Economics of Respiratory Syncytial Virus Vaccination in Adults aged 50-59 years at Increased Risk of Severe RSV Disease

SUMMARY COMPARING MODELS FROM:

GSK*, *Moderna*, *Pfizer* AND *University of Michigan-CDC

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NCIRD/CDC

ACIP Meeting, April 16, 2025

Disclaimer*: The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention.*

Conflicts of interest

- ***GSK model***: David Singer et al., [complete list and affiliations, upon request]
  - GSK manufactures the adjuvanted RSVPreF3 (RSVPreF3) vaccine
  - RTI Health Solutions was funded by GSK

- ***Moderna model***: Parinaz Ghaswalla et al., [complete list and affiliations, upon request]
  - Moderna manufacturers the mRNA-1345 RSV vaccine
  - Quadrant Health Economics and RTI Health Solutions were funded by Moderna

- ***Pfizer* model**: Reiko Sato et al., [complete list and affiliations, upon request]
  - Pfizer Inc (PA, USA) manufacturers the bivalent stabilized prefusion F subunit (RSVpreF) vaccine
  - Avalere Health (Washington DC, USA) was funded by Pfizer

- ***UM-CDC model***: David W Hutton et al. from Univ Michigan, …, ***Ismael R Ortega-Sanchez*** *et al.* from CDC [complete list and affiliations, upon request]
  - All authors: No conflicts of interest

Economic analysis

Policy question*:** Should a single dose of RSV vaccine (any licensed product)[a,b] be recommended for adults 50-59 years old ***at increased risk of severe RSV disease?

Cost-effectiveness analyses:

Base-case scenario:

- What is the incremental *cost-effectiveness* of vaccinating adults aged 50-59 years ***at increased risk*** of severe RSV disease relative to no vaccination?

a. GSK and Pfizer vaccines are currently licensed for adults 50-59 years at increased risk: https://www.fda.gov/vaccines-blood-biologics/arexvy, https://www.fda.gov/vaccines-blood-biologics/abrysvo
b. Moderna vaccine is not currently licensed in adults aged <60 years: https://www.fda.gov/vaccines-blood-biologics/vaccines/mresvia

Modeling design and assumptions

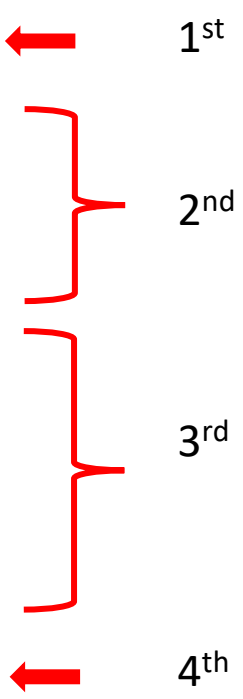
	GSK	Moderna	Pfizer	UM-CDC
Static analytical decision-making models	✓	✓	✓	✓
Sensitivity analyses (and probabilistic simulation)	✓(✓)	✓(✓)	✓(✓)	✓(✓)
Hypothetical population: 50-59 years old at increased risk	✓	✓	✓	✓
Timeframe after a dose of RSV vaccine (in years)[a]	5	3	3.5[b]	3 and 2[c]
Analytic Horizon: Age- and comorbidity-specific life expectancy	✓	Age only	✓	✓
Discount rate: 3%	✓	✓	✓	✓
Year of economic outcomes measured	2024	2024	2023	2024
Societal perspective (and healthcare perspective)	✓(✓)	✓(✓)	✓(✓)	✓(✓)

a. Base-case in Moderna, and Pfizer models relied on a three-year timeframe (other timeframes included in scenario analyses) while GSK used a five-year timeframe in the base-case and three-year in scenario. In each model, selection of timeframe is based on the duration of protection assumption.
b. Although Pfizer base-case relies on a thee-year timeframe, in scenario analyses Pfizer reported outcomes for up to 70 months (>5 years timeframe) duration of vaccine protection.
c. Base-case in UM-CDC model uses three-year time frame for protein subunit vaccines and a two-year time frame for mRNA vaccine. However, in a scenario analysis UM-CDC model uses a three-year time frame for the mRNA vaccine

GSK, *Moderna*, *Pfizer* and *UM-CDC* models comparison

We will compare:

- Risk conditions included in base-case and scenarios
- Incidence of RSV hospitalization and outpatient care
- Medical costs due to RSV illness
- RSV mortality rate
- Indirect costs due to RSV illness
- Quality-adjusted life years lost per RSV illness
- Initial vaccine effectiveness and waning assumptions



GSK, *Moderna*, *Pfizer* and *UM-CDC* models comparison: Risk conditions included in base-case and scenarios

