



## Service Priorities and Programmes Electronic Presentations

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### **Promoting Early and Safe Discharge of Patients with Chronic Diseases by Lean Six Sigma Framework**

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#### **Introduction**

Acute hospitals face access block during demand surges despite shift to ambulatory care model. Subacute medical and rehabilitation beds support complex or frail patients handed over from acute hospitals for holistic care before discharge. 45% new admissions need medical social referrals (Lau, personal communication) and 20% have discharge problems. Exit block occurs in complicated cases requiring longer medical stay, need >1 carer and pending arrangement of appropriate new long-term care placement. Prolonged stay increases cross infection risk.

#### **Objectives**

To reduce discharge exit block in non-acute hospital beds through enhancing clinical services synchronization and reduction of “work-in-progress”.

#### **Methodology**

Lean Six Sigma Framework of define, measure, analyze, improve and control was used to prioritize worthwhile improvement areas and generate quick win solutions. First improvement priority was found to be synchronizing transitional medical team care through early admission care plan (SPP\_7.29, 2015 HA Convention) using 7-Q cognitive framework. The second priority was a proactive medico-social care plan for potential discharge problems to smoothen discharge process. Senior physician coached trainees to build personalized medico-social care plans for patients within 3 days of admission. Apart from triage for medical, rehabilitation and palliative care, burning social issues, mobility status, expected length of stay, discharge destiny, carer availability, goal achievements and follow plans were elucidated. Highly dependent patients requiring new placement were referred to MSW on Day 1-2. For those requiring medical rehabilitation, senior physician would document preliminary discharge date and confirm discharge date, communicating with MSWs in delivering early and appropriate medical, social and community services to patients and carers.

Weekly multidisciplinary case conference confirmed team communication and promoted patient-centred and family-centred care.

### **Result**

With admission care plan and upstream social interventions in new Value Stream Map, 2015-16 bed turnover in 50 M&G beds increased > 20% and ALOS reduced by 2 days from 2014 baseline. Bed turnover was controlled at 2 to 2.5 throughout 2015. For first 6 weeks of 2015, 32 chronic disease patients in 50 beds with potential discharge problems were proactively followed by senior physician and 3 case social workers. Risk matrix of discharge problem versus home safety provided insight towards medico-social interventions. High patient risk included home alone, back from China, recent increased dependency from cognitive, swallowing, continence and mobility problems. High social risk included lack of carer or requiring >1 carer, unrealistic carer expectation of longer rehabilitation and family avoidance, disputes or undecisiveness on placement. After anticipatory risk-based medico-social interventions, 75% of discharge problems identified were solved within 4 weeks and 25% settled within 6 weeks. Observations from first 6 weeks of 2016 yielded similar profile except senior physician input and potential discharge problems were reduced with trainees' use of admission care plan 7-Q cognitive framework. Shortest MSW-led new placement took 12 days. A few long-stay (>60 days) patients were successfully discharged through family conference, setting a preliminary then confirmed discharge date within 2 weeks. The third priority of using "length of stay board" to improve team communication and simplify case conference logistics and fourth priority of reducing discharge transport (NEATS and ETS) waiting time will be future targets of improvement.