Service Priorities and Programmes

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Reducing Unnecessary Hospital Readmission for High-risk Elderly through Physiotherapy Case Management of Integrated Care Model (ICM) in TKOH & HHH

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Introduction
High-risk elderly patients with multiple co-morbidities are prone to have unnecessary hospital readmission post-discharge. ICM aims to facilitate pre-discharge and post-discharge healthcare service for high-risk elderly in the community.

Objectives
To evaluate (1) the post-discharge Physiotherapy Case Management (PCMgt) by Physiotherapist-Case Manager (PCMgr), (2) the functional outcomes of patients, and (3) the unplanned readmission rate within 28 days post-discharge.

Methodology
Patients under PCMgt by PCMgr from August 2012 to December 2013 were evaluated. Patient clinical information in CMS was analyzed. SPSS with non-parametric Wilcoxon Signed Ranks Test was employed. Outcome measures were categorized as: (1) Modified Functional Ambulation Classification (MFAC); (2) Barthel Index (BI) 20; (3) discharge destination after PCMgt; and (4) unplanned readmission rate.

Result
72 patients were reviewed with mean age of 80.9 ± 5.7. 40.3% of male and 59.7% of female. Their mean HARRPE Score was 0.190 ± 0.095. 48.6% had a HARRPE Score ≥0.2. Principal diagnosis of patients under PCMgt was: (1) Fall (31.9%); (2) COPD / Chest Infection / Bronchiectasis (16.7%); (3) Heart Disease (5.6%); (4) CVA / Parkinsonism (4.2%); (5) Decrease General Condition (4.2%); (6) Fracture (2.8%); and (7) Others (34.7%). Main problems identified were: (1) Fall Risk (45.8%); (2) Fall

Risk + Pain (15.3%); (3) Deconditioning (15.3%); (4) Cardiopulmonary Function Decline (13.9%); (5) Deconditioning + Pain (5.6%); (6) Pain (2.8%); and (7) Inadequate Healthcare / Social Support (1.4%). Most common intervention delivered were: (1) Fall Intervention (47.2%); (2) Fall Intervention + Pain Relief (19.4%); (3) Reconditioning (16.7%); (4) Cardiopulmonary Rehabilitation (13.9%); and (5) Pain Relief (2.8%). All patients received Home Exercise and Patient / Carer Empowerment on health care by PCMgr. 54.2% of patients received Coordination of Healthcare / Social Service. 48.6% of patients needed further training in Geriatric Day Hospital. PCMgr provided a total of 230 home visits with an average of 3.2 visits per patient. For the functional outcome evaluation, the percentage of MFAC Category VI / VII (Independent Indoor / Outdoor Walker) increased over time. 69.4% improvement after PCMgt in comparing just post-discharge (P<0.001, Wilcoxon Signed Ranks Test); (1) Pre-discharge 13.9%; (2) Just Post-discharge 41.7%; and (3) After PCMgt 72.2%. The percentage of BI 20 Independence (within 13-20 score) increased over time. 72.2% improvement after PCMgt in comparing just post-discharge (P<0.001, Wilcoxon Signed Ranks Test); (1) Pre-discharge 55.6%; (2) Just Post-discharge 72.2%; and (3) After PCMgt 80.6%. For the discharge destination: (1) Home 94.4%; (2) Institutionalization 2.8%; and (3) Deceased 2.8%. Under PCMgt, the unplanned readmission rate was 12.5% (their previous mean HARRPE Score was 0.190). 9 out of 72 patients were readmitted. 5 of them readmitted were due to changed medical condition. Conclusion Physiotherapy Case Management was effective in improving the functional outcomes and reducing the unnecessary hospital readmission of the high-risk elderly in the community.