

Joint Healthcare Call For Collaboration (CFC)

Improving healthcare quality and efficiency through innovative use of IT



NATIONAL HEALTHCARE GROUP

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Introduction to NHG

- Formed in 15 Mar 2000 as one of the two public-sector healthcare clusters in Singapore
- 4 Hospitals
Alexandra Hospital, National University Hospital, Tan Tock Seng Hospital, Institute of Mental Health / Woodbridge Hospital
- 1 National Centre
National Skin Centre
- 9 Polyclinics
Ang Mo Kio, Bukit Batok, Choa Chu Kang, Clementi, Hougang, Jurong, Toa Payoh, Woodlands, Yishun
- 3 Specialty Institutes
The Cancer Institute, The Eye Institute, The Heart Institute
- 4 Business Divisions
NHG College, NHG Diagnostics, NHG Gulf, NHG Pharmacy
- 11,700 Staff Strength
Includes 1364 doctors, 4565 nurses
- 2,000 acute beds + 2,100 psychiatric beds in service

Introduction to NHG

- S\$1.3 billion annual revenue
- 2.7m Polyclinic attendances
- 1.7m outpatient attendances, 301K A&E attendances, 128K inpatient admissions, 69K day surgery cases
- More than 10,000 desktops, laptops and printers combined

NHG Family



Alexandra Hospital



National University Hospital



Tan Tock Seng Hospital



Institute of Mental Health



National Skin Centre



(9) Polyclinics

Some of Our Accreditations



Joint Commission
INTERNATIONAL



ISO 9001:2000

(Quality Management System)



ISO 14001:1996

(Environmental Management System)



OHSAS 18001:1999

(Occupational Health & Safety Management System)

Introduction - NHG

➤ Vision

Adding Years of Healthy Life

➤ Mission

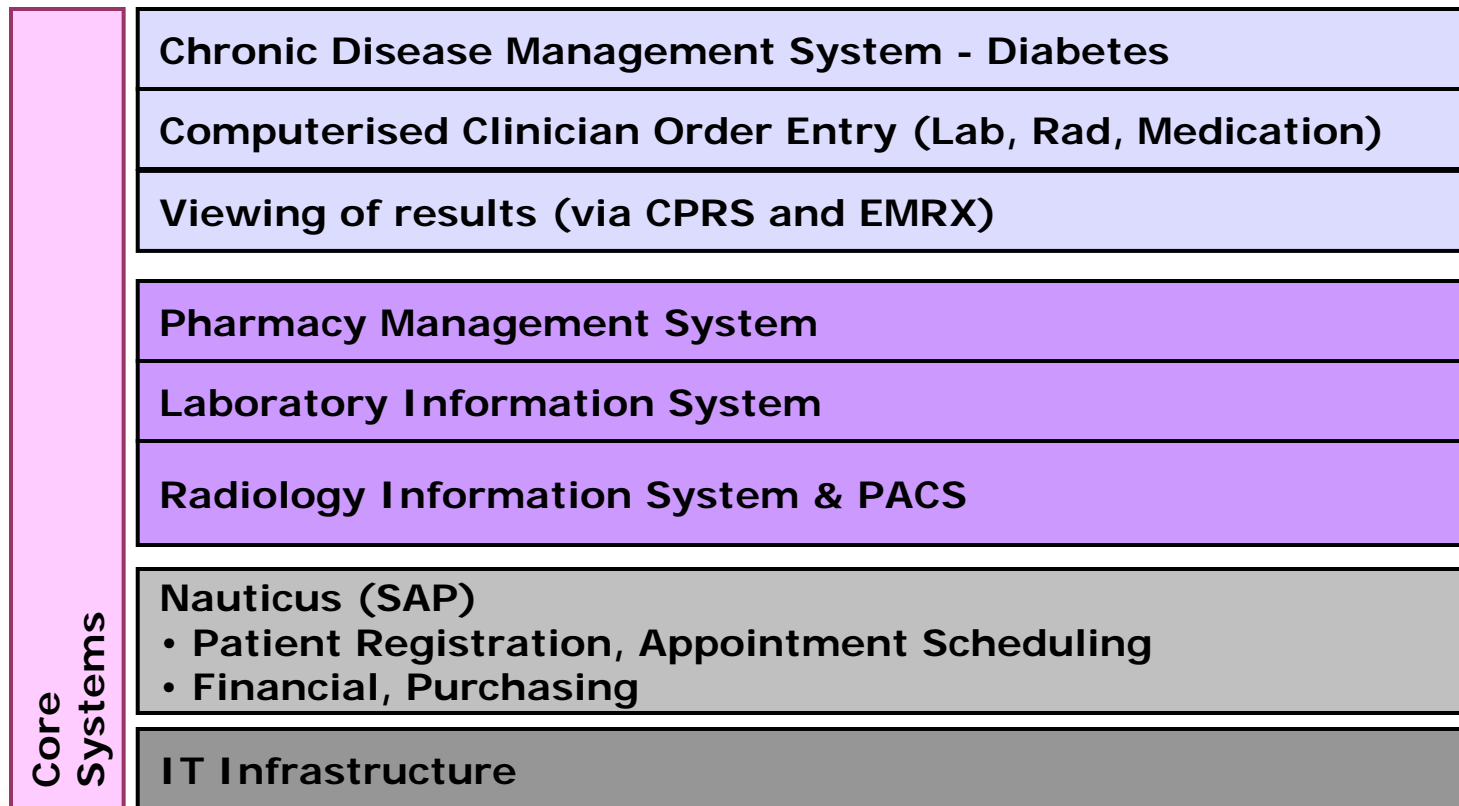
We will improve health and reduce illness through patient-centred quality healthcare that is accessible and seamless, comprehensive, appropriate and cost-effective, in an environment of continuous learning and relevant research.

