

# Guideline-recommended Drug Therapy in Patients with Chronic Heart Failure

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**Purpose:** Evaluation of - guideline-conform treatment in Austrian patients  
- its impact on mortality and  
- the impact of hospital readmissions on guideline-conform treatment

## Methods:

Based on claims data from the 13 bigger Austrian health insurance funds, all hospitalized patients with a discharge diagnosis of chronic heart failure were included between January 1, 2015 and December 31, 2015.

As an approach towards guideline-recommended therapy, data on drugs prescribed within one year after this discharge were analysed and patients were assigned to the following 3 therapy groups:

**Group 1:** Patients who received angiotensin-converting enzyme inhibitors (ACE-I) or angiotensin-receptor-II-blockers (ARB) and beta-blockers (BB),

**Group 2:** Patients with ACE-I/ARB or BB or aldosterone antagonists (AA) or diuretics and

**Group 3:** Patients with none of the above-mentioned drug classes.

Multivariate logistic regression was performed to explore the relationship between drug therapy (therapy group), age groups, hospital readmission and mortality.

## Results:

19 314 patients (46.8 % male) were included with a mean age of 79.2 ± 11.5 years

Prescribed therapy/therapy group:

- 36 % ACE-I/ARB and BB (**Group 1**),
- 50 % ACE-I/ARB or BB or AA or diuretics (**Group 2**) and
- 13 % of patients with none of these (**Group 3**)

(see Figure 1)

Figure 1: Prescribed therapy first year after discharge (%)

