

BRIEF REPORT **OPEN ACCESS**

Disparities in Respiratory Syncytial Virus Vaccine Uptake in the Medicare Fee-for-Service Population During 2023–2024 Season

Austin Murphy¹ | Zihao Liu² | Heidi G. De Souza²  | Erica Leigh Chilson¹ | Robyn Moucka¹ | Pete Kardel² | Caitlin Sheetz² | Reiko Sato³

¹US Medical Affairs, Pfizer Inc, Collegeville, Pennsylvania, USA | ²Strategic Analytics and Value Economics, ADVI Health LLC, Washington, District of Columbia, USA | ³HTA Value & Evidence, Pfizer Inc., Collegeville, Pennsylvania, USA

Correspondence: Reiko Sato (reiko.sato@pfizer.com)

Received: 2 January 2025 | **Revised:** 3 June 2025 | **Accepted:** 7 June 2025

Funding: This work was supported by Pfizer Inc.

Keywords: disparities | Medicare | RSV | vaccine

ABSTRACT

Background: Respiratory syncytial virus (RSV) is a common cause of acute respiratory illness and can lead to serious morbidity and mortality in older adults. With the Food and Drug Administration approval and the Centers for Disease Control and Prevention (CDC) recommendation of RSV vaccines in 2023, this study describes first season vaccine uptake in adults ≥ 65 years.

Methods: In a retrospective cohort of 100% Medicare Fee-for-Service (FFS) beneficiaries with Part D coverage, we examined RSV vaccination claims data from July 2023 to June 2024. Cumulative RSV vaccine uptake rates were evaluated by demographic, socioeconomic, and health characteristics, along with evaluation of vaccine coadministration. We reported descriptive statistics.

Results: Among 15,841,938 Medicare FFS beneficiaries meeting inclusion criteria, 3,330,740 (21.0%) received the RSV vaccine in the first season. Uptake was highest among the 75–84 age group (23.6%) and those with at least one comorbidity (21.8%). Additionally, those with immunocompromising conditions (23.6%) and lung disease (21.3%) had the highest uptake. The lowest uptake was observed among beneficiaries ≥ 85 years (17.1%), beneficiaries with three or more comorbidities, (19.4%) and those in the southern census region (19.3%). The lowest uptake according to comorbidity status were those with liver disorders (17.1%) and neurologic or neuromuscular conditions (17.8%). Disparities were observed with only 6.8% of Hispanic, 12.6% of Black, 9.3% of those with a low-income subsidy (LIS), and 9.0% of dual Medicare-Medicaid eligible beneficiaries receiving the vaccine. Coadministration occurred in 38.4% of RSV vaccinations.

Conclusions: Vaccination to prevent RSV disease began during the 2023–2024 season where less than a quarter of the Medicare FFS population was vaccinated. Disparities in uptake were observed by race and ethnicity, socioeconomic status, geography, comorbidity status, and by age group. These results highlight the need for more targeted public health efforts to improve vaccination among those at high risk for severe RSV disease.

1 | Introduction

Respiratory syncytial virus (RSV) is a common cause of acute respiratory illness in adults and has significant morbidity, mortality,

and healthcare costs in the United States [1, 2]. The clinical and economic burdens are even greater for older adults because increased age and underlying comorbidities are major risk factors for RSV-associated illness. RSV-associated hospitalization rates

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2025 The Author(s). *Journal of the American Geriatrics Society* published by Wiley Periodicals LLC on behalf of The American Geriatrics Society.

Summary

- Keypoints
 - First season respiratory syncytial virus (RSV) vaccination uptake was low among Medicare Fee-For-Service (FFS) beneficiaries.
 - Disparities in RSV vaccination uptake were observed by age, race and ethnicity, socioeconomic status, geography, and across specific comorbidity status.
- Why does this matter?
 - Targeted public health efforts are needed to improve RSV vaccination among older adults who are at high risk for severe RSV disease.

more than double from age 65–74 years to ages ≥ 75 years [3]. In 2023, there were an estimated 225,000 RSV-associated hospitalizations and 20,000 deaths annually among US adults ≥ 65 years [2]. For older adults, certain comorbidities such as chronic kidney disease, pulmonary disease, congestive heart failure, and obesity confer even higher risk for severe RSV outcomes [3–6]. The annual economic burden was equally staggering, with an estimated \$5.5 billion in hospitalization costs in US adults ≥ 65 years [2].

