



Empowering Community Mental Health Team with CommCare@IMH

Catherine Chua Siew Hong
Emileen Chia



Agenda

- Mental health issues
- Introduction to Institute of Mental Health, Singapore
- Background to CommCare@IMH
- Overall workflow & Architecture
- Learning Points
- Conclusion





Mental health Issues in the world

Mentally ill- largest invisible majority

- **450 million** people alive to day suffer from mental or neurological disorders or from psychosocial problems such as those related to alcohol and drug abuse
- Globally, about **70 million** people suffer from alcohol dependence, **50 million** have epilepsy, **24 million** have Schizophrenia, **one million** people commit suicide everyday and between **10 - 20 million** people attempt it

The World Health Report 2001 .



The World Health Report 2001

Mental health issues

- 1 in 4 persons will develop a mental or behavioural disorder in their lifetime
- Accounts for 12.3% of Disability-Adjusted Life Years lost
- By 2020: estimated that 15% of disability worldwide is contributed by unipolar depression
- Prevalence of Schizophrenia – world wide is 1%





Mental Health in Singapore

National Mental Health Survey 2004, IMH:

- **Anxiety & Depression:** 6.5% of population
- **Minor Psychiatric Illness:** 15.7% of population
- **Dementia:** 5.2% of those > 60 years

About 15% of persons with mental illness commit suicide. More than road accidents every year

Each year about 65 persons accumulate in IMH long-stay wards.

About 50% of persons with depression / anxiety disorders in Singapore do not seek help. This is about the same as the estimated 50 - 60% in most developed countries.

Mental illness contributes to 17% of the combined burden of premature death and living with disability in Singapore



Mental health problems are costly for all...

- Direct cost of services & treatment
- Indirect cost
 - On caregivers (family, society)
 - Trigger for other physical health problems
 - E.g. Excessive stress linked to heart disease & cancer
- Opportunity cost
 - Lost productivity & employment
 - E.g. Employees (at 3 major American companies) with chronic symptoms of depression were twice as likely to report missed workdays
- = Total Cost of Mental Health Problems

Some estimates...		(Source: WHO)
EU	3-4% of GNP - 45% due to lost productivity	
US	2.5% of GNP - Indirect costs either match or outweigh direct costs in all mental health areas	
Canada	At least \$14.4b every yr - \$8.1b in lost productivity	





Bare Facts about mentally ill persons

- Mentally ill persons have multiple and complex needs besides the high stigmatising response of the societies where they live
- WHO World Health Report in 2001, listed schizophrenia as the 8th leading cause of DALYs worldwide
- High incidence of mentally illnesses becoming chronic
- Problems in coping with the disabling aspects of their illnesses on themselves and their families
- They experience many disadvantages on the grounds of social class, unemployment, poverty and homelessness



Bringing back...What can we do ?

The Move Towards Community-Based Psychiatric Care

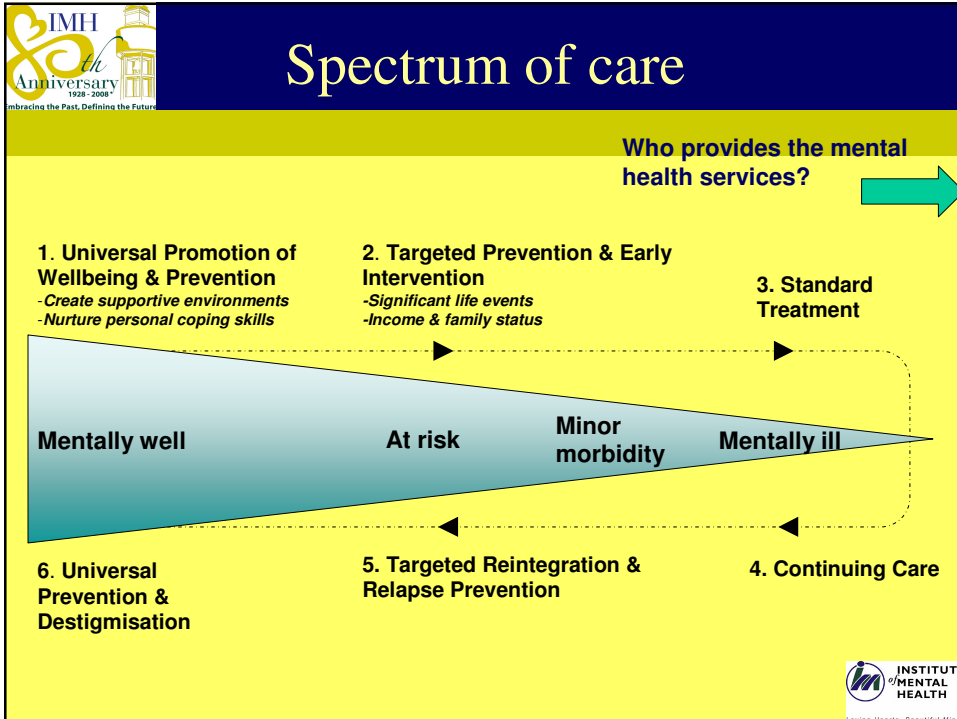
Key Recommendation of WHO 2001 Report on Mental Health:

