HISTORY

The history of our medical services dates back to 1955 when the Health Division of the then Atomic Energy Establishment, Trombay (AEET) was founded. To start with Dr P.D. Darne was looking after clinical work, with Dr (Mrs.) C.Y. Lavande doing pathology work.

By 1958, the Division started expanding with the recruitment of Dr K. Sundaram, Dr R.D. Ganatra, and Dr V.R. Shah. Those days initial medical examination of new recruits, periodical medical examinations of the staff members and outdoor treatment given to the employees constituted much of the work.

By 1959, more clinical work was started and three dispensaries were set up: one at the Training School Hostel at Bandra, the main dispensary at the Old Yacht Club, and one dispensary at South Site, Trombay. There were no hospital facilities of our own and there was no facility for treatment of family members of the employees.

It was during 1960-61 Dr Homi Bhabha, the perfectionist and visionary, implemented a separate scheme of our own - the present CHSS. His idea was that a well run medical scheme will make the employees feel secure and with their families being looked after, they can concentrate better on their work.

Several administrative hurdles had to be overcome and in 1962 sanction was obtained for a separate scheme, different from the general Central Government scheme.

- By 1963 indoor facility at J.J. Hospital in Byculla, Mumbai and a dispensary in the hospital premises were started, and the family members of the staff started receiving treatment at OYC dispensary and J.J. Hospital dispensary. The expansion of CHSS continued with opening of new dispensaries in various locations –
  - Chembur (1964)
  - Anand Bhavan (1965)
  - Bandra and Ghatkopar (1966)
  - Matunga (1967)
  - Deonar (West) (1969)
  - Deonar (East) (1975)
  - Vashi (BRIT) (1985)
  - Vashi (1987)
  - Andheri (1992)
  - Mandala (1999)

As the number of beneficiaries increased, so did the staff strength of Medical Division. The indoor facilities at the J.J. Hospital were now not enough and in 1976 the BARC Hospital was shifted to the present premises at Anushaktinagar. The beneficiaries are offered various facilities and medical treatment with the help of many advanced investigations in our hospital. It is a fulfilment of Dr Bhabha's dream. At present Medical Division and Radiation Medicine Centre cater to the medical needs of about 72,200 beneficiaries with the help of 12 dispensaries and a 250 bed hospital.

- First Hepatic transplant performed in Mumbai was on our beneficiaries, costing Rs 1 million.
- Three bone marrow transplants have been performed on our patients, each costing Rs 700,000.
- 330 Angiographies, 80 angioplasties and 70 bypass surgeries were done in 1998 alone.
• Five kidney transplant patients are on immuno-suppression therapy - costing Rs 3000/- month/patient, apart from the transplant cost.

**CHSS DISPENSARIES**

At present, the 12 CHSS dispensaries, spread all over Mumbai, are rendering medical services to 72,200 beneficiaries. These dispensaries are run by 38 doctors and are important and strong pillars of our health scheme. These dispensaries are engaged in the following activities:

1. Prompt and efficient initial care of all patients;
2. Regular follow ups of Diabetes, Hypertension, Coronary Heart Disease, Pulmonary Tuberculosis and Asthma patients;
3. Antenatal care, Well Baby care clinics;
4. Immunization;
5. Displaying educative posters and lectures - to provide information and positive message regarding health care.

These dispensaries are going to be updated with equipment like glucometer, nebuliser, ECG machine and computers. The daily attendance of CHSS beneficiaries is about 1820, with more than 45 patients/day/doctor.

**TROMBAY DISPENSARY**

Apart from the 12 peripheral CHSS dispensaries, there are two special medical units for the health care of employees in relation to their work.

Trombay Dispensary is playing an important role in this field. It is especially involved in the practice of occupational health medicine and also deals with curative, preventive and emergency medical care. It carries out initial medical examination of new recruits and trainees; periodical medical examination; examination of over exposure cases from DAE and all over India; Management of radiation injuries all over India; and consultancy on radioactivity problems all over India.

