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Vision of eHealth Record Sharing



Welcome Message from Mr Sidney Chan, Head (eHealth Record)

The Government has launched a 10-year programme in 2009 to develop a territory-wide patient-oriented eHealth Record (eHR) Sharing System. With your support and participation, we are confident that we will accomplish the Stage One Programme objective and commence operating the eHR Sharing System in 2014. On this and also the coming editions of the newsletter, we will share with you updates on the latest eHR development and maintain dialogue with all interested readers.

Why eHR Sharing

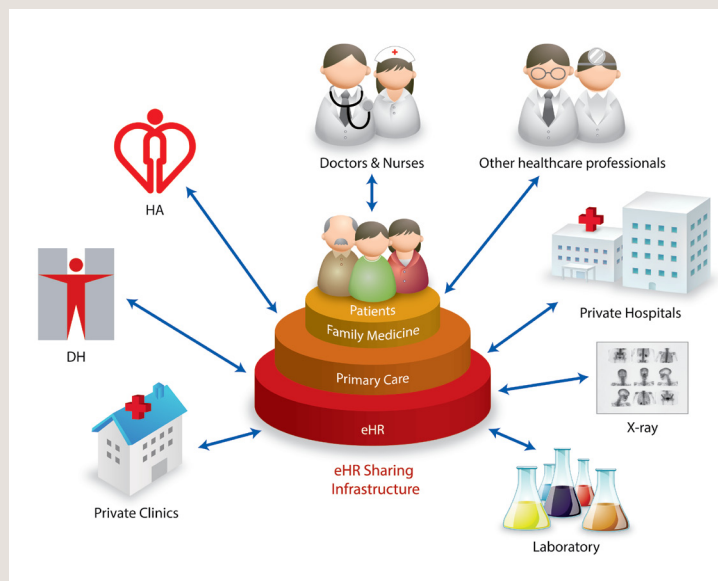
The eHR Sharing System will improve the efficiency and quality of care by providing healthcare providers timely access to comprehensive medical records and minimising duplicated tests. Healthcare providers in both the public and private sector can access patients' records through the eHR Sharing System, with patients' informed consent and proper authentication. It will also facilitate patients to choose freely between public and private healthcare services without worrying about the transfer of medical records.

Challenge Ahead

eHR Programme is much more than an IT project. We are not only developing a new infrastructure for health record sharing between public and private healthcare sectors, but also introducing new management and clinical workflow practices. One of the biggest challenges is to ensure the data privacy and system security.

We endeavour to deploy appropriate technologies to safeguard the security of the System, such as access logging, limited downloading, role based access control and automatic blocking functions to contain any potential damages of security breaches. We are also drafting a new eHR legislation to provide specific and additional safeguard on privacy and security.

The eHR Sharing System is a healthcare improvement initiative. Above all, stakeholders' support, publicity and education are essential to the success of the eHR programme.



Your Views

We would be interested to receive your feedback on this subject or any matters related to the eHR Sharing System. Articles related to health record issues are most welcome and we can share them as appropriate in the upcoming eHealth News. Please send us your views by email to: eHR@fhb.gov.hk



eHR Sharing A New Era of Healthcare Services



“Having medical records readily available to healthcare providers enables timely and effective treatment modalities, thereby helps people stay healthier in the long run.”

Dr Cheung Ngai-tseung:
Consultant (eHealth) of the eHR Office

This may be a familiar scene to many – stacks of paper storing medical history throughout registration, consultation, drug dispensing, appointments and referrals... The paper records, while bulky to carry around, waste a lot of doctors' time in searching and updating information. For years, most local healthcare institutions have been using files to record their patients' medical consultations. As time goes by, the files accumulate. If the patients need to seek consultations or treatment from other institutions, they would have to repeat their “medical history” to the new doctors. But how accurate can patients recall their conditions, especially when there are complicated medical jargons? How often were procedures repeated due to lack of previous records? How could care be continued with fragmented information? Well, the upcoming eHR Sharing System could tactfully address all such concerns. To learn more about record-sharing and its benefits, we have interviewed Dr Cheung Ngai-tseung, Consultant (eHealth) of the eHealth Record (eHR) Office, for a detailed perspective on the programme.

