

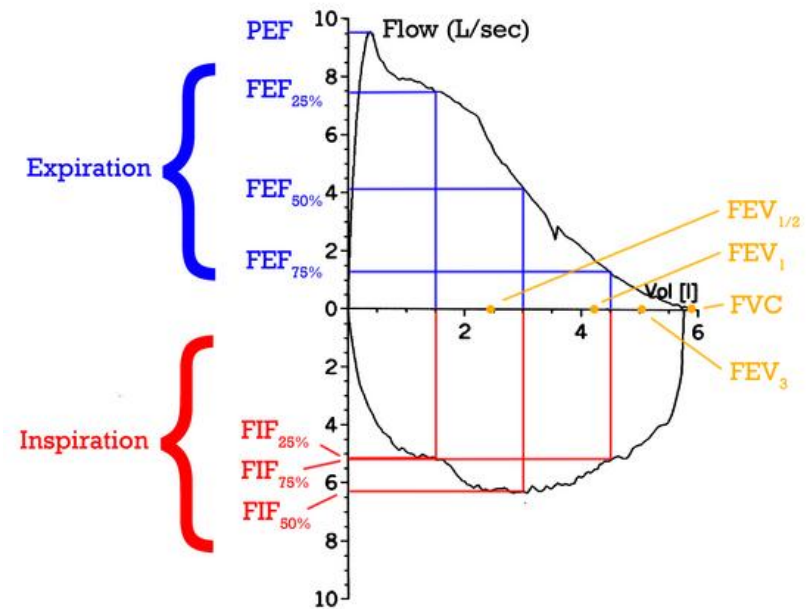
# A Physiotherapist led Inpatient Spirometry Service in Rural Victoria: A Service Review.

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# What is spirometry?



## Spirometry may be used to:

- Aid diagnosis of a respiratory condition e.g. COPD, asthma,
- Assess disease severity and progression.
- Optimise clinical management e.g. titrating medication.
- Monitor for early signs of respiratory muscle paralysis or fatigue and predict the need for mechanical ventilation in certain conditions.
- Provide surveillance for high risk populations.

# Developing an In-patient Spirometry Service at NHW

- The National Asthma Council's Spirometer Users' and Buyers' Guide was a key resource.
- The Alfred's Lung Function Laboratory was approached for support.
- We selected The EasyOne-Line World™ spirometer (NicheMedical).
- Two physiotherapists attended a 2 day ANZSRS and TSANZ endorsed spirometry course at The Alfred.
- A protocol based on the ATS and ERS standards for spirometry was developed.
- Preparation = 5 months.
- Start-up costs came to \$4832.00.

## The service aimed to:

- i) enhance patient care.
- ii) aid accurate diagnosis and enhance management of respiratory patients.
- iii) optimise hospital revenue with improved accuracy in patient coding.

# Patient Outcomes

- In the first 12-months, a total of 30 individual patients were referred for spirometry (total 48 spirometry tests performed).
- 63% - referred to test for or review COPD
- 13% - referred with a known diagnosis of Guillain-Barre Syndrome to monitor respiratory function.
- Patients no longer had to be transferred to an offsite lab.
- Medical staff received results within 1hr.

# Patient Outcomes

- New diagnosis of COPD n=3
- New diagnosis of pulmonary fibrosis n=2
- Monitoring of respiratory muscle weakness in GBS n=4
- Fixed upper airway obstruction n=1
- Acute neuro patient transferred promptly to a tertiary hospital n=1

# Financial Outcomes

- Savings = \$5718.72.
- 'Infective exacerbation of COPD' (DRG E65B [WIES 1.2093]) attracts \$5446.69, a difference of \$3384.76 compared to bronchitis.
- Confirming COPD in three patients = \$10,154.28 ( $\$3384.76 \times 3$ ) in revenue generation to NHW.
- The net financial benefit (Total savings/revenue – Start-up spirometry costs) in the first 12 months of operation was \$11,041.00.



# Recommendations

1. Rural and regional health services should consider investing in onsite spirometry testing to service the acute wards.
2. Spirometry testing would be an excellent addition to a Rural Physiotherapist's generalist skill set.
3. Partnering with a metropolitan hospital was key to developing a successful spirometry service within a short timeframe with minimal resources.
4. Spirometry in the acute setting should be utilised to diagnose and assess the severity of COPD to enhance patient care, with additional benefits in optimising hospital revenue via accurate patient coding.