT MACHINERY & EQUIPMENT	5,999,294,922	1,412,261,517	204,044,991	7,207,511,448	3,193,670,475	361,542,863	56,987,039	418,529,902	180,971,130	3,431,229,247	3,776,282,201	2,805,624,446
4. VEHICLES	48,434,066	6,719,103	1,100,000	54,053,169	29,654,564	3,609,990	375,743	3,985,733	1,099,999	32,540,298	21,512,871	18,779,503
5. FURNITURE, FIXTURES	220,068,136	39,808,919	953,298	258,923,757	150,709,349	11,631,429	1,721,944	13,353,373	952,437	163,110,285	95,813,472	69,358,787
6. OFFICE EQUIPMENT	59,678,808	12,010,943	808,946	70,880,805	22,967,911	3,193,969	236,614	3,430,583	484,785	25,913,709	44,967,096	36,710,895
7. COMPUTER/ PERIPHERALS	636,325,539	56,377,914	4,882,823	687,820,630	424,402,146	61,543,150	4,619,910	66,163,060	4,882,632	485,682,574	202,138,056	211,923,393
TOTAL (A)	8,810,656,752	1,554,170,702	211,790,058	10,153,037,396	4,108,453,227	471,621,922	64,285,652	535,907,574	188,390,983	4,455,969,817	5,697,067,578	4,702,203,523
CWIP	7,261,221,087	1,689,563,536		8,950,784,623							8,950,784,623	7,261,221,087
LESS: PROVISION FOR DOUBTFUL CAPITAL ADV (LAND)	802,370			802,370							802,370	802,370
NET CAPITAL WIP (B)	7,260,418,717			8,949,982,253							8,949,982,253	7,260,418,717
TOTAL (A + B)	**16,071,075,469**	**3,243,734,238**	**211,790,058**	**19,103,019,649**	**4,108,453,227**	**471,621,922**	**64,285,652**	**535,907,574**	**188,390,983**	**4,455,969,817**	**14,647,049,831**	**11,962,622,240**
PREVIOUS YEAR (TMC)	12,561,056,018	3,875,985,422	365,965,973	16,071,075,469	3,755,454,217	423,503,521	32,150,168	455,653,689	102,654,679	4,108,453,227	11,962,622,240	8,805,601,801

Note: Capital work in progress includes freehold land amounting to Rs.802370 (previous year Rs.802370) which is disputed and hence provided as doubtful from the financial year 2009-10

A. N. SATHE ★ C.A.O., TMC ★

KAILASHCHAND JAIN & CO. ★ MUMBAI ★ Chartered Accountants ★

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 6 - CURRENT ASSETS, LOANS AND ADVANCES

in ₹

PARTICULARS	As at 31.03.2020		As at 31.03.2019	
A. CURRENT ASSETS				
1. Inventories				
Stock of Drugs, Medical and Surgical Goods	434,860,393		357,016,595	
Stores & stationery	9,959,590	**444,819,983**	10,427,507	**367,444,102**
2. Sundry Debtors				
a) Outstanding more than six months				
Considered Good	280,169,126		137,869,060	
Considered Doubtful	24,137,359		20,277,810	
	304,306,485		158,146,870	
Outstanding less than six months				
Considered Good	630,785,077		550,744,786	
Considered Doubtful	-		-	
	935,091,562		708,891,656	
b) Less: Provision for Doubtful Debts	24,137,359	**910,954,203**	20,277,810	**688,613,846**
3. Cash Balances				
Cash in Hand	441,885		11,225,998	
Cheques on Hand	3,949,816		20,100,000	
Franking Balance	42,756	**4,434,457**	691,697	**32,017,695**
4. Bank Balances				
With Scheduled Banks :				
- Current Accounts	897,278,264		498,867,495	
- Fixed Deposit Accounts	6,013,539,359		5,625,036,975	
- Margin Money Deposit Accounts	1,015,401,477		1,166,446,929	
- Fixed Deposits Projects	592,912,268		557,001,686	
- On Savings Accounts	26,645,469	**8,545,776,837**	1,450,560	**7,848,803,645**
TOTAL (A)		**9,905,985,480**		**8,936,879,288**

contd.....