“Since the early 90s, we have developed in Hospital Authority (HA) an internal electronic patient record system called the ‘Clinical Management System’ (CMS). Since its full implementation in 2000, public hospitals and clinics under HA have been using CMS to share patients' electronic health records. Sharing of medical information such as lab results and prescriptions enables provision of proper and

Knowledge Corner

How to differentiate HA CMS with eHR Sharing System?

HA CMS is the electronic patient record system used internally in HA since 1995 among the HA managed public hospitals and public clinics. Private healthcare practitioners could not upload and access the HA CMS.

The eHR Sharing System is a territory-wide patient-oriented eHR sharing platform which allows two-way sharing of medical records for all participating public and private healthcare providers.

HA CMS consists of medical records kept by HA while the eHR Sharing System will capture specific types of sharable medical information uploaded by all participating public and private healthcare practitioners.

quality treatment to patients,” Dr Cheung recalled the history of medical record sharing in public hospitals and clinics. “Realising the importance of continuity of care, the government is developing a territory-wide eHR Sharing System to connect various healthcare providers in both



public and private sectors. Through this electronic platform, we can benefit all Hong Kong citizens when they visit doctors," he enthusiastically introduced the government's initiative in developing the eHR programme in Hong Kong.

**In 2000,
HA fully implemented
CMS in public hospitals
and clinics to share patients'
electronic health records.**

When asked about the motives that steered the eHR programme, Dr Cheung elaborated, "With manual handling of paper records, mistakes and omissions may occur easily, not to mention that patients may be unable to precisely describe their health conditions to the doctors. The consequences of such could be misdiagnosing and even inappropriate prescriptions due to incomplete or unreliable medical information." He continued after a few seconds of pause, "The first stage of eHR Development Programme will focus on the sharability of electronic health records for connection among public and private healthcare providers.

With patient's consent, authorised healthcare professionals can access and upload clinical data, such as allergic history, diagnoses, laboratory and radiology results, and medical summary, in the sharing platform. This avoids repetition of investigations as well as minimises chances of duplicate prescriptions. Patients can receive timely and quality healthcare treatment, alongside continuity of care given by the lifelong health records."

Envisaging the enticing benefits of this eHR programme, perhaps you may be excited to join the eHR Sharing System right now. However, Dr Cheung pointed out, "This programme is expected to be launched at the end of 2014. Many of our healthcare stakeholders have already taken initiatives to participate in the development of eHR Sharing System. As at today, over 270,000 patients and more than 2,700 private healthcare professionals have joined the

'Public-Private Interface – Electronic Patient Record (PPI-ePR) Sharing Pilot Project' and gained access to the electronic health records kept at HA. Besides, healthcare providers participating in Public Private Partnership programmes could also enter clinical information and view patients' medical records via the electronic platform."

**Over 270,000 patients
and 2,700 private medical
practitioners gained access
to electronic health records
through PPI-ePR.**

In regard to the eHR outlook, the pioneer of clinic record sharing holds high expectation. "People will not just receive better healthcare services through this eHR sharing platform, they can also take greater ownership of their health records. All in all, having medical records readily available to healthcare providers enables timely and effective treatment modalities – thereby helps people stay healthier in the long run." Dr Cheung concluded with a confident smile on his face.



Knowledge Corner

HA and DH participation in eHR Sharing System

Patients' health records at HA and Department of Health (DH) will be the essential building blocks of the eHR Sharing System. In 2010, around 90% of inpatient service was provided by HA. Also, an infant's record with DH is a valuable basis for a life-long health record.

Thus, patients' consent to HA and DH for accessing and uploading data to their eHR shall be part and parcel of their enrolment to eHR sharing in order to enhance the completeness and integrity of their eHR.





Ms Irene Leung:
Chief Executive Officer of
Senior Citizen Home Safety
Association (SCHSA)

Social Enterprise's Engagement in eHR Sharing

Since 2005, Senior Citizen Home Safety Association has already collaborated with the Hospital Authority to send electronic patient records of their Personal Emergency Link Service users to emergency rooms.

