Supplementary Table 1. PubMed Search Strategy – Initial Search Dated 01 February 2021

PubMed **Search date: 2021-02-01**		
#	Search	Search terms
1	Population	("over 50 years old"[Title/Abstract]) OR ("older adult"[Title/Abstract] OR "elder*"[Title/Abstract] OR "geriatric"[Title/Abstract] OR "senior"[Title/Abstract] OR "life-course"[Title/Abstract])
2		"immuniz*"[Title/Abstract] OR "immunis*"[Title/Abstract] OR "vaccin*"[Title/Abstract]
3		#1 AND #2
4	Outcome	"activat*"[Title/Abstract] OR "access*"[Title/Abstract] OR "barrier*"[Title/Abstract] OR "driver*"[Title/Abstract] OR "facilitat*"[Title/Abstract] OR "influence"[Title/Abstract] OR "factor"[Title/Abstract] OR "impact"[Title/Abstract]
5		"hesitan*"[Title/Abstract] OR "belief*"[Title/Abstract] OR "behavi*"[Title/Abstract] OR "confidence"[Title/Abstract] OR "social-norm"[Title/Abstract] OR "accept*"[Title/Abstract] OR "social determ*"[Title/Abstract]
6		"knowledge"[Title/Abstract] OR "internet access"[Title/Abstract] OR "information"[Title/Abstract]
7		"availability"[Title/Abstract] OR "site"[Title/Abstract] OR "center"[Title/Abstract] OR "centre"[Title/Abstract] OR "accessib*"[Title/Abstract] OR "supply"[Title/Abstract] OR "deliver*"[Title/Abstract]
8		"advocacy"[Title/Abstract] OR "recommend*"[Title/Abstract]
9		"funding"[Title/Abstract] OR "cost"[Title/Abstract] OR "financial"[Title/Abstract] OR "infrastructure"[Title/Abstract] OR "policy"[Title/Abstract] OR "politic*"[Title/Abstract] OR "affordability"[Title/Abstract] OR "coverage"[Title/Abstract]
10		#4 OR #5 OR #6 OR #7 OR #8 OR #9
11		#3 AND #10
12		English language filter
13		last 5 years

Supplementary Table 2. Embase Search Strategy – Initial Search Dated 01 February 2021

Embase **Search date: 2021-02-01**		
#	Search	Search terms
1	Population	over 50 years old':ti,ab OR 'older adult':ti,ab OR 'elder*':ti,ab OR 'geriatric':ti,ab OR 'senior':ti,ab OR 'life-course':ti,ab
2		'immuniz*':ti,ab OR 'immunis*':ti,ab OR 'vaccin*':ti,ab
3		#1 AND #2
4	Outcome	activat*':ti,ab OR 'access*':ti,ab OR 'barrier*':ti,ab OR 'driver*':ti,ab OR 'facilitat*':ti,ab OR 'influence':ti,ab OR 'factor':ti,ab OR 'impact':ti,ab
5		hesitan*':ti,ab OR 'belief*':ti,ab OR 'behavi*':ti,ab OR 'confidence':ti,ab OR 'social-norm':ti,ab OR 'accept*':ti,ab OR 'social determ*':ti,ab
6		knowledge':ti,ab OR 'internet access':ti,ab OR 'information':ti,ab
7		availability':ti,ab OR 'site':ti,ab OR 'center':ti,ab OR 'centre':ti,ab OR 'accessib*':ti,ab OR 'supply':ti,ab OR 'deliver*':ti,ab
8		advocacy':ti,ab OR 'recommend*':ti,ab
9		funding':ti,ab OR 'cost':ti,ab OR 'financial':ti,ab OR 'infrastructure':ti,ab OR 'policy':ti,ab OR 'politic*':ti,ab OR 'affordability':ti,ab OR 'coverage':ti,ab
10		#4 OR #5 OR #6 OR #7 OR #8 OR #9
11		#3 AND #10
12		english language filter
13		last 5 years

Supplementary Table 3. PubMed Search Strategy – Subsequent Search Dated 22 December 2021

