

Christian Medical College, Vellore

The Christian Medical College Vellore (CMC) is a large multi-speciality teaching hospital located in Tamil Nadu, India, about 140km to the west of Chennai.

This is a brief overview of CMC. A great deal more information is available elsewhere and on the website. If you would like to know more or are interested in partnering with us in the work of healing, teaching and serving those in need, then please write to us at the Development Office, CMC Hospital, Vellore – 632 004, India, or email dev.office@cmcvellore.ac.in.



CMC Front Entrance

Vision

The Christian Medical College, Vellore seeks to be a witness to the healing ministry of Christ, through excellence in education, service and research.

Vital Statistics (based on the year 2015/16)

- Founded: 1900 by Dr. Ida Sophia Scudder, Nursing School started 1909, LMP course 1918, MBBS 1942.
- Vision: To be a witness to the healing ministry of Christ, through excellence in education, service and research.
- No. Beds: 2,858; of which 46 are Emergency, 207 are in ICUs, 245 are in community facilities, 83 are for long-stay rehabilitation of physically disabled.
- Patients: 25.6 lakh outpatients and 1.35 lakh inpatients per year; comm. outreach to 3.4 lakh people
- Daily: 8,313 outpatients; 175 operations; 54 births; 2,200 radiological and 48,000 laboratory tests.
- Education: 179 courses including MBBS, Nursing, Allied Health Sciences, and Postgraduate medical specialities, distance learning courses. In addition PhD programmes in several disciplines.
- Research: Average of 350 publications in indexed peer reviewed journals per year.
- Financial: Annual running expenses Rs.936 crores; charitable subsidies: Rs.164 crores (healthcare) and Rs.69 crores (education).



Vellore & CMC from hill top

Some History

The city of Vellore, Tamil Nadu, lies between Chennai and Bangalore. It has a spectacular fort, and increasingly attracts pilgrims to the “Golden Temple” at nearby Sripuram. However it is known the world over as the home of the Christian Medical College – a centre of excellence in medical services, research and education. Every day it attracts more than 7,000 people from all over India and other parts of the subcontinent.

CMC Vellore was founded by an American missionary, Dr. Ida S.

Scudder. Born in South India in 1870, she spent most of her childhood in the US and was educated there. Although her grandparents, parents and most other members of her extended family had served as missionaries in India, this was not the life that she wanted for herself. However one night, while visiting her parents at their home in India, her life was turned around. Three well-to-do men came to the house one after the other, with the same desperate story. Each of them had a young wife in the throes of childbirth, but unable to deliver. The traditional midwife had been unable to help. Would the young mistress come and help deliver the baby? Ida had no medical training at that point, and suggested that her doctor father should go.



Dr. Ida S. Scudder

However, owing to the social and religious customs of the day, each of these men went away sadly saying that it was impossible for another man to see their wives. With no doctor to look after them, these three women and their babies all died that night.

Ida took this as a clear signal from God that she should strive to help the women and children of India. She returned to the US to study as a doctor, graduating from Cornell University Medical College in 1899 among the first batch of women. She started her medical work in Vellore in 1900 using one room in her parents' bungalow as a one-bedded clinic-cum-dispensary. In view of her earlier experience, her focus was on women and children; at that time there were hardly any women doctors in India.



Mary Taber Schell Memorial Hospital, 1902

Gradually her reputation grew and with it the demand for her services. In 1902 she opened the 40-bedded Mary Taber Schell Memorial Hospital, built using funds donated in the USA. In 1924 a new 267-bedded hospital was opened in the centre of Vellore, which has continued to expand there ever since. Today there are more than 2,700 beds across five campuses, and the hospital caters to nearly every medical speciality. It is equipped with a vast array of sophisticated equipment, including three MRI and three CT scanners, two advanced Linear Accelerators, a PET-CT Scan and the latest auto analysers in the laboratories.

Education and Training

Right from the beginning Ida Scudder knew that she could have little impact working on her own, and her vision was not just to treat, but also to train others. So she began teaching “compounders” (modern day pharmacists) and nurses. The first formal nursing course was started over a hundred years ago in 1909. Medical training for women began in 1918 with a Licensed Medical Practitioner course. In 1942 the MBBS degree course was started and in 1947 the College became fully co-educational.

