

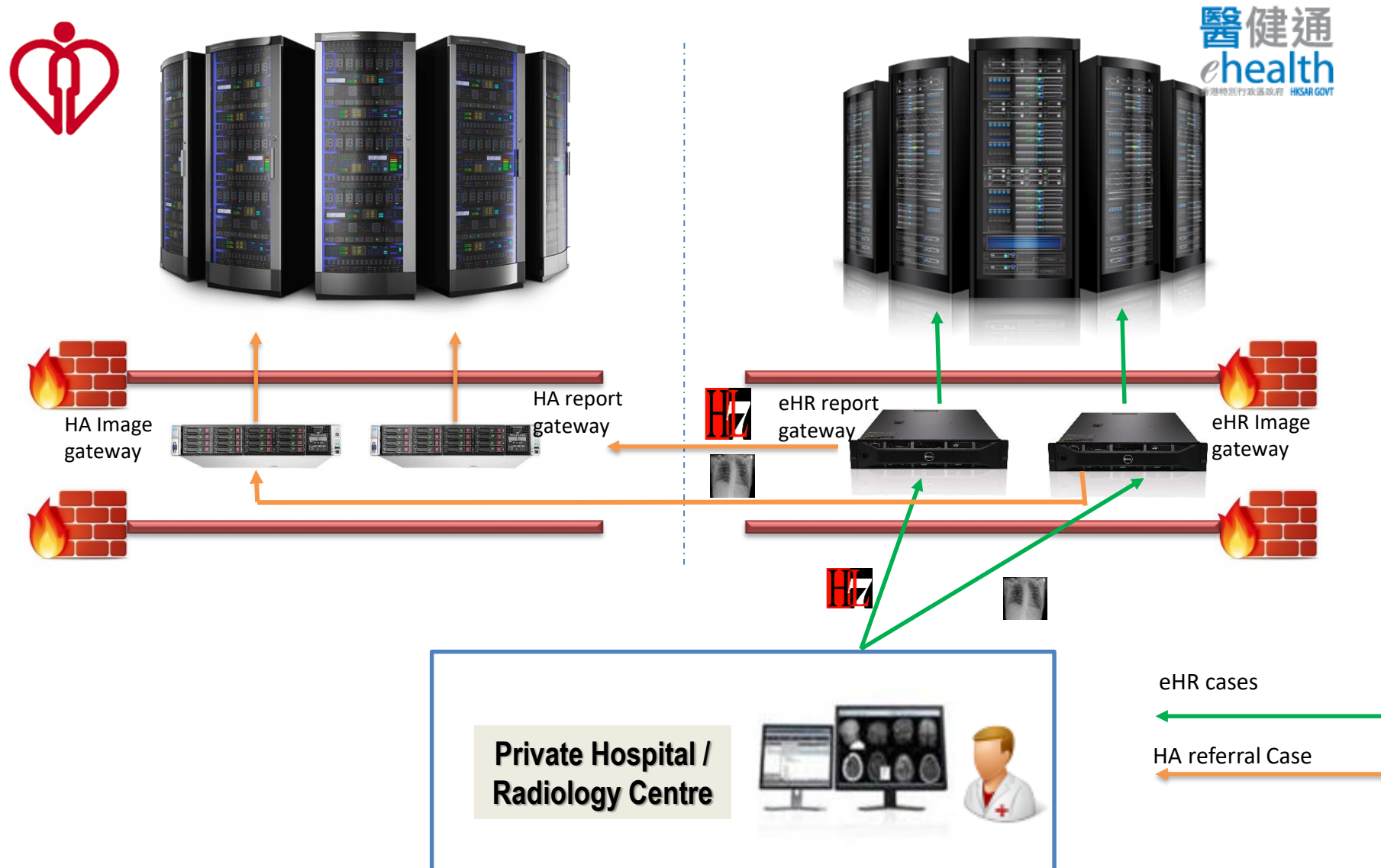
Preparation Work for Migration of the Pilot to eHR (Business)

Forum on “Migration of Radiology Image Sharing Pilot to
eHRSS Radiology Image Sharing”

