

A prescribing review of inhaled corticosteroid in Chronic Obstructive Pulmonary Disease (COPD) patients across Leicester, Leicestershire and Rutland (LLR) primary care.



Consider adding a QR code to a downloadable version of your poster, or abstract, data collection, or recorded media.

Hira Saqib¹, Larry Goodyer², Anna Murphy¹, Amit Bharkhada³

¹University Hospitals of Leicester, ²De Montfort University, Leicester, ³Leicester Leicestershire and Rutland Training Hub

Background

Inhaled corticosteroids (ICS) in combination with long-acting beta-2 agonist (LABA) have been mainstay treatment in COPD patients with severe airflow obstruction and frequent exacerbations for many years (GOLD, 2020). ICS has been linked to increased adverse reactions risk, which includes pneumonia. Increasing evidence suggests that prescribing high dose ICS, defined as >1000mcg beclomethasone or equivalent, can cause harm in people with COPD without any further clinical benefit than moderate doses.

Inappropriate prescribing of ICS has ultimate cost implications to the NHS. A better characterisation of patients using their phenotype of COPD can assist the prescriber to take a more personalised approach to treatment. Alternative inhaled combination of long-acting muscarinic antagonist (LAMA) with a LABA therapy have been found to be more effective in some studies at reducing the rate of COPD related exacerbation, whilst more specific phenotypes (high blood eosinophil counts [BEC] and/or asthmatic features) has been described to have probable benefits of combination with ICS therapy.

Objectives

To assess the appropriateness of ICS prescribing in patients with COPD in a primary care setting against the Leicestershire Medicines Strategy Group (LMSG) guidance.

Methods

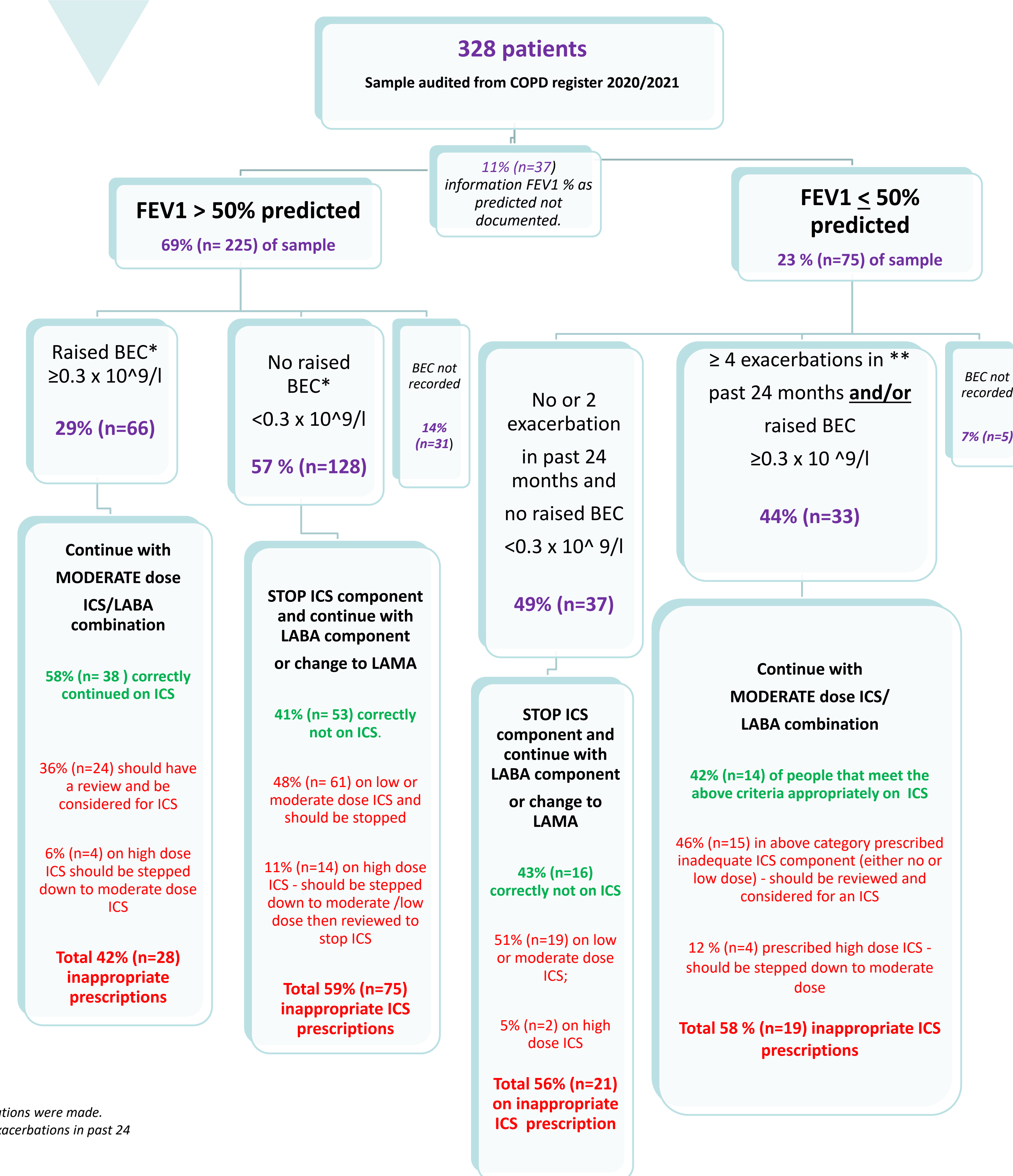
Data was collected across 4 different GP practices across Leicester, Leicestershire and Rutland (LLR). Patients were identified from the QOF-COPD register 2020/21, and data was extracted from the electronic medical records on SystmOne by MPharm undergraduate students who worked with staff from LLR training hub. Data analysis was performed using IBM SPSS version 26 software. LMSG guidelines for stepping down on ICS in COPD patients were utilised for assessment of appropriateness of ICS prescribing.