Today CMC Vellore offers 22 undergraduate degree courses (MBBS, nursing and Allied Health Sciences) and 11 undergraduate diploma courses (Nursing & AHS). There are 148 post graduate courses (degrees, fellowships and diplomas) in a full range of Medical, Nursing and AHS specialities, 5 Distance Education courses and PhD programmes in various disciplines. Training is available in fields as diverse as Dialysis Therapy, Medical Records Science and Neurosurgery. In 2015 CMC was voted “2nd best Medical College in India” in surveys by *India Today* and *The Week* for MBBS. The College of Nursing is a WHO collaborating centre for Nursing and Midwifery Development. There are 100 seats for MBBS, and 100 each for Bachelor and Diploma of Nursing and 226 for undergraduate Allied Health programmes.

There are a number of distinctive features of CMC courses. All of them, including nursing, are taught by qualified, experienced faculty who also participate fully in the clinical and administrative operations of the hospital. The courses are extremely practical, with students learning skills on the job in clinical and working laboratory settings. While providing a full exposure to the very best in hospital medicine, there is also a strong emphasis on community and family medicine, and students spend time in rural community settings and small secondary hospitals in different parts of India. There is also a commitment to nurture and mentor the students to enable all round growth in social and spiritual spheres as well as intellectual.



Early nursing students & staff outside MTSM Hospital

One of CMC's key roles is to help train the skilled and caring medical professionals who are desperately needed for hospitals throughout remote and rural areas of India. The educational fees are probably the lowest in the world for a private institution and students from economically disadvantaged backgrounds are helped still further through scholarships that can cover all fees as well as hostel accommodation and food. This ensures that no one needs to be burdened by an educational loan to study at CMC, and many can then go on to serve in deprived areas of India. Another way in which we aim to impact the whole of India, and not just Vellore, is through the Distance Education Department, and Continuing Medical Education (CME). The CMC Distance Education Department offers various Post Graduate courses in Family Medicine which have become an increasingly popular method for MBBS doctors to upgrade their skills while in the field. The training includes interactive video seminars and lectures through the Telemedicine Facility, which was set up in partnership with ISRO. They also offer *Supplementary Education for Medical Students* to enrich the training of medical students throughout the country and offer them hands-on experience in mission hospitals; and the *Community Lay-Leaders Training Certificate* which trains up to 200 NGO workers each year in remote parts of India to enable them to offer preventative and basic curative care to the communities they serve. Over 680 people are currently enrolled on these courses, including state government sponsored candidates and NGO personnel.

The CME department is a valuable resource not just for CMC graduates but for many other doctors in Tamil Nadu and further afield. It provides regular seminars and lectures and a journal. Other departments offer distance learning courses in subjects such as HIV AIDS, while the Department of Endocrinology has a fellowship course in Diabetes management which trains 70 to 100 people per year. The College of Nursing also provides Continuing Nursing Education and a biannual journal

Medical Services

CMC has over 9,000 staff, including 1,656 doctors and 2,646 nurses. Most of these people are involved in providing medical care although they may also have teaching and research responsibilities. Almost every clinical speciality is catered for, and many departments are sub-divided into units each of which may have particular expertise in specific areas as well as providing services of a more general nature. For example the Division of Surgery is further broken down into seven units specializing in Head and Neck Surgery, Endocrine Surgery, Vascular Surgery, Colorectal etc.

CMC is particularly well known for certain departments such as Gastroenterology, Neurosciences and Haematology (where it is a national leader in the treatment of rare blood disorders and bone marrow transplantation). However it also gives high importance to less prominent specialities such as Rheumatology, Physical Medicine and Rehabilitation, Developmental Paediatrics and Palliative Care. Ophthalmology and Psychiatry departments are located on different campuses, as is the Rehabilitation Institute.

There are 106 wards including 11 ICUs and 6 HDUs. About 76% of the beds are in general wards and are subsidised to reduce the financial burden on patients. There are 39 major operation theatres and a further 14 facilities for minor procedures. An average of 175 operations are carried out each day.

Diagnostic services are provided in house by the Radiology Department, Nuclear Medicine and the Laboratories. Radiology reporting is through a filmless digital system (PACS), enabling doctors to view X-rays and scans on any computer on the network. All laboratory test results are also available through the hospital intranet, as part of the "clinical workstation" hospital information system.