PubMed **Search date: 2021-12-22**		
#	**Search**	
1	Population	"over 50 years old"[Title/Abstract] OR "older adult"[Title/Abstract] OR "elder*"[Title/Abstract] OR "geriatric*"[Title/Abstract] OR "aged"[Title/Abstract] OR "senior"[Title/Abstract]
2		"immuniz*"[Title/Abstract] OR "immunis*"[Title/Abstract] OR "vaccin*"[Title/Abstract]
3		#1 AND #2
4	Outcome	"routine vaccine"[Title/Abstract] OR "routine vaccin*"[Title/Abstract] OR "routine vaccination"[Title/Abstract] OR "routine immunization"[Title/Abstract]
5		"influenza vaccin*"[Title/Abstract] OR "influenza immunization*"[Title/Abstract] OR "flu vaccin*"[Title/Abstract] OR "flu immunization*"[Title/Abstract] OR "shingles vaccin*"[Title/Abstract] OR (("herpes zoster"[MeSH Terms] OR ("herpes"[All Fields] AND "zoster"[All Fields]) OR "herpes zoster"[All Fields] OR "shingles"[All Fields] OR "shingle"[All Fields]) AND "immunization*"[Title/Abstract]) OR "zoster vaccin*"[Title/Abstract] OR "zoster immunization*"[Title/Abstract] OR "pneumococcal vaccin*"[Title/Abstract] OR "pneumococcal immunization*"[Title/Abstract] OR "tdap vaccin*"[Title/Abstract] OR "tdap immunization*"[Title/Abstract] OR "td vaccin*"[Title/Abstract] OR "td immunization*"[Title/Abstract]
6		"vaccinator*"[Title/Abstract] OR "vaccine provider*"[Title/Abstract] OR "provider*"[Title/Abstract] OR "pharmac*"[Title/Abstract] OR "nurs*"[Title/Abstract] OR "community health worker*"[Title/Abstract] OR "community vaccinator*"[Title/Abstract]
7		"location*"[Title/Abstract] OR "pharmacy*"[Title/Abstract] OR "retail clinic*"[Title/Abstract] OR "workplace*"[Title/Abstract] OR "alternative site*"[Title/Abstract] OR "alternative location*"[Title/Abstract] OR "choice*"[Title/Abstract] OR "vaccination site*"[Title/Abstract]
8		"funding*"[Title/Abstract] OR "cost"[Title/Abstract] OR "financi*"[Title/Abstract] OR "affordability"[Title/Abstract] OR "copay*"[Title/Abstract] OR "cost shar*"[Title/Abstract] OR "out of pocket*"[Title/Abstract] OR "incentiv*"[Title/Abstract] OR "free vaccination polic*"[Title/Abstract] OR "free vaccination program*"[Title/Abstract] OR "payment"[Title/Abstract] OR "compensat*"[Title/Abstract] OR "mandate*"[Title/Abstract]
9		"access*"[Title/Abstract] OR "coverage*"[Title/Abstract] OR "uptake*"[Title/Abstract] OR "provider recommendation*"[Title/Abstract] OR "demand*"[Title/Abstract] OR "utilization*"[Title/Abstract]
10		#4 OR #5 OR #6 OR #7 OR #8 OR #9
11		#3 AND #10
12		English Language Filter
13		Last 10 Years filter
14		Last 5 Years filter (2016-2021)
15		Human-specific studies filter

16		AND NOT Covid
17		#14 AND #15 AND #16 AND “Free Full Text”
18		#17 plus PubMed filters:
		Adult: 19+ years
		Middle Aged + Aged: 45+ years
		Middle Aged: 45-64 years
		Aged: 65+ years
		80 and over: 80+ years
19		#18 AND NOT “Surveillance” OR “Immunogenicity”
20		#19 AND NOT “Systematic Review”

Supplementary Table 4. Google Scholar Search Strategy – Initial Search Dated 22 December 2021

