eHRSS Records Millionth Registrant: New Milestone, New Horizon

On the third anniversary of the Electronic Health Record Sharing System (eHRSS) in March 2019, the number of patient registrants had exceeded one million, marking a new milestone of the system. At this special moment, Prof. Sophia Chan, Secretary for Food and Health (SFH), shared her views on the unique roles of eHRSS, its implementation progress and achievements, as well as the outlook for electronic health record (eHR) in Hong Kong.

“Since eHRSS’ launch in March 2016, more than a million members of the public have joined. It is an encouraging achievement over just three years, considering participation in the system is voluntary,” Prof. Chan remarked.

At the same time, the number of healthcare providers (HCPs) registering with the system, apart from the Hospital Authority (HA), the Department of Health (DH) and the 12 private hospitals, has exceeded 1 700, with over 47 000 accounts created for healthcare professionals (HCProfs) working under these HCPs.

“We are delighted that eHRSS has been well received by the community, and will continue to devote our efforts on further developing and promoting the system. We hope that more members of the public and HCPs will join and benefit from eHRSS,” said Prof. Chan.

eHRSS in Support of Primary Healthcare Development

With an ageing population and prevalence of chronic disease in Hong Kong, the Government has in recent years been committed to enhancing district-based primary healthcare services through collaboration among the public and private healthcare sectors, non-governmental organisations, primary care providers and related social service agencies. Prof. Chan pointed out that the development and implementation of eHRSS has brought multifold benefits in this respect.
A comprehensive and coordinated primary and institutional healthcare system for enhancing patients’ continuous care can be effectively underpinned by eHRSS which provides a robust and secure infrastructure for access and sharing of patients’ health records by healthcare organisations in the public and private sectors, she explained.

“For individuals, patients’ care needs can be fulfilled more timely, effectively and in an integrated manner by multi-disciplinary HCProfs teams from different sectors. For the community, it facilitates medico-social collaboration, promotes inter-sectoral and multi-disciplinary partnership, and encourages the use of more agile and innovative approaches in providing healthcare services in order to optimise the use of healthcare resources,” she elaborated.

Prof. Chan said the unique strengths of eHRSS are exemplified in various Public-Private Partnership (PPP) programmes of HA and DH, such as the General Outpatient Clinic PPP and the Colorectal Cancer Screening PPP. In the upcoming District Health Centre (DHC) programme, eHRSS also has a vital role to play. Operating through district-based medico-social collaboration and PPP, DHC provides one-stop services to the public including health promotion, health assessment, chronic disease management and community rehabilitation etc. The first DHC in Kwai Tsing District is targeted to commence operation in around the third quarter of 2019.

“All eligible network healthcare service providers partnering with the DHC and service users are required to join eHRSS. In this way, eligible HCProfs of different service units can share service users’ health records and other clinical information through eHRSS, thus facilitating the provision of coordinated services and enhancing collaboration. Coupled with the upcoming extension of eHRSS access later this year to six types of community-based HCProfs, such as physiotherapists and pharmacists, different HCProfs can work together to provide more holistic care and integrated rehabilitation services to patients in their localities,” Prof. Chan added.

**Future Development in Close Links with Public Health Policy**

Development of the 5-year Stage Two eHRSS is now underway and is expected to be launched in phases by end 2022. Major tasks include setting up a Patient Portal and integrating Chinese medicine (CM) in the scope of data sharing.

Prof. Chan stressed that the Government attaches great importance to primary healthcare and enhancement of community health protection. Apart from setting up DHCs at 18 districts, other measures are introduced with the aim to encourage a paradigm shift and mindset change among the general public and the healthcare sector, raising their awareness of disease prevention and self-management.

“The future Patient Portal can play a part in this. Through the portal, the public can access some of their health information and stay up to date with their state, hence empowered to more actively manage their own health. We envisage that the portal will serve as the public health information “hub” in Hong Kong, helping to disseminate public health information, promote health programmes and provide health education in support of primary care and medico-social collaboration.”
Speaking of CM integration into eHRSS, Prof. Chan described it as another significant development of the system. With CM's confirmed positioning announced in the Chief Executive's 2018 Policy Address, the Government has been working on multiple fronts towards incorporating CM into the healthcare system in Hong Kong and promoting its development, to which eHRSS are closely linked.

