

WENNBERG INTERNATIONAL COLLABORATIVE SPRING POLICY MEETING 2018

Asthma and COPD in Switzerland: Prevalence and direct medical costs according to health insurance claims data

Marion Schmidt¹, Roland Rapold², Beatrice Brunner¹, Eva Blozik², Simon Wieser¹

¹ Zürich University of Applied Sciences

² Helsana

Funding by **AstraZeneca**



Smarter Health Care
National Research Programme



Zürcher Hochschule
für Angewandte Wissenschaften



Helsana

Background & Objectives

Background

- Asthma and COPD are chronic respiratory diseases with substantial disease burden.
- Data on prevalence and costs of asthma and COPD in Switzerland are limited

Objectives

To assess the prevalence and treatment costs of asthma and COPD in Switzerland

Data

Helsana health insurance claims data :

- Helsana covers about **15%** of the overall Swiss population
- Year: **2016**
- Number of observations: **97'423**
- Extrapolation factor : based on an **adjustment factor** for age, gender and regional differences between the Helsana and the Swiss population

Methods - Evaluation strategy

I. Identification of the asthma/COPD patient group

medication group
for obstructive
airways diseases

min 1 drug from
ATC-group **R03**

OR

inpatient diagnosis

min 1 hospital stay with
ICD-10 Code **J44.-, J45,**
J46 and **R942** as main or
second diagnosis

II. Distinction between asthma and COPD patients

1. Drug combinations (based on guidelines)
2. Inpatient diagnosis
3. Age < 40 (for asthma only and if disease ≠ COPD)
4. Asthma/COPD specific medical procedures and laboratory examinations

III. Classification of patients into severity levels

- According to GINA (asthma) and GOLD (COPD) guidelines that provide treatment recommendations for each severity levels.
- based on patient's drug combinations

IV. Cost calculation

Only outpatient costs are considered:

- Medication costs
- Medical devices costs (MiGEL)
- Procedures costs (Tarmed)
- Lab tests costs (Analyseliste)

Results I

I. Identification of the asthma/COPD patient group

Switzerland:

Overall prevalence of asthma/COPD : **8.12%**

Helsana sample:

Identified with drugs: 99.4%
Identified with ICD-10 Code only: 0.6%

→ **Most of patients are treated in outpatient settings**

II. Distinction between asthma and COPD patients

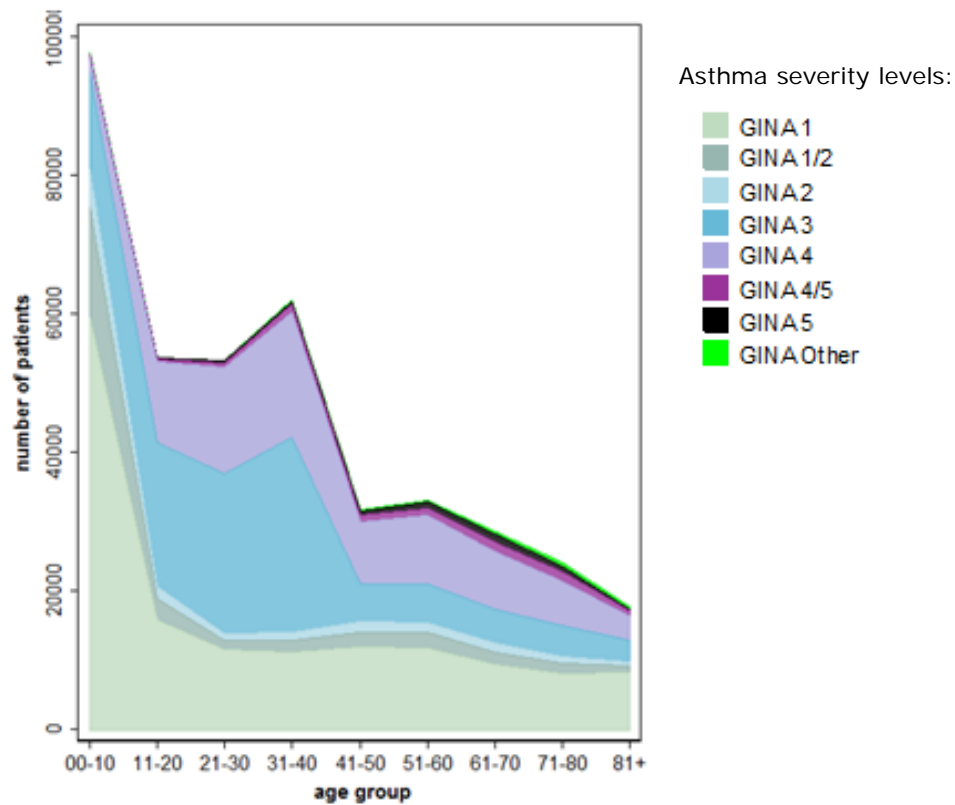
Asthma: 59.0%
COPD: 11.3%
Asthma & COPD: 0.37%
and/or **29.3%**

→ About **1/3 of all patients** cannot be identified neither as asthma nor as COPD nor as Asthma & COPD patients

