

Real-World Uptake of Respiratory Syncytial Virus Vaccination Among Older Adults on Immunosuppressive Therapies

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Background

- Respiratory syncytial virus (RSV) commonly infects the nose, throat, and lungs. Infants and older adults, especially those who are immunocompromised or taking immunosuppressive therapies (IT), are at high risk for severe RSV.
- In May 2023, the first RSV vaccine was approved for individuals aged ≥60 years.
- However, little is known about the real-world uptake of RSV vaccine especially in high-risk populations.

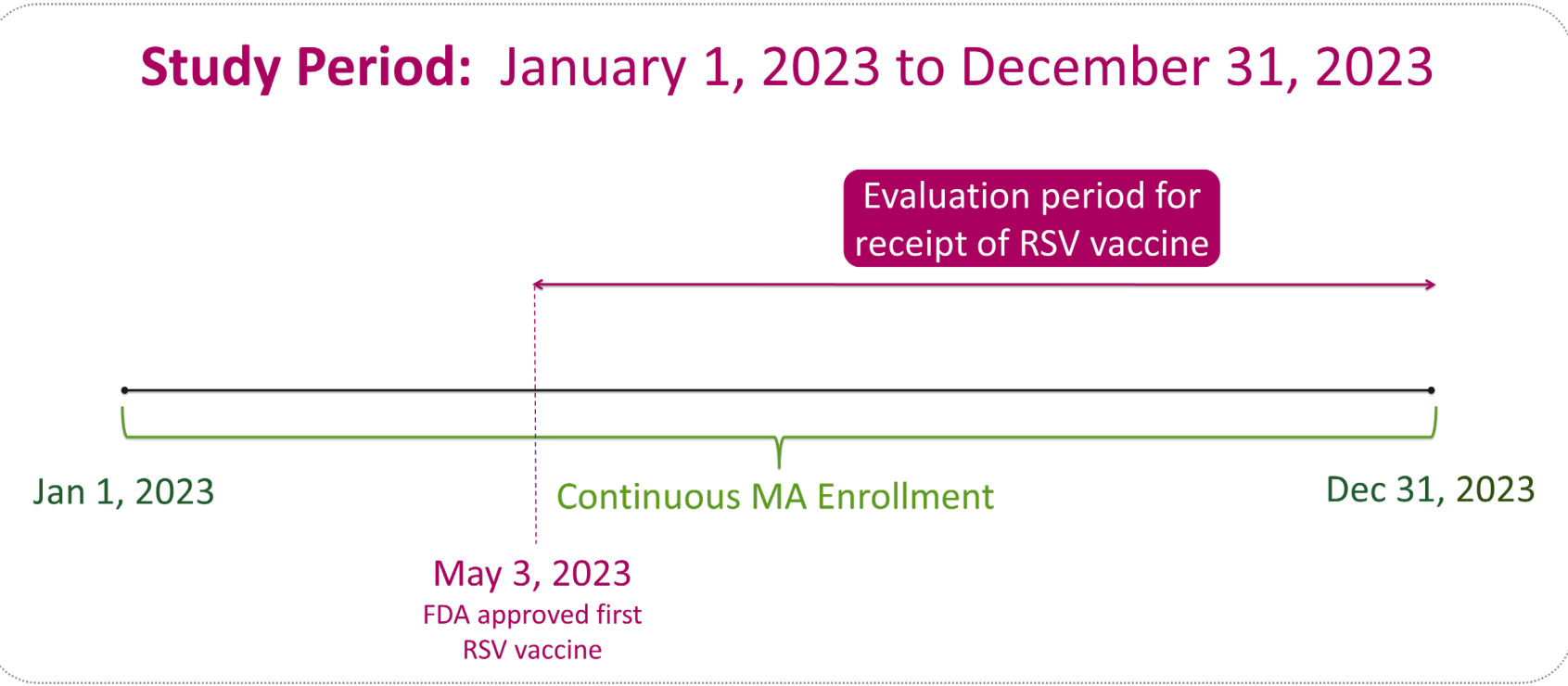
Objective

- To describe early uptake of the RSV vaccine among Medicare Advantage (MA) beneficiaries aged ≥60 years who are receiving IT including immunosuppressants (IS), corticosteroids (CS), chemotherapy agents, and disease-modifying antirheumatic drugs (DMARD)/biologic treatments.