Prof. Chan said, “To facilitate eHR sharing by the CM sector, we have been working on standardising CM information and terminologies. A turn-key clinical management system and related modules are also being developed to support the CM sector in computerisation and encourage their participation in eHR sharing.”

Regarding the actual implementation of CM data sharing, Prof. Chan said this is going to be quite challenging for eHRSS. Nonetheless, she pointed out that the 18 CM Centres of Training and Research set up under HA have been utilising an IT system developed by HA, which in a way provided valuable experience for eHRSS. The Government has also been soliciting and making reference to views from the CM sector and related stakeholders. The aim is to commence CM data sharing in the fourth year of Stage Two eHRSS. Subject to the implementation progress and stakeholders’ feedback, the Government will further study the arrangements for data sharing between CM and western medicine practitioners.

**Vision and Challenges**

With regard to the development roadmap of eHRSS, Prof. Chan emphasised that the Government will continue to explore and unleash the potential of the system to make healthcare delivery better in Hong Kong.

“We envisage that the progressive roll-out of DHCs in various districts, and the launch of different PPP Programmes and medico-social collaboration projects will necessitate more extensive use of eHRSS and bring greater synergy in healthcare services for the benefits of the public,” she claimed.

In her final remark, Prof. Chan said, “The accomplishment of eHRSS over the past three years was much attributed to the support and participation of the community and stakeholders. Going forward, we anticipate there will be increasing expectation from patients. This will be in terms of HCPs’ participation, uploading of more eHRs, etc., which call for the continuous development and enhancement of eHRSS’ services. There will also be different challenges in the years to come. We will strive to work together with all stakeholders in order to make the most of this territory-wide eHRSS for providing quality services to the public.”
In Support of Continuous and Holistic Care

An individual’s care needs to adopt with different life stages. The Electronic Health Record Sharing System (eHRSS) supports continuous and holistic healthcare by providing a basis for comprehensive record keeping and sharing among public and private healthcare providers (HCPs) in Hong Kong.

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Hospital Authority (HA)
Consultant (Public-Private Partnership),
Food and Health Bureau (FHB)

Dr Cheung Ngai Tseung
Head of Information Technology and Health Informatics, HA
Consultant (eHealth), FHB

Dr Cheung and Dr Choy have been actively involved in electronic health record (eHR) development in Hong Kong since long before the launch of eHRSS in March 2016. From then to now, they have seen how eHR sharing has positively impacted and transformed healthcare service delivery. With eHR development progressing and Stage Two eHRSS coming on board, they believe more benefits can be reaped in future.

Dr Cheung, also Consultant of FHB leading the eHR team of HA which is eHRSS’ technical agency, said, “The successful launch of eHRSS is already a great achievement. We are happy that it has been working smoothly and welcomed by the community. We are also honoured to have received several awards from the information and communications technology sector both locally and globally.”

Participation in eHRSS is voluntary. Yet the number of people joining eHRSS had already exceeded 400,000 in less than a year after its launch. Dr Cheung recalled, “We did not anticipate such an overwhelming response at that time. The enthusiastic participation is a recognition of the efforts we have made over the years.”

Dr Choy, also Consultant of FHB who heads HA’s team on clinical Public-Private Partnership (PPP) Programmes, agreed, “We started eHR sharing in HA about 15 years ago. Modelled on HA’s system, eHRSS has been developed as a patient-centred platform that can potentially serve the entire population of Hong Kong. We are so glad that our work has contributed to transforming the healthcare system for patients in Hong Kong.”
Towards Building up Lifelong Records and Enhancing Collaboration

Embracing the principle of “records follow patients”, eHRSS enables the building up of lifelong and comprehensive eHRs that cover relevant health data and medical records of an individual over time.

Both Dr Cheung and Dr Choy pointed out that people have different care needs at different stages of life, and the availability of lifelong eHRs for viewing by different healthcare professionals (HCPs) will make continuous and holistic healthcare possible. This is particularly important when the population is aging and medico-social collaboration in providing integrated healthcare is becoming more significant, they believe.

