Preparation for eHR

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Discussion

- Introduction
- Access to eHR
  - User
  - Consent from patient
- Sharing data to eHR
  - PMI
  - Sharable data
- As eHR enrolment centre
- Preparation & engagement

Objective

- To identify preparation works required to facilitate the implementation of eHR at healthcare providers

Implementation of eHR

- Governed by the future eHR ordinance
- Voluntary participation (patients & HCPs)
- Access to eHR
  - patient-under-care & need-to-know
  - View + data upload
- HCPs to provide readily sharable electronic data within scope to eHR under patient's consent
- Standards to facilitate building & viewing eHR
- Flexibility in implementation
  - Standards adoption : migration path
  - Standards based technical interface

Patient Consent

- Govern which HCP can view patient's eHR / upload patient data to eHR

- Means of consent (captured in eHR Sharing System)
  - Smart-ID
  - Written form
  - One-time password

- Type of consent
  - One year rolling
    - Automatic renewal upon receiving attendance record from the HCP
  - Open-ended till revocation

Role-based Access Control

- Only authorised users can access to eHR under 'patient-under-care' & 'need-to-know' principles

- Role based access
  - Functions / Data accessible by user depend on the role assigned to the user by HCP
  - Only registered Healthcare professionals (with registration *with Boards & Councils*) can view clinical data
  - Healthcare administrative/ancillary staff has administrative function access only

Identification of eHR Users

- Staff must be individually identified & authenticated before eHR access is allowed
  - Secondary check with registration boards/councils for healthcare professionals, hence required registration numbers of staff

- Healthcare Staff Index
  - Staff identification data (based on HKID card)
  - Professional registration data
  - Service data at HCP

- Preparation at HCP
  - Identify which staff can access eHR
  - Collect staff consent for passing data to the index ???
  - Create staff account at eHR Sharing System
    - Batch / individual
    - Assign token
  - Ongoing maintenance, e.g. termination of service

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Identification of Patient

- Aim : Accurate identification of individual patient for building a womb-to-tomb eHR record

- Suboptimal PMI data will affect quality of eHR data

- PMI management
  - Assign a PMI Coordinator
  - Adopt standard registration practice (PMI checklist) at eHRC and all HCPs
  - Follow up problem cases
  - System enhancement
    - Communication with eHR Sharing System
    - Handle eHR PMI information

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Management of Healthcare Recipient Index

Sharing Data to eHR

- HCPs to provide readily sharable electronic data within scope to eHR under patient's consent

- eHR data standard
  - Importance of accurate patient registration (PMI) data
  - Multi standards compliance level for sharable data
    - Level 1 : free-text / PDF document
    - Level 2 : structured data with local value
    - Level 3 : structured data with standard value
  - Computer generated data only (including PDF), no scanned documents

Phased Approach

eHR Section	Level 1	Level 2	Level 3
eHR Recipient			Phase 1
Encounter			Phase 1
Referral	Phase 1	Phase 2	Phase 3
Clinical note / summary	Phase 1	Phase 2	Phase 5
Adverse reaction / allergy		Phase 1	Phase 1
Clinical alert		Phase 2	Phase 3
Problem		Phase 1	Phase 1
Procedure		Phase 1	Phase 1
Birth record	Phase 1	Phase 1	Phase 1
Assessment / physical exam	Phase 2	Phase 4	Phase 5
Social history	Phase 2	Phase 4	Phase 5
Past medical history	Phase 2		
Family history	Phase 2		
Drug – prescription record		Phase 1	Phase 1
Drug – dispensary record		Phase 1	Phase 1
Immunization	Phase 1	Phase 1	Phase 1
Clinical request	Phase 3	Phase 4	Phase 5
Diagnostic test result – Laboratory	Phase 1		Phase 1
Diagnostic test result – Radiology	Phase 1		
Diagnostic test result – Other investigation	Phase 1		
Care & treatment plan	Phase 3	Phase 5	

Key : Phase 1   Phase 2   Phase 3   Phase 4   Phase 5

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Phase 1 eHR

eHR Section	Level 1	Level 2	Level 3
eHR Recipient			▨
Encounter			▨
Referral	▨		
Clinical note / summary	▨		
Adverse reaction / allergy		▨	▨
Clinical alert			
Problem		▨	▨
Procedure		▨	▨
Birth record	▨	▨	▨
Assessment / physical exam			
Social history			
Past medical history			
Family history			
Drug – prescription record		▨	▨
Drug – dispensary record		▨	▨
Immunization	▨	▨	▨
Clinical request			
Diagnostic test result – Laboratory	▨	▨	▨
Diagnostic test result – Radiology	▨		
Diagnostic test result – Other investigation	▨		
Care & treatment plan			

