

## **CHAPTER 2**

### **HISTORICAL DEVELOPMENT OF PUBLIC HEALTH SERVICE RENDERING AT THE SIR SEWOOSAGUR RAMGOOLAM NATIONAL HOSPITAL(S.S.R.N.H.)**

#### **2.1 INTRODUCTION**

In order to understand the scope and objective of the study it is essential to examine the historical development of public health service at S.S.R.N.H. A map of the area under research has been presented in this chapter. Attention is devoted to factors such as changing public health service needs and emerging technologies. This chapter also throws light on the historical background of the S.S.R.N.H. with particular reference to its organisational structure, opening, administration and problems associated with effective public health service delivery in the changing environment.

#### **2.2 HISTORICAL BACKGROUND OF S.S.R.N.H.**

In 1956, the decision to build a new hospital to provide public health services to the population of the northern districts, Rivière du Rempart and Pamplemousses of Mauritius constituted a major step forward in the Government's bid to remedy the too well known inadequacies of public health service delivery (White 1969:23).

Diarrhoea was the leading cause of child mortality in 1960, accounting for 80% deaths annually. The diarrhoeal diseases spread rapidly in the community owing to a lack of hygiene in foods preparation, improper disposal of human excreta and urine. The sewage was not treated and was discharged in the rivers which contaminated the water. This was responsible for the spread of communicable diseases like cholera, typhoid, dysentery, helminthic infestations, infective hepatitis, trachoma, malaria and filariasis. Therefore child mortality increased as oral rehydration therapy was unavailable (White 1969:46).



The public health services were ineffective and over 60% of all maternal deaths were due to abortion, hypertensive disorders, haemorrhage, obstructed labour and infections. These were due to a lack of effective medical equipment, skilled health personnel and drugs (White 1969:89).

Moreover, injuries were increasingly recognized as one of the new public health problems. The number of deaths due to injury was 550 in 1960. Accidents caused by fires and flames accounted for 38 (6.9%) deaths in 1961. The distribution by external cause revealed that in 1961, 188 (34.2%) deaths (148 males, 40 females) were caused by motor vehicle traffic accidents (Reinhardt 1970:7).

Additionally, there was the lack of effective health education particularly on nutrition. Malnutrition was prevalent which was also the leading cause of death. Babies were born too small to lead healthy lives because mothers were either ill or malnourished. Among children under five years of age, 4.6% were stunted and 3.2% underweight due to lack of food and the presence of disease in the year 1962. Ultimately, malnutrition resulted from inadequate intake of nutrients, and from disease factors that affected digestion, absorption, transport and utilisation of nutrients (Hayes 1979:43).

In October 1962, the British Firm of Architects, Messrs Fry, Drew and Partners were officially commissioned to design the "Central Hospital North". A planning committee was appointed consisting of the Permanent Secretary of the Ministry of Health and Quality of Life, Specialists of different disciplines, engineers and architects of the Ministry of Works and Telecommunications to start the first phase. Its task was to discuss and agree upon the exact requirements of each of the departments and service to be created, and submit a detailed brief to the architects, who would then translate it into sketch plans and cost estimates (Hayes 1979:48).

Consultations and discussions went on for twelve months, and on the 9<sup>th</sup> October 1963 the foundation stones of the new hospital were laid by Her Excellency Lady Rennie, wife of the Governor of Mauritius (White 1969:23).

Regular meetings of the planning committee were held and alterations, improvements and deletions were made to the sketch plans. It was agreed in principle, however, that the hospital would have 582 beds, comprising 28 wards in seven blocks of three storeys each, one self-contained Maternity Department with its own operating theatre, premature baby unit, milk kitchen, ante-natal clinics and delivery suits, one Accident and Emergency Department, complete with Operating Theatre, X-ray and Plaster Rooms. Moreover, it was decided to include a central X-ray, Operating Theatre, block with three Theatres, Outpatient, Medical Records, Central Sterile Supply Department, Physiotherapy, Pharmacy, Dental, Engineering and Instrument Curating Workshops, Central Kitchen, Boiler House and an Administration block (White 1969:50).

The gross estimate for the project was set at Rs 30 million. The project was divided into two phases. In July 1964, the Ministry of Finance provided a ceiling of Rs 24 million for the execution of phase one. However, due to devaluation of sterling currency, the actual total cost of phase one amounted to Rs 28 million, inclusive of furniture and loose equipment. The memorandum of agreement between Government and Messrs, Fry, Drew and Partners was signed on the 22<sup>nd</sup> December 1964. In March 1965 the final plans were formally approved by the Building Plans Committee (Reinhardt 1970:61).