	GSK	*Moderna*	*Pfizer*	*UM-CDC*
Base-case	**Chronic obstructive pulmonary disease (COPD)**	**≥ 1 chronic medical condition[a]**	**≥ 1 chronic or immunocompromising medical condition[b]**	**≥ 1 chronic medical condition[c]**
Individual conditions evaluated in scenarios	• Asthma • Congestive heart failure • Coronary artery disease • Diabetes mellitus	• Asthma • COPD • Coronary artery disease • Congestive heart failure • Chronic kidney disease • Chronic liver disease • Diabetes mellitus • Severe obesity (body mass index [BMI] ≥40 kg/m^2)	• Cardiovascular disease • Pulmonary disease • Renal disease • Diabetes mellitus • Immunocompromising conditions (e.g., solid cancer, hematological malignancies, solid organ transplant, or receiving immunosuppressive medication)	• Asthma • COPD • Coronary artery disease • Chronic kidney disease • Diabetes mellitus • Severe obesity (BMI ≥40 kg/m^2) • Heart failure • Lung transplant • Allogeneic hematopoietic cell transplant • Autologous hematopoietic cell transplant

a. Moderna model: "≥ 1 chronic medical condition" included asthma, COPD, coronary artery disease, congestive heart failure, chronic kidney disease, chronic liver disease, diabetes mellitus, , and severe obesity.
b. Pfizer model: "≥ 1 chronic or immunocompromising medical condition" included cardiovascular disease, hematologic disease, hepatic disease, metabolic disorders, pulmonary disease, renal disease, severe obesity (BMI ≥40 kg/m^2), and immunocompromising conditions.
c. University of Michigan-CDC model: "≥ 1 chronic medical condition" included asthma, COPD, coronary artery disease, chronic kidney disease, diabetes mellitus, and severe obesity (BMI ≥40 kg/m^2).

UM-CDC and *GSK* models: Incidence and medical costs of RSV hospitalization and outpatient care

	UM-CDC	*GSK*
Incidence of RSV outpatient illness (per 100,000 persons per year)	**2,940** for adults 50-59 years with cardiopulmonary disease (e.g., COPD) [a] **1,722** for adults 50-59 years with other chronic condition (e.g., diabetes mellitus) [a]	**2,926** for adults 50-59 years with COPD [a]
Incidence of RSV hospitalization (per 100,000 persons per year)	**106** for adults 50-59 years with ≥1 chronic condition [b] **169** for adults 50-59 years with COPD, specifically [b]	**311** for adults 50-59 years with COPD [c]
Medical costs per RSV hospitalization	**$40,439** ($32,352–$48,527)[d]	**$30,774** (range +/- 20%)[e]
Medical costs per RSV ED visit and per RSV Outpatient visit	**$5,235** ($4,188–$ 6,282)[d] **$586** ($469–$704)[d]	**$884** (range +/- 20%)[f] **$256** (range +/- 20%)[f]

a. Adapted from Belongia et al. Open Forum Infect Dis (2022). https://pubmed.ncbi.nlm.nih.gov/30619907/. Adjusted upward by a factor of 1.5 for diagnostic test sensitivity in detecting RSV infection (McLaughlin et al. [2022]) https://pubmed.ncbi.nlm.nih.gov/35873302/
b. CDC unpublished data, updates to analysis presented to ACIP (Woodruff, February 2024: https://www.cdc.gov/acip/downloads/slides-2024-02-28-29/03-RSV-Adults-Woodruff-508.pdf).
c. Adapted from Branche et al. (2022), https://pubmed.ncbi.nlm.nih.gov/34244735/ across Rochester and New York City sites adjusted by a factor of 1.5 for diagnostic test sensitivity in detecting RSV infection (McLaughlin et al. [2022]) https://pubmed.ncbi.nlm.nih.gov/35873302/
d. For the general population, adjusted according to results for adults with and without chronic conditions. Averin et al. (2024) https://pubmed.ncbi.nlm.nih.gov/38486815/
e. CMS Medicare Inpatient Hospitals - by Geography and Service (CMS, 2024); (DRG Average Payments from 2022 dataset); Falsey et al. (2005) https://pubmed.ncbi.nlm.nih.gov/15858184/
f. CMS.gov Hospital Outpatient Prospective Payment (CMS, 2024). Average of CPT 99283 and 99284. Added is the physician fee from CMS.gov Physician Fee Lookup Tool (CMS, 2024). Average of CPT 99283 and 99284. https://www.cms.gov/medicare/payment/prospective-payment-systems/hospital-outpatient/regulations-notices/cms-1786-fc

UM-CDC and *Moderna* models: Incidence and medical costs of RSV hospitalization and outpatient care

	UM-CDC	*Moderna*
Incidence of RSV outpatient illness (per 100,000 persons per year)	**1,722** for adults 50-59 years with ≥1 chronic condition[a]	**2,322** for adults 50-59 years with ≥1 conditions and **964** for adults 50-59 years, without chronic conditions[b]
Incidence of RSV hospitalization (per 100,000 persons per year)	**106** for adults 50-59 years with ≥ 1 chronic condition [c]	**217.9** for adults 50-59 years with ≥1 conditions [b]
Medical costs per RSV hospitalization	**$40,439** ($32,352 – $48,527) [e]	**$11,876** ($8,407 - $47,512)[f]
Medical costs per RSV ED visit and per RSV Outpatient visit	**$5,235** ($4,188 – $6,282) [e] **$586** ($469 – $704) [e]	**$4,399 (**no range**)** [d, g] **$2,273 (**no range**)** [f]