Key : | Phase 1 | Phase 2 | Phase 3 | Phase 4 | Phase 5 |

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Allergy & ADR

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Select Partic

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▼ **Clinical Note & Summary**
　Clinical Note & Summary
　Referral
　Birth Record
Encounter
▼ **Problem & Procedure**
　Problem / Diagnosis
　Procedure
　Investigation Report
▼ **Medication**
　Prescribing History
　Dispensing History
▼ **Laboratory Record**
　Chemical Pathology
　Haematology
　Immunology
　Microbiology & Virology
　Anatomical Pathology
　Toxicology
　Immunogenetics
　Molecular Pathology
　General & Other
▼ **Radiology Record**
　General Radiology
　Fluroscopy
　Ultrasonography
　Computed Tomography
　Magnetic Resonance Imaging
Immunisation Record

Laboratory Record

| Date View | Document View | Haematology ▼ | Period: All ▼ |

Date ▼	Profile Description		Institution
21-Aug-2012	AD		QMH
20-Aug-2012	Haematology Result		QMH
15-Dec-2011 📄	APTT,PT		QMH
12-Sep-2011	C, DD, FIB		UCH
06-Jun-2011	HBP, HBPP, HBPT		QMH

Laboratory Cumulative

Last 1 year ▼　　　　　　　　　　⏪ ◀ Page 1 of 1

Institution	QMH	UCH	QMH	UCH	HKSH
Date	**15-Dec-2011**	**12-Sep-2011**	**06-Jun-2011**	**06-Jan-2011**	**09-Sep-2010**
PDF Report	📄				
Hemoglobin Pattern	215	90	500	200	---
HbA	90	100	140	700 ↑	---
Hemoglobin F	700 ↑	120 ↑	700 ↑	90	---
Hemoglobin F, Betke	90	130	200	215	---
Hemoglobin A2			↑	90	---
Hb Barts	215	90	100	215	---
Hb Variant	90	90	130	90	---
Hb H Inclusions	700 ↑	700 ↑	120 ↑	500 ↑	---
Haemoglobin Pattern Results	200	200	212	200	---
Hemoglobin Pattern Test	500 ↑	500 ↑	---	700 ↑	---
Haemoglobin Pattern, Alkaline Electrophoresis	---	215		90	---
Haptoglobin	90	100	215	215	---
NAP Score	700 ↑	120 ↑	---	500 ↑	700 ↑
Acid Phosphatase, cytochemistry	200	130	700	---	200
Autohaemolysis	500 ↑	140 ↑	200 ↑	---	500 ↑

Hemoglobin F 700 mL [HIGH]
Reference Range: 100-500

Data Preparation & Interface

- Data preparation
  - Determine data of which domain (e.g. drug dispensing, problem) is/are readily sharable electronically
  - Level 3 data :
    - Prefer native adoption of recognised terminology, e.g. HKCTT, ICD 10, over mapping
    - All mapping must be in the context and verified by domain expert
  - Determine the standard compliance level for each domain
- The actual data interface
  - Determine the interface mechanism
  - Allocate resources for program change and testing
  - Ongoing : follow up on problem cases

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HCP as Enrolment Centre

- For HCP who will also be the eHR Enrolment Centre

- To support

  - HC Recipient (patient) enrolment

  - Consent-to-provider

  - eHR PMI maintenance in accordance with eHR operation guidelines

  - Any other related operation procedures in accordance with eHR operation guidelines

- Determine the location at the HCP

  - Physical setup

Engagement

- Hospital commitment & management support
- eHR Participation Preparation Task Force
  - Work closely with eHRO, eHR PMO team
  - Dedicated team include management, clinical & technical staffs
  - Regular forum for discussing issues & solution
  - Monitor work progress
- Staff forum to early engage staffs & well informed the progress & impacts

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HCP's Preparation for eHR

- To assign a coordinator for eHR related matters:-
  - overall project implementation, management and coordination for the handling, access, use, retention and security of the eHR
  - eHR enrolment between eHR Programme Office and HCP/HCI(s)
  - Create and manage eHR accounts for healthcare professionals / administrative staff / users in HCP/HCI(s)
  - System integration
  - Data interface

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Thank You