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 6 - CURRENT ASSETS, LOANS AND ADVANCES

in ₹

PARTICULARS	As at 31.03.2020		As at 31.03.2019	
B. LOANS AND ADVANCES				
1. Advances recoverable in cash or in kind or for value to be received (unsecured, considered good)				
Considered Good	11,772,348		16,058,206	
Considered Doubtful	-		-	
	11,772,348		16,058,206	
Less: Provision for Doubtful Advances	-	11,772,348	-	16,058,206
b) Prepaid expenses		15,734,423		28,082,559
c) Other Deposits		51,609,142		49,982,284
2. Loans & Advances to staff				
Interest Bearing Advances	9,169,232		5,858,787	
Non Interest Bearing Advances	1,449,261	10,618,493	5,296,464	11,155,251
3. Interest Accured				
Interest Accured on Fixed Deposits	159,198,901		148,702,946	
Interest Accured on Corpus Deposits	16,897,312		16,600,283	
Interest Accured on Sam Jal Deposits	656,091	176,752,304	611,959	165,915,188
4. Interest Accured but not due		8,490,297		9,819,620
5. Tax Deducted at Source		68,402,416		50,323,537
6. Inter Unit Adjustment accounts		65,798,588		2,576,156
TOTAL (B)		409,178,011		333,912,801
TOTAL (A+B)		10,315,163,492		9,270,792,089

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. Chartered Accountants MUMBAI

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN

SCHEDULE 7 - RECURRING GRANT

in ₹

PARTICULARS	As at 31.03.2020		As at 31.03.2019	
Balance at the beginning of the Year	-		**257,764,000**	
Add: Grant Received During the year	4,396,000,000		3,079,043,186	
Total	**4,396,000,000**		**3,336,807,186**	
Less: Grant Utilised for Captial Expenditure (A)	12,968,674		7,680,824	
Balance	**4,383,031,326**		**3,329,126,362**	
Less: Grant Utilised for Revenue Expenditure (B)	4,055,231,326		3,329,126,362	
Unspent Balance c/f		**327,800,000**		-

A. N. SATHE C.A.O., TMC

LALSHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 8 - INTEREST INCOME

in ₹

PARTICULARS		Year Ended 31.03.2020		Year Ended 31.03.2019
Interest : (gross)				
(includes tax deducted at source)				
from banks :				
on fixed deposits/ margin money deposits	424,722,396		339,765,351	
on saving accounts	337,255		1,497,805	
		425,059,651		**341,263,156**
from others :				
on Vehicle Advances	9,020		88,666	
on House Building Advances	1,030,432		1,719,732	
on Computer Advances	10,318		13,748	
		1,049,770		**1,822,146**
Interest accrued but not Due on staff Advances		**776,622**		**705,858**
		-		-
Total		**426,886,043**		**343,791,160**

A.N. SATHE * C.A.O., TMC *

KAILASHCHAND JAIN & CO. * MUMBAI * Chartered Accountants *

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

SCHEDULE 9 - OTHER INCOME

in ₹

PARTICULARS	Year Ended 31.03.2020	Year Ended 31.03.2019
Miscellaneous Receipts	72,975,081	58,405,924
Animal House Receipts	6,672,575	5,961,153
Project Overheads	8,577,008	7,971,849
Effect of exchange fluctuation (net)	(5,996,856)	(150,608)
Mobilisation Interest	11,488,810	22,102,722
TOTAL	**93,716,618**	**94,291,040**

A.N. SATHE * C.A.O., TMC *

KAILASHCHAND JAIN & CO. * MUMBAI * Chartered Accountants *

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 10 - CONSUMPTION OF DRUGS & SURGICAL GOODS

in ₹

PARTICULARS	Year Ended 31.03.2020	Year Ended 31.03.2019
Opening stock of Drugs / Surgical goods	356,157,710	324,417,950
Add: Purchases	3,970,305,786	3,236,742,839
Less: Closing stock of Drugs / Surgical goods	427,816,066	356,157,710
Less: Return/ Rejected / Expired Drugs / Surgical goods	24,822,569	41,699,957
TOTAL	**3,873,824,861**	**3,163,303,122**

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER.

SCHEDULE 11 - STAFF COST / SALARIES

in ₹

PARTICULARS	Year Ended 31.03.2020	Year Ended 31.03.2019
a) Salaries and Wages	2,467,319,315	2,079,706,667
b) Allowances and Bonus	2,241,519,364	1,830,013,994
bi) Outsourse Salary	744,729,032	450,461,092
c) Expenses on Employee's Retirement and Terminal Benefits	152,886,682	146,794,587
d) Pension scheme	570,254,235	496,350,635
e) Fellowships	555,210,787	532,905,396
TOTAL	**6,731,919,415**	**5,536,232,371**

