

**THE 1<sup>ST</sup> ASEAN AND JAPAN HIGH LEVEL OFFICIALS MEETING ON  
CARING SOCIETIES: HRD FOR SOCIAL WELFARE AND HEALTH  
SERVICES IN ASEAN COUNTRIES AND NEIGHBOUR ECONOMIES  
4-7 NOVEMBER (TOKYO)**

**COUNTRY PAPER – SINGAPORE**

**HEALTHCARE SERVICES**

**Introduction**

**Overview of Singapore's Healthcare Services**

- 1 The healthcare industry in Singapore plays an important role in ensuring the health of Singaporeans. The primary aim of the healthcare industry is to provide preventive, curative and rehabilitative services in Singapore. The government achieves this by helping to build a healthy population through preventive healthcare programmes, and the promotion of healthy living. The government also ensures that good and affordable basic medical services are made available to all Singaporeans through the provision of subsidised medical services at the public hospitals and government clinics. Another objective is to pursue medical excellence. In this respect, the government is involved in overseeing and funding medical education and the training of health professionals in Singapore.
- 2 There are plans to develop Singapore into a global centre for medical research; education and advanced patient care in the specialised fields of oncology, cardiology, ophthalmology, neurology, rehabilitation and infectious diseases. There are also plans to develop Singapore into a medical hub for a whole spectrum of healthcare services, such as integrated healthcare services, hospital management, laboratory services, healthcare consulting, medical informatics, pharmaceutical research and clinical trials. These efforts will make healthcare industry even more vibrant.

**Nature of Industry**

- 3 In Singapore, healthcare services and facilities are provided by both private and government establishments. The different types of healthcare establishments in the private and public sectors cater to the needs of residents and overseas patients of all ages (Annex A provides details on the types and no. of healthcare establishments). All healthcare establishments are licensed under the Private Hospitals and Medical Clinics Act. The establishments vary greatly in size, staffing and organisation. They range from private medical clinics, staffed by a single General Practitioner (GP) or specialists, to large hospitals such as the Singapore General Hospital.

- 4 In 1999, the public healthcare delivery system was re-organised into 2 vertically integrated delivery networks, the National Healthcare Group (NHG) and Singapore Health Services (SHS). Each of these networks includes polyclinics, acute hospitals and national centres. The objective is to enable more integrated patient-centered and better quality healthcare services through greater cooperation and collaboration among public sector healthcare providers. This system will minimise duplication of services and ensure optimal development of clinical capabilities.

#### **Workforce Size and make-up**

- 5 There were 47,770 workers in the healthcare sector in 2001, representing 2.2% of the total workforce in the economy. Occupations in the sector range from professional occupations, such as specialist doctors and general practitioners, to service and administrative support positions such as human resource officers, finance officers and administrative officers.

#### **Professional Qualifications and Training Providers**

- 6 Professional Occupations - Doctors, Dentists and Pharmacists

These occupations require specialised training at tertiary level. Professionals in these occupations must be registered with the respective professional registration boards. The National University of Singapore (NUS) is the only undergraduate school for the training of medical, dental and pharmacy students in Singapore. All locally trained medical and dental students are required to sign a bond to work in the public healthcare system for 5 years and 4 years respectively.

- 7 The Singapore Medical Council (SMC) is the regulatory body for doctors established under the Medical Registration Act (MRA). All doctors wishing to work in Singapore must be registered with the SMC. For doctors to be registered, they are required to undergo a recognised degree programme in Medicine (MBBS or equivalent qualification), and complete a 1-year stint as a House Officer.
- 8 Further training is required if the doctors want to enter a specialised medical or surgical field. Medical officers are eligible to apply for admission into the 3-year Basic Specialist Training (BST) programme after they have completed the housemanship programme and worked at least one year as a medical officer. The selection for the BST programme is conducted by the Joint Committee on Specialist Training (JCST) annually. Doctors with the necessary postgraduate qualifications can further apply for the Advance Specialist Training (AST) programme, which lasts for another three years. Specialist doctors must also be accredited by the Specialist Accreditation Board, to qualify for registration on the SMC's Register of Specialists.
- 9 Registered Nurses

