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White Paper

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The Cost of COPD in Primary Care

Over 800,000 people in England have been diagnosed with COPD, however, it is estimated that over 3 million have the disease and those cases that are diagnosed are mainly moderate or severe in nature. The direct cost of COPD to the UK healthcare system is estimated to be between £810m and £930m per annum and, without change, is set to grow.

It has been shown that primary care spirometry testing increases the number of individuals correctly diagnosed as having COPD, supporting prompt medical intervention and better clinical outcomes. Opportunistic case-finding of patients with symptoms and lifestyle limitation is a practical way to help achieve early diagnosis of COPD which can improve quality of life and reduce NHS costs.

Mild COPD is approximately half the cost to treat than moderate COPD and one tenth of the cost of treating severe COPD. Early detection and intervention will, therefore, significantly reduce the cost of the burden of care to the NHS, improve outcomes for patients and reduce socio-economic costs.

There is currently debate about the usefulness of screening for COPD in primary care. There are many reasons for objections to spirometry in primary care including:

- Screening for COPD used to require a full spirometry examination. A spirometry session is no trivial test, taking up to half an hour in a busy schedule.
- Primary care spirometry is often performed in the practice by primary care staff who may have had little training in performing spirometry. High quality spirometry requires good training, good motivation for the subject and good spirometers.
- COPD screening using spirometry is not a good use of time or money.

These objections can be overcome by the new generation of rapid COPD screening devices such as the Vitalograph copd-6. These simple to use low cost devices accurately, easily and cost effectively screen out those who do not have COPD. They can also help reinforce the smoking cessation message as some of the new generation COPD screening devices incorporate 'lung age' as a parameter.

In making a diagnosis of COPD results from a COPD screener, or indeed a spirometer the device results should not be used in isolation. It must be recognised that individuals with asthma and COPD show considerable overlap in their responses to bronchodilators and corticosteroids. There is no single diagnostic test for COPD. Diagnosis relies on clinical judgement based on a combination of history, physical examination and confirmation of the presence of airflow obstruction using spirometry.

Requirements are:

- FEV1/FVC ratio less than 0.70
- FEV1% of predicted less than 80%

In order to screen for COPD a device needs to measure and present:

- FEV1
- FVC (or FEV6)
- FEV1% of predicted
- FEV1 ratio

The key parameters for clinical interpretation include:

- COPD classification (stage I - IV)
- Obstructive index
- Lung age is also useful to motivate smokers

Gold Spirometric Criteria for COPD Severity

Stage	Characteristics	Comments
I: Mild COPD	• $FEV_1/FVC < 0.7$ • $FEV_1 \geq 80\%$ predicted	At this stage, the patient may not be aware that their lung function is abnormal.
II: Moderate COPD	• $FEV_1/FVC < 0.7$ • $50\% \leq FEV_1 < 80\%$ predicted	Symptoms usually progress at this stage, with shortness of breath typically developing on exertion.
III: Severe COPD	• $FEV_1/FVC < 0.7$ • $30\% \leq FEV_1 < 50\%$ predicted	Shortness of breath typically worsens at this stage and often limits patients' daily activities. Exacerbations are especially seen beginning at this stage.
IV: Very Severe COPD	• $FEV_1/FVC < 0.7$ • $FEV_1 < 30\%$ predicted or $FEV_1 < 50\%$ predicted plus chronic respiratory failure	At this stage, quality of life is very appreciably impaired and exacerbations may be life-threatening.