a. Adapted from Belongia et al. Open Forum Infect Dis (2022). https://pubmed.ncbi.nlm.nih.gov/30619907/. Adjusted upward by a factor of 1.5 for diagnostic test sensitivity in detecting RSV infection (McLaughlin et al. [2022]) https://pubmed.ncbi.nlm.nih.gov/35873302/

b. Adjusted by 1.5x for PCR test sensitivity. Adapted from McLaughlin et al. Open Forum Infect Dis (2022), https://pubmed.ncbi.nlm.nih.gov/30619907/ and Weycker (2024), https://pubmed.ncbi.nlm.nih.gov/38236516/ using methods applied in Averin (2024), https://pubmed.ncbi.nlm.nih.gov/38486815/

c. CDC unpublished data, updates to analysis presented to ACIP (Woodruff, February 2024: https://www.cdc.gov/acip/downloads/slides-2024-02-28-29/03-RSV-Adults-Woodruff-508.pdf).

d. Averin et al. (2024) Supplemental Table 3 https://pubmed.ncbi.nlm.nih.gov/38486815/

e. For the general population, adjusted according to results for adults with and without chronic conditions. Averin et al. (2024) https://pubmed.ncbi.nlm.nih.gov/38486815/

f. Wyffels et al. (2020), https://pubmed.ncbi.nlm.nih.gov/32026380/ (Moderna's technical report provides inpatient cost ranges based on assumptions and supported by other studies)

g. Merative MarketScan Commercial Claims and Encounters (CCAE) and Medicare Supplemental Coordination of Benefits (MDCR) Databases (2016-2019)

UM-CDC and *Pfizer* models: Incidence and medical costs of RSV hospitalization and outpatient care

	UM-CDC	*Pfizer*
Incidence of RSV outpatient illness (per 100,000 persons per year)	**1,722** for adults 50-59 years with ≥1 chronic medical condition (e.g., diabetes mellitus) [a]	**3,158** for adults 50-59 years with ≥1 condition [b]
Incidence of RSV hospitalization (per 100,000 persons per year)	**106** for adults 50-59 years with ≥ 1 chronic condition [c]	**367** for adults 50-59 years with ≥1 condition [b]
Medical costs per RSV hospitalization	**$40,439** ($32,352 – $48,527) [d]	**$40,361** **(**no range reported)[e]
Medical costs per RSV ED visit and per RSV Outpatient visit	**$5,235** ($4,188 – $6,282) [d] **$586** ($469 – $704) [d]	**$6,168 (**no range reported**) [d, e]** **$933 (**no range reported **) [d, e]**

a. Adapted from Belongia et al. Open Forum Infect Dis (2022). https://pubmed.ncbi.nlm.nih.gov/30619907/. Adjusted upward by a factor of 1.5 for diagnostic test sensitivity in detecting RSV infection (McLaughlin et al. [2022]) https://pubmed.ncbi.nlm.nih.gov/35873302/

b. Adapted from McLaughlin et al. (2022), https://pubmed.ncbi.nlm.nih.gov/35873302/; Weycker et al. (2024), https://pubmed.ncbi.nlm.nih.gov/38236516/; Ramirez et al. (2023), https://pubmed.ncbi.nlm.nih.gov/37148463/; Onwuchekwa et al. (2023), https://pubmed.ncbi.nlm.nih.gov/36661222/. Age and risk group is 50-64 years with selected chronic or immunocompromising medical conditions.

c. CDC unpublished data, updates to analysis presented to ACIP (Woodruff, February 2024: https://www.cdc.gov/acip/downloads/slides-2024-02-28-29/03-RSV-Adults-Woodruff-508.pdf).

d. For the general population, adjusted according to results for adults with and without chronic conditions. Averin et al. (2024) https://pubmed.ncbi.nlm.nih.gov/38486815/

e. Averin et al (2024) , https://doi.org/10.1093/ofid/ofae097 .