Inclusion criteria – On the practice QOF register COPD 20/21

Exclusion criteria – under 35 years of age

Results

Flow chart illustrating ICS prescribing review across 4 different GP practices across Leicester, Leicestershire, Rutland against LMSG “stepping down ICS in COPD” guidelines. Proportion of appropriate ICS prescriptions are highlighted in green, whilst the proportion of inappropriate ICS prescriptions are highlighted in red.



Demographics, n = 328					
Ethnicity	Caucasian 65% (n=213)	Asian or British Asian, 12% (n=40)	Mixed or multiple ethnic group 10% (n=33)	Black African Caribbean or black British 2% (n=5)	Ethnicity not reported, 11% (n = 37)
Age	Range = 38 - 91 years Average = 69 years				
FEV1	Range = 12.50 to 129 % predicted				
FEV1/FVC (%)	Range = 22% to 98%				
MRC Score	Average = 3				
Gender	Male, 45% (n=148) Female, 55% (n=180)				
Non-Smokers	15% (n=50)				

Discussion

Preliminary data shows across all criteria 44% (n=143) were inappropriate ICS prescriptions, which includes patients either on inadequate ICS therapy, or on incorrect dose of ICS, or on ICS which could have been stopped.

This has cost implications across the LLR, through direct impact of inappropriate prescriptions, and potential inadequate control of COPD as well as an increased risk of potential adverse effects from long term ICS use. Some of the additional findings of this study included a lack of clarity in some patient’s diagnosis of COPD for patients on COPD register. Exclusion criteria should have consisted of excluding patients with no history of smoking, and FEV1/FVC ratio >0.7; this would help to exclude patients where the diagnosis of COPD should have been rechecked or confirmed. LMSG guidelines do not recommend the use high dose ICS with more than 1000mcg equivalent dose in COPD patients, yet there were appropriately 7% (n=24) people prescribed with higher doses than recommended. There warrant review to step down to moderate dose, and in some cases stop.

On average, an estimated cost of triple therapy ranges from £44.50 to £65 whereas the dual therapy costs on average around £32.50. Further analysis is needed to calculate potential cost savings by analysing patient specific prescriptions along side a review of which patients could be stepped down from triple therapies to dual therapies. Discussions with the prescribing teams and education and awareness of the guidelines required.

Conclusion

Overall, this prescribing review highlights some really important aspects of COPD care and a requirement for a higher degree of vigilance in ICS prescribing. A clear diagnosis is essential to selecting correct treatment arm. This is highly valuable to support the service development for improving diagnosis and also highlights benefits of upskilling of pharmacist role in reviewing patient phenotypes in relation to management in COPD care as a part of more structured medication review. Further data analysis is under review, with plans to audit additional practices next year.

Acknowledgments: With thanks to the 4th year Pharmacy students at De Montfort University (DMU) and the participating practices in LLR

References

GOLD (2020). *Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Pulmonary Disease 2020 REPORT*. [online] . Available at: https://goldcopd.org/wp-content/uploads/2019/12/GOLD-2020-FINAL-ver1.2-03Dec19_WMV.pdf [Accessed 10 Dec. 2020].

LMSG Stepping Down Inhaled Corticosteroids (ICS) in COPD https://267lv2ve190med3l1mgc3ys8-wpengine.netdna-ssl.com/wp-content/uploads/2016/09/COPD_step_down_guide.pdf Calibri 20