Citing the elderly as an example, they said it is common that their healthcare needs call for a range of care and services from multiple HCPs, such as medical specialists, elderly homes and other non-governmental organisations. eHRSS serves to facilitate more coordinated services by linking them up and allowing the sharing of different types of eHRs on a single platform.

In later 2019, a closer collaboration among HCPs at district level, to be enabled by eHRSS, will be seen with the introduction of the District Health Centre (DHC) services, they added. The scheme will provide integrated primary healthcare for the public with the assistance of a mix of HCPs in their localities. Relevant patient data will be linked through eHRSS.

Dr Choy added that it will be best to commence building health records from birth. “In Hong Kong, most of the newborns will likely join the Hong Kong Childhood Immunisation Programme of the Department of Health (DH). If their parents register them with eHRSS at the same time, their eHRs can start from birth and build up as they grow. In this way, a great proportion of the future population will have comprehensive lifelong eHRs,” he hoped.

Engaging and Empowering Patients

With the patient-centric eHRSS, Dr Choy said, patients can now have more options and flexibility in choosing their own HCPs, as they know that their health data are available in eHRSS and can be conveniently accessed by HCPs taking care of them.

Not only that, with the introduction of the Patient Portal, one of the major work targets of Stage Two eHRSS, patients will be empowered to take part in managing their own health.

Dr Cheung explained, “The potential of the Patient Portal is multi-faceted. For instance, users can access some of their health data in eHRSS and input simple data such as blood pressure readings using portable devices like mobile phones. Their family members and carers can also help keep track of their health conditions.”

“The flow of information will no longer be restricted to HCPs. Patients can better communicate with their HCPs by making use of the portal,” he elaborated.
Benefitting from Public-Private Partnerships
There are currently 14 PPP healthcare programmes run by HA and DH, covering clinical services, medical examinations, and chronic and long-term care. eHRSS provides an essential infrastructure for record sharing between the public and private sectors in these programmes.

These programmes would not have worked well without eHR sharing, according to the doctors, who believe the importance of eHRSS will continue to increase with the implementation of more PPP initiatives.

Well versed on the subject of healthcare PPP, Dr Choy considered the outcome of the General Outpatient Clinic PPP encouraging.

"Since its launch, the programme has been joined by over 30 000 patients and 400 private doctors, with data of several hundreds of consultations being uploaded to eHRSS on a daily basis. More than 90% of these patients are now still staying with the programme and using the services of their chosen private doctors. This reflects that the programme has successfully helped them find their personal family doctor," he said.

"It is in line with the Government’s policy to strengthen primary care, and a closer doctor-patient relationship can enhance the quality of care.”

Dr Choy revealed that HA will roll out the Glaucoma PPP Programme in mid-2019.
Glaucoma is a disease that needs chronic care and eligible HA patients will be invited to join.

Meeting the Challenges in Future Development
With increasing utilisation and popularity of eHRSS come the challenges of meeting the rising expectations of various stakeholders and balancing their needs. Dr Choy and Dr Cheung said they will continue to seek stakeholders’ views, and draw reference from past and international experiences.

Elaborating on sharing Chinese medicine (CM) information which is another major work target of Stage Two eHRSS, Dr Cheung remarked that they have been working progressively towards CM data sharing and he is positive about the prospect. He pointed out that the trial version of CM Information System On-ramp, a turn-key clinical management system for the CM sector, will be available later in the year.

As to the Patient Portal for which both doctors have high expectations, Dr Cheung said it will be developed and launched in phases, with some basic functions designed to meet the needs of such target users as parents and chronic patients to be rolled out first in 2020.

For radiological image sharing, Dr Cheung said efforts have been made in developing eHRSS’ technical capability to accommodate images of huge volume and large file size. “In addition, as the sharing will involve laboratories who might be less experienced in using eHRSS, we will work closely with them, and hopefully we can start radiological image sharing in 2021,” he added.

Despite all the challenges, the principle of maintaining strong system security, ensuring a high privacy protection standard while keeping the system easy and convenient to use will follow through eHRSS development, the two doctors unanimously stressed.
Extending Role-based Access to Allied Health Professionals in the Community

6 healthcare professional (HCProf) groups working in the community will be able to access the Electronic Health Record Sharing System (eHRSS) starting from the third quarter of 2019. Their access to patients’ records in the system will be governed by role-based access control (RBAC), a mechanism built in eHRSS to protect data privacy and security.