Despite significant morbidity, mortality, and economic burden of RSV in older adults, it remains underdiagnosed and primarily managed with supportive care [7–9]. The US Food and Drug Administration approval of two RSV vaccines for older adults in 2023, Arexvy (GSK) and Abrysvo (Pfizer), provided a much-needed preventive tool. A single dose of either vaccine demonstrated moderate to high efficacy in preventing symptomatic RSV-associated lower respiratory tract disease [10]. These vaccines were recommended by the US Centers for Disease Control and Prevention (CDC) for adults aged ≥ 60 years under a shared clinical decision-making (SCDM) framework in advance of the 2023–2024 respiratory season [10].

Vaccine implementation, particularly for older adults, presents unique challenges. Uptake can be influenced by various factors including vaccine availability, healthcare provider recommendations, patient perceptions, convenience, and location of getting the vaccine, and the ability to receive more than one vaccine in a single visit [11, 12]. Although the CDC currently tracks RSV vaccination coverage through data sources such as IQVIA and the National Immunization Survey, they are limited in their ability to stratify data by key factors like specific comorbidities [13]. Early assessment suggested some heterogeneity in vaccine uptake within the recommended population, but a comprehensive national view by defined factors has yet to be documented [14–16].

The RSV vaccine is a Part D (prescription drug coverage) benefit in Medicare Fee-For-Service (FFS). The Inflation Reduction Act eliminated cost-sharing, including out-of-pocket costs for all CDC-recommended Part D vaccines [17]. This study aimed to build on existing knowledge by analyzing the Medicare FFS and Part D claims data to assess the first season uptake of RSV vaccines by sociodemographic characteristics, geography, comorbidities, and coadministration with other CDC-recommended vaccines.

2 | Methods

2.1 | Study Design and Study Population

We conducted a retrospective cohort study evaluating RSV vaccine uptake among Medicare beneficiaries with Parts A, B, and D coverage aged ≥ 65 years during the first RSV vaccination season from July 1, 2023 to June 30, 2024. This study utilized the CMS 100% Medicare FFS data, which includes detailed records on enrollment, demographics, healthcare services, service dates, prescribed medications, and Medicare reimbursement details. The study period encompassed July 2022–June 2024 and included the RSV vaccine uptake assessment period of July 2023–June 2024 and look back period of up to 12 months prior to the vaccine assessment period to evaluate baseline characteristics. Medicare FFS Part A (hospital insurance) and Part B (outpatient medical insurance) claims were used to ascertain underlying comorbidities. Comorbidities were required to be present on at least one inpatient claim or multiple noninpatient claims on different days to be included. Beneficiaries with incomplete demographic data or those who received multiple RSV vaccines were excluded.

2.2 | Study Variables

RSV vaccination was identified by National Drug Codes (NDCs). Enrollment data provided information on age, gender, race/ethnicity, state, and geographic region. Markers for socioeconomic characteristics included Medicare-Medicaid dual eligibility and receipt of low-income subsidy (LIS) for Medicare Part D. The presence of underlying comorbidities was identified using International Classification of Diseases, 10th revision diagnosis codes in the 12 months prior to the vaccine assessment period. Comorbid conditions included are risk factors for severe RSV, as outlined in the 2023 CDC recommendation of RSV vaccine use in older adults [10]. Same day coadministration with other CDC recommended vaccines included influenza, COVID-19, pneumococcal, shingles, and Tdap, which were all identified via NDC or procedure codes.

2.3 | Statistical Analysis

Analysis for this study was descriptive. Cumulative uptake rates were calculated as the proportion of beneficiaries who received the RSV vaccine out of the total number of eligible Medicare beneficiaries with continuous Part A, B, and D coverage. Analyses were stratified by demographics, socioeconomic status, and comorbidities. All analyses were completed using SAS software v.9.4 (SAS Institute Inc., Cary, NC, USA).

