

# ASSESSMENT OF ASTHMA DIAGNOSED POPULATION ELIGIBLE FOR NEW MONOCLONAL ANTIBODY THERAPY AND RELATED COST IN THE VENETO REGION

L Degli Esposti<sup>1</sup>, D Sangiorgi<sup>1</sup>, V Perrone<sup>1</sup>, AM Menti<sup>2</sup>, M Andretta<sup>2</sup>

<sup>1</sup>CliCon S.r.l. Health, Economics & Outcomes Research, Ravenna, Italy; <sup>2</sup>UOC HTA, Azienda Zero - Regione Veneto, Italy.

## Background and importance/ Aim and objectives

Novel treatment approaches for the management of severe refractory asthma included monoclonal antibodies (Mabs). The study aimed to estimate the number of the most suitable patients with severe uncontrolled asthma which can be eligible for new Mabs therapy and related cost in Veneto Region (Italy).

## Materials and methods

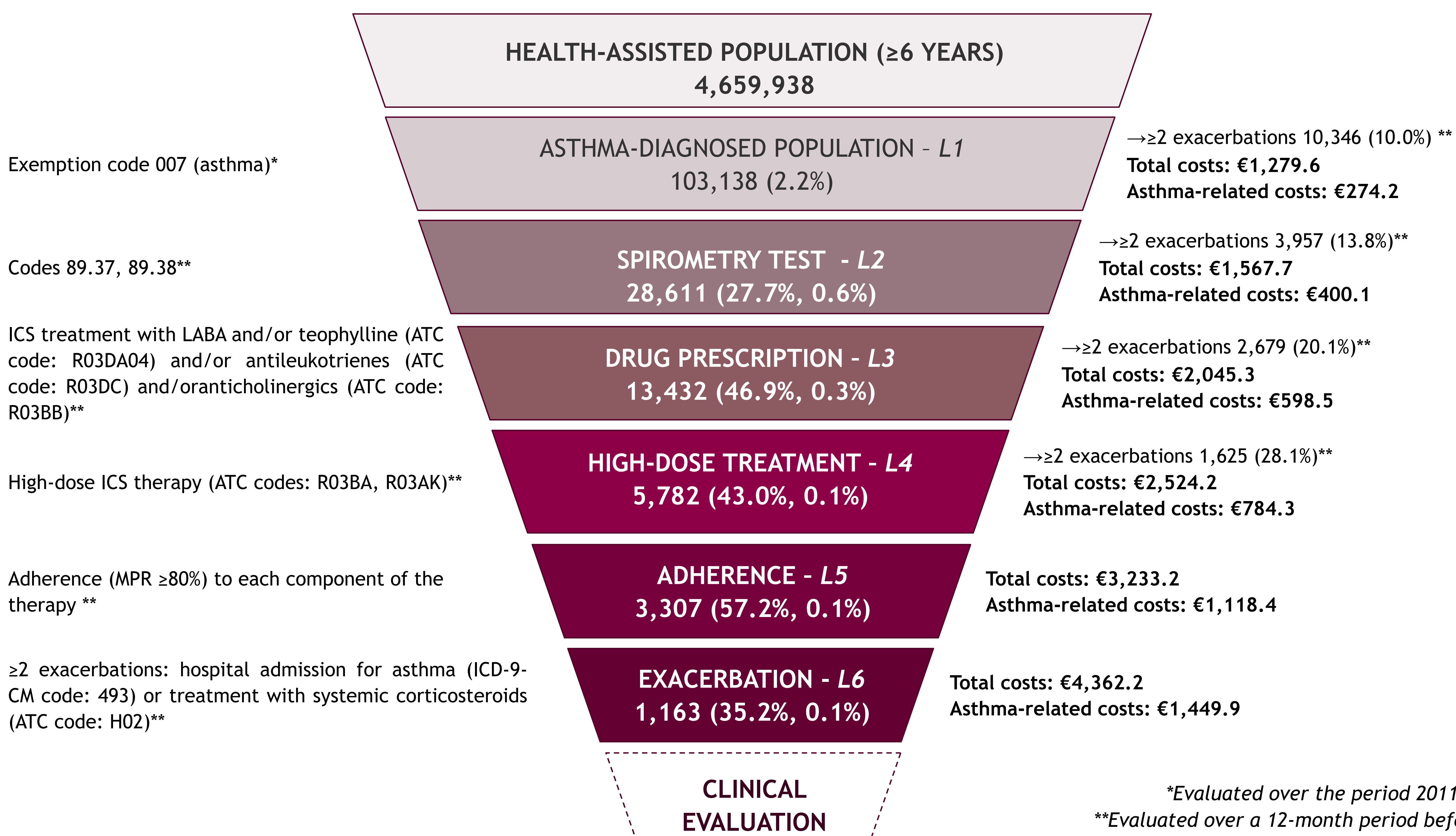
Regional administrative databases have been retrospectively analyzed to identify specific eligibility and assessment criteria. All patients aged  $\geq 6$  years with exemption code for asthma (007) [level of patients: 1 (L1)] between 01/01/2011 and 31/12/2016 were screened. The following parameters were considered in succession:

- spirometry (codes: 89.37, 89.38) – [level of patients: 2 (L2)];
  - inhaled corticosteroids (ICS) in combination with long-acting beta-adenoreceptor agonists (LABA) and/or theophylline (ATC code: R03DA04), and/or antileukotriene (ATC code: R03DC), and/or anticholinergics (ATC code: R03BB) – [level of patients: 3 (L3)];
  - high-dose ICS therapy (ATC codes: R03BA, R03AK) – [level of patients: 4 (L4)];
  - adherence to each medication – [level of patients: 5 (L5)];
  - asthma hospitalization (ICD-9-CM: 493) or treatment with systemic corticosteroids (ATC code: H02) – [level of patients: 6 (L6)].
- For each level of patients, the mean annual healthcare cost per patient, based on total resource consumption, were assessed.

## Results

For a total number of 4.6 million beneficiaries aged  $\geq 6$  years, 103,138 (2.2%) patients were screened (L1). Spirometry test were prescribed to 28,611 (27.7%) (L2), of whom 13,432 (46.9%) had a prescription for ICS with LABA or other agents' treatment (L3). 5,782 (43%) patients treated with previous combinations were prescribed a high-dose ICS therapy (L4). Of them, 3,307 patients (57.2%) were treatment-adherent (L5). Among them, 1,163 patients (35.2%) had hospital admission for asthma or treatment with systemic corticosteroids (L6). For this last level of patients, centers specializing for Mabs prescription could evaluate the eligibility (Figure 1). Total costs of illness according to disease progression were, respectively, €1,279.6 for L1, €1,567.7 for L2, €2,045.3 for L3, €2,524.2 for L4, €3,233.2 for L5, €4,326.2 for L6; overall asthma-related treatments and hospitalizations costs were, respectively, €274.2 for L1, €400.1 for L2, €598.5 for L3, €784.3 for L4, €1,118.4 for L5, €1,449.9 for L6.

**Figure 1. Flowchart of the identification of asthma-diagnosed patients eligible to clinical evaluation for monoclonal antibody therapy.**



## Conclusion and relevance

This analysis allowed to estimate the number of asthma patients eligible for medical advisor for Mabs therapy in Veneto Region. Our findings on healthcare costs highlight as the average cost per patient increases by severity level. Post marketing, it will be possible to assess appropriateness of Mabs prescriptions through indicators such as over- and under-use.