Mr D.K. White, Hospital Secretary, arrived in Mauritius in April 1965 to act as the project secretary for the scheme. The preliminary work of quantity surveying and specifying each and every item of construction went on for another year. In June 1966 the necessary contracts were finally signed for phase one of the Central Hospital North project (Reinhardt 1970:81).

The contract stipulated that the work should be completed in two years' time and in October 1968 the keys of the complete building were officially handed over to

the Honourable Minister of Health and Quality of Life, H.E.Walter. January 1969, therefore, saw the Government of Mauritius in possession of a very modern and fine hospital building. It remained then for the Ministry of Health and Quality of Life to breathe life into the empty buildings and complex institution that constitutes a hospital (Hayes 1979:23).

Phase two was concerned with medical equipment and health personnel. Equipment received from overseas were transferred to the "Central Hospital North" in 1968. The staff consisted then of the Hospital Secretary, one trainee Hospital Administrator, one Instrument Curator and one Catering Officer on a three year contract from the United Kingdom (Hayes 1979:31). Meanwhile an operational policies committee composed of senior members of the nursing and medical staff, and lay administrators was meeting regularly once a week, co-opting heads of specific departments as and when required (Hayes 1979:50). By May, 1969, it had been decided that the hospital should be named after the first Prime Minister of Mauritius, Dr. the Honourable Sir Seewoosagur Ramgoolam, and the opening ceremony was fixed for the 20<sup>th</sup> of August 1969.

### **2.2.1 Opening of S.S.R.N.H.**

The opening ceremony took place on Wednesday, the 20<sup>th</sup> August, 1969. A commemorative plaque was unveiled by Sir Max Rosenheim, K.B.E, M.A, M.D, F.R.C.P, chairman of the British Council. The Prime Minister, Dr. the Honourable Sir Seewoosagur Ramgoolam, and Lady Ramgoolam, Their Excellencies the Governor-General Sir Leonard Williams and Lady Williams, ministers and members of the Legislative Assembly were among the 2,000 guests who attended the ceremony (White 1969:93).

Addresses were delivered by Sir Max Rosenheim, the Right Honourable R. Prentice, P.C, M.P, Minister of Overseas Development and the Honourable H.E.Walter, Minister of Health and Quality of Life. Emphasis was laid on public health service delivery at S.S.R.N.H. in the northern districts of the Island of Mauritius (Reinhardt 1970:40). Attention was devoted to reducing child and adult

mortality. The importance of immunization and oral dehydration therapy, among others were emphasised at the opening ceremony of S.S.R.N.H. It was stated that S.S.R.N.H. would provide twenty four hours per day health services to the citizens so that diseases like diarrhoea, pneumonia, bronchitis and diabetes would be treated effectively.

## **2.2.2 Administration of S.S.R.N H**

Mr D.K.White, Hospital Secretary, left Mauritius on the 12<sup>th</sup> August, 1969, at the end of the contract period. In order to provide effective and efficient public health services, Dr. J.C Mohith was appointed as the first Medical Superintendent on the 15<sup>th</sup> December, 1969. He was responsible to the Permanent Secretary of the Ministry of Health and Quality of Life for the overall administration of S.S.R.N.H. (Reinhardt 1970:80).

In the day-to-day running of the S.S.R.N.H., the Medical Superintendent retained direct responsibility for the organisation of medical and para-medical units such as Radiography, Laboratory, Pharmacy and Physiotherapy. The administration of nursing services were entrusted to the Chief Nursing Officers while the Hospital Administrator was responsible for the "non-medical" services such as catering, stores, medical records, instrument workshop, engineering, maintenance, domestic and cleaning staff (Hayes 1979:111).

The Radiography Department continued to provide services from 9 a.m. to 4 p.m. on weekdays and from 9 a.m. to 12.00 p.m. on Saturdays. Five thousand four hundred and sixty eight (5,468) patients were x-rayed during 1970 (Hayes 1979:131).

Similarly the laboratory services were available from 9 a.m. to 4 p.m. on weekdays and from 9 a.m. to 12.00 p.m. on Saturdays. Fourteen thousand nine hundred and twenty six (14,926) tests were carried out during 1970 (Reinhardt 1970:91). Tests for biochemistry, hematology, blood transfusion,

virology, microbiology parasitology, histology and sexually transmitted diseases were available at S.S.R.N.H.

The Department of Pharmacy continued to provide drugs, medicines and injections to patients on a twenty-four hours service basis during 1970. Concerning the physiotherapy 32,346 treatment units (half-hour treatment sessions) were performed by two physiotherapists and four assistants physiotherapists during 1970.

