

**For discussion on
11 March 2015**

**Legislative Council Panel on Health Services
Subcommittee on Health Protection Scheme**

**MANPOWER PROJECTIONS
FOR DOCTORS, DENTISTS AND NURSES**

PURPOSE

This paper reports on the progress of the study on the long-term projection of healthcare professionals in Hong Kong.

BACKGROUND

Challenges of an Ageing Population

2. As in the case of many advanced economies, Hong Kong's healthcare system faces a number of major challenges, including increasing healthcare needs due to demographic changes and rising occurrence of lifestyle-related diseases; mounting medical costs due to advances in medical technology and public expectation for healthcare to keep up with such advances; health expenditure growing at a rate faster than that of the economy; and as a result increasing burden on our future generations.

3. Of all the challenges, the impact of demographic changes on demand for healthcare is most imminent. By 2041, Hong Kong's population is expected to grow by 1.3 million to 8.5 million, with nearly one in three aged 65 or above. The ageing trend is remarkable considering that the same elderly cohort accounts for 15% of our population at present and 12% a decade ago. In terms of hospital bed use, the requirement of those aged 65 or above is about nine times more than younger people; for those aged 85 or above, their hospitalization need is almost 20 folds that of the under-65s.

4. To respond to the challenges and to ensure the sustainability of our healthcare system, apart from efforts to enhance primary care, facilitate the development of hospital services through strengthening of infrastructure and regulation, improve the public system and promote public-private partnership in the delivery of healthcare services, the Government also seeks to formulate a healthcare manpower strategy to ensure an adequate supply of qualified personnel for meeting future needs and supporting development of the healthcare system.

Strategic Review on Healthcare Manpower Planning and Professional Development

5. Against this background, the Food and Health Bureau is undertaking a strategic review on healthcare manpower planning and professional development. The review covers 13 healthcare professions which are subject to statutory regulation, including doctors, dentists, nurses, pharmacists and allied health professionals. The objective of the review is to formulate recommendations on how to cope with anticipated demand for healthcare manpower, strengthen professional training and facilitate professional development, with a view to ensuring the healthy and sustainable development of the healthcare system. We have commissioned the University of Hong Kong (HKU) to develop a dynamic forecasting model to assess the long-term manpower requirements of the relevant professions and the Chinese University of Hong Kong (CUHK) to review the regulatory frameworks governing healthcare professions in Hong Kong and elsewhere.

6. Healthcare workforce planning is an extremely complex mission, and there is no universal model for estimating healthcare manpower whether in the literature or among the jurisdictions surveyed. Manpower projection is also a highly data-intensive activity. The reliability of a model is contingent upon the quality and availability of data, especially in respect of the private sector for medical and social care where utilisation data are scattered, less complete, or not readily available.

7. Bearing in mind the constraints and challenges of healthcare manpower projection, HKU has developed a generic forecasting model that suits the local circumstances. The computer model seeks to forecast the demand for healthcare professionals in the coming years by projecting

healthcare services utilisation of the population to be served using historical utilisation data which are adjusted for population growth and demographic changes. The demand projections so derived are then compared with the estimated supply of healthcare professionals during the same period to see if any surplus or shortage of manpower exists. The model is suitably adapted to cater for utilisation parameters peculiar to individual professions in forecasting the manpower demand and supply situation of the healthcare disciplines under study. The model has also taken into account requirements of the social care sector in addition to the medical care sector, as well as the various levels of health and social care (i.e. primary, secondary and tertiary care) and the different sectors/settings where healthcare professionals are engaged.

8. HKU has devised the manpower models for doctors, dentists and nurses. It will need more time to complete and verify the detailed forecasts due to the complexity of the exercise. Initial and rough indications are that there will likely be a general shortage of healthcare manpower in the run-up to 2041. Such a trend broadly echoes the forecast manpower situation in the Hospital Authority (HA), which is no surprise given that HA provides a dominant share of in-patient services (roughly 90% by bed-days). As at end December 2014, HA recorded a shortage of 340 doctors and 500 general nurses. The forecast of HA's shortfall of doctors and nurses is set out in the table below.

HA's Manpower Shortfall (2015 – 2020)

Grade	Manpower shortfall		
	2015	2016	2020
Doctors	360	400	330
Nurses (general stream)	150	100	no anticipated shortfall until 2022

INTERIM MEASURES TO INCREASE SUPPLY OF HEALTHCARE MANPOWER

9. The Government and the University Grants Committee (UGC) follow a triennial planning cycle for the UGC-funded institutions. Every three years there is a major exercise to map out the academic development direction for the next three-year funding period, including the number of degree places and their distribution among different disciplines. Pending the outcome of the study being conducted by HKU, which will assist us in formulating a long-term healthcare manpower strategy, we have, based on the current forecast of healthcare manpower shortage of HA, discussed with the Education Bureau and UGC an interim arrangement to increase the number of intake of doctors, dentists and other healthcare professionals starting from the 2016-17 academic year in order to meet the triennial planning cycle of UGC. We will announce the detailed number of additional intake after the deliberation and agreement is reached on the allocation of the additional places between UGC and the relevant institutions later this year.

10. In addition to recommending an increase in the number of intake of university places for the relevant healthcare professions, we have pursued the following additional measures to increase the supply of doctors, dentists, nurses and other healthcare professionals.

