

Healthcare Resource Utilization and Treatment Patterns Before and After Initiation of Inhaled Treprostinil

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BACKGROUND:

- Inhaled Treprostinil (i-TRE) has been shown in large scale clinical trials to improve exercise capacity and quality of life in patients with pulmonary arterial hypertension
- Real-world evidence is limited for initial i-TRE patients, particularly patients on prior dual background therapy with an endothelin receptor antagonist (ERA) and phosphodiesterase-5 inhibitor (PDE-5i) or soluble guanylate cyclase stimulator (SGC).

METHODS

- **Data Source:** Optum De-identified Clinformatics Data Mart
- **Study Design:** Retrospective cohort analysis of patients initiating i-TRE.
- **Inclusion Criteria:** 1) Use of i-TRE between 01 January 2011 through 30 September 2019, date of first claim for i-TRE is deemed the index date; 2) Aged 18 years of age at index; 3) ≥ 1 inpatient or ≥ 2 outpatient medical claims separated by at least 30 days with a diagnosis of pulmonary hypertension; 4) Continuous enrollment 12-months pre- through 12-months post-index
- **Exclusion Criteria:** 1) Use of i-TRE in the pre-index period
- **Dual Therapy Background Subgroup:** Use of an ERA and PDE-5i or SGC in the 3-months pre-index
- **Statistical Analysis:** Continuous variables were compared using Wilcoxon signed rank sum test and dichotomous variables were compared using McNemar's test.

Presented at

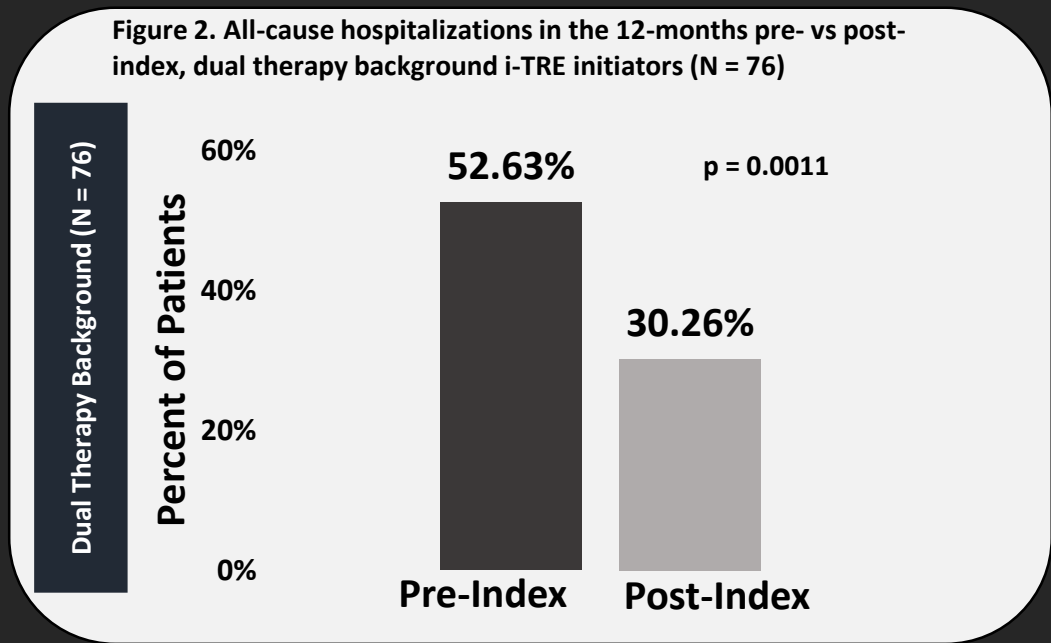
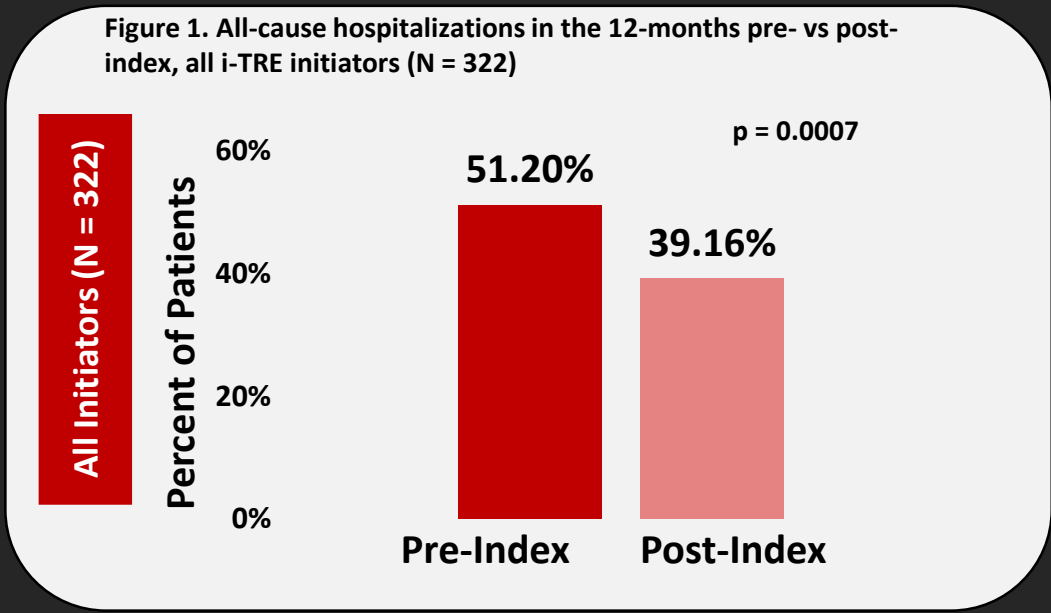
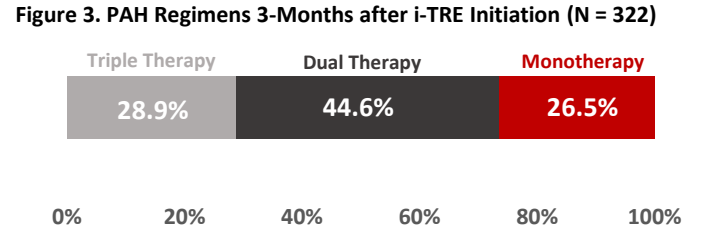


