



Implementing MICO – Beyond the EMR

Dr Wong Yue Sie
Group COO, SHS
COO & Div Chair ACSS, SGH

• service
• education
• research

National Health Informatics Summit
18 July 2009

PATIENTS. AT THE HEART OF ALL WE DO.

Members of the SingHealth Group



SingHealth Institutions

3 Hospitals
5 National Specialty Centres
9 Polyclinics
3,300 Beds
42 Specialties
2,000 Doctors
1.9 million Specialist Outpatient visits
1.6 million Polyclinic visits
186,473 Admissions
76,615 Inpatient Surgeries
110,857 Day Surgeries



Members of the SingHealth Group



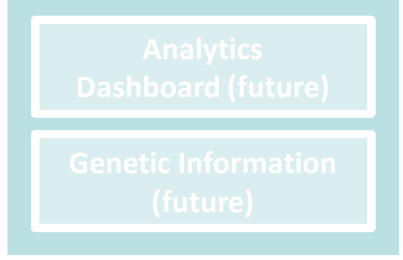
Year	Events
1998	Eclipsys SCM implemented in SGH
2000	Cluster was formed. A strategic decision was made to have a common EMR platform for the cluster. iSoft acquired the international rights for Eclipsys products
2002	Cluster Results Reporting and HIDS on iSoft iCM - Lab/Rad results and reports
2003	OT reports Image Management System integration with EMR system
2004	Cluster eRx (Outpatient and Discharge Prescription Orders) EMRX implementation
2005	Filmless at SGH and Outram Campus Centres
2007	Sign agreement with Eclipsys to migrate EMR to SCM 5.0 on 26 th Sep
2008	Cutover to SCM 5.0 on 26th Oct cluster-wide. Implemented eLab/eRad orders at CGH on 15th Dec & completed Feb09. Filmless at CGH & KKH.
2009	Implemented SCM 5.0 SP2 cluster-wide & SMM @ KKH. Implemented CLMM in pilot wards in KKH.