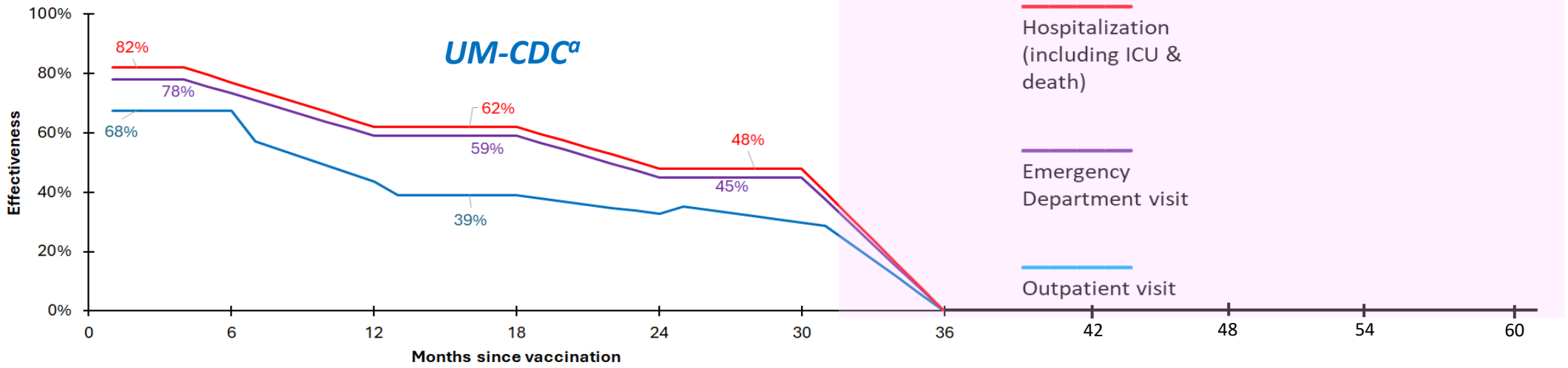
GSK, *Moderna*, *Pfizer* and *UM-CDC* models: Mortality, indirect costs and quality-adjusted life-years

	GSK	*Moderna*	*Pfizer*	*UM-CDC*
Mortality (case fatality ratio, CFR)	**7.0%** CFR among COPD hospitalized for RSV-LRTD	**4.3%** CFR among hospitalized	**4.7%** CFR among hospitalized 50-64y CMC+	**6.4** deaths per 100 RSV hospitalizations, inclusive of deaths among non-hospitalized persons
Indirect costs (productivity losses)	**Premature death** Market: 50-54 years: $871,542 55-59 years: $601,091 Nonmarket: 50-54 years: $691,270 55-59 years: $621,604	**Premature death** Not included in their analyses	**Premature death** 50-59 years with CMC+: $333,915	**Premature death** Age-specific annual mortality and life expectancy from life tables[a] multiplied by market and non-market foregone income and discounted at 3% per year
	Days of work lost Inpatient care: 15.18 ED/Outpatient care: 4.30 No treatment: 0.50	**Days of work lost** Inpatient care: 7.53 ED care: 3.30 Outpatient care: 2.30 Presenteeism: 1 day all cases Caregiver: 0.75x patient's time	**Days of work lost** Inpatient care: 10 ED/Outpatient care: 5 Caregiver: 0.50x patient's time	**Days of work lost** Inpatient care: 8 ED/Outpatient care: 2.50
QALY Loss	RSV-URTD **0.0133** RSV-LRTD **0.0178**	ED/Outpatient **0.0185** Inpatient **0.0193** No treatment **0.0093**	ED/Outpatient **0.0054** Inpatient **0.0167**	Outpatient **0.0185** Inpatient **0.0193**

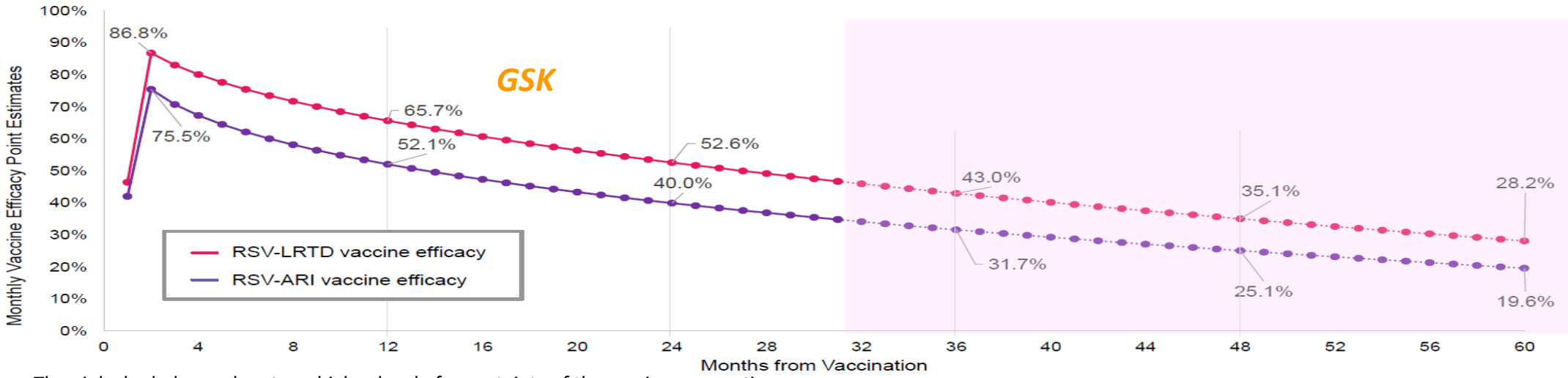
a. Vital Statistics Reports. National Vital Statistics Reports Vol 71, No 1, August 8, 2022. United States Life Tables, 2020. Pub. online 2022. Accessed March 7, 2025. https://www.cdc.gov/nchs/products/index.htm

Abbreviations: COPD= chronic obstructive pulmonary disease, LRTD= lower respiratory tract disease, CFR= case fatality ratio, ED= Emergency department, CMC+= selected chronic or immunocompromising medical conditions, QALY= quality-adjusted life-year

