

Clinical Remission with Beclometasone/Formoterol/Glycopyrronium in Asthma: Real-World Evidence from the TriMaximize Study



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TRIMAXIMIZE

BACKGROUND:

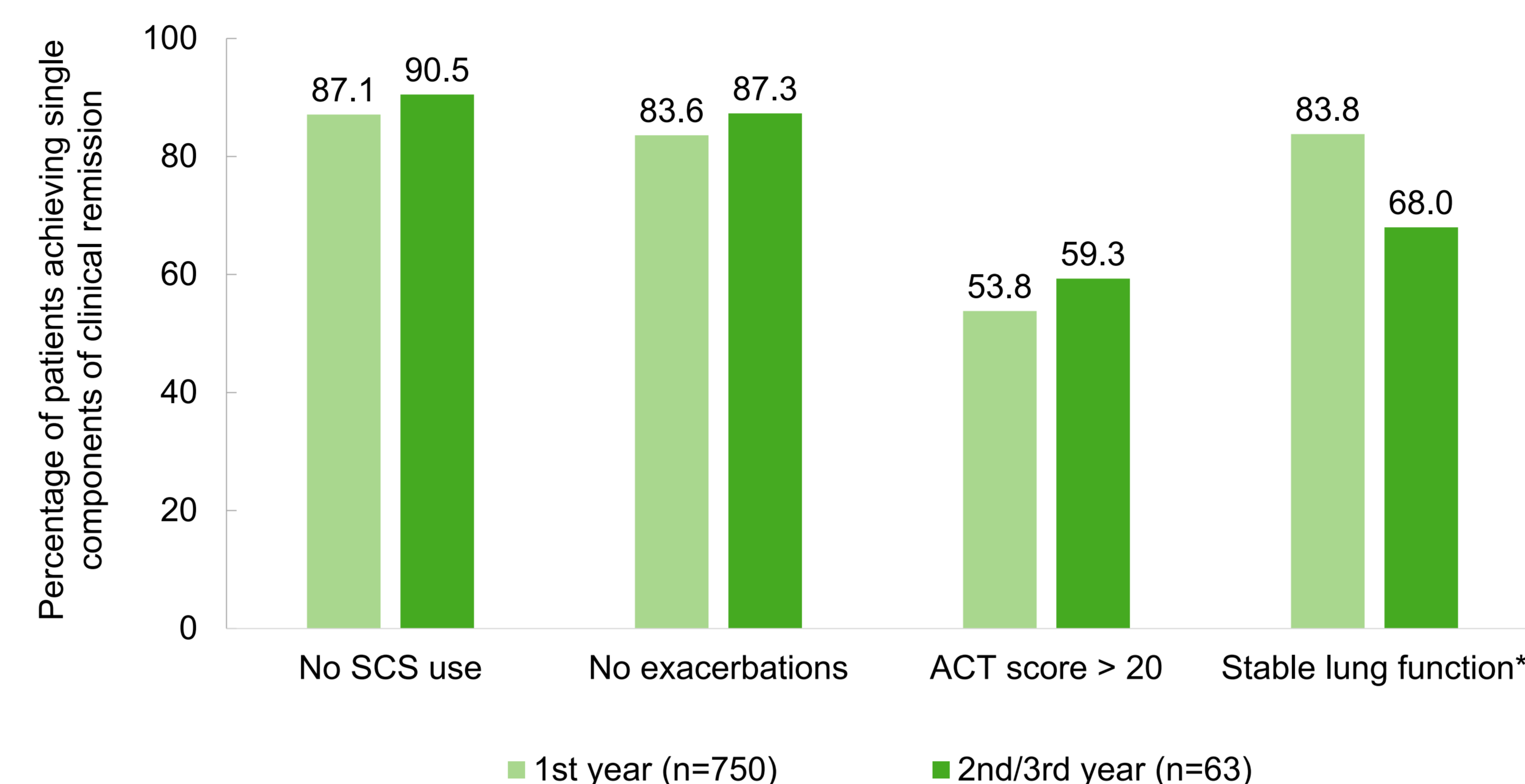
- Randomized clinical trials have shown clinical efficacy of extrafine formulation single-inhaler triple therapy consisting of beclometasone dipropionate/formoterol fumarate/glycopyrronium (BDP/FF/G)¹.
- TriMaximize study observes patients who have switched to BDP/FF/G in a real-world setting over a period of one to three years².