CFC Objectives

- Deliver safer care
- Enhance quality of care
- Achieve greater efficiency

Where Are We Today

- ✓ Core capabilities
- ✓ Rich data repository



Strategic Objectives of NHG

1) IT Framework and Structure

- ❑ Central Clinical Repository and Master data set (eg drug dictionary)
- ❑ Dashboard capability – for providers, patients, partners

2) Specialty Systems

- ❑ Cardiovascular, Oncology
- ❑ Research – translational and clinical research
- ❑ Mental Health / Psychiatry

Strategic Objectives of NHG

3) Chronic Disease Management and Care Integration

- ❑ Hypertension, Dyslipidaemia, Stroke
- ❑ Patient-centric systems – eg portal services, virtual care centre
- ❑ Central Appointment Scheduling System

4) FBCS (*Faster, Better, Cheaper, Safer*)

- ❑ Patient Safety, Patient Education
- ❑ Operational Efficiency
- ❑ Better utilisation of resources
- ❑ Better use of rich data repository

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
IT Framework and Structure		
<p>1. Central Clinical Repository & Master Data sets</p> <p>Cluster</p>	<p>Provides single source of truth of patient; as an “anchor” to drive core and specialty systems</p>	<p>Healthcare providers</p>
<p>2. Multi-format Document and Integrated Image Repository</p> <p>Cluster</p>	<p>1. A repository to collate documents from different systems and in different formats (eg Html, Word, PDF, scanned image); to enable users to be alerted of results, mine the data</p> <p>2. Currently, images captured by various instruments (HFA, stratus, vistant, IOL, master and cirrus OCT) are individually stored in local PCs and in various formats. System is intended to integrate various images for investigation, teaching and research.</p> <p>3. Capture of wound images for wound management.</p>	<p>Healthcare providers</p>

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
IT Framework and Structure (continued)		
3. Dashboard Capability <small>Cluster</small>	Provides central view of patient information	Healthcare providers, patients
Specialty Systems – Research		
1. Research <small>Cluster</small>	Platform to support translational and clinical research	Researchers, clinicians

Potential Collaboration Areas to be explored under CFC

Transforming Healthcare delivery



NMHB

National Mental Health Blueprint (NMHB)

Mental Health Promotion

Delivery of Integrated Mental Health Services

Digital Psychiatry 2009

Promotion & Prevention

Institution-Based Care

Community-Based Care



Serious Gaming



Online Assessment Tools



Wellness Navigator



Patient Tracking in wards/ gardens



Loving Hearts, Beautiful Minds



Pharmacy Automation



CommCare@IMH



Activity Monitoring of ADHD patients



Online self-management CBT Program

Continuum of Care

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
Specialty Systems – Mental Health: Promotion & Prevention		
1. Serious Gaming IMH	Using games to promote mental wellness, educate public.	General public, child & adolescents, patients with addiction conditions
2. Online assessment tools IMH	Extend the assessment tools of mental wellness thru the use of internet to reach out to general public and encourage early detection & intervention.	General public, schools, corporate organizations
Specialty Systems – Mental Health: Institution- Based Care		
3. Wellness Navigator IMH	Online booking of Wellness facilities in IMH. Virtual tour of IMH facilities/ services. De-stigmatize and promote awareness.	General public, patients / visitors to IMH
4. Patient tracking in wards/ gardens IMH	Improve the security & safety of inpatients who are on Garden Therapy in IMH gardens which are less clinical.	Inpatients of IMH

