

A ONE-YEAR FOLLOW-UP OF PATIENTS WITH ACUTE CORONARY SYNDROME (ACS) AND DIABETES TREATED WITH STATINS: OUTCOMES AND HEALTH CARE COSTS SUPPORTED BY ITALIAN NATIONAL HEALTH SERVICE

Maggioni AP §,
Rossi E #,
Cinconze E #,
Calabria S °

On the behalf of the
ARNO Observatory *

arnojournal@cineca.it
www.coreteam.it
www.cineca.it

§ ANMCO Research Center,
Florence, Italy
CINECA - Interuniversity
Consortium, Casalecchio di
Reno, Bologna, Italy
° CORE – Collaborative
Outcome Research,
Bologna, Italy

* ARNO Observatory
network (LHUs):

R.Roni (Trento), A. De Marco (Belluno), M.Cecchetto (Bassano), MP Cariolato (Ovest Vicentino), A.Maroni (Vicenza), D.Maccari (Pieve di Soligo), R.Callegari (Asolo), M.Ferrari (San Donà di Piave), S.Zardo (Venezia) L.Cordella (Mirano), B.Pari (Chioggia), C.Salvato (Alta Padovana), A.Grion (Padova), MG Zogno (Monselice), A.Ferrarese (Rovigo), V.Lolli (Adria), L.Mezzalira (Verona), S.Brasola (Legnago), L.Castellani (Bussolengo), D.Garibaldi (Lucca), P.Batacchi (Firenze), M.Rais (Viareggio), G.Riccioni (Roma A), R.Di Turi (Roma D), C. De Matthaeis (Roma F), A. Orsini (Teramo), G. La Bella (Napoli1), E.Nava (Napoli 3), R.Moscogiuri (Taranto)

Background and Objective

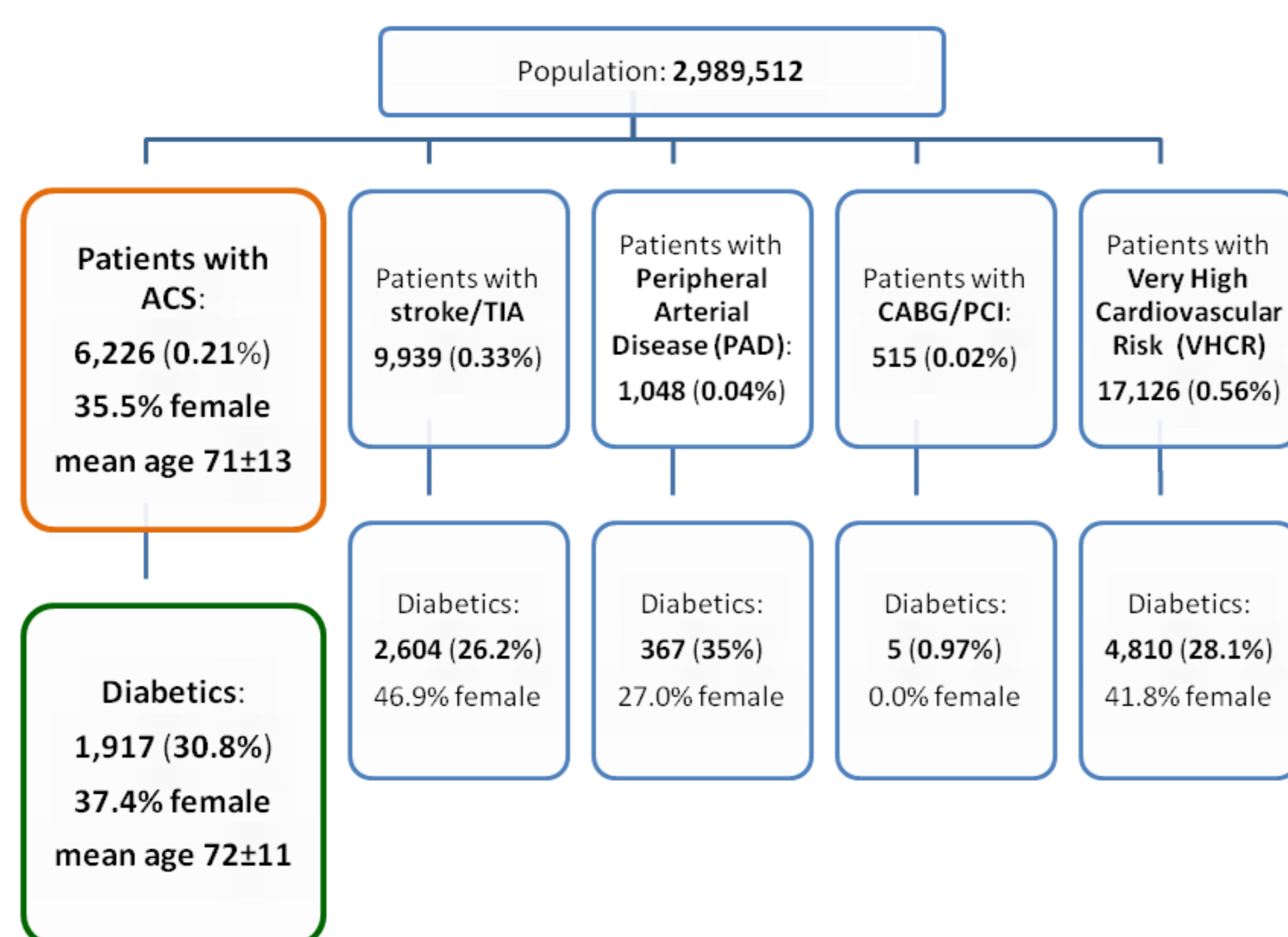
Type 2 Diabetes Mellitus is associated with increased morbidity and mortality in patients with Acute Coronary Syndromes (ACS). The aim of this analysis is to assess, in a community real-world setting, epidemiological and clinical characteristics, 1-year follow-up outcomes and the related economic impact of patients with ACS and Diabetes.