Furthermore, Mrs E.Ramsoondar, Catering Officer, arrived in Mauritius in January 1971, on a three-year contract. The Catering Department was re-organised. With a staff of ten cooks, training in modern cooking methods, proper use of electric equipment, general cleanliness and hygiene were set up. The Catering Department operated on a system whereby menu sheets were prepared a week in advance and circularised to the wards. The system of requisitioning meals from the wards to the kitchen was simplified, thus relieving nursing staff from the tedious work of having to write out lengthy details of each and every ingredient that was used in a meal. Meals were dished out in the kitchen heated trolleys (Argyris 1987:20).

The Department of Stores was responsible for safe keeping of medical equipment, surgical equipment, fixtures and fittings for the S.S.R.N.H. There was one store officer and two assistant store officers whose job, among others, were building up stores ledgers, cataloguing and indexing stock items, while at the same time ensuring the indenting and issuing of consumables.

Moreover, the Medical Records Department centralised all the clerical work relating to patients, thus relieving technical staff of most of the paper work that usually devolved upon their departments, namely appointments, reception, registration, transport admission, records, storage, secretarial work, mechanical documentation, statistic and diagnostic index. The staff consisted of one Medical Records Officer, one assistant Medical Records Officer, three Medical Records

Clerks and six Clerical Officers. Some 4,500 new case notes were made during the year 1970 (Hayes 1979:11).

Likewise the Instrument Workshop Department consisted of one Instrument Curator. As there was no clear demarcation between this division and the engineering division, a working basis was reached whereby both departments operated from the same planned preventive schedules, each being specifically responsible for organising and supervising the work it undertakes. Generally speaking the Instrument Curator looked after the equipment like microscopes, surgical instruments and joinery works (Hayes 1979:90).

The Engineering Department of S.S.R.N.H. was responsible for the provision of electricity, maintenance of high-vacuum steam pressure autoclaves, boilers, sewerage treatment, x-ray equipment and plants. Mr P.B Howard was appointed as the first Hospital Engineer in September 1968. The Technical Officers, Medical and Electrical Officers were appointed in October 1969.

Furthermore, the Central Sterile Supply Department continued to provide pre-packed and presterilised materials and instruments for use in Wards, Outpatients, Casualty, Maternity, X-ray, and Physiotherapy Departments. The sterilisation of surgical items by this department eliminated the risk of cross infection. It also helped the health personnel to perform health procedures more efficiently and quickly with prepacked sterilised items (Reinhardt 1970:100).

As far as the administration of domestic staff is concerned, the staff was divided into the following three groups:

- The department staff who worked in wards and departments and were responsible for the daily cleanliness to the Domestic Supervisors through individual heads of departments.
- General cleaning staff who were responsible for the periodic cleaning of floors, corridors and windows.

- The garden staff who looked after the cleanliness of grounds, gardens and roadways.

Cleaning schedules were prepared twelve months ahead and Heads of Departments were informed well in advance of the date and time the cleaning team intended to come into the department for cleanliness. In that way, any inconvenience was minimised.

The S.S.R.N.H. with all its medical equipment and so many new departures from the practice obtained from other hospitals started functioning in 1969. The introduction of a menu system in the catering had changed the practice of ward requisition in 1970. Domestic personnel were trained from scratch in the handling of modern, time and money saving equipment such as electrical brush and electronic washing machine. In short, staff at all levels of S.S.R.N.H. were convinced to accept all the systems of work in 1970.

### **2.2.3 Historical problems associated with effective public health service delivery at S.S.R.N.H.**

The industrial revolution in the world brought enormous social changes that impacted on public health services. The rapid growth of villages in the northern districts of the Island Republic of Mauritius provided opportunities for transmission of diseases such as measles, typhoid, whooping cough, tetanus, contact dermatitis, tuberculosis and malaria (Roberts1984:32).

Another problem associated with rendering effective public health service at S.S.R.N.H. was the emergence of non-communicable diseases (N.C.Ds) such as hypertension, diabetes, heart disease and cancer in the Mauritian society. This problem was linked with changes in the living conditions and life styles, for instance, tendency to abuse alcohol, drugs and bad eating habits (Simon 1988:91).