20 Jun 2019

Direction: All cases sent to eHR

> HA referred cases will be provided to HA

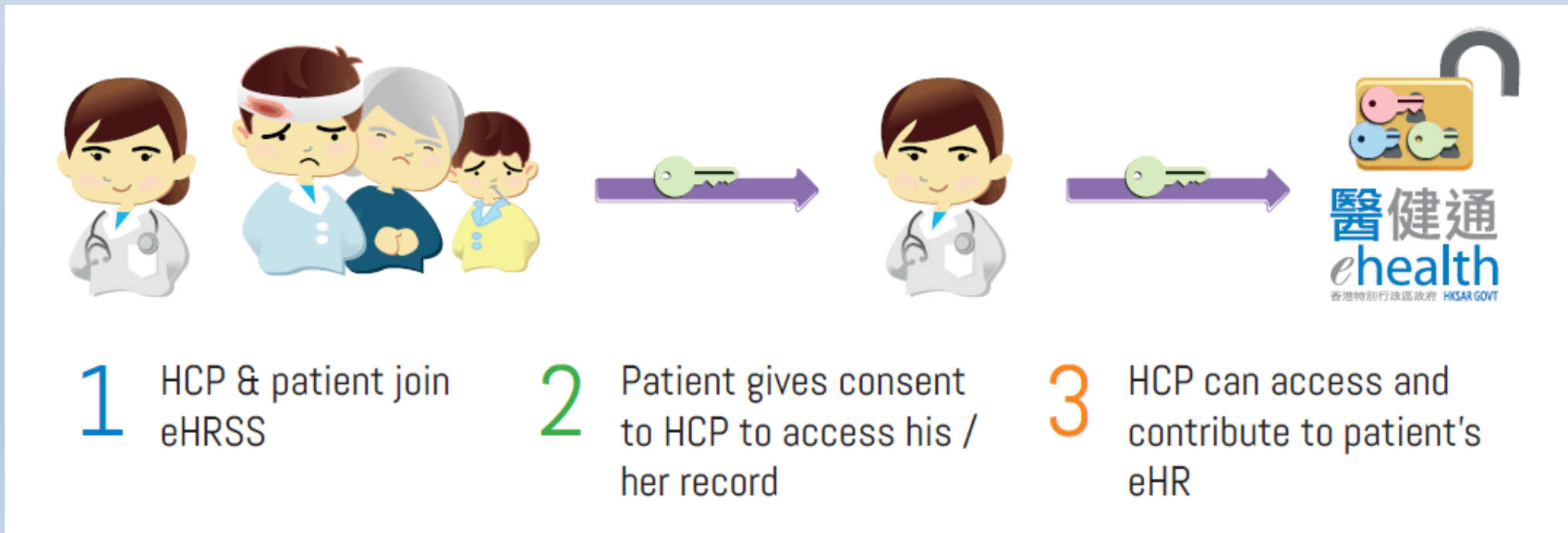




Workflow changes

1. Prerequisites for data sharing for eHRSS

- A. Join eHR as Health Care Provider (HCP)
- B. Health Care Recipient (HCR)/patient must join eHRSS
- C. HCP build sharing consent with HCR



A. Join as HCP (Registration)

Read

- Conditions of registration
- Code of practice



Prepare

- Business Registration Certificate
- Practicing Certificate of HCProf

Complete

- HCP registration form



Easy and Free

B. HCR must join eHRSS

1. When patient make appointment

- Remind patients to join eHR by:



- Attend HA, DH, private hospital eHR RC, eHR RO
- Post/fax
- Online application



2. When patient arrive for exam

- Help to join eHRSS (private hospitals)
- Assist to submit online application
- Record Activation (for online/post/fax application)



C. HCP build Sharing consent with HCR

1. When patient make appointment

- Remind patient to give sharing consent by:
 - 24-hour patient hotline (3467 6300)
 - Attend HA, DH, private hospital eHR RC, eHR RO
 - By provide 8-digit Access Key



2. When patient arrive for exam

- Use patient's ID or Access key to build consent



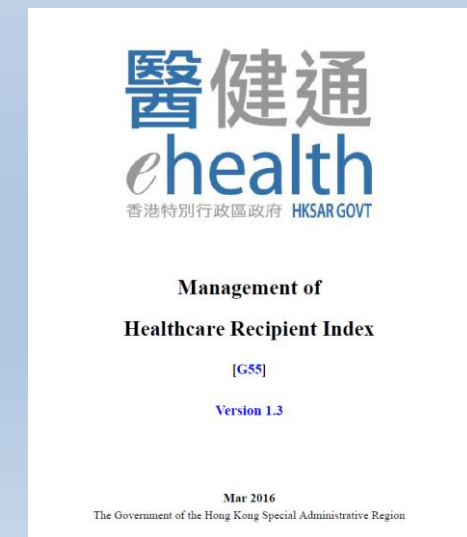
◆ With sharing consent, **no need to sign consent with patients** for sending radi exams to eHRSS