Methods

- Data source:** Humana Research Database
- Study design:** Retrospective analysis of administrative claims data
- Inclusion Criteria:**
 - Adults aged ≥60 years continuously enrolled in an MA plan during calendar year 2023
 - Vaccine receipt was identified as ≥1 pharmacy claim for RSV vaccine (AREXVY®, ABRYSVO®)
 - IT was identified as ≥1 claim for IS, chemotherapy, or DMARD/biologic OR ≥1 claim of ≥60 days’ supply of CS at ≥20 mg in prednisone equivalents
- Outcomes:**
 - Primary:** Receipt of RSV vaccination during calendar year 2023
 - Secondary:** Vaccination rates stratified by IT use, type of therapy (IS, CS, chemotherapy agents, or DMARDs/biologics), demographic characteristics (age, gender, race, geographic region, and population density), and clinical characteristics (using Elixhauser comorbidity score).
- Statistical analysis:** Chi-squared and t-tests were used to compare RSV vaccination rates for individuals on IT with those that were not.

Figure 1. Study Design



Results

Table 1. Baseline Demographics and Clinical Characteristics by IT Use

- Individuals on IT were mostly female, Black race, residing in the South, and exhibited greater clinical complexity compared with non-IT users.

Measure	Overall MA	Non-IT Users	IT Users
Eligible Population	3,837,222	3,671,090	166,132
Age			
Age 60-64 n (%)	317,135 (8.3)	299,211 (8.2)	17,924 (10.8)
Age 65-74 n (%)	2,140,852 (55.8)	2,053,053 (55.9)	87,799 (52.8)
Age ≥75 n (%)	1,379,235 (35.9)	1,318,826 (35.9)	60,409 (36.4)
Gender			
Male n (%)	1,748,033 (45.6%)	1,693,660 (46.1%)	54,373 (32.7%)
Female n (%)	2,089,077 (54.4)	1,977,318 (53.9)	111,759 (67.3)
Race			
White n (%)	2,767,233 (72.1)	2,651,391 (72.2)	115,842 (69.7)
Black n (%)	644,668 (16.8)	609,589 (16.6)	35,079 (21.1)
Other n (%)	228,900 (6.0)	219,494 (6.0)	9,406 (5.7)
Unknown n (%)	196,421 (5.1)	190,616 (5.2)	5,805 (3.5)
Geographic region			
Northeast n (%)	214,205 (5.6)	205,755 (5.6)	8,450 (5.1)
Midwest n (%)	788,778 (20.6)	756,215 (20.6)	32,563 (19.6)
South n (%)	2,302,307 (60.0)	2,197,643 (59.9)	104,664 (63.0)
West n (%)	531,932 (13.9)	511,477 (13.9)	20,455 (12.3)
Population density			
Urban n (%)	3,008,749 (78.4)	2,877,452 (78.4)	131,297 (79.0)
Suburban n (%)	458,500 (11.9)	438,767 (12.0)	19,733 (11.9)
Small Town/Rural n (%)	369,487 (9.6)	354,394 (9.7%)	15,093 (9.1%)
Clinical Characteristics			
Elixhauser score mean [SD]	2.7 [2.5]	2.6 [2.5]	4.4 [2.8]
Elixhauser score 0-1 n (%)	1,458,758 (38.0)	1,436,557 (39.1)	22,201 (13.4)
Elixhauser score 2-3 n (%)	1,208,586 (31.5)	1,157,346 (31.5)	51,240 (30.8)
Elixhauser score 4-5 n (%)	672,737 (17.5)	627,983 (17.1)	44,754 (26.9)
Elixhauser score ≥6 n (%)	497,141 (13.0)	449,204 (12.2)	47,937 (28.9)

P-values for IT users vs Non-IT users <0.01

Figure 2. RSV Vaccination Uptake in IT Users vs. Non-IT Users

- Individuals receiving IT had higher RSV vaccine uptake.