In order to be a registered nurse, it is necessary to obtain at least a diploma or equivalent qualification in nursing. Training is available through a 3-year Diploma in Nursing at Nanyang Polytechnic (NYP). The diploma course started in 1992 with about 259 students and the intake has increased to 800 today (Refer To annex B for details of pre-employment training and scholarships for nurses, health science professionals and support service occupations). A 2-year accelerated Diploma in Nursing programme is also available at NYP for mid career persons with at least 2 years working experience with a local diploma or any degree. Diploma graduates have the opportunity to acquire specialist skills training through various advanced diploma nursing courses at NYP. It is possible for registered nurses to further pursue their training at tertiary level in universities overseas and locally at the Singapore Institute of Management (SIM).

#### 10 Enrolled Nurses

The enrolled nurses assist the registered nurses, and generally provide a lower level of nursing care. School leavers with at least a General Certificate of Education at Normal and Ordinary level may pursue the 2-year Nitec in Nursing course at the Institute of Technical Education (ITE). The course offers a broad-based education and teaches nursing skills. Enrolled nurses with good results from ITE can further their training in NYP so that they can upgrade to become registered nurses.

#### 11 Health Science Professionals

These health science professionals include health therapists such as dietitians, physiotherapists, occupational therapists and speech therapists, radiographers, radiation therapists and laboratory officers. The health science professionals can be trained either at the degree or diploma level. Graduates of the General Certificate of Education at Advanced level may choose to apply to the Diploma programme at the NYP's School of Health Sciences. Scholarships are also available, which are tenable at overseas universities. A 2-year accelerated Diploma in Diagnostic Radiography is also available for mid career workers with university or local polytechnic graduates from selected disciplines (Engineering, Information Technology, Science, Computer Science, Life or Biomedical Sciences).

#### 12 Support Service Occupations

These occupations include healthcare assistants who typically have some secondary school education, but may not have obtained the General Certificate of Education at the Normal and Ordinary Level. Applicants may have completed at least a secondary three of the Normal stream may pursue an ITE course leading to a Certificate in Healthcare (In-patient), if they would like to work in a hospital setting. There are also enrollees who are sponsored by their General Practitioner employers to obtain the equivalent outpatient Certificate.

### Earnings

- 13 Earnings in healthcare service occupations vary according to the duties and amount of responsibility involved, as well as the level of education and training required. Some healthcare establishments must be staffed round the clock to care for patients and handle emergencies. These establishments often pay premiums for overtime and weekend work, late shifts and stay-in call duties.
- 14 The starting base salaries for medical doctors working in government healthcare establishments ranges from \$3500 to \$3960 per month (excluding allowances and bonuses); while the starting salaries for nurses ranges from \$1,150 to \$2,700 per month. Health Science Professionals have a starting salary of about \$1,700 to \$2,200. The wages of healthcare assistants in the public sector starts at about \$850 a month. Wages for the various occupations in the public sector may increase annually based on work performance, efforts made to upgrade through retraining and experience gained on the job.

### Addressing the Shortage of Nurses

- 15 There are about 4,031 non-practicing nurses in Singapore, as at end 2002. To relieve the current shortage of nurses, the Ministry of Health introduced the “Return to Nursing” Training Scheme in September 2000. The objective is to update the nursing skills of non-practicing nurses before they return to work. The training course consists of theory lessons and a clinical attachment. The duration of training ranges from 2-3 months, depending on the medical institution that the trainee is attached to. The National Heart Centre is currently one of the training providers administering the training scheme. Other accredited training centres are the Changi General Hospital, KK Women’s and Children’s Hospital and SingHealth Polyclinics.
- 16 The healthcare institutions sponsoring the non-practicing nurses for retraining to facilitate their return to nursing will be eligible to apply for the following funding incentives under the Skills Redevelopment Programme (SRP). The funding are as follows:-
- Course fees support of 90%, or maximum of \$10 per trainee-hour, for training provided by an external training provider. For in-house training, \$6 per trainee-hour will be granted to the medical institution conducting the training.
  - The trainee who successfully completes the training programme is also eligible to receive a monthly training allowance at 75% of last drawn salary capped at S\$1,000 per month, subject to a minimum of S\$600 per month.