METHODS:

- TriMaximize is a multinational, observational study that follows patients with asthma who have been prescribed BDP/FF/G up to 36 months. Patients were recruited at 162 sites across eight countries (Germany, United Kingdom, Austria, Denmark, France, Spain, Poland and Italy). Study-typical attrition resulted in a visit-dependent decline in patient numbers (baseline n=1445; 3 months n=919; 12 months n=800; 24 months n=281; 36 months n=63), due to routine drop-outs and missing follow-up data.
- Two-component clinical remission was defined by an absence of exacerbations and systemic corticosteroid use for at least one year, three-component remission was defined by an additional Asthma Control Test (ACT) score ≥ 20 and four-component remission was defined by an additional lung function criterion. Four different lung function criteria for 4-components analysis were explored: (1) FEV₁ decline $\leq 5\%$ predicted, (2) FEV₁ $\geq 80\%$ predicted, (3) FEV₁ decline $\leq 5\%$ predicted or FEV₁ $\geq 80\%$ predicted, (4) improvement in FEV₁ by ≥ 100 mL. Patients with intake of biologics during the follow-up period were excluded.

RESULTS:

Figure 1. Proportion of patients achieving clinical remission components.



*Stable lung function: FEV₁ improvement or decline of no more than 5% of predicted (FEV₁ decline $\leq 5\%$)
FEV₁ - forced expiratory volume in 1 second

Figure 2. Clinical remission (2 components, 3 components, 4 components).

