

An audit of prescribing long-acting antimuscarinic and long-acting beta agonist inhalers without inhaled corticosteroids



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Background

- Prescription of a long acting muscarinic antagonist (LAMA) or a long acting beta 2 agonist (LABA) without a co-prescription of an inhaled corticosteroid (ICS) for people with asthma (or asthma-COPD overlap syndrome) increases risk of severe asthma attacks and death.
- In 2014, 47% of asthma deaths in primary care resulted from prescribing errors¹.
- 3% of patients who died from an asthma attack were being prescribed a LABA or LAMA without an ICS².
- In the UK, approximately 22,840 people with asthma may be at increased risk of death due to LABA or LAMA prescriptions without an ICS².
- A 2008 Cochrane review, identified an increased risk of asthma-related mortality in patients not using inhaled corticosteroids in conjunction with a LABA in two large surveillance studies³.

Aim

To review prescribing practices of inhaled LABA or LAMA therapy with ICS to asthma patients in one UK general practice.

Audit criteria and standards

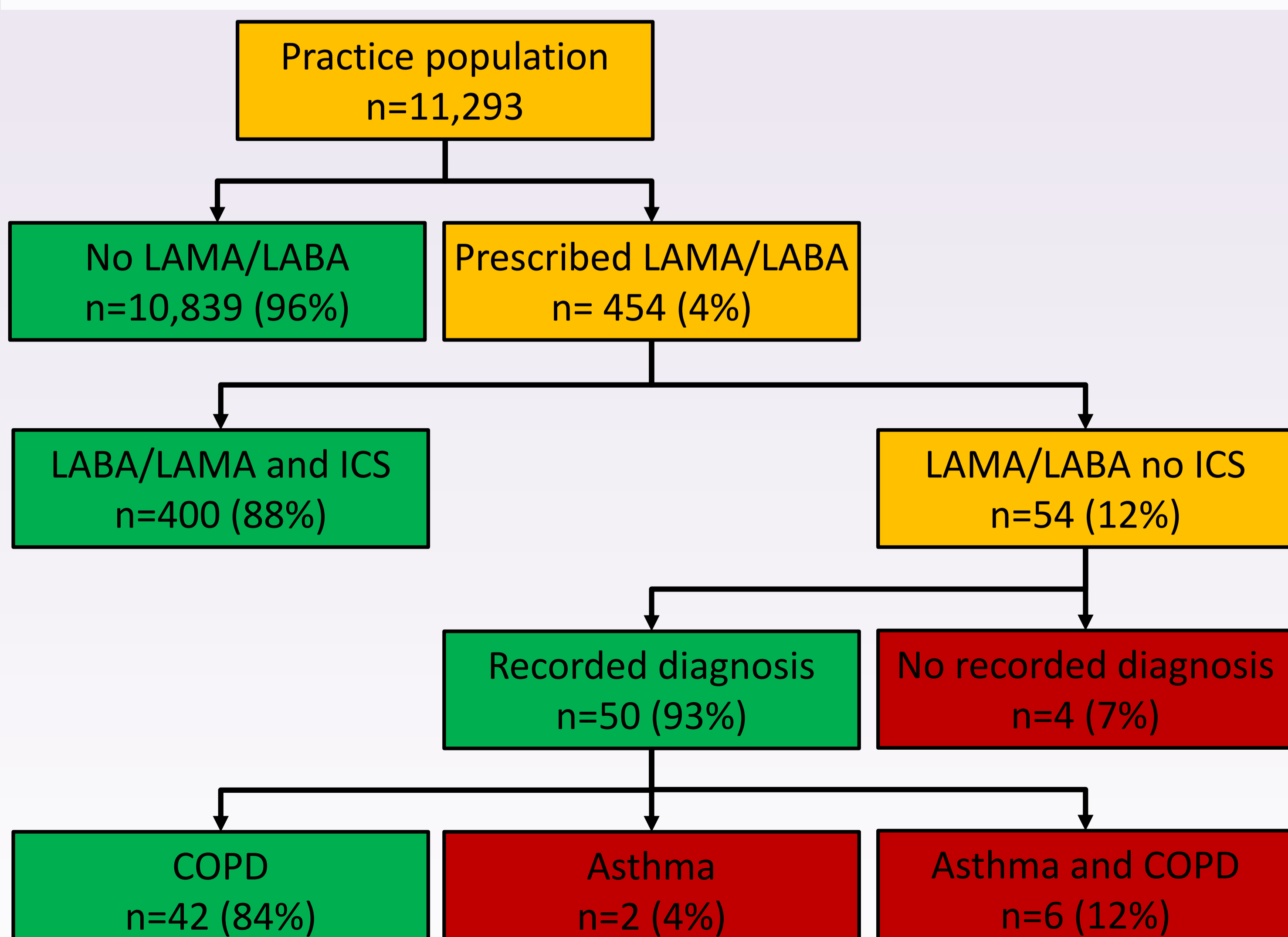
Criteria	Standard
1. Patients prescribed LABAs or LAMAs without ICS should have a coded diagnosis.	100%
2. Patients with asthma +/- COPD should not be prescribed a LABA or LAMA without an ICS.	95%