### **Future Outlook of Sector**

17 The healthcare sector in Singapore is evolving rapidly, and some of the trends that will have significant impact on the sector are as follows:

#### ***Ageing Population***

18 Singapore's fertility rate is currently below the replacement rate. This trend coupled with improvement in life expectancy, has resulted in a society that is ageing at one of the fastest rates in the world. In 2000, 7.3% of the population was over 65 years of age<sup>1</sup>. This figure is projected to rise to 19% by the year 2030. As a result, there will be an increasing demand for healthcare services related to the aged, especially for home healthcare, nursing and personal care.

#### ***Advances in Medical Technology***

19 Advances in life sciences research will enable the identification and treatment of conditions not previously treatable. This will also lead to increased specialisation and sub-specialisation in medical treatment, and an increase in demand for specialist medical practitioners.

#### ***Demand for Healthcare Services by Non-Residents***

20 The demand for healthcare services by non-residents, who travel to Singapore specially for medical treatments, has declined since the Asian financial crisis. However, as the region regains its confidence, there is scope for Singapore to develop itself into a regional healthcare hub to provide treatment for non-residents in major health diseases like cancer, stroke and health-related illness.

#### ***Research and Biomedical Sciences***

21 The Economic Development Board (EDB) has been actively attracting contract research organisations<sup>2</sup> to set up offices in Singapore. These research organisations can help the established pharmaceutical and biotechnology companies to develop advance therapeutics and new drugs, as well as spur new start-ups and the growth of new pharmaceutical and biotechnology companies. Such trends will undoubtedly widen the employment prospects in the healthcare sector, and provide an additional support infrastructure to the biomedical industry in Singapore.

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<sup>1</sup> Source: The Population of Singapore, Census of Population 1990.

<sup>2</sup> Contract research organisations offer medical sample testing and database management services to pharmaceutical and biotechnology techniques

## **Conclusion**

22 In view of the various plans to develop Singapore into a world-class medical hub, the growth prospects of the healthcare sector are good, both in the area of basic healthcare provision, and the development of specialist and healthcare services related industries. The manpower demand in the healthcare sector at both the high-end skilled level and the lower levels is expected to increase. The challenge is to attract sufficient local workers to fill these jobs.

## Annex A

### Number of Healthcare Establishments in Selected Areas, 2002

Establishment	Number
<b>Hospitals</b>	23
- <i>Private</i>	16
- <i>Public (government and structured hospitals)</i>	7
<b>National Specialist Centres</b>	6
<b>Nursing Homes</b>	50
- <i>Voluntary Nursing Homes</i>	27
- <i>Commercial Nursing Homes</i>	23
<b>Day Centres</b> (including places for dementia patients)	34
- <i>Day Rehabilitation Centres</i>	27
- <i>Day Care Centres</i>	7
<b>Public Sector Polyclinics</b>	17
<b>Medical Clinics (including Specialist Medical Clinics)</b>	1941
<b>Dental Clinics</b>	677
<b>Medical and Dental Clinics</b>	44
<b>Clinical Laboratories</b>	76

Details on the various types of services provided in the healthcare sector are given below.