PET/CT Scan

The Clinical Biochemistry Department at CMC carries out a huge number of daily tests but also provides a quality control service at very low cost to over 2,600 smaller hospitals. This is an extremely valuable service helping laboratories with limited facilities maintain accurate standards and improve the quality of their results. Each month freeze dried samples are sent to the labs who test them and submit their results. CMC analyses their results and gives feedback by email.

Community Outreach and Wider Impact

Alongside the conventional hospital work, Dr. Ida Scudder had a passionate concern for the health



Modern day “roadside clinic” with CHAD team and mobile clinic

needs of the rural poor. This found an outlet when she began “roadside clinics” in 1906 – taking a small team out in a bullock cart to visit local villages and running clinics under a shady tree for all comers. These began to multiply and bullock carts were replaced by motor vehicles. The Department of Community Health was established in 1957 to integrate teaching and research with the community programmes. Today CMC runs extensive community based health services around Vellore, resourced by the secondary level hospitals CHAD and RUHSA, which have led to major improvements in health indicators in their focus areas. In addition the Low Cost Effective Care Unit, College of Nursing Community Health service (CONCH) and smaller outreach clinics provide localised care to people living in the urban and slum areas of Vellore.

In all of the community outreach work there has been a recognition that better education and economic development can have a greater impact on health than medical services. Improvements in basic infrastructure (especially safe water and sanitation) can save more lives than vaccination. These principles have driven many groundbreaking initiatives. Efforts have been made to alleviate poverty through a variety of means including encouraging income generating projects and improved agricultural practices.

CMC began the concept of “eye camps” in the 1940s under Dr. Victor Rambo. Today around 3,000 below poverty line patients per year are identified through such camps and brought to CMC for cataract operations which are performed free of cost to the patient. Apart from a government subsidy of around Rs.625 the hospital bears the cost. Many other departments also have outreach work. For example the Dental Department have clinics in various locations, and the Accident and Emergency Department visits schools to give talks on accident prevention and first aid.

CMC is seeking new ways to impact the health of the population, including diabetes screening programmes, a cancer screening programme for women and health screening and education camps. These not only check for disease symptoms but also teach participants to embrace lifestyle changes to reduce the risk or severity of non communicable diseases that are becoming increasingly important in India. Both RUHSA and CHAD community hospitals have centres to support isolated elderly people.

Research

Ida Scudder never had any postgraduate medical training. She was so determined to start helping in India that she arrived in Vellore in 1900 without any working experience: her plan was to serve her internship under the supervision of her father. However he died within a year of her return to India. When it came to the first years of academic teaching she had to go back to her basic text books and constantly study to keep ahead of her students. Nevertheless she recognised the value of research and both published papers herself and encouraged others to do so. She tried to make sure that CMC was at the forefront of introducing new treatments and acquiring the latest equipment. Her commitment to

improving the quality and effectiveness of medical practice has resulted in CMC Vellore being one of the leading medical research institutes in India,

Research is an integral part of the mission of CMC, having a wide and long-lasting impact on the nation's health. Over the past century, CMC has contributed significantly in generating and advancing knowledge which has improved curative and preventive medical services locally, throughout India and internationally. The main thrust is orientated towards cost effective solutions to health issues where the need is greatest, in order to optimise the use of resources. However research also improves both teaching and clinical standards through fostering a spirit of enquiry and ensuring that faculty remain up to date with the latest medical advances.



Centre for Stem Cell Research

CMC is engaged in cutting edge research into the causes and treatment of diseases, and collaborates with hospitals and universities throughout the world. It is one of the leading contributors of medical research articles in India. There are numerous research programmes funded by national and international agencies as well as through internal resources. It is the home of the South Asian Cochrane Network and Centre for Evidence Based Medicine and the internationally recognised Infectious Diseases Training and Research Centre. It boasts a state of the art

Stem Cell Research Centre funded as a centre of excellence by the Indian government. CMC hosts many conferences and workshops and runs regular courses in research methodology, epidemiology, biostatistics and several other topics. Several CMC departments are recognised by the ICMR (Indian Council for Medical Research) as centres of excellence for research. For example Hepatology (liver diseases) and Haematology (for thalassaemia). In 2014 CMC was recognised as a Centre of Excellence for Translational Research by the Department of Biotechnology (DBT). CMC, Vellore is a Centre of Excellence with a collegium of 5 institutions for clinical research excellence.