3 | Results

Over the study period 15,841,938 beneficiaries were eligible for inclusion. A total of 3,330,740 (21.0%) of beneficiaries received the RSV vaccine (Table 1). The mean age was similar between beneficiaries who received the RSV vaccine and those who did not receive the vaccine (76 years). The RSV vaccinated cohort had a higher representation of beneficiaries who are white, not dually eligible for Medicare and Medicaid, without LIS, or

reside in the Midwest or West region compared to those unvaccinated. Two-thirds (66.9%) of beneficiaries had an underlying comorbidity, with higher representation of those with comorbidities in the RSV vaccinated (69.4%) than the unvaccinated (66.2%) cohort (Table 2).

3.1 | Cumulative RSV Vaccine Uptake From July 2023 to June 2024

The overall RSV vaccine uptake rate was 21.0% with heterogeneity in uptake depending on sociodemographic and

comorbidity profile. Vaccine uptake was the lowest among adults aged ≥ 85 years (17.1%) compared to those 65–74 years (20.2%) and 75–84 years (23.6%). There were differences by race and ethnicity with lower uptake among Black (12.6%) and Hispanic beneficiaries (6.8%) compared to White beneficiaries (21.6%). Similarly, there were large differences in uptake by Medicare/Medicaid dual-eligibility (9% vs. 22.9%) and LIS (10% vs. 23%). There was some variation in uptake by geographic region ranging from 19.3% in the South to 23.3% in the West. However, the variation in uptake by state was even larger (Figure 1). States in the South such as Mississippi (10.4%), Alabama (12.8%), and Louisiana (12.9%) had the

TABLE 1 | Sociodemographic characteristics and cumulative RSV vaccine uptake rate.

	Eligible population, N (%)	RSV vaccinated, N (%)	RSV unvaccinated, N (%)	Cumulative uptake rate*
Number of beneficiaries	15,841,938 (100%)	3,330,740 (100%)	12,511,198 (100%)	21.0%
Mean age (SD)	76.1 (7.3)	76.0 (6.6)	76.2 (7.5)	
Age group				
65–74	7,691,346 (48.6%)	1,557,440 (46.8%)	6,133,906 (49.0%)	20.2%
75–84	5,861,439 (37.0%)	1,381,584 (41.5%)	4,479,855 (35.8%)	23.6%
85+	2,289,153 (14.4%)	391,716 (11.8%)	1,897,437 (15.2%)	17.1%
Race/ethnicity				
White	13,804,180 (87.1%)	2,981,294 (89.5%)	10,822,886 (86.5%)	21.6%
Black	727,998 (4.6%)	91,524 (2.7%)	636,474 (5.1%)	12.6%
Hispanic	217,785 (1.4%)	14,857 (0.4%)	202,928 (1.6%)	6.8%
Asian	342,580 (2.2%)	61,375 (1.8%)	281,205 (2.2%)	17.9%
Other	749,395 (4.7%)	181,690 (5.5%)	567,705 (4.5%)	24.2%
Sex				
Male	6,656,976 (42.0%)	1,408,981 (42.3%)	5,247,995 (41.9%)	21.2%
Female	9,184,962 (58.0%)	1,921,759 (57.7%)	7,263,203 (58.1%)	20.9%
Dually eligible for medicare and medicaid				
Yes	2,099,590 (13.3%)	189,399 (5.7%)	1,910,191 (15.3%)	9.0%
No	13,742,348 (86.7%)	3,141,341 (94.3%)	10,601,007 (84.7%)	22.9%
Low income subsidy				
Yes	2,321,264 (14.7%)	231,757 (7.0%)	2,089,507 (16.7%)	9.3%
No	13,538,674 (85.5%)	3,116,983 (93.6%)	10,421,691 (83.3%)	23.0%
Geography ^a				
Northeast	3,146,950 (19.9%)	638,505 (19.2%)	2,508,445 (20.0%)	20.3%
South	5,744,567 (36.3%)	1,106,658 (33.2%)	4,637,909 (37.1%)	19.3%
Midwest	3,613,319 (22.8%)	809,386 (24.3%)	2,803,933 (22.4%)	22.4%
West	3,317,107 (20.9%)	774,272 (23.2%)	2,542,835 (20.3%)	23.3%
Other	19,995 (0.1%)	1919 (0.1%)	18,076 (0.1%)	9.6%

^a“Other” includes beneficiaries in regions not included in any US Census region grouping such as US territories or beneficiaries nonspecific state information (e.g., state code = “00” or “99”, which are not applicable states in the crosswalk).