- **Primary Care (Clinics)** - The private sector provided about 80% of all GP consultations. As at December 2002, there were 1294 private GP clinics. The public sector provides subsidised consultation at 17 polyclinics
- **Specialist Care** - This is provided at both out patient and inpatient levels, in private and public hospitals, specialist clinics as well as specialist centres. The specialist centres in the public sector are the Singapore National Centre, the National Cancer Centre, the National Heart Centre, the National Neuroscience Institute, the National Dental Centre and the National Skin Centre.
- **Hospital Care** - There are a total of about 11,735 hospital beds in the 29 hospital and specialist centres in Singapore, giving a ratio of 3.5 beds per 1,000 resident population. 75% of the beds are in the 7 public hospitals<sup>3</sup>

<sup>3</sup> The 7 public hospitals comprise 5 acute general hospitals, 1 hospital each specialising in obstetrics & gynecology and psychiatry respectively, and 1 community hospital. The general hospitals provide multi-disciplinary acute inpatient and specialist outpatient services and a 24-hour accident & emergency service.

and 2 specialist centres, with bed complements<sup>4</sup> ranging between 185 to 2,542 beds each. On the other hand, the 16 private hospitals tend to be smaller, providing between 10 to 505 beds each. The government's role as the dominant healthcare provider allows it to control the supply of hospital beds, the introduction of high-tech/high-cost medicine, and the rate of cost increases in the public sector, which in turn sets the benchmark for pricing in the private sector.

- **Residential Long Term care** - Healthcare services for the elderly are mostly run by public healthcare institutions and the voluntary welfare organisation (VWOs). Government financial assistance is provided to these VWOs. There are 3 geriatric day hospitals, 5 community-based hospitals, 4 chronic sick hospitals<sup>5</sup>, and 50 nursing homes. They provide for the residential long-term healthcare need of the elderly in Singapore.
- **Day Rehabilitation** - There are 34 Day Rehabilitation or Day Care Centres to help patients recover or maintain their functional capacity after an illness.
- **Home HealthCare Services** - Skilled nursing or medical care is sometimes provided for patients at home, under the supervision of a physician. Such care is mainly provided to the non-ambulant elderly sick and terminally ill, and includes counselling and education services. There are 8 VWOs (~~MCDS' to check on this data~~) with home help services (i.e., assistance in domestic chores), 6 VWOs with home medical services (i.e., visits by doctors), and 7 VWOs with home nursing services (i.e., visits by nurses).
- **Dental Services** - Dental services are provided by about 721 private dental clinics. In the public sector, subsidised dental services is provided by the National Dental Centre (which provides specialised dental care), 10 dental clinics (attached to government polyclinics), 171 field dental clinics, 1 school dental centre and 23 mobile dental clinics/containers.

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<sup>4</sup> Bed complement refers to the approved bed capacity of hospitals.

<sup>5</sup> There are some double counting in the community based hospitals and chronic sick hospitals as both Bright Vision Hospital and St Luke's Hospital have a mixture of community-based and chronic sick wards.

