

Supplementary material

Healthcare professionals' knowledge, attitudes, and practices regarding respiratory syncytial virus disease and vaccination in adults aged 60 years and older

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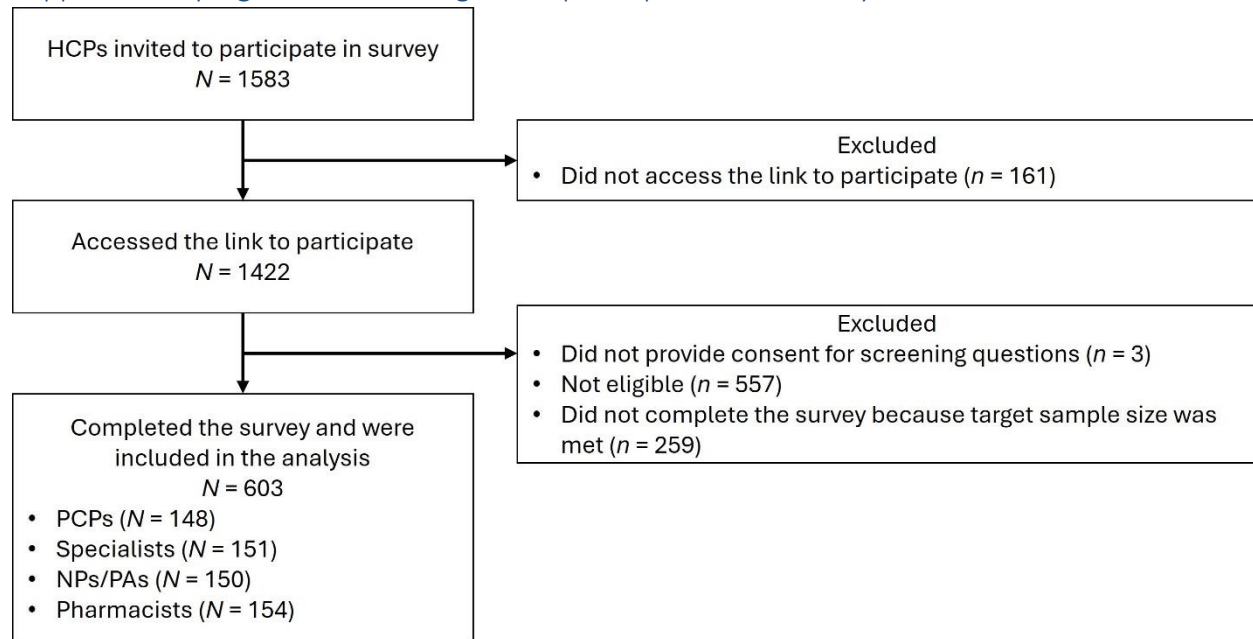
Supplementary Methods

For the exploratory analysis, three key dependent variables were selected as outcomes for multivariable logistic regression modeling: (1) likelihood of fully knowing the Food and Drug Administration (FDA) indication and Advisory Committee on Immunization Practices (ACIP) recommendation for RSV vaccines; (2) likelihood of initiating RSV vaccination conversations with $\leq 5\%$ of patients aged ≥ 60 years in an average week; and (3) likelihood of not recommending, prescribing, or administering respiratory syncytial virus (RSV) vaccines to any patient aged ≥ 60 years in the previous 3 months. Covariates for potential inclusion in the multivariable logistic regression model for the dependent variables (1), (2), and (3) included: healthcare professional (HCP) type, years in practice, gender, United States (US) Census region, urban/rural status of workplace, percentage of patients who are aged ≥ 60 years, percentage of adult patients who are non-White, percentage of adult patients who are Hispanic, percentage of adult patients who are insured with commercial/private insurance, percentage of adult patients who are insured with Medicaid, number of adult patients personally treated/interacted with during an average week, stock RSV vaccine(s) at workplace, workplace does not stock any vaccines, familiarity with older adult RSV disease, and received some type of training or materials on implementation of SCDM for RSV vaccination. In addition, for the dependent variables (2) and (3), covariates for potential inclusion in the multivariable logistic regression model also included: perceived importance of protecting older adults against RSV disease, number of factors agreed to as risk factors for severe RSV disease, agreement with statement “I feel confident when having shared clinical decision-making (SCDM) conversations about RSV vaccination”, knew older adult RSV vaccines were FDA-approved and ACIP-recommended, uses clinical decision support systems/treatment protocol/ Immunization Information Systems (IIS)/questionnaires in waiting room to inform decision-making regarding recommending RSV vaccination, total barrier score for recommending RSV vaccination, and total barrier score for administering RSV vaccination. Some continuous responses were grouped into categories (based on quartiles) before including them as covariates in the model.

For all three dependent variables, HCP type was retained in the model a priori to understand its association with the outcome of interest. Other covariates that yielded $P \leq 0.05$ in univariable analyses were considered for inclusion in the model. In the multivariable model, backward selection was used to further eliminate covariates with $P > 0.10$.

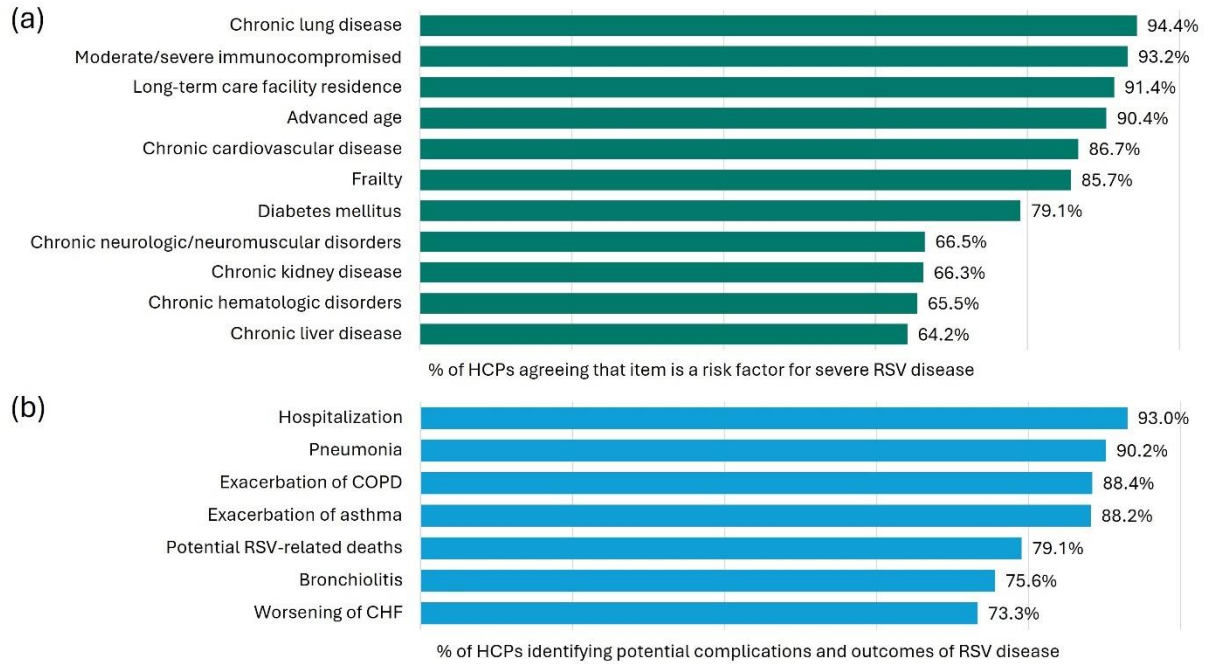
Supplementary Figures and Tables

Supplementary Figure S1. Flow diagram of participants in the study



HCP healthcare professional; *n* number in that category; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician.

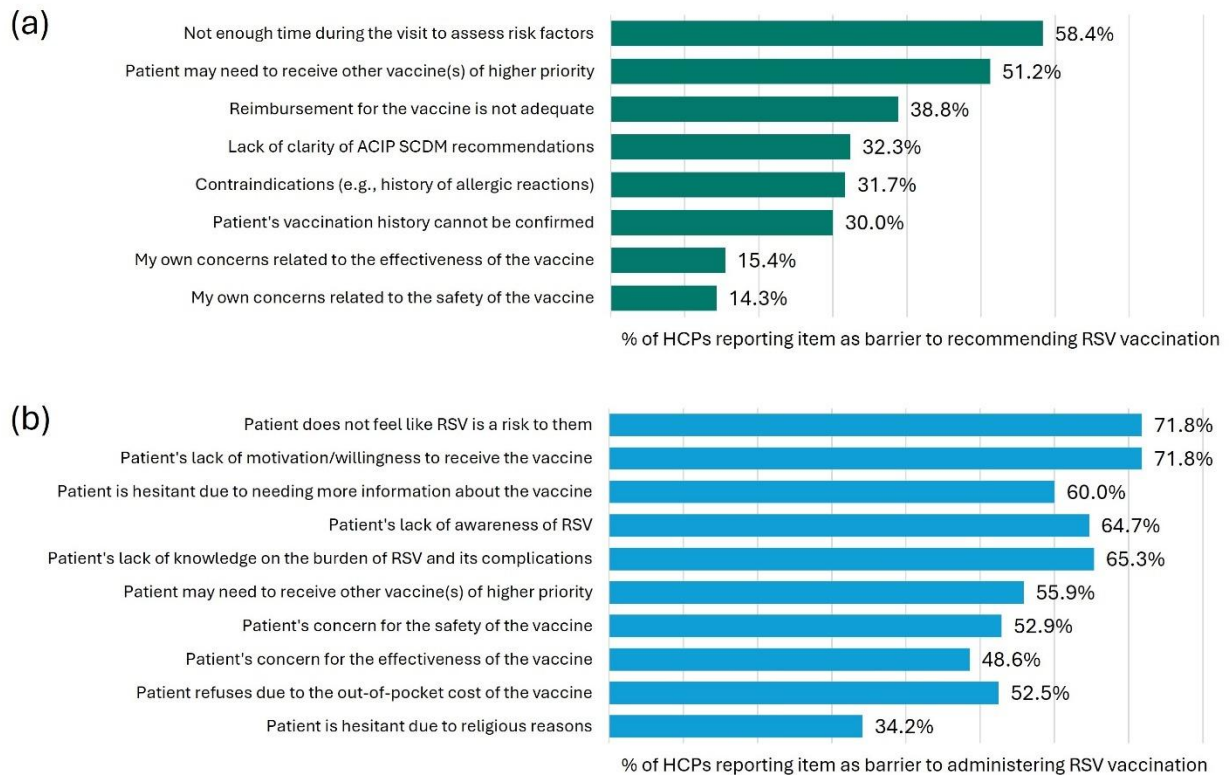
Supplementary Figure S2: HCP knowledge of (a) risk factors for developing severe RSV disease and (b) potential complications and outcomes of RSV disease, overall



In panel (a), percentages include HCPs who responded, “strongly agree” or “agree”.

CHF congestive heart failure; *COPD* chronic obstructive pulmonary disease; *HCP* healthcare professional; *RSV* respiratory syncytial virus.

Supplementary Figure S3. HCP-reported perceived (a) barriers to recommending and (b) barriers to administering RSV vaccination among adults aged ≥ 60 years



Percentages include HCPs who reported that item as a “major barrier” or “moderate barrier”.

ACIP Advisory Committee on Immunization Practices; HCP healthcare professional; RSV respiratory syncytial virus; SCDM shared clinical decision-making.

