

# Impact of Geographic Location on Intravenous Iron Treatment Adherence in Urban, Rural, and Super Rural Regions: Single-dose IV iron ferric derisomaltose demonstrated the highest adherence rate that was not affected by the region

Joseph Shatzel, MD, MCR<sup>1</sup>; Michael Polson, PharmD, MS<sup>2</sup>; John Novak, PA-C<sup>3</sup>

1. Oregon Health & Science University, Portland, Oregon; 2. Pharmacosmos Therapeutics Inc., Morristown, NJ, CO; 3. University of Colorado Medicine, UCHealth Lone Tree Medical Center, Lone Tree, CO

## BACKGROUND

Iron deficiency anemia (IDA) affects ≥5 million people in the US.<sup>1</sup>

IDA is treated with oral iron; if ineffective or poorly tolerated, intravenous (IV) iron is recommended.<sup>2</sup>

Depending on the IV iron product and dose, the number of infusions per treatment course can vary.

Older generation IV iron products typically require multiple-low dose infusions (e.g., 200 mg), while newer generations require fewer (≤2) infusions (e.g., range 500 mg - 1,000 mg).<sup>3</sup>

Previous studies demonstrated that newer generation IV iron products were associated with higher adherence rates compared to older generation IV irons.<sup>3</sup>

Low adherence rates impact treatment effectiveness and may lead to persistent anemia, worsening conditions, increased transfusion risk and higher mortality.<sup>4,5</sup>

Additionally, urban area residents have been reported to have better access to care compared to rural dwellers, including:<sup>6</sup>

- Medical facilities
- Providers
- Treatments
- Transportation options

## OBJECTIVE

To explore differences in adherence to IV iron products across urban, rural, and super rural regions among different healthcare plan types.

### ABBREVIATIONS

CMS – Centers for Medicare & Medicaid Services  
IDA – Iron Deficiency Anemia  
IV – Intravenous  
US – United States

SUPPORTED BY:  
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## METHODS

**A retrospective analysis of Medicaid, commercial, and Medicare administrative claims data from Komodo's Healthcare Map**

Adult patients diagnosed with IDA before their first IV iron infusion (index date) and treated on or after January 1, 2020 until November 20, 2024 were considered

Adherence was defined as having received ≥1,000 mg of IV iron within the 6-week period, inclusive of index date