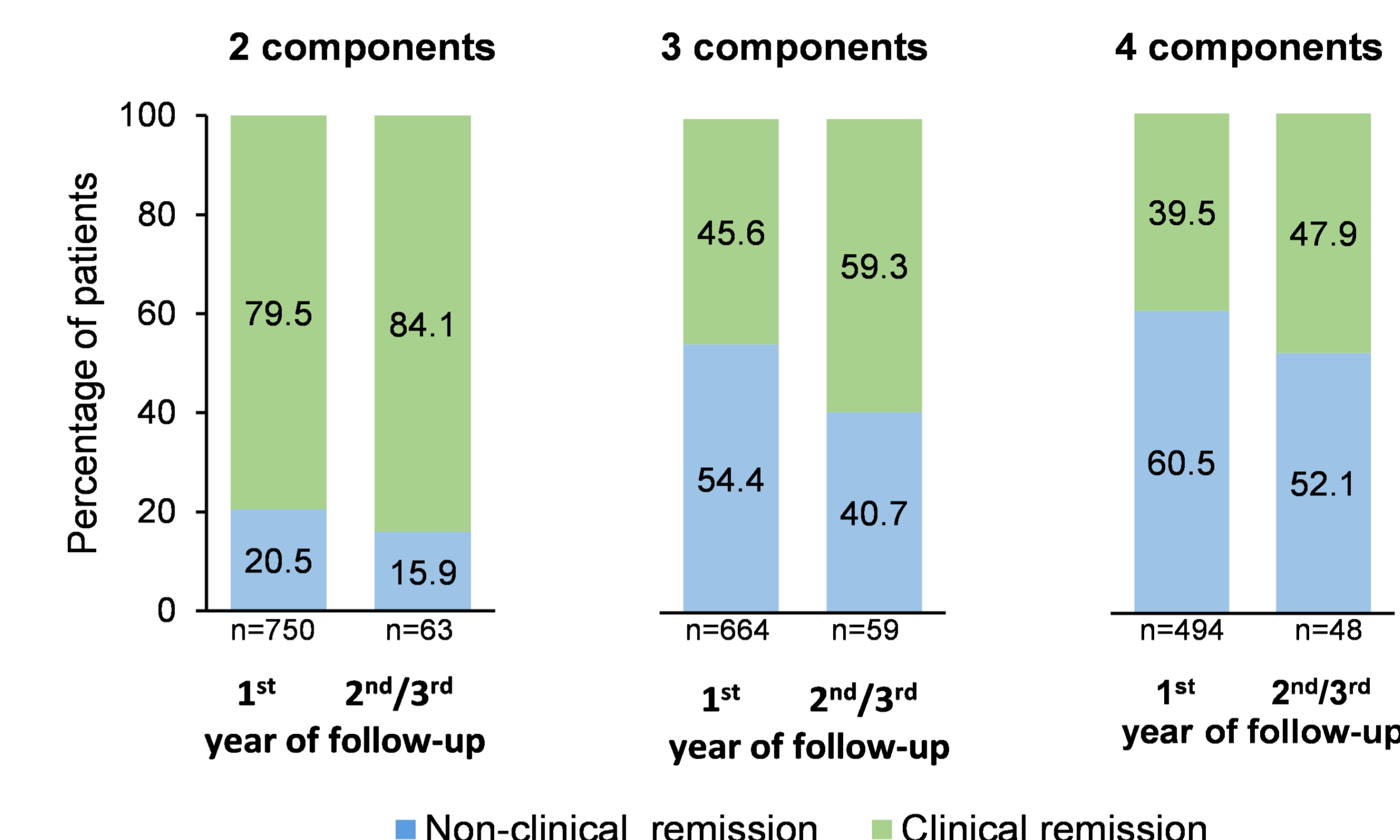
