



## A physiotherapist led inpatient spirometry service in rural Victoria: a service review

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**Introduction:** Spirometry is an essential tool in the diagnosis and management of respiratory disease. An inpatient spirometry service was developed in 2013 by Physiotherapists at Northeast Health Wangaratta (NHW), a 228 bed acute hospital in the Hume region of Victoria. The service aimed to i) aid accurate diagnosis and enhance management of respiratory patients and ii) increase hospital revenue via optimising activity-based funding.

**Method:** Investigations into the feasibility of a spirometry service commenced in February 2013. Due to the limited resources and support available rurally, The Alfred hospital's Lung Function Laboratory agreed to act as NHW's 'resource laboratory' and provided expert advice regarding which spirometer to purchase, the testing procedure and quality assurance measures.

The EasyOne-Line World™ spirometer (NicheMedical) was selected, as it is portable, permitting bedside testing; uses disposable mouthpieces; can be cleaned with alcohol wipes; and does not require routine calibration.

Two physiotherapists completed a two-day spirometry course endorsed by the Australian and New Zealand Society of Respiratory Science.

A protocol based on the American Thoracic Society and European Respiratory Society guidelines was developed by NHW physiotherapists and reviewed by the Head Scientist from the Alfred's Lung Function Laboratory and the Medical Director of NHW.

**Results/discussion:** The spirometry service commenced operation in July 2013. During the first 12-months, 30 patients were referred, resulting in a total of 48 tests being performed. This represented a 300% increase in the use of spirometry by Medical Officers compared with the previous 12-months where testing occurred offsite by a private laboratory.

The top three reasons for referral included review of known COPD (n=10), assessment for new diagnosis of COPD (n=9) and monitoring respiratory function in patients with Guillain-Barre' Syndrome (n=4). Patient care was enhanced by aiding the diagnosis of COPD (n=3), pulmonary fibrosis (n=2) and fixed upper airway obstruction (n=1).

Prior to July 2013, NHW was paying a private laboratory to conduct spirometry offsite. With testing now onsite, this represented a saving of \$5,718.72. Furthermore, spirometry results were used to more accurately code patient

presentations resulting in an additional \$10,154.28 in WIES funding. Minus start-up costs of \$4832.00, the net financial gain to NHW over 12-months was \$11,041.00.

Key insights:

- Partnering with a metropolitan hospital was key to developing a successful spirometry service within a short timeframe with minimal resources.
- Spirometry in the acute setting enhanced patient care and increased revenue with minimal impact on running costs and current staffing.