*All comparisons were statistically significant with a $p < 0.001$.

TABLE 2 | Comorbidities and cumulative RSV vaccination uptake rate.

	Eligible population, N (%)	RSV vaccinated, N (%)	RSV unvaccinated, N (%)	Cumulative uptake rate*
Overall number of beneficiaries in the 1st season	15,841,938 (100%)	3,330,740 (100%)	12,511,198 (100.0%)	21.0%
Without any outlined comorbidities	5,250,929 (33.1%)	1,020,393 (30.6%)	4,230,536 (33.8%)	19.4%
With any outlined comorbidities	10,591,009 (66.9%)	2,310,347 (69.4%)	8,280,662 (66.2%)	21.8%
Cardiovascular disease	6,158,383 (38.9%)	1,275,552 (38.3%)	4,882,831 (39.0%)	20.7%
Diabetes	5,177,397 (32.7%)	1,004,675 (30.2%)	4,172,722 (33.4%)	19.4%
Frailty	2,494,541 (15.7%)	453,394 (13.6%)	2,041,147 (16.3%)	18.2%
Hematologic disorders	2,665,801 (16.8%)	488,320 (14.7%)	2,177,481 (17.4%)	18.3%
Kidney disorders	2,841,801 (17.9%)	509,209 (15.3%)	2,332,592 (18.6%)	17.9%
Liver disorders	2,277,786 (14.4%)	389,053 (11.7%)	1,888,733 (15.1%)	17.1%
Lung disease	3,715,670 (23.5%)	790,684 (23.7%)	2,924,986 (23.4%)	21.3%
Neurologic or neuromuscular	3,751,444 (23.7%)	667,468 (20.0%)	3,083,976 (24.6%)	17.8%
Immunocompromised	3,405,526 (21.5%)	804,902 (24.2%)	2,600,624 (20.8%)	23.6%
Comorbid risk grouping				
No comorbidities	5,307,848 (33.5%)	1,033,644 (31.0%)	4,274,204 (34.2%)	19.5%
1 comorbidity	4,052,810 (25.6%)	935,615 (28.1%)	3,117,195 (24.9%)	23.1%
2 comorbidities	2,416,300 (15.3%)	572,428 (17.2%)	1,843,872 (14.7%)	23.7%
3 or more comorbidities	4,064,980 (25.7%)	789,053 (23.7%)	3,275,927 (26.2%)	19.4%

*All comparisons were statistically significant with a $p < 0.001$.

lowest uptake (Table S1). In contrast, uptake was highest in Colorado (31.2%) and Hawaii (30.1%). The RSV vaccine uptake among those who had at least one comorbidity was 21.8% and 19.4% for those without any comorbidity. Uptake for those with 1, 2, and 3 or more comorbidity was 23.1%, 23.7%, and 19.4%, respectively. RSV vaccine uptake had variation for specific comorbidities, and ranged from the highest in older adults with immunocompromised status (23.6%) to the lowest in liver disorder (17.1%). During the study period, 80.5% of the RSV vaccine uptake occurred between July and December 2023.

3.2 | Coadministration of RSV Vaccine With Other and CDC Recommended Vaccines

A total of 1,279,482 (38.4%) beneficiaries who received the RSV vaccine also received another CDC recommended vaccine concomitantly. Overall, the most commonly coadministered vaccines were influenza (37.8%), and COVID-19 (25.6%). The coadministered vaccines differed by calendar month. In the highest volume month of October 2023, 33.8% of RSV vaccines were coadministered with COVID-19 and 29.2% were given with both COVID-19 and influenza. In June of 2024, 28.0% of RSV vaccines were coadministered with shingles.