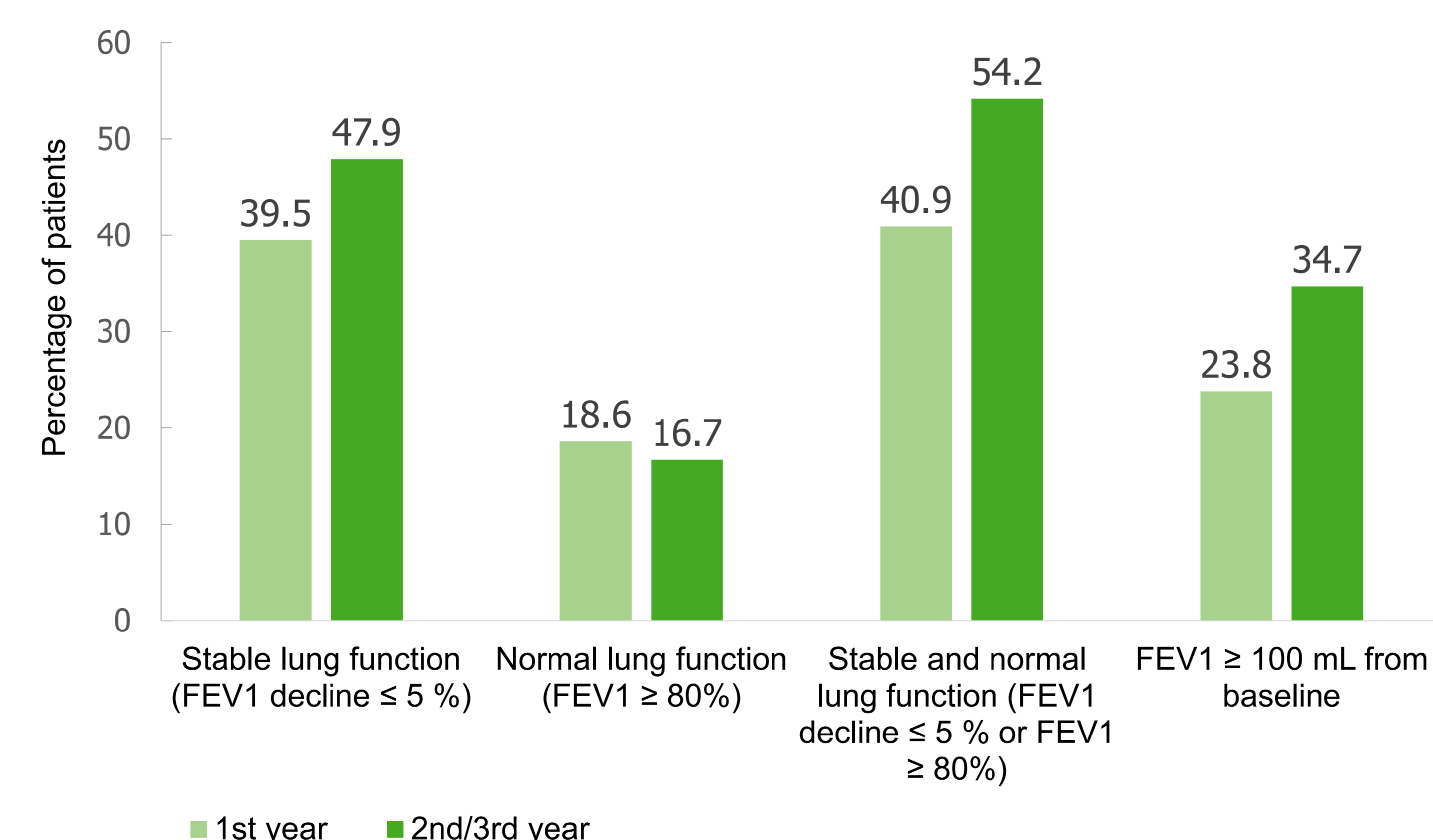