"I have forgotten the doctor's instructions and medication advice as soon as I left the hospital," an old lady said to a nurse. "Doctor said you have to improve your diet and reduce salt in your food, and you have to take anti-hypertensives every morning..." This is not a conversation inside a hospital or clinic, but between an elderly and a registered nurse in a social enterprise over the phone. Perhaps you will be surprised and ask, "How do social enterprises engage in elderly healthcare services?" Let us hear the sharing of Ms Irene Leung, Chief Executive Officer of Senior Citizen Home Safety Association (SCHSA).

"Since 2005, SCHSA has already collaborated with the Hospital Authority (HA) to send electronic patient records of their Personal Emergency Link Service users to emergency rooms. This initiative allows healthcare professionals to access patients' medical history efficiently, improve accuracy of diagnoses, and enable timely treatment." Ms Leung explained the importance of linking their elderly service with HA's electronic records. "To access the right information at the right time is very crucial, especially during emergency situations," she stressed.

Ms Leung believed that sharing electronic patient records does not only facilitate medical consultations, but also improves elderly care. "After being discharged from hospitals, the elders still need support provided by different parties. For example, community organisations can follow-up on their recovery progress, provide them with necessary day care services, and even arrange next medical appointments with healthcare providers. With the launch of the eHR Sharing System in 2014, better collaboration between public and private healthcare sectors can be achieved in providing different levels of care. Quality community support services could be delivered by the network of non-governmental organisations and through the entire healthcare system."

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Knowledge Corner

Is Public Private Interface – Electronic Patient Record Sharing Pilot Project (PPI-ePR) same as eHR Sharing System?

The PPI-ePR Sharing Pilot Project was launched by the HA in April 2006, which enables participating private healthcare providers to view patients' medical records kept at HA, subject to the patients' consent. This pilot project allows one-way sharing of medical records only.

The eHR Sharing System allows two-way sharing of medical records. Both the public and private healthcare providers can view and upload medical records at the eHR Sharing System. Upon the launch of eHR Sharing System in 2014, the PPI-ePR platform will be migrated to the eHR Sharing System.

SCHSA has already been participating in the PPI-ePR Sharing Pilot Project. Ms Leung indicated that many cases they handled have gained assistance from the PPI-ePR sharing platform. She shared a case and said, "An elder was discharged from a hospital but could barely remember the treatments received and the doctor's instructions. Therefore, he contacted SCHSA's registered nurse through the hotline. With the elderly's authorisation, the nurse accessed his HA records through the PPI-ePR platform and could clearly explain the treatments and medication orders to him."

From the experience of SCHSA, the elderly appreciate the benefits brought to them by the PPI-ePR system. "We note that the elderly are most concerned about personal privacy, therefore we carefully explain the security measures of the system to them in order to relieve their worries."

Regarding the positive impacts of the eHR Sharing System on the elderly healthcare services, Ms Leung listed out three points, "The most important thing is to enhance the self-care abilities of the elderly in order to reduce their dependency on the support provided by doctors or hospitals. Besides, it

improves the collaboration with community partners and optimises the overall allocation of healthcare resources. Furthermore, it facilitates non-governmental organisations to deliver preventive healthcare services to the elderly and provision of other support services, such as hospital discharge care programme."

Ms Leung was optimistic about the development of eHR sharing platform in Hong Kong. She concluded, "I am confident that the upcoming eHR Sharing System, current practice of sharing electronic patient records as well as the overall technological advancement of healthcare sector could optimise the healthcare support to the elderly."

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Knowledge Corner

How can eHR Sharing System help you?

Usually patients cannot provide details of their medical conditions, diagnosis, medication and immunisation records. They may also have experiences of duplicated blood test, x-ray or laboratory tests at different clinics or hospitals because healthcare providers cannot share the patients' medical records.

With the launch of eHR Sharing System in 2014, patients can have their lifelong health records without worrying about memorising the details of all the past medical treatment.



eHR Sharing Improves Public-Private Collaboration

Dr Ho believed that Hong Kong is capable of implementing the eHR Sharing System successfully in 2014.