Under the eHRSS Ordinance (Cap. 625), 13 HCProf groups can access the electronic health records (eHRs) of participating patients in eHRSS. The access rights for these groups are being enabled in phases, with doctors, nurses (including midwives) and dentists among the first to access eHRSS at the initial launch of the system.

6 other groups, namely, pharmacists, medical laboratory technologists, occupational therapists, optometrists, radiographers and physiotherapists working in the Hospital Authority, the Department of Health and private hospitals, have also been given eHRSS access rights since September 2017. As at March 2019, more than 4 400 eHRSS accounts have been created for these groups of HCProfs.

With the smooth roll-out of RBAC at institutions, eHRSS access will gradually be extended to their counterparts in the community. HCProfs of these 6 groups working in community-based healthcare organisations that have joined eHRSS such as private clinics, elderly homes, radiology centres and laboratories, can access patients’ eHRs starting from the third quarter of 2019, upon obtaining patients’ sharing consents.
Stringent Control for Privacy and Security Protection

Patient privacy and data security have always been the top priorities in eHRSS operation. Allied HCProfs in the community will need to observe RBAC and other control measures when accessing eHRSS.

RBAC is an access security mechanism based on an HCProf's role in an organisation. Under RBAC:

- different authorised HCProfs have different levels of access to the eHRs of a healthcare recipient (HCR);
- access rights are pre-defined in accordance with the functions and clinical needs of different HCProf groups;
- any access to an HCR's eHRs must be based on the “patient-under-care” and “need-to-know” principles; and
- all accesses will be logged and are subject to audit and inspection.

Community-based allied HCProfs are reminded that patient's sharing consent must first be obtained by the healthcare provider (HCP) they are working for before they could access the patient's eHRs. As an enhanced privacy protection measure, if they need to access patient's eHRs which are subject to restricted control, they need to obtain additional consent from the patient, and an additional notification will also be sent to the patient.

Requirements for Community-based HCProfs in Accessing eHRSS

Participation in eHRSS is on an HCP basis. To obtain eHRSS access, HCProfs with valid registration status can apply to the HCPs they are working for.

Basically an eHR-compatible computer system connected to the internet is sufficient for accessing eHRSS. HCProfs can choose either to install the Government-developed clinical management software, the CMS On-ramp which is compatible with eHRSS or a web-based portal which provides convenient access to eHRSS.

More details can be found at -


E-Survey

To facilitate the implementation of eHRSS access for the 6 community-based allied HCProf groups, an E-Survey will be conducted to gauge their interest and the technical readiness of their practising organisations in joining eHRSS. Interested organisations may be invited to be our champion pilot users. Technical support will be provided.
As Chinese medicine (CM) is more commonly used in Hong Kong, its role in the local healthcare system is becoming increasingly prominent. One of the major areas of work under Stage Two Development of eHRSS is to broaden the scope of sharable data to cover CM information. To encourage and promote computerisation and sharing of health records among CM practitioners, a “Chinese Medicine Information System (CMIS) On-ramp” has been developed to provide a turn-key clinical management system option for adoption by the CM sector at low investment cost. Similar to the “CMS On-ramp” available for use by Western medical practitioners, CMIS On-ramp not only provides features to support the daily administrative and clinical management of a clinic (covering patient registration and appointment, clinical documentation, prescriptions and dispensary etc.), but will also be equipped with sharing and integration capabilities with eHRSS.

Engagement Workshop on CMIS On-ramp
To promote CM information sharing and prepare for the adoption of electronic health records (eHR) by the CM sector, four CMIS On-ramp workshops were organised for representatives of local CM practitioners in January and February 2019. In addition to providing an overview of eHRSS’ development in Hong Kong particularly in the area of CM, the workshop aimed to introduce the preliminary design and functionalities of CMIS On-ramp to participants in order to gather their views and suggestions. Over 50 registered and listed CM practitioners mainly suggested by CM associations of the eHR Information Standards Domain Group on CM Record took part in the workshops.