2. Information to capture in local system

- **Radi Image Sharing Pilot:** Four major keys for HA cases
- **For eHR data sharing, HCP should:**

A. Capture Healthcare Recipient Index (HRI)

- Major key identifiers: English name, sex, DOB, HKIC (or document type + document No.)
- eHR number
- Can reference to eHR Info Standard Doc (Management of Healthcare Recipient Index)



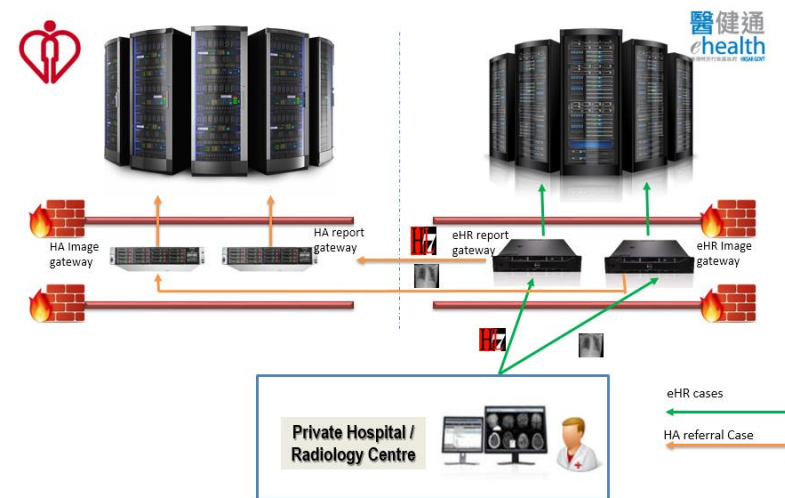
Information to capture in local system

To identify HA referred case, HCP should :

B. Capture Referrer's information (HA)

➤ To identify referred cases, local system should capture referring HCP's information in local system(Registration/RIS)

➤ The request number can be captured from HA request form



| Virtual's Hospital 3 | |
|--|---|
| REQUEST INFORMATION SHEET | |
| Name : CHOW, KIWI (周奇異) | |
| HKID : M926154(6) | DOB : 18/08/1987 Age : 31y Spec : MED Patient Status: EP1 |
| Sex : F Requested Loc : VH/2A | |
| Request Date : 14/09/2018 | Request Number: VH OR180004228W Episode No: HN09000053(Z) |
| Requested By : ADMIN, SUPPORT ONE (Consultant) | |
| Patient Reminder : 1. Private Hospital/Centre: Access Medical Diagnostic & Laboratory Centre 耀進醫學診 斷及化驗中心 Address: Rm 1712, East Point Centre, 555 Hennessy Rd, Causeway Bay, HK 香港銅鑼灣軒尼詩道555號東角中心1712室 Tel. No.: 31881722 Fax No.: 31881711 | |
| Drug Allergy: (1)No Known Drug Allergy | |
| Alert: (1)MRSA in Sputum/Wound; (2)Advance directive with a refusal of CPR | |
| Request Group : Private (Non-HA) Radiology | |
| Clinical Information : | |

3. View other information/radi exams in eHRSS

- **Radi Image Sharing Pilot:** Only HA users can view radi exam from private
 - **For eHR radi image sharing:** Radiologists can view others' radiology exam data in eHRSS
- Can incorporate in current workflow to facilitate reporting

The screenshot displays the eHRSS interface for a patient named Wong, Blackberries (HKIC No.: UH977321(6), DOB: 29-Feb-1912, Age: 106 years, Sex: M). The interface is divided into several sections:

- Navigation Menu (Left):** Includes links for Clinical, Administration, Emergency Access, Standards, and Information. It also has a 'Data Correction Request' button and a 'Clinical Note & Summary' section.
- Patient Header (Top):** Displays patient details and a 'View / Add Allergy & ADR' button.
- Problem / Diagnosis (Table):**

| Date | Description |
|-------------|--|
| 28-Apr-2015 | Fever |
| 24-Feb-2013 | Diabetes Mellitus |
| 24-Feb-2013 | Type II diabetes mellitus with complication |
| 24-Feb-2013 | Type II diabetes mellitus with complication B |
| 24-Feb-2013 | Type II diabetes mellitus with ischaemic heart disease |
| 23-Feb-2013 | Vesical pain |
| 28-Feb-2011 | Delirium |
| 28-Feb-2011 | Septic shock |
| 27-Jun-2000 | Pterygium |
- Laboratory Record (Table):**