Dr Ho Chung-ping:
Chairman of Information Technology Committee of the Hong Kong Medical Association



If one day the doctor who you visit can precisely tell all treatments and procedures you have received since birth, will you think he or she has supernatural power? Although it seems exaggerative, the scenario will become a reality with implementation of the eHR Sharing System in the future. To understand the unique features of this eHR Sharing System, we have interviewed Dr Ho Chung-ping, Chairman of Information Technology Committee of the Hong Kong Medical Association, and gained his view as a future user of this revolutionary system.

Dr Ho envisioned that implementing the eHR Sharing System in Hong Kong could enhance the healthcare quality and bring great benefits to patients. He elaborated, "Patients of public hospitals may seek second opinion from private practice doctors. Due to the complexity of medical treatments, patients often could not clearly and completely tell the private doctors about their personal health conditions. Likewise, retrieving medical reports from hospitals is very time-consuming. With the eHR Sharing System, patients could authorise private practice doctors to access their personal health records and medical reports via the eHR Sharing System in order to do timely assessment and provide medical advice. This can increase the accuracy and efficiency of diagnoses."

How can the eHR Sharing System add value to the public and private healthcare sectors? Dr Ho explained, "With the assistance of the eHR Sharing System, private practice doctors could explain health conditions and treatments to their patients in details and help ease patients' worries. As a result, the workload of public hospitals could be reduced, for the private healthcare providers who have participated in the eHR Sharing System can also be of service to patients of the public hospitals. Furthermore, the advanced medical equipment acquired by the private healthcare providers could also be employed to perform medical check-up for patients referred by the public hospitals, which could make best use of equipment and enhance treatment efficiency." Dr Ho believed that from the perspective of the three key healthcare stakeholders, namely patients, public healthcare providers and private healthcare providers, the eHR Sharing System could lead to a triple-win situation.

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Are private clinics in Hong Kong ready for medical record sharing? Dr Ho noted, "In order to prepare for participation in the programme, many private clinics in Hong Kong have already installed the Clinic Management System and set up electronic health records by computerising their clinical operations. Some clinics have already experienced the benefits of medical records sharing by participating in the PPI-ePR Sharing Pilot Project, in which they could access health records of HA upon receiving authorisation from patients." In response to some practitioners' concerns over the potential leakage of sensitive information of the clinics and patients, Dr Ho emphasised, "Actually there is pre-defined scope of data for eHR sharing, which prevents healthcare providers to access data that fall outside the eHR sharable scope. Hence, there should be no overanxiety at all."

Having understood the health condition was better than expected, the patient felt relieved and relaxed." Besides, Dr Ho accords high regard for the drug allergy alert function of the system, which is very helpful for doctors to minimise prescription risks and prescribe the appropriate drugs to their patients.

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Knowledge Corner

Development of Clinic Management System

The Hong Kong Medical Association has developed their Clinic Management System (HKMA CMS), which is the first open source clinic management software for use by private doctors in Hong Kong.

The Government has also developed CMS On-Ramp for private practitioners, which is an open source and open standard clinical management system. The main functions include registration and appointment, clinical documentation, dispensary and clinical administration functions.

Based on his experience in the PPI-ePR Sharing Pilot Project, Dr Ho shared with us one real life case, "Once a renal patient sought consultation from me after undergoing surgery in a public hospital. Upon his visit, I could access his health records at the hospital through the PPI-ePR sharing platform with his authorisation. By having the sufficient information on hand, I could provide detailed medical advice to him.

With the technological advancement and well-established telecommunication infrastructure, Dr Ho believed that Hong Kong is capable of implementing the eHR Sharing System successfully in 2014.



Knowledge Corner

Scope of eHR sharable data

Only eHR sharable data necessary and beneficial for the continuity of healthcare would be included in the sharable scope for eHR sharing. eHR sharable data includes personal identification and demographic data, summary of episodes with providers, referral required information, adverse reactions / allergies, diagnosis, procedures and medication, immunisation records, laboratory and radiology results; and other investigation results.

Data that falls outside the eHR sharable scope will not be shared through the eHR Sharing System.