Through presentation and demonstration, participants were introduced to the objectives, design principles and features of the system. Furthermore, participants were able to experience the CMIS on-ramp application with tablets and laptops provided. During the sharing session, participants enthusiastically provided their comments on the system design and features in supporting daily clinic operations.

At the end of the hands-on experience session, each participant was invited to complete a questionnaire to provide their feedback, as well as to indicate their interests in adopting CMIS On-ramp and participating in a pilot programme which is targeted to commence in the second half of 2019.
Participants in general welcomed the development of CMIS On-ramp and were in favor of joining the pilot programme. Valuable views and opinions were also given by the participants, which were greatly useful in the subsequent planning, design, development and promotion of CMIS On-ramp.

Representative of the eHR Office updated participants on the latest eHRSS development.

Representative of the Hospital Authority (HA) gave an overview on eHRSS’ development in the area of CM.

Participants experienced the CMIS On-ramp application with tablets and laptops.

Representatives of HA exchanged views on the system design and features of CMIS On-ramp with the participants.
eHRSS Enhancements to Facilitate Patient Participation

New measures have been implemented to further facilitate patients' participation in the Electronic Health Record Sharing System (eHRSS) as continuous improvement to its services.

The measures, introduced in March 2019, focus on streamlining the patient registration process and enhancing user experience.

**Registration Using New and Existing Smart HKICs**

To tie in with the smart Hong Kong Identity Card (HKIC) replacement exercise, eHRSS had already been updated to accommodate the use of both new and existing smart HKICs for patient registration.

Using the updated registration page, eHRSS participating healthcare providers (HCPs) can now easily indicate the version of the HKIC when registering for patients. To provide frontline staff with handy reference on the updated registration workflow, a newly designed leaflet is also available.

For more details, please refer to "Measures to Register with eHRSS Using New Smart HKICs".

**Registration Made Easy**

Keeping the registration process simple and easy has always been a key consideration for eHRSS operation. The latest measures were developed in this direction, with the patient registration page redesigned to make the workflow even more streamlined and intuitive.

Under the new design, patient registration can be easily done with a few clicks on the same page, leaving no hassle even for solo practice or small clinics using the system. To further streamline the process, the part on communication means has been modified so that registration staff need only to input relevant information of the patient’s selected communication means, while other contact information is optional.

To bring more convenience to HCPs, after inputting the necessary information, the system will display clear and concise instructions with graphic illustrations to guide registration staff on the next step. This facilitates patient registration using smart HKIC or record activation for patients who have submitted online applications. Confirmation notification will be sent to patients via their selected communication means upon successful registration, while printing of confirmation letters is optional.
Giving Sharing Consent Online
Further to the introduction of Sharing Consent Anywhere and Access Key to facilitate patients in managing sharing consent in late-2017, patients can now choose to give their sharing consent to up to three eHRSS participating HCPs* when submitting their eHRSS applications online. A built-in search function is also provided to help patients locate and select the HCPs. The sharing consent will become effective upon the patient’s next visit to the chosen HCP for record activation. A notification will also be sent to the patient via his/ her selected communication means to confirm the sharing consent given.

* Except the Hospital Authority (HA) and the Department of Health (DH). After joining eHRSS, patients are taken to have giving sharing consent to HA and DH.

For more details and enquiries on the enhancement measures, please visit the eHRSS website or contact our staff at 3467 6230 (HCP hotline) or 3467 6300 (Patient hotline).
The Electronic Health Record Sharing System (eHRSS) has been showcased in major local health exposition for the second year. It has also been promoted in various stakeholder engagement activities over the past few months.

**Gerontech and Innovation Expo cum Summit 2018**

Following the success in 2017, eHRSS was once again featured at the Gerontech and Innovation Expo cum Summit (GIES) held at the Hong Kong Convention and Exhibition Centre from 22 to 25 November 2018. The event was co-hosted by the HKSAR Government and the Hong Kong Council of Social Service, and co-organised by the Hong Kong Science and Technology Parks.

This time, the Electronic Health Record (eHR) Office joined hands with the Department of Health (DH) in hosting an exhibition booth to promote eHRSS and selected elderly programmes/services of DH such as the Elderly Health Care Voucher Scheme and the Vaccination Subsidy Scheme.