Supplementary Table S1. Characteristics of HCP workplaces and patient populations seen by HCP respondents, overall and by HCP type

Characteristic as reported by the HCP	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Number (%) of HCPs working in the practice including oneself (pharmacists excluded) ^a					
1	36 (8.0)	18 (12.2)	12 (7.9)	6 (4.0)	NA
2–4	95 (21.2)	31 (20.9)	25 (16.6)	39 (26.0)	NA
5–10	141 (31.4)	48 (32.4)	37 (24.5)	56 (37.3)	NA
11–15	50 (11.1)	19 (12.8)	19 (12.6)	12 (8.0)	NA
More than 15	127 (28.3)	32 (21.6)	58 (38.4)	37 (24.7)	NA
Mean (SD) number of prescriptions filled weekly at workplace (pharmacists only)	2210.5 (2663.8)	NA	NA	NA	2210.5 (2663.8)
Mean (SD) weekly number of patients personally evaluated and/or treated (non-pharmacists) or interacted with (pharmacists) ^b	99.0 (57.2)	109.4 (59.1)	94.5 (50.8)	93.4 (60.3)	156.5 (70.8)
Mean (SD) percentage of adult patients in each age group ^c					
18–49 years	27.4 (18.2)	30.3 (17.9)	20.6 (13.9)	34.4 (22.5)	24.3 (14.4)
50–59 years	19.8 (8.4)	19.8 (6.9)	19.3 (8.1)	20.0 (8.9)	20.4 (9.3)
60–64 years	18.7 (8.4)	17.7 (7.6)	20.8 (9.8)	17.1 (8.0)	19.3 (7.8)
65–74 years	19.2 (9.0)	17.5 (7.3)	20.8 (7.7)	16.4 (10.2)	21.7 (9.5)
≥75 years	14.9 (9.7)	14.7 (10.2)	18.5 (9.7)	12.1 (9.6)	14.4 (8.3)
Mean (SD) percentage of adult patients by race					
African American or Black	19.4 (14.3)	17.1 (13.8)	19.9 (12.3)	21.8 (15.1)	18.8 (15.3)
Alaska Native, American Indian, or Native American	2.5 (5.0)	2.5 (4.0)	2.4 (5.4)	2.5 (4.4)	2.7 (5.9)
Asian or Asian American	9.3 (9.1)	9.4 (11.2)	9.4 (7.5)	8.1 (7.8)	10.3 (9.5)
Middle Eastern or North African	4.9 (6.6)	5.1 (6.6)	4.9 (7.5)	4.1 (4.8)	5.4 (7.1)
Native Hawaiian or Pacific Islander	1.7 (3.3)	1.7 (3.1)	1.8 (3.6)	1.7 (3.3)	1.7 (3.4)
White	54.7 (22.1)	56.1 (23.3)	53.9 (20.8)	54.2 (21.6)	54.7 (22.9)
Other	7.5 (13.0)	8.0 (13.8)	7.8 (12.9)	7.7 (12.6)	6.4 (12.5)
Mean (SD) percentage of adult patients of Hispanic ethnicity	22.0 (19.4)	23.0 (19.7)	23.8 (21.7)	21.1 (18.8)	20.1 (17.2)
Mean (SD) percentage of patients by insurance type					
Commercial or private	41.1 (20.8)	44.5 (24.0)	44.2 (19.2)	40.3 (21.9)	35.6 (16.2)
Medicaid	17.4 (15.1)	15.4 (15.1)	13.6 (13.8)	18.8 (18.1)	21.6 (11.7)
Medicare	29.4 (16.1)	26.1 (16.2)	34.7 (15.0)	25.4 (17.8)	31.1 (13.3)
Military-related healthcare ^d	5.1 (10.3)	7.3 (16.9)	3.8 (9.3)	5.1 (5.2)	4.4 (4.8)
Other	2.5 (6.7)	3.0 (8.3)	1.4 (3.3)	3.5 (9.2)	2.2 (4.1)
No health insurance	4.5 (8.0)	3.8 (8.2)	2.3 (4.8)	6.9 (11.1)	5.1 (5.6)

^aNot applicable for pharmacists.

^bTelehealth visits were included.

^cIndividual answers were required to add up to 100%.

^dSuch as Veteran's Administration healthcare, CHAMPVA, TRICARE [formerly CHAMPUS]).

CHAMPUS Civilian Health and Medical Program of the Uniformed Services; *CHAMPVA* Civilian Health and Medical Program of the Department of Veterans Affairs; *HCP* healthcare professional; *N* total number; *NA* not applicable; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *SD* standard deviation.

Supplementary Table S2: Key results related to HCP knowledge of RSV disease among older adults, overall and by HCP type

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Correctly identified the annual incidence of RSV disease among adults aged ≥60 years, n (%)	181 (30.0)	53 (35.8)	52 (34.4)	31 (20.7)	45 (29.2)
Correctly identified potential complications and outcomes of RSV, n (%)					
Hospitalization	561 (93.0)	138 (93.2)	134 (88.7)	144 (96.0)	145 (94.2)
Pneumonia	544 (90.2)	131 (88.5)	138 (91.4)	135 (90.0)	140 (90.9)
Exacerbation of COPD	533 (88.4)	130 (87.8)	136 (90.1)	128 (85.3)	139 (90.3)
Exacerbation of asthma	532 (88.2)	134 (90.5)	130 (86.1)	132 (88.0)	136 (88.3)
Death	477 (79.1)	118 (79.7)	117 (77.5)	119 (79.3)	123 (79.9)
Bronchiolitis	456 (75.6)	122 (82.4)	116 (76.8)	106 (70.7)	112 (72.7)
Worsening of CHF	442 (73.3)	109 (73.6)	113 (74.8)	111 (74.0)	109 (70.8)
Identified all 7 potential complications and outcomes of RSV above	322 (53.4)	85 (57.4)	83 (55.0)	78 (52.0)	76 (49.4)
Correctly identified risk factors for developing severe RSV disease, n (%) ^a					
Chronic lung disease (e.g., COPD and asthma)	569 (94.4)	135 (91.2)	145 (96.0)	146 (97.3)	143 (92.9)
Moderate or severe immunocompromise	561 (93.2)	133 (90.5)	140 (92.7)	143 (95.3)	145 (94.2)
Residence in a nursing home or other long-term care facility	551 (91.4)	132 (89.2)	136 (90.1)	138 (92.0)	145 (94.2)
Advanced age	544 (90.4)	126 (85.7)	140 (92.7)	136 (90.7)	142 (92.2)
Chronic cardiovascular disease (e.g., CHF and CAD)	523 (86.7)	128 (86.5)	132 (87.4)	133 (88.7)	130 (84.4)
Frailty	517 (85.7)	123 (83.1)	138 (91.4)	139 (92.7)	117 (76.0)
Diabetes mellitus	477 (79.1)	121 (81.8)	119 (78.8)	117 (78.0)	120 (77.9)
Chronic or progressive neurologic or neuromuscular conditions	401 (66.5)	105 (70.9)	116 (76.8)	93 (62.0)	87 (56.5)
Chronic kidney disease	400 (66.3)	105 (70.9)	117 (77.5)	85 (56.7)	93 (60.4)
Chronic hematologic disorders	395 (65.5)	111 (75.0)	108 (71.5)	88 (58.7)	88 (57.1)
Chronic liver disease	387 (64.2)	104 (70.3)	117 (77.5)	77 (51.3)	89 (57.8)
Identified all 11 risk factors for developing	251 (41.6)	67 (45.3)	83 (55.0)	54 (36.0)	47 (30.5)

severe RSV disease above					
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^aValues correspond to HCPs who responded “agree” or “strongly agree” that each item is a risk factor for severe RSV disease.

CAD coronary artery disease; *CHF* congestive heart failure; *COPD* chronic obstructive pulmonary disease; *HCP* healthcare professional; *n* number in each category; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus.

Supplementary Table S3. Key results related to HCP knowledge of RSV vaccines for use in older adults, overall and by HCP type

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Correctly responded that RSV vaccine(s) were FDA-approved and ACIP-recommended for use in older adults at time of data collection, n (%) ^a	453 (75.1)	107 (72.3)	108 (71.5)	101 (67.3)	137 (89.0)
Correctly responded that the approved age range for RSV vaccination in older adults was adults aged 60 years and older at time of data collection, n (%) ^b	368 (62.4)	90 (62.5)	75 (51.0)	86 (58.9)	117 (76.5)
Correctly responded that RSV vaccination in older adults was ACIP-recommended using shared clinical decision making at time of data collection, n (%) ^c	239 (46.9)	55 (46.6)	61 (48.8)	58 (46.0)	65 (46.1)
Correctly responded that the ACIP-recommended age range for RSV vaccination in older adults was adults aged 60 years and older at time of data collection, n (%) ^c	329 (64.4)	79 (66.9)	60 (48.0)	78 (61.4)	112 (79.4)
Correctly responded to all questions above on status of RSV vaccines for use in older adults, n (%)	148 (24.5)	34 (23.0)	28 (18.5)	32 (21.3)	54 (35.1)

^aAt the time of data collection in November 2023, 2.2% of HCPs (n=13) incorrectly responded that RSV vaccine(s) were still in development, 13.1% (n=79) incorrectly responded that RSV vaccine(s) were FDA-approved but not yet ACIP-recommended, and 9.6% (n=58) did not know the status of older adult RSV vaccine(s).

^bAsked among HCP respondents who did not select “Still in development” for the status of RSV vaccine(s) (n=590).

^cAsked among HCP respondents who did not select “Still in development” or “FDA-approved but not yet ACIP-recommended” for the status of RSV vaccine(s) (n=511). There was 1 missing response for the question on shared clinical decision making.

ACIP Advisory Committee on Immunization Practices; *FDA* Food and Drug Administrations; *HCP* healthcare professional; *n* number in each category; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus.

Supplementary Table S4. HCP mean ranked importance of protecting adult patients aged 60 years and older from respiratory infections, overall and by HCP type

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Mean (SD) ranked importance ^a					
Influenza	2.0 (1.1)	2.3 (1.1)	1.7 (0.9)	2.1 (1.0)	1.9 (1.1)
Pneumococcal disease	2.4 (1.1)	2.1 (1.1)	2.7 (1.0)	2.3 (1.1)	2.6 (1.2)
COVID-19	2.6 (1.4)	2.7 (1.4)	2.3 (1.2)	2.7 (1.4)	2.7 (1.3)
RSV	3.5 (1.0)	3.6 (1.0)	3.6 (0.9)	3.4 (1.1)	3.2 (1.1)
Pertussis (whooping cough)	4.5 (0.9)	4.3 (1.1)	4.6 (0.8)	4.5 (0.9)	4.5 (0.9)

^aImportance was ranked using a 5-point scale from 1 = “most important” to 5 = “least important”.

COVID-19 coronavirus disease 2019; *HCP* healthcare professional; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus; *SD* standard deviation.

Supplementary Table S5. Key results related to HCP attitudes and perceptions of RSV disease in different patient populations

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Mean (SD) perceived risk of contracting RSV^a					
General population of adult patients aged 50–59 years	2.4 (0.6)	2.4 (0.6)	2.3 (0.6)	2.3 (0.6)	2.4 (0.6)
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe RSV disease	3.1 (0.6)	3.1 (0.6)	3.1 (0.6)	3.1 (0.6)	3.1 (0.6)
General population of adult patients aged ≥60 years	2.9 (0.6)	2.9 (0.6)	2.9 (0.6)	2.8 (0.6)	3.0 (0.6)
Adults aged ≥60 years who have chronic conditions that place them at increased risk of severe RSV disease	3.6 (0.6)	3.5 (0.6)	3.6 (0.6)	3.7 (0.5)	3.7 (0.5)
Mean (SD) perceived severity of RSV disease^b					
General population of adult patients aged 50–59 years	4.9 (2.1)	5.0 (2.3)	5.0 (2.2)	4.4 (1.9)	5.1 (2.1)
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe RSV disease	6.8 (1.8)	6.9 (1.9)	6.8 (1.8)	6.7 (1.8)	6.8 (1.8)
General population of adult patients aged ≥60 years	6.4 (2.0)	6.3 (2.1)	6.5 (2.0)	5.9 (1.9)	6.8 (2.0)
Adults aged ≥60 years who have chronic conditions that place them at increased risk of severe RSV disease	8.4 (1.6)	8.1 (1.7)	8.4 (1.5)	8.4 (1.4)	8.6 (1.5)
Mean (SD) perceived benefit of having an RSV vaccine available and recommended for use in each population^c					
General population of adult patients aged 50–59 years	3.1 (1.1)	3.0 (1.0)	3.1 (1.0)	3.0 (1.1)	3.1 (1.1)
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe RSV disease	3.9 (0.9)	3.8 (0.9)	4.0 (0.8)	4.0 (1.0)	3.7 (1.0)
General population of adult patients aged ≥60 years	3.9 (1.0)	3.8 (1.0)	3.9 (0.9)	3.7 (1.1)	4.0 (0.9)
Adults aged ≥60 years who have chronic conditions that place them at increased risk of severe RSV disease	4.5 (0.8)	4.4 (0.8)	4.6 (0.7)	4.6 (0.7)	4.5 (0.8)

^aRisk was ranked using a 4-point scale where 1 = “no risk”, 2 = “minimal risk”, 3 = “moderate risk”, and 4 = “extreme risk”.