## Annex B

## SCHOLARSHIPS

Organisation	Title of Scholarship	Course/Disciplines	Universities/Institutions	Value	Requirements	Bond Period	Application Mode
Ministry of Health	Overseas Specialist Awards (Paramedical)	Diagnostic Radiography, Dietetics, Nursing, Occupational Therapy, Physiotherapy, Podiatry, Prosthetics/Orthotics, Speech Therapy	Overseas universities with relevant programmes, eg. UK, Australian Universities	Full scholarship allowance, return airfare, tuition fees, compulsory fees, maintenance allowance, warm clothing allowance, baggage and clinical placement allowances	<p><u>Citizenship Requirements</u> Singapore Citizen or Singapore Permanent Resident</p> <p><u>Academic Requirements</u> GCE 'A' level science students with good GCE 'O' and 'A' level results. No 'S' papers required. Top Polytechnic graduates in the relevant disciplines</p> <p><u>Other Requirements</u> Posses good co-curricular (CCA) record</p>	6 years to be served out in restructured hospitals/ institutions	Apply through PSC ( <a href="http://www.psc.gov.sg">www.psc.gov.sg</a> )
National Healthcare Group & SingHealth	Health Science Scholarship	Occupational Therapy, Physiotherapy, Radiation Therapy, Diagnostic Radiography, Nursing	<p><u>For all Health Science courses, except Nursing:</u> First 3 years in Nanyang Polytechnic &amp; final year in University of Sydney</p> <p><u>For Nursing course:</u> First 3 years in Nanyang Polytechnic &amp; final year in La Trobe University</p>	Allowance for the first 3 years are \$900, \$950 and \$1,000 respectively. Full scholarship allowance, return airfare, tuition fees, compulsory fees, maintenance allowance, warm clothing allowance, baggage and clinical placement allowances.	<p><u>Citizenship Requirements</u> Singapore Citizen or Singapore Permanent Resident</p> <p><u>Academic Requirements</u> GCE 'A' level science students with good GCE 'O' and 'A' level results. No 'S' papers required.</p> <p><u>Other Requirements</u> Posses good co-curricular (CCA) record</p>	4 years to be served out in hospitals/ institutions in the 2 clusters	Apply to National Healthcare Group ( <a href="http://www.nhg.com.sg">www.nhg.com.sg</a> ) or SingHealth ( <a href="http://www.singhealth.com.sg">www.singhealth.com.sg</a> )
National Healthcare Group, SingHealth, Community Hospitals & Parkway Group Healthcare (PGH)	Nursing Bursary	Nursing	Nanyang Polytechnic (NYP)	For those with GCE 'O' level, a monthly allowance of \$850 in the 1 <sup>st</sup> year, \$900 in the 2 <sup>nd</sup> year and \$950 in the 3 <sup>rd</sup> year. For those with GCE 'A' level, a monthly allowance of \$900 in the 1 <sup>st</sup> year, \$950 in the 2 <sup>nd</sup> year and \$1,000 in the 3 <sup>rd</sup> year.	Good GCE 'O' or 'A' level results	3 years to be served out in hospitals/ institutions	Apply directly to the hospitals or institutions in National Healthcare Group, SingHealth, Community Hospitals and PGH
National Healthcare Group & SingHealth	Allied Health Bursary	Occupational Therapy, Physiotherapy, Diagnostic Radiography, Radiation Therapy	NYP	A monthly allowance of \$900, \$950 and \$1,000 in the 1 <sup>st</sup> , 2 <sup>nd</sup> and 3 <sup>rd</sup> year respectively.	Good GCE 'A' level results	3 years to be served out in hospitals/ institutions in the 2 clusters	Apply directly to the hospitals or institutions in National Healthcare Group and SingHealth
National Healthcare Group SingHealth, Community Hospitals & Parkway Group Healthcare (PGH)	Nursing Bursary	Enrolled Nursing	Institute of Technical Education (ITE)	For those with GCE 'N' level, a monthly allowance of \$670 in the 1 <sup>st</sup> year, \$700 in the 2 <sup>nd</sup> year. For those with GCE 'O' level, a monthly allowance of \$700 in the 1 <sup>st</sup> year and \$730 in the 2 <sup>nd</sup> year	Good GCE 'N' or 'O' level results	2 years to be served with sponsoring hospitals/ institutions	Apply directly to the hospitals or institutions in National Healthcare Group, SingHealth, Community Hospitals and PGH
Parkway Group Healthcare (PGH)	Overseas Scholarships	Nursing (Specialised modules), Physiotherapy, Speech Therapy, Diagnostic Radiography	Universities with relevant programmes	Full scholarship allowance, return airfare, tuition fees, compulsory fees, maintenance allowance, warm clothing allowance, baggage and clinical placement allowances	<p><u>Academic Requirements</u> GCE 'A' level science students with good GCE 'O' and 'A' level results. Top NYP students.</p> <p><u>Other Requirements</u> Posses good co-curricular (CCA) record</p>	3 - 6 years to be served out in PGH hospitals	Apply through PGH ( <a href="mailto:rgan@glenagles.com.sg">rgan@glenagles.com.sg</a> )