Methods

Starting from ARNO Observatory database (11 million citizens), a record linkage analysis of hospital discharge, disease exemption and prescription records was carried out. A cohort of patients from a subset of 6 Local Health Units (LHUs) with available, complete and good quality data on pharmaceutical prescriptions, specialist/diagnostic procedures and hospitalizations was selected. The accrual period lasted from January 1st to December 31st 2011. Every single patient with ACS and Diabetes was followed up to 1 year from the index date, to identify epidemiological and clinical characteristics, 1-year follow-up outcomes and their costs (drugs in charge to INHS, diagnostic procedures, hospitalizations). Greater attention was focused on patients treated with statins during the 1-year follow-up.

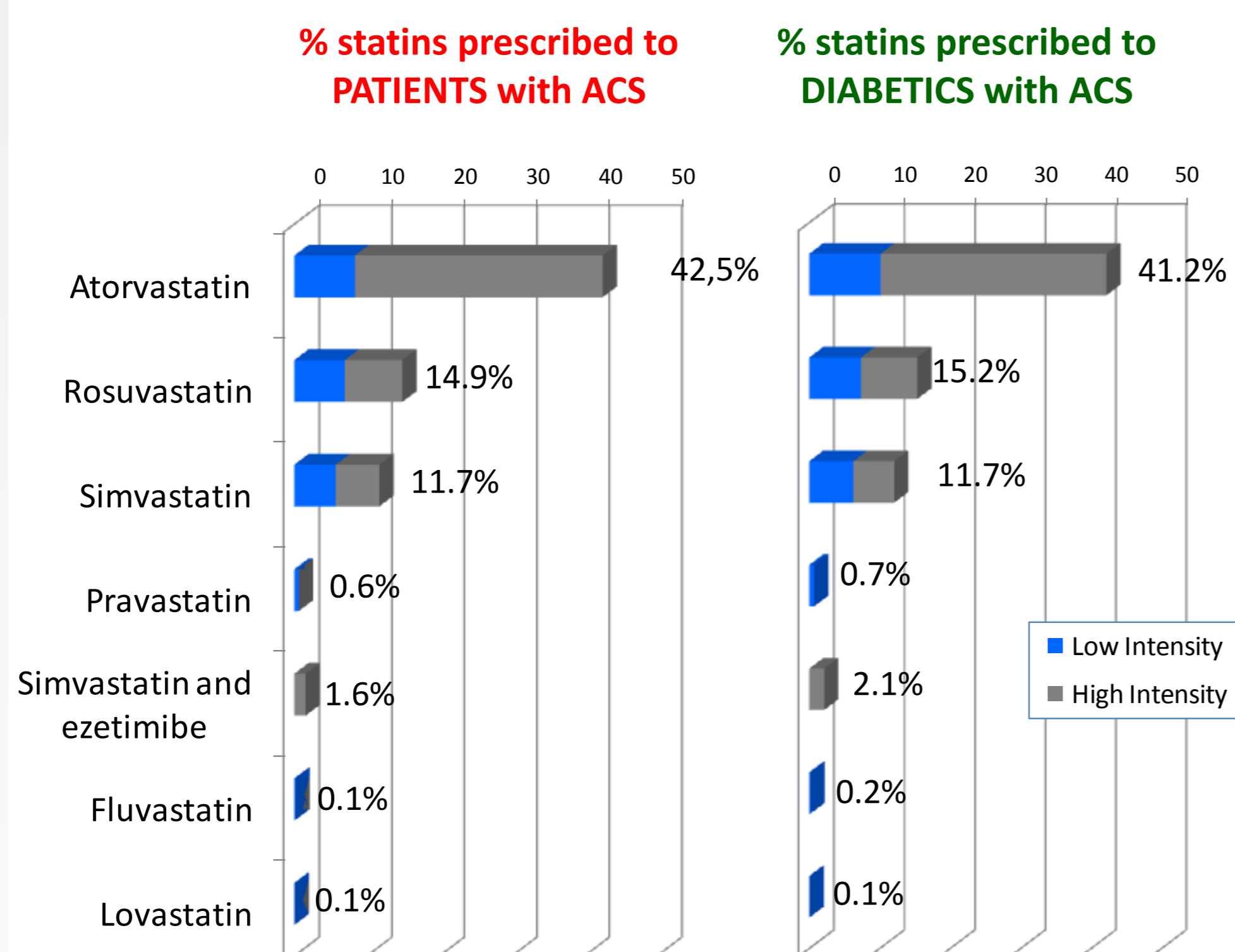
Results

Of 2,989,512 subjects identified, 6,226 patients (0.21%) were hospitalized for ACS; among ACS cases, 1,917 had Diabetes (30.8%) – Fig. 1.



83.1% of patients with ACS received at least one prescription of statins during the 1-year follow-up.

Rate of prescription of statins and related dosage intensity, during the first month after the discharge, are shown in Fig. 2: 69.9% patients with ACS vs 69.1% diabetics with ACS.



The **average yearly cost/diabetic with ACS supported by NHS** was € 16,897: € 14,199 for hospitalizations, € 1,691 for drugs and € 1,008 for diagnostic and outpatient visits. Fig. 4 shows how costs are allocated between the two cohorts (%).