4 | Discussion

In this study of Medicare FFS beneficiaries, we evaluated RSV vaccine uptake in the first year of use. While the low uptake rates observed are typical with recently licensed vaccines, RSV vaccine uptake was markedly lower than vaccination rates for influenza and COVID-19 for the 2023–2024 season [18, 19]. Additionally, disparities were observed with respect to age, comorbidity status, race and ethnicity, and geography. Lowest vaccine uptake was observed in adults aged ≥ 85 years, those with ≥ 3 comorbidities, Black and Hispanic beneficiaries, and those residing in certain Southern states. Potential implementation barriers that contributed to these disparities include limited provider and patient awareness surrounding RSV burden, RSV vaccine as part D benefit under Medicare, and execution of a SCDM recommendation.

For the 2022–2023 RSV season in the United States, there were an estimated annual total of 93,000 RSV-associated hospitalizations, 17,400 intensive care unit admissions, and 5550 in-hospital deaths for adults aged ≥ 65 years [20]. Despite this burden in older adults, RSV was underrecognized by both healthcare providers and patients. Studies conducted in the prepandemic era reported that healthcare providers rarely consider RSV a

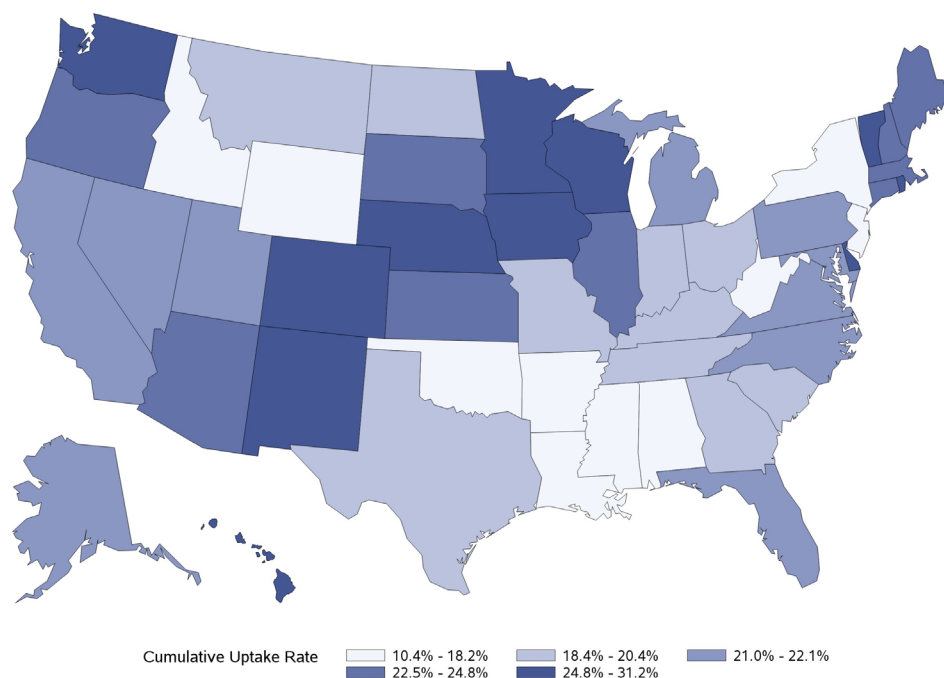


FIGURE 1 | Cumulative RSV vaccination uptake rate by state.

relevant pathogen in older adults, potentially due to a lack of routine RSV testing in clinical practice [7, 21, 22]. A more recent study cited that provider's awareness of RSV disease and vaccination knowledge was associated with initiating RSV vaccination conversation with patients [23]. Conversely, providers who were not as familiar with RSV disease may deprioritize a discussion about RSV vaccines with their patients and even if it was discussed, the strength of their recommendation may be underwhelming to patients, further diminishing the likelihood a patient would get vaccinated. From the patient's perspective, there is a gap in knowledge and the absence of healthcare provider guidance. In a survey conducted by the CDC, a large proportion of adults open to RSV vaccination expressed concerns about a lack of knowledge about RSV, the vaccine, and provider recommendations for vaccination [24]. These factors may have contributed to the lower overall vaccine uptake observed during the first year of RSV vaccine availability.