## TRAINING

	<u>Course Name</u>	<u>Educational Institution</u>	<u>Course Duration</u>	<u>Entry Requirements</u>	<u>Other Information</u>
<u>1</u>					
a)	<u>Nurses Diploma in Nursing</u>	<u>Nanyang Polytechnic (NYP)</u>	<u>3 years</u>	<u>a) GCE 'O' level in English Language (EL1) b) Elementary or Additional Mathematics Grade 1 - 6; and c) A relevant Science subject Grade 1 - 6</u>	<u>Website: <a href="http://www.nyp.edu.sg">www.nyp.edu.sg</a> Tel: 6550 1300</u>  <u>Scholarships/Bursaries are available From National Healthcare Group, SingHealth, Community Hospitals and Private Hospitals.</u>
b)	<u>Diploma in Nursing (accelerated)</u>	<u>NYP</u>	<u>2 years</u>	<u>Diploma (from a local polytechnic) or degree</u>	<u>Website: <a href="http://www.nyp.edu.sg">www.nyp.edu.sg</a> Tel: 6550 1300</u>  <u>This is administered by National Healthcare Group, SingHealth, Community Hospitals.</u>
c)	<u>Nitec in Nursing</u>	<u>Institute of Technical Education (ITE East Bishan)</u>	<u>2 years</u>	<u>3 GCE 'N' level passes (Gr 1 - 5 in Mathematics, Gr 1 - 5 in Science, Gr 1 - 5 in English); OR 2 GCE 'O' level passes and clear a pre-entry medical check-up</u>	<u>Website: <a href="http://www.ite.edu.sg">www.ite.edu.sg</a> Tel: 1800 225 5483</u> <u>Bursaries are available from National Healthcare Group, SingHealth and Community and Private Hospitals.</u>
<u>2</u>					
a)	<u>Diploma in Occupational Therapy</u>	<u>Nanyang Polytechnic (NYP)</u>	<u>3 years</u>	<u>GCE 'A' level entry only a) General Paper at 'AO' level Grade 1 - 6 or English (EL1) at 'O' level Grade 1 - 7; b) A Science subject at 'A' level Grade A - E; c) Mathematics 'A' level A E (or any other 'A' level subject Grade A - E, plus 'O' level Mathematics Grade 1 - 6)</u>	<u>Website: <a href="http://www.nyp.edu.sg">www.nyp.edu.sg</a> Tel: 6550 1300</u>  <u>Scholarships are available from National Healthcare Group and SingHealth.</u>
b)	<u>Diploma in Physiotherapy</u>	<u>NYP</u>	<u>3 years</u>		
c)	<u>Diploma in Diagnostic Radiography</u>	<u>NYP</u>	<u>3 years</u>		
d)	<u>Diploma in Radiation Therapy</u>	<u>NYP</u>	<u>3 years</u>		
e)	<u>Diploma in Diagnostic Radiography (Accelerated)</u>	<u>NYP</u>	<u>2 years</u>	<u>University or local polytechnic graduates from selected disciplines (Engineering, Information Technology, Science, Computer Science, Life or Biomedical Sciences).</u>	<u>Website: <a href="http://www.nyp.edu.sg">www.nyp.edu.sg</a> Tel: 6550 1300</u>  <u>This is administered by National Healthcare Group, SingHealth, Private Hospitals.</u>
<u>3</u>					
a)	<u>ITE Skills Certificate (ISC) in Health Care (Clinic Practice)</u>	<u>On-the-job training, certified by ITE</u>	<u>1 year</u>	<u>GCE 'N' or 'O' level</u>	<u>Website: <a href="http://www.ite.edu.sg">www.ite.edu.sg</a> Tel: 1800 225 5483</u>  <u>National Heart Centre is conducting a 9-month programme for retrenched workers under STEER programme, which is supported by NTUC.</u>
b)	<u>ITE Skills Certificate (ISC) in Health Care (Inpatient)</u>	<u>On-the-job training, certified by ITE</u>	<u>1 year</u>		
c)	<u>ITE Skills Certificate (ISC) in Health Care (Outpatient)</u>	<u>On-the-job training, certified by ITE</u>	<u>1 year</u>		<u>Website: <a href="http://www.ntuc.org.sg">www.ntuc.org.sg</a> Enquiries at NHC: <a href="mailto:DNA@nhc.com.sg">DNA@nhc.com.sg</a> Tel: 6236 7402/6236 7410</u>  <u>On-the-job training is also available at various hospitals.</u>

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