Every year a number of studies, in which CMC has played a leading role, receive international attention. For example CMC was one of three sites which conducted the Phase III clinical trial of the ROTAVAC® vaccine which was shown to be effective in preventing rotavirus gastroenteritis and other forms of diarrhoea in children.

Partnerships and Collaborations

The breadth and scale of the needs, both national and international, in the healthcare field mean that co-operation and partnership are essential if we are to have a significant impact. In its mission statement CMC expresses a desire to work in partnership with others and encourages others to participate in its programmes.

CMC has research collaborations with several other healthcare institutions in India and abroad, and plays its part in national and international healthcare forums, consultations and initiatives. CMC is a WHO collaborating centre for Nursing training, Physical Medicine and Rehabilitation and other specialities. We provide training to medical personnel from Africa under a scheme funded by the Government of Norway. Every year hundreds of people from all over the world visit CMC, many of them students pursuing medical electives and courses such as infectious diseases.

CMC also works with a number of smaller mission hospitals, helping them to build capacity and develop new areas of expertise. Many personnel from CMC visit remote hospitals to conduct specialist clinics and operations, provide training and advice and sometimes to relieve hard pressed staff their who can otherwise not take any leave.

As well as courses run by CMC, the institution also conducts workshops and conferences which help to raise standards and skills, both in clinical and non-clinical aspects of healthcare. For example in January 2014 we held the first ever national conference on Safety and Occupational Health in Hospitals in India.

Some Recent Developments

In 2011 CMC began offering services for the first time in a different state. At the invitation of the State Government of Andhra Pradesh a new campus has been purchased in Chittoor District. There is an outpatient clinic seeing around 3,000 patients per month, backed up by an up to date diagnostic facility. A secondary level hospital, complete with operation theatres, delivery suite and accident and emergency department was opened in 2016. The dream is to develop the campus into a healthcare university. Gradually it will become a major centre of excellence for medical treatment, education and research, along the lines of the current CMC in Vellore. However the fantastic space available gives the opportunity for an even wider scope of health-related facilities and training – for example music and art therapy and a residential wellness centre.



CMC is now planning a major world-class trauma centre, together with a 1,000 – bedded hospital, on the national highway at Kannigapuram, on the outskirts of Vellore. This will relieve pressure on the existing main hospital campus as well as providing the very best care to accident victims in a very accessible location. Initially some of the higher speciality departments such as Oncology, Haematology and Neurosciences will be located there, giving them the opportunity to expand their services and develop advanced capabilities in brand new purpose built facilities.

In April 2014 CMC acquired a new dual source CT Scanner ‘Discovery CT 750HD which is the world’s first High Definition CT Scanner, capable of performing non-invasive coronary angiography and perfusion studies. Its “Gemstone” detector works 100 times faster than other available detectors.

Alongside these high tech developments, the Chatram was recently refurbished through the help of Alumni MBBS class of 1970. This provides very low-cost accommodation and self-catering facilities for patients and their families close to the main hospital.

In January 2014, CMC dedicated a new Blood Bank donor bus, made possible through a large grant from the SBI Bank. This will enable donors to give blood in convenient places near their homes, improving the safety of the blood collected since it will be easier to recruit regular repeat donors.

CMC is committed to reducing its impact on the natural environment. Water and power are particularly scarce in Vellore District. In January 2013 a new sewage treatment plant was commissioned, adding to the hospital’s existing capacity for water recycling. Using the latest filtration and treatment technologies the recycled water can be used for a wider range of needs than the older plant, including air conditioning. To reduce our electricity consumption we have turned to the sun, which shines strongly on Vellore. In September 2013 a 50KW solar PV array was installed on top of the Outpatient Building to generate electricity during peak hours. The success of this has led to the installation of several further arrays on hospital buildings subsequently.

Solar water heating reduces some of the load on conventional boilers. In January 2014 we installed an Arun 100 solar concentrator on the roof of the Engineering Block, to pre heat water using the sun's rays for use in the laundry and steam requirements of the hospital. This tracks the sun and focuses energy on a water filled coil, pre-heating the water before it goes to the boiler. It has reduced the use of furnace oil with a subsequent reduction in greenhouse gas emissions.

