



中華人民共和國香港特別行政區政府總部食物及衛生局  
Food and Health Bureau, Government Secretariat  
The Government of the Hong Kong Special Administrative Region  
The People's Republic of China

Our Ref. : FHB/H/1/5/4/2 Pt. 7  
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19 July 2013

Ms Elyssa WONG  
Clerk to Subcommittee  
Subcommittee on Health Protection Scheme  
Panel on Health Services  
Legislative Council Complex  
1, Legislative Council Road  
Central

Dear Ms WONG,

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

**Meeting on 4 March 2013**

I refer to the actionable items recorded in the minutes of the captioned meeting (paragraphs 7, 9(a), 9(b) and 12). The requested supplementary information is provided at **Annex**.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'H S CHEUNG'.

( Miss H S CHEUNG )

for Secretary for Food and Health

Encl.

**Supplementary information requested by the meeting of  
Subcommittee on Health Protection Scheme  
of the Panel on Health Services on 4 March 2013**

Paragraph 7

*HA agreed to provide after the meeting information on all the other factors it had taken into account, if any, when projecting the manpower requirement for doctors for the A&E specialty.*

Administration's response

According to the information provided by the Hospital Authority (HA), when projecting the manpower requirement for the Accident and Emergency (A&E) specialty, HA had taken into account the projected increase in A&E attendances during 2008-2026 arising from population growth and ageing as set out in Table 1 of Appendix B to LC Paper No. CB(2)2690/11-12(01) as well as the assumed expansion in emergency medicine (EM) ward services across HA over the same period. EM ward service was first introduced in 2007. The model assumed that the service coverage would expand incrementally from nine hospitals as at the base year of 2008 to 15 hospitals by 2026 over the projection horizon.

Paragraph 9(a) and (b)

*The Chairman requested HA to provide the following information after the meeting -*

- (a) the respective breakdown, where applicable, of each individual projection parameter on the average time required for doctors in carrying out the tasks for each type of workload; and*
- (b) the appropriate measures of central tendency and variability together with the exact average values for each individual projection parameter in the calculation for deriving the projection results of the specialty-based manpower requirement for doctors as set out in Table 2 of Annex A to LC Paper No. CB(2)2011/11-12(01).*

## Administration's response

### Item (a)

2. The values for the variable of the formulae and projection parameters for calculating the projected manpower requirement for doctors in HA by specialty are set out in Tables 1-9 of LC Paper No. CB(2)698/12-13(02) (Tables 1-9). Further detail on the projection parameters for ambulatory and community care (Category B in Tables 1-9) as provided by HA is set out in the following table. Projected doctor hours for ambulatory and community care was worked out on an aggregate basis based on the parameters shown in Tables 1-9. HA assumed that both the percentage share and ratio of doctor consultation time remained unchanged over the projection horizon.

<b>Specialty</b>	<b>Ratio of doctor consultation time of specialist outpatient (SOP) clinic new case (i.e. first) attendance to that of follow-up attendance</b>	<b>SOP first attendances as % of total SOP attendances</b>	<b>SOP doctor hours as % of total doctor hours on ambulatory and community care services</b>
<b>Medicine</b>	~2.3 : 1	5%	75%
<b>Surgery (includes Cardiothoracic Surgery)</b>	~2.5 : 1	16%	100%
<b>Obstetrics &amp; Gynaecology</b>	~1.9 : 1	21%	100%
<b>Paediatric</b>	~2.5 : 1	10%	100%
<b>Orthopaedics</b>	~2.5 : 1	13%	100%
<b>Psychiatric</b>	~6.5 : 1	5%	77%
<b>Neurosurgery</b>	~1.4 : 1	8%	100%
<b>Ear, Nose and Throat</b>	~2.5 : 1	22%	100%
<b>Ophthalmology</b>	~2.3 : 1	10%	100%

### Item (b)

3. As set out in paragraph 5(a) of Annex A to LC Paper No. CB(2)2011/11-12(01), the average time required for doctors in carrying

out the tasks for each type of workload was estimated in consultation with clinicians from the respective clinical specialty committees. These estimates reflected the consensual view of the clinicians concerned through a consultative process of what was absolutely necessary for completing the tasks concerned, subject to reality check on the overall model projection result at the base year with the use of the actual workload and doctor strength data. This was not a survey of past requirements, but a robust and practical process for making the best use of professional judgment to inform future manpower planning in HA. Under the circumstance, statistical measures of central tendency and variability such as mean, range or standard deviation are not applicable to this manpower projection model.

### Paragraph 12

*Details of the major available models for estimating healthcare manpower.*

### Administration's response

4. As observed by the University of Hong Kong in an ongoing study commissioned by the Steering Committee on Strategic Review on Healthcare Manpower Planning and Professional Development, 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. Each forecasting method has its own strengths and limitations, involving many compromises, simplifications and assumptions in the forecasting process. The reliability of a model is also contingent upon the availability and quality of data, especially in respect of the private sector where patient care data are scattered, less complete, or not readily available. The more common approaches adopted for estimating healthcare manpower requirements are outlined in the ensuing paragraphs.

#### *(I) Need-based models*

5. Need-based models allow for estimates of a population's healthcare need by considering changes in population health status and efficacy of healthcare services while adjusting for population size and characteristics including age, sex, household income, risk behavior, and self-perceived health. These models project healthcare deficits as well as healthcare service need and can avoid perpetuating existing inequity and inefficiency within the healthcare delivery system. As need-based

approaches have greater data demand than those based on supply or utilization, the availability of epidemiological data are an important limiting factor. For these models, detailed information on the efficacy of individual medical services for specific medical conditions is required. The assumption of these models that healthcare resources will be used in accordance with relative levels of need is also not verified.

### *(II) Demand/utilization-based models*

6. Demand/utilization models project healthcare service need based on service utilization data, under the assumption that healthcare workload remains constant over time, and that population growth directly leads to increased workload. These models commonly include (i) estimates of healthcare demand or historical utilization patterns, (ii) anticipated change in practice patterns, (iii) impact of current and emerging technologies, and (iv) policy change. The projections are often limited to age and sex, although other characteristics of the population, market conditions, institutional arrangements and patterns of morbidity may be included. Previous demand models often assumed that doctors were required for all demanded service, current demand was appropriate, age and sex specific resources requirements were constant, and that demographic change was predictable over time.

### *(III) Benchmarking*

7. Benchmarks refer to a current best estimate of a reasonable workforce. By way of benchmarking, manpower requirements are estimated on the basis of healthcare worker-to-population ratios and current healthcare services. Estimates by benchmarking are valid for comparison only if communities and healthcare planning parameters are comparable. Adjustments for differences in population demography, population health, health insurance, productivity and health system organization are important for such models to be relevant.

### *(IV) Trend analysis*

8. Trend analysis uses observed historical population growth and ageing trends for predicting future trends based on aggregate level and time series historical data. It is a macro simulation based on the extrapolation of past trends, assuming (i) a causal relationship between economic growth and the number of doctors per capita, (ii) that future requirements will reflect current requirements (e.g. the current level, mix, and distribution of providers are sufficient), (iii) productivity remains

constant, and (iv) demographic profiles (such as population growth) are consistent with observed trends. Trend analysis is often useful for projecting likely growth particularly in the private sector. These models, however, do not consider the evolution of the demand for care, doctor productivity, and elasticity of labour supply for different provider groups.

**Food and Health Bureau  
Hospital Authority  
July 2013**