**VASHI INDUSTRIAL DISPENSARY**

Vashi Industrial Dispensary, Turbhe carries out periodic medical examinations of staff of Board of Radiation and Isotope Technology working with radioisotopes; and staff of Powder Metallurgy Division and Beryllium Machining Facility. It also conducts annual spirometry evaluation of Beryllium employees; routine medical care for illness and injuries; motivation of employees to give up alcohol/smoking/tobacco chewing; ergonomic advice for proper methods of lifting weight for prevention of backache; safety education of employees; and emergency management and transfer of patients after stabilisation.

The dispensary is equipped with Electro-cardiograph, Spirometer, Computer and Oxygen cylinder. Ambulance is available round the clock for transfer of serious cases. Record keeping is uptodate and details about past/present illnesses along with their pathology and radiology reports are maintained on the computer for easy retrieval and reference. The follow up for patients suffering from chronic diseases is done regularly.
E.N.T.

The department has widened its scope from diagnosis and management of diseased conditions of the ear, nose, throat, head and neck, by including also preventive and rehabilitative medicine. At-risk patients such as those working in noisy areas, aged patients and children are regularly screened for hearing problems. Early detection of such cases helps in their proper management and rehabilitation. Patients are trained in proper use of hearing aids. Patients with speech defects and chronic conditions like allergies and giddiness require considerable training, support and follow up in addition to medications. A great deal of stress is laid on these aspects.

The ENT department is equipped with state of the art diagnostic aids such as the flexible and rigid endoscopes, a sophisticated operating microscope and an ENT work unit. The Audiology set up at the department is relatively new, but very good with a sound treated room, modern audiometer and impedence audiometer. All these are invaluable in effective diagnosis and management of the patients. The department not only caters to routine ENT surgical conditions but also head and neck malignancies, plastic surgery of nose and conditions like sleep apnoea. Lasers in ENT and functional endoscopic sinus surgery are two other fields of rapid development to the great satisfaction of ENT surgeons.

PATHOLOGY

In 1976 the Pathology laboratory was shifted from Richardson & Cruddas building and J.J.Hospital to the BARC Hospital. The Laboratory is equipped with a range of sophisticated equipment procured to perform latest blood investigations possible in the centralised laboratory located in the BARC Hospital, with two extensions at Anand Bhavan Diagnostic Centre and at Trombay Dispensary.

The Pathology unit has a team of three doctors, 30 technicians, one administrative staff and six Helpers fully engaged in performing approximately 300,000 blood investigations each year. The laboratory functions on round-the-clock shift basis.

Keeping pace with changing times, the laboratory geared up to accept the latest technologies and techniques and thereby introduced investigations like ELISA testing for AIDS, Hepatitis, TORCH, Blood Gas Analysis and other tests like Fine Needle Aspiration Cytology (FNAC), etc. We also got our Blood Bank approved from Food and Drug Administration and opened a new Cytogenetic Laboratory. Our latest acquisition was the two fully automated
Biochemistry Analysers which are sophisticated equipment. With the installation of these biochemistry analysers, we have vastly improved the accuracy, quality and speed of investigations. The quality control programmes are carried out on these machines every day for attaining perfect, reliable and consistent results. Additionally, we have semi-automatic bio-chemistry analysers in our laboratory as well as at our Diagnostic Centres at Anand Bhavan and Trombay Dispensaries. The Blood Gas Analyser with us is a vital equipment meant for critically ill patients whose blood gas analysis greatly helps our doctors in assessing the prognosis of the patient and deciding the line of treatment. Plans are afoot to have automated systems for Haematology, Diagnostic Molecular Biology and Blood Component facilities.

The cytogenetic laboratory was established in 1994 to screen newborns and patients attending genetic counselling clinic for any chromosomal aberrations.

Computerising of all reports, with all report forms designed by color coding, helps our consultants to speedily reach the required report in the medical file of a patient being attended to. Approximately 350 to 400 reports are generated daily which are despatched to the concerned OPDs, Wards and Dispensaries.

