

# Masterclasses

**M14.1****Community Care****13:15 Convention Hall C**

## **Hospital-at-home Care for Chronic Obstructive Pulmonary Disease Patients in Hong Kong: Virtual Ward in Princess Margaret Hospital**

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### **Introduction**

Chronic Obstructive Pulmonary Disease (COPD) is a global health problem with increasing prevalence and economic burden due to expanding ageing population. Virtual Ward (VW) in Princess Margaret Hospital (PMH) is an innovative healthcare service led by professionals from community nursing, medicine, respiratory medicine and allied health, providing hospital-at-home care to high risk COPD patients in Hong Kong.

### **Objectives**

(1) To reduce avoidable hospitalisation; and (2) to provide professional coordinated care and support to high risk patients and families at home.

### **Methodology**

From October 2011 to October 2015, COPD patients with Global Initiative for Chronic Obstructive Lung Disease stage 3 to 4 received the VW service including (1) protocol-driven standby emergency drugs for COPD exacerbation; (2) advanced nursing practices like nocturnal non-invasive ventilation; (3) patient/carer empowerment on symptom control; (4) fast-track clinic and/or clinical admission for specialist consultation; (5) referrals to allied health professionals for maintenance therapy; (6) daily ward round and weekly case conference for continuous quality improvement. Wilcoxon signed-rank test was used to compare the pre- and post-service outcomes.

### **Results**

A total of 166 COPD patients (80% male; age=79±7.15 years) were served with 6,069 home visits. All patients were living at home with carer support. The mean Hospital Admission Risk Reduction Programme for the Elderly score was 0.50±0.09. Compared with pre-90 day intervention, there was a significant reduction of hospital utilisation in the post-90 day intervention in terms of Accident and Emergency Department attendance (426 vs. 155;  $p<0.001$ ), emergency hospital admissions (397 vs. 145;  $p<0.001$ ) and inpatient bed days (2468 vs. 861;  $p<0.001$ ). The Relatives Stress Scale score was significantly reduced by 9.41 (95% CI=7.40-11.41;  $p<0.001$ ), whereas the modified Quality-of-life Concerns in the End-of-life Questionnaire score was significantly increased by 0.33 (95% CI=0.17-0.49,  $p<0.001$ ).

### **Conclusions**

PMH VW has proven to reduce hospital utilisation and carers' burden; and improve COPD patients' quality of life.