

2013 HA Convention

Domiciliary Non-Invasive Ventilation Service for Patients with Chronic Respiratory Failure

Presented by

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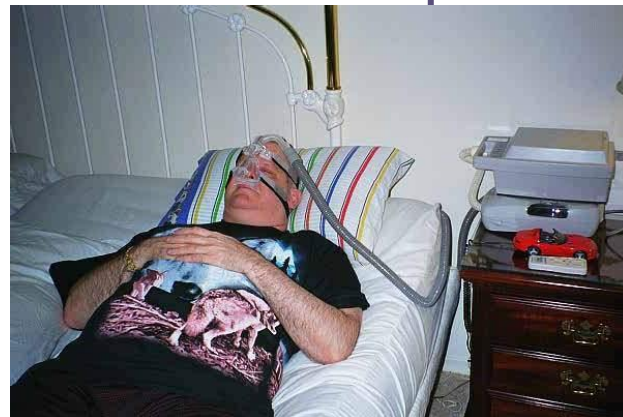
Introduction

- Respiratory diseases accounted for 16% of all inpatients bed days (Chan et al, 2008)
- Patients with chronic lung diseases in advanced stage suffered from breathlessness and recurrent respiratory decompensation required frequent hospitalizations
- Over the last decade, domiciliary non-invasive ventilation (NIV) has become a widely accepted treatment for chronic respiratory failure
- Improvement in symptoms relief, survival, quality of life and length of hospital stays are supported by studies (Domenech-Clar et al, 2003; Jone et al, 1998; Simonds, 2003)



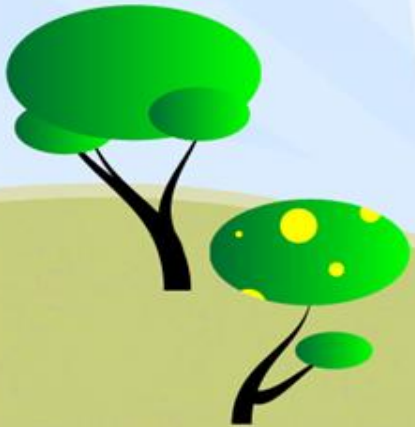
Introduction

- In HK 2002, home mechanical ventilation was 2.9 per 100000 populations, 95% were non-invasive ventilation (Chu et al, 2004)
- ↑ trend of domiciliary NIV
- A domiciliary NIV program was established in UCH since 2005 to manage the growing demand of patients with chronic respiratory failure



Objective

To evaluate the effectiveness of the domiciliary NIV service related to healthcare utilization of patients before and after initiation of domiciliary NIV





Domiciliary NIV Program of UCH

- A domiciliary non-invasive ventilation (NIV) program was established in resp ward, UCH since 2005
- Run by qualified respiratory nurses and physicians
- Inclusion criteria:
 - symptomatic, severe chronic hypercapnia
 - recurrent respiratory decompensation and repeated hospital admissions
 - patients at high risk for death or severe exacerbation based on known risk factors
 - failure to respond to optimal medical treatment: max bronchodilator treatment, steroids, oxygen supplementation

(*Chest*, 1999)

Domiciliary NIV Program of UCH

Provide structured, proactive and specialized service to patients who required long-term use of NIV:

- Holistic assessment
- Individualized care plan
- Skill training and enhance competence for patients and carers
- Promote self-management
- Early and planned discharge
- FU: OPD, 24hr hotline, CNS, resp nurse clinic

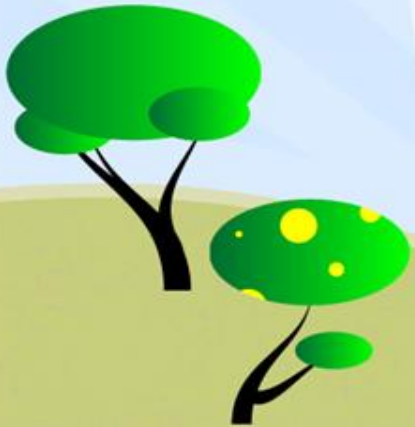
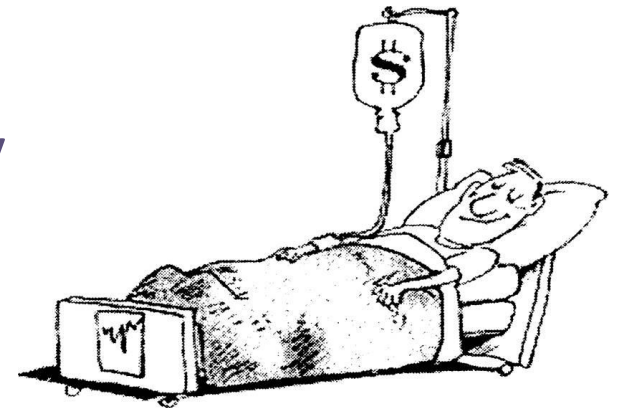


