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Meeting the GOLD Standard: COPD Treatment in the UK Today

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Since its first report almost 20 years ago, the Global initiative in chronic Obstructive Lung Disease (GOLD) has had a major effect on COPD management [1]. The GOLD system of classifying COPD has been widely adopted both clinically and academically while the regularly updated treatment recommendations has led to their promotion ahead of more formal evidence-based documents like The National Institute for Health and Clinical Excellence (NICE) guidelines [2]. Initially GOLD classified COPD severity by the degree of FEV_1 impairment, but now a more sophisticated (and complex) approach stratifies by symptom intensity (commonly using a cut-point of 2 on the modified MRC dyspnoea scale) and on a history of exacerbations. The resultant 4×4 classification of clinical phenotypes from minimal symptoms without exacerbations to severe symptoms and frequent/significant exacerbations is graded A-D and has been linked to both initial and subsequent treatment choices [3].

Helpful as these recommendations are, they have limitations. Patients recruited in randomised controlled trials may not be 'typical' of those seen in primary care while stopping existing treatments to permit study entry might affect the trial outcome [4,5]. The advent of large comprehensive clinical databases lets us understand what treatment is given to what type of patient and how effective that therapy is in a 'real world' setting. To date the consensus is that patients seen in primary care are (unsurprisingly) less severe than those in secondary care and are over-treated relative to guideline recommendations [6]. However, until now we have lacked primary care data about the characteristics of COPD patients when a new treatment is initiated and how they subsequently progress as compared to patients already receiving therapy.

This deficiency has been remedied by Halpin and colleagues [7] who report an elegantly conducted and robust analysis of the UK-based Optimum Patient Care Research Database which contains clinical and prescribing information from 5.8 million socio-economically and geographically diverse patients. Using an index date of January 2014, they identified 2 groups of COPD patients, 11,409 (cohort 1) with established disease on treatment and 699 (cohort 2) who started a new therapy after the index date. The groups were very similar in terms of their baseline characteristics and level of co-morbidities with approximately 45% falling into GOLD grade A, 25% grade B and 15% in the remaining 2 groups. These data emphasise the differences in the distribution of GOLD grades depending on the source of the data with fewer GOLD C patients being found in secondary care-based observational cohorts [8]. Over the two years of follow up the overall number of patients in each GOLD grade was similar in both cohorts but it was encouraging to see that over 50% of grade D patients who began treatment in 2014 moved to grades A or B by 2016. Overall the exacerbation rate was low at 0.3–0.4 events per year, unlike patients seen in secondary care where exacerbations are a key reason for referral and management. The most widely used treatment was with long-acting inhaled antimuscarinic drugs in keeping with GOLD recommendations, although almost half the patients used inhaled corticosteroids which led to most of the perceived over-treatment. Two factors mitigated this – the 20% incidence of co-existing asthma in these patients and the fact that over-treated patients tended to have higher exacerbation rates.

This study has considerable strengths. The use of spirometry for diagnosis, the lack of missing data, the repeated measurements of mMRC score which permitted re-classification of the GOLD grading, the availability of data about smoking status and use of robust statistics mark this study out from many other COPD observational studies. Whether the COPD Assessment Test would be a better way to stratify symptom intensity than the mMRC remains unclear. Likewise, the degree to which treating physicians were aware of GOLD guideline recommendations is not known. Unfortunately, this population is not large enough to assess important outcomes like hospitalisation and mortality rates.

The study by Halpin et al. illustrates that early (or possibly mild) forms of COPD dominate in community practice. This is the subgroup of patients where evidence for effective treatment is weakest but where the greatest scope exists for intervening to prevent disease progression [9]. Almost 1/3rd of patients had a blood eosinophil count above 300 microL/ml, the threshold where corticosteroids are likely to be effective [10] and which has been adopted in the latest GOLD recommendations [3]. Ensuring that this new approach is more widely adopted than its predecessors will need better information about why doctors make the choices that they do when initiating new therapy for this complex disease.

Authors Contribution

PMAC wrote this commentary.

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Declaration of Competing Interest

Prof Calverley reports personal fees from Astra Zeneca Pharmaceuticals, GSK, Boehringer Ingelheim and Recipharm, outside the submitted work.

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