Members of the SingHealth Group

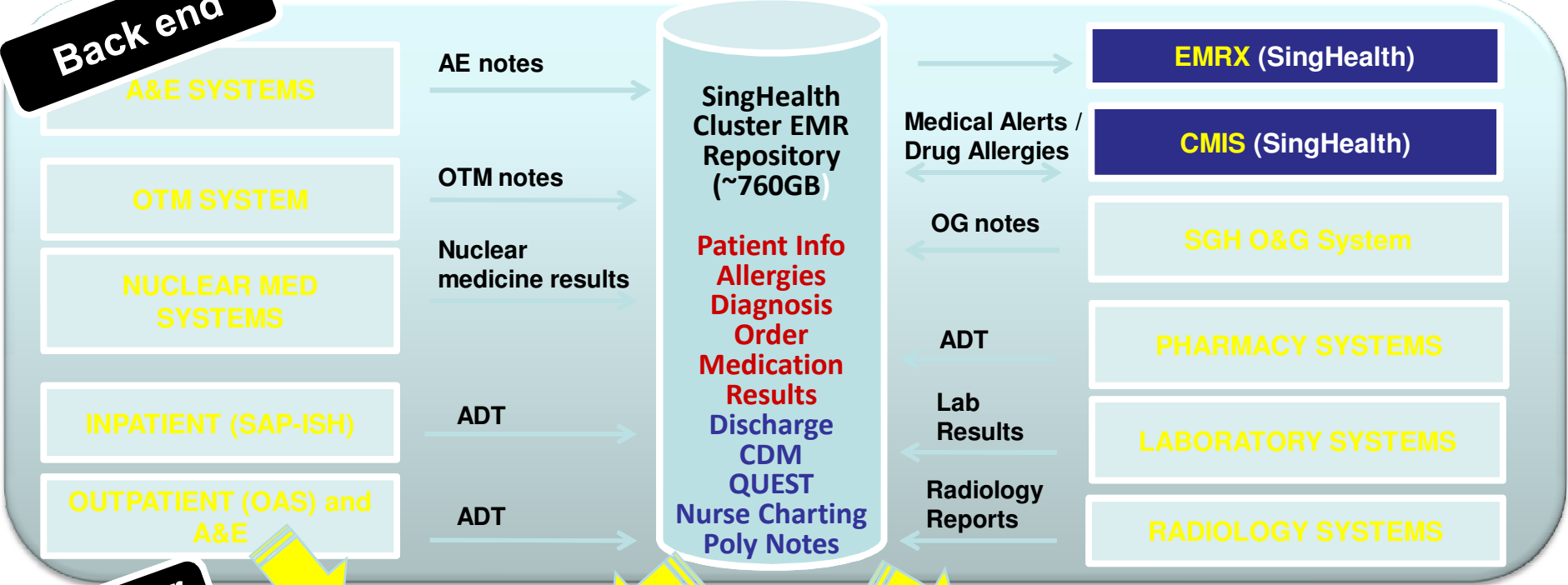


SingHealth Systems

Front end



Back end

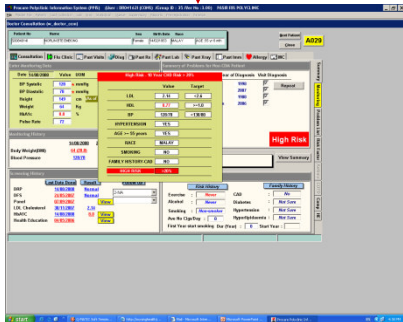


Secondary Usage

Business Intelligence

Analytics

Perspectives & Perceptions



- What is the EMR to the clinician?
 - Clinical documentation, research...
- What does it mean for other healthcare providers?
 - Workflow & task manager..
- What does the healthcare administrator look for?
 - Patient safety, standardisation, analytics, reporting..

Members of the SingHealth Group



Implementation Challenges

- Technical & Localisation Issues
- “Standardising” Workflows
- Multiple Workstreams
- User Engagement, Acceptance & Adaptation
- “Transforming” the Clinical Workplace

Members of the SingHealth Group



Changi
General Hospital



KK Women's and
Children's Hospital



Singapore
General Hospital



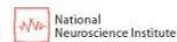
National Cancer
Centre Singapore



National
Dental Centre



National Heart
Centre Singapore



National
Neuroscience Institute



Singapore National
Eye Centre



Polyclinics
SingHealth

Challenges – Technical & Localisation

- Standardising interface/messaging requirements & functionality across multiple ancillary systems.
- Establishing the Unique Patient Identifier & Master Patient Index – an evolving environment.
 - SC, PR, EP, S pass, WP (FW), WP (FDW), DP
- System Availability, Downtime Systems & Procedures
 - Managing system dependencies
 - Patient safety & system availability

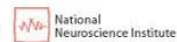
Members of the SingHealth Group



Challenges – Mapping Workflow

- Reconciling varying workflows across multiple institutions.
 - Care Process Variations
 - Across hospitals & institutions.
 - Within hospitals: ICUs, Wards, EDs, Day Surgery, Outpatient, Primary Care, Special Services
 - Reconciling Multiple Ancillary System Workflows
 - LIS (3), RIS (4), Pharmacy (3), OAS.
- To be paperless or paper-less:
 - how does it impact on work processes, sample & task tracking?
 - Is it necessary for patient communications?
 - Are services delivered on-site or off-site?

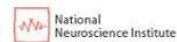
Members of the SingHealth Group



Multiple Workstreams

- Ambitious goals:
 - Simultaneous staggered implementation of CPOE, CLMM & Clinical Documentation over 3 years.
 - Concurrent replacement of cluster RIS-PACS.
 - Implementation of pharmacy systems together with pharmacy automation.
- Limited resources:
 - Clinician champions.
 - Clinical informatics resources.
 - IT resources.

Members of the SingHealth Group



Challenges – User Engagement, Acceptance & Adaptation

- Multiple parties: doctors, nurses, pharmacists, allied health:
 - Building consensus on workflows.
 - Standardising system catalogues (across institutions, between system owners & clinicians).
- Standardising nomenclatures (ICD, SNOMED, drug etc), accepting structure.
- Adapting to change – version upgrades, enhancements, practice changes & shifting/new responsibilities.