Methodology

To evaluate the healthcare utilization of Patients discharged with initiation of domiciliary NIV (1 year pre & post)

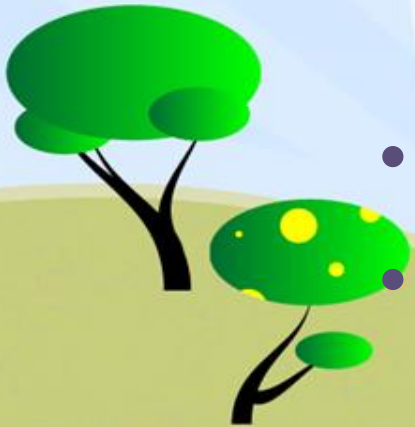
Healthcare utilization includes:

- Emergency department attendance
- Unplanned admission
- Average length of stay



Result

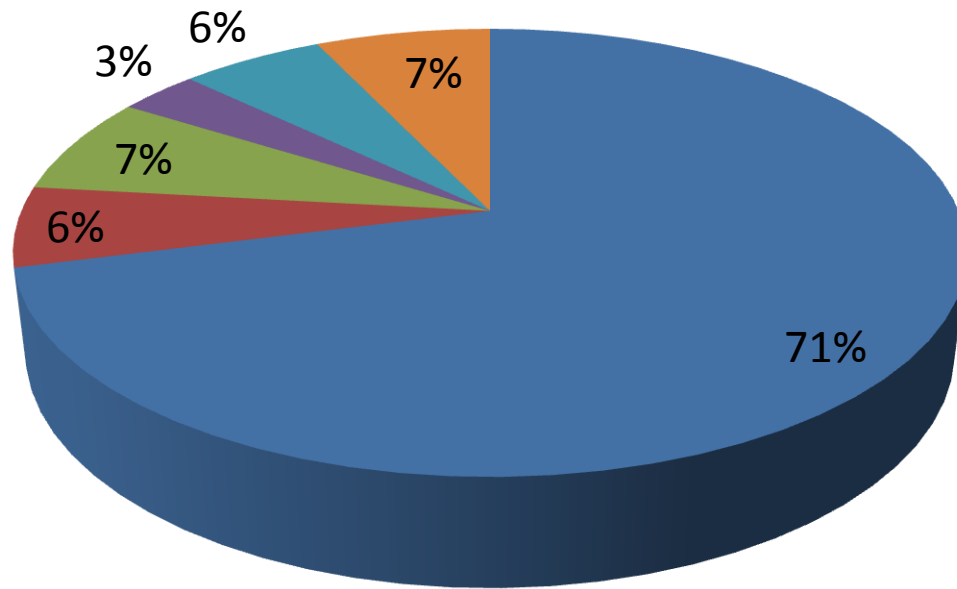
- 155 patients with 132 male & 23 female recruited during Jan 2005 to Dec 2011 inclusively
- Mean age 71.37 (range 30-95)
- 39 patients (25.16%) died within 1 year after discharged with domiciliary NIV