In addition to low awareness, another potential implementation barrier included access to vaccines that are recommended through SCDM. During the 2023–2024 RSV season, the CDC recommended that adults aged 60 or older may receive a single dose of RSV vaccine using SCDM [10]. In June 2024, these recommendations were updated to an age-based recommendation in adults 75 years and older, and risk-based recommendation for those aged 60–74 years old [25]. Challenges with implementation of a SCDM-type recommendation were noted as one of the reasons for the updated recommendation. Specifically, providers found SCDM guidance confusing and time-consuming to implement. In addition to low provider awareness on RSV disease burden, recommendation under SCDM may have contributed to low RSV vaccine uptake in the first season. Further research is needed to understand how the change in SCDM to a routine age

and risk-based recommendations may impact overall vaccine uptake in subsequent seasons.

The access pathway to get vaccinated was also a consideration. RSV vaccines are billed through Medicare Part D prescription drug coverage. Providers may not have the capacity to bill for Part D covered vaccines through their medical billing system. Instead, providers must direct patients to a pharmacy to access these vaccines. Although some studies have suggested that vaccination access via pharmacies rather than physician offices improved access for low-income communities, improved access may be negated when vaccination guidance is recommended through provider SCDM [26]. Results from a recent National Health Interview Survey found that transportation barriers disproportionately affected patients who are older, Hispanic, and those with certain chronic illnesses [27]. The additional steps of implementing a SCDM recommendation and the effort needed to access a pharmacy may have led to a patient forgoing vaccination altogether. These additional implementation barriers could also have been a contributing factor to the lower vaccine uptake and disparities observed in the first season of use.

4.1 | Limitations

This study was subject to several limitations. Although the use of healthcare claims data for research purposes is common, diagnosis codes used to identify older adults with certain underlying comorbidities may have resulted in some misclassification. Since the RSV vaccine is a Part D benefit, Medicare FFS beneficiaries that did not buy into the Part D benefit were not represented. Similarly, older adults in Medicare Advantage or other types of health insurance plans were not represented.

Therefore, the results from this study may not be generalizable to other populations.

5 | Conclusion

RSV is a common cause of acute respiratory illness in adults and has significant morbidity, mortality, and healthcare costs in the United States. Vaccination to prevent RSV disease began in 2023, with less than a quarter of the Medicare FFS population vaccinated during the 2023–2024 season. Disparities in uptake were observed, and these results highlight the need for more targeted public health efforts to improve vaccination among those at high risk for severe RSV disease.

Author Contributions

Drs Murphy, Chilson, Moucka, and Sato, contributed to the study conception and design, reviewed and revised the manuscript for intellectual content, and provided final approval for this version to be published. Mr Liu, Mr Kardel, and Ms Sheetz contributed to the study conception and design, acquisition and analysis of data, reviewed and revised the manuscript for intellectual content, and provided final approval for this version to be published. Ms De Souza contributed to the analysis of data, reviewed and revised the manuscript for intellectual content, and provided final approval for this version to be published.

Acknowledgments

This study was sponsored by Pfizer. Mr Liu, Mr Kardel, Ms De Souza, and Ms Sheetz are employees of ADVI, which received funding from Pfizer in connection with the development of this manuscript and study. Drs Murphy, Chilson, Moucka, and Sato are employed by and are shareholders of Pfizer Inc.

Conflicts of Interest

This study was sponsored by Pfizer. The authors report no other conflicts of interest in this work.