Visitors to the booth were introduced to eHRSS and its latest developments, as well as the technological applications deployed to facilitate the implementation of various public-private and primary healthcare programmes. The multimedia exhibits and interactive displays at the booth, such as touch screen information panels, electronic book displays and interactive 3D game, had successfully attracted a wide range of visitors. Registration counters were also set up to carry out on-site registration for the public, with about 550 people registered to join eHRSS during the event.
The Hong Kong Medical Association (HKMA) Clinical Management System (CMS) Nu Wa (NW) Update Session

An update session was organised by HKMA at its Wan Chai Premises on 11 December 2018. During the session, Dr Ho Chung Ping, President of HKMA, shared with participants the latest development and his practical experience in utilising CMS NW.

Representatives of the Hospital Authority (HA) were also invited to introduce to participants the special features of the system, such as an integrated interface with HA’s General Outpatient Clinic Public-Private Partnership programme and the built-in function for drug allergy checking.

Seminar on Cyber Security and Personal Data Privacy Protection in eHRSS

To raise awareness of cyber security and data protection, a seminar was organised by the eHR Office on 24 January 2019 at the Prince of Wales Hospital. Over 220 information technology and administrative personnel of eHRSS participating healthcare providers (HCPs) attended.

The seminar started off with Mr Ian Chin, Principal Assistant Secretary for Food and Health (Health), giving the opening remarks. Guest speakers including Mr Ken Lee, Detective Senior Inspector of the Cyber Security and Technology Crime Bureau, Hong Kong Police Force; Ms Clara Cheung, Chief Systems Manager (Information Technology & Electronic Health Record Operations) of HA; and Ms Joanna Chan, Senior Personal Data Officer of the Office of the Privacy Commissioner for Personal Data, presented on various subjects covering cyber security, prevention of data breach, personal data privacy protection and security tips for using eHRSS and electronic medical record systems. Participants’ enquiries and feedback on enhancing security and privacy protection were also collected and addressed at the seminar.

Briefing Session on Latest eHRSS Development

A briefing session on eHRSS’ latest development was held on 13 February 2019 at the Prince of Wales Hospital for eHRSS participating HCPs. The briefing comprises two sub-sessions, first introducing to participants the latest streamlined patient registration workflow, followed by a preview of the upcoming extension of eHRSS access to community-based healthcare professionals (HCProfs). Over 200 representatives from HCPs in the private sector, including user administrators, frontline registration staff as well as allied HCProfs participated in the briefing.
Participants were introduced with the latest streamlined patient registration workflow and the upcoming extension of eHRSS access to community-based HCProfs.

To learn more, please refer to related articles of this issue -  
"eHRSS Enhancements to Facilitate Patient Participation"  
"Extending Role-based Access to Allied Health Professionals in the Community"
Fun Quiz - Chance to Win a Prize

True or False
This is a fun game to find out how much you know about the Electronic Health Record Sharing System (eHRSS). Determine whether each of the statements below is “true” or “false” by placing a “✓” in the appropriate box. Winners will receive a prize (while stock lasts). (Hint: The answers can be found in this issue of eHealth News.)

1. March 2019 marked the third anniversary of the launch of eHRSS.
   [ ] True [ ] False

2. Six healthcare professional groups working in the community can access eHRSS starting from 2021.
   [ ] True [ ] False

3. The new smart Hong Kong Identity Card cannot be used for eHRSS registration.
   [ ] True [ ] False

4. Patients can now give sharing consent to up to three healthcare providers when submitting eHRSS applications online.
   [ ] True [ ] False

5. The Chinese Medicine (CM) Information System On-ramp has been developed to facilitate the adoption of electronic health records by CM practitioners.
   [ ] True [ ] False

Join the Quiz
To join the quiz, please print out this page, mark your answers and fill out the required information. Completed entries should be returned by fax at 2300 7921 or email to enquiry@ehealth.gov.hk on or before 24 May 2019.
After the closing date on 24 May 2019, you can check the correct answers in the newsletter posted at the eHRSS website. Personal particulars and contact information collected in this fun quiz will only be used to notify winners and send prizes. All personal data collected in this fun quiz will not be disclosed to any third parties and will be deleted by the Electronic Health Record Office two weeks after all prizes have been sent.