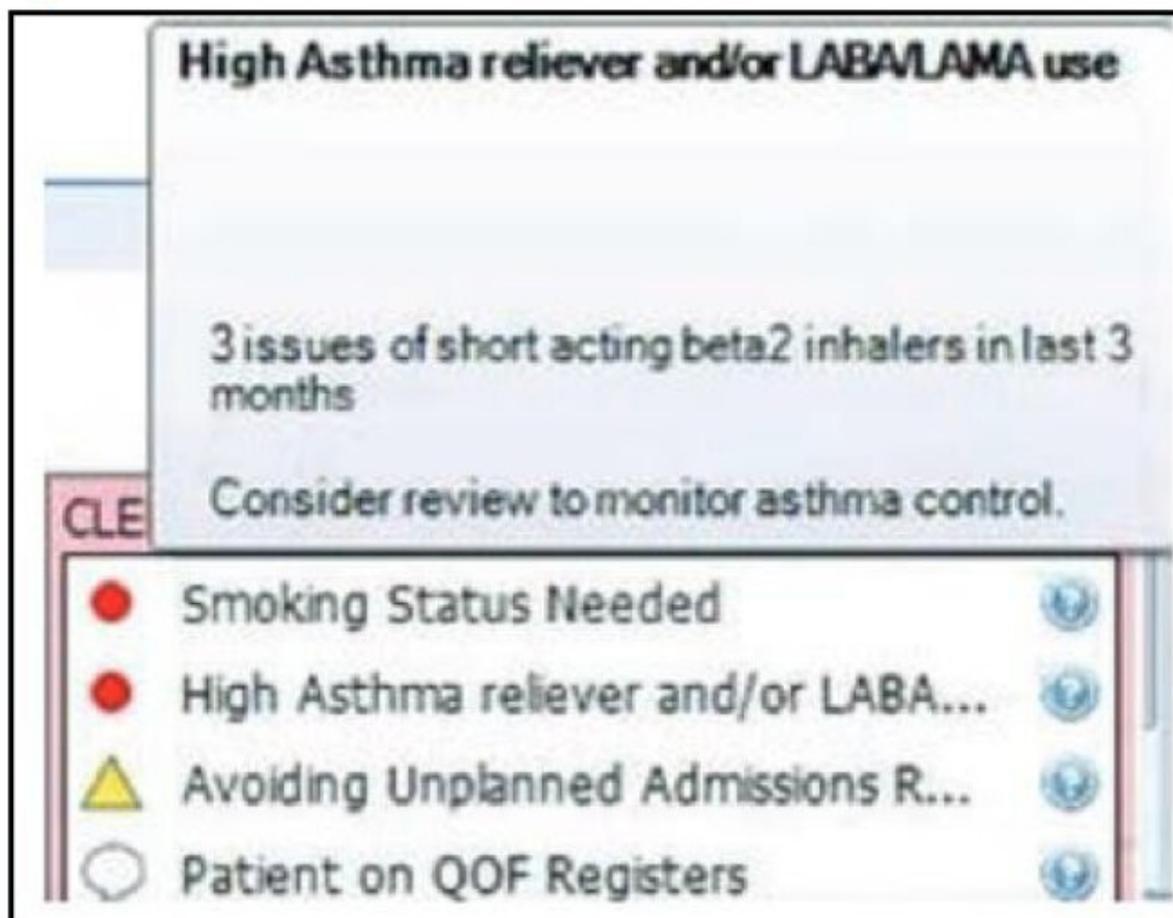


# Electronic alert reduces excessive prescribing of short-acting asthma relievers

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Alert that pops up on GP's computer screens. Credit: European Respiratory Society

An automatic, electronic alert on general practitioners' (GPs) computer screens can help to prevent excessive prescribing of short-acting asthma reliever medication, according to research presented at the 'virtual' European Respiratory Society International Congress.

The alert pops up when GPs open the medical records for a patient who has been issued with three prescriptions for short-acting reliever inhalers, such as salbutamol, within a three-month period. It suggests the patient should have an asthma review to assess symptoms and improve [asthma control](#). Short-acting beta2-agonists (SABAs), usually described as blue inhalers, afford short-term relief of asthma symptoms by expanding the airways, but do not deal with the underlying inflammatory cause.