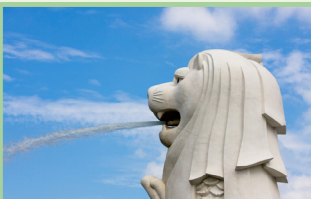


CANADA Electronic Health Record (EHR)

In 2000, the federal government of Canada established "Canada Health Infoway", a non-profit corporation, to coordinate EHR implementation system on a nationwide, pan-Canadian basis. Thus far, the federal government has granted CAD\$2.1 billion to Canada Health Infoway.

The Infoway designed an EHR Solution Blueprint in 2003 to guide all provinces and territories to set up own EHR systems. Since initial operation, Infoway has co-invested in more than 370 projects on deployment of EHRs, EMRs, telehealth, and public health surveillance systems.

By March 2012, 52% of Canadians have core elements of their EHR available to their authorised health care providers. The sharable data include diagnostic imaging, drug information systems, laboratory information systems, client registry, provider registry, and integrated EHR (iEHR). Sturdy efforts are currently being exerted by Infoway to encourage wider use of EHR usage across Canada. For more information, please click [here](#).



SINGAPORE National Electronic Health Record (NEHR)

The Singapore Government announced in 2009 that it was setting aside US\$141 million for Phase 1 of the National Electronic Health Record (NEHR). A key enabler of Singapore's vision towards an integrated care system where patients are able to move seamlessly within the healthcare system, this vision of "One Patient, One Health Record" will help to address healthcare needs of the ageing population and raise quality of healthcare services for all Singapore residents.

The NEHR manages an individual's EHR by collecting key information from multiple healthcare providers and furnishing this information electronically to authorised healthcare providers. Patients will benefit from having relevant clinical records available to their care providers, across institutions and care settings. It offers the possibility of cost savings as duplicate or unnecessary tests are eliminated, and improves the quality of care as well as facilitate care integration. As of June 2012, all public healthcare institutions, including polyclinics and specialist centers are well as community hospitals, selected GPs, some supporting agencies and two nursing homes are connected to the NEHR system. For more information, please click [here](#).



AUSTRALIA Personally Controlled Electronic Health Record (PCEHR)

PCEHR system was commenced by the Australian Government in 2010. With the allocation of AUD\$466.7 million, the PCEHR was launched in July 2012.

From 1 July 2012, all Australians can register for an account in the PCEHR and have full control of their own medical records. Healthcare providers are also invited to register as users and have access to the PCEHR system. The four major areas of data sharing in the PCEHR system include e-Pathology, e-Discharge Summaries, e-Referrals, and e-Medication Management.

The means of registration includes online, telephone, writing, and in person at designed healthcare centres. The PCEHR will undergo active development, constant reviews, and extension of coverage. For more information, please click [here](#).





eHR Standard Development

eHR Sharing System will be based on open, pre-defined standards to ensure interoperability. To ensure smooth flow and accuracy of information, the longitudinal womb-to-tomb health records require compliance with set standards and protocols for sharing. With close collaboration with healthcare professionals and relevant stakeholders in both the public and private sectors, the scope and contents of standards are constantly enriched so as to best enhance data interoperability.

The way messages are sent and received, the structure and format of information, and terms used among users are

three crucial areas that eHR standard development aims at achieving. eHR standards developed include registries for patients and healthcare providers, eHR contents, terminology, messaging, and the management process. [eHR Content Standards Guidebook](#) and [eHR Data Interoperability Standards](#) were compiled to familiarise users with data format and communication mechanism within the eHR Sharing System. Please learn more about [the eHR Information Standards Document](#) at the [eHR Office website](#).

eHR Internship Pilot Programme

eHR Internship Programme is envisioned to nurture the young talents for the health informatics industry and enhance the health informatics capacity of Hong Kong. The pilot programme was launched in May 2012 to provide internship for graduates from healthcare and IT disciplines to take part in jobs related to the eHR initiatives.

Interns were provided with opportunities to receive trainings on eHR. Induction workshop was organised in December 2012 to provide interns with an overview of the eHR Sharing System. Interns also studied the online learning program Applied Clinical Informatics from Dec 2012 to May 2013.

Appreciation and Sharing Session for the eHR internship pilot programme was conducted on 5 Feb 2013. Interns actively shared their valuable work experiences through participation in data migration for deployment of clinical management systems and challenges encountered during changes in clinical workflows, etc.

