SINGAPORE’S HEALTH CARE SYSTEM

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SINGAPORE’S HEALTH CARE SYSTEM

What 50 Years Have Achieved

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Singapore’s healthcare system has come a long way within a relatively short period of 50 years. For example, 50 years ago the infant mortality rate (IMR) was 26 per thousand live births. Today, the IMR is 2. Similarly, life expectancy then was 64 years; today, it is 83. How did Singapore’s healthcare system transform itself into one of the best in the world?

This book provides insights into the development of Singapore’s healthcare system from the early days of fighting infections and providing supplemental nutrition for schoolchildren to today’s management of lifestyle diseases and high-end tertiary care. A hallmark of the system is strong leadership and dedicated people that are prepared to learn from our own experiences while adapting best practices from around the world.

Our aim is not to be comprehensive, but to present key facets of our healthcare system with our various contributors sharing their perspectives in their own voice and style. We have thus taken the approach akin to that of a Festschrift, a term borrowed from German, which can be translated as celebratory publication or celebratory piece of writing. However, instead of honouring a person, this book is presented in honour of Singapore. In this regard, we would like to express our deepest appreciation to all who have willingly and expertly contributed to this book despite their busy schedules.

Even as we celebrate the achievements of the past 50 years, we recognise that our healthcare system is not without its challenges — not least those of an ageing population and an increasing market orientation. New challenges will also arise from time to time which require dynamic solutions. Our predecessors have laid a solid foundation that enables us to address these challenges from a stronger position compared with many other countries. Lastly, while the means may change, our goal remains the same — to help Singaporeans continue to “live well, live long, and with peace of mind.”
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Singapore’s healthcare system is recognised today as being one of the best in the world. The World Health Organisation ranked it 6th best among 191 countries in 2000, based on eight criteria;¹ Bloomberg declared Singapore as the healthiest country in the world in 2012, second among 51 countries in health efficiency in 2013 and first in 2014.² Indeed the statistics tell the story: the infant mortality rate in 2013 was 2 per thousand live births, maternal mortality was 0.025 per 1000 births and life expectancy was 82 years.³ Per capita expenditure on healthcare in 2013 was US$2426.⁴ In all these measures Singapore has, over many years, consistently ranked among the best in the world in terms of health outcomes and health efficiency.

Access to healthcare is assured, affordable, of good quality, and appropriate to need. The system remains viable because of a fiscal policy developed and refined over the last fifty years. The system can be improved, but in contrast to many developed countries, there is no looming crisis regarding sustainability.

The state of our health services today is contributed to by many factors. At the time of independence from Britain, Singapore was bequeathed a legacy of good health services and infrastructure. There was emphasis on developing preventive services and a network of curative services. Preventive services included public health services, maternal and child health (MCH) services, school health services and health education while curative services included outpatient dispensaries (OPDs) or primary care services, hospital services, and related supporting services such as pharmaceutical services and blood transfusion services. In the post-war years, the years leading up to independence of our nation, a ten-year building development

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plan was drawn up, put into action in 1951, and completed in 1960. Some of the buildings completed during this period included two operating theatre blocks (Surgery A and Surgery B), the Mistri Wing — for Paediatric care, and the School of Nursing, all at the General Hospital (later called the Outram Road General Hospital and now Singapore General Hospital); two new six storey blocks at Tan Tock Seng Hospital; and the Thomson Road Hospital, later known as Toa Payoh Hospital.

The period immediately before and after independence was a time of great medical advances globally. New antibiotics and vaccines were discovered, as well as new drugs to control diseases such as leprosy, hypertension, and cancer. New technology resulted in better investigations such as the CT scan (computerised tomography) and MRI (magnetic resonance imaging) and new therapeutic procedures were developed, such as coronary artery by-pass grafting and later, coronary vessel stenting and joint replacement. Public health research revealed the effects of health-related behaviour such as smoking and its ill effects, and exercise and its benefits.

Singapore’s healthcare professionals embraced the rapid progress happening in medical sciences globally. These advancements helped eradicate some illnesses like poliomyelitis and leprosy, prolong life by reducing premature death due to cancer and heart disease, and reduce years lived in disability by interventions such as cataract and joint replacement surgery, thereby improving quality of life.

However, the most significant factor in the progress of Singapore’s health status was the Government’s and the people’s vision and commitment to the improvement of living conditions in general and of the health services in particular. Medical advances are, by themselves, useless unless there is access to them. Public health and other related developments were put in place as a result of good urban planning and a determination of the nation to succeed. The triumphs of public health that helped contain and eradicate the many infectious diseases that were rife in the early years of our nation were access to clean water, sanitation supplied to every household, health education, and accessible maternal and child healthcare. These were critical elements in the eradication of some of the more common causes of illnesses. In 1965, with independence and the economic success that followed, more healthcare infrastructure and manpower development took place. Ministry of Health’s (MOH) per capita expenditure in 1965 was $38. In 2013, Government Health Expenditure per person was estimated to be $1104.

Health Services — The Early Years

There were a number of critical services already in place during the period of colonial rule which laid the foundations for further major developments and improvements in the health of our population. Prior to 1959, the environmental health services (including some personal health services) were run by the City Council Health Services and the Rural Board Health Services (Fig. 1.1). With self-government in
Fig. 1.1. Map of Singapore showing the various health facilities (1958).
1959, the Ministry of Health was reorganised. The functions of these two entities were brought under the Public Health Division (preventive services) of the Ministry of Health.\(^7\)

The hospitals, including Middleton Hospital for infectious diseases, which were under the City Council, were included in the Hospitals Division (curative services) of the Ministry. Tan Tock Seng Hospital, which had been managed by a Committee of Management, was subjected to similar re-organisation and brought under the administration of the Hospitals Division of the Ministry.\(^7\)

In 1965, the mid-year population was 1,864,900. There were 55,725 live births in 1965\(^6\) giving a crude birth rate of 29.9/1000 population. This was a decline from the rate ten years earlier in 1955, which was 44.3/1000 population.

The infant mortality rate was 26/1000 live births, and the maternal mortality rate was 0.4/1000. Infectious diseases were common. Forty new cases of poliomyelitis, 230 cases of diphtheria, 278 cases of typhoid, 242 cases of leprosy and 201 cases of malaria were reported.\(^8\) Life expectancy was 64 years.

There was an urgent need to improve both the preventive and curative services, and make them accessible to the citizens.

**Preventive Health Services**

**School health services**

School Health was one of the early preventive programmes. It was started in 1921.

The health status of our children in 1965 would be a fair reflection of the state of health of our population. There was a student population of 482,000 distributed across the 595 schools. A total of 150,000 were assessed by our School Health staff in 1965. About forty percent (40%) of students had varying degrees of dental caries. About 4% had skin conditions such as ringworm, eczema and scabies. 10 students were suspected to have leprosy. About 10% had defective vision. About 6 in 1000 or 0.6/100 had cardiac disease including acquired rheumatic heart disease, a condition in which heart valves malfunction after a bacterial infection. Worm infestation was present in about 6% of students. Despite a voluntary immunisation programme, 51 students were diagnosed with diphtheria, two (2) with poliomyelitis, and three (3) with whooping cough. Thirty-three thousand (33,000) undernourished children had to be put on a feeding scheme to help in their growth and development. Piped water was not available in about 10% of our schools on the main island. This was the state of the health of our school children when we gained independence.\(^6\)

The immunisation programme was intensified through both the MCH services and schools; and soon diseases such as poliomyelitis, diphtheria and whooping cough became almost non-existent. The feeding scheme also contributed significantly to