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Panel on Health Services

**Updated background brief prepared by the Legislative Council Secretariat
for the meeting on 11 June 2012**

Development of a territory-wide electronic health record sharing system

Purpose

This paper summarizes the concerns of the members of the Panel on Health Services ("the Panel") on the development of a territory-wide electronic health record ("eHR") sharing system.

Background

2. The Food and Health Bureau ("FHB") proposed to establish the eHR system in 2005. The system aimed to enable better access to patients' records with the patients' consent by doctors in both the public and private sectors, so as to facilitate better use of healthcare services and transfer of patients between different levels of care and between the public and private sectors. A Steering Committee on eHR Sharing comprising healthcare professionals, groups and organizations from the public and private sectors was established by FHB in 2007 to develop a work programme of eHR.

3. Based on the recommendations of the Steering Committee, FHB briefed the Panel in 2009 on the development of the proposed eHR sharing system in a 10-year planning horizon (from 2009-2010 to 2018-2019), the manpower and capital costs required for the planning, development, implementation and management of the programme, the specific plans and measures on data privacy and security protection, as well as participation of the private sector in the eHR sharing system. To take forward the initiative to develop the eHR sharing system, an eHR Office was set up in July 2009 to steer and oversee the 10-year

eHR development programme, handle the security of personal data and the eHR system as well as other policy and legislative issues relating to the system.

4. In December 2011, the Government released a consultation document on the legal, privacy and security framework for the eHR sharing system and launched a two-month public consultation to solicit public views on the consultation document until 11 February 2012.

Deliberations of the Panel

5. The Panel held three meetings to discuss the development of the eHR sharing system and received the views of deputations at one meeting. The deliberations and concerns of members are summarized below.

Legal, privacy and security issues

6. Considering the occurrence of a number of cases involving leakage of personal data in Government bureaux/departments in recent years, members expressed grave concern on the protection of the privacy of data, as well as the integrity and security of the eHR sharing system. There was a view that it should be made a criminal offence for any person who knowingly or recklessly, without the consent of patients, obtained or disclosed patients' information stored in the eHR sharing system or subsequently sold the information so obtained for profits. Members also urged the Administration to take measures to protect the privacy of data as well as to guard against data loss and damage.

7. The Administration advised that the Privacy Commissioner for Personal Data had been invited to advise on the protection of personal data privacy, including compliance with the Personal Data (Privacy) Ordinance (Cap. 486) and the development of the long-term legal framework for eHR sharing. Ample measures in terms of technical design and operation would be taken to safeguard the privacy of data and security of the eHR sharing system. The eHR Office would proceed with the studies and preparatory work for developing a long-term legal framework for safeguarding the privacy and security of personal health data in the eHR sharing system, taking into account experience of similar legislative developments in overseas economies. Legal sanctions for unauthorized access and disclosure would also be considered as part of the legal framework to be formulated.

8. On the protection of data integrity and security, the Administration advised that a central data repository approach would be adopted for the eHR sharing system. The eHR core architecture would be based on a centralized

eHR sharable data store and all data uploaded by participating healthcare providers to the central eHR data store would be transformed, restructured, standardized and re-formatted where appropriate before storage to the eHR sharing system. A secondary data centre would also be established, so that two sets of synchronized data would be maintained to guard against data loss and damage. The Administration further advised that the eHR sharing system would be hosted in a secure platform with multiple firewalls, intrusion detection tools and industry leading encryption technology to protect patients' health data.

9. Members noted that the eHR sharing system would comprise standalone electronic medical/patient record ("eMR/ePR") systems adopted by individual healthcare providers and a central electronic platform as the sharing infrastructure for such eMR/ePR systems to interconnect for sharing of eHR among them. They expressed concern on the accuracy of patients' health data in the eHR sharing system when there were data input errors in individual eMR/ePR systems.

10. The Administration advised that it would make available the system expertise and technical know-how of the Hospital Authority ("HA") to facilitate the development of the private sector's eMR/ePR systems. Although it would be the responsibility of the healthcare professionals to conduct data checks after inputting or correcting eHR data to ensure data accuracy, the Administration reassured members that a comprehensive security and audit framework would be established to ensure safe and secure operation of the eHR sharing system. For example, the changes or corrections made would be highlighted in a tracking mode for healthcare providers who subsequently accessed the relevant eHR to facilitate the tracing of the history of changes.

Participation of private doctors

11. Members expressed concern on the participation of private doctors in eHR sharing as some private doctors might not be interested in participating in eHR sharing due to a lack of technical skills and the additional costs involved. There was a suggestion that incentives should be provided for the private healthcare providers, particularly those solo medical practitioners who maintained a large volume of paper-based patients' records and had to bear a high cost to convert them into records in electronic format, to participate in eHR sharing.