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE

TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER

SCHEDULE 12 - OTHER ADMINISTRATIVE EXPENSES

in ₹

PARTICULARS		Year Ended 31.03.2020	Year Ended 31.03.2019
a) Linen and Laundry		59,945,245	52,687,226
b) Library Expenses		67,123,815	156,688,173
c) Electricity		416,248,401	305,128,617
d) Water Charges		13,679,683	17,238,011
e) Repairs and Maintenance		410,698,180	390,495,532
f) Animal House Expenses		4,207,518	3,891,826
g) Rates and Taxes		24,400,351	34,962,379
h) Insurance		15,180,660	6,936,607
i) Minor Equipments and Replacement of Capital Equipments		745,349	3,113,281
j) Postage, Telephone and Communication Charges		7,067,298	9,330,928
k) Printing and Stationery		37,868,341	34,450,670
l) Travelling and Conveyance Expenses		53,677,590	50,835,253
m) Intra Mural Research Expenses		18,668,630	16,739,825
n) Cancer Registry Program Expenses		72,638,845	74,364,040
o) Auditors Remuneration			
Audit fees	335,000		90,500
GST	81,900	416,900	36,000
p) Symposium and Training		1,804,179	2,469,488
q) Professional Charges		3,300,922	3,890,630
r) Advertisement Expenses		15,358,047	38,368,483
w Provision for Doubtful Debts		3,859,549	4,708,714
t) Hostel maintenance expenses		15,074,231	13,374,391
u) Miscellaneous Expenses		54,794,667	29,141,582
v) Bad debts written off		59,248	1,003,868
w Loss / (Profit) on sale of Assets		5,180,480	19,437,444
TOTAL		**1,301,998,129**	**1,269,383,468**

A.N. SATHE C.A.O., TMC

KILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

TATA MEMORIAL CENTRE
[TATA MEMORIAL HOSPITAL AND ADVANCED CENTRE FOR TREATMENT, RESEARCH AND EDUCATION IN CANCER]

The Tata Memorial Centre (TMC) Comprising of the Tata Memorial Hospital (TMH) and the Advance Centre for Treatment, Research & Education in Cancer (ACTREC) functions as a grant- in- aid Institute under the administrative control of the Department of Atomic Energy, Government of India and recognized as the national cancer centre with a mandate for Service, Education and Research in Cancer. One new hospitals in Visakhapatnam, Andhra Pradesh and One hospital in Sangrur, Punjab and two new hospital in Varanasi as HBCH and MPMMMCH. The satellite centre in Sangrur is functional. The hospital in Visakhapatnam is providing OPD and day care services. The Centre is registered under the Societies Registration Act (1860) and the Bombay Public Trust Act (1950).

SCHEDULE 13 : SIGNIFICANT ACCOUNTING POLICIES

1. **Basis of Preparation of Financial Statements**
   The financial statements are prepared on historical cost convention, unless otherwise specifically stated, on the accrual basis of accounting and comply with the framework and format laid down by the Controller General of Accounts, Government of India and applicable accounting standards issued by the Institute of Chartered Accountants of India (ICAI) to the extent applicable and in the manner so required.

   Revenues and costs are accrued, that is, recognized as they are earned or incurred and recorded in the financial statements of the periods to which they relate. The Centre follows accrual basis of accounting, except for Grants, Donations, Workshops /Projects and Commuted Pensions (in case of existing pensioners), which are accounted for on cash basis

2. **Use of Estimates**
   The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amount of assets and liabilities as of the Balance Sheet, reported amounts of revenues and expenses for the year ended and disclosure of contingent liabilities as of the balance sheet date. The estimates and assumptions used in these financial statements are based upon management's evaluation of the relevant facts and circumstances as on the date of the financial statements. Actual results may differ from those estimates. Any revision to accounting estimates is recognized prospectively.

3. **Revenue Recognition**
   i) Hospital income from services rendered to patients is recognized as and when the bills for the services are generated.

   ii) Interest income is recognized on a time proportion basis taking into account the amount invested and the rate of interest.

   iii) Interest on employee advances are recognized in the year on accrual basis.

A.N. SATHE * C.A.O., TMC *

LILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

iv) Other Revenue items are recognized only when it is reasonably certain that the ultimate collection will be made. Deposits from students in excess of 3 years and deposits from suppliers in excess of 4 years written back are recognized under miscellaneous income.

v) Interest earned on general fixed deposit pertaining to donation allocated as per average interest rate among respective donation.

4. Fixed Assets and Depreciation

i) Fixed assets are capitalized at acquisition cost (net of duty / tax credits availed, if any), including directly attributable costs such as freight, insurance and specific installation charges for bringing the assets to working condition for use.

ii) Expenditure relating to existing fixed assets is added to the cost of the assets, where it increases the performance / life of the asset as assessed earlier.

iii) Fixed Assets are stated at cost less accumulated depreciation.

iv) Fixed assets purchased on non-government funded projects and from donations are transferred to the assets of the Centre at purchase price.

v) Fixed assets are eliminated from financial statements only on disposal.

