

# Neovascular Age-Related Macular Degeneration: Prevalence and Treatment with Anti-VEGF from the Perspective of the Italian National Health System

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## BACKGROUND AND AIMS

Neovascular age-related macular degeneration (nAMD) is a common world-wide cause of blindness, affecting over 200 million people globally [1]. The vascular endothelial growth factor (VEGF) plays a key role in the pathogenesis of nAMD, thus anti-VEGF agents (aflibercept, ranibizumab, pegaptanib and bevacizumab) represent the first-line therapy for the treatment of this debilitating disease [2].

### AIMS

To identify and characterize, in 2018, patients with nAMD in Italy and, among them, new users of anti-VEGF, and assess:

- ❖ Comorbidities, prescription patterns and outpatients specialist care;
- ❖ Integrated healthcare costs, from the perspective of the Italian National Health Service (INHS).

## METHODS

This observational retrospective analysis was performed through the Fondazione Ricerca e Salute (ReS) database, as follows:

### Inclusion criteria

- Subjects aged  $\geq 55$
- $\geq 1$  hospitalization with main/secondary diagnosis of nAMD (ICD9-CM code: 362.52) AND/OR outpatient intravitreal therapy/supply of anti-VEGF (excl. diseases treated with nAMD-non-specific drugs)

### Study Design

- Accrual period: from 2013 to 2018
- Index date: first prescription of an anti-VEGF
- Follow-up: up to 2 years from the index date

### Analyses

- Sex, age and comorbidities (until 2013);
- Anti-VEGF prescription and intravitreal therapy pattern within 2 years;
- Outpatient specialist care (optical coherence tomography - OCT, fluorescein angiography, *fundus oculi* and eye examination) within 2 years;
- Healthcare costs charged to the INHS within 1 year.

## RESULTS

### Identification of new users of anti-VEGF

ReS population in 2018 (~ 5 mln inhabitants):

Patients aged  $\geq 55$ : **1,750,109**

nAMD patients in 2018: **8,125**

(prevalence: **4.6 x1,000**; F: 50.0%)

Users of anti-VEGF: **3,009**

(37.0% of patients with nAMD)

**New users of anti-VEGF: 1,513**

(18.6% of patients with nAMD)

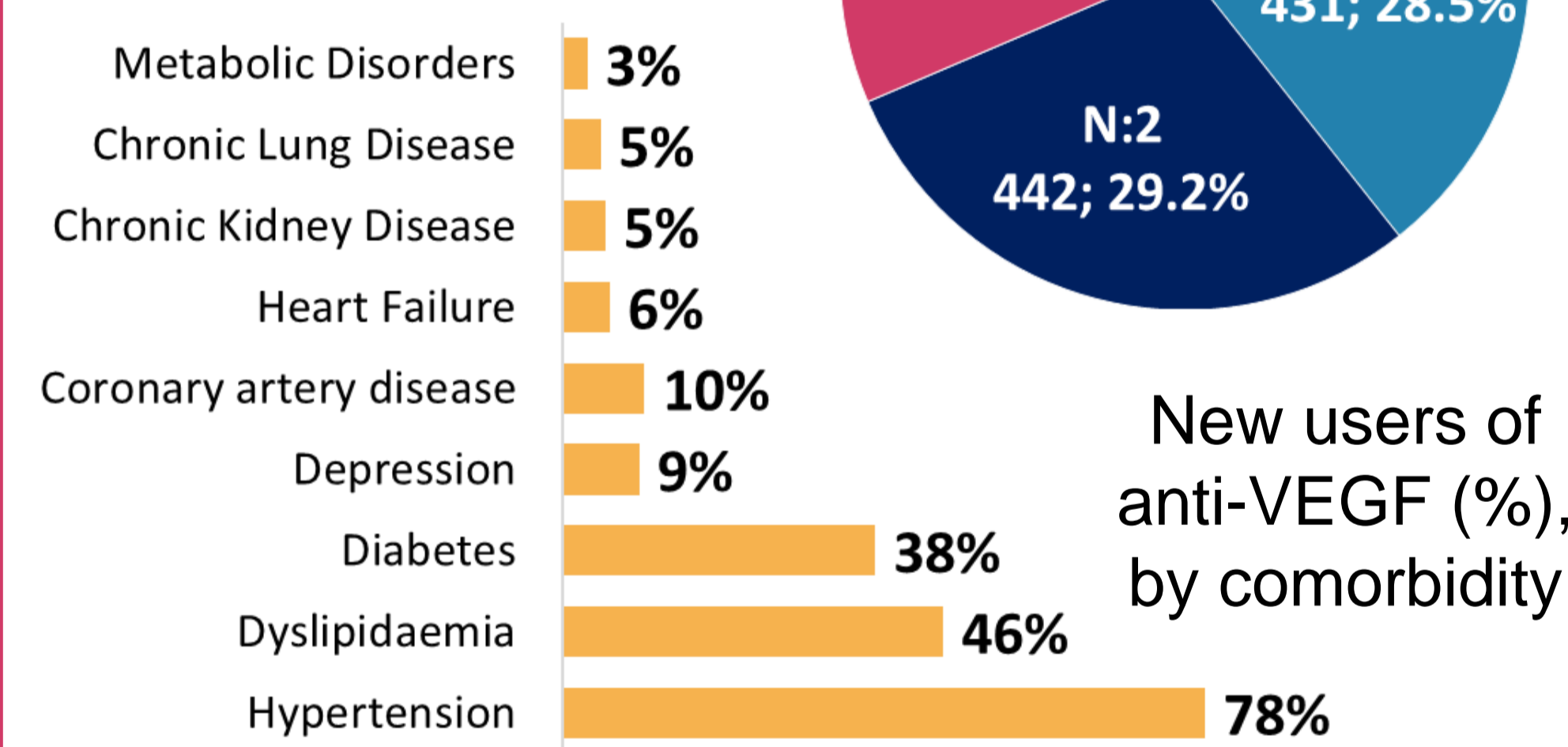
(incidence: **0.9 x1,000** – increasing with age)