**IV iron products evaluated were:**

#### Older Generation

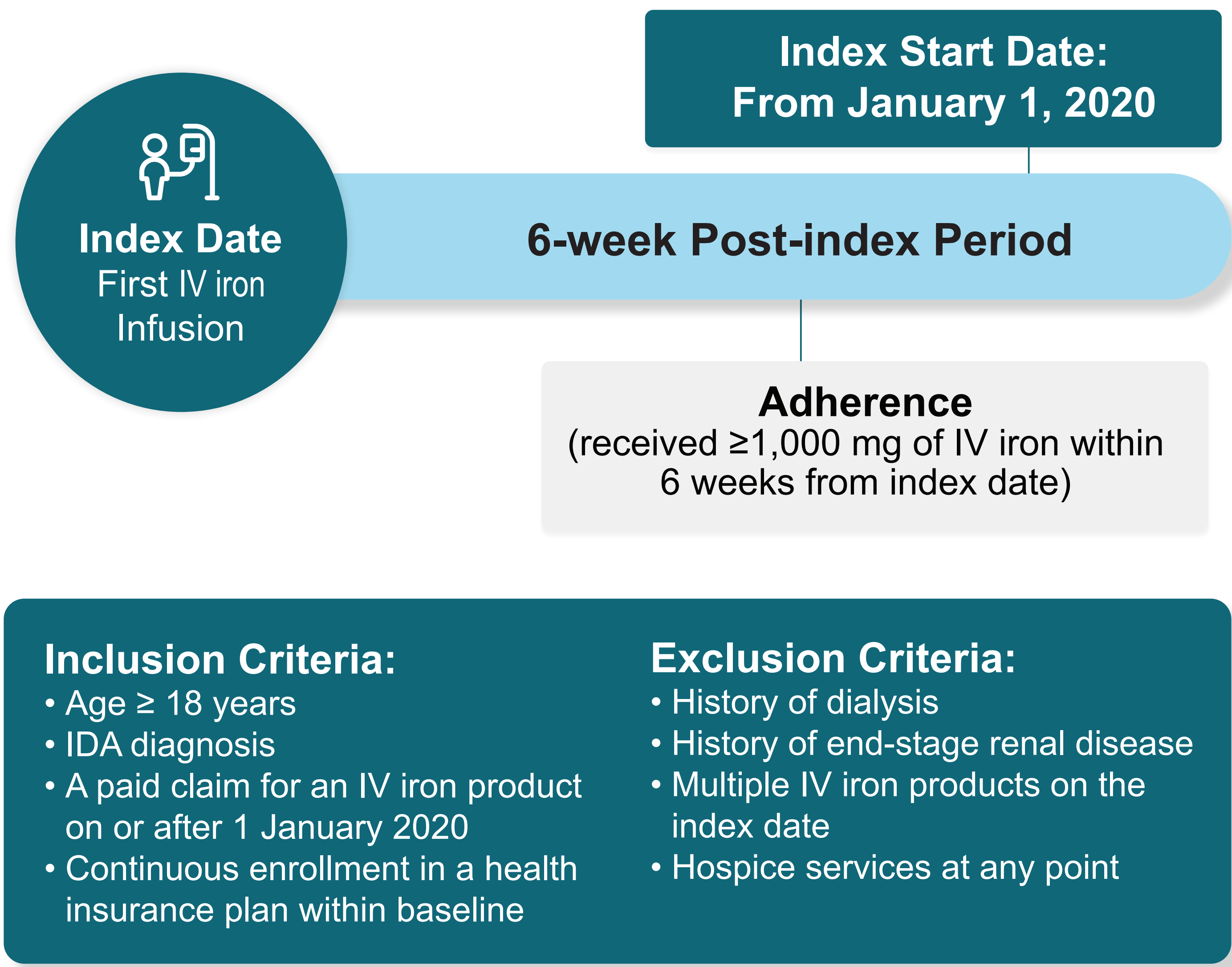
- iron dextran
- ferric gluconate
- iron sucrose