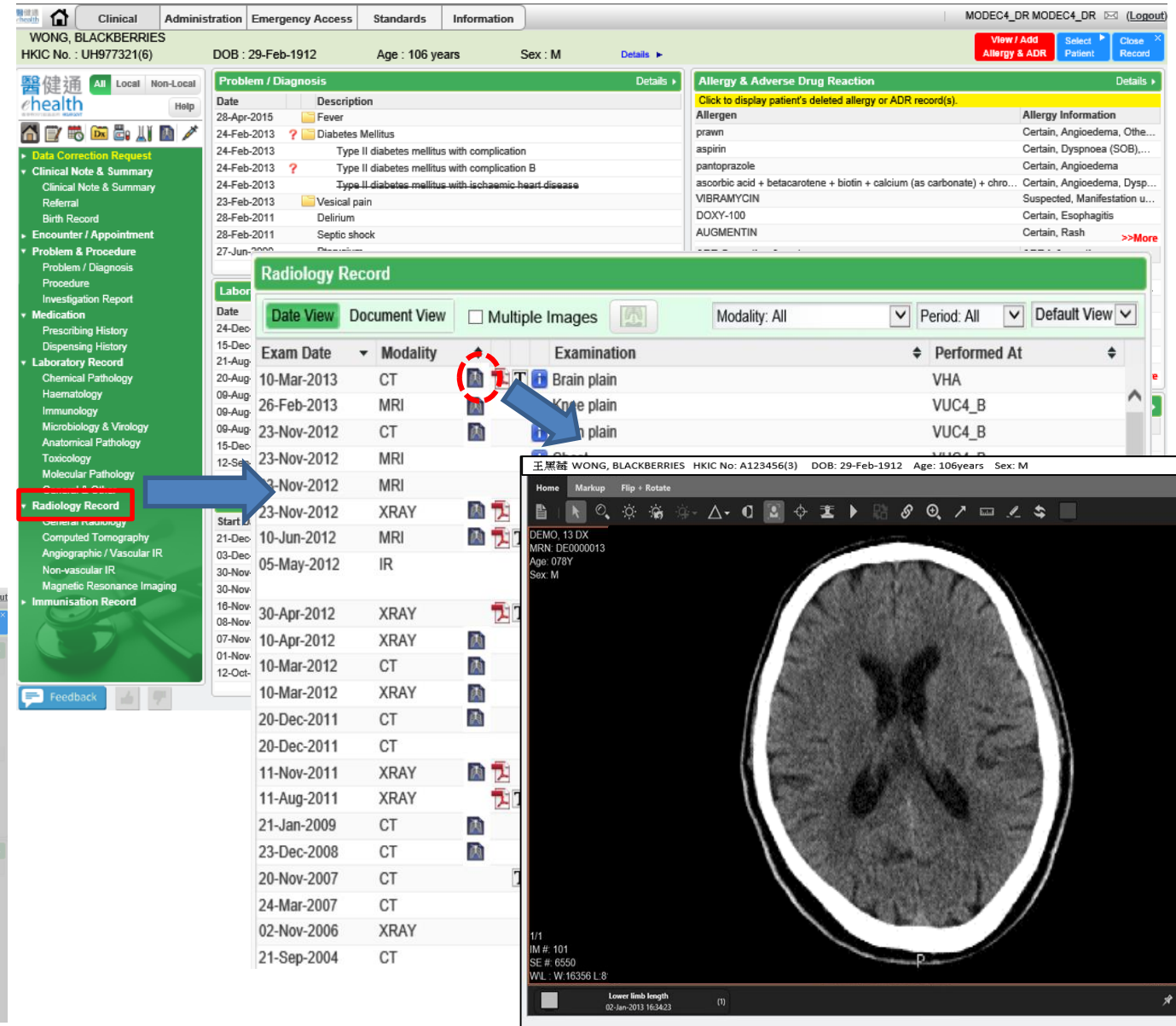
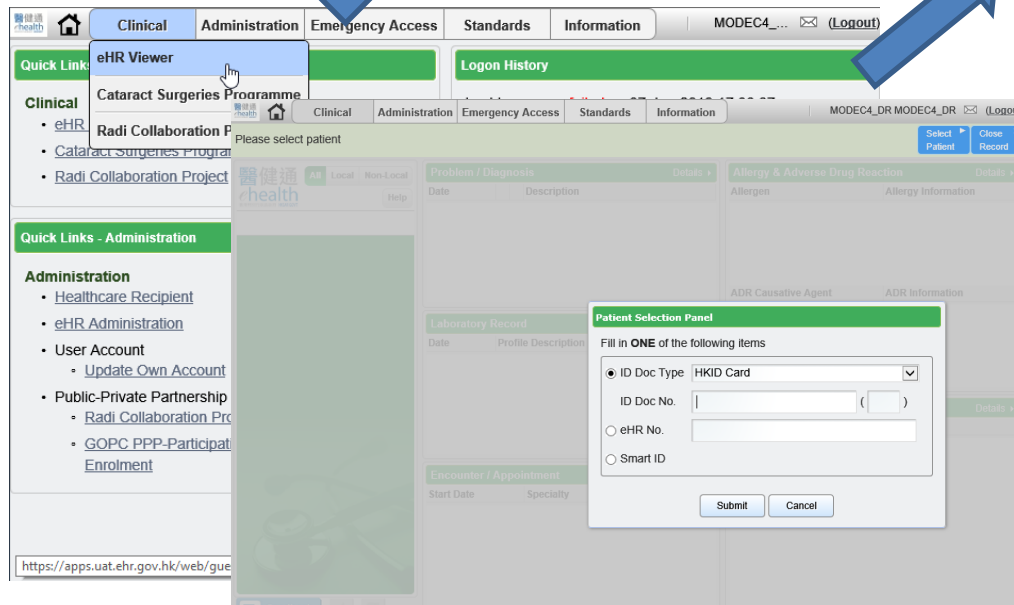
| Date | Profile Description | Institution |
|-------------|-------------------------------------|-------------|
| 24-Dec-2012 | AD, RFT | VUC4_A |
| 15-Dec-2012 | APTT, PT | VHC4 |
| 21-Aug-2012 | AD | VHC4 |
| 20-Aug-2012 | Haematology Result | VHC4 |
| 08-Aug-2012 | Haematology Laboratory Report (PDF) | QEH |
| 08-Aug-2012 | Molecular Pathology Report (PDF) | QEH |
| 08-Aug-2012 | Skin/Gynae Cytology34 | VHC4 |
| 15-Dec-2011 | DESC, PII, TOXG, TOXH | VHC4 |
| 12-Sep-2011 | C, DD, FIB | VUC4_A |
- Encounter / Appointment (Table):**