GSK (RSVPreF3) and *UM-CDC* (subunit): Modeled vaccine effectiveness and duration of protection per outcome



Source: UM-CDC is based on Hutton et al. ACIP presentation (Apr 2025) and on an unpublished manuscript



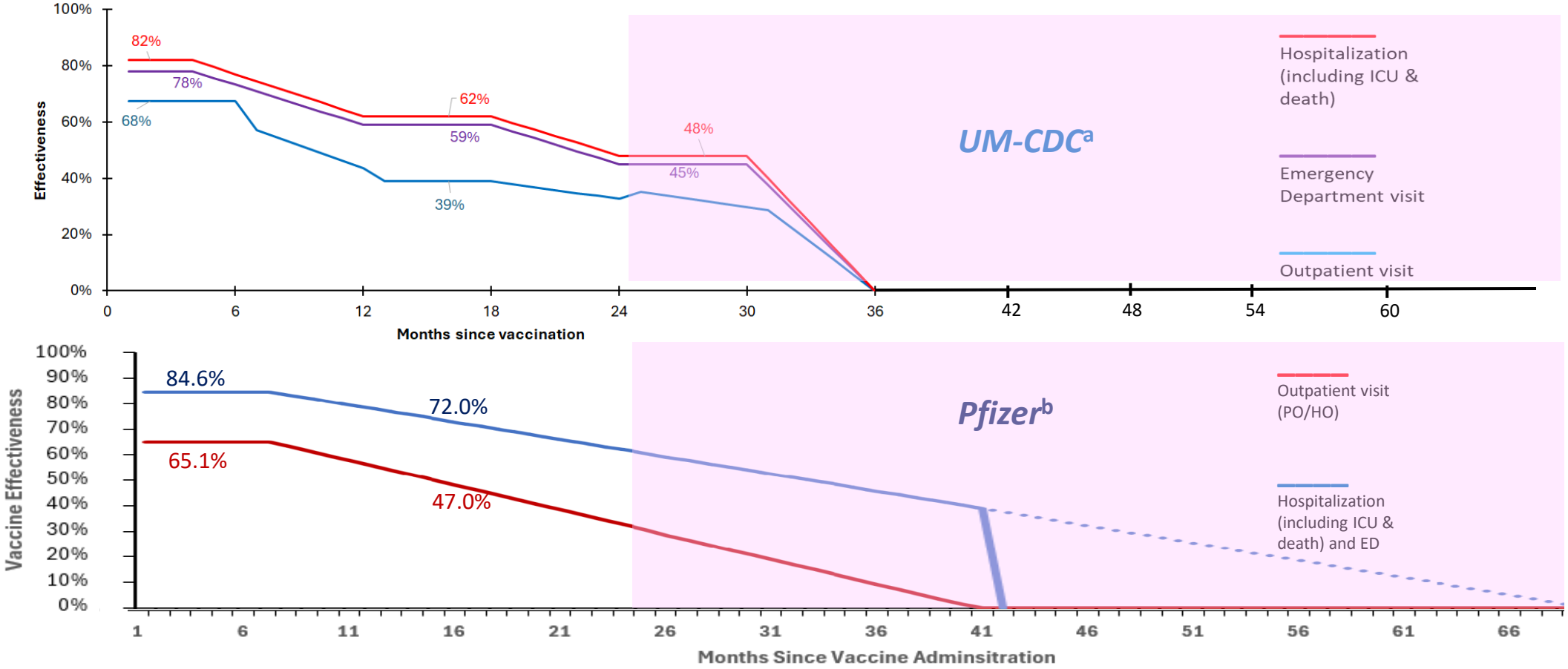
Source: La EM, et al.. *Hum Vaccin Immunother*. 2024 Dec 31;20(1):2432745. https://doi.org/10.1080/21645515.2024.2432745

LRTD= Lower respiratory tract disease, ARI = acute respiratory infection

The pink-shaded area denotes a higher level of uncertainty of the waning assumption

a. Three-year projected effectiveness against ED and hospitalization based on a meta-analysis of real-world vaccine effectiveness studies. Base case truncated at 36 months based on available clinical follow-up extending only through three RSV seasons for a subunit vaccine

Pfizer (RSVpreF) and *UM-CDC* (subunit): Modeled vaccine effectiveness and duration of protection per outcome



Source: UM-CDC is based on Hutton et al. ACIP presentation (Apr 2025) and on an unpublished manuscript

Source: Pfizer Technical report and Slides submitted to CDC (2024 and January 2025)

ICU = Intensive care unit, ED= Emergency department, PO= physician office, HO = hospital outpatient