^bSeverity was ranked using a 10-point scale from 1 = “not severe at all” to 10 = “very severe”.

^cBenefit was ranked using a 5-point scale where 1 = “not at all beneficial”, 3 = “neutral”, and 5 = “extremely beneficial”.

HCP healthcare professional; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus; *SD* standard deviation.

Supplementary Table S6. HCP perceptions of SCDM recommendations for RSV vaccination in older adults

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Degree of agreement with SCDM-related statement, n (%)					
“The SCDM recommendations for RSV vaccination are more confusing than other age-based vaccination recommendations”					
Strongly agree	19 (3.2)	5 (3.4)	4 (2.6)	4 (2.7)	6 (3.9)
Agree	145 (24.0)	41 (27.7)	40 (26.5)	27 (18.0)	37 (24.0)
Neither agree or disagree	290 (48.1)	61 (41.2)	71 (47.0)	85 (56.7)	73 (47.4)
Disagree	132 (21.9)	36 (24.3)	31 (20.5)	33 (22.0)	32 (20.8)
Strongly disagree	17 (2.8)	5 (3.4)	5 (3.3)	1 (0.7)	6 (3.9)
“I feel confident when having SCDM conversations about RSV vaccination with my older adult patients”					
Strongly agree	79 (13.1)	24 (16.2)	20 (13.2)	14 (9.3)	21 (13.6)
Agree	296 (49.1)	69 (46.6)	69 (45.7)	78 (52.0)	80 (51.9)
Neither agree or disagree	163 (27.0)	45 (30.4)	39 (25.8)	36 (24.0)	43 (27.9)
Disagree	55 (9.1)	10 (6.8)	19 (12.6)	16 (10.7)	10 (6.5)
Strongly disagree	10 (1.7)	0 (0)	4 (2.6)	6 (4.0)	0 (0)
“The SCDM recommendations for RSV vaccination make it more difficult for me to know which of my patients should receive RSV vaccination”					
Strongly agree	27 (4.5)	7 (4.7)	7 (4.6)	5 (3.3)	8 (5.2)
Agree	149 (24.7)	40 (27.0)	36 (23.8)	30 (20.0)	43 (27.9)
Neither agree or disagree	232 (38.5)	46 (31.1)	65 (43.0)	66 (44.0)	55 (35.7)
Disagree	175 (29.0)	47 (31.8)	39 (25.8)	46 (30.7)	43 (27.9)
Strongly disagree	20 (3.3)	8 (5.4)	4 (2.6)	3 (2.0)	5 (3.2)
“The SCDM recommendations for RSV vaccination may result in health disparities, with certain patients not getting vaccinated even though they should be (e.g., for patients with undiagnosed risk factors for severe RSV disease)”					
Strongly agree	33 (5.5)	6 (4.1)	10 (6.6)	8 (5.3)	9 (5.8)
Agree	199 (33.0)	49 (33.1)	40 (26.5)	54 (36.0)	56 (36.4)
Neither agree or disagree	260 (43.1)	61 (41.2)	70 (46.4)	66 (44.0)	63 (40.9)
Disagree	93 (15.4)	25 (16.9)	24 (15.9)	21 (14.0)	23 (14.9)
Strongly disagree	18 (3.0)	7 (4.7)	7 (4.6)	1 (0.7)	3 (1.9)
“I’m worried that I might not be initiating SCDM conversations with all of my older adult patients who are at increased risk of severe RSV disease”					
Strongly agree	40 (6.6)	9 (6.1)	14 (9.3)	9 (6.0)	8 (5.2)
Agree	197 (32.7)	52 (35.1)	49 (32.5)	40 (26.7)	56 (36.4)
Neither agree or disagree	210 (34.8)	50 (33.8)	45 (29.8)	61 (40.7)	54 (35.1)
Disagree	135 (22.4)	29 (19.6)	37 (24.5)	36 (24.0)	33 (21.4)
Strongly disagree	21 (3.5)	8 (5.4)	6 (4.0)	4 (2.7)	3 (1.9)
“My older patients are able and willing to participate in SCDM conversations about RSV vaccination”					
Strongly agree	54 (9.0)	15 (10.1)	15 (9.9)	13 (8.7)	11 (7.1)
Agree	309 (51.2)	68 (45.9)	73 (48.3)	81 (54.0)	87 (56.5)
Neither agree or disagree	178 (29.5)	45 (30.4)	46 (30.5)	45 (30.0)	42 (27.3)
Disagree	54 (9.0)	18 (12.2)	14 (9.3)	10 (6.7)	12 (7.8)

Strongly disagree	8 (1.3)	2 (1.4)	3 (2.0)	1 (0.7)	2 (1.3)
“My older patients appreciate SCDM conversations about RSV vaccination” ^a					
Strongly agree	77 (12.8)	18 (12.2)	17 (11.3)	15 (10.0)	27 (17.5)
Agree	298 (49.5)	69 (46.9)	76 (50.3)	77 (51.3)	76 (49.4)
Neither agree or disagree	165 (27.4)	42 (28.6)	42 (27.8)	43 (28.7)	38 (24.7)
Disagree	55 (9.1)	17 (11.6)	13 (8.6)	14 (9.3)	11 (7.1)
Strongly disagree	7 (1.2)	1 (0.7)	3 (2.0)	1 (0.7)	2 (1.3)
“I think that the RSV vaccination recommendations should be changed to age-based recommendations to ensure equitable access to the vaccine for all older adults” ^b					
Strongly agree	73 (12.1)	23 (15.6)	17 (11.3)	16 (10.7)	17 (11.0)
Agree	217 (36.1)	55 (37.4)	42 (27.8)	58 (38.9)	62 (40.3)
Neither agree or disagree	240 (39.9)	52 (35.4)	75 (49.7)	57 (38.3)	56 (36.4)
Disagree	65 (10.8)	14 (9.5)	15 (9.9)	17 (11.4)	19 (12.3)
Strongly disagree	6 (1.0)	3 (2.0)	2 (1.3)	1 (0.7)	0 (0)
“I like using SCDM when deciding whether to recommend RSV vaccination to my older patients”					
Strongly agree	50 (8.3)	17 (11.5)	11 (7.3)	8 (5.3)	14 (9.1)
Agree	250 (41.5)	63 (42.6)	68 (45.0)	67 (44.7)	52 (33.8)
Neither agree or disagree	230 (38.1)	41 (27.7)	60 (39.7)	62 (41.3)	67 (43.5)
Disagree	65 (10.8)	23 (15.5)	11 (7.3)	12 (8.0)	19 (12.3)
Strongly disagree	8 (1.3)	4 (2.7)	1 (0.7)	1 (0.7)	2 (1.3)
“SCDM is beneficial when deciding whether to recommend RSV vaccination to my older patients” ^c					
Strongly agree	54 (9.0)	13 (8.8)	14 (9.3)	9 (6.0)	18 (11.8)
Agree	288 (47.8)	68 (45.9)	77 (51.0)	76 (50.7)	67 (43.8)
Neither agree or disagree	196 (32.6)	42 (28.4)	49 (32.5)	54 (36.0)	51 (33.3)
Disagree	57 (9.5)	21 (14.2)	10 (6.6)	10 (6.7)	16 (10.5)
Strongly disagree	7 (1.2)	4 (2.7)	1 (0.7)	1 (0.7)	1 (0.7)
“SCDM complicates RSV vaccinations”					
Strongly agree	38 (6.3)	15 (10.1)	10 (6.6)	5 (3.3)	8 (5.2)
Agree	144 (23.9)	36 (24.3)	33 (21.9)	25 (16.7)	50 (32.5)
Neither agree or disagree	246 (40.8)	47 (31.8)	61 (40.4)	83 (55.3)	55 (35.7)
Disagree	153 (25.4)	41 (27.7)	38 (25.2)	35 (23.3)	39 (25.3)
Strongly disagree	22 (3.6)	9 (6.1)	9 (6.0)	2 (1.3)	2 (1.3)

^aThere was 1 missing response among PCPs.

^bThere were 2 missing responses (1 among PCPs and 1 among NPs/PAs).

^cThere was 1 missing response among pharmacists.

HCP healthcare professional; *n* number in each category; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus.

Supplementary Table S7. Key results related to HCP RSV vaccination practices

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
RSV vaccination practices since September 1, 2023					
Mean (SD) percentage of patients with whom HCPs discussed RSV vaccination ^a					
Patients aged 60–64 years	29.8 (31.1)	35.8 (34.8)	28.9 (30.7)	22.7 (29.8)	31.6 (27.4)
Patients aged 65–74 years	34.1 (32.5)	39.2 (35.3)	34.9 (32.3)	25.9 (32.4)	36.0 (28.6)
Patients aged ≥75 years	35.8 (34.0)	41.2 (36.0)	37.4 (34.4)	27.0 (34.1)	37.1 (29.9)
Mean (SD) percentage of patients to whom HCPs recommended RSV vaccination ^b					
Patients aged 60–64 years	28.9 (31.5)	34.7 (35.0)	27.5 (32.1)	23.6 (30.0)	29.7 (28.2)
Patients aged 65–74 years	33.9 (33.2)	39.9 (36.3)	33.6 (33.4)	27.3 (32.6)	34.4 (29.6)
Patients aged ≥75 years	35.4 (34.5)	41.3 (36.5)	36.4 (35.2)	27.9 (33.9)	36.1 (31.2)
Mean (SD) percentage of patients to whom HCPs prescribed RSV vaccination (non-pharmacists only) ^c					
Patients aged 60–64 years	17.2 (27.3)	23.2 (30.3)	15.3 (26.3)	12.0 (23.2)	NA
Patients aged 65–74 years	20.1 (29.4)	27.1 (31.8)	17.5 (28.1)	14.7 (26.2)	NA
Patients aged ≥75 years	21.4 (30.9)	28.5 (33.0)	18.6 (29.9)	16.3 (28.1)	NA
Mean (SD) percentage of patients to whom HCPs personally administered RSV vaccination ^d					
Patients aged 60–64 years	11.0 (20.1)	10.9 (20.1)	4.8 (12.4)	4.4 (14.8)	20.5 (24.1)
Patients aged 65–74 years	12.8 (22.1)	11.2 (20.3)	6.0 (16.3)	5.5 (17.6)	24.3 (25.5)
Patients aged ≥75 years	13.5 (23.5)	12.3 (22.3)	5.9 (17.0)	6.1 (19.4)	25.6 (26.5)
HCP practices discussing RSV vaccination					
Mean (SD) percentage of patients aged ≥60 years with whom HCPs initiate SCDM conversations about RSV vaccinations	27.0 (28.1)	30.0 (30.2)	28.5 (29.9)	22.4 (28.1)	27.0 (23.5)
Mean (SD) percentage of who initiates discussions about RSV vaccinations					
I initiate the discussion	43.6 (33.8)	51.2 (33.2)	49.0 (39.0)	42.3 (34.2)	32.3 (24.3)
No one initiates the discussion	19.9 (32.7)	20.0 (31.3)	18.9 (33.8)	24.8 (38.6)	15.9 (25.6)
The patient initiates the discussion	22.9 (25.4)	18.3 (21.5)	20.7 (29.5)	21.6 (24.5)	30.9 (23.9)
Other healthcare team members initiate the discussion	8.4 (14.8)	5.6 (11.1)	7.9 (18.8)	6.9 (14.4)	13.1 (12.9)
The patient's child or other caregiver initiates the discussion	5.2 (9.1)	4.9 (7.5)	3.4 (10.3)	4.4 (8.8)	7.8 (9.1)

^aAcross age groups, question was answered by 545-550 HCP respondents.

