

Identifying Asthma Patients with Oral Corticosteroid Use

Enabling effective management of asthma patients with IQVIA's Patient Finder

Impact on healthcare

INSIGHT

- better understanding of the population of asthma patients;
- allows for optimized treatment.

ASSURANCE

- certainty of being visible to the right practitioner;
- possibility of receiving optimal treatment with fewer side effects and better Quality of Life (QoL).

HEALTHCARE COSTS

- insight into the treatment of chronic asthma patients;
- may lead to reduced direct and indirect costs from sub-optimal treatment.

Challenge

Frequent use of oral corticosteroids (OCS), in courses of treatment or as maintenance, can lead to both short- and long-term serious side effects such as osteoporosis, hypertension and diabetes.¹

In April 2020, the **NVALT*** released a new guideline for Severe Asthma.¹ Not only is the recommendation to conduct periodic medication reviews, but it is also strongly recommended that OCS use be reduced as much as possible and side effects be very actively monitored.¹

- 7.2% of asthma patients are over-prescribed OCS
- Only half of these patients use the correct dose of inhaled corticosteroids
- 40.3% of patients had no contact with a specialist in the past 3 years

All this suggests that excessive use of OCS is often underreported and not yet adequately addressed.²

The treatment of these patients can be optimized only if they are visible to the right specialist. However, Dutch pulmonologists and 1st line practitioners are still insufficiently able to identify this group in Electronic Patient Records (EPR) in a structured and efficient manner.

The solution

Using IQVIA's Patient Finder a search query was developed in collaboration with two large hospitals. This search query allowed pulmonologists to easily identify uncontrolled asthma patients using OCS in their hospital.

IQVIA's Patient Finder solution provided a list of patients who met the validated search criteria.

User experience indicates that the lists generated are more comprehensive than those obtained through manual searching and time savings have been reported of up to 85%, resulting in significant efficiency savings for hospital staff.

This is possible because IQVIA's Patient Finder searches through the entire patient record, using Natural Language Processing (NLP) for the free text fields.

IQVIA's Patient Finder provided a list of patients for further assessment by a pulmonologist.

To find uncontrolled asthma patients with excessive OCS use, the following search criteria, among others, were used:

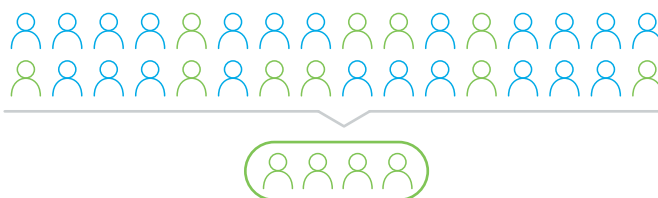
Asthma patients with ≥ 1 visit in the Pulmonary Diseases Department in the period July 2019- July 2020

- Patients ≥ 18 years of age with the diagnosis code for asthma or severe asthma or "severe asthma" (+ synonyms) in the open text fields
- Use of OCS (prednisone or prednisolone)
- Where possible, the data also included **first line** OCS prescriptions
- Escalation of OCS was **defined** as ≥ 30 mg/day for high-dose therapy, or + 10 mg/day for maintenance dose
- Patients were categorized based on:
 - » **low daily dose** ICS (100-250 mcg fluticasone equivalent)
 - » **average dose** (>250-500 mcg fluticasone-eq.)
 - » **high dose** ICS (>500 mcg fluticasone-eq.)
- The group was further divided into patients taking *biologics* and patients without these drugs

IQVIA's Patient Finder is easily scalable to other hospitals in order to gain better insight into their asthma patient population and, where possible, to reduce the burden of OCS use.

Insight into the asthma population - based on number of OCS high-dose therapies, OCS maintenance treatment and ICS dosage

Insights into asthma patients	ICS usage			Example
	Low 100-250 fluticasone equivalent	Average >250-500 fluticasone equivalent	High >500 fluticasone equivalent	
OCS escalations				
Low (1 escalation)	92	92	161	
Average (2-3 escalations)	23	25	82	
High (4+ escalations)	4	3	10	
Maintenance	9	23	45	



The outcome

IQVIA's Patient Finder allowed for the identification of patients with (uncontrolled) asthma who otherwise would not have been identified.

In several centers, about 3% of patients with severe asthma who had not yet been referred for systematic assessment by the appropriate specialist were found in the group studied.

IQVIA's Patient Finder allows physicians to follow recommendations, facilitating rapid compliance as treatment guidelines are updated, by re-evaluating and prioritizing patient populations stratified by OCS dose and escalation frequency.

"The tool can be a tremendous help in identifying this group of severe asthma patients in settings that are not set up as asthma knowledge centers, such as 1st line or regular 2nd line pulmonary care."

— Pulmonologist

References and explanations of abbreviations

*NVALT = Nederlandse Vereniging van Artsen voor Longziekten en Tuberculose [Dutch Association of Physicians for Pulmonary Diseases and Tuberculosis].

1. Richtlijn Diagnostiek en Behandeling van Ernstig Astma [Guideline for the Diagnosis and Treatment of Severe Asthma], July 2020, <https://www.nvalt.nl/kwaliteit/richtlijnen/copd-astma-allergie>
2. Van der Meer, de Jong, Ferns, Widrichd, ten Brinke, Overuse of Oral Corticosteroids in Asthma Is Often Underdiagnosed and Inadequately Addressed, Journal of Allergy and Clinical Immunology Practice, 2022; Volume 10, 2093-2098
3. Van Laar, Gombert Handoko, Guchelaar, Zwaveling, An Electronic Health Record Text Mining Tool to Collect Real World Drug Treatment Outcomes: Validation Study in Patients With Metastatic Renal Cell Carcinoma, Clinical Pharmacology & Therapeutics, 2020, 108(3): 644-652