F: 50.4% - Mean age: 74 $\pm$ 9 – Median age: 75 (67;81)

### New users of anti-VEGF (N=1.513) with comorbidities

(hypertension, dyslipidemia, diabetes, depression, coronary artery disease, heart failure, chronic kidney/liver disease, other metabolic disorders)

Percentage distribution (N; %) of new users of anti-VEGF, by amount of comorbidities

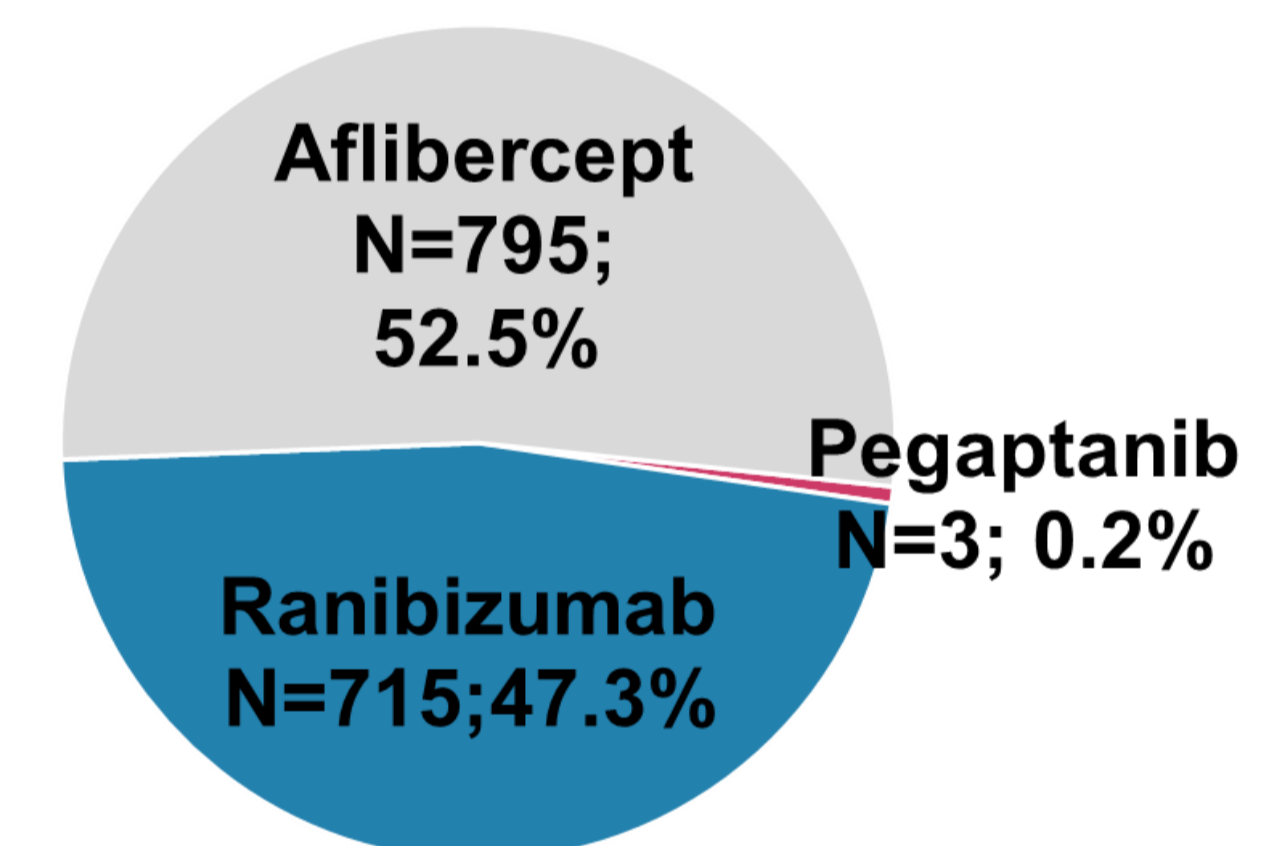


### Anti-VEGF prescription and intravitreal therapy pattern within 2 years of follow-up

Average number ( $\pm$ SD) of access for intravitreal therapy with anti-VEGF, by follow-up year