^bAcross age groups, question was answered by 545-553 HCP respondents.

^cQuestion was only asked among non-pharmacist HCPs. Across age groups, question was answered by 370-372 HCP respondents.

^dAcross age groups, question was answered by 487-489 HCP respondents.

HCP healthcare professional; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus; *SD* standard deviation.

Supplementary Table S8. HCP reasons for not initiating conversations about RSV vaccination with adults aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Reasons for not initiating conversations about RSV vaccination with their adult patients aged ≥60 years, n (%)					
There are more urgent or acute issues to discuss	327 (54.2)	93 (62.8)	83 (55.0)	89 (59.3)	62 (40.3)
There is not enough time to initiate conversations	251 (41.6)	57 (38.5)	57 (37.7)	49 (32.7)	88 (57.1)
There are other vaccinations that I need to prioritize	213 (35.3)	68 (45.9)	45 (29.8)	44 (29.3)	56 (36.4)
The patient has already been vaccinated for RSV	191 (31.7)	46 (31.1)	38 (25.2)	43 (28.7)	64 (41.6)
Willingness/motivation of patients to be vaccinated is low	184 (30.5)	55 (37.2)	39 (25.8)	43 (28.7)	47 (30.5)
I am not the patient's primary care provider	165 (27.4)	20 (13.5)	65 (43.0)	61 (40.7)	19 (12.3)
Some of my patients cannot afford to pay for the vaccine	72 (11.9)	23 (15.5)	5 (3.3)	11 (7.3)	33 (21.4)
My workplace does not focus on vaccination	67 (11.1)	8 (5.4)	23 (15.2)	29 (19.3)	7 (4.5)
I think the risk of developing RSV is low in this patient population	59 (9.8)	21 (14.2)	18 (11.9)	9 (6.0)	11 (7.1)
I think other providers already discuss RSV vaccination in this patient population, so it is not my responsibility	56 (9.3)	8 (5.4)	21 (13.9)	14 (9.3)	13 (8.4)
The reimbursement from payers (e.g., insurance companies, Medicaid) for this vaccine is inadequate	55 (9.1)	12 (8.1)	9 (6.0)	10 (6.7)	24 (15.6)
I am uncertain about what the ACIP recommendations or other guidelines say about vaccinating this population for the prevention of RSV	54 (9.0)	15 (10.1)	16 (10.6)	17 (11.3)	6 (3.9)
The patient has risk factors or contraindications for receiving the RSV vaccination	50 (8.3)	10 (6.8)	6 (4.0)	14 (9.3)	20 (13.0)
I think the risk of severe RSV-related outcomes is low in this patient population	50 (8.3)	21 (14.2)	7 (4.6)	11 (7.3)	11 (7.1)

The reimbursement process from payers (e.g., insurance company, Medicaid) is time consuming and complex	47 (7.8)	11 (7.4)	11 (7.3)	9 (6.0)	16 (10.4)
I have concerns about the vaccine's effectiveness.	30 (5.0)	11 (7.4)	5 (3.3)	7 (4.7)	7 (4.5)
I have concerns about the vaccine's safety	24 (4.0)	7 (4.7)	4 (2.6)	6 (4.0)	7 (4.5)
Other reasons	22 (3.6)	6 (4.1)	1 (0.7)	7 (4.7)	8 (5.2)

ACIP Advisory Committee on Immunization Practices; *HCP* healthcare professional; *n* number in each category; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus.

Supplementary Table S9. Factors that influence HCPs' decision to discuss RSV vaccination with patients aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Factors that influence the HCP decision to discuss RSV vaccination with patients aged ≥60 years, n (%)					
Presence of comorbid pulmonary conditions (e.g., COPD, asthma)	513 (85.1)	126 (85.1)	127 (84.1)	130 (86.7)	130 (84.4)
Moderate or severe immunocompromise	459 (76.1)	116 (78.4)	113 (74.8)	119 (79.3)	111 (72.1)
Presence of comorbid cardiovascular conditions (e.g., CHF, CAD)	438 (72.6)	112 (75.7)	111 (73.5)	106 (70.7)	109 (70.8)
Presence of other comorbid chronic conditions (e.g., diabetes mellitus, kidney disease, liver disease, hematologic disorders, neurologic conditions)	391 (64.8)	104 (70.3)	92 (60.9)	101 (67.3)	94 (61.0)
Known exposure risk factors (e.g., grandchildren who may contract RSV)	341 (56.6)	87 (58.8)	83 (55.0)	92 (61.3)	79 (51.3)
Willingness/motivation of the patient to be vaccinated	334 (55.4)	86 (58.1)	80 (53.0)	89 (59.3)	79 (51.3)
Patient residence (e.g., long-term care facility)	300 (49.8)	78 (52.7)	73 (48.3)	82 (54.7)	67 (43.5)
Vaccination history (documented or patient reported from memory)	174 (28.9)	47 (31.8)	30 (19.9)	48 (32.0)	49 (31.8)
EMR reminder or other immunization alert	132 (21.9)	47 (31.8)	23 (15.2)	39 (26.0)	23 (14.9)
Availability of the vaccine in my workplace	125 (20.7)	39 (26.4)	15 (9.9)	33 (22.0)	38 (24.7)
Reimbursement to the provider (insurance or self-pay)	84 (13.9)	26 (17.6)	14 (9.3)	15 (10.0)	29 (18.8)
Other factors not listed	10 (1.7)	2 (1.4)	1 (0.7)	3 (2.0)	4 (2.6)
None of the above	20 (3.3)	1 (0.7)	6 (4.0)	9 (6.0)	4 (2.6)

CAD coronary artery disease; CHF congestive heart failure; COPD chronic obstructive pulmonary disease; EMR electronic medical record; HCP healthcare professional; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus.

Supplementary Table S10. HCP perceptions of important topics to cover when discussing RSV vaccination with adults aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Topics considered important to cover when discussing RSV vaccination with patients aged ≥60 years, n (%)					
Potential complications or severe outcomes related to RSV	457 (75.8)	105 (70.9)	108 (71.5)	132 (88.0)	112 (72.7)
Risk of severe RSV outcomes	449 (74.5)	111 (75.0)	103 (68.2)	125 (83.3)	110 (71.4)
Efficacy of the RSV vaccine	407 (67.5)	96 (64.9)	100 (66.2)	107 (71.3)	104 (67.5)
Risk of contracting RSV	399 (66.2)	102 (68.9)	93 (61.6)	103 (68.7)	101 (65.6)
Safety of the RSV vaccine	375 (62.2)	80 (54.1)	96 (63.6)	101 (67.3)	98 (63.6)
How contagious RSV might be to others	338 (56.1)	82 (55.4)	82 (54.3)	91 (60.7)	83 (53.9)
ACIP recommendations for the RSV vaccine	289 (47.9)	78 (52.7)	64 (42.4)	61 (40.7)	86 (55.8)
Cost of the RSV vaccine	196 (32.5)	55 (37.2)	45 (29.8)	42 (28.0)	54 (35.1)
My personal recommendation for the patient	182 (30.2)	64 (43.2)	31 (20.5)	44 (29.3)	43 (27.9)
Other	2 (0.3)	0 (0)	0 (0)	2 (1.3)	0 (0)
None of the above	7 (1.2)	1 (0.7)	3 (2.0)	3 (2.0)	0 (0)

ACIP Advisory Committee on Immunization Practices; HCP healthcare professional; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus.

Supplementary Table S11. Training or other information received by HCPs on the implementation of SCDM for RSV vaccination

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Training or other information received on the implementation of SCDM for RSV vaccination, n (%)					
Trained myself based on published or posted guidelines	229 (38.0)	54 (36.5)	48 (31.8)	60 (40.0)	67 (43.5)
Trained myself based on information from other professional resources	174 (28.9)	41 (27.7)	30 (19.9)	42 (28.0)	61 (39.6)
Have not received training or information	173 (28.7)	46 (31.1)	54 (35.8)	53 (35.3)	20 (13.0)
Received materials (e.g., publications) provided to me by a pharmaceutical company (e.g., via medical science liaisons)	153 (25.4)	40 (27.0)	33 (21.9)	30 (20.0)	50 (32.5)
Received training provided by my workplace	150 (24.9)	22 (14.9)	20 (13.2)	27 (18.0)	81 (52.6)
Attended academic lecture(s), (e.g., grand rounds, conference, continuing education activities)	128 (21.2)	33 (22.3)	39 (25.8)	25 (16.7)	31 (20.1)
Received a call or visit from a pharmaceutical sales representative	72 (11.9)	21 (14.2)	16 (10.6)	19 (12.7)	16 (10.4)
Other	2 (0.3)	0 (0)	1 (0.7)	0 (0)	1 (0.6)

HCP healthcare professional; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus; SCDM shared clinical decision-making.

Supplementary Table S12. Approaches or processes used by HCPs to inform decision-making regarding RSV vaccination in adults aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Approaches or processes currently used to inform the HCP decision making regarding recommending RSV vaccination in adult patients aged ≥60 years, n (%)					
Clinical judgment	392 (65.0)	100 (67.6)	94 (62.3)	96 (64.0)	102 (66.2)
SCDM	381 (63.2)	107 (72.3)	95 (62.9)	93 (62.0)	86 (55.8)
My patients ask about RSV vaccination	331 (54.9)	79 (53.4)	67 (44.4)	81 (54.0)	104 (67.5)
ACIP recommendations	270 (44.8)	75 (50.7)	62 (41.1)	54 (36.0)	79 (51.3)
Clinical decision support systems (e.g., EMR reminder, immunization alerts)	203 (33.7)	50 (33.8)	32 (21.2)	54 (36.0)	67 (43.5)
Annual immunization schedules included on the CDC website	198 (32.8)	48 (32.4)	41 (27.2)	57 (38.0)	52 (33.8)
Treatment protocols at my workplace	164 (27.2)	34 (23.0)	22 (14.6)	50 (33.3)	58 (37.7)
Training to keep updated on immunization recommendations and/or guidelines	161 (26.7)	36 (24.3)	31 (20.5)	42 (28.0)	52 (33.8)
Other professional guidelines (e.g., AACE, AAFP, AANP, AAPA, ACC, ACP, APhA, CHEST)	155 (25.7)	38 (25.7)	34 (22.5)	62 (41.3)	21 (13.6)
My patients complete a questionnaire in the waiting room or prior to the visit that includes the patient's history of vaccinations	94 (15.6)	27 (18.2)	18 (11.9)	15 (10.0)	34 (22.1)
A state IIS that includes a reminder/recall for vaccinations	43 (7.1)	8 (5.4)	9 (6.0)	9 (6.0)	17 (11.0)
Other	5 (0.8)	1 (0.7)	0 (0)	3 (2.0)	1 (0.6)
None of the above	23 (3.8)	1 (0.7)	6 (4.0)	11 (7.3)	5 (3.2)

AACE American Association of Clinical Endocrinology; AAFP American Academy of Family Physicians; AANP American Association of Nurse Practitioners; AAPA American Academy of Physician Assistants; ACC American College of Cardiology; ACIP Advisory Committee on Immunization Practices; ACP American College of Physicians; APhA American Pharmacists Association; CDC Centers for Disease Control and Prevention; CHEST American College of Chest Physicians; EMR electronic medical record; HCP healthcare professional; IIS immunization information systems; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus; SCDM shared clinical decision making.

Supplementary Table S13. Extent to which HCPs follow ACIP recommendations when deciding on recommending an RSV vaccination to adult patients aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Extent to which the HCP follows ACIP recommendations when deciding on recommending an RSV vaccination to adult patients aged ≥60 years, n (%)					
Always	145 (24.0)	27 (18.2)	26 (17.2)	27 (18.0)	65 (42.2)
Most of the time	293 (48.6)	85 (57.4)	73 (48.3)	67 (44.7)	68 (44.2)
About half of the time	40 (6.6)	13 (8.8)	11 (7.3)	10 (6.7)	6 (3.9)
Some of the time	48 (8.0)	15 (10.1)	14 (9.3)	11 (7.3)	8 (5.2)
Never	8 (1.3)	2 (1.4)	3 (2.0)	2 (1.3)	1 (0.6)
I am not familiar with the ACIP recommendations for RSV vaccination	69 (11.4)	6 (4.1)	24 (15.9)	33 (22.0)	6 (3.9)

ACIP Advisory Committee on Immunization Practices; HCP healthcare professional; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus.