Ethos

As is evident from its name and the Vision Statement, CMC Vellore is a Christian hospital, drawing its inspiration from the example of Jesus Christ and seeking to model its values, priorities and activities on his life and healing ministry. However all patients are welcomed and treated without regard to their faith, caste or other status, staff also represent a variety of faiths and each person's beliefs are treated with respect.

In all aspects of its activities, especially patient care and education, CMC has adopted a holistic approach, seeking to care for all aspects of a person's care and development – biomedical, social and spiritual. A large Chaplaincy Department serves patients, staff and students providing spiritual counsel and support and organising worship services in many languages.

Special concern for the marginalised

As a motto CMC has adopted the words of Jesus, "Not to be served, but to serve" and this drives everything. CMC is a charitable society and seeks to help transform for the better the health status of India. The hospital serves millions of people directly, but an even greater impact comes from those who have been trained here and have then gone out to serve, treat and teach others.

Whilst most of the patients pay for their treatment, any surplus arising in one area is reinvested to give subsidies and free care for those who cannot afford the full cost, and to fund educational and training activities. All the core activities are achieved without external funding from the government or elsewhere. However external resources are used to fund research, the development of new programmes and infrastructure and to extend the free and subsidised treatment given to the poor and through the outreach programmes.

Our dream is never to have to turn anyone away because they cannot afford the cost of their treatment, but to do this we need help. We welcome partnership and help from both individuals and organisations who share our passion for the well-being of everyone in India, especially those on the margins.

Some milestones in the history of CMC

1900 Single-bed dispensary

1902 Mary Taber Schell Memorial Eye Hospital

1903 Training course for compounders

1906 Roadside Clinics

1909 Nursing School diploma course

1918 Medical School for Women LMP (Licentiate Diploma in Medical Practice) course

1942 Medical College MBBS degree course

1945 Lab Technician training course

1946 College of Nursing degree course (India's first)

1947 Male medical students join

1948 Reconstructive surgery on leprosy patients (The world's first)

Neurological Sciences department (South Asia's first)
 Rural Health Centre at Kavanur
 1950 Postgraduate medical degrees started (MD and MS)
 1954 Radiographer training course
 1956 Mental Health Centre
 1957 Rural Health Centre at Bagayam
 1961 Successful open heart surgery (India's first)
 Middle ear microsurgery (India's first)
 1966 Rehabilitation Institute (India's first)
 1969 College of Nursing Post-graduate degree courses
 1971 Kidney Transplant (India's first)
 1976 Artificial kidney lab
 1977 Rural Unit for Health and Social Affairs (RUHSA)
 First External Quality Assurance Scheme for 59 Indian labs
 1984 Continuing Medical Education department
 1986 National AIDS Reference and Surveillance Centre
 Bone marrow transplant (India's first)
 1995 Magnetic resonance imaging
 1996 Carotid bifurcation stenting (India's first)
 Trans-septal carotid stenting (World's first)
 Trans-jugular mitral valvuloplasty (World's first)
 Distance Education Unit Family Medicine programme
 1997 In vitro fertilisation via gamete intrafallopian tube transfer (India's first)
 1998 Bone marrow transplant in 6-month-old baby (India's first)
 Total body irradiation for bone marrow transplantation
 1999 Liver transplantation
 2000 Ida S. Scudder Centenary Centre for Women and Children
 2003 Vellore Bombay Artificial Limb Bioengineering department
 2004 South Asian Cochrane Network
 2005 Living donor liver transplant
 2006 PG Diploma in Family Medicine (Distance education course)
 2007 Centre for Stem Cell Research
 2009 Endovascular repair of aortic aneurysm using three chimney grafts
 Successful ABO incompatible renal transplant (India's first)
 2010 Chittoor Hospital campus foundation stone laid

Recognition

Many of CMC faculty and alumni have received national and international recognition and awards for their humanitarian efforts and research contributions. Two of our distinguished alumni, Dr. Mammen Chandy and Dr. Glory Alexander, received the BC Roy Award in 2016.

Some recent accolades include:

- 2010 "India's Most Socially Responsible Hospital" in the CNBC-TV18s India Healthcare Awards.
- October 2011 special award "Healing with the human touch" at the Zee TV Health Awards.