- Give **cost-effective care** in the **community**, with a **better outcome** and **quality of care** to individuals with chronic mental disorders and limit the stigma of treatment

Benefits of Community-Based Psychiatric Care:

- Reduces stigmatization
- Better outcomes and quality of life
- Lower barriers to treatment-seeking behaviour
- Avoidance of the disabilities that result from 'institutionalisation'





Institute of Mental Health, Singapore

- Singapore's only tertiary psychiatric institution.
- Patient-focused.
- Community friendly.
- Centre of excellence for research and training in psychiatric care.
- 52 wards; capacity to look after more than 2,000 inpatients.
- Largest number of mental health professionals under one roof.
- Network of satellite outpatient clinics and day centres.

INSTITUTE of MENTAL HEALTH

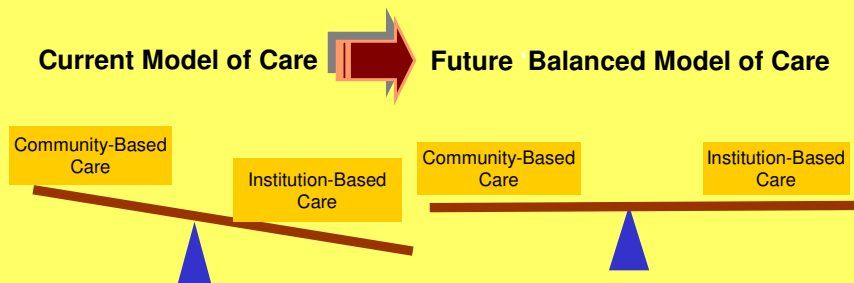
Comprehensive Services

- General Psychiatry
- Geriatric Psychiatry
- Child & Adolescent Psychiatry
- **Community Psychiatry**
- Forensic Psychiatry
- Rehabilitation Psychiatry
- Emergency Psychiatry
- Early Psychosis Intervention
- Addiction Medicine
- Psychotherapy



- Specialist Outpatient Clinics
- Behavioural Medicine Clinics
- 24-Hour Emergency Service
- In-patient Services
- Day Centres

“Balanced Care”

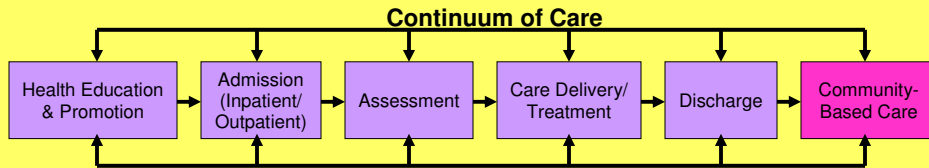




Community Psychiatry

Background

- Continuum of care model:



- Psychiatric problem can become chronic
- Institutional-based care:
 - Non-sustainable in long run
 - Problem re-integrating patients back to society
- Long term cost-effective care
- In line with National Mental Health Blueprint



Community Psychiatry

Community Mental Health Team (CMHT)

- Community-based care in mental health **focus** on
 - rehabilitation and integration of the patient as far as possible into mainstream society managed by a multidisciplinary team
 - Internationally accepted that community-based care is superior to institutional care in providing persons with mental illness with a better **quality of life (WHO, 2000)**
- There is **evidence** that aggressive community management of persons with mental illness can result in
 - improvements in the quality of life;
 - greater acceptance of treatment; and
 - reduce the number of inpatient admissions.