Infectious and parasitic diseases accounted for about 41% of deaths in 1970 at the S.S.R.N.H. This was typically seen as a central focus of the public health problem. Childhood diarrhoea and lower respiratory infection were ranked first causes of mortality under 5 year old. Lack of immunization and oral dehydration, among others, was the principal causes of infant and child mortality in the northern districts of the Island Republic of Mauritius. Moreover, neonatal deaths were generally associated with elements linked to maternal care during pregnancy and delivery. It was estimated that neonatal deaths accounted for 60% of all infant deaths registered in the year 1972 (Roberts 1984:66). Approximately 30% of all neonatal deaths were due to neonatal infections. The risk factors for neonatal tetanus were largely related to lack of immunization of mothers with tetanus toxoid, unhygienic delivery and unhygienic cord care during first week of life (Richards 1995:11). Unhygienic cord care included practices such as the application of ghee to the umbilical cord and bundling of the neonate for prolonged periods in a sheepskin after applying dried cow dung to the lower abdomen. In short, the three main causes of infant deaths were diarrhoea syndrome (21.6%), tetanus (11.7%) and acute respiratory infectious (11.6%). Maternal health consequences during pregnancy and delivery were significant contributors to neonatal deaths. Low birth weight (15.3%) and birth injury (12.0%) were noted in 1974 (Richards 1995:88).

In 1970, public health care delivery at S.S.R.N.H. dropped owing to absenteeism of health personnel. The rate of absenteeism among health personnel was 43% compared to 21% in 1969 (Hayes 1979:12). It was a serious historical problem for administration because attending to patient's health needs cannot be postponed (Eriksen 2001:40).

It was noted that motivation to attend hospital work was one of the factors causing absenteeism. In 1980 the problems of effective public health service delivery increased further as personnel turnover was steadily increasing (Abbot 1998:81). The major causes of personnel turnover were low salaries, stress burnout and low morale.

Additionally, in 1990, it was observed that sexual harassment, poor co-ordination, grievances, nepotism, dishonesty and corruption increased at S.S.R.N.H. (Butler 1992:41).

Presently, the problems of public health service delivery continue to increase, for instance, disobedience, personnel turnover, sexual harassment, negligence, political interference and low morale. As far as the current circumstances are concerned more details will be given on this in chapter 4 of the dissertation.

### **2.3 ORGANISATIONAL STRUCTURE OF S.S.R.N.H. IN 1969**

In 1969 the Health Director of S.S.R.N.H. was responsible to the Permanent Secretary of the Ministry of Health and Quality of Life for the functioning of the S.S.R.N.H. The Hospital Administrator and Medical Superintendent were responsible to the Health Director of S.S.R.N.H. The Hospital Administrator had the responsibility of non-medical services such as catering, supplies, medical records, transport, building, engineering, maintenance, central sterile supply and domestic services. The Medical Superintendent retained direct responsibility for the organisation of medical services and nursing services. The organisational structure of S.S.R.N.H. was an umbrella concept that included both process and structural issues (Reinhardt 1970:13). It was like a skeleton upon which muscles, nerves, blood vessels and other components were attached.

### **2.4 HISTORICAL DEVELOPMENT OF PUBLIC HEALTH SERVICE DELIVERY AT S.S.R.N.H.**

Advances in surgery had a profound impact on public health service rendered by S.S.R.N.H. in the 1970s, with the introduction of safe blood transfusion, penicillin and surgeons well trained in surgical interventions. The greatest innovation and expansion of public health service delivery occurred from the 1970s onwards, with advances in laboratory diagnosis and the recognition of new, and often treatable diseases (Miller 2000:23).



The percentage which infants, that is children under the age of one year, represented of all cases treated as in-patients at S.S.R.N.H. was 3.9% in 1985. Diseases of the respiratory system were responsible for 17.5% of all infants treated in 1989, as compared to 13.2% in 1988. Cataract was responsible for 2,341 of the 3,860 cases treated as in-patients at S.S.R.N.H. in 1999 that is 60.6%. Among those, 1,975 (84.4%) were operated upon. During the year 2001, 448 in-patients, as compared to 230 in 1999, were treated at S.S.R.N.H. (Miller 2000:90). Operations on female genital organs accounted for 2,142, that is 23.4% of the total number of operations performed at S.S.R.N.H. in 2001 compared to 442 in 1971.

The massive expansion in pharmaceuticals transformed the management of diseases and conditions such as peptic ulcer, childhood leukaemia and cancers. New specialties emerged in 1990, such as oncology, coronary artery by-passes, transplantation of kidneys and microsurgery at S.S.R.N.H. (Miller 2000:80).