| Start Date | Specialty | Institution |
|-------------------|-----------|-------------|
| 21-Dec-2018 11:30 | | VHB2 |
| 03-Dec-2018 06:45 | | VHB2 |
| 30-Nov-2018 16:50 | | VHB2 |
| 30-Nov-2018 16:50 | | VHB2 |
| 18-Nov-2018 17:15 | | VHB2 |
| 08-Nov-2018 09:30 | | VHB2 |
| 07-Nov-2018 18:10 | | VHB2_B |
| 01-Nov-2018 14:55 | | VHB2_B |
| 12-Oct-2018 14:05 | | VHB2_B |
- Allergy & Adverse Drug Reaction (Table):**

| Allergen | Allergy Information |
|--|-------------------------------|
| prawn | Certain, Angioedema, Othe... |
| aspirin | Certain, Dyspnoea (SOB)... |
| pantoprazole | Certain, Angioedema |
| ascorbic acid + betacarotene + biotin + calcium (as carbonate) + chro... | Certain, Angioedema, Dysp... |
| VIBRAMYCIN | Suspected, Manifestation u... |
| DOXY-100 | Certain, Esophagitis |
| AUGMENTIN | Certain, Rash |
- Prescribing History (Table):**

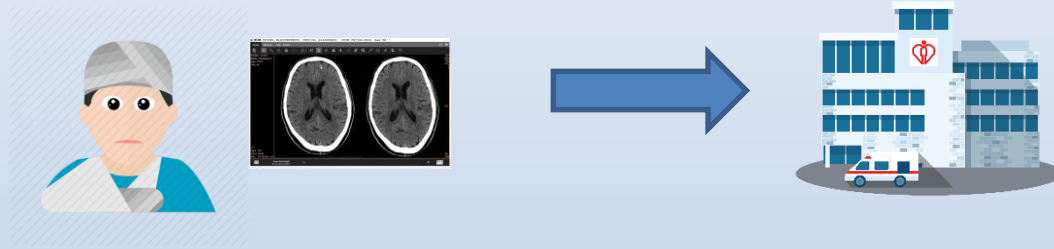
| Date | Medication |
|-------------|---|
| 08-Nov-2018 | cetylpyridinium chloride + lidocaine hydrochloride |
| | calcium magnesium inosithexaphosphate + cola extract + dimethylaminoethanol bita... |
| 07-Nov-2018 | chlorphenamine maleate + dextromethorphan hydrobromide |
| | dextromethorphan hydrobromide |
| | ketotifen (as fumarate) |
| | procaterol hydrochloride |
| | codeine phosphate + ephedrine hydrochloride + promethazine hydrochloride |
| | betamethasone + dexchlorpheniramine maleate |
| | terbutaline sulfate |
| | codeine phosphate + pseudoephedrine hydrochloride + triprolidine hydrochloride |
| | bromhexine hydrochloride |
| 16-Aug-2018 | pioglitazone (as hydrochloride) |
| | insulin soluble human |
| | methylprednisolone aceponate |
| | tadalafil |