Methods

An electronic health record search was undertaken using EMIS Web on the 9th July 2018 to identify patients with current prescriptions of a LABA or LAMA within the last year. Patients with an active prescription of inhaled corticosteroid were excluded. Patients who were prescribed a LABA or LAMA without an ICS were included in the audit. Their diagnoses were reviewed and categorised (chronic obstructive pulmonary disease (COPD), asthma, asthma and COPD or no diagnosis coded). The standard for criterion 2 was set to 95% as it was recognised that some patients may refuse to change their medication despite the risks being explained.

Baseline results

Of the 11,293 patients in the practice, 54 patients were prescribed a LABA or LAMA without an ICS. Of these, 7% patients did not have a relevant coded diagnosis. Of those with a recorded diagnosis, 16% patients taking LABA/LAMA without ICS were diagnosed had asthma.

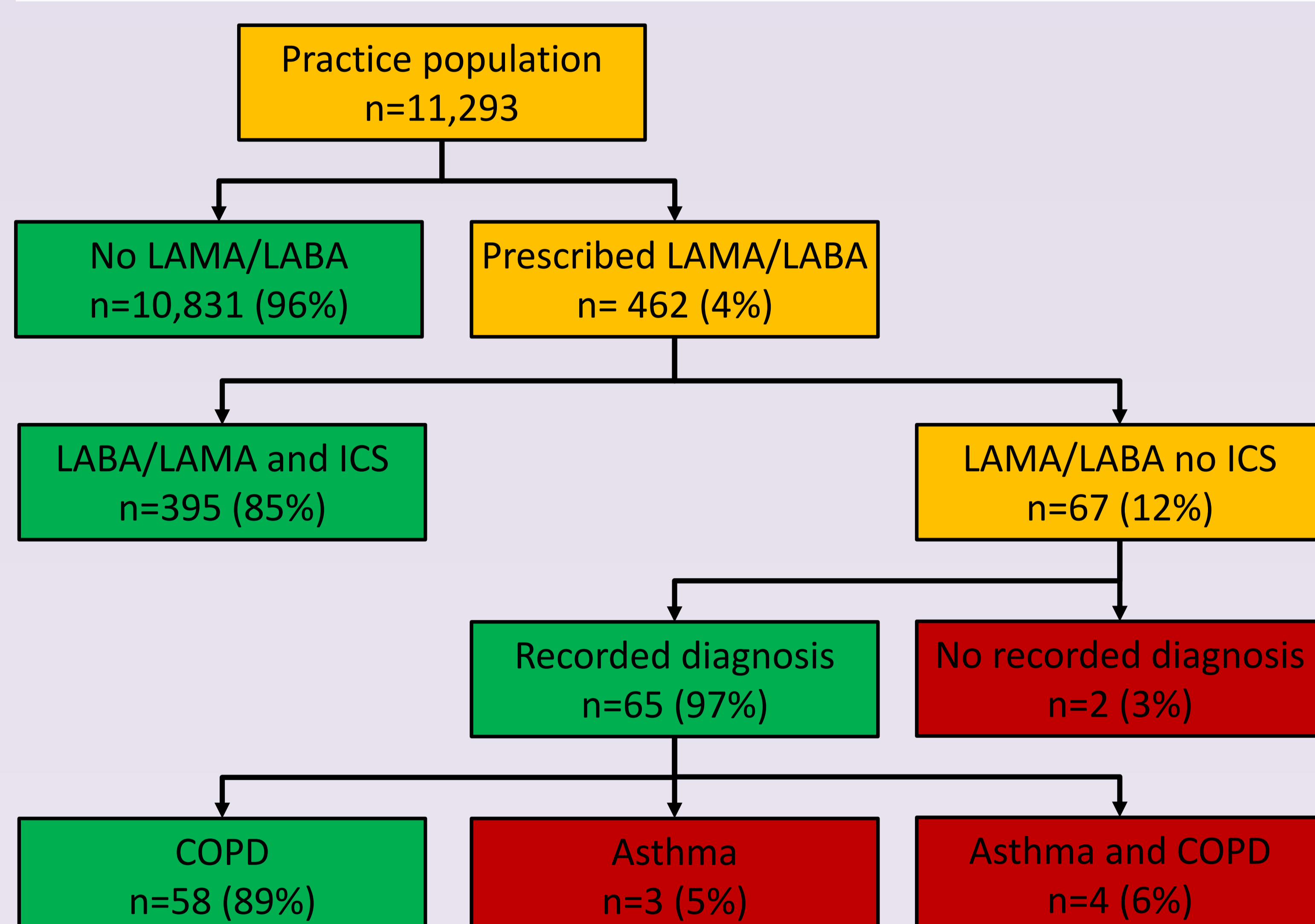


Interventions after baseline audit

- Ensure patients have an appropriate coded diagnosis
- Medication review for patients prescribed LABA/LAMA without ICS
- Present audit results to practice prescribers to prevent further risky prescriptions
- Activate electronic alerts to prompt safe prescriptions (EMIS & OptimiseRx)

Re-audit results

A re-audit was undertaken on 24th October 2018, using the same methods as at baseline. Re-audit revealed the proportion of patients with a recorded diagnosis had increased from 93% to 97%. Patients on LABA/LAMA with an asthma (+/-COPD) diagnosis and without an ICS had decreased to 11%.



Discussion