Supplementary Table S14. Key results related to RSV vaccine availability at workplace

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
RSV vaccine availability at workplace					
HCPs reporting that their workplace stocks RSV vaccine, n (%)	283 (46.9)	72 (48.6)	39 (25.8)	36 (24.0)	136 (88.3)
If workplace does not stock RSV vaccine, reasons for it, n (%) ^a					
Most of my older adult patients receive their RSV vaccination somewhere else	145 (45.3)	32 (42.1)	53 (47.3)	56 (49.1)	4 (22.2)
Lack of adequate reimbursement for purchase of RSV vaccines	75 (23.4)	23 (30.3)	27 (24.1)	19 (16.7)	6 (33.3)
The vaccines are too new	72 (22.5)	24 (31.6)	18 (16.1)	22 (19.3)	8 (44.4)
Lack of adequate reimbursement for administration of RSV vaccines	56 (17.5)	25 (32.9)	17 (15.2)	9 (7.9)	5 (27.8)
My workplace does not stock vaccines that are reimbursed by Medicare Part D	45 (14.1)	11 (14.5)	20 (17.9)	13 (11.4)	1 (5.6)
RSV is not common among my older adult patients	27 (8.4)	6 (7.9)	7 (6.3)	11 (9.6)	3 (16.7)
Many of my older adult patients refuse to be vaccinated for RSV	24 (7.5)	9 (11.8)	6 (5.4)	6 (5.3)	3 (16.7)
Other reasons/I do not know	95 (29.7)	19 (25.0)	32 (28.6)	38 (33.3)	6 (33.3)

^aAsked among HCP respondents who reported that their workplace does not stock RSV vaccine (n = 320 overall, n = 76 PCPs, n = 112 specialists, n = 114 NPs/PAs, and n = 18 pharmacists)

HCP healthcare professional; n number in each category; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus.

Supplementary Table S15. HCP-reported barriers or concerns related to recommending and administering RSV vaccination to adult patients aged ≥60 years

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Number (%) of HCPs reporting each item is a moderate or major barrier to recommending RSV vaccination to an adult patient aged ≥60 years					
Not enough time during the visit to assess risk factors	352 (58.4)	77 (52.0)	84 (55.6)	81 (54.0)	110 (71.4)
Patient may need to receive other vaccine(s) of higher priority	309 (51.2)	78 (52.7)	68 (45.0)	76 (50.7)	87 (56.5)
Reimbursement for the vaccine is not adequate	234 (38.8)	62 (41.9)	52 (34.4)	49 (32.7)	71 (46.1)
Lack of clarity of ACIP shared clinical decision-making recommendations	195 (32.3)	50 (33.8)	39 (25.8)	50 (33.3)	56 (36.4)
Contraindications (e.g., history of allergic reactions)	191 (31.7)	38 (25.7)	43 (28.5)	51 (34.0)	59 (38.3)
Patient's vaccination history cannot be confirmed	181 (30.0)	34 (23.0)	37 (24.5)	49 (32.7)	61 (39.6)
My own concerns related to the effectiveness of the vaccine	93 (15.4)	30 (20.3)	19 (12.6)	18 (12.0)	26 (17.0)
My own concerns related to the safety of the vaccine	86 (14.3)	30 (20.3)	17 (11.3)	17 (11.3)	22 (14.3)
Number (%) of HCPs reporting each item is a moderate or major barrier to administering RSV vaccination to an adult patient aged ≥60 years					
Patient does not feel like RSV is a risk to them	433 (71.8)	103 (69.6)	104 (68.9)	112 (74.7)	114 (74.0)
Patient's lack of motivation/willingness to receive the vaccine	433 (71.8)	105 (70.9)	108 (71.5)	112 (74.7)	108 (70.1)
Patient's lack of knowledge on the burden of RSV and its complications	394 (65.3)	96 (64.9)	89 (58.9)	107 (71.3)	102 (66.2)
Patient's lack of awareness of RSV	390 (64.7)	92 (62.2)	91 (60.3)	100 (66.7)	107 (69.5)
Patient is hesitant due to needing more information about the vaccine	362 (60.0)	85 (57.4)	90 (59.6)	98 (65.3)	89 (57.8)
Patient may need to receive other vaccine(s) of higher priority	337 (55.9)	82 (55.4)	76 (50.3)	89 (59.3)	90 (58.4)

Patient's concern for the safety of the vaccine	319 (52.9)	83 (56.1)	74 (49.0)	83 (55.3)	79 (51.3)
Patient refuses due to the out-of-pocket cost of the vaccine	316 (52.5)	76 (51.4)	71 (47.0)	79 (53.0)	90 (58.4)
Patient's concern for the effectiveness of the vaccine	293 (48.6)	78 (52.7)	63 (41.7)	78 (52.0)	74 (48.1)
Patient is hesitant due to religious reasons	206 (34.2)	45 (30.4)	46 (30.5)	58 (38.7)	57 (37.0)

ACIP Advisory Committee on Immunization Practices; *HCP* healthcare professional; *N* total number; *NP* nurse practitioner; *PA* physician assistant; *PCP* primary care physician; *RSV* respiratory syncytial virus.

Supplementary Table S16. HCP-reported approaches to help ensure older adults at increased risk of severe RSV outcomes receive RSV vaccination

	Overall (N = 603)	PCPs (N = 148)	Specialists (N = 151)	NPs/PAs (N = 150)	Pharmacists (N = 154)
Number (%) of HCPs reporting each item as an approach that would help to ensure that older adults who are at an increased risk of severe RSV outcomes receive the RSV vaccine					
Education and awareness campaigns for patients	359 (59.5)	91 (61.5)	87 (57.6)	97 (64.7)	84 (54.5)
Education and awareness campaigns for healthcare professionals	320 (53.1)	66 (44.6)	78 (51.7)	93 (62.0)	83 (53.9)
Identifying eligible patients and flagging through EMR reminders or other immunization alerts	270 (44.8)	62 (41.9)	61 (40.4)	70 (46.7)	77 (50.0)
Providing talking points for shared clinical decision-making conversations	266 (44.1)	59 (39.9)	57 (37.7)	78 (52.0)	72 (46.8)
Changing the RSV vaccination recommendation to be age based	256 (42.5)	71 (48.0)	63 (41.7)	63 (42.0)	59 (38.3)
Providing training on how to conduct SCDM conversations	211 (35.0)	47 (31.8)	39 (25.8)	56 (37.3)	69 (44.8)
Direct patient outreach (e.g., email, text reminders, voicemails)	137 (22.7)	28 (18.9)	35 (23.2)	35 (23.3)	39 (25.3)
Other/None of the above	22 (3.6)	5 (3.4)	7 (4.6)	9 (6.0)	1 (0.6)

EMR electronic medical record; HCP healthcare professional; N total number; NP nurse practitioner; PA physician assistant; PCP primary care physician; RSV respiratory syncytial virus; SCDM shared clinical decision-making.

Supplementary Table S17. Characteristics associated with HCPs fully knowing FDA indication and ACIP recommendation for RSV vaccines

Covariate ^a	OR (95% CI)	P value
HCP type (ref: PCP)		
Specialist physician	0.88 (0.49–1.59)	0.675
NP/PA	1.17 (0.66–2.08)	0.589
Pharmacist	1.72 (0.98–3.01)	0.060
Percentage of adult patients who are non-White^b (ref: Quartile 1, ≤30%)		
Quartile 2 (>30%–≤45%)	0.95 (0.57–1.59)	0.857
Quartile 3 (>45%–≤60%)	0.56 (0.34–0.92)	0.022
Quartile 4 (>60%)	0.35 (0.19–0.63)	<0.001
Workplace stocks RSV vaccine(s)	1.65 (1.04–2.62)	0.034
Familiarity with RSV disease in older adults (ref: Very familiar)		
Know some information about RSV disease in older adult patients	0.75 (0.47–1.17)	0.202
Heard of RSV in older adult patients but do not know much about it or never heard of RSV disease in older adult patients	0.31 (0.12–0.82)	0.019

^aCovariates for potential inclusion in model included HCP type, years in practice, gender, US Census region, urban/rural status of workplace, percentage of patients who are aged ≥60 years, percentage of adult patients who are non-White, percentage of adult patients who are Hispanic, percentage of adult patients who are insured with commercial/private insurance, percentage of adult patients who are insured with Medicaid, number of adult patients personally treated/interacted with during an average week, stock RSV vaccine(s) at workplace, workplace does not stock any vaccines, familiarity with older adult RSV disease, and received some type of training or materials on implementation of SCDM for RSV vaccination. HCP type was retained in the model a priori to understand its association with the outcome of interest. Other covariates with $P \leq 0.05$ in univariable analyses were considered for inclusion in the model. In the multivariable model, backward selection was used to further eliminate covariates with $P > 0.10$.

^bHCP survey responses were grouped into quartiles for covariate.

ACIP Advisory Committee on Immunization Practices; CI confidence interval; FDA Food and Drug Administration; HCP healthcare professional; NP nurse practitioner; OR odds ratio; PA physician assistant; PCP primary care physician; ref reference; RSV respiratory syncytial virus; SCDM shared clinical decision-making; US United States.

Supplementary Table S18. Characteristics associated with HCPs initiating RSV vaccination conversations with $\leq 5\%$ of patients aged ≥ 60 years in an average week

Covariate ^a	OR (95% CI)	P value
HCP type (ref: PCP)		
Specialist physician	0.99 (0.53–1.84)	0.967
NP/PA	1.37 (0.74–2.51)	0.316
Pharmacist	0.66 (0.33–1.31)	0.231
Years in practice (ref: 2–10 years)		
11–20 years	0.80 (0.48–1.34)	0.401
21–30 years	0.45 (0.25–0.81)	0.008
>30 years	0.37 (0.14–0.95)	0.039
Percentage of patients who are ≥ 60 years^b (ref: Quartile 1, $\leq 40\%$)		
Quartile 2 ($>40\%$ – $\leq 55\%$)	0.75 (0.42–1.37)	0.352
Quartile 3 ($>55\%$ – $\leq 65\%$)	0.47 (0.26–0.85)	0.012
Quartile 4 ($>65\%$)	0.55 (0.30–1.00)	0.051
Workplace stocks RSV vaccine(s)	0.61 (0.37–1.02)	0.059
Workplace does not stock any vaccines	2.04 (0.98–4.26)	0.058
Familiarity with RSV disease in older adults (ref: Very familiar)		
Know some information about RSV disease in older adult patients	3.25 (2.04–5.18)	<0.001
Heard of RSV in older adult patients but do not know much about it or never heard of RSV disease in older adult patients	3.76 (1.70–8.33)	0.001
Perceived importance of protecting older adults against RSV disease^c (ref: Rank 1)		
Rank 2	3.49 (0.55–22.01)	0.184
Rank 3	4.49 (0.77–26.12)	0.095
Rank 4	5.99 (1.05–34.12)	0.044
Rank 5	9.83 (1.62–59.81)	0.013
Agreement with statement “I feel confident when having SCDM conversations about RSV vaccination” (ref: Strongly agree/agree)		
Neither agree or disagree/disagree/strongly disagree	2.60 (1.70–3.98)	<0.001
Received some type of training or materials on implementation of SCDM for RSV vaccination	0.55 (0.35–0.87)	0.010

^aCovariates for potential inclusion in model included HCP type, years in practice, gender, US Census region, urban/rural status of workplace, percentage of patients who are aged ≥ 60 years, percentage of adult patients who are non-White, percentage of adult patients who are Hispanic, percentage of adult patients who are insured with commercial/private insurance, percentage of adult patients who are insured with Medicaid, number of adult patients personally treated/interacted with during an average week, stock RSV vaccine(s) at workplace, workplace does not stock any vaccines, perceived importance of protecting older adults against RSV disease, familiarity with older adult RSV disease, number of factors agreed to as risk factors for severe RSV disease, agreement with statement “I feel confident when having SCDM conversations about RSV vaccination”, knew older adult RSV vaccines were FDA-approved and ACIP-recommended, received some type of training or materials on implementation of SCDM for RSV vaccination, uses clinical decision support systems/treatment protocol/IIS/questionnaires in waiting room to inform decision-making regarding recommending RSV vaccination, total barrier score for recommending RSV vaccination, and total barrier score for administering RSV vaccination. HCP type was retained in the model a priori to understand its association with the outcome of interest. Other

covariates with $P \leq 0.05$ in univariable analyses were considered for inclusion in the model. In the multivariable model, backward selection was used to further eliminate covariates with $P > 0.10$.