References

1. Y. J. Juhn, C. I. Wi, P. Y. Takahashi, et al., "Incidence of Respiratory Syncytial Virus Infection in Older Adults Before and During the COVID-19 Pandemic," *JAMA Network Open* 6, no. 1 (2023): e2250634, <https://doi.org/10.1001/JAMANETWORKOPEN.2022.50634>.
2. A. Averin, R. Sato, E. Begier, et al., "Annual Public Health and Economic Burden of Medically Attended Respiratory Syncytial Virus Illnesses Among US Adults," *Vaccine* 42, no. 26 (2024): 126323, <https://doi.org/10.1016/J.VACCINE.2024.126323>.
3. A. R. Branche, L. Saiman, E. E. Walsh, et al., "Incidence of Respiratory Syncytial Virus Infection Among Hospitalized Adults, 2017–2020," *Clinical Infectious Diseases* 74, no. 6 (2022): 1004–1011, <https://doi.org/10.1093/CID/CIAB595>.
4. F. P. Havers, M. Whitaker, M. Melgar, et al., "Characteristics and Outcomes Among Adults Aged ≥ 60 Years Hospitalized With Laboratory-Confirmed Respiratory Syncytial Virus - RSV-NET, 12 States, July 2022–June 2023," *MMWR. Morbidity and Mortality Weekly Report* 72, no. 40 (2023): 1075–1082, <https://doi.org/10.15585/MMWR.MM7240A1>.
5. ACIP Presentation Slides: February 28–29, 2024 Meeting|ACIP|CDC accessed October 31, 2024, <https://www.cdc.gov/acip/meetings/presentation-slides-february-28-29-2024.html>.
6. S. A. Kujawski, M. Whitaker, M. D. Ritchey, et al., "Rates of Respiratory Syncytial Virus (RSV)-Associated Hospitalization Among Adults With Congestive Heart Failure—United States, 2015–2017," *PLoS One* 17, no. 3 (2022): e0264890, <https://doi.org/10.1371/JOURNAL.PONE.0264890>.
7. L. P. Hurley, M. A. Allison, L. Kim, et al., "Primary Care Physicians' Perspectives on Respiratory Syncytial Virus (RSV) Disease in Adults and a Potential RSV Vaccine for Adults," *Vaccine* 37, no. 4 (2019): 565–570, <https://doi.org/10.1016/J.VACCINE.2018.12.031>.
8. M. Tin Tin Htar, M. S. Yerramalla, J. C. Moisi, and D. L. Swerdlow, "The Burden of Respiratory Syncytial Virus in Adults: A Systematic Review and Meta-Analysis," *Epidemiology and Infection* 148 (2020): e48, <https://doi.org/10.1017/S0950268820000400>.
9. A. Chatterjee, K. Mavunda, and L. R. Krilov, "Current State of Respiratory Syncytial Virus Disease and Management," *Infectious Disease and Therapy* 10, no. Suppl 1 (2021): 5–16, <https://doi.org/10.1007/S40121-020-00387-2>.
10. M. Melgar, A. Britton, L. E. Roper, et al., "Use of Respiratory Syncytial Virus Vaccines in Older Adults: Recommendations of the Advisory Committee on Immunization Practices — United States, 2023," *Morbidity and Mortality Weekly Report* 72, no. 29 (2023): 793, <https://doi.org/10.15585/MMWR.MM7229A4>.
11. I. Kolobova, M. K. Nyaku, A. Karakusevic, D. Bridge, I. Fotheringham, and M. O'Brien, "Vaccine Uptake and Barriers to Vaccination Among At-Risk Adult Populations in the US," *Human Vaccines & Immunotherapeutics* 18, no. 5 (2022): 2055422, <https://doi.org/10.1080/21645515.2022.2055422>.
12. P. Bhugra, G. R. Grandhi, R. Mszar, et al., "Determinants of Influenza Vaccine Uptake in Patients With Cardiovascular Disease and Strategies for Improvement," *Journal of the American Heart Association* 10, no. 15 (2021): e019671, <https://doi.org/10.1161/JAHA.120.019671>.
13. CDC, Weekly RSV Vaccination Dashboard|RSV|VaxView|CDC accessed October 31, 2024, <https://www.cdc.gov/rsvvaxview/data/index.html>.
14. S. E. Smith-Jeffcoat, S. Benist, E. South, et al., "RSV Immunization Uptake and Barriers to Access Among Eligible Individuals During the First Season of Availability," *Open Forum Infectious Diseases* 12, no. Issue Supplement 1 (2025), <https://doi.org/10.1093/ofid/ofae631.269>.
15. E. La, C. McGuinness, D. Singer, M. Yasuda, and C. C. Chen, "RSV Vaccination Uptake Among US Adults Aged >60 Years Who Are at Increased Risk of Severe RSV Disease (August 2023–February 2024)," *Open Forum Infectious Diseases* 12, no. Issue Supplement 1 (2025), <https://doi.org/10.1093/ofid/ofae631.243>.
16. S. Y. Tartof, B. K. Ackerson, V. Hong, et al., "Respiratory Syncytial Virus (RSV) Vaccine Update Among Adults aged >60 in a Large Integrated Healthcare System in the U.S., September 2023–April 2024," *Open Forum Infectious Diseases* 12, no. Issue Supplement 1 (2025), <https://doi.org/10.1093/ofid/ofae631.263>.
17. Centers for Medicare & Medicaid Services, "Medicare Prescription Drug Benefit Manual Chapter 6-Part D Drugs and Formulary Requirements Transmittals for Chapter 6," 2024 accessed March 24, 2025, <https://www.cms.gov/medicare/coverage/prescription-drug-coverage-contracting/prescription-drug-benefit-manual>.
18. Flu Vaccination Coverage, United States, 2023–24 Influenza Season|FluVaxView|CDC accessed December 4, 2024, <https://www.cdc.gov/fluVaxview/coverage-by-season/2023-2024.html>.
19. J. A. Mansi, H. R. Hensler, R. Dawson, R. Tuckson, and T. Wolynn, "Navigating the Evolving Landscape of COVID-19: Strategies to Increase Vaccine Confidence and Improve Vaccination Rates in the United States," *Vaccines (Basel)* 12, no. 9 (2024): 1072, <https://doi.org/10.3390/VACCINES12091072>.
20. F. P. Havers, M. Whitaker, M. Melgar, et al., "Burden of Respiratory Syncytial Virus–Associated Hospitalizations in US Adults, October 2016