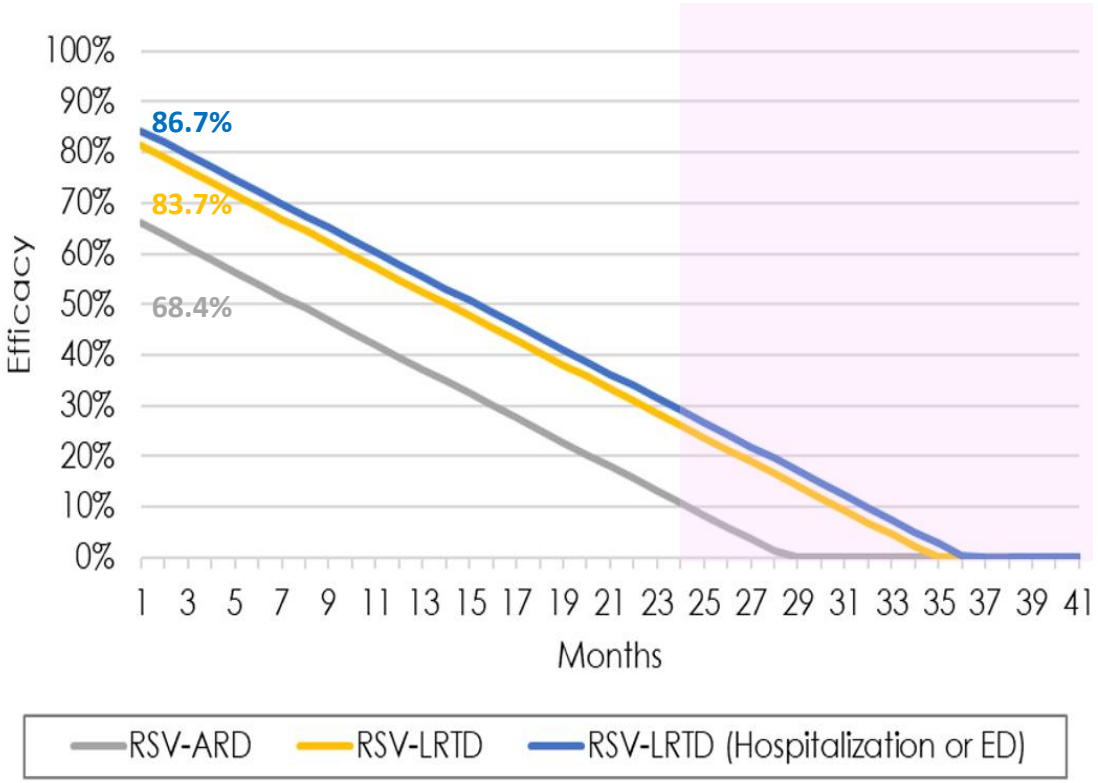
The pink-shaded area denotes a higher level of uncertainty of the waning assumption beyond available phase 3 data

a. UM-CDC: Three-year projected effectiveness against ED and hospitalization based on a meta-analysis of real-world vaccine effectiveness studies. Base case truncated at 36 months based on available clinical follow-up extending only through three RSV seasons for a subunit vaccine

b. Pfizer model: Base-case vaccine effectiveness against RSV-Hospital and RSV-ED corresponding to the solid blue line was applied. The dotted blue line reflects vaccine effectiveness against RSV-Hospital and RSV-ED if the waning pattern would persist.

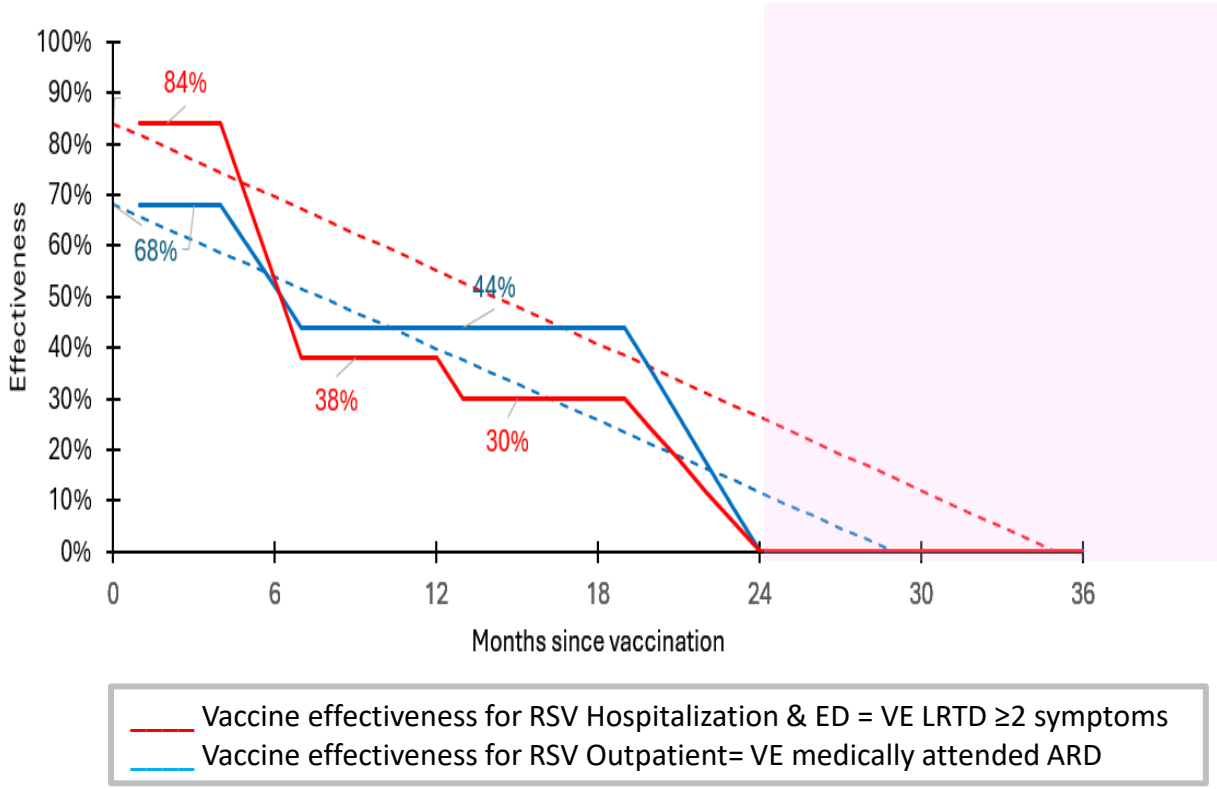
Moderna and *UM-CDC*: Modeled vaccine effectiveness and duration of protection per outcome

