

# Adherence to ESC guidelines after hospital admission for heart failure in 22500 Dutch patients: 2001-2015

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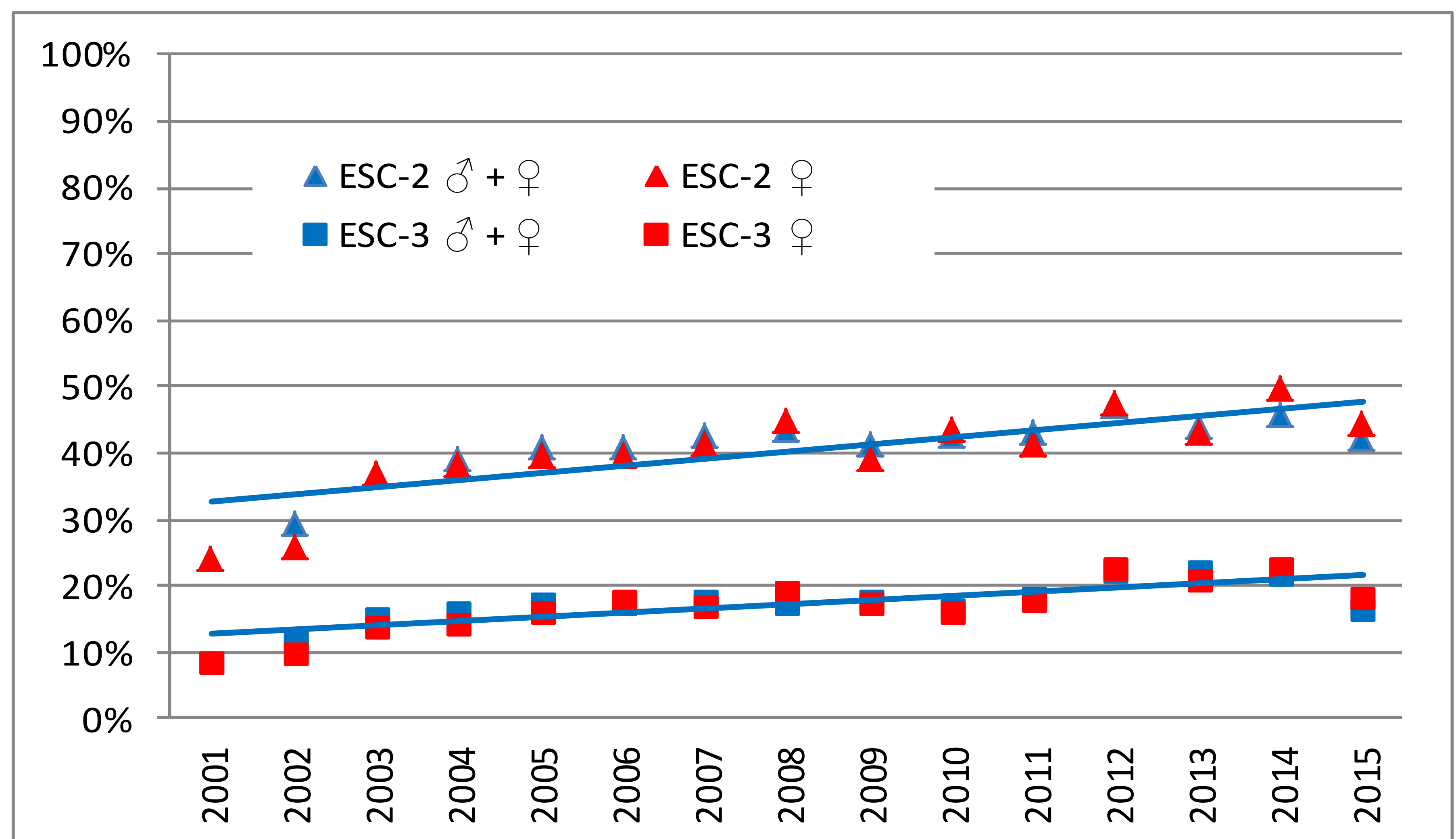
## Purpose

Adherence to guideline-recommended medication in patients with heart failure (HF) in clinical practice is suboptimal. We analysed how evolving guideline recommendations influenced the medication profile after a first HF hospitalisation and which trends could not be explained by these guidelines.

## Methods and results

We extracted medication profiles from the Dutch PHARMO Database for 22,476 patients with a diagnosis of HF at hospital discharge between 2001 and 2015. The percentage of patients prescribed a beta-blocker (BB) and an angiotensin-converting-enzyme inhibitor (ACEI) or angiotensin-receptor blocker (ARB) increased from 24% to approximately 45% within that 15-year period. The percentage of patients who also used a mineralocorticoid-receptor antagonist (MRA) reached approximately 20%. The probability of being prescribed these drugs decreased with increasing age. As a consequence of the policy change in the ESC guideline 2001, the use of BB increased from less than 40% in 2001 to about 70% by 2015. The percentage of patients prescribed an ACEI and/or an ARB, an MRA or a diuretic was quite stable, at respectively 63%, 37% and 82%. Although the 2012 ESC guideline also advised MRA in NYHA class II, we did not find a rise in MRA prescription.

Figure 1 Patients prescribed optimal medical therapy according to ESC guidelines



ESC-2: Beta-blocker + (ACEI or ARB) ESC-3: Beta-blocker + (ACEI or ARB) + MRA

Table 1. Baseline characteristics

|   |             |
|---|-------------|
| Total number of patients                          | 22476       |
| Number of patients/study year (SD)                | 1498 (455)  |
| Age: mean (SD)                                    | 76.8 (10.9) |
| Gender: female %                                  | 50.9%       |
| Discharge diagnosis:                              |             |
| ▪ heart failure (HF)                              | 22241       |
| ▪ hypertensive heart disease with (congestive) HF | 235         |
| <b>Medication profile on discharge:</b>           |             |
| ACEI/ARB  | 62.7%       |
| Beta-blocker                                      | 59.6%       |
| MRA   | 37%         |
| Diuretics excluding MRA                           | 81.8%       |
| Beta-blocker + ACEI/ARB                           | 40.4%       |
| Beta-blocker + ACEI/ARB + MRA                     | 17.1%       |

## Conclusions

Compliance with the guidelines varied for the individual recommendations and some medication changes were not covered by the guidelines. Our data provide insight into “real-world” pharmacological management in an unselected HF population. Further research is needed to elucidate the reasons for non-adherence.