#### Newer Generation

- ferumoxytol
- ferric carboxymaltose
- ferric derisomaltose



Figure 1. Study design



## RESULTS

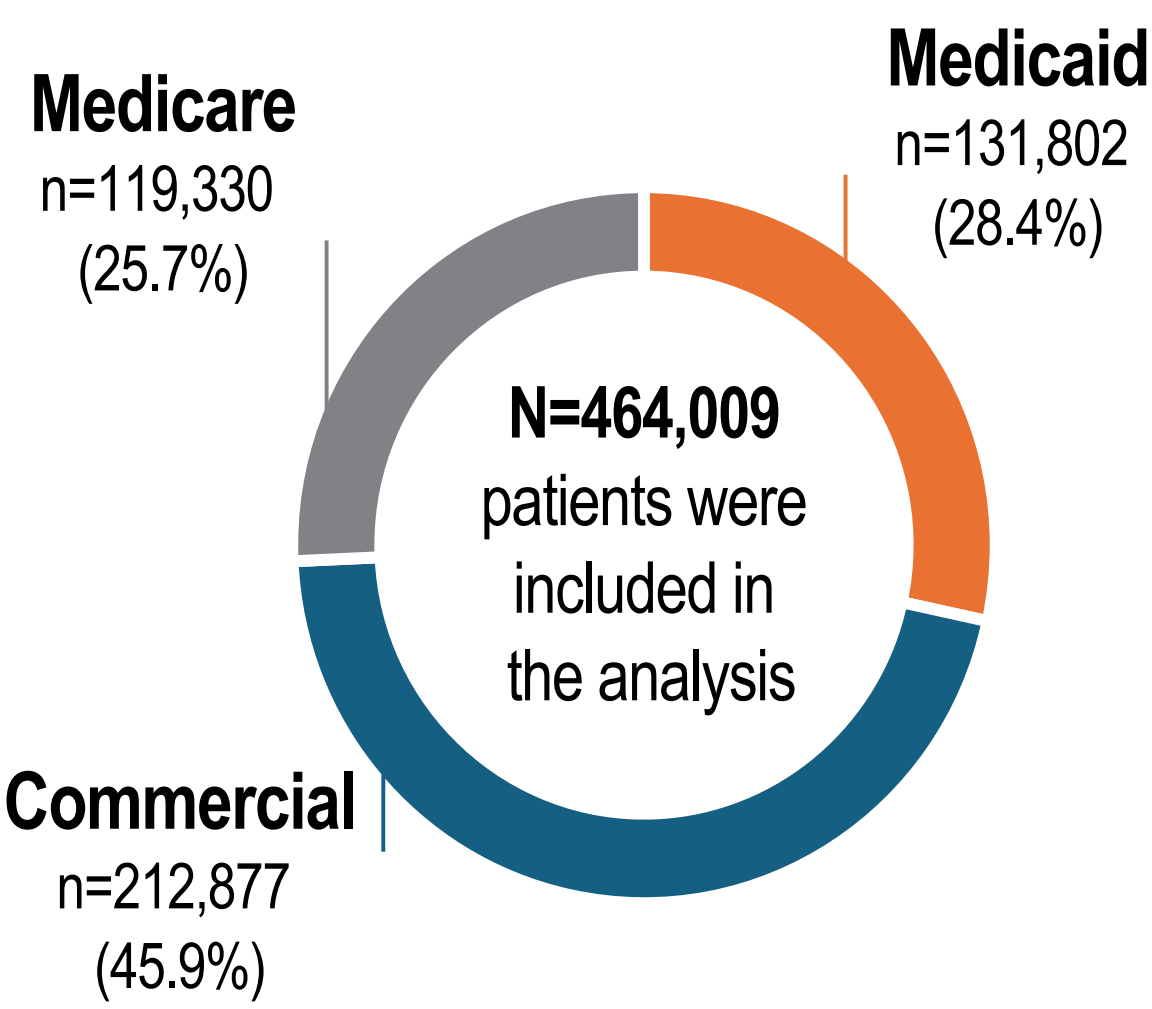


Figure 2. Sample size and insurance coverage

The largest proportion of nearly half a million patients included in the analysis were commercially insured (Figure 2).

Adherence was higher for patients treated with newer generation IV irons compared to older generation IV irons (Figure 3).

Mean adherence across all products decreased from urban (62.1%), rural (59.7%), to super rural (57.0%) regions.

Newer generation IV iron products showed consistently higher adherence across all regions, with ferric derisomaltose maintaining nearly 100% adherence regardless of geographic location (Figure 4).