PAEDIATRIC

The Paediatric department has four consultants and three residents who offer preventive and curative care to about 15,000 children (about 20% of CHSS beneficiaries). We aspire to offer the best patient care possible and in turn aim to achieve high patient satisfaction.

We have a ward and neonatal intensive care unit (NICU) equipped with paediatric ventilator, pulse oximeter, vital sign monitors, defibrillator, neonatal rescuscitation trollys etc.. We are ably assisted by efficient nursing staff in offering routine as well as critical care. We run a well baby clinic once a week and our OPD functions 6 days a week. We also conduct genetic clinic and school health clinic. Most of the patients are managed in the BARC Hospital. A few patients requiring super speciality care are referred to referral hospitals. We are a referral centre for other DAE units and we manage their patients with complex problems. Vaccine preventable diseases like diptheria, pertussis (whooping cough), tetanus, and poliomyelitis are not seen for the past 15 years in our set up due to our high immunisation coverage. Incidence of diseases like measles, mumps and rubella also has drastically
reduced because of the introduction of MMR vaccine for over 10 years.

Our hospital was recognised as "BABY FRIENDLY HOSPITAL" by National Task Force in 1990. We trained our medical and paramedical staff to promote exclusive breast feeding. We have trained medical personnel in other hospitals too. Breast feeding promotion has resulted in increased awareness amongst mothers thus resulting in decreased incidence of upper respiratory tract infections and gastro enteritis.

With optimal preventive and curative care the neonatal, infant and under five mortality is much less than the national figures and is comparable to figures in western countries. The incidence of congenital anomalies in our population is very low, thus allaying fears about radiation exposure leading to mal-formations.

Over the years Obstetrics & Gynaecology department has shown progress in terms of adaptation of innovative changes and additions to its field of work. Right from its inception, a lot of emphasis has been laid on preventive programmes like antenatal surveillance and annual gynae check-ups. High risk antenatal clinics are being conducted. The thrust areas in the clinic are intra-uterine growth retardation (IUGR) and pre-eclamptic toxemia. Intensive antenatal and intrapartum monitoring is being done with the aid of electronic foetal heart rate monitoring, cardio-tocography, ultrasonography - doppler and level II. The achievements in the obstetrics have been no eclampsia, no septic cases, decreased instrumental and complicated delivery and decreased maternal morbidity. There has been no maternal mortality in the last 10 years. Annual gynaec check-up including pap smears, colposcopy and transvaginal sonography have helped in early detection of pelvic disease/cancer. Hormone replacement therapy clinics are being conducted. This has drastically improved the quality of life in postmenopausal women. Facilities like electro and cryo surgery and CO₂ laser are available in the outpatient department.

The department has a fully equipped operation theatre. The use of endoscopy (laparoscopy and hysteroscopy) has extended to operative procedures from the diagnostic one. Video assisted endoscopic surgeries are presently being performed, which are minimally invasive and has definitely reduced the operative morbidity and hospital stay.

The challenges being faced now are congenital abnormalities and metabolic disorders and this has called for the introduction of genetic counselling clinic and prenatal diagnosis. With the strict ante and
intranatal surveillance and the back up facility of intensive neonatal care, the perinatal mortality is comparable with international statistics. The small family norms are being encouraged and modern methods of contraception are being advocated.

PHYSIOTHERAPY

Of the 60-70 cases daily attending the department (including ward patients) approximately 50% are for management of pain and musculoskeletal disorders. The goal is to evaluate and to reduce impairments and disabilities. For pain management, apart from using usual modalities like short wave diathermy, ultrasound, transcutaneous electro neuromuscular stimulator, techniques of manual therapy are applied. Manual therapy introduced since the last three years is used to restore functions of joints and spine and reduce pain.

Manipulations for cervical spondylosis and low frequency currents in peripheral nerve injuries and facial palsy are important procedures performed in the department.