Most LABA/LAMA prescriptions follow guidelines in the practice. However, suboptimal diagnostic coding and a few risky prescriptions were identified. Following interventions and re-audit a few prescriptions of LABA/LAMA with no ICS, increasing the risk of asthma-associated death, were identified. More patients now have a relevant coded diagnosis. Post re-audit notes review revealed more information: one person refused to take ICS, one was non-compliant with ICS, two had just had their asthma code resolved and one who had just had the LABA stopped. Two were awaiting imminent asthma and/or diagnostic review.

It is recognised that despite medication review appointments where risks are explained, some patients with asthma (+/- COPD) choose to remain on a LABA/LAMA without ICS for various reasons:

- Fear of changing their medication as they currently feel well
- Apprehension to start a steroid medication due to potential side effects.

Recommendations

- Regular audit appears necessary as patients stop, swap and change their inhalers, diagnoses change and new patients arrive at the practice
- Notes review, recall and/or medication review is required for those with asthma (+/- COPD) patients still on LABA/LAMA without ICS
- Use of combined preparations, as per current guidelines, should be enforced to prevent non-compliance with ICS
- Patients need to be educated on the importance of combined ICS during routine asthma reviews and upon new prescriptions
- Further re-audit to assess whether there is continued improvement in prescription and diagnosis coding.

References:

[1] Levy, M. (2014) Why asthma still kills The National Review of Asthma Deaths (NRAD).

[2] Patient safety failures in asthma care: The scale of unsafe prescribing in the UK. (2014) Available at: https://www.asthma.org.uk/globalassets/health-advice/inhalers-medicines-and-treatments/common-concerns/patient_safety_failures_in_asthma_care_report.pdf (Accessed: 20/03/19).

[3] Cates CJ, Cates MJ. Regular treatment with salmeterol for chronic asthma: serious adverse events. Cochrane Database Syst Rev. 2008 CD006363.