^bHCP survey responses were grouped into quartiles for covariate.

^cHCPs were asked to rank the importance of protecting their older adult patients from five respiratory infections (COVID-19, influenza, pertussis, pneumococcal disease, and RSV), with 1 being the most important respiratory infection to protect against and 5 being the least important.

ACIP Advisory Committee on Immunization Practices; *CI* confidence interval; *COVID-19* coronavirus disease 2019; *FDA* Food and Drug Administration; *HCP* healthcare professional; *IIS* immunization information systems; *NP* nurse practitioner; *OR* odds ratio; *PA* physician assistant; *PCP* primary care physician; *ref* reference; *RSV* respiratory syncytial virus; *SCDM* shared clinical decision-making; *US* United States.

Supplementary Table S19. Characteristics associated with HCPs not recommending, prescribing, or administering RSV vaccines to any patient aged ≥60 years in the previous 3 months

Covariate ^a	OR (95% CI)	P value
HCP type (ref: PCP)		
Specialist physician	0.70 (0.38–1.30)	0.262
NP/PA	1.07 (0.59–1.94)	0.820
Pharmacist	0.77 (0.38–1.56)	0.470
Location of primary work environment (ref: Urban)		
Suburban	0.57 (0.35–0.92)	0.021
Rural	0.67 (0.32–1.44)	0.308
Percentage of adult patients who are non-White^b (ref: Quartile 1, ≤30%)		
Quartile 2 (>30%–≤45%)	0.90 (0.48–1.72)	0.757
Quartile 3 (>45%–≤60%)	1.73 (0.97–3.06)	0.062
Quartile 4 (>60%)	1.89 (1.01–3.51)	0.046
Percentage of adult patients who are insured with Medicaid^b (ref: Quartile 1, ≤5%)		
Quartile 2 (>5%–≤15%)	0.51 (0.29–0.91)	0.022
Quartile 3 (>15%–≤25%)	0.51 (0.27–0.99)	0.046
Quartile 4 (>25%)	0.88 (0.49–1.58)	0.671
Number of adult patients personally treated/interacted with during an average week^b (ref: Quartile 1, non-pharmacist: ≤60; pharmacist: ≤100)		
Quartile 2 (non-pharmacist: >60–≤85; pharmacist: >100–≤150)	0.25 (0.13–0.49)	<0.001
Quartile 3 (non-pharmacist: >85–≤105; pharmacist: >150–≤200)	0.71 (0.41–1.22)	0.212
Quartile 4 (non-pharmacist: >105; pharmacist: >200)	0.47 (0.27–0.84)	0.011
Workplace stocks RSV vaccine(s)	0.34 (0.20–0.56)	<0.001
Familiarity with RSV disease in older adults (ref: Very familiar)		
Know some information about RSV disease in older adult patients	3.46 (2.17–5.54)	<0.001
Heard of RSV in older adult patients but do not know much about it or never heard of RSV disease in older adult patients	8.50 (3.70–19.51)	<0.001
Perceived importance of protecting older adults against RSV disease^c (ref: Rank 1)		
Rank 2	0.31 (0.09–1.07)	0.063
Rank 3	0.74 (0.25–2.13)	0.572
Rank 4	0.80 (0.28–2.28)	0.677
Rank 5	1.13 (0.36–3.58)	0.835
Knew older adult RSV vaccines were FDA-approved and ACIP-recommended	0.29 (0.18–0.46)	<0.001
Total barrier score for recommending RSV vaccination^d	1.06 (1.01–1.12)	0.028

^aCovariates for potential inclusion in model included HCP type, years in practice, gender, US Census region, urban/rural status of workplace, percentage of patients who are aged ≥60 years, percentage of adult patients who are non-White, percentage of adult patients who are Hispanic, percentage of adult patients who are insured with commercial/private insurance, percentage of adult patients who are insured with Medicaid, number of adult patients personally treated/interacted with during an average week, stock RSV vaccine(s) at workplace, workplace does not stock any vaccines, perceived importance of protecting older adults against RSV disease, familiarity with older adult RSV disease, number of factors agreed to as risk factors for severe RSV disease, agreement with statement “I feel confident

when having SCDM conversations about RSV vaccination”, knew older adult RSV vaccines were FDA-approved and ACIP-recommended, received some type of training or materials on implementation of SCDM for RSV vaccination, uses clinical decision support systems/treatment protocol/IIS/questionnaires in waiting room to inform decision-making regarding recommending RSV vaccination, total barrier score for recommending RSV vaccination, and total barrier score for administering RSV vaccination. HCP type was retained in the model a priori to understand its association with the outcome of interest. Other covariates with $P \leq 0.05$ in univariable analyses were considered for inclusion in the model. In the multivariable model, backward selection was used to further eliminate covariates with $P > 0.10$.

^bHCP survey responses were grouped into quartiles for covariate.

^cHCPs were asked to rank the importance of protecting their older adult patients from five respiratory infections (COVID-19, influenza, pertussis, pneumococcal disease, and RSV), with 1 being the most important respiratory infection to protect against and 5 being the least important.

^dHCPs were asked the degree to which 8 factors were a barrier or a concern related to recommending RSV vaccination to older adult patients (not enough time during the visit to assess risk factors, contraindications [e.g., history of allergic reactions], my own concerns related to the effectiveness of the vaccine, my own concerns related to the safety of the vaccine, patient’s vaccination history cannot be confirmed, lack of clarity of ACIP SCDM recommendations, reimbursement for the vaccine is not adequate, and patient may need to receive other vaccine[s] of higher priority).

ACIP Advisory Committee on Immunization Practices; *CI* confidence interval; *COVID-19* coronavirus disease 2019; *FDA* Food and Drug Administration; *HCP* healthcare professional; *IIS* immunization information systems; *NP* nurse practitioner; *OR* odds ratio; *PA* physician assistant; *PCP* primary care physician; *ref* reference; *RSV* respiratory syncytial virus; *SCDM* shared clinical decision-making; *US* United States.

HCP survey

Screening Questions

S1. Please indicate your primary medical profession.

- ☐ Primary care physician (e.g., family medicine, internal medicine) [\[Go to S3\]](#)
- ☐ Specialist physician: Cardiologist [\[Go to S3\]](#)
- ☐ Specialist physician: Endocrinologist [\[Go to S3\]](#)
- ☐ Specialist physician: Pulmonologist [\[Go to S3\]](#)
- ☐ Nurse practitioner [\[Go to S3\]](#)
- ☐ Physician assistant [\[Go to S3\]](#)
- ☐ Registered pharmacist
- ☐ None of these [\[Not eligible\]](#)

S2. [\[If S1 = pharmacist\]](#) As a pharmacist, are you certified with the proper legal authority to administer immunizations?

- ☐ Yes
- ☐ No [\[Not eligible\]](#)

S3. [In which state do you currently work? If your work location is in more than 1 state, please select the state where you consider your primary workplace to be located. _____](#) [\[Not eligible if Maine, Massachusetts, Minnesota, or Vermont is selected\]](#)

S4. [\[If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant\]](#) In an average week, how many hours do you spend working in direct patient care?

- ☐ Less than 10 hours [\[Not eligible\]](#)
- ☐ 10 to 20 hours [\[Not eligible\]](#)
- ☐ 21 to 30 hours
- ☐ More than 30 hours

[\[If S1 = pharmacist\]](#) In an average week, how many hours do you work in a pharmacy?

- ☐ Less than 10 hours [Not eligible]
- ☐ 10 to 20 hours [Not eligible]
- ☐ 21 to 30 hours
- ☐ More than 30 hours

S5. Overall, how many years have you been working as a [primary care provider; cardiologist; endocrinologist; pulmonologist; nurse practitioner; physician assistant; pharmacist]?

- ☐ Less than 2 years [Not eligible]
- ☐ 2 to 10 years
- ☐ 11 to 20 years
- ☐ 21 to 30 years
- ☐ More than 30 years

S6. What is your primary work environment?

[If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant]

- ☐ Private practice, solo
- ☐ Private practice, single specialty group
- ☐ Private practice, multispecialty group
- ☐ Managed care or health maintenance organization (HMO) practice
- ☐ Outpatient clinic (e.g., ambulatory care center, urgent care center)
- ☐ Academic medical center
- ☐ Hospital inpatient service [Not eligible]
- ☐ Other (e.g., research, administration) [Not eligible]

[If S1 = pharmacist]

- ☐ Large pharmacy chain (e.g., CVS, Walgreens, Rite Aid)
- ☐ Grocery store/chain (e.g., Albertson's, Publix, HEB, Kroger, Wegmans)
- ☐ Mass merchant (e.g., Walmart, Costco)
- ☐ Regional pharmacy chain (e.g., Kinney Drugs, Thrifty White)
- ☐ Independent pharmacy
- ☐ Mail-order pharmacy [Not eligible]
- ☐ Hospital-based inpatient, outpatient, or clinic pharmacy [Not eligible]
- ☐ Specialty pharmacy [Not eligible]
- ☐ Other [Not eligible]

S7. [Skip if S1 = pharmacist] Do you spend most of your time working in an emergency department or a surgical setting?

- ☐ Yes [Not eligible]
- ☐ No

S8. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] In the past week, have you provided care for at least 1 adult patient aged 50 years or older?

- ☐ Yes
- ☐ No [Not eligible]

[If S1 = pharmacist] In the past week, have you personally interacted with at least 1 adult patient aged 50 years or older?

- ☐ Yes
- ☐ No [Not eligible]

Survey Questions

1. Which of the following categories best describes the location of your primary work environment?
 - ☐ Rural
 - ☐ Suburban (i.e., large residential area that surrounds a main city)
 - ☐ Urban (i.e., city or metropolitan area)

2. [\[If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant; if S1 = pharmacist, skip to Q3\]](#) How many physicians, physician assistants, and/or nurse practitioners are in your practice (including yourself)?
 - ☐ 1
 - ☐ 2 to 4
 - ☐ 5 to 10
 - ☐ 11 to 15
 - ☐ More than 15

3. Please indicate the approximate distribution by race among adult patients (aged 18 years and older) treated in your workplace. *Your best estimate is fine.*
 (Your answers must add up to 100% before you can proceed.)

African American or Black	_____%
Alaska Native, American Indian, or Native American	_____%
Asian or Asian American	_____%
Middle Eastern or North African	_____%
Native Hawaiian or Pacific Islander	_____%
White	_____%
A race or ethnicity not listed	_____%

4. What percentage of adult patients (aged 18 years and older) in your workplace are Hispanic, Latina(o), Latine, or Latinx? *Your best estimate is fine.*
 _____ % of adult patients aged 18 years and older

5. Please indicate the approximate percentage of your adult patients (aged 18 years and older) who have each of the following types of health insurance. Please consider only your patients and not those of other healthcare professionals at your workplace. *Your best estimate is fine.*
(Your answers must add up to 100% before you can proceed.)

Commercial/private insurance	_____ %
Medicaid	_____ %
Medicare	_____ %
Military-related healthcare (e.g., Veteran's Administration healthcare, CHAMPVA, TRICARE [formerly CHAMPUS])	_____ %
Other health insurance	_____ %
No health insurance	_____ %

6. [Only ask if S1 = pharmacist] What is the approximate volume of prescriptions that is filled weekly at your workplace?