Depreciation on fixed assets is provided under straight line method based on useful life of the asset determined by the management at the following rates :

Asset	Rate of depreciation
Buildings	1.63%
Electrical & Gas Installation	4.75%
Plant & Machinery	7.07%
Furniture and Fixtures	9.50%
Office Equipment	4.75%
Computers and peripherals	16.21%
Vehicles - Buses	11.31%
- Car, Jeep	9.50%

i) Depreciation on assets purchased during the year is provided from the date of its purchase / installation

iii) Individual assets costing less than Rs.5,000/- are expensed out in the year of purchase / WDV.

iii) Where any asset has been sold, the depreciation on such asset is calculated on pro-rata basis up to the date, on which such asset has been sold.

5. Inventories

i) Inventories consist of Drugs and Surgical meant for sale purpose and are valued at lower of cost or Net Realisable Value. Cost is determined on first-in-first-out basis.

ii) Stock of consumables, stationery are valued at cost

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

ii) Stock of linen, laundry, cutlery and crockery, are treated as consumed as and when purchased

6. Government Grant

i) Recurring and Non-recurring grant related to the revenue are recognized on systematic basis in the income and expenditure account over the period, necessary to match them with the related costs which they are intended to compensate.

ii) Non-recurring grant to the extent utilised for capital expenditure are transferred to Capital Fund. Unutilised grants are carried forward as Current Liabilities in the Balance Sheet.

7. Donation

Donations in kind received prior to 1st April, 2003 are included under 'Earmarked / Endowment Funds' at comparable purchase price. With effect from 1st April, 2003, donations received in kind are being recorded in the books at nominal value. Donations are received for patient care and cancer research. Assets purchased on donations are treated as assets of the Centre and capitalised accordingly. Donation includes amount received as Corporate Social Responsibility (CSR).

8. Foreign Exchange Transactions

a. Transactions in foreign currencies are recorded at the exchange rates prevailing on the transaction dates.

b. Monetary items denominated in foreign currencies remaining unsettled at the year-end are translated at the year-end exchange rates.

c. All exchange gains / losses on settlement / translation, are recognized in the Income & Expenditure account

9. Employee Benefits

Short Term Employee Benefits:

All employee benefits wholly payable within twelve months of rendering the service are classified as short term employee benefits. Benefits such as salaries, wages, bonus, etc are recognized in the period in which the employee renders the related service.

Post Employment Benefits:

i) Defined Contribution Plans:

Employee benefits in the form of Contributory Provident Fund and New Pension Scheme (for employees joined from 1st January, 2004) are considered as defined contribution plans. The contribution paid / payable under the scheme is recognized in the period in which the employee renders the related service.

ii) Defined Benefit Plans:

Retirement benefits in the form of gratuity to eligible employees, leave encashment and pension scheme (other than employees covered in (i) above) are considered as defined benefit plans. The present value of the obligation under such defined benefit plans is determined based on actuarial valuation using the

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

Projected Unit Credit Method, which recognizes each period of service as giving rise to additional unit of employee benefit entitlement and measures each unit separately to build up the final obligation.

The obligation is measured using at the present value of the estimated future cash flows. The discount rates used for determining the present value of the obligation under defined benefit plans, is based on the market yields on Government securities as at the Balance Sheet date, having maturity periods approximating to the terms of related obligations.

10. Provision, Contingent Liabilities and Contingent Assets

a. Provisions are recognized for liabilities that can be measured only by using a substantial degree of estimation, if

1. The Centre has a present obligation as a result of past event.
2. A probable outflow of resources is expected to settle the obligation.
3. The amount of obligation can be reliably estimated.

b. Contingent liability is disclosed in the case of :

1. A present obligation arising from past event, when it is not probable that an outflow of resources will be required to settle the obligation.
2. A possible obligation, unless the probability of outflow of resources is remote.

c. Provisions, Contingent Liabilities are reviewed at each Balance Sheet date.

d. Provision for doubtful debts has been made in respect of debtors which remains outstanding for more than 3 years.

11. Events occurring After the Balance Sheet Date

Where material, events occurring after the date of the Balance Sheet are considered upto the date of approval of accounts by the members of the Governing Council.

12. Academic Fund

A percentage as prescribed by the Governing Council of Tata Memorial Centre is transferred from the Hospital Income to a separate fund named as the "Academic Fund". The expenditure incurred towards fulfillment of the objectives is debited to the said fund.

13. Science & Research Fund

The Science & Research Fund / Corpus is created in 2000 with the purpose of utilising the interest in the Fund for (i) Support of preventive oncology activities in the country (ii) Support for attending international conferences and training programmes on cancer related topics and (iii) Any other purpose with the approval of the Committee.