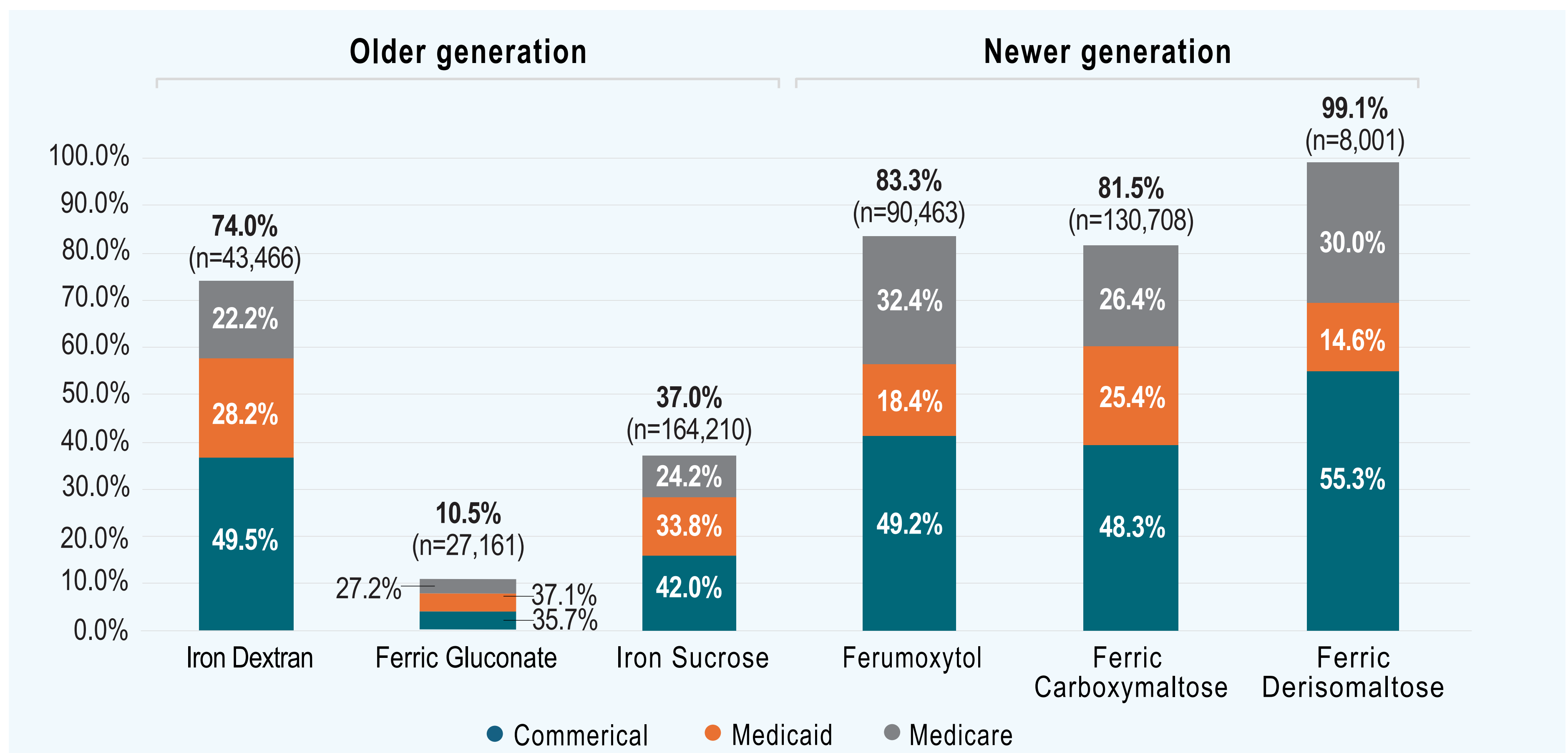


Figure 3. Overall adherence by product and distribution of insurance coverage

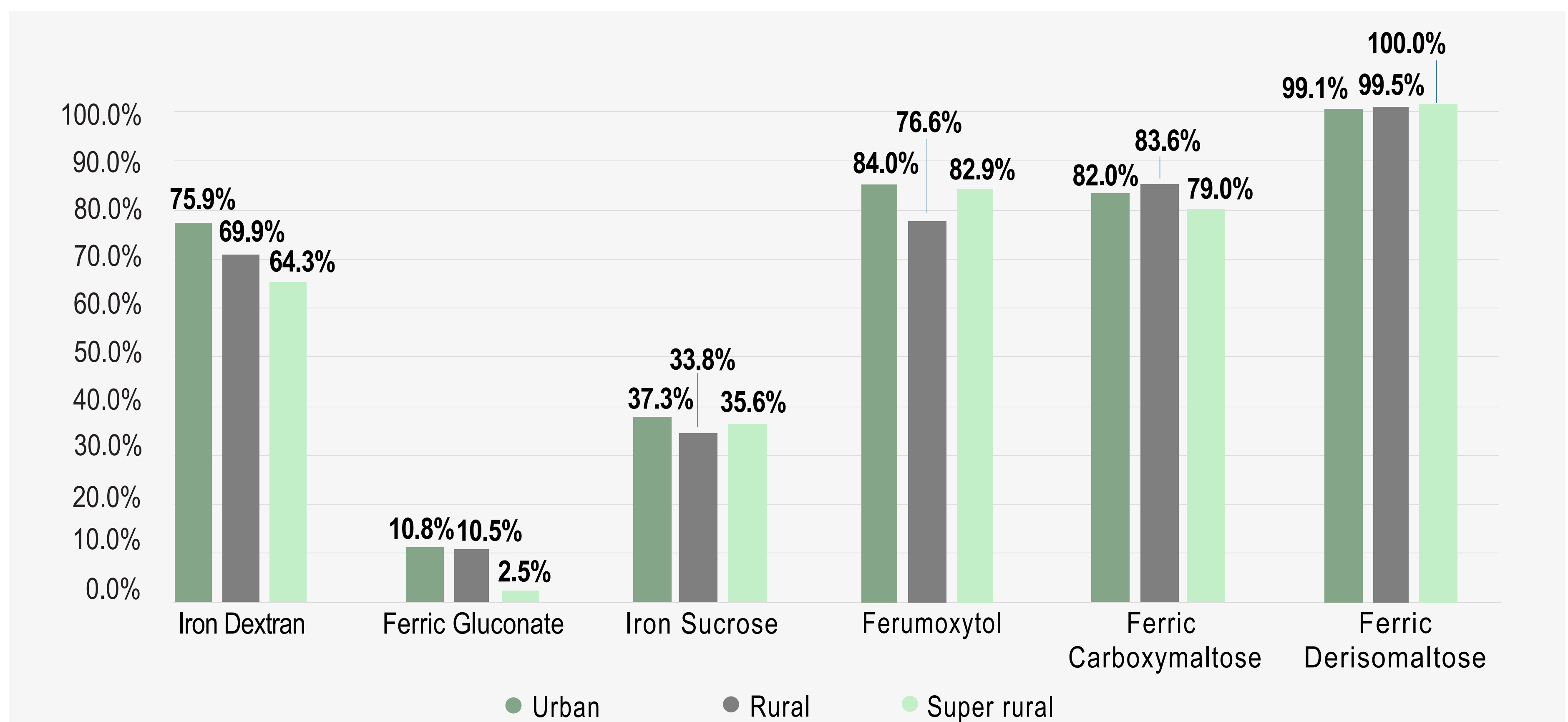


Figure 4. Adherence by product and region

## LIMITATIONS

This study relies on administrative claims data, which may not capture all clinical or socioeconomic factors that influence adherence.

Anemia severity, comorbidities, and prior treatment responses were not considered, which may impact adherence patterns across different patient populations.

The analysis includes Medicaid, commercial, and Medicare patients, but results may not fully reflect adherence among uninsured individuals or those with alternative healthcare coverage.

The study defines adherence as receiving ≥1,000 mg of IV iron within six weeks, which may not account for individual treatment plans, dose modifications, or scheduling delays.

- However, other cohort studies reported that nearly 80% of patients received a median ordered dose of at least 1,000 mg.<sup>7</sup>

## CONCLUSION

Overall, adherence rates to IV iron products decreased as rurality increased.

Across regions, adherence rates were higher for newer generation IV irons as compared to older generation.

- Single-dose IV iron ferric derisomaltose demonstrated the highest adherence rate that was not affected by the region.

These data suggest that the adherence rates may be impacted by the region location for all IV iron products except for ferric derisomaltose.

Findings also highlight the impact of lower infusion burden on adherence, reinforcing the value of newer-generation IV iron therapies in improving treatment completion, particularly for patients facing access challenges due to rurality.