12. The Administration advised that the Hong Kong Medical Association and the Hong Kong Doctors Union were supportive of eHR development. The Public-Private Interface – Electronic Patient Record Sharing Pilot Project involving sharing of health data through HA had enrolled over 170 000 patients,

2 470 private healthcare professionals, all private hospitals and other private or non-governmental organizations providing services related to healthcare. Since the Administration would bear the costs for research, development and infrastructure, the costs to be borne by private sectors participating in eHR sharing would not be substantial. The Administration would also provide training and technical support to the private sector to facilitate their participation in eHR sharing.

13. Members considered the willingness of healthcare providers to share their patients' records with other providers pivotal to the success of eHR sharing. They proposed that consideration be given to engaging frontline doctors as members of the Steering Committee to help ensure that the design of the eHR sharing system would be user-friendly.

14. The Administration reassured members that the Steering Committee would continue to gauge the views of both the public and private healthcare sectors in formulating strategies to facilitate the development of the eHR infrastructure and sharing of patients' records. The Administration also intended to engage the IT service providers to encourage their participation in the development of technical solutions. This could in turn bring in market competition for the development of the eHR sharing infrastructure and individual information systems that suited the needs of different healthcare providers.

Scope of data for eHR sharing

15. Members took the view that patients should take greater ownership of their medical records under the eHR sharing system. They expressed concern that the participating healthcare providers might not upload a complete and accurate set of medical records of their patients onto the eHR sharing system. Some members suggested that participating healthcare providers should be held legally liable for failing to input complete records of their patients under the eHR sharing system.

16. The Administration stressed that while patients had the right to access their own medical records, healthcare professionals had the responsibility to maintain a complete and accurate set of medical records of their patients. Under the eHR sharing system, healthcare providers participating in eHR had to upload the pre-defined scope of health data of the enrolled patients. Data that fell outside the scope of sharable eHR could be retained in the healthcare providers' paper records or their own eMR/ePR systems.

17. Some members held the view that healthcare providers could, on the request of patients, conceal some categories of sensitive eHR sharable data from being automatically accessed by other healthcare providers. The Administration advised that the Steering Committee on eHR Sharing had decided not to put in place a separate storage of certain patient data on the grounds that it would undermine the completeness and integrity of patients' eHR and in turn affect the quality of care provided to patients.

Costs and staffing for developing eHR sharing system

18. Members noted that the Government would invest a non-recurrent expenditure of \$1,124 million from 2009-2010 to 2018-2019 for developing and implementing the eHR sharing system. The estimated capital cost for the first stage of the eHR development programme (2009-2010 to 2013-2014) was \$702 million. Some members considered that the costs required for the development of the eHR sharing system was on the high side.

19. According to the Administration, the estimated total non-recurrent expenditure of \$1,124 million included the Government funding for both the eHR sharing infrastructure and HA's Clinical Management System which was the largest integrated eMR/ePR system in Hong Kong. The total cost for the development of the eHR sharing system for the 10-year planning horizon had been validated by an independent consultant as reasonable. In comparison with overseas countries, the cost on a per capita level was considerably lower in developing similar projects. The Administration stressed that the total costs for eHR development, which spread over a 10-year period, only constituted around 0.2% of the total health expenditure which stood at some \$60 billion to \$70 billion per year.

20. Members expressed concern on the proposed creation of two supernumerary directorate posts for four years and two permanent directorate posts in the eHR Office. They cast doubt on the necessity to create such directorate posts.

21. In the Administration's view, given the complexity of the eHR sharing system, such as the need to address policy, legal, privacy and security issues, it was necessary to set up a dedicated eHR Office to lead, co-ordinate and implement the initiative in both the public and private sectors. The directorate posts to head the eHR Office were created on a time-limited basis for four years. The Administration would take account of the development and implementation progress of the eHR programme when reviewing the continued need of these two posts in the long term.

22. At the meeting on 10 July 2009, the Finance Committee of the Legislative Council approved the funding proposal for the directorate staffing support for the eHR Office and a new commitment of \$702 million for the implementation of the first stage of the territory-wide eHR development programme.

Recent developments

23. According to the Administration's replies to Members' initial written questions during the examination of Estimates of Expenditure 2012-2013, the eHR sharing platform would be ready by 2013-2014 for connection with all public and private hospitals. The Administration would start prepare the eHR legislation, with a view to tabling the bill at the Legislative Council in 2013-2014.

Relevant papers

24. A list of the relevant papers on the Legislative Council website is in the **Appendix**.

**Relevant papers on the
Development of a territory-wide electronic health record sharing system**

Committee	Date of meeting	Paper
Panel on Health Services	9.3.2009 (Item IV)	Agenda Minutes CB(2)1724/08-09(01)
Panel on Health Services	19.6.2009 (Item II)	Agenda Minutes CB(2)2101/08-09(01)
Finance Committee	10.7.2009 (Items 1 & 2)	Agenda Minutes
Panel on Health Services	12.12.2011 (Item IV)	Agenda Minutes
Finance Committee	9.3.2012	Agenda Administration's replies to Members' initial written questions in examining the Estimates of Expenditure 2012-2013 (Reply serial no.: FHB(H)018 and FHB(H)055)