To View Radiology Images in eHR Viewer

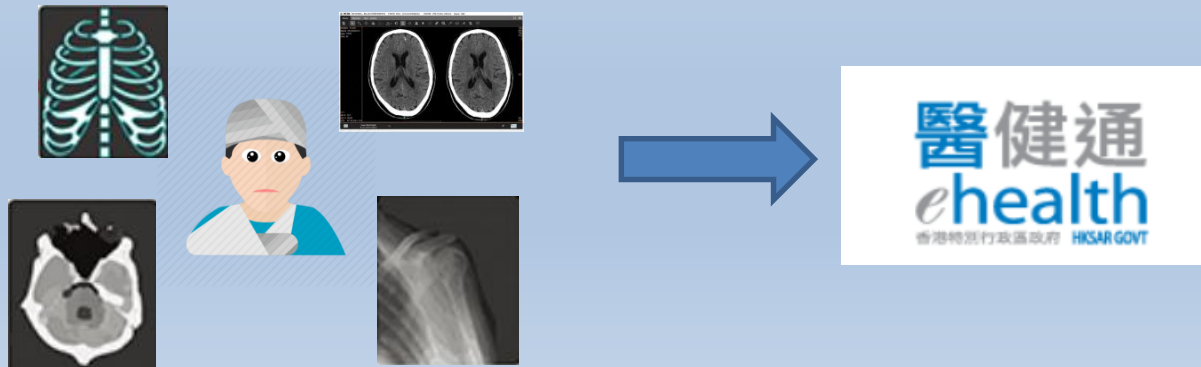


4. Send all cases of HCR to eHRSS

- **Radi Image Sharing Pilot:** Only the referred case is sent to HA



- **eHR Radi Image Sharing:** All cases of HCR will be sent to eHRSS (include HA referred case)



Work for sending all cases of HCR to eHRSS

1. Identify eHR HCR (Captured in registration/RIS system)
2. Comply standard of eHR for sharing Radiology Examination
3. Arrangement for sending data to eHRSS (frequency/ time for sending)