Community Psychiatry

Community Mental Health Team (CMHT)

- Conducts home visits by Multidisciplinary team (psychiatrist, doctors, nurses, allied health)
- Attends to home crisis and help line
- Provides rehabilitative, psychoeducation programs to patients and caregivers at home
- Assist patients in re-integrating back to society

- Program under MOH's National Mental Health Blueprint



CMHT

Issues faced

- Shift to community-based care
- Paper-based workflow:
 - Patients info penned in CMHT's personal diaries
 - ❖ Risk to patient confidentiality
 - ❖ Out-dated patient info
 - Outcomes of interventions and assessments keyed into database when CMHT returns to base
 - ❖ Gaps in info
 - ❖ Patient safety issues
 - ❖ Duplicate work & efforts





CMHT

Requirements & Needs

- Accessibility to real time up-to-date patient information
- Documentation of assessment outcomes at point of care
- Documentation of changes to treatment at point of care
- Patient medication history tracking
- Seamless flow of patient information
- Safeguard patient confidentiality
- Digitized data for further analysis, statistic tracking & audit



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Background

- Objective:
 - To streamline CMHT paper-based tasks while increasing the overall operational efficiency and patient safety by empowering the CMHT with up-to-date patient key info
- Plan:
 - 3-month trial of POC
 - Collaboration between few partners
 - Development of CommCare@IMH POC application
 - Trial of different mobile devices
 - End-Of-POC user survey to assess the feasibility of concept

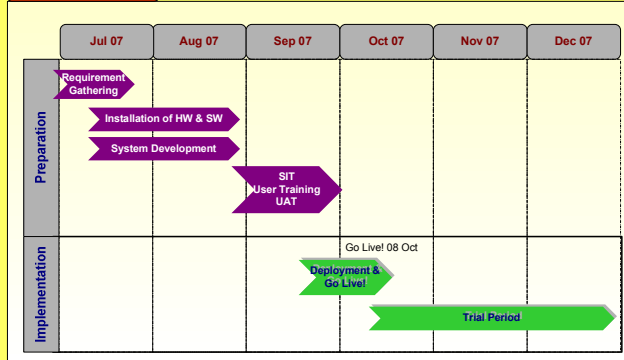




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Time Line

Project Timeline

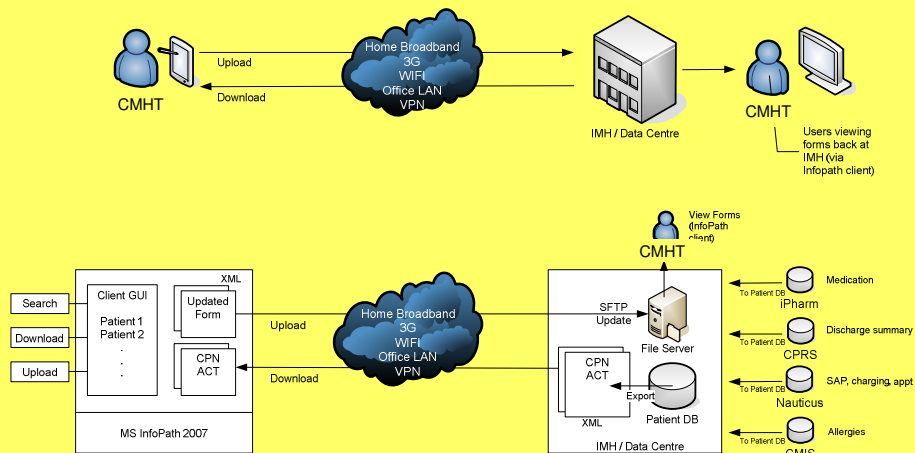


- Proposed outcome indicators:
 - Enhanced patient safety with accessibility to up-to-date patient key info
 - Shorter total turnaround time per case seen
 - Reduced double work



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Overall Workflow & Architecture





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Overall Workflow & Architecture

- Briefcase model:
 - Patient medical info be downloaded from current IT system, e.g. SAP, iPharm, CMIS
 - CMHT enters patient clinical notes into the mobile device during patient visits
 - Patient data in the mobile device will be encrypted to prevent unauthorized disclosure
 - Patient data captured will be uploaded back to IMH system via secured connections



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Hardware



Ultra Mobile PCs



Laptops





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Learning Points

- Hardware consideration:
 - Physical Size / Weight
 - Screen Size
 - Battery Life
 - Data entry methods
- Software evaluation:
 - Data accuracy
 - Up-to-date info download
 - Seamless information flow
 - Reduce duplicate data entry



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Conclusion

- POC ended Jan 2008
- Positive user feedback
- Reduction in duplicate work
- Improved efficiency & productivity
- Easier patient progress tracking
- Moving forward...
 - Roll-out to more community-based services
 - Integrate information captured back to mainstream EMR
 - Enhance functionality → scheduling, staff location tracking, patient family education materials etc...





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Thank you