Access for intravitreal therapy	1-year follow-up (N=1.513) Mean $\pm$ SD	2-year follow-up (N evaluable and treated pts=658) Mean $\pm$ SD
	<b>4.8 <math>\pm</math> 3.1</b>	<b>1.5 <math>\pm</math> 2.4</b>

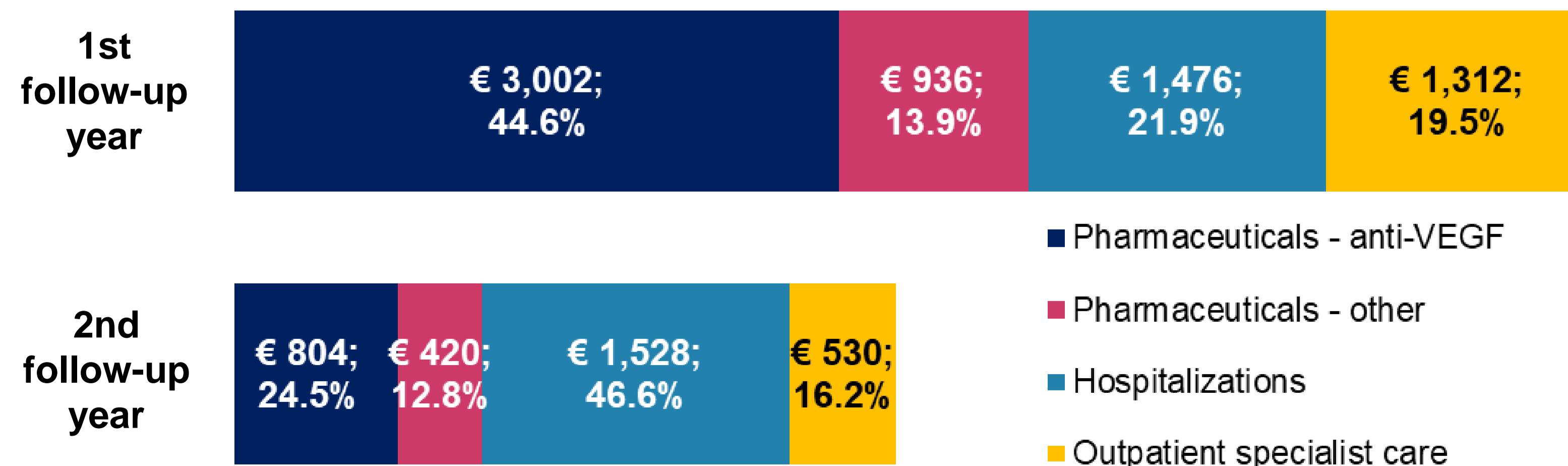
1st follow-up year: new users of anti-VEGF by treatment



### Integrated healthcare costs

On average, the INHS spent €6,726 (44.6% for anti-VEGF drugs) per patient within the first year, while €3,282 (46.6% for all-cause hospitalizations) within the second year.

Main expenditure per patient (€), by follow-up year

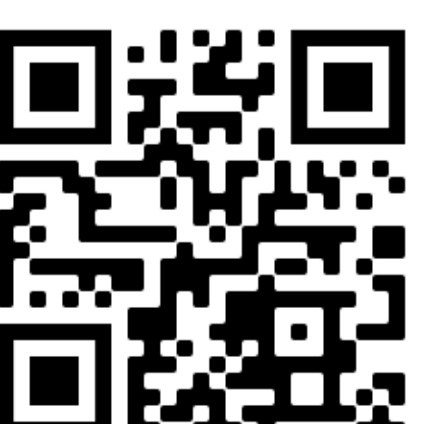


### Outpatient specialist care within 2 follow-up years

Outpatient specialist care	1° year f-up (N=1,513) (n;%)	2° year f-up (N=1,462) (n;%)
Eye examination	495; 32.7%	311; 21.3%
Fluorescein Angiography	137; 9.1%	78; 5.3%
Optical Coherence Tomography	74; 4.9%	60; 4.1%
Fundus Photography	23; 1.5%	18; 1.2%
$\geq 1$ access for outpatient services	1,398; 92.4%	1,291; 88.3%

## CONCLUSIONS

The prevalence of nAMD was largely underestimated due to the limitations of administrative healthcare data. However, the strong reductions in treatment administrations and outpatient follow-ups are worthy of attention.



[1] Tan CS, et Al., Neovascular Age-Related Macular Degeneration (nAMD): A Review of Emerging Treatment Options. *Clin Ophthalmol* (2022) 16:917-933.

[2] Cannon E. Managed care opportunities and approaches to supporting appropriate selection of treatment for sight preservation. *Am J Manag Care* (2019) 25(10 Suppl):S182-S187.