_____ # of prescriptions

7. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] During an average week, how many patients aged 18 years and older do you personally evaluate and/or treat? Please consider only yourself and no other healthcare professionals at your workplace. You may include telehealth visits as part of this estimate.
(Enter whole number.)

_____ # of adult patients aged 18 years and older

[If S1 = pharmacist] During an average week, how many patients aged 18 years and older do you personally interact with? Please consider only yourself and no other pharmacists, pharmacy technicians, or other staff at your workplace.
(Enter whole number.)

_____ # of adult patients aged 18 years and older

8. Please indicate the approximate percentage of your adult patients in each of the following age groups.

(Your answers must add up to 100% before you can proceed.)

Adult patients aged 18 to 49 years	_____ %
Adult patients aged 50 to 59 years	_____ %

Adult patients aged 60 to 64 years	_____%
Adult patients aged 65 to 74 years	_____%
Adult patients aged 75 years and older	_____%

Experience With Vaccinations

9. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] Please select each statement that applies to you. (Select all that apply.)

- ☐ I recommend vaccines to some of my adult patients aged 60 years and older
- ☐ I prescribe vaccines to some of my adult patients aged 60 years and older
- ☐ I personally administer vaccines to some of my adult patients aged 60 years and older
- ☐ None of the above [Exclusive] [If selected, do not ask Q11 and Q28]

[If S1 = pharmacist] Please select each statement that applies to you. (Select all that apply.)

- ☐ I recommend vaccines to some of my adult patients aged 60 years and older
- ☐ I personally administer vaccines to some of my adult patients aged 60 years and older
- ☐ None of the above [Exclusive] [If selected, do not ask Q11 and Q28]

10. [Ask if “I administer” is not selected or if “None of the above” is selected” in Q9] Why do you not personally administer any vaccines to your adult patients aged 60 years and older? (Select all that apply.)

- ☐ Most of my patients receive vaccinations elsewhere
- ☐ I do not regularly review patients’ vaccination records as part of their visit
- ☐ My workplace does not focus on recommending or administering vaccinations
- ☐ I personally do not administer vaccines to my patients, but other authorized staff at my workplace do
- ☐ There is a lack of adequate reimbursement
- ☐ Many of my patients refuse to be vaccinated
- ☐ My workplace does not stock any vaccines
- ☐ Other reasons

11. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] [Ask if “I recommend”, “I prescribe”, and/or “I administer” is selected in Q9] Over the past 3 months, have you recommended, prescribed, and/or administered any of the following vaccines to at least 1 adult patient aged 60 years or older? (Select all that apply.)

- ☐ COVID-19 vaccine
- ☐ Hepatitis A vaccine (HepA)
- ☐ Hepatitis B vaccine (HepB)
- ☐ Herpes zoster vaccine (RZV)
- ☐ Influenza vaccine (IIV, LAIV4, or RIV4)
- ☐ Measles, mumps, and rubella vaccine (MMR)
- ☐ Meningococcal vaccine (MenACWY or MenB)
- ☐ Pneumococcal vaccine (PPSV23 or PCV15/PCV20)
- ☐ Respiratory syncytial virus vaccine (RSV)
- ☐ Tetanus diphtheria toxoids vaccine (Td)
- ☐ Tetanus, diphtheria, and pertussis vaccine (Tdap)
- ☐ Varicella vaccine (VAR)
- ☐ I have not recommended, prescribed, and/or administered any of these vaccines to a patient aged 60 years or older in the past 3 months [Exclusive]

[If S1 = pharmacist] [Ask if “I recommend” and/or “I administer” is selected in Q9] Over the past 3 months, have you recommended and/or administered any of the following vaccines to at least 1 adult patient aged 60 years or older? (Select all that apply.)

- ☐ COVID-19 vaccine
- ☐ Hepatitis A vaccine (HepA)
- ☐ Hepatitis B vaccine (HepB)
- ☐ Herpes zoster vaccine (RZV)
- ☐ Influenza vaccine (IIV, LAIV4, or RIV4)
- ☐ Measles, mumps, and rubella vaccine (MMR)
- ☐ Meningococcal vaccine (MenACWY or MenB)
- ☐ Pneumococcal vaccine (PPSV23 or PCV15/PCV20)
- ☐ Respiratory syncytial virus vaccine (RSV)
- ☐ Tetanus diphtheria toxoids vaccine (Td)
- ☐ Tetanus, diphtheria, and pertussis vaccine (Tdap)
- ☐ Varicella vaccine (VAR)
- ☐ I have not recommended and/or administered any of these vaccines to a patient aged 60 years or older in the past 3 months [Exclusive]

12. How would you rank the importance of protecting your older adult patients (aged 60 years and older) from each of the respiratory infections listed below? Please rank them where 1 is for the respiratory infection that is most important to protect against, 2 is for the respiratory infection that is the next-most important to protect against, and so on, until you have ranked all 5 diseases.

To rank the order of importance, drag each respiratory infection to the box in the order you prefer.

1	COVID-19
2	Influenza
3	Pertussis (whooping cough)
4	Pneumococcal disease
5	Respiratory syncytial virus (RSV)

13. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] Which of the following best describes your familiarity with respiratory syncytial virus (RSV) when it comes to older adult patients (aged 60 years and older)?

- ☐ Never heard of RSV disease in older adult patients
- ☐ Heard of RSV disease in older adult patients but do not know much about it
- ☐ Know some information about RSV disease in older adult patients
- ☐ Very familiar with RSV disease in older adult patients but **have not managed or diagnosed RSV disease** in older adult patients
- ☐ Very familiar with RSV disease in older adult patients and **have managed or diagnosed RSV disease** in older adult patients

[If S1 = pharmacist] Which of the following best describes your familiarity with respiratory syncytial virus (RSV) when it comes to older adult patients (aged 60 years and older)?

- ☐ Never heard of RSV disease in older adult patients
- ☐ Heard of RSV disease in older adult patients but do not know much about it
- ☐ Know some information about RSV disease in older adult patients
- ☐ Very familiar with RSV disease in older adult patients

14. To what extent do you agree with the statement that vaccination recommendations from the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) set the standard for vaccine practices in the US?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

Knowledge About RSV

15. Approximately what percentage of older adults (aged 60 years and older) experience RSV disease each year?

- ☐ 0.1%
- ☐ 5%*
- ☐ 15%
- ☐ 30%
- ☐ I do not know

16. Which of the following are potential complications and outcomes of RSV? (*Select all that apply.*)

- ☐ Hospitalization*
- ☐ Bronchiolitis*
- ☐ Pneumonia*
- ☐ Exacerbation of asthma*
- ☐ Exacerbation of chronic obstructive pulmonary disease (COPD)*
- ☐ Worsening of congestive heart failure (CHF)*
- ☐ Death*
- ☐ None of the above [\[Exclusive\]](#)
- ☐ I do not know [\[Exclusive\]](#)

17. To what extent do you agree that each of the following is a risk factor for developing severe RSV disease?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Chronic cardiovascular disease (e.g., CHF and CAD)	☐	☐	☐	☐	☐

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Chronic hematologic disorders	☐	☐	☐	☐	☐
Chronic kidney disease	☐	☐	☐	☐	☐
Chronic liver disease	☐	☐	☐	☐	☐
Chronic lung disease (e.g., COPD and asthma)	☐	☐	☐	☐	☐
Chronic or progressive neurologic or neuromuscular conditions	☐	☐	☐	☐	☐
Diabetes mellitus	☐	☐	☐	☐	☐
Moderate or severe immunocompromise	☐	☐	☐	☐	☐
Frailty	☐	☐	☐	☐	☐
Advanced age					
Residence in a nursing home or other long-term care facility	☐	☐	☐	☐	☐

CAD = coronary artery disease; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease.

18. To your knowledge, what is the status of a vaccine to prevent RSV in older adults?

- ☐ Still in development [\[Go to Q22\]](#)
- ☐ FDA-approved but not yet ACIP-recommended
- ☐ FDA-approved and ACIP-recommended for use in older adults*
- ☐ I do not know

19. [\[Skip if Q18 = Still in development\]](#) To your knowledge, which of the following is the approved age range for RSV vaccination in older adults?

- ☐ Adults aged 50 years and older
- ☐ Adults aged 60 years and older*
- ☐ Adults aged 65 years and older
- ☐ Adults aged 75 years and older
- ☐ I do not know

20. [\[Skip if Q18 = Still in development or FDA-approved but not yet ACIP-recommended\]](#) ACIP recommends some vaccines “routinely” and others based on “shared clinical decision-making;” in addition, some vaccines are not recommended by ACIP.
For the RSV vaccine, please select 1 response to indicate which type of recommendation applies for older adults.

- ☐ Routinely recommended
- ☐ Recommended under shared clinical decision-making*
- ☐ I do not know

21. [\[Skip if Q18 = Still in development or FDA-approved but not yet ACIP-recommended\]](#) To your knowledge, for what ages (among older adults) is the current ACIP recommendation for RSV vaccination?

- ☐ Adults aged 50 years and older
- ☐ Adults aged 60 years and older*
- ☐ Adults aged 65 years and older
- ☐ Adults aged 75 years and older
- ☐ I do not know

Attitudes Toward RSV

22. To what extent do you agree with the statement that RSV is primarily a respiratory infection that impacts infants and young children?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

23. Thinking about the adult populations listed below, what do you think is the risk of contracting RSV in each group?

Patient population	No risk	Minimal risk	Moderate risk	Extreme risk
General population of adult patients aged 50–59 years	☐	☐	☐	☐
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe RSV disease	☐	☐	☐	☐
General population of adult patients aged 60 years and older	☐	☐	☐	☐
Adults aged 60 years and older who have chronic conditions that place them at increased risk of severe RSV disease	☐	☐	☐	☐

24. If the adult populations listed below were to contract RSV, how severe do you think the RSV outcomes would be in each group?

Patient population	1 (not severe at all) to 10 (very severe)	I do not know
General population of adult patients aged 50–59 years		☐

Patient population	1 (not severe at all) to 10 (very severe)	I do not know
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe disease		☐
General population of adult patients aged 60 years and older		☐
Adults aged 60 years and older who have chronic conditions that place them at increased risk of severe RSV disease		☐

25. How beneficial do you think it would be to have an RSV vaccine available and recommended for use in each of the following populations?

	Not at all beneficial		Neutral		Extremely beneficial
Patient population	1	2	3	4	5
General population of adult patients aged 50–59 years	☐	☐	☐	☐	☐
Adult patients aged 50–59 years who have chronic conditions that place them at increased risk of severe disease	☐	☐	☐	☐	☐
General population of adult patients aged 60 years and older	☐	☐	☐	☐	☐
Adults aged 60 years and older who have chronic conditions that place them at increased risk of severe RSV disease	☐	☐	☐	☐	☐

Experience With RSV and RSV Vaccination

26. [Ask if S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant; if S1 = pharmacist, skip to Q27] Over the past 3 months, approximately how many cases of RSV have you encountered in patients aged 60 years and older in your workplace?
(Enter whole number.)
- _____
- ☐ I do not know
27. In an average week, please estimate the percentage of adult patients at your workplace aged 60 years and older with whom you initiate a conversation about RSV vaccination.
(Enter whole number.)
- _____ %
28. [If S1 = primary care physician, cardiologist, endocrinologist, pulmonologist, nurse practitioner, or physician assistant] Since 1 September 2023, please estimate the percentage of adult patients among each of the following patient age groups with whom you discussed, recommended, prescribed, and/or personally administered RSV vaccination. Please consider only your personal interactions and not the experiences of other healthcare professionals in your workplace. *Your best estimate is fine.*
(Enter whole number.)

Adult patients	Discussed RSV vaccination	Recommended RSV vaccination	Prescribed RSV vaccination	Personally administered RSV vaccination
Among adults aged 60–64 years				
Among adults aged 65–74 years				
Among adults aged 75 years and older				

[If S1 = pharmacist] Since 1 September 2023, please estimate the percentage of adult patients among each of the following age groups with whom you discussed, recommended, and/or personally administered RSV vaccination. Please consider only your personal interactions and not the experiences of other pharmacists in your workplace. *Your best estimate is fine.*
(Enter whole number.)