"Excessive use of reliever inhalers such as salbutamol is an indicator of poorly controlled asthma and a risk factor for asthma attacks. It has also been implicated in asthma-related deaths. Yet, despite national and international asthma guidelines, excessive prescribing of short-acting beta2-agonists persists," said Dr. Shauna McKibben, an honorary research fellow at the Institute of Population Health Sciences Queen Mary University of London (QMUL), UK, and clinical nurse specialist in asthma and allergy at Imperial College Healthcare NHS Trust, London, who led the research. "This research aimed to identify and target excessive SABA prescribing using an electronic alert in GPs' computer systems to identify at-risk patients, change prescribing behaviour and improve asthma management."

The study of 18,244 asthma patients in 132 general practices in north-east London found a 6% reduction in the excessive prescribing of reliever inhalers in the 12 months following the alert first appearing on patients' records. In addition, three months after the alert, asthma reviews increased by 12%, within six months after the alert, repeat prescribing of SABAs reduced by 5% and asthma exacerbations

requiring treatment with oral steroids reduced by 8%.

The alert to identify excessive SABA prescribing was introduced in 2015 on GPs' computer systems that used EMIS clinical software. At the time of the research EMIS was used by almost all general practices in north-east London, and 56% of English practices used it by 2017.

Dr. McKibben analysed data on SABA prescribing for patients in all practices in the north-east London boroughs of City and Hackney, Tower Hamlets and Newham between 2015 and 2016. She compared these with excessive SABA prescribing between 2013 to 2014, before the alert was introduced.

She said: "The most important finding is the small but potentially clinically significant reduction in SABA prescribing in the 12 months after the alert. This, combined with the other results, suggests that the alert prompts a review of patients who may have poor asthma control. An asthma review facilitates the assessment of SABA use and is an important opportunity to improve asthma management."

Dr. McKibben also asked a sample of GPs, receptionists and nurses in general practice about their thoughts on the alert.

"The alert was viewed as a catalyst for asthma review; however, the provision of timely review was challenging and response to the alert was dependent on local practice resources and clinical priorities," she said.

A limitation of the research was that the alert assumed that only one SABA inhaler was issued per prescription, when often two at a time may be issued. "Therefore, excessive SABA prescribing and the subsequent reduction in prescribing following the alert may be underestimated," said Dr. McKibben.

She continued: "Excessive SABA use is only one indicator for poor asthma control but the risks are not well understood by patients and are often overlooked by healthcare professionals. Further research into the development and robust evaluation of tools to support primary care staff in the management of people with asthma is essential to improve asthma control and reduce hospital admissions."

The study's findings are now being used to support and inform the REAL-HEALTH Respiratory initiative, a Barts Charity funded three-year programme with the clinical effectiveness group at QMUL. The initiative provides general practices with EMIS IT tools to support the identification of patients with high-risk asthma. This includes an electronic alert for excessive SABA prescribing and an asthma prescribing tool to identify patients with poor asthma control who may be at risk of hospital admission.

Daiana Stolz, who was not involved in the research, is the European Respiratory Society Education Council Chair and Professor of Respiratory Medicine and a leading physician at the University Hospital Basel, Switzerland. She said: "This study shows how a relatively simple intervention, an electronic alert popping up on GPs' computers when they open a patient's records, can prompt a review of asthma medication and can lead to a reduction in excessive prescribing of short-acting asthma relievers and better asthma control. However, the fact that [general practices](#) often struggled to provide a timely [asthma](#) review in a period before the COVID-19 pandemic, suggests that far more resources need to be made available to primary care, particularly in this pandemic period."

**More information:** Abstract no: 3761 "An electronic alert to reduce excessive prescribing of short-acting beta2-agonists for people with asthma in East London: a retrospective case-control study using routine primary care data", by Shauna McKibben et al; Presented in session,

"Digital health interventions in respiratory medicine" on Monday 24 August 2020: [k4.ersnet.org/prod/v2/Front/Pr ... ?e=259&session=12389](https://k4.ersnet.org/prod/v2/Front/Pr...?e=259&session=12389)

Provided by European Lung Foundation

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