14. Samjal Mistry Fund

The fund is created as per the will of Late Sam Jal Mistry and Late Alice Sam Mistry in 1999. As per the will, the interest and dividend on shares generated from the fund will be utilised equally for treatment to poor cancer patients and scholarship to PG students.

A.N. SATHE * C.A.O., TMC *

HIRALALCHAND JAIN & CO. MUMBAI Chartered Accountants

SCHEDULES FORMING PART OF ACCOUNTS

SCHEDULE 14: NOTES ON ACCOUNTS

1. Contingent liabilities not provided for in respect of :
   a. LC's outstanding as on 31st march, 2020 is Rs.111,56,08,636.63
   b. Claims against the hospital made by patients are not acknowledged as debts, since the same are not quantifiable.

2. Estimated amount of contracts remaining to be executed on capital account is not ascertained.

3. Sundry debtors, and creditors' balances, and balances of certain liabilities are subject to confirmation, reconciliation and consequent adjustments, if any.

4. Fixed Deposits of the Centre includes an amount of Rs. 101,54,01,477 /- (Pr Year Rs. 116,64,46,929/- which represents Earmarked Funds kept aside for the capital commitments.

5. The Centre is covered by a system of internal audit conducted by the Department of Atomic Energy and Indian Audit and Accounts Department. However, during the year the said audit was not conducted.

6. The Centre has filed a writ petition in the Honorable High Court Bombay for non-applicability of Bombay Labour Fund Act, 1956 in the year 2001-02, the final verdict for which is still pending. Each year the centre recovers the LWF amount from employees and also contributes towards the said liability amounting to Rs.1,11,79,793/- (incl interest of Rs.6,35,892/-) respectively which is disclosed under current liabilities in the financial statement. The centre has also kept as deposit Rs. 5, 50,000/- with Hon'ble Bombay High Court.

7. The disclosures pursuant to Accounting Standard 15 (Revised) on "Employee Benefits" are as follows:

(in Rs.)
Defined Contribution Plan :
Contribution to Defined Contribution Plan, recognised as an expense and included in "Staff and Welfare" – Schedule 11 in the Income and Expenditure Account are as under : - Employers contribution to Provident Fund – Rs.26,11,810/- - Employer's Contribution to New Pension Scheme – Rs 17,11,43,893/-

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

			Gratuity	
			31-3-2020	31-3-2019
I	Change in obligation during the year			
	1	Liability at the beginning of the year	140,67,50,157	1,35,36,79,087
	2	Interest Cost(gratuity report as15r table 3)	103,275,799	101,709,889
	3	Current Service Cost	56,969,604	5,17,07,022
	4	Past Service Cost	0	0
	5	Benefit Paid	(95,258,170)	(9,51,57,399)
	6	Actuarial (Gain)/Loss	138,764,873	(51,88,442))
	7	Liability at the end of the year	161,05,02,263	140,67,50,157
II	Net asset / (liability) recognised in the Balance Sheet			
	1	Liability at the end of the year	1,610,502,263	140,67,50,157
	2	Plan assets at the end of the year	0	0
	3	Liability recognised in the Balance sheet	1,610,502,263	140,67,50,157
III	Expenses recognized in the Income and Expenditure account			
	1	Current Service Cost	56,969,604	5,17,07,022
	2	Interest Cost	103,275,799	101,709,889
	3	Expected Return on Plan Assets		
	4	Actuarial (Gain)/Loss	138,764,873	(51,88,442))
	5	Past service cost	0	0
	6	Total expenses recognised in the Income and Expenditure Account	299,010,276	14,82,28,469
IV	Principal actuarial assumptions at the Balance Sheet date			
	1	Discount rate at	6.90%	7.60%
	2	Expected return on plan assets	0.00%	0.00%
	3	Salary escalation	7.00%	7.00%
General description of the defined benefit plan :				
1	The Centre operates a gratuity scheme, which is an unfunded scheme for qualifying employees. The Scheme provides for lump sum payment to employees on retirement, death while in employment or termination of employment of an amount equivalent to 15 days salary for every completed year of service or part thereof in excess of six months, provided the employee has completed five years in service. Vide Order No. 7/5/2012-P&PW(F)/B dated 26th August, 2016, the Ministry of Finance has extended the benefits of 'Retirement Gratuity and Death Gratuity' to the Central Government employees covered by new Defined Contribution Pension System on the same terms and conditions, as are applicable to employees covered by Central Civil Service (Pension) Rule,1972. 838 number of employees are covered under this scheme.			
2	The Centre operates a leave encashment scheme, which is an unfunded			

	scheme. The present value of obligation under this scheme is based on an actuarial valuation, using the Projected Unit Credit Method, which recognizes each period of service as giving rise to additional unit of employee benefit entitlement and measures each unit separately to build up the final obligation. Based on the actuarial valuation, the liability as at 31st March, 2020 works out to Rs. 159,82,98,512/-.
3	The Centre operates a Pension scheme which is an unfunded scheme for employees, who have joined prior to 1st January, 2004. The benefit is payable at the time of superannuation or voluntary retirement after completion of minimum of 20 years service. Based on the actuarial valuation, the liability as at 31st March, 2020 works out to Rs. 1441,47,79,842/-.