Table 1. Baseline Demographics and Clinical Characteristics

	All Initiators (N = 322)	Dual Therapy Background (N = 76)
Age, mean (SD)	65.1 (13.0)	60.9 (14.6)
Female, n (%)	218 (65.7%)	49 (64.5%)
Geographic Region, n (%)		
Northeast	90 (27.1%)	7 (9.2%)
Midwest	36 (10.8%)	14 (18.4%)
South	141 (42.3%)	45 (59.2%)
West	65 (19.6%)	10 (13.2%)
Coverage Type, n (%)		
Commercial	116 (34.9%)	33 (43.4%)
Medicare	216 (65.1%)	43 (56.6%)
Quan-Charlson Comorbidity Index, mean (SD)	3.4 (1.8)	3.4 (1.8)

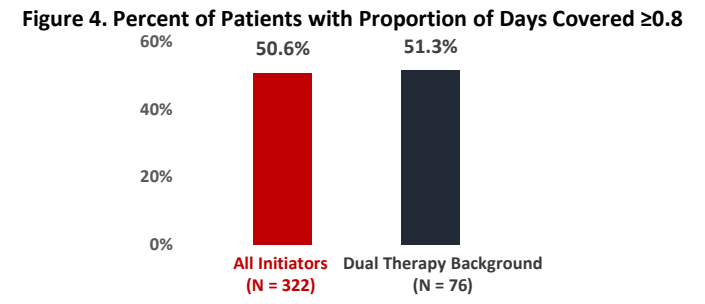


Hospitalization Costs:

- For all i-TRE initiators, mean all-cause hospitalization costs decreased from \$21,172 to \$18,116 in the 12-months pre- vs post-index (p=0.3689)
- For i-TRE initiators on dual background therapy, mean all-cause hospitalization costs decreased from \$23,469 to \$15,910 in the 12-months pre- vs post-index (p=0.2986)

Treatment Persistence (60-day gap):

- Approximately 46.99% of all i-TRE initiators were persistent to i-TRE at 12-months
- For i-TRE initiators on dual background therapy, 52.63% were persistent to i-TRE at 12-months



CLINICAL IMPLICATION

- In this analysis of real-world data, inhaled Treprostinil was effective in reducing hospitalizations, a known risk factor for poor outcomes.
- This effect was especially apparent with the addition of inhaled treprostinil to dual background therapy with an ERA and PDE5i or SGC.