During the period 1980-2001, 7439 new cases of cancer have been diagnosed at S.S.R.N.H. out of which 58% occurred in females compared to 500 during the period 1969-1979 (Teshuva 2001:21). This gives a crude incidence rate of 87.4%. As regards cancer in childhood, 3.6% of all cancer diagnosed occurred in children with a male predominance (male/female ratio = 1.25) contrary to what is seen in adults (male/female ratio = 0.7). Brain tumours and leukaemia in children showed a significant increase in incidence during 2001 (Teshuva 2001:80).

The number of hospital discharges due to neoplasms was 3,605 in 2001, compared to 1200 in 1970. The number of female discharges was almost two and a half times the number of male discharges (1,097 males, 2,508 females). This was due to the high number of discharges related to female breast and genitalia (Teshuva 2001:26). In fact, the breakdown by type of neoplasm for females indicated that benign neoplasm of uterus accounted for 1,130 discharges. Moreover 3,712 cases of coronary artery by-passes were performed

at S.S.R.N.H. in the year 2001 compared to 1,283 cases in 1999. The number of kidney transplantation was 725 in the year 2001 compared to 400 in 1999.

Professor Hassen Raffa of Saudi Arabia performed open heart surgery for the first time in Mauritius at S.S.R.N.H. in 1987. The laying of the foundation stone of the Indian Ocean Cardiac and kidney Surgical Centre was held on the 20<sup>th</sup> June 1987, by Sir Aneerood Jugnauth, the present Prime Minister of Mauritius (Cumper 2000:78). Today S.S.R.N.H. is well on the way to become an important centre in the Indian Ocean to provide high technology in public health service to the neighbouring countries (Miller 2000:4).

Mauritius is part of the Southern African Development Community (SADC) and it is the duty of S.S.R.N.H. to provide cardiac surgery services to the members of SADC communities (Butler 1992:40). The S.S.R.N.H. has moved further ahead into the field of high technology medicine. Cardiac surgery forms an important part of S.S.R.N.H. strategy. The lives of hundreds of patients from neighbouring islands of Madagascar, Seychelles, Comores have been saved thanks to cardiac surgery which started in 1987 with international assistance from Saudi Arabia (Prof. Raffa) France (Prof Cerene) and Holland (Dr Om Prakash and Dr Boss) (Roberts 2003:91)

Surgical items are centrally prepared, sterilized and packed at the Central Supply Sterile Department of S.S.R.N.H before being distributed to different units. In addition, this hospital nowadays provides sophisticated and modern equipment to communities for enhancing public health service delivery at S.S.R.N.H. Seriously ill patients are treated at high speed with highly technical equipment and by skilled specialist staff. A patient with a head injury, for instance, fracture of occipital bone is given an immediate magnetic resonance imaging scan and is seen by a neurosurgeon (Cumper 2000:80).

Nuclear medicine has been made available at S.S.R.N.H. Modern equipment for diagnostic exploration of internal organs with radioactive materials to provide clearer images of function and abnormalities is available at S.S.R.N.H. The

International Atomic Energy Agency has provided assistance in terms of equipment, nuclear reagents and training.

Further, high technology public health service delivery includes the functioning of the cardiac centre at S.S.R.N.H. with the provision of specialized cardiac surgery, invasive cardiology and neurosurgical health services. In the year 2002, 732 operations were performed at the cardiac center on cardiac and neurosurgical patients. Other high technology programmes at S.S.R.N.H. include renal transplantation, laser and laparoscopic treatment. A range of high technology diagnostic facilities, including Computerized Axial Tomography (CT scan) and Magnetic Resonance Imaging (MRI) are available at S.S.R.N.H. (Damar 2002:21). All these historical developments of public health service at S.S.R.N.H. have revolutionised the public health service delivery.

## **2.5 SUMMARY**

This chapter explored the historical development of public health service rendering at the S.S.R.N.H. Particular attention was paid to the historical background of public health service delivery at S.S.R.N.H. since October 1962 when the British Firm of Architects was officially commissioned to design the "Central Hospital North". The reason for naming the hospital S.S.R.N.H. was mentioned.

Emphasis was laid on the opening and administration of S.S.R.N.H. in order to provide effective and efficient public health service to the northern districts. This chapter also addressed the historical problems associated with effective public health service delivery at S.S.R.N.H., for example, non-communicable diseases and rapid growth of villages in the northern districts. The organisational structure of S.S.R.N.H. in 1969 was presented in this chapter in order to provide the historical development of public health service delivery.

Additionally, the chapter drew attention on historical development of public health service delivery at S.S.R.N.H. particularly open heart surgery, transplantation of kidneys, Central Supply Sterile Department, nuclear medicine, CTscan and MRI.