5. Check sent out cases in eHR Inbox

Radi Image Sharing Pilot

- An email is sent the next day for daily health check of cases

```

XXX Daily Health Check 2011-03-02 090000 000 - Notepad
File Edit Format View Help

[CID daily health check summary]
Send Date: 2011-03-03
Summary Period: FROM 2011-03-02 09:00:00.000 To 2011-03-03 09:00:00.000
[Summary]
accession_num  hospital_code  department_code  report_dtm  num_of_report  dicom_dtm  study_uid  study_modality  study_status  num_of_series
XXXXXR11000155331  XXXX  XR  2011-03-02 13:30:55  1  1.2.392.200036.9116.2.5.1.48.1216285355.1298523266.559653  CT  A  7
XXXXXR11000155331  XXXX  XR  20110302132802  1  1.2.840.113619.2.267.3.2831156173.275.1298633863.942  CT  A  10  375
XXXXXR1100016165P  XXXX  XR  2011-03-02 13:30:55  1  1.2.840.113619.2.267.3.2831156173.275.1298633863.942  CT  A  10  375
XXXXXR1100016165P  XXXX  XR  20110302132953  1  1.2.840.113619.2.267.3.2831156173.275.1298633863.942  CT  A  10  375
XXXXXR1100016150N  XXXX  XR  2011-03-02 13:35:04  1  1.2.840.113619.2.267.3.2831156173.275.1298633869.109  CT  A  9  544
XXXXXR1100016580N  XXXX  XR  20110302133558  1  1.2.840.113619.2.267.3.2831156173.275.1298633869.109  CT  A  9  544
XXXXXR1100016695L  XXXX  XR  2011-03-02 09:26:05  1  1.2.840.113619.2.207.3596.10642868.24541.1297988957.795 MR  A  9  111
XXXXXR1100016695L  XXXX  XR  20110302092302  1  1.2.840.113619.2.207.3596.10642868.24541.1297988957.795 MR  A  9  111
XXXXXR1100016899L  XXXX  XR  2011-03-02 09:16:40  1  1.3.12.2.1107.5.1.4.73054.300000110301010007953000000000  CT  A  7  275
XXXXXR1100016899L  XXXX  XR  20110302091302  1  1.3.12.2.1107.5.1.4.73054.300000110301010007953000000000  CT  A  7  275
XXXXXR1100016922L  XXXX  XR  2011-03-02 20:45:06  1  1.2.840.113619.2.267.3.2831156173.171.1298894954.622  CT  A  9  247
XXXXXR1100016922L  XXXX  XR  20110302204303  1  1.2.840.113619.2.267.3.2831156173.171.1298894954.622  CT  A  9  247
XXXXXR1100016944I  XXXX  XR  2011-03-02 13:35:04  1  1.2.124.113532.192.9.101.9.20110301.104028.11882855  CT  A  8  330
XXXXXR1100016944I  XXXX  XR  20110302133317  1  1.2.124.113532.192.9.101.9.20110301.104028.11882855  CT  A  8  330
XXXXXR1100017020M  XXXX  XR  2011-03-02 11:39:49  1  1.2.124.113532.192.9.101.9.20110301.113608.1883027  MR  A  18  387
XXXXXR1100017020M  XXXX  XR  20110302113803  1  1.2.124.113532.192.9.101.9.20110301.113608.1883027  MR  A  18  387
XXXXXR1100017072I  XXXX  XR  2011-03-02 18:34:24  1  1.2.124.113532.192.9.101.9.20110301.130516.1883291  CT  A  6  119
XXXXXR1100017072I  XXXX  XR  20110302183302  1  1.2.124.113532.192.9.101.9.20110301.130516.1883291  CT  A  6  119
XXXXXR1100017078M  XXXX  XR  2011-03-02 21:04:51  1  1.2.124.113532.192.9.101.9.20110301.130516.1883291  CT  A  6  119

```

eHR Radi Image Sharing

- HCP check eHR Inbox for Process Summary +Rejection Report
- If use eHR software to send report to eHR, HCP can check the log

Inbox

- ✉ **Inbox (11857)**
 - 📁 **Action Required (11095)**
 - 📁 CSP PPP (2)
 - 📁 Data Regrade Report (3897)
 - ✉ **Data Rejection Report (7196)**
 - 📁 Adverse Drug Reaction (431)
 - 📁 Allergy (284)
 - 📁 Birth Record (303)
 - 📁 Clinical Note / Summary (279)
 - 📁 Dispensing (279)
 - 📁 Encounter / Appointment (867)
 - 📁 Healthcare Recipient Index (84)
 - 📁 Immunisation (276)
 - 📁 Investigation (276)
 - 📁 Lab - Anatomical Pathology (356)
 - 📁 Lab - General (1165)
 - 📁 Lab - Microbiology (684)
 - 📁 Obstetrics (51)
 - 📁 Prescription (585)
 - 📁 Problem / Diagnosis (276)
 - 📁 Procedure (304)
 - 📁 Radiology (359)
 - 📁 Referral (337)
 - ✉ **For Information (762)**
 - ✉ **Data Upload (672)**
 - 📁 Process Summary (672)
 - 📁 Healthcare Recipient (90)
 - ✉ **Trash (306)**
 - ✉ **For Information (306)**
 - ✉ **Data Upload (209)**
 - 📁 Process Summary (209)
 - 📁 Healthcare Recipient (97)

Inbox

| | Sender | Title | Date | Task Status |
|-----------------|-----------------------|---|-----------------------------|-------------|
| 15 May 2019 (4) | | | | |
| 📧 | eHR Message Standa... | Process Summary Report (14-May-2019 to 15-... | 15-May-20... | -- |
| 📧 | eHR Message Stan... | Allergy: Data Content Exception Report (14-... | 15-May-20... Problem | |
| 📧 | eHR Message Standa... | Process Summary Report (13-May-2019 to 14-... | 15-May-20... | -- |
| 📧 | Healthcare Provide... | Healthcare Recipient - No Reply to Major K... | 15-May-20... | -- |
| 14 May 2019 (1) | | | | |
| 📧 | eHR Message Standa... | Process Summary Report (13-May-2019 to 14-... | 14-May-20... | -- |
| 13 May 2019 (2) | | | | |
| 📧 | eHR Message Standa... | Process Summary Report (12-May-2019 to 13-... | 13-May-20... | -- |
| 📧 | Healthcare Provide... | Healthcare Recipient - No Reply to Major K... | 13-May-20... | -- |

