Case Management for high dependence patients with Chronic Respiratory Diseases (COPD) and complex needs in a regional acute hospital in Hong Kong

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Introduction
In those 75 years or older, the hospitalization rate for COPD was as high as 2225/100 000 in Hong Kong. In 2006 and 2007, 65497 (8%) of episodes from medial wards were identified as COPD admissions, and among these, 15882 (24.2%) were unplanned readmissions. These unplanned readmissions can be related to premature discharge, frequent admissions in the previous year, lack of connectivity of care between hospital and the community and, poor social service support. The case management program has been piloted since November 2011 in a district hospital.

Objectives
To establish a mechanism to optimize the integration of care for these high-risk cases
To preliminarily evaluate the effectiveness of the program

Methodology
A system approach with early discharge planning and a coordinated post-discharge support service to support high-risk COPD patients is therefore initiated. Essential components of the program include: Clinical information system There is a “patient registry” for creating, validating and updating a register of people with COPD and thus facilitates risk stratification. Risk stratification Their risk is stratified according to HARRPE score, number of co-morbidity, social support and severity of their illness.

Comprehensive assessment They are comprehensively assessed in physical, psychosocial, financial and social aspects. Home visit Home visit will be provided for disease progress monitoring and early detection of deterioration. Patient empowerment program The empowerment program COPD patients to recognize and anticipate in early symptoms of exacerbation with information of disease nature, non-pharmaceutical and pharmaceutical management and signs & symptoms monitoring. Respiratory nurse clinic The accredited Respiratory nurse clinic aims to help COPD patients stay healthy with adequate support. Its key components include holistic and disease specific assessment, individualized care plan, nursing intervention and evaluation. 24 hours hotline 24-hour hotline and telephone follow-up
line improve health access, especially for COPD patients just discharged from hospital with complex needs.

**Result**

**Result** There were 74 COPD patients with mean age of 78.1 recruited between November 2011 and October 2012. More than 90% of them were severe or very severe COPD. Their healthcare utilization and Modified Borg Scale were analyzed for 3 months before and after joining the service. It was statistically significant showing that the number of emergency department attendance was reduced by 40.07% from 5.39 to 3.23 times (p<0.001). Also, the total numbers of unplanned admission and the length of stay were reduced by 44.5% from 1.91 to 1.06 (p<0.001) times and 49.5% from 5.81 to 3.05 days (p<0.001) respectively. The average Modified Borg Scale reflecting shortness of breath symptom (from 2.88 to 2.02) was significantly reduced

**Conclusion** Chronic Obstructive Pulmonary Disease patients have a huge impact on the public healthcare system. The case management with multidisciplinary approach and a good discharge planning process targeting on COPD patients who are at high risk of unplanned readmission could reduce their avoidable healthcare utilization.