Figure 3. Clinical remission (4 components with different FEV₁ criteria).



➔ Among different lung function criteria, stable lung function appears to best reflect clinical remission in real-world practice. In contrast, normal lung function and absolute FEV₁ thresholds identify fewer patients and show less persistence across follow-up.

Figure 4. Sankey diagram showing transitions across clinical remission categories.

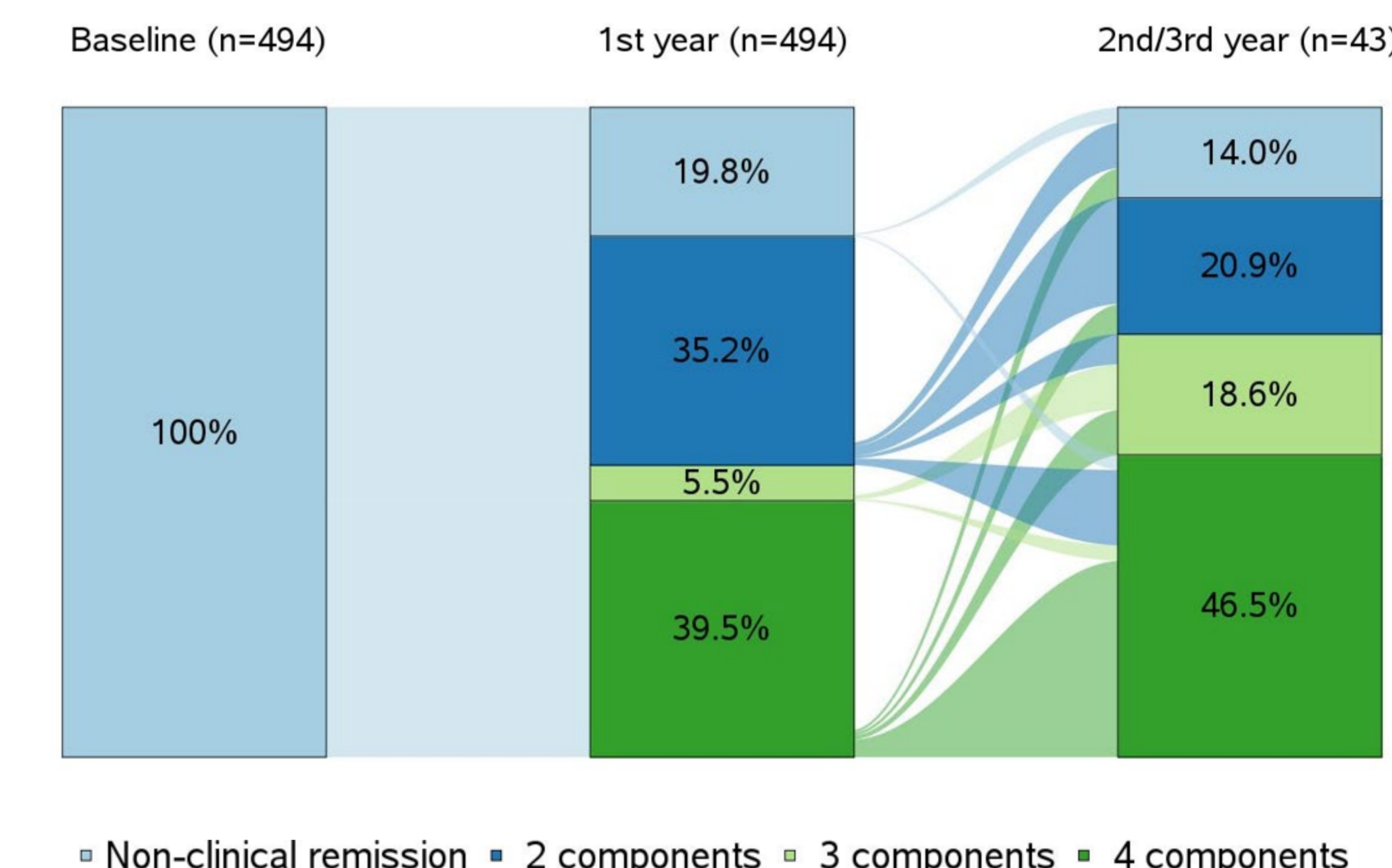


Table 1. Baseline characteristics.

Parameters	Overall population n= 1445	Medium strength (87/5/9 µg) n= 1084	High strength (172/5/9 µg) n= 361
Age (years), mean (±SD)	57.6 (15.0)	57.9 (14.8)	56.4 (15.4)
Sex, n (%)			
Female	907 (62.8)	685 (63.2)	222 (61.5)
Male	538 (37.2)	399 (36.8)	139 (38.5)
BMI (kg/m ²), mean (±SD)	28.9 (6.4)	28.8 (6.4)	29.2 (6.5)
Smoking status, n (%)			
Never smoker	755 (52.2)	561 (51.8)	194 (53.7)
Current smoker	259 (17.9)	203 (18.7)	56 (15.5)
Former smoker	431 (29.8)	320 (29.5)	111 (30.7)
Time since stopped smoking (years)* (±SD)	14.7 (12.4)	14.1 (12.2)	16.5 (13.1)
Time since diagnosis at baseline visit, years (±SD)	15.1 (14.7)	13.6 (13.6)	19.7 (16.8)
Concomitant diseases, n (%)			
Arterial hypertension	507 (37.8)	392 (39.2)	115 (33.7)
COPD	298 (22.4)	255 (25.7)	43 (12.8)
Rate of moderate or severe asthma exacerbations in previous year, mean (±SD)	1.8 (1.6)	1.8 (1.5)	2.0 (1.9)
GINA classification, n (%)			
GINA Step 4	1079 (76.3)	913 (85.3)	166 (48.3)
GINA Step 5	335 (23.7)	157 (14.7)	178 (51.7)
Prior treatment			
ICS/LABA**	1050 (72.7)	854 (78.8)	196 (54.3)
ICS/LABA/LAMA**	395 (27.3)	230 (21.2)	165 (45.7)

*restricted to former smokers
**fixed or free

References:

- Virchow J.C. et al., Single inhaler extrafine triple therapy in uncontrolled asthma (TRIMARAN and TRIGGER): two double-blind, parallel-group, randomised, controlled phase 3 trials. *The Lancet*, 2019. 394(10210): p. 1737-1749.
 - Gessner C, et al. Real-World Effectiveness and Safety of Single Inhaler Triple Therapy with Beclometasone/ Formoterol/ Glycopyrronium in Moderate to Severe Asthma: TriMaximize Study. *J Asthma Allergy*. 2026. doi:10.2147/JAA.S582286
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CONCLUSIONS:

Clinical remission can be achieved in a large proportion of patients after 1 year of BDP/FF/G treatment in a real-world setting, and this proportion further increases in the following years.