



**Service Priorities and Programmes**  
**Electronic Presentations**

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**Using a novel scoring system to evaluate the effectiveness of respiratory patients' self-care education**

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**Introduction**

Mastering effective techniques of breathing and sputum clearance is integral to a respiratory patient's disease self-management. Moreover, enhancing patients' self-management skills could contribute to lowering hospital readmissions. Since 2010, North District Hospital's Physiotherapy Department developed a set of educational tools that included a patient education booklet and video. To assess patient's learning, a Breathing Control and Bronchial Hygiene (BCBH) scoring chart was designed.

**Objectives**

1.To evaluate patient's learning using the BCBH scoring chart 2.To correlate BCBH scores with hospital readmissions

**Methodology**

All chronic obstructive pulmonary disease (COPD) patients referred for Respiratory Collaborative Care Team's (RCCT) service received an assessment and daily bedside coaching with educational aids. Post-education review was made before patients' discharge. The chart evaluates concept of exacerbation management (6 points), techniques of breathing control (8 points) and sputum clearance (4 points) giving a total score of 18.

**Result**

From November 2010 to November 2012, 468 patients were assessed. Majority (78%) were elderly (aged 70 years or above). Mean total scores increased from 5.7 at baseline to 9.1 at discharge. Baseline mean scores were lower for the elderly (5.4) than those under 70 years of age (6.6). At discharge, scores improved to 8.4 for the elderly and 11.7 (age <70). Hospital readmission rates at 28 days were 25.3% and

17.6% respectively. This study shows that BCBH scoring could be used as an objective measure of patient's learning. Patients aged below 70 had higher BCBH scores and lower 28-day hospital readmission rates. Helping elderly patients learn new concepts and techniques can be challenging. Although visual aids (photographs) are incorporated in patient booklets, a certain level of literacy is necessary, as are having the motivation to practise new skills and possessing the memory to retain new knowledge. Improvement to this program includes engaging younger family members or care-givers to reinforce techniques learnt. Other ways to reinforce techniques include domiciliary physiotherapy, outpatient sessions or participation in pulmonary rehabilitation program. Although further studies are needed to determine the minimal clinically important improvement (MCII) for the BCBH score, results of the younger group suggest that a score of 12 would be necessary to demonstrate competency.