- In *The Week Magazine's* survey of India's Best Hospitals (27 November 2011) CMC was adjudged the third best multi-speciality hospital in India, with many of its departments awarded high ranks in their speciality fields.
- December 2011 India's Best Multi Specialty Hospital – Non Metro; and Best Hospital – Cardiology Speciality at the ICICI Lombard & CNBC TV18 India Healthcare Awards.
- 2012 "Best Hospital Non Profit" at TANCARE 2012
- December 2012 CMC was ranked India's best multi-speciality private hospital and the 3rd best overall (including Government Hospitals) in The Week-HANSA survey.
- December 2013 CMC was granted accreditation with NABH (National Accreditation Board for Hospitals, India). Most of the laboratories are also accredited with the NABL (National Accreditation Board for Laboratories). CMC is accredited as a Quality Control Centre with NABL for its External Quality Assurance Scheme which helps hospital laboratories nationwide to maintain their quality standards.
- 9th January 2014 CMC was designated Asia's "Best Private Educational Institute 2012-13" in the medical category, at the World Consulting and Research Corporation awards in New Delhi.
- 20th September 2014 CMC was awarded 9 Platinum Awards for various programmes by the SKOCH Foundation in New Delhi on 20th September 2014, and received the overall Platinum Award for Excellence. The Jawadhi Hills programme was also recognised with an award from the British Medical Journal for excellence in Primary Health Care in Challenging Circumstances.
- *The Week* magazine November 2014 ranks CMC Vellore as "3rd Best Multi-speciality Hospital in India".
- April 2015 Public Health Champion Award, for CMC's Community Health Department and CHAD hospital from World Health Organization (at National Consultation on Food Safety, jointly organized by the WHO and Ministry of Health & Family Welfare of the Government of India)
- 7th of August 2015, D. L. Shah Quality Award - Gold for the Clinical Audit Program from Quality Council of India, during the 10th National Quality Conclave held at the Siri Fort Auditorium, New Delhi.
- 31st August 2015, Award under the PHC/CHC category from The Federation of Indian Chambers of Commerce and Industry (FICCI) at their 7th Annual Healthcare Excellence Awards.
- 12th September, 2015, "Best Institute in Medical Education" 2015 Award, at the Vijayavani National Education Leadership Awards programme
- BMJ Award for Asia's best Endocrinology Team, 2015.
- June 2016 CMC ranked No.2 in India Today's Survey of India's Best Medical Colleges, 2016.
- August 2016 Skoch Order of Merit Awards for *Tobacco Cessation Programme* (Dental Dept) and *Hospital-based universal newborn hearing screening* (ENT).

Vision Statement

The Christian Medical College, Vellore seeks to be a witness to the healing ministry of Christ, through excellence in education, service and research.

The Objective

The objective of the Christian Medical College, Vellore is the establishment, maintenance and development of a Christian Medical College and Hospitals in India, where men and women shall receive an education of the highest grade in the art and science of medicine, nursing, or one or other of the related professions, to equip them in the spirit of Christ, for service in the relief of suffering and in the promotion of health.

Mission Statement

The primary concern of the Christian Medical College, Vellore is to develop through education and training, compassionate, professionally excellent, ethically sound individuals who will go out as servant-leaders of health teams and healing communities. Their service may be in promotive, preventive, curative, rehabilitative or palliative aspects of health care, in education or in research.

In the area of research, CMC strives to understand God's purposes and designs, fostering a spirit of enquiry, commitment to truth and high ethical standards. Research may be aimed at gaining knowledge of the fundamental bases of health and disease, at improving interventions or in optimising the use of resources.

In the delivery of health care, CMC provides a culture of caring while pursuing its commitment to professional excellence. CMC is committed to innovation and the adoption of new, appropriate, cost-effective, caring technology.

CMC reaffirms its commitment to the promotion of health and wholeness in individuals and communities and its special concern for the disabled, disadvantaged, marginalized and vulnerable.

CMC looks for support and participation in its programmes in education, service, outreach and research, from friends and like minded agencies in India and abroad, in a true spirit of partnership.

In its role as a living witness in the healing ministry of Christ, CMC seeks to work in partnership both with the church in India and the universal church, and their institutions.