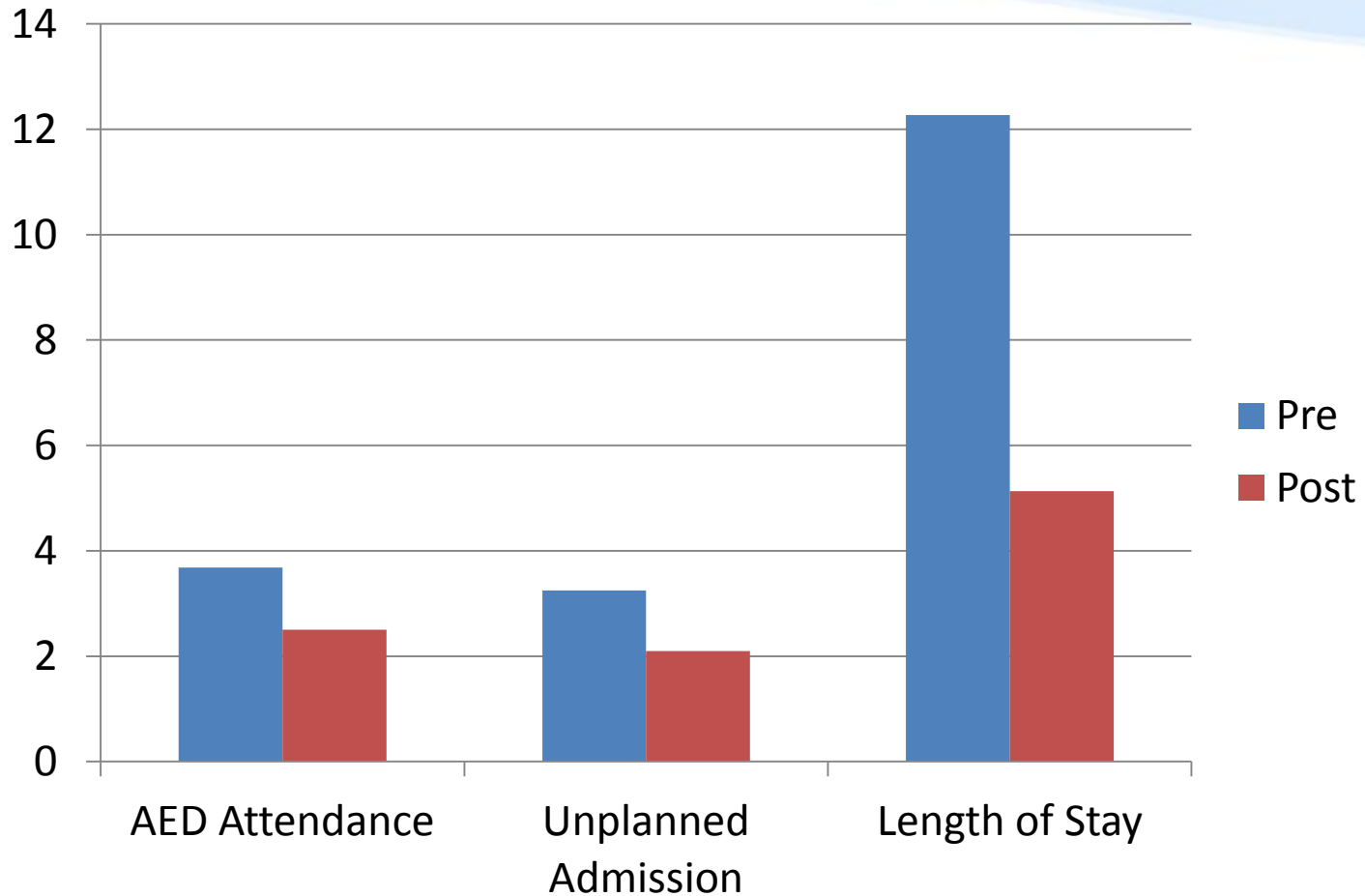
Patient Types

Diagnosis

- COPD
- Obstructive Sleep Apnea
- Restrictive Lung Disease
- Motor-neurone Disease
- Overlap Syndrome
- Others



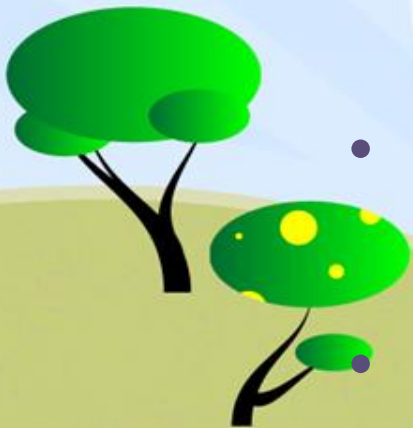
Healthcare Utilization before and after Domiciliary NIV program (1 year pre & post)



Result

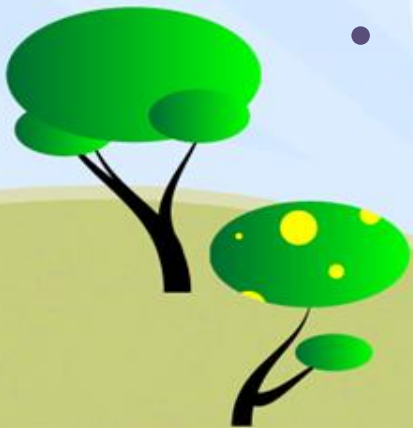
Significant reduction in healthcare utilization (1 year pre & post):

- Average emergency attendance
Pre (3.68) & Post (2.5), ↓32%, $p=0.001$
- Average unplanned admission
Pre (3.25) & Post (2.1), ↓35.3%, $p<0.001$
- Average length of stay (day)
Pre (12.27) & Post (5.13), ↓58.1%, $p<0.001$



Conclusion

- Our domiciliary NIV services provides structured, specialized and continuous care to patients with chronic respiratory failure
- To meet the growing healthcare demand, the service could contribute in reducing avoidable healthcare utilization in terms of emergency attendance, unplanned re-admissions and lenth of hospital stay



Acknowledgment



Thank you to respiratory team of UCH in supporting the domiciliary NIV program