8. During the year, cheques amounting to Rs. 89,37,809 were issued from account held with Central Bank of India, but were not cleared within next 3 months and same were not reversed in the books of accounts.

9. Unknown/unreconciled inward remittances outstanding as on 31st March, 2020, is Rs. 7,82,64,795 which are under identification/reconciliation.

10. The Centre has projects under development at Varanasi, Vizag and Sangrur. The expenses incurred on behalf of them are shown as Inter Unit Adjustment account under Current Assets. The balance shall be transferred to the respective locations on completion of the project.

11. Figures for the previous year have been regrouped / reclassified wherever necessary to make them comparable with those of the present year.

For Kailash Chand Jain & Co
Chartered Accountants
ICAI Registration No. : 112318W

Saurabh Chouhan
Partner
Membership No.167453

Date: 09/11/2020
Place : Mumbai

For Tata Memorial Centre

Mr. S Mohapatra	Mr. Anil Sathe	Dr. C S Pramesh	Dr. R A Badwe
JCFA, TMC	CAO, TMC	Director, TMH	Director, TMC

To,

KAILASH CHAND JAIN & Co.
Chartered Accountants,
Mumbai – 400 020.

Kind Attn : CA Saurabh Chouhan

Dear Sir,

This representation is provided in connection with your audit of the financial statements of, **Tata Memorial Centre ("the Centre")** for the year ended 31st March, 2020 for the purpose of expressing an opinion as to whether the financial statements give a true and fair view of the financial position of Balance Sheet as of 31st March, 2020 and of the results of operations for the year then ended. We acknowledge our responsibility for preparation of financial statements in accordance with the recognized accounting policies and practices, including the Accounting Standards issued under the Companies (Accounting Standards) Rules, 2006.

We confirm, to the best of our knowledge and belief, the following representations:

1. ACCOUNTING POLICIES

- The accounting policies which are material or critical in determining the results of operations for the year or financial position are set out in the financial statements and are consistent with those adopted in the financial statements for the previous year. The financial statements are prepared on accrual basis. Also, no policy has been changed during the year.

2. ASSETS

- The Centre has a satisfactory title to all assets and there are no liens or encumbrances on the Centre's assets.

3. FIXED ASSETS

- The net book values at which fixed assets are stated in the Balance Sheet are arrived at:
  a) After taking into account all capital expenditure on additions thereto, but no expenditure properly chargeable to revenue;
  b) After eliminating the cost and accumulated depreciation relating to items sold, discarded, demolished or destroyed;
  c) After providing adequate depreciation on fixed assets during the period.

- We further certify that the date from which depreciation is provided is considered as the date of commissioning of fixed assets.

- At the Balance Sheet date, there are no impaired assets, which require provisioning in accordance with Accounting Standard – 28 on "Impairment of Assets", except freehold land totaling Rs. 802,370 for which impairment loss has been provided for.

- All items of building and plant and machinery totaling Rs. 895,07,84,632/- included in Capital Work in Progress have not been commissioned / put to use as at the Balance Sheet date.

KAILASHCHAND JAIN & CO. * Chartered Accountants * MUMBAI

A.N. SATHE * C.A.O., TMC *

4. CONTINGENT LIABILITIES

The Contingent Liabilities other than LC's outstanding are not quantifiable.

5. INVESTMENTS

The Company has not made any investments during the year.

6. INVENTORIES

Inventories at the year-end consisted of the following:

Particulars	Amount in Rs.
Stock of Drugs, Medical and Surgical goods, consumables and stationery	44,48,19,983
Total	44,48,19,983

- All quantities were determined by actual physical count or weight or measurement that was taken under our supervision and in accordance with written instructions, on 31st March, 2020.
- All goods included in the inventory are the property of the entity, none of the goods are held as consignee for others or as bailee, and except as set out below, none of the goods are subject to any charge.
- All inventories owned by the entity, wherever located, have been recorded.
- Inventories do not include goods sold to customers for which delivery is yet to be made.
- The Company is maintaining proper records of the inventory.
- There were no material discrepancies between physical stock and the book records of inventory.
- Inventories have been valued on the following basis/bases:

Particulars	Basis/Bases
Stock of Drugs, Medical and Surgical goods consumables and stationery	At Cost, On FIFO basis.