Doctors

11. Increasing local supply alone will not be able to address the doctor shortage in time. There is a need to attract more qualified doctors from overseas to complement the workforce with an international perspective. Overseas-trained medical graduates are required to pass a licensing examination administered by the Medical Council of Hong Kong (MCHK) and complete a 12-month internship in an approved hospital before they can practise in Hong Kong. Following discussion, MCHK has increased the frequency of the licensing examination from once to twice a year starting from 2014. Pending deliberation on the implementation details, MCHK has also agreed in principle to introduce more flexibility into the internship arrangement so as to facilitate more overseas-trained doctors to register for practice in Hong Kong.

12. In considering ways to address the doctor shortage, we have noted that the private sector has more flexibility to adjust productivity in response to market demand. We will explore the use of private sector manpower resources to help address some of the demand pressure faced by HA through public-private partnership projects. As noted in paragraph 8 above, HA anticipates a shortage of 360 doctors by 2015, which will rise to 400 in 2016 before going down to 330 in 2020. To fill the gap, HA will continue to recruit doctors from overseas by way of limited registration¹ and re-employ locally retired doctors on contract terms in addition to absorbing graduates from the two medical schools. HA will also explore the feasibility of extending the retirement age of doctors, say from 60 to 65, to tie in with any change in the government policy for the civil service.

Dentists

13. There are currently 2 343 registered dentists in Hong Kong. It takes six years to train a dentist and another six years at the least for one to become a dental specialist. The annual intake of dental students remains steady over the past decade, ranging between 50 and 55 places. Unlike doctors who have roughly equal portions working in the public and private sectors, nearly 90% of dentists are engaged in the private market.

14. With the introduction of new dental initiatives by the Government, notably the Outreach Dental Care Programme for the Elderly, the Community Care Fund Elderly Dental Assistance Programme and the Pilot Project on Dental Service for People with Intellectual Disability, we expect that demand for subsidised dental services, and for that matter dental manpower, will increase significantly in the coming years. To prepare for the surge, in addition to an increase in the annual intake of dental students for the 2016-17 triennium, the Dental Council of Hong Kong plans to increase the licensing examination for overseas-trained dentists to two sittings a year instead of one, so as to attract more qualified personnel to practise in Hong Kong and contribute to the diversity of the local workforce.

¹ Limited registration as a vehicle for employment of overseas-trained personnel is currently available only for the medical profession under the Medical Registration Ordinance and the Chinese Medicine Ordinance. In the former case, upon approval by the Medical Council of Hong Kong on a case-by-case basis, foreign-trained doctors may engage in specified employment in Hong Kong (e.g. public hospitals and universities) by way of limited registration without having to go through a licensing examination. The registration is valid for one year subject to renewal through another fresh application.

Nurses

15. Currently there are 35 821 registered nurses and 12 226 enrolled nurses in Hong Kong, making up nearly half of the healthcare workforce. Unlike in the case of doctors or dentists, there is a dynamic market for training nurses. HKU, CUHK and the Hong Kong Polytechnic University (PolyU) provide a total of 630 UGC-funded degree places each year. HA, private hospitals and other higher education institutions also operate a variety of self-financed nursing programmes, which add up to over 2 200 places annually.

16. To address the anticipated shortage of nurses, we have taken the initiative to subsidise 420 students per cohort to pursue designated self-financing undergraduate programmes in the nursing discipline starting from 2015-16 under the Theme-based Subsidy Scheme for the self-financing sector. HA and private hospitals also have the flexibility to increase the training capacity of their own nursing schools to meet their demand and the preferred skill mix. To complement local supply, the Nursing Council of Hong Kong also plans to increase the frequency of licensing examination for overseas-trained nurses to twice a year.

Pharmacists and Allied Health Professionals

17. At present there are 2 390 pharmacists, 2 140 optometrists, 1 677 occupational therapists, 2 624 physiotherapists, 2 042 radiographers and 3 228 medical laboratory technologists registered in Hong Kong. HKU and CUHK offer a combined annual intake of 80 pharmacy students from 2012-13, up from 58 in the preceding triennium. PolyU is the sole UGC-funded institution for training allied health professionals, offering an annual intake of 376 students from 2012-13, as compared to 236 in the preceding triennium for the five disciplines concerned.² We anticipate that a mild increase in these disciplines will be required for the 2016-17 triennium so as to broadly maintain their current ratio relative to doctors. Since allied health professionals from abroad with recognizable qualifications may register in Hong Kong without having to pass a registration examination, it is not necessary to increase the frequency of

² From 2012-13, the approved intakes for PolyU are 34 optometrists, 90 occupational therapists, 110 physiotherapists, 98 radiographers and 44 medical laboratory technologists every year, as compared to 40 optometrists, 46 occupational therapists, 70 physiotherapists, 48 radiographers and 32 medical laboratory technologists in 2011-12.

the relevant licensing examinations which often attract only a small number of candidates seeking admission to practise in Hong Kong through such channel.

18. In considering increases in university places, we will take care to strike a balance between the need to train more healthcare professionals for meeting future demand and the capacity constraint of universities which cannot have their teaching infrastructure expanded overnight. This is particularly so given that there are only two medical schools (i.e. HKU and CUHK), one dental school (i.e. HKU), and one UGC-funded institution (i.e. PolyU) for training allied health professionals in Hong Kong. Because of this, we are taking a multi-pronged approach to tackle the healthcare manpower shortage problem. In addition to progressively increasing the supply of locally-trained young graduates, we are also working closely with the relevant professional regulatory bodies to facilitate and attract overseas-trained professionals, especially Hong Kong students and residents, to return to practise in Hong Kong.

NEXT STEPS

19. We aim to conclude the strategic review in 2015 and release the findings of the two studies together with the recommendations for public information upon completion of the review.

ADVICE SOUGHT

20. Members are invited to note the content of this paper.

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