Adult patients	Discussed RSV vaccination	Recommended RSV vaccination	Personally administered RSV vaccination
Among adults aged 60–64 years			
Among adults aged 65–74 years			
Among adults aged 75 years and older			

29. Reflecting on your experiences discussing RSV vaccination with patients aged 60 years and older, how often do each of the following people initiate the discussion?
(Your answers must add up to 100% before you can proceed.)

No one initiates the discussion	___%
I initiate the discussion	___%
Other healthcare team members initiate the discussion	___%
The patient initiates the discussion	___%
The patient's child or other caregiver initiates the discussion	___%
Total	___%

30. Why would you not initiate conversations with your adult patients aged 60 years and older regarding RSV vaccination? (Select all that apply.)

- ☐ There is not enough time to initiate conversations
- ☐ There are more urgent or acute issues to discuss
- ☐ There are other vaccinations that I need to prioritize
- ☐ I am not the patient's primary care provider
- ☐ I think other providers already discuss RSV vaccination in this patient population, so it is not my responsibility
- ☐ My workplace does not focus on vaccination
- ☐ The patient has already been vaccinated for RSV
- ☐ The patient has risk factors or contraindications for receiving the RSV vaccination
- ☐ I think the risk of developing RSV is low in this patient population
- ☐ I think the risk of severe RSV-related outcomes is low in this patient population
- ☐ I am uncertain about what the ACIP recommendations or other guidelines say about vaccinating this population for the prevention of RSV
- ☐ Some of my patients cannot afford to pay for the vaccine
- ☐ The reimbursement from payers (e.g., insurance companies, Medicaid) for this vaccine is inadequate
- ☐ The reimbursement process from payers (e.g., insurance companies, Medicaid) is time consuming and complex
- ☐ Willingness/motivation of patients to be vaccinated is low
- ☐ I have concerns about the vaccine's effectiveness
- ☐ I have concerns about the vaccine's safety
- ☐ Other reasons

31. The Advisory Committee on Immunization Practices (ACIP) develops vaccination recommendations in the United States. Some vaccination recommendations are routine recommendations for everyone in a particular age group (i.e., “age-based vaccination recommendations”). Other vaccination recommendations are based on shared clinical decision-making (SCDM), which means that the decision to vaccinate should be made jointly between the patient and their healthcare professional.

Please indicate to what extent that you agree with each of the following statements:

Patient population	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The SCDM recommendations for RSV vaccination are more confusing than other age-based vaccination recommendations	☐	☐	☐	☐	☐
I feel confident when having SCDM conversations about RSV vaccination with my older adult patients	☐	☐	☐	☐	☐
The SCDM recommendations for RSV vaccination make it more difficult for me to know which of my patients should receive RSV vaccination	☐	☐	☐	☐	☐
The SCDM recommendations for RSV vaccination may result in health disparities, with certain patients not getting vaccinated even though they should be (e.g., for patients with undiagnosed risk factors for severe RSV disease)	☐	☐	☐	☐	☐
I'm worried that I might not be initiating SCDM conversations with all of my older adult patients who are at increased risk of severe RSV disease	☐	☐	☐	☐	☐
My older patients are able and willing to participate in SCDM conversations about RSV vaccination	☐	☐	☐	☐	☐
My older patients appreciate SCDM conversations about RSV vaccination	☐	☐	☐	☐	☐

Patient population	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I think that the RSV vaccination recommendations should be changed to age-based recommendations to ensure equitable access to the vaccine for all older adults	☐	☐	☐	☐	☐
I like using SCDM when deciding whether to recommend RSV vaccination to my older patients	☐	☐	☐	☐	☐
SCDM is beneficial when deciding whether to recommend RSV vaccination to my older patients	☐	☐	☐	☐	☐
SCDM complicates RSV vaccinations	☐	☐	☐	☐	☐

RSV = respiratory syncytial virus; SCDM = shared clinical decision-making.

32. Other than your formal medical training, have you received training or other information on the implementation of shared clinical decision-making for RSV vaccination? (*Select all that apply.*)

- ☐ Received training provided by my workplace
- ☐ Attended academic lecture(s), (e.g., grand rounds, conference, continuing education activities)
- ☐ Trained myself based on published or posted guidelines
- ☐ Trained myself based on information from other professional resources
- ☐ Received materials (e.g., publications) provided to me by a pharmaceutical company (e.g., via medical science liaisons)
- ☐ Received a call or visit from a pharmaceutical sales representative
- ☐ Other
- ☐ Have not received training or information [\[Exclusive\]](#)

33. What topics do you think are important to cover when discussing RSV vaccination with patients aged 60 years and older? (Select all that apply.)

- ☐ Potential complications or severe outcomes related to RSV
- ☐ Risk of contracting RSV
- ☐ How contagious RSV might be to others
- ☐ Risk of severe RSV outcomes
- ☐ ACIP recommendations for the RSV vaccine
- ☐ Safety of the RSV vaccine
- ☐ Efficacy of the RSV vaccine
- ☐ Cost of the RSV vaccine
- ☐ My personal recommendation for the patient
- ☐ Other
- ☐ None of the above [Exclusive]

34. Besides age, what influences your decision to discuss RSV vaccination with patients aged 60 years and older? (Select all that apply.)

- ☐ Presence of comorbid pulmonary conditions (e.g., COPD, asthma)
- ☐ Presence of comorbid cardiovascular conditions (e.g., CHF, CAD)
- ☐ Presence of other comorbid chronic conditions (e.g., diabetes mellitus, kidney disease, liver disease, hematologic disorders, neurologic conditions)
- ☐ Moderate or severe immunocompromise
- ☐ Willingness/motivation of the patient to be vaccinated
- ☐ Known exposure risk factors (e.g., grandchildren who may contract RSV)
- ☐ Patient residence (e.g., long-term care facility)
- ☐ EMR reminder or other immunization alert
- ☐ Vaccination history (documented or patient reported from memory)
- ☐ Reimbursement to the provider (insurance or self-pay)
- ☐ Availability of the vaccine in my workplace
- ☐ Other factors not listed
- ☐ None of the above [\[Exclusive\]](#)

35. Which of the following approaches or processes do you currently use to inform your decision-making regarding recommending RSV vaccination in adult patients aged 60 years and older?
(Select all that apply.)

- ☐ Clinical judgment
- ☐ Shared clinical decision-making
- ☐ Clinical decision support systems (e.g., EMR reminder, immunization alerts)
- ☐ Treatment protocols at my workplace
- ☐ My patients ask about RSV vaccination
- ☐ A state IIS that includes a reminder/recall for vaccinations
- ☐ My patients complete a questionnaire in the waiting room or prior to the visit that includes the patient's history of vaccinations
- ☐ Training to keep updated on immunization recommendations and/or guidelines
- ☐ Annual immunization schedules included on the CDC website
- ☐ ACIP recommendations
- ☐ Other professional guidelines (e.g., AACE, AAFP, AANP, AAPA, ACC, ACP, APhA, CHEST)
- ☐ Other
- ☐ None of the above [\[Exclusive\]](#)

36. When deciding on recommending an RSV vaccination to adult patients aged 60 years and older, to what extent do you follow the ACIP recommendations?

- ☐ Always
- ☐ Most of the time
- ☐ About half of the time
- ☐ Some of the time
- ☐ Never
- ☐ I am not familiar with the ACIP recommendations for RSV vaccination

37. In your opinion, which of the following would help to ensure that older adults who are at an increased risk of severe RSV outcomes receive the RSV vaccine? (*Select all that apply.*)

- ☐ Changing the RSV vaccination recommendation to be age based
- ☐ Providing talking points for shared clinical decision-making conversations
- ☐ Providing training on how to conduct shared clinical decision-making conversations
- ☐ Identifying eligible patients and flagging through EMR reminders or other immunization alerts
- ☐ Education and awareness campaigns for patients
- ☐ Education and awareness campaigns for healthcare professionals
- ☐ Direct patient outreach (e.g., email, text reminders, voicemails)
- ☐ Other
- ☐ None of the above [\[Exclusive\]](#)

38. To what degree are each of the following a barrier or a concern related to recommending RSV vaccination to an adult patient aged 60 years or older?

For each of the following statements, please select whether it is not a barrier, a minor barrier, a moderate barrier, or a major barrier.

Statement	Not a barrier	Minor barrier	Moderate barrier	Major barrier
Not enough time during the visit to assess risk factors	☐	☐	☐	☐
Contraindications (e.g., history of allergic reactions)	☐	☐	☐	☐
My own concerns related to the effectiveness of the vaccine	☐	☐	☐	☐
My own concerns related to the safety of the vaccine	☐	☐	☐	☐
Patient's vaccination history cannot be confirmed	☐	☐	☐	☐
Lack of clarity of ACIP shared clinical decision-making recommendations	☐	☐	☐	☐
Reimbursement for the vaccine is not adequate	☐	☐	☐	☐
Patient may need to receive other vaccine(s) of higher priority	☐	☐	☐	☐

ACIP = Advisory Committee on Immunization Practices.

39. To what degree are each of the following a barrier or a concern related to administering the RSV vaccine to an adult patient aged 60 years or older?

For each of the following statements, please select whether it is not a barrier, a minor barrier, a moderate barrier, or a major barrier.

Statement	Not a barrier	Minor barrier	Moderate barrier	Major barrier
Patient's concern for the safety of the vaccine	☐	☐	☐	☐
Patient's concern for the effectiveness of the vaccine	☐	☐	☐	☐
Patient's lack of motivation/willingness to receive the vaccine	☐	☐	☐	☐
Patient's lack of awareness of RSV	☐	☐	☐	☐
Patient's lack of knowledge on the burden of RSV and its complications	☐	☐	☐	☐
Patient does not feel like RSV is a risk to them	☐	☐	☐	☐
Patient is hesitant due to needing more information about the vaccine	☐	☐	☐	☐
Patient is hesitant due to religious reasons	☐	☐	☐	☐
Patient refuses due to the out-of-pocket cost of the vaccine	☐	☐	☐	☐
Patient may need to receive other vaccine(s) of higher priority	☐	☐	☐	☐

RSV = respiratory syncytial virus.

40. Do you stock RSV vaccine(s) at your workplace?

☐ Yes [\[Skip to Q42\]](#)

☐ No

[\[If question is left unanswered, skip to Q42\]](#)

41. Why does your workplace not stock RSV vaccine(s)? (Select all that apply.)

- ☐ Most of my older adult patients receive their RSV vaccination somewhere else
- ☐ Lack of adequate reimbursement for purchase of RSV vaccines
- ☐ Lack of adequate reimbursement for administration of RSV vaccines
- ☐ My workplace does not stock vaccines that are reimbursed by Medicare Part D
- ☐ The vaccines are too new
- ☐ RSV is not common among my older adult patients
- ☐ Many of my older adult patients refuse to be vaccinated for RSV
- ☐ Other reasons
- ☐ I do not know [\[Exclusive\]](#)

Demographics

42. What gender identity best describes you?

- ☐ Female
- ☐ Male
- ☐ A gender identity not listed
- ☐ I prefer not to answer

43. What race(s) do you consider yourself to be? (*Select all that apply.*)

- ☐ African American or Black
- ☐ Alaska Native, American Indian, or Native American
- ☐ Asian American
- ☐ Middle Eastern or North African
- ☐ Native Hawaiian or Pacific Islander
- ☐ White
- ☐ A race or ethnicity not listed
- ☐ I prefer not to answer [\[Exclusive\]](#)

44. Are you of Hispanic, Latina(o), Latine, or Latinx origin?

- ☐ Yes
- ☐ No
- ☐ I prefer not to answer

45. How old are you?

- ☐ 29 years or younger
- ☐ 30 to 39 years
- ☐ 40 to 49 years
- ☐ 50 to 59 years
- ☐ 60 to 69 years
- ☐ 70 years or older
- ☐ I prefer not to answer