- The shelf life of a drug is 2 years. Provisions have been made for all such items of inventories till the date of audit where the shelf life has been exceeded.
- No item of inventories has a net realizable value in the ordinary course of business which is less than the amount at which it is included in inventories.
- The basis of valuation is the same as that used in the previous year .

7. DEBTORS, LOANS AND ADVANCES

- The following items appearing in the books as at 31st March, 2020 are considered good and fully recoverable with the exception of those specifically shown as "doubtful" in Schedule 6 of the Balance Sheet.

	Rupees
Sundry Debtors	91,09,54,203
Loans and Advances	2,23,90,842

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

The provision for doubtful debts amounting to Rs. 2,41,37,359/- is adequate and no further provision is required. All advances and deposits are good and recoverable and hence no provision is required for any doubtful advances.

The income from sale of drugs and surgical goods and hospital income is complete in all respect. All income at all locations has been duly considered. Debtors are neither under or overstated in the books.

8. Other Current Assets

- In the opinion of the Board of Directors, other current assets have a value on realization in the ordinary course of the organization's business which is at least equal to the amount at which they are stated in the Balance Sheet.
- None of trustees / Governing council members are either debtors or creditors of the centre.

9. LIABILITIES

- We have recorded all known liabilities in the financial statements.
- We have disclosed in notes to the financial statements all guarantees that have given to third parties, where applicable and all other contingent liabilities.
- Contingent liabilities disclosed in the notes to the financial statements do not include any contingencies which are likely to result in a loss and which, therefore, require adjustment of assets or liabilities.
- Provision has been made for all pending GRNs. The provision for GRN's is neither under or overstated.

10. PROVISIONS FOR CLAIMS AND LOSSES

- Provision has been made in the accounts for all known losses and claims of material amounts.
- There have been no events subsequent to the balance sheet date, which require adjustment of, or disclosure in, the financial statements or notes thereto.

11. INCOME AND EXPENDITURE ACCOUNT

- Except as disclosed in the financial statements, the result for the year were not materially affected by:

  a) transactions of a nature not usually undertaken by the company;
  b) circumstances of an exceptional or non-recurring nature
  c) charges or credits of relating to prior years;
  d) changes in accounting policies.

- Deficit during the year for Rs.455,51,40,871/-.

12. GENERAL

- The following have been properly recorded and, when appropriate, adequately disclosed in the financial statements:

  a) Losses arising from sale and purchase commitments.

A.N. SATHE C.A.O., TMC

KAILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

b) Agreements and options to buy back assets previously sold.
c) Assets pledged as collateral.

- There have been no irregularities involving management or employees who have a significant role in the system of internal control that could have a material effect on the financial statements.

- The financial statements are free of material misstatements, including omissions.

- The Centre has complied with all aspects of contractual agreements that could have material effect on the financial statements in the event of non-compliance. There has been no non-compliance with requirements of regulatory authorities that could have a material effect on the financial statements in the events of non- compliance.

- We have no plans or intentions that may materially affect the carrying value or classification of assets and liabilities reflected in the financial statements.

13. CASH & BANK BALANCE:

The cash balance as on 31st March, 2020 is Rs. 4,41,882.

There are no undisclosed Bank accounts and Fixed Deposits other than those mentioned in financial statements

14. RELATED PARTIES :

We have identified all related parties in accordance with AS 18 on "Related party disclosures". The Centre does not have any related party as defined under AS 18.

15. ACCOUNTING FOR EFFECT OF CHANGES IN FOREIGN EXCHANGE RATES.

All items in foreign currency purchased during the year have been considered for reinstatement / accounting for exchange fluctuation in accordance with Accounting Standard 11. The list is complete in all respects and includes all locations where applicable.

There are no earnings in foreign currency which require reinstatement / accounting for exchange fluctuation in accordance with Accounting Standard 11.

16. DONATIONS / GRANTS

All donations received during the year whether in cash or in kind have been duly accounted for in the books. All donations have been utilised for the specific purpose for which the donation has been given.

All grants (both recurring and non recurring) have been duly utilised for the specific objective and in accordance with the terms and conditions for which the grant has been received.

17. PROJECT / WORKSHOP ACCOUNTING

All expenditure incurred on projects / workshops are in accordance with the guidelines framed for the said workshops and projects. The identification of expenditure to workshops / projects is correct.