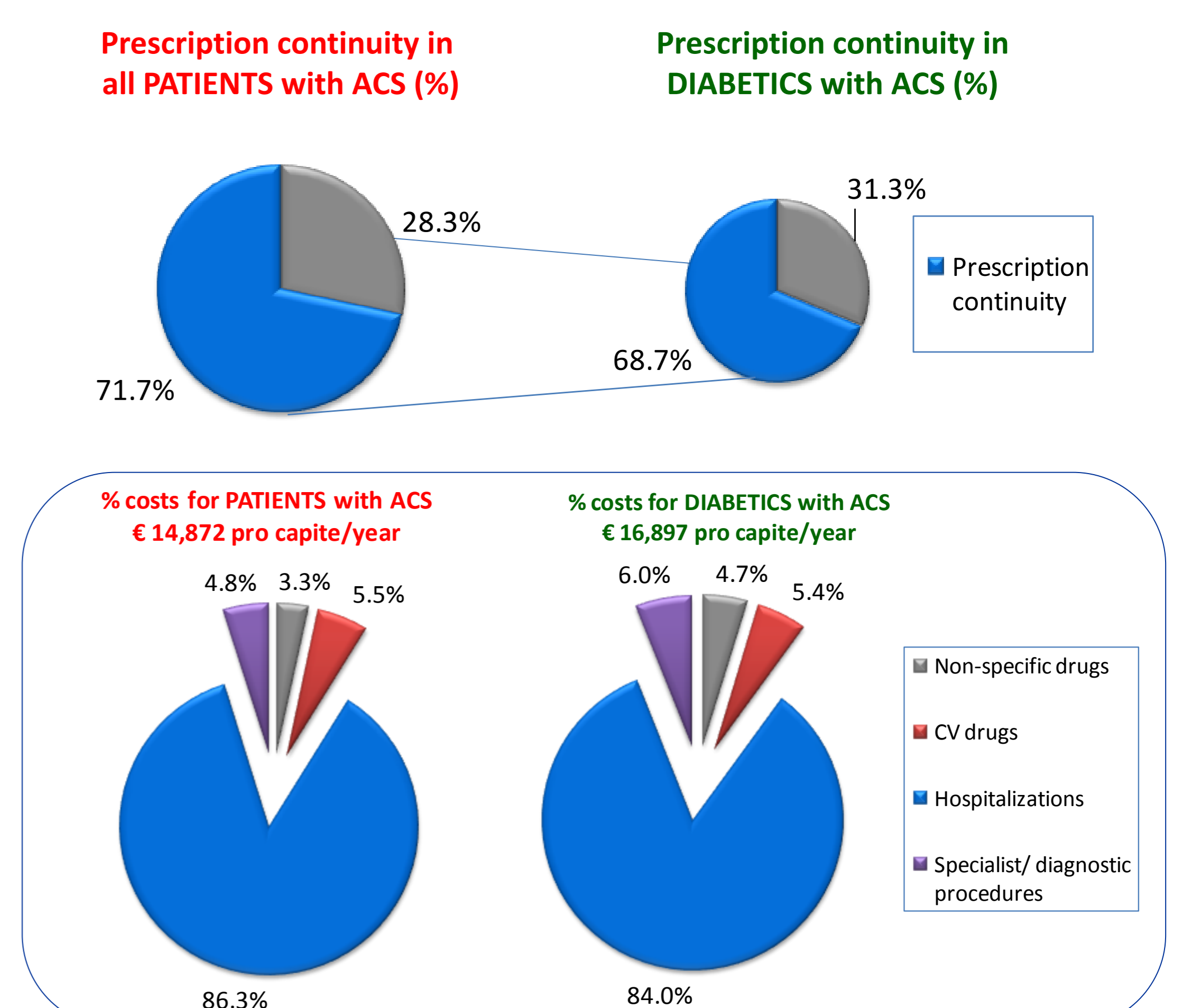
Pre-existing clinical features (12 months before)	PATIENTS with ACS (N=6,226)	DIABETICS with ACS (N=1,917)
Morbidity		
Hypertension	71.4%	83.6%
Depression	14.6%	16.0%
Neoplasia	4%	4.9%
COPD	9.5%	11.8%
Hospitalizations for CV causes		
ACS	4%	4.7%
Stroke/TIA	2.1%	2.6%
PAD	0.03%	0%
CABG/PCI	2.0%	2.2%

Tab. 1 shows **clinical features** of the overall cohort of patients with ACS and of the sub-cohort of patients with Diabetes. Hospital all-cause death rate was 4.1%.

69.3% of diabetics with ACS were re-hospitalized (55.6% of them for CV events). Tab. 2 shows the **rate and the mean number of re-hospitalizations** over the 1-year follow-up.

Re-hospitalization Diagnosis	% PATIENTS with ACS (N=5,937)	Mean hospitalizations /discharged (n)	% DIABETICS with ACS (N=1,839)	Mean hospitalizations /discharged (n)
ACS	22.7	1.27	26.0	1.29
Stroke/TIA	2.8	1.22	2.6	1.23
PAD	0.01	2.00	0.1	2.00
CABG/PCI	7.3	1.11	8.3	1.11
Heart Failure	7.3	1.45	11.4	1.46
Other CV causes	30.1	1.40	32.4	1.47
Overall CV causes	50.4	1.85	55.6	1.98
Non-CV causes	28.7	1.57	34.6	1.69
Total	63.3	2.18	69.3	2.44

Prescription Continuity was attributed to all patients who received the correct daily dosage during the 1-year follow-up (with a 20% tolerability). Prescription continuity rate was greater among patients treated with high intensity statins compared to lower intensity ones (67.1% vs 38.9%) – Fig. 3.



Conclusions

Patients with ACS and diabetes have high direct healthcare costs. Re-hospitalizations were the main cost driver. Prescription rate and prescription continuity of statins was sub-optimal. LHUs Authorities together with Cardiologists and General Practitioners should work to bridge the gap between evidence-based recommendations and clinical practice, in order to contain morbidity and health costs of patients with Diabetes and ACS.