to September 2023,” *JAMA Network Open* 7, no. 11 (2024): e2444756, <https://doi.org/10.1001/jamanetworkopen.2024.44756>.

21. H. K. Talbot, E. A. Belongia, E. E. Walsh, and W. Schaffner, “Respiratory Syncytial Virus in Older Adults: A Hidden Annual Epidemic,” *Infectious Diseases in Clinical Practice* 24, no. 6 (2016): 295–301, <https://doi.org/10.1097/IPC.0000000000000455>.

22. A. R. Branche and A. R. Falsey, “Respiratory Syncytial Virus Infection in Older Adults: An Under-Recognized Problem,” *Drugs & Aging* 32, no. 4 (2015): 261–269, <https://doi.org/10.1007/S40266-015-0258-9>.

23. E. La, C. Sweeney, D. Singer, E. Davenport, S. Calhoun, and A. Harmelink, “Factors Associated With Healthcare Professionals’ RSV Older Adult Vaccination Knowledge and Practices During the First Season of Vaccine Availability in the United States,” *Open Forum Infectious Diseases* 12, no. Issue Supplement 1 (2025), <https://doi.org/10.1093/ofid/ofae631.244>.

24. J. L. Kriss, C. L. Black, H. Razzaghi, et al., “Morbidity and Mortality Weekly Report Influenza, COVID-19, and Respiratory Syncytial Virus Vaccination Coverage Among Adults—United States, Fall 2024,” https://www.cdc.gov/mmwr/mmwr_continuingEducation.html.

25. A. Britton, L. E. Roper, C. N. Kotton, et al., “Use of Respiratory Syncytial Virus Vaccines in Adults Aged ≥ 60 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2024,” *MMWR. Morbidity and Mortality Weekly Report* 73, no. 32 (2024): 696–702, <https://doi.org/10.15585/MMWR.MM7332E1>.

26. R. Popovian, W. Winegarden, E. Rivera, and K. Gavigan, “Accessibility of Adult Immunizations in Pharmacies Compared to Physician Offices in Low-Income Communities,” *Journal of the American Pharmacists Association (2003)* 62, no. 5 (2022): 1644–1647, <https://doi.org/10.1016/J.JAPH.2022.03.021>.

27. M. K. Wolfe, N. C. McDonald, and G. M. Holmes, “Transportation Barriers to Health Care in the United States: Findings From the National Health Interview Survey, 1997–2017,” *American Journal of Public Health* 110, no. 6 (2020): 815, <https://doi.org/10.2105/AJPH.2020.305579>.

Supporting Information

Additional supporting information can be found online in the Supporting Information section.