A.N. SATHE C.A.O., TMC

VILASHCHAND JAIN & CO. MUMBAI Chartered Accountants

18. FCRA accounting and Return filing:

Centre is maintaining separate FCRA bank accounts in which foreign donor donate for donation, help to patients as normal transaction of centre, CSR donation, grant for specific projects , grants for clinical Trials and for workshops etc. As per security and controlling purpose, centre makes all payments from one separate bank accounts.
Procedure:

a) Periodically balance of FCRA accounts transfer to main account for utilisation of fund.
b) Maintain separate ledger accounts of projects and donation and prepare utilisation accounts in INR and in foreign currency.
c) Utilise fund as per FIFO basis i.e. utilise either foreign currency or INR which received early.

Yours faithfully,

For Tata Memorial Centre

Mr. Anil Sathe
Chief Administrative Officer

The Honorable Prime Minister, Shri Narendra Modi unveiling the plaque on 19th February 2019 to inaugurate the Homi Bhabha Cancer Hospital & the Mahamana Pandit Madan Mohan Malaviya Cancer Centre in Varanasi. In the picture are seen the Director Tata Memorial Centre, Dr. RA Badwe with Ex-Chairman Tata Trusts, Mr Ratan Tata.

The world-wide extension of the Indian National Cancer Grid was launched at the 63rd IAEA Conference in Vienna, Austria by the Chairman of Atomic Energy Commission, Shri KN Vyas in the presence of Director TMC, Dr. RA Badwe

NCG Vishwam
Cancer Care Connect
Eliminating Disparities in Cancer Care

In the logo, the Three C's of "Cancer Care Connect" together form an earthen lamp, whose flame is represented by a red dot. The red dot is also symbolic of kumkum, while its orientation represents an eye. The lamp projects prosperity & life; the flame, a mark of freedom through enlightenment.

Tata Memorial Hospital (TMH)
Dr. E. Borges Marg, Parel East,
Mumbai - 400012, Maharashtra.
Tel: +91 22 2417 7000
Fax: +91 22 2414 6937
Email: msoffice@tmc.gov.in
Website: https://tmc.gov.in

Advanced Centre for Treatment, Research & Education in Cancer (ACTREC)
Sector - 22, Kharghar, Navi Mumbai - 410210, Maharashtra.
Tel: +91 22 2740 5000
Fax: +91 22 2740 5085
Email: mail@actrec.gov.in
Website: https://actrec.gov.in

Centre for Cancer Epidemiology (CCE)
Kharghar, Navi Mumbai - 410210, Maharashtra.
Tel: +91 22 2740 5849
Fax: +91 22 2740 5085
Email: cce.dept@actrec.gov.in
Website: https://tmcepi.gov.in

Homi Bhabha Cancer Hospital & Research Centre (HBCHRC)
APIIC Industrial Park, Aganampudi Village, Plot No. 212, NH-5,
Gajuwaka Mandal, Visakhapatnam - 530053, Andhra Pradesh.
Tel: +91 891 287 1561 / 1569
Email: hbchrcvizag.admin@tmc.gov.in; aovizaghbchrc@gmail.com
Website: https://tmc.gov.in/tmh/index.php/en/hbchrc-vizag

Homi Bhabha Cancer Hospital & Research Centre (HBCHRC)
'Medicity' Mullanpur village, New Chandigarh,
District SAS Nagar, Mohali, Punjab.
Email: mohaliproject@tmc.gov.in
Website: https://tmc.gov.in/tmh/index.php/en/hbch-sangrur

Homi Bhabha Cancer Hospital (HBCH)
Civil District Hospital Campus, Sangrur - 148001, Punjab.
Tel: +91 167 222 3941
Email: oicadmin@hbchs.tmc.gov.in
Website: https://tmc.gov.in/tmh/index.php/en/hbch-sangrur

Mahamana Pandit Madan Mohan Malaviya Cancer Centre (MPMMCC)
Sundar Bagiya, Near Nariya Gate, Banaras Hindu University Campus,
Varanasi - 221005, Uttar Pradesh.
Tel: +91 542 251 7699
Email: admin@mpmmcc.tmc.gov.in; cao@mpmmcc.tmc.gov.in
Website: https://tmc.gov.in/tmh/index.php/en/MPMMCC

Homi Bhabha Cancer Hospital (HBCH)
Ghanti Mill Road, Old Loco Colony,
Lahartara, Varanasi - 221001, Uttar Pradesh.
Tel: +91 542 222 5022
Email: cao@mpmmcc.tmc.gov.in
Website: https://tmc.gov.in/tmh/index.php/en/hbch-varanasi

Dr. Bhubaneswar Borooah Cancer Institute (BBCI)
AK Azad Road, Gopinath Nagar, Guwahati - 781016, Assam.
Tel: +91 995 703 3212 / 199
Fax: +91 361 247 2636
Email: director@bbci.tmc.gov.in
Website: www.bbcionline.org