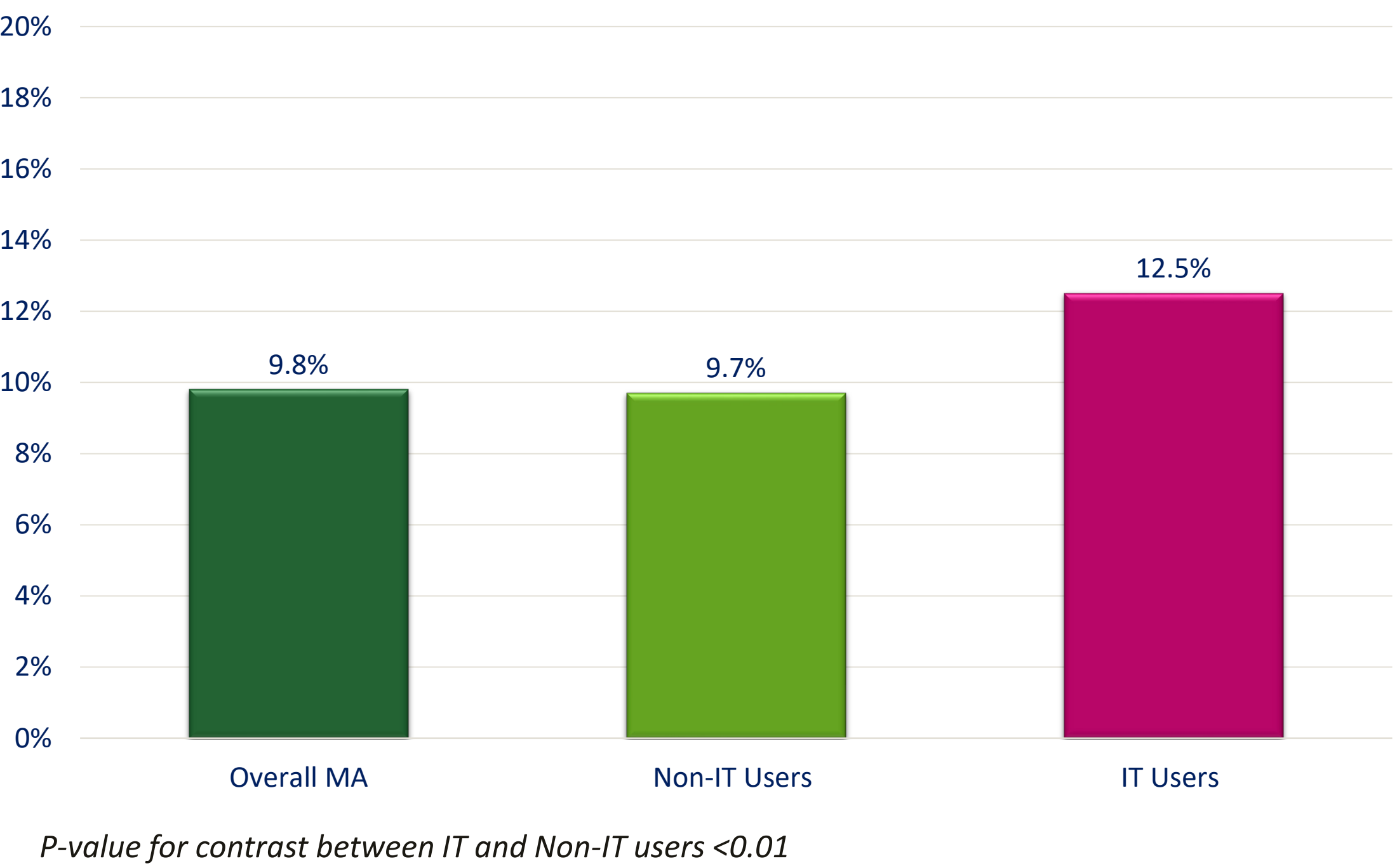
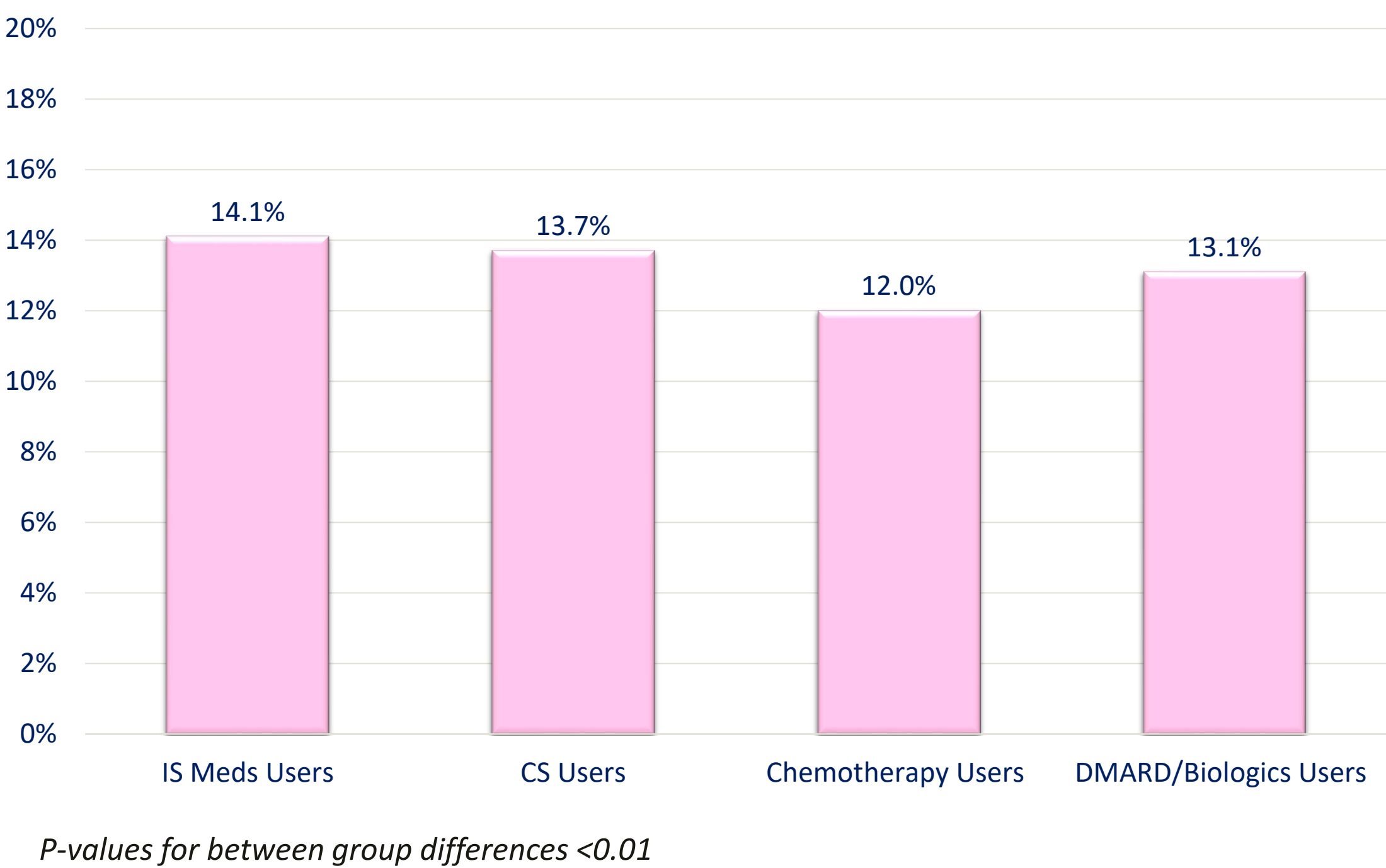


Figure 3. RSV Uptake Among IT Medication-Specific Groups

- Chemotherapy users had the lowest vaccination rate, while those on immunosuppressants had the highest rates.



Conclusions

- Despite being at higher risk for severe RSV-related illness, older adults receiving IT had only modestly higher RSV vaccination rates compared with the overall population, with early uptake remaining low across all groups.
- Our findings highlight opportunities to protect vulnerable individuals by improving vaccine awareness and delivery in high-risk populations.
- Future research should explore provider- and patient-level barriers to RSV vaccination and interventions to close potential gaps in care.

Limitations

- Generalizability:** Results are limited to Humana Medicare Advantage members and may not be applicable to other populations such as individuals with commercial or Medicaid coverage.
- Temporal limitations:** Study reflects vaccination during a single RSV season (2023) and may not capture trends over time.
- Coding inaccuracies:** Claims-based research studies may be subject to coding inaccuracies or misclassification, which may impact the accuracy of observed results.
- Lack of clinical detail:** Claims data do not capture clinical variables such as vaccine refusal, provider recommendations, and severity of disease.

Acknowledgements

- Thank you to Pfizer, Inc. for funding the AMCP Foundation Internal Medicine Internship Program.

References

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