Various sets of exercises and procedures are carried out in different conditions and disorders.

Follow up of patients depending upon course of disorders is done regularly

It is proposed to start the following

- Pain clinic,
- Obesity clinic, and
- Computerisation of the patients data.

SOCIAL SERVICES

Since its inception in 1965, this department has been engaged in psychosocial diagnosis, treatment and rehabilitation of variegated social problems and medico social problems arising due to various illnesses. Appropriate psycho-social therapies and counselling methods are utilised for resolving these problems to a maximum possible extent to restore their psycho-social functioning and to alleay anxiety and stress by mobilising human as well as material resources. A number of preventive programmes were organised by the Social Services unit.

Work related to Benevolent Fund and Family Relief Scheme is also carried out by Social Service unit.

PSYCHIATRY

The Psychiatry department has two full time Psychiatrists, one Psychiatric Social-Worker, one Part time Clinical Psychologist and one Panel Psychologist handling an average of 600 patients every month.

The Department has extended its services in area of occupational health on preventive basis by undertaking the Preliminary Aptitude Test (PAT) as a part of pre-recruitment analysis for Trainees and Post-Graduate Trainees recruited every year. As an extension of this
programme, the recruited Trainees are followed up regularly for guidance and support since the last five years.

RADIOLOGY

The Radiology department of BARC Hospital provides diagnostic radiological services to the beneficiaries of CHSS comprising of employees of DAE and their dependants.

The department provides the following services:

- Radiography,
- Ultrasonography, and
- Colour Doppler Studies.

The department is equipped with three X-ray machines including Image Intensifier for daylight fluoroscopy and five Mobile X-ray Units for bedside and Intra-Operative Radiography. The department works round the clock and one technician is always available after OPD hours. One X-ray Unit is installed in Casualty department for immediate attention of patients coming to Casualty.

The services provided are Conventional Radiography i.e. X-Rays of all types and special investigative diagnostic procedures comprising of oral and intravenous contrast studies viz. Barium Studies like Barium Swallow for evaluation of patients having problems of swallowing and tumors of the food-pipe; Barium meal & Follow Through studies for diagnosis of diseases like ulcers and growth in the stomach, tuberculosis of the small intestine and malabsorption syndrome, etc. Barium Enema studies for the evaluation of patients suffering from diseases of large bowel and rectum like long standing constipation, ulcerative colitis, growths and tumors of large bowel. Intravenous pyelograms for evaluation of patients of ailments of kidneys, hysterosalphingograms for evaluation of patients of infertility and diseases of the uterus, and fistilographies for patients suffering from fistula-in-ano before undergoing surgical procedure for its treatment are some of the services rendered by this unit.

The Ultrasonography Unit is equipped with:

1. Two Ultrasonography Machines for Routine Sonography and Colour Doppler Studies for Whole Body applications including 2 D echocardiography
2. One Portable Ultrasonography Machine for bedside sonography.

Studies are carried out for assessment of diseases of liver, gall bladder, pancreas and spleen and other mass lesions in abdomen. Ultrasonography of chest for evaluation and follow up of patients having accumulation of water or blood in chest cavity, and gynaecological studies to visualise and assess disease of uterus and ovaries, are also done.

SURGICAL

The surgical services consisting of General Surgery, supported by the
Anaesthesiology unit deal with surgeries like Hernia, Hydrocele, Swelling excisions, Gall bladder and Renal stone surgeries, breast tumors and other Urological work. There were fewer cases of benign and malignant tumors of various organs. Emergency cases such as Appendicitis, Bowel Perforations and obstructions and other Urological cases were an occasional problem which were handled. The Minor Surgical Operation Theatre handle cases of Vasectomy with other minor excisions.