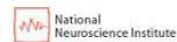
Members of the SingHealth Group



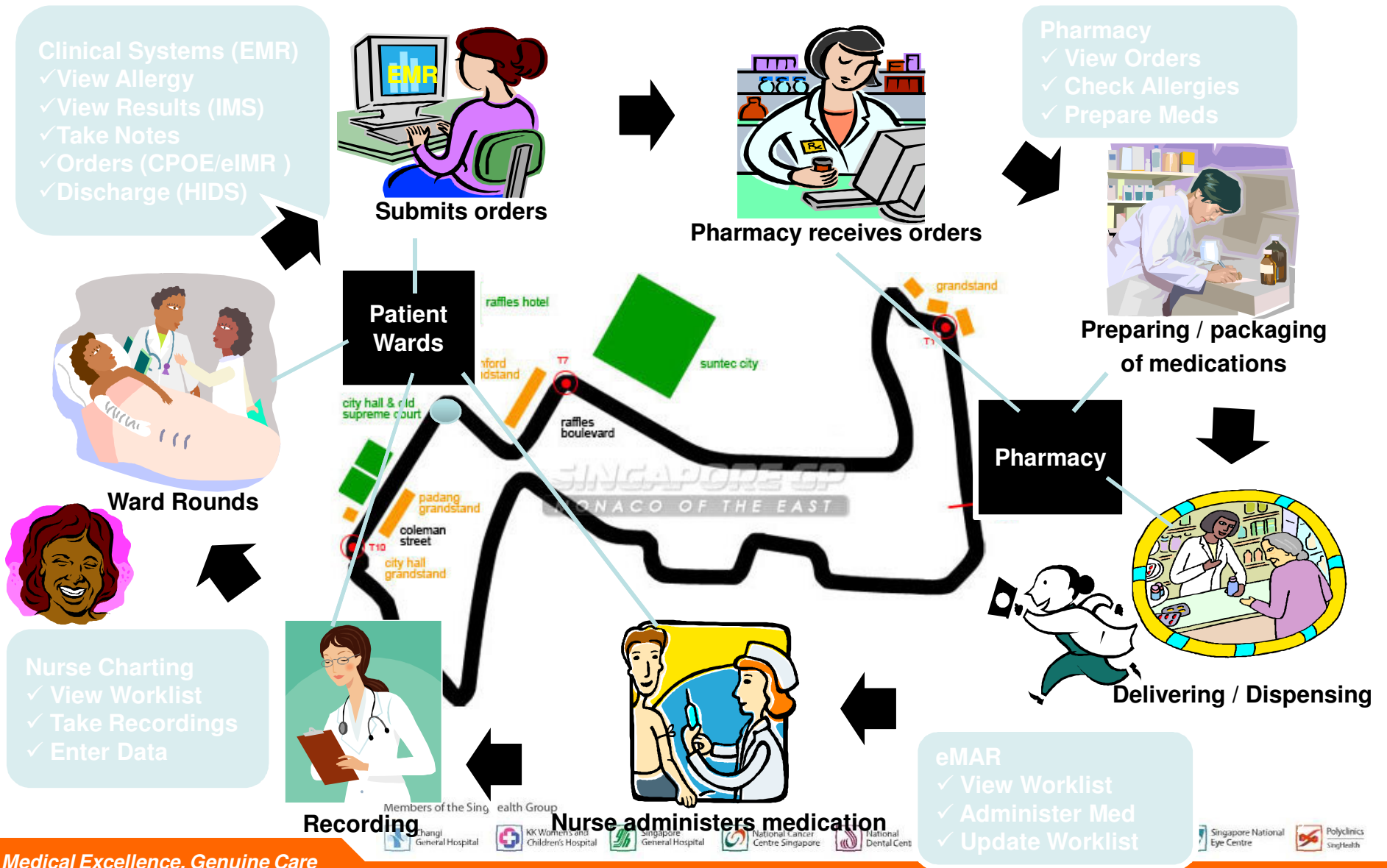
Transforming Clinical Practice

- Changing mindsets in Clinical Care
 - Standardising clinical practice through Order sets.
 - Clarifying thinking about clinical problems (Health Issues, Diagnosis, Problem Lists).
 - Redefining responsibilities & roles amongst healthcare providers.
- Re-designing the workplace
 - Ward workflows for medication administration, managing lab samples.
 - Outpatient workflows for lab samples.
 - Reorganising Lab & Radiology Departments & Pharmacies.

Members of the SingHealth Group



Consider a Clinical Workflow @ the Ward



The Way Ahead

- Building multi-disciplinary teams:
 - Doctors, nurses, allied health, IT, clinical informatics, health administrators.
- Engaging users.
- Keeping patients & their care needs in focus.
- Learn from others & each other – create platforms for experiential & research based local sharing...

Members of the SingHealth Group



Changi
General Hospital



KK Women's and
Children's Hospital



Singapore
General Hospital



National Cancer
Centre Singapore



National
Dental Centre



National Heart
Centre Singapore



National
Neuroscience Institute



Singapore National
Eye Centre



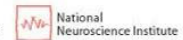
Polyclinics
SingHealth



Thank you



Members of the SingHealth Group



Patients. At the Heart of All We Do