Moderna (three-year timeframe)



UM-CDC [a] (two-year timeframe: solid lines)

Scenario: 3-year timeframe linear decay, 0% at 36 months: dotted lines



ARD = Acute respiratory disease
LRTD =Lower respiratory tract disease
ED = Emergency department

The pink-shaded areas denote a higher level of uncertainty of the waning assumption beyond available phase 3 data

a. UM-CDC base case truncated at 24 months based on available clinical follow-up extending only through a median of <24 months per participant

Source: for Moderna, Moderna's technical report (2025) and for UM-CDC, Hutton et al., ACIP Presentation (Apr 2025)

Incremental cost-effectiveness: *GSK* and *UM-CDC*

Policy question: What is the incremental cost-effectiveness of vaccinating ***adults aged 50-59 years old at increased risk*** of severe RSV illness ***relative*** to "No vaccination"?

	GSK	*UM-CDC*
$/QALY saved (3-year timeframe)	Cost-saving (COPD)[a]	**$44,203[b]** For a generic protein subunit RSV vaccine: • Cost-saving: CKD, COPD, BMI≥40 • $9,889 (Asthma) • $13,177 (CAD) • $57,441 (Diabetes)
$/QALY saved (5-year timeframe)	**Cost-saving (COPD)[a]** (base-case)	Not included

a. GSK estimated cost-saving values for COPD (base-case) and for each selected individual condition: heart failure, CAD, asthma and diabetes.
b. In the 3-year timeframe for a generic protein subunit vaccine effectiveness, UM-CDC estimated a *societal cost of $43,070/QALY saved* for adults with at least one chronic condition (COPD, asthma, CAD, CKD, severe obesity, or diabetes) vaccinated with subunit RSV vaccine. For individual conditions, when vaccinating with a generic protein subunit RSV vaccine, ICERs ranged from cost-saving (CKD, COPD, BMI≥40) to $57,441 (Diabetes) per QALY saved. When evaluating other specific conditions not included in "at least one", $/QALY for adults aged 50-59 years were also cost-saving (i.e., lung transplant, allogeneic hematopoietic cell transplant, and autologous hematopoietic cell transplant, heart failure).

Abbreviations: COPD= Chronic obstructive pulmonary disease, CAD=Coronary artery disease, CKD= Chronic kidney disease, ICER= Incremental cost-effectiveness ratio, BMI = Body mass index, QALY= quality-adjusted life-year

Incremental cost-effectiveness: *Pfizer* and *UM-CDC*

Policy question: What is the incremental cost-effectiveness of vaccinating ***adults aged 50-59 years old at increased risk*** of severe RSV illness ***relative*** to "No vaccination"?

	Pfizer [a]	*UM-CDC* [b]
$/QALY saved (3- to 3.5-year timeframe) **base-case**	**Cost saving**	**$41,754** For a generic protein subunit RSV vaccine: • Cost-saving: CKD, COPD, BMI≥40 • $9,889 (Asthma) • $13,177 (CAD) • $57,441 (Diabetes)
$/QALY saved (70 months timeframe scenario)	Cost Saving	Not included

a. Pfizer model estimated cost-saving values for selected high-risk conditions: COPD, CAD, CKD, diabetes mellitus, immune compromised and severe immune compromised. Base-case used a 3.5-year vaccine efficacy duration from Phase 3 clinical trials.

b. In the 3-year timeframe for a generic protein subunit vaccine effectiveness, UM-CDC estimated a *societal cost of $43,070/QALY saved* for adults with at least one chronic condition (COPD, asthma, CAD, CKD, severe obesity, or diabetes) vaccinated with subunit RSV vaccine. For individual conditions, when vaccinating with a generic protein subunit RSV vaccine, ICERs ranged from cost-saving (CKD, COPD, BMI>40) to $57,441 (Diabetes) per QALY saved. When evaluating other specific conditions not included in "at least one", $/QALY for 50-59 years old were also cost-saving (i.e., lung transplant, allogeneic hematopoietic cell transplant, autologous hematopoietic cell transplant, and heart failure).