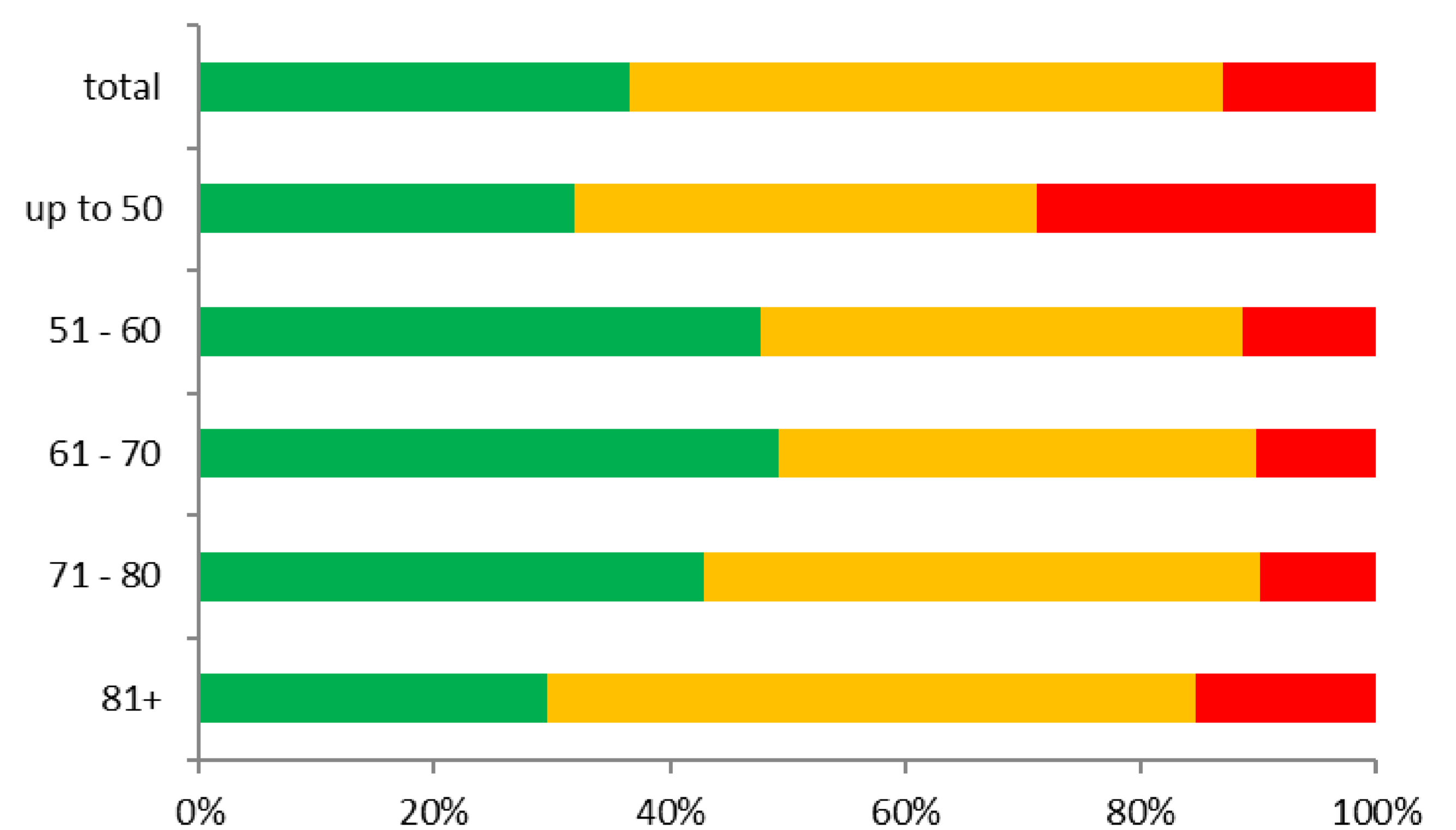
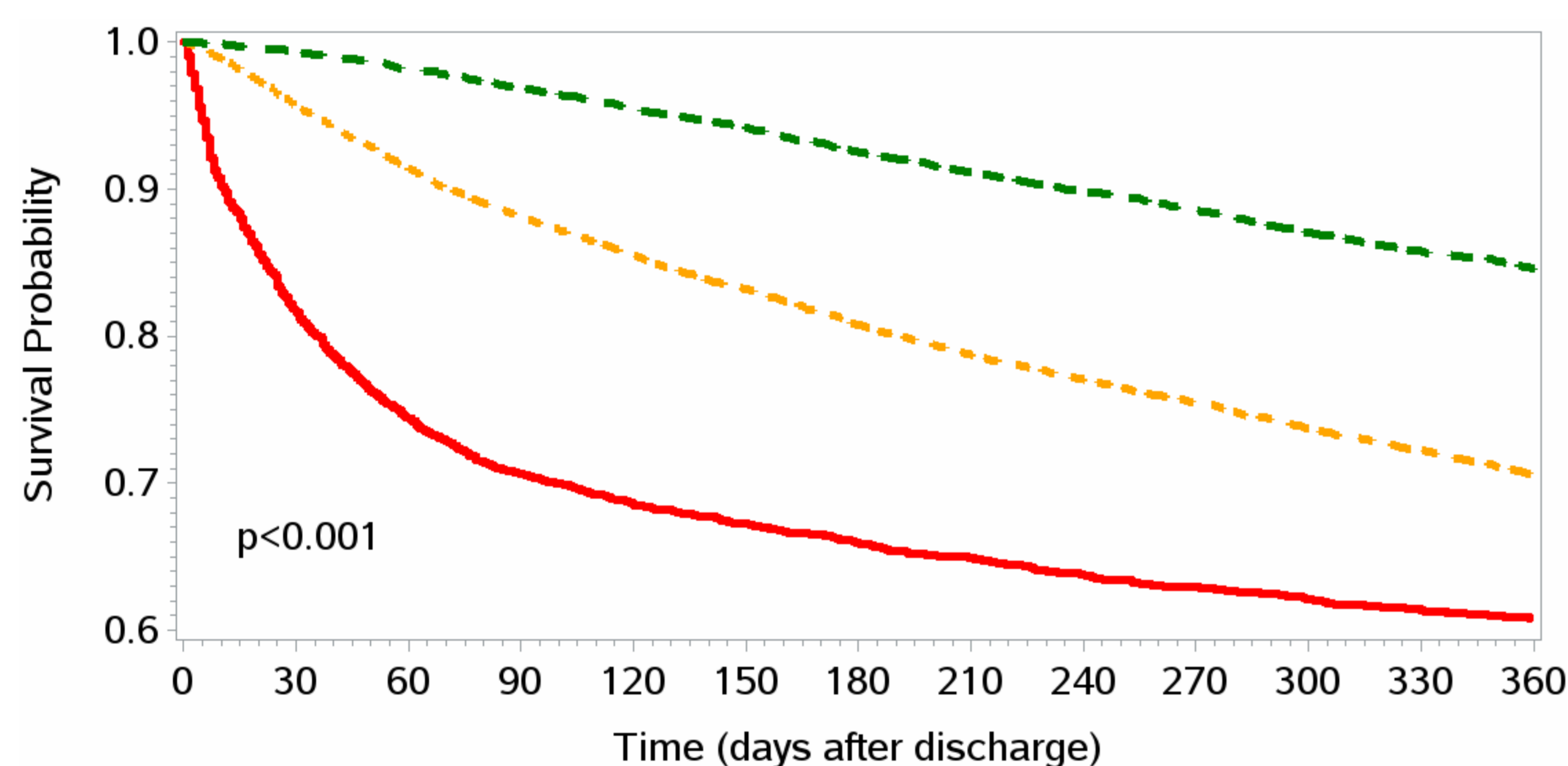