Fracture and Trauma cases were handled by the unit, with major trauma cases of hip and long bones. Except for cardiac and neuro-surgical operative procedures, this unit undertakes all surgical procedures pertaining to general surgery, urology, plastic surgery, cancer surgery, maxillo-facial surgeries etc. The unit regularly carries out endoscopic procedures, involving upper gastro-intestinal area, urinary system and abdomen. As this unit has updated urological instrumentation, endourological procedures like endoscopic resection of enlarged prostate, bladder tumours, crushing of bladder stones and removal of renal stones by PCNL are routinely carried out.

The C.H.S.S population has been increasing with many of the employees aging and developing chronic diseases like Diabetes, Hypertension and Respiratory Diseases. Hence to cater to the needs of these high risk groups the surgical unit has developed strict protocols and has also been laying emphasis on day care surgeries with the help of key hole surgeries and other interventional surgeries. This has contributed in reducing the morbidity and the nosocomial infections with strict aseptic precautions and a rigid and ethical antibiotic policy.

The surgical unit has four full-time consultants, four residents and two house surgeons. The Surgical Unit is recognized to train post-graduates for the national board of examinations.

ORTHOPEDIC

Besides treating routine fracture and trauma cases, orthopaedic problems like chronic arthritis, backaches and neckaches, congenital bone defects and bone deformities and bone infections and tumors are also being handled by this unit.

The monthly outpatient attendance of this unit has increased to about 700-800 from about 80-90 during the earlier years. Whereas the major Orthopaedic Surgical procedures in the main theatre in a month were about 3-4, we are performing now about 15-20.

Keeping in touch with the latest techniques of operative treatment of fractures, which lay emphasis on faster mobilization of the patient, reduction of morbidity and reduction of bed occupancy by way of extensive physiotherapy, we have acquired operative instrumentation sets for various fractures of the long bones and have used them successfully in a series of patients achieving results which can compare with those of any trauma management centre.

This unit undertakes major orthopedic procedures like partial hip
replacements, interlocking nailings, external fixators, spinal surgeries, and arthroscopies with the help of an image intensifier system. With the increase in the geriatric population among the CHSS beneficiaries, the occurrences of trauma in the elderly has been on the rise leading to many cases of hip, knee, ankle, shoulder, elbow and wrist joint fractures along with long bones. This unit carries out major challenging operative procedures successfully on patients even beyond 90 years of age, giving them quality of life with independence in activities of daily life.

With a complement of two orthopedic surgeons, a part time consultant and one resident and a house-surgeon, this unit has ten beds for inpatients and a regular OPD.

ANESTHESIOLOGY

With a strength of five experienced and qualified anesthesiologists and a resident trainee in anesthesia, this unit caters to the requirements of surgical operative procedures and intensive care.

Anesthesia unit offers its expertise to various units which include surgical, orthopedic, ophthalmology, ENT, dental, psychiatry and gynaecology & obstetrics units. The unit renders pre operative assessment, planning and administration of anesthesia and analgesia requirements, and post operative management.

This unit handles about 3,500 patients who require surgical care. Besides catering to the elective and emergency operative procedures, it conducts day time anaesthetic procedures, for ECT’s in Psychiatry O.P.D. and for Dental patients in its O.P.D.

The hospital has four major and four minor operating rooms. These areas are well equipped with all the mandatory safety monitoring devices. In recent years, by acquiring latest equipments, such as ventilators and patient monitoring devices, the anesthesia unit is meeting the International mandatory monitoring Standards.

Recently the unit has acquired two sophisticated Multi parameter patient monitoring systems for the intra-operative management of the patients. From this year Anesthesia unit started offering "Labour analgesia services" to the young expectant mothers. Service offered is optional hence will require patient acceptance and availability of manpower in the unit.

ICCU

The Intensive Cardiac Care Unit has eight beds which takes care of acute cardiac emergencies like different cardiac arrhythmias, LVF, cardio genic shock, different types of heart blocks and bradycardia.

