

## **Project Title**

The Efficacy of a 1-Stop Bronchiectasis Clinic on Airway Clearance Compliance in Patients with Bronchiectasis

## **Project Lead and Members**

Albert Lim Yick Hou

## **Organisation(s) Involved**

Tan Tock Seng Hospital

## **Project Period**

Start date: Mar 2016

Completed date: Dec 2016

## **Aims**

To increase the daily home airway clearance rate of patients at the bronchiectasis clinic from 29% to 50% within 6 months.

## **Background**

- British Thoracic Society guidelines recommend all patients with bronchiectasis (sputum producers) for daily airway clearance.
- Evidence suggests airway clearance improves quality of life, reduces respiratory symptoms and pulmonary exacerbations
- Pulmonary exacerbation is the most important predictor on subsequent exacerbation and death.
- However, many of these patients are not compliant with home airway clearance techniques.

## Methods

- The project was carried out in the bronchiectasis clinic (Clinic 4A) in Tan Tock Seng Hospital.
- Using the Clinical Practice Improvement methodology, the most significant root causes were patients have too many clinic appointments and patients' lack of knowledge on the importance of physiotherapy.
- A bronchiectasis physiotherapist was added to provide on-site service and a nurse was included to provide education on bronchiectasis management and life style modifications to the patients attending the bronchiectasis clinic.
- These interventions were put on trial in Plan-Do-Study-Act cycles before introducing them in sequence.

## Results

- Clinical:  
The daily home airway clearance rate of patients at the bronchiectasis clinic increased from 29% to 50% within 6 months.  
A 24% of the potential increase in 1 year hospital admissions was averted.
- Savings:  
The median length of stay for bronchiectasis is 6 days. A potential of 108 bed daily would be saved in 1 year if the trend remains unchanged.  
The median bill size for patients admitted with bronchiectasis is SG1, 015 for class C and SGD5, 276 for class A wards. The potential cost savings is in between SGD18, 270 (class C) and SGD94, 968 (class A) in 1 year.  
The daily cost per bed in the hospital is SGD1, 114. For this study, 18 patients would be averted from hospital admissions. This is equivalent to SGD120, 312.

### **Lessons Learnt**

- The complexity of managing patients with bronchiectasis is resolved by a dedicated team approach with specific role of each team members.
- Clinical outcomes improvement is achieved by regular assessment and implementation of appropriate measures without incurring additional resources.

### **Conclusion**

- The complexity of managing patients with bronchiectasis can be resolved by a dedicated team with specific role for each team members.
- One- stop bronchiectasis clinic is effective in improving daily home airway clearance rate and reducing hospitalizations.

### **Additional Information**

- NHG Quality Day 2017- Merit Award
- NHG Quality Day 2018 – Merit Award
- American Thoracic Society Conference 2018 – Abstract
- 8th World Physiotherapists and Physicians Summit 2018 – Poster presentation and speaker – Jaclyn Tan

### **Project Category**

Clinical Improvement

### **Keywords**

Clinical Service, Activation of Patient, Compliance to Recommendation, Tan Tock Seng Hospital, Clinical Improvement, Quality Improvement, Care Redesign, Allied Health, Physiotherapy, Plan-Do-Study-Act, Clinical Practice Improvement Programme, Quality Improvement Methodology, Bronchiectasis Management Life Style Modifications, Improve Clinic Attendance, Nursing, Chest Physiotherapy, Airway Clearance

Techniques, Outpatient Specialist Clinic, , One Stop Clinic, Multi-Disciplinary, Patient Education, Cost Effectiveness, Self-Care

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