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
Specialty Systems – Mental Health: Institution- Based Care (continued)		
5. Pharmacy Automation System (PAS) <small>IMH</small>	Improve patients safety and relieve nurses from mundane work of counting/ labeling drugs to focus more on quality care.	Inpatients
Specialty Systems – Mental Health: Community-Based Care		
6. CommCare @IMH <small>IMH</small>	To empower all community care team to retrieve and capture patient information at anywhere, any time. It'll improve patient safety and ensures holistic care delivery.	Patients discharged back to community
7. Activity Monitoring of ADHD patients <small>IMH</small>	Objective way of capturing activity levels of ADHD patients. 24-hour monitoring is made possible and helps in care-path planning by physicians.	ADHD patients
8. Online self-management CBT program <small>IMH</small>	Web-based solution to perform Cognitive Behavioral Therapy (CBT) and self-management program. In a workbook/ game format, it'll arouse interests and achieve better outcome.	Child & adolescents, recovering patients

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
Chronic Disease Management & Care Integration		
Cluster	Innovations relating to chronic disease management and care integration	
FBCS – Patient Safety, Patient Education		
1. Infra-red falls NUH	Early detection system to alert nurses in advance if patients prone to fall attempt to get out of bed. Use of infra-red technology to detect movement	Inpatients
2. Mobile Arrhythmia Detection System NUH	To use a cell phone-based arrhythmia detection system – allows detection of arrhythmia (abnormal heart rhythm) beyond the hospital boundary, and to alert doctors when necessary	Patients
3. RFID to help in sponge counting NUH	To enhance the proof of current counting process by using RFID sponges in surgery, and use of wand to scan the surgical cavity	In OT

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
FBCS – Patient Safety, Patient Education (continued)		
<p>4. Rule-based system for high-alert medications</p> <p>TTSH</p>	<p>A rule-based electronic support system with built-in rules (eg drug dosing according to lab and weight values), calculation function, pre-set formulae to help clinicians to prescribe and administer high-alert medications safely</p>	<p>Healthcare providers</p>
<p>5. Patient Safety website</p> <p>TTSH</p>	<p>To provide an effective learning platform to share and disseminate information on patient safety. Have a knowledge-management tool for fast-cycle collection, evaluation and dissemination of lessons learnt, both successes and errors.</p>	<p>Healthcare providers</p>
<p>6. Communicating with patients about safety & risks – informed consent</p> <p>TTSH</p>	<p>Tool to improve communication with patient regarding their health conditions, surgical procedures – this is to improve patient’s level of knowledge and improve partnership in care. Project envisages use of 3D diagrams, video-clips and aided communication tools</p>	<p>Patients</p>

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
FBCS – Patient Safety, Patient Education (continued)		
7. Video-conferencing with Patients NHGP	Use video-conferencing for care of patients in the home (daily or EOD dressing, reviewing insulin injection by patient at home, monitoring the proper technique of inhaler)	Patients; Healthcare providers
FBCS – Operational Efficiency		
8. Intelligent Bed Dashboard NUH	Electronic dashboard to provide real-time up-to-date patient information at bedside	Hospital staff
9. RFID – Patient, temperature monitoring & asset tracking NUH	Use of RFID tags to automate admission and discharge of patients, track patients whereabouts and measure patients' body temperature. The tags can also be used to track the location of equipment used in the hospitals.	Patients; Hospital staff
10. Claims Management Cluster	A system to track and manage project funds, eg claims, utilisation, and status of funds	Hospital staff

Potential Collaboration Areas to be explored under CFC

Project Title	Objectives & Description	Target Users
FBCS – Better Utilisation of Rich Data Repository		
11. Datamart for Quality & Clinical Indicators TTSH	Ability to use data from various hospital administrative, operational, clinical, casemix systems to generate charts, trends of quality and clinical indicators	Healthcare staff

Collaboration Expectations

➤ Expectations

- Shared vision, partnership
- Systems must be scalable should we decide to extend them to other Institutions
- Systems must connect back to the core systems, eg the Central Clinical Repository
- Applications to conform to Standards
 - Data exchange and messaging
 - Coding and classifications
 - Clinical terminology standards
 - Technology standard

➤ Point of Contact for CFC

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Q & A