The use of MI-E as a cost effective admission avoidance strategy for patients with advanced multiple sclerosis

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Introduction
Increasing hospital admissions for patients with advanced neuromuscular disease and continued pressure on acute medical beds have encouraged the development of interventions to keep patients at home.

In 2011/12 an audit of unplanned neuromuscular admissions across 4 UK regions showed that 40% acute admissions were avoidable (1). This includes patients with multiple sclerosis (MS).

Background
There is evidence to show that MI-E improves outcomes for Neuromuscular Disease (NMD) patients with respiratory tract infections (2) and shorten airway clearance sessions (3).

In addition to this an at home mechanical cough assistance program for patients with Amyotrophic Lateral Sclerosis demonstrated a 64% reduction in hospitalisations (4).

Participants
3 individual case studies investigating the effectiveness of providing an MI-E device (NIPPY Clearway) on hospital discharge for patients with MS and repeated hospital admissions.

Methods
The individuals in this study had been identified as having repeated hospital admissions for respiratory tract infection. The hospital admission frequency and length were retrospectively investigated for a 12 month period following each acute admission.

On the last admission a MI-E device was issued and each patient was followed up for 12 months.

Results
The number of re-admissions, hospital length of stay were recorded over a 12 month period. Potential cost savings was then calculated. Cost savings were based on a hospital bed day costing £300 (5), minus cost of equipment, consumables and training.

Discussion & Conclusions
In 3 single case studies 222 potential bed days were saved with a potential cost saving of £51,600 following provision of an MI-E device to use at home.

The provision of a MI-E device for patients with MS can prevent future hospital admissions and is therefore a cost effective admission avoidance strategy. Therefore MI-E devices should be offered as part of a planned discharge package.

Recommendations
Due to small numbers of patients in this study, a large multi-centre trial would further investigate the potential significant cost savings, reduction in hospital admissions and reduction in respiratory tract infections.

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References:
1. Unplanned admissions of neuromuscular patients, a collaborative audit. NHS Information, Audit and Analysis Unit. June 2012.