Results II

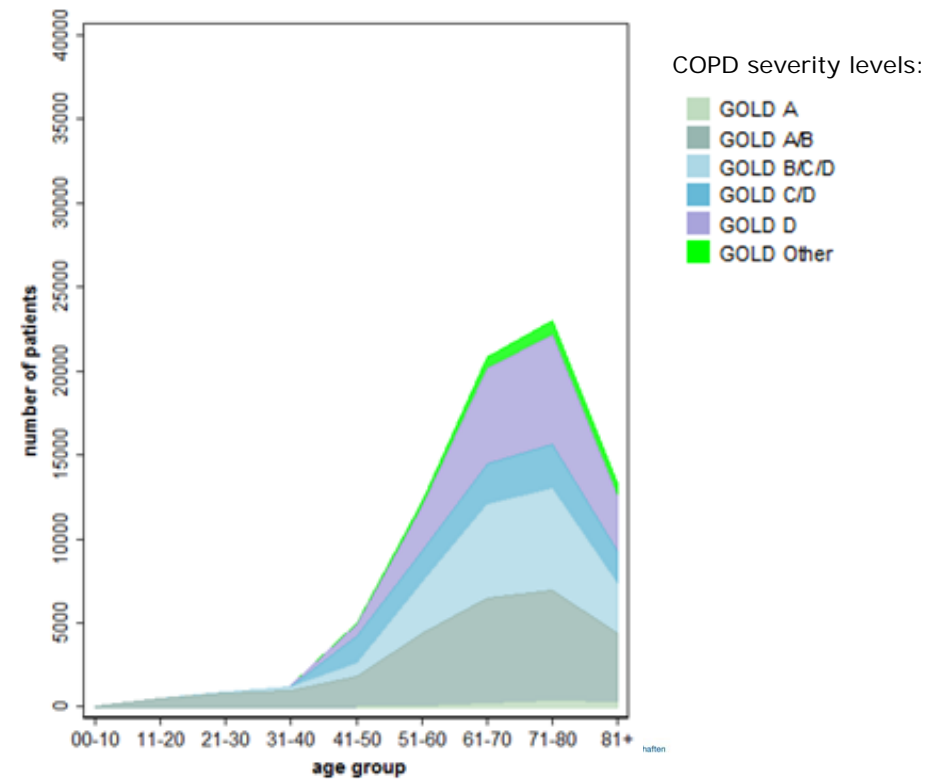
III. Classification of patients into severity levels

Age distribution of **Asthma** patients by severity levels



wennberg-zurich.org

Age distribution of **COPD** patients by severity levels



Results III

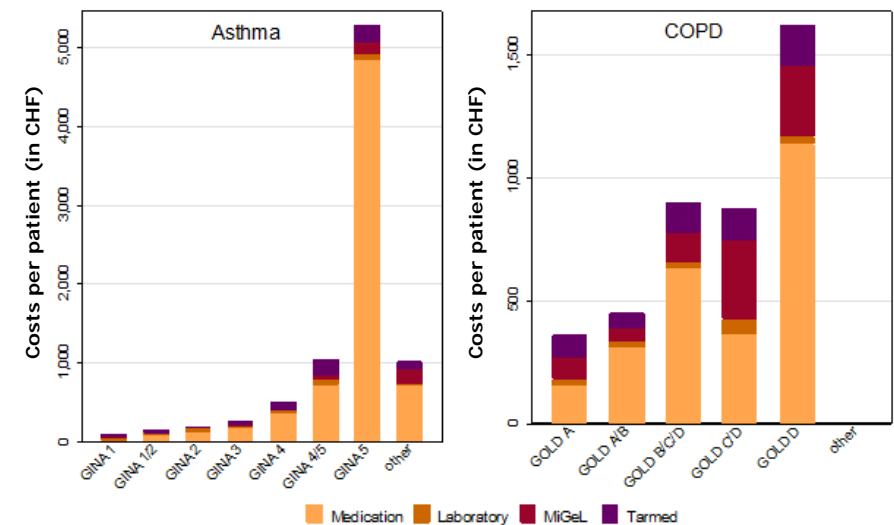
IV. Cost calculation

Average outpatient cost (including drugs)

Group	drugs	lab tests	MiGeL	Tarmed	costs per patient	overall costs (in mio CHF)
Asthma	216	34	17	51	317	127.4
COPD	606	34	170	109	886	68.3
A. and COPD	1'299	38	329	186	1'820	3
A. and/or COPD	303	23	5	49	380	75.9
Total						275

- Lowest costs per patients are caused by asthma
- COPD treatment costs are twice as high compared to asthma
- Medication costs account for the largest proportion of the costs (68%-80%)
- Lab tests costs account for the smallest proportion of the costs (2%-11%)
- Over both diseases the outpatient costs (including drugs) in Switzerland amount to 275 million CHF in 2016
- Half of these costs arise in patients with clearly identified asthma

Costs increase with increasing «severity»



Zürcher Hochschule für Angewandte Wissenschaften

Conclusion

For 1/3 of patients it is impossible to distinguish between asthma and COPD based on type of medication

Based on different classification scenarios for those patients:

- Prevalence of treated asthma is between 4.1% and 5.8% (among the over **20 years old**)
- Prevalence of treated COPD is between 2.6% and 4.5% (among the over **30 years old**)

Claims data are a highly valuable data source allowing to assess the prevalence and severity of diseases, as well as type and cost of care in Switzerland.