Figure 2: Kaplan-Meier survival curves for patients according to treatment group



## Mortality:

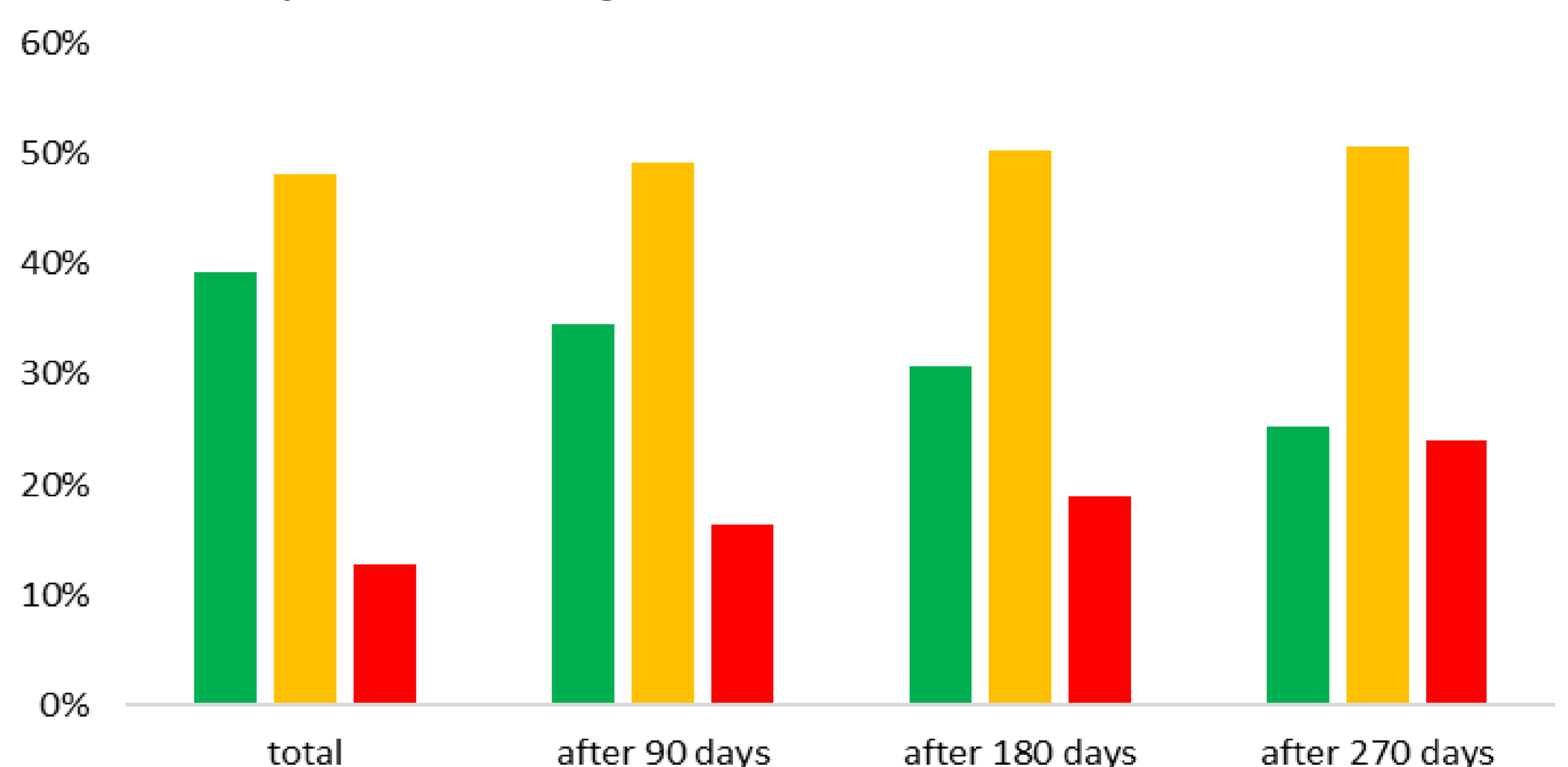
Multivariable logistic regression analysis revealed that the prescription of ACE-I/ARB in combination with beta-blockers (**Group 1**) lowers the mortality risk (OR 0.3) compared to patients without any prescription for the considered drug classes (**Group 3**); also patients who received ACE-I/ARB or BB or AA or diuretics (**Group 2**) had a lower mortality risk than patients in Group 3 (see also Kaplan-Meier survival curves in Figure 2).

## Impact of hospital readmissions:

Data indicate that with increasing time after discharge the frequency of guideline-conform treatment declines (the longer patients stay outside hospital without readmission within one year after discharge the lower the percentage of those who have a prescription of ACE-I/ARB in combination with BB [**Group 1**], see Figure 3).

Regarding rehospitalisation, multivariable logistic regression shows that readmission increases the chance to receive a combination of ACE-I/ARB and beta-blockers (OR 1.4).

Figure 3: Therapy prescribed over time for patients without readmission within one year after discharge, n=10 875



## Conclusion:

Despite the reduction in mortality by the combination of ACE-I/ARB with beta-blockers, this therapy remains underutilised in a general heart failure population. Despite its known correlation with adverse outcome, readmission was associated with improved guideline-conform medication.