Abbreviations: COPD= Chronic obstructive pulmonary disease, CAD=Coronary artery disease, CKD= Chronic kidney disease, ICER= Incremental cost-effectiveness ratio, BMI = Body mass index, QALY= quality-adjusted life-year

Incremental cost-effectiveness: *Moderna* and *UM-CDC*

Policy question: What is the incremental cost-effectiveness of vaccinating ***adults aged 50-59 years old at increased risk*** of severe RSV illness ***relative*** to "No vaccination"?

	Moderna	*UM-CDC*
$/QALY saved (2-year timeframe)	$75,862	**$152,293** (Base case)[b] For individual conditions costs ranged from $6,052 (CKD) to $174,454 (Diabetes) per QALY saved
$/QALY saved (3-year timeframe)	**$65,125** (Base case)[a] For individual conditions costs ranged from $10,889 (CHF and heart failure) to $95,606 (Asthma) per QALY saved	$95,182 For individual conditions ranged from cost-saving (CKD) to $114,315 (Diabetes) per QALY saved

a. Moderna reported $/QALY of $40,493 (COPD), $64,289 (CLD), $$61,504 (CKD), $83,598 (Diabetes) and $65,125 (severe obesity, BMI≥ 40.

b. In the base case (2-year timeframe), UM-CDC estimated a *societal cost of $152,293/QALY saved* for adults with at least one chronic condition (COPD, asthma, CAD, CKD, severe obesity, or diabetes). When evaluating other specific conditions not included in "at least one," $/QALY reported were cost-saving (i.e., lung transplant, allogeneic hematopoietic cell transplant, autologous hematopoietic cell transplant, and heart failure).

Abbreviations: CHF= Congestive heart failure, COPD= Chronic obstructive pulmonary disease, CLD= Chronic liver disease, CAD=Coronary artery disease, CKD= Chronic kidney disease, ICER= Incremental cost-effectiveness ratio, BMI = Body mass index, QALY= quality-adjusted life-year

Limitations

- **Factors not considered that may result in underestimating the cost-effectiveness of RSV vaccination**
  - Impact of RSV on long-term prognosis of included higher risk conditions
  - Indirect effects of vaccination (i.e., protection against RSV transmission)
  - Quality-of-life impact on caregivers during RSV illness
- **Two models (*GSK*, *UM-CDC*) do not include, and two models (*Moderna*, *Pfizer*) *partially* include**
  - Productivity impact (work time missed) on caregivers during RSV illness
- **Manufacturer models *do not include*** RSV-related medical costs incurred after discharge from an RSV-associated hospitalization or emergency department visit (i.e., stay in long-term care or rehabilitation facility)
  - ***Partially* include** *potential* vaccine-associated serious adverse events (SAEs) or Guillain Barre syndrome (GBS): Quality of life impact, resource utilization, and costs associated with SAEs, including GBS specifically for protein subunit RSV vaccines.
- **Duration of vaccine protection beyond clinical trial follow-up time (beyond median 19 months, *Moderna*; mean 18 months, *Pfizer* or median 31 months, *GSK*) is unknown**
  - All 4 models assumed non-zero declining efficacy beyond trial time data
- **All 4 models assumed optimal timing of vaccination, in the late summer and early fall, prior to RSV season onset**.

Conclusion

- **Differences in key inputs and assumptions among *GSK*, *Moderna*, *Pfizer* and *UM-CDC* models explain differences in results:**
  - Annual incidence of RSV hospitalization and outpatient disease
  - Initial vaccine efficacy/effectiveness and waning of protection assumptions
  - Medical cost per RSV hospitalization
- **Resulting ICERs for policy question also vary by vaccine type and risk condition**
- Vaccinating *adults aged 50-59 years old at increased risk of severe RSV disease* showed disperse $/QALY ratios
  - Assuming 3 years of vaccine protection:
    - Outcomes for PreF combined subunit RSV vaccine ranged from societal ***cost-saving*** (***GSK*** and ***Pfizer*** models and for all included high-risk conditions) to **$43,070** per QALY saved (***UM-CDC,*** though some high-risk conditions were reported to be cost-saving)
    - Outcomes for PreF mRNA RSV vaccine ranged from **$65,125 (*Moderna*) to $95,182 (*UM-CDC*)** per QALY saved
- **Overall,** vaccination would significantly reduce RSV disease burden in adults 50-59 years at increased risk of severe RSV disease.
  - Efficacy data from clinical trials from all vaccines as well as *conservative* assumptions about duration of protection support impact on disease reduction and health risks

Acknowledgements

From NCIRD/CDC

- Michael Melgar
- Amadea Britton
- Andrew Leidner
- Ruth Link-Gelles
- Allison Ciesla
- Meredith McMorrow

Also:

- Adult RSV working group members

Selected references

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End of Summary

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