Invasive procedures like CVP monitoring, Trans Venous Pacing, etc. are also being done in the ICCU. Cardiac arrhythmias are treated with Cardiocrine and DC Defibrillation. Thrombolytic agents like Streptokinase and Urokinase
are very frequently used to dissolve the thrombus. Many acute complicated cases of cardiogenic shock and malignant arrhythmias were treated by the above measures.

Coronary angiograms are regularly reviewed with the help of DACARNO which is available in the ICCU.

Facilities for ABP Monitoring and Holter Monitoring are also available.

As preventive cardiology work up, average of 8-10 stress tests are being performed in the ICCU. This helps us in detecting Coronary Heart Disease at the very early stage and can take preventive measures.

A Bombay Heart Brigade 105 is also stationed in the ICCU which takes care of acute cardiac emergencies in the near vicinity. A fully equipped ambulance with a doctor and nurse is being sent to the house of the needy cardiac patients on receiving a call on 105. Emergency medical treatment is being given at home and the patient is transferred to the nearest hospital of their choice.

**OPHTHALMOLOGY**

The Ophthalmic department is well-equipped. The outpatients eye department and the Ophthalmic theatre are situated next to each other. This helps in the smooth running of the department especially in case of emergencies where surgery is required.

In the OPD mostly patients complaining of visual disturbances are seen along with patients complaining of redness, irritation, itching, etc. Referrals from other OPD's and dispensaries are seen daily on appointment basis.

The Ophthalmic Department receives referral from units of DAE all over India for diagnosis of complicated cases, surgeries and specialised eye investigations like automated perimetry, indirect opththalmoscopy and 'A' scan biometry.

In the operation theatre besides routine cases like cataract extraction with intraocular lens implantation other surgeries like anti-glaucoma surgery, squint correction, lacrimal sac surgeries are done.

**DENTISTRY**

With the commissioning of the BARC Hospital in 1976, the then Dental facility consisted of total four units - two of them at the hospital and one each attached to Trombay and Anand Bhavan Dispensaries.

With the ever-increasing demand on the unit, in the span of a short period,
three more operatories were commissioned within the Dental OPD Complex at the hospital. Hence, today the expanded facility has grown to seven full-fledged operatories. A full-time Dental Hygienist is available at the hospital taking care of patients needing Dental prophylaxis and guidance on the maintenance of oral hygiene procedures. A highly experienced Maxillo-facial and oral surgeon has also been appointed on the panel for specialised surgical procedures.

The employees as well as their family members are distributed zonewise to either the hospital or Anand Bhavan & Trombay dental facilities in order to ensure maximum convenience to the large population of beneficiaries.

Most of the Dental operatories are equipped with a state of the art instrumentarium and the rest are expected to be upgraded in the near future. The Department of Dentistry has always been and more so today, a model of efficiency and one of the most well-run units in the Division. It is comparable to the best anywhere and offers the latest procedures in the various Dental specialties such as:

- Restorative Dentistry,
- Endodontics,
- Cosmetic Dentistry,
- Orthodontics,
- Prosthetics and Crown & Bridge,
- Oral and Maxillofacial Surgery,
- Orthognathic Surgery,
- Pedodontics,
- Periodontics,
- Dental Radiography and Dental Implants.

The Dental Unit is a self sufficient unit, having all treatment modalities available in-house, thus negating any external reference requirements.

**INFORMATION MANAGEMENT**

To keep pace with growing patients' information it was decided to induct modern information management technology for processing of hospital information. The advantages of such a system would be availability of an orderly set of patient information, faster retrieval of documents, decentralised access to data bank, systematic archival, uniformity in information format, reduced duplication, better clarity, higher accuracy, etc. Computer Division of BARC, was entrusted with installation and commissioning of computer system. The computer system comprises of Landmark-486 CPU with 16 MB RAM, 27 terminals, 15 local printers, UNIX Operating System and ORACLE Data Base Management System. In consultation with the end-users, more than 80 computer screen forms has been developed and integrated to the patients' database for use in the hospital. Various user departments have been provided with the computer terminal & local printer for their daily use.