The pilot internship programme will be completed in mid 2013. The outcome of the Internship Pilot Programme will be evaluated to formulate strategy for implementation of the full internship programme.





eHR Seminar on Drug Records

A seminar on “Updates on Drug Records on eHR Sharing System” was organised on 23 January 2013 to keep healthcare stakeholders abreast of the latest development on eHR drug standard application.

The seminar provided an overview on the latest eHR development and demonstrated CMS Adaptation Modules for private hospitals. Ms Elizabeth Donohoo from National E-Health Transition Authority (NEHTA) also shared experiences on the development of medicine terminology standards for use in Australia.

Participants from public and private hospitals, group practices, healthcare professional bodies attended the seminar. Comments and suggestions received were constructive in shedding light on the future drug standard development. Please visit the [eHR Office website](#) for more information.



HL7 Professional Training

From November 2012 to February 2013, the HL7 Hong Kong conducted the following training programs for healthcare and IT practitioners with sponsorship from the eHR Office:

1. HL7 Version 2 and eHR Adoption in Hong Kong; &
2. HL7 Clinical Document Architecture

The Health Level Seven (HL7) programmes aimed at enabling healthcare and IT sector to understand the standardisation concepts and be better prepared for implementation of eHR Sharing System in Hong Kong. Local and overseas experts of HL7 provided introductory and advanced tutorials to over 380 healthcare and IT practitioners.

Please click [here](#) to access the HL7 training materials.



The HL7 Hong Kong Limited is a not-for-profit organisation and an accredited full affiliate of HL7 International - the global authority on standards for interoperability of health information technology.

Seminar on SNOMED CT

A seminar on “Recognised Terminology- SNOMED CT” was held on 21 February 2013. The seminar covered the latest development on eHR standardisations and the data interoperability in the eHR model.

The seminar provided an overview on the terminology for eHR Sharing System in Hong Kong. In addition, Dr Geraldine Wade, Managing Director of Clinical Informatics Consulting, introduced the SNOMED CT and its application to eHR.

Representatives from various healthcare institutions from the public and private sectors attended the seminar. Participants in general showed appreciation and support in the feedback on the development and implementation of the eHR Sharing System in Hong Kong. Please visit the [eHR Office website](#) for seminar materials.



Game Zone Chance to Win Free Coffee!



Test your knowledge about the eHR development in Hong Kong by attempting the following quiz. All answers can be found in this e-Newsletter. Readers who have all answers correct have a chance to win a coffee coupon, while stock lasts. Enjoy the fun of exploring eHR!

Please circle the correct answers and fill in your contact information. Fax the completed form to 2300 7921 or email to eHR@fhb.gov.hk on or before 12 April 2013. **The deadline for submission is over. The correct answers are indicated below.**

Q1: Which issue is the current eHR eNewsletter?

- A 1st
- B 2nd
- C 3rd
- D 4th

Q2: Overseas Experience on eHR Sharing - What is the name of corporation set up by the federal government of Canada to coordinate the EHR implementation system on a nationwide, pan-Canadian basis?

- A Canadian E-Health Bureau
- B Canada Health Go-ahead
- C Canada Health Infoway
- D Canadian Electronic Health

Q3: Which of the following documents was compiled to familiarise users with data format and communication mechanism within the eHR Sharing System?

- A eHR Content Standards Guidebook
- B Quick guide to eHR
- C eHR and its development
- D Practical Instructions for eHR Users

Q4: What is the online learning programme provided in the eHR Internship Pilot Project?

- A Advance Clinical Informatics
- B Applied Clinical Informatics
- C Application of Medical Informatics
- D Applied Medical Informatics

Q5: At the seminar of "Updates on Drug Records on eHR Sharing System" held on 23 January 2013, expert from which of the following country was invited to share her experience on overseas eHR standards development?

- A Canada
- B France
- C Singapore
- D Australia

Please provide your name, contact information, and postal address. Winners will be notified through email and the coupon will be mailed to the postal address provided below.

Name: _____

Tel No.: _____

Email: _____

Postal Address: _____

After the closing date on 12 April 2013, you can check the correct answers in the newsletter posted at the [eHR Office website](#).

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