Radiology: Data Content Exception Report (11-Sep-2018)

| | |
|---------|----------------------------|
| Sender: | cHR Message Standards Team |
| Date: | 11-Sep-2018 10:01 |
| Status: | PROBLEM |

Data Content Exception Report

Radiology: Data Content Exception Report (10-Sep-2018 to 11-Sep-2018)

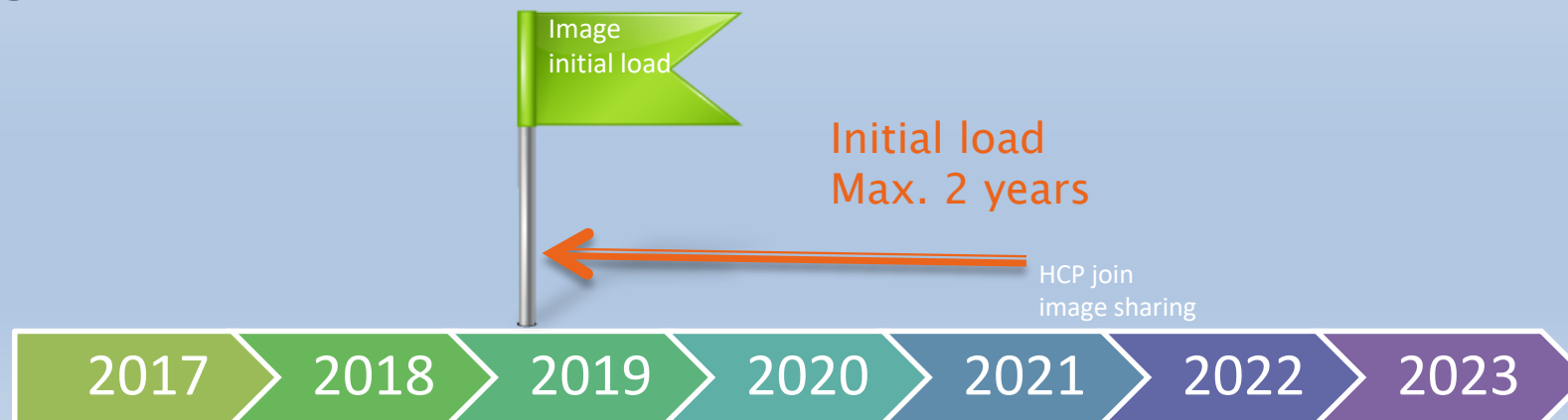
Sender: cHR Message Standards Team
Date: 11-Sep-2018 10:01
Status: PROBLEM

Data Content Exception Report

HCP: ZZZ VERIFICATION HOSPITAL

6. Initial load consideration

- eHRSS support upload HCR's radi images of recent 2 years
- Considerations:
 - Readiness of images (e.g. availability)
 - Technical work
 - Arrangement



Summary of changes



| Radi Image Sharing Pilot | eHRSS Radi Image Sharing |
|---|---|
| 1. Joining Radiology image sharing pilot | Joining eHRSS |
| 2. Sign consent form in the institution with HA patients | Build sharing consent with patients to allow data sharing in eHRSS |
| 3. HA referral case is sent to HA | All cases will be sent to eHR (including HA referral case) |
| 4. Radi report and Image are shown in HA (view by HA users) | Radi report and Image will be shown in eHRSS and HA (View by eHR and HA users) |
| 5. Receive daily report by email to check transaction of previous day | Check in eHR Inbox for sent out cases |



Good practice for sharing radiology data

Lesson learnt from Radi Image Sharing Pilot

Some incidents found in Pilot:

1. Mix up reports and images
 - Human error, use same file names, reuse accession number
2. Wrong content in report
 - Human error by copy and paste of record
3. Poor data quality
 - No testing on new equipment
4. Report/image cannot be sent to HA system
 - Staff turnover, lack of training
 - Switching of local server, configuration issues



Advice about good practice for sharing data

1. Quality Control process before sending data
2. System automation for sending data
3. Strictly follow report & Image data requirements (DICOM conformance, accession no. format)
4. Monitor process summary and handle rejected reports/images promptly
5. Staff training for scenarios in sending gateway (esp. Staff turnover)
6. Early inform eHR for any technical issues may affect the interface (e.g. Change of scanning equipment/system)
7. Regular upgrade on system to maintain security



Thank you