Google Scholar **Search date: 2021-12-22**		
#	**Search**	
1	Population	"over 50 years old"[Title/Abstract] OR "older adult"[Title/Abstract] OR "elder*"[Title/Abstract] OR "geriatric*"[Title/Abstract] OR "aged"[Title/Abstract] OR "senior"[Title/Abstract]
2		"immuniz*"[Title/Abstract] OR "immunis*"[Title/Abstract] OR "vaccin*"[Title/Abstract]
3	Outcome	"routine vaccine"[Title/Abstract] OR "routine vaccin*"[Title/Abstract] OR "routine vaccination"[Title/Abstract] OR "routine immunization"[Title/Abstract]
4		"influenza vaccin*"[Title/Abstract] OR "influenza immunization*"[Title/Abstract] OR "flu vaccin*"[Title/Abstract] OR "flu immunization*"[Title/Abstract] OR "shingles vaccin*"[Title/Abstract] OR (("herpes zoster"[MeSH Terms] OR ("herpes"[All Fields] AND "zoster"[All Fields]) OR "herpes zoster"[All Fields] OR "shingles"[All Fields] OR "shingle"[All Fields]) AND "immunization*"[Title/Abstract]) OR "zoster vaccin*"[Title/Abstract] OR "zoster immunization*"[Title/Abstract] OR "pneumococcal vaccin*"[Title/Abstract] OR "pneumococcal immunization*"[Title/Abstract] OR "tdap vaccin*"[Title/Abstract] OR "tdap immunization*"[Title/Abstract] OR "td vaccin*"[Title/Abstract] OR "td immunization*"[Title/Abstract]
5		"vaccinator*"[Title/Abstract] OR "vaccine provider*"[Title/Abstract] OR "provider*"[Title/Abstract] OR "pharmac*"[Title/Abstract] OR "nurs*"[Title/Abstract] OR "community health worker*"[Title/Abstract] OR "community vaccinator*"[Title/Abstract]
6		"location*"[Title/Abstract] OR "pharmacy*"[Title/Abstract] OR "retail clinic*"[Title/Abstract] OR "workplace*"[Title/Abstract] OR "alternative site*"[Title/Abstract] OR "alternative location*"[Title/Abstract] OR "choice*"[Title/Abstract] OR "vaccination site*"[Title/Abstract]
7		"funding*"[Title/Abstract] OR "cost"[Title/Abstract] OR "financi*"[Title/Abstract] OR "affordability"[Title/Abstract] OR "copay*"[Title/Abstract] OR "cost shar*"[Title/Abstract] OR "out of pocket*"[Title/Abstract] OR "incentiv*"[Title/Abstract] OR "free vaccination polic*"[Title/Abstract] OR "free vaccination program*"[Title/Abstract] OR "payment"[Title/Abstract] OR "compensat*"[Title/Abstract] OR "mandate*"[Title/Abstract]
8		"access*"[Title/Abstract] OR "coverage*"[Title/Abstract] OR "uptake*"[Title/Abstract] OR "provider recommendation*"[Title/Abstract] OR "demand*"[Title/Abstract] OR "utilization*"[Title/Abstract]
9		Publication Date filter (2016- 2021)

Supplementary Table 5. Categories of the factors affecting older adult vaccination

Factor	Description (examples)
Affordability	
Government funded	Individuals do not contribute to the cost items related to vaccination (e.g., acquisition, administration, visit)
Co-payment	Individuals pay a portion of the medical expenses related to vaccination
Monetary incentive	Individuals receive financial incentive to encourage vaccination
Awareness	
Reminder	Electronic system or text reminders to patients or providers
Media coverage	Quantifying impact of media coverage in prints, television and online sources
Education	Education programs given to patients or HCPs; HCPs educating patients during consultation
Access	
Expanding vaccination setting	Expanding vaccination settings (vaccination during hospitalizations, diversification of sites and/or clinics)
Expanding vaccinators	Expanding vaccination to pharmacists

Supplementary Table 6. Study Characteristics

Study	Study design (year of data)	Location[A]	Vaccine[B]	Population a
Abu-Rish 2020 [1]	Experimental (2019-2020)	Jordan (L)	P	Individuals ≥ (n= 700)
Berkhout 2018 [2]	Randomized Control Trial (2014-2015)	France (L)	I	Individuals ≥65 chronic dise (n=10,597
Biyik 2020 [1]	Experimental (2017)	Turkey (L)	P	Individuals ≥ (n=200)

Blanchi 2020 [1]	Experimental, Cluster-randomized study (2018-2019)	South Korea (L)	T	Individuals ≥ (n=150)
Blank 2018 [1]	Observational (2014-2015)	Europe (21 countries)	I	Individuals ≥ (NR)
Brilli 2020 [1]	Observational (2012-2013)	Italy (N)	I	Individuals ≥ (n = 160,00
Buchan 2017 [2]	Observational (2007-2014)	Canada (N)	I	Individuals ≥ (NR)
Burka 2019 [1]	Experimental (2015-2016)	USA (L)	P	Veterans ≥ (n=540)
Chen 2020 [1]	Observational (2010-2017)	USA (N)	I	Individuals ≥ (n=814,98
Erlandson 2018 [1]	Experimental (2014-2016)	USA (L) and Canada (L)	Z	People living with (n=269)
Healy 2019 [1]	Experimental (2018)	USA (L)	I, P	Patients ≥6 (n=808)
Hechter 2017 [1]	Observational (2011-2012)	USA (L)	Z	Medicare Pa beneficiaries (n = 160,00
Herrett 2016 [2]	Experimental (2013-2014)	UK (N)	I	At-risk individuals 64 (NR)
Higuchi 2018 [2]	Observational (2013)	Japan(L)	P	Individuals ≥ (n=209)
Isenor 2016 [1]	Observational (2012-2015)	Canada (L)	I	Individuals ≥ (n= NR)
Itamochi 2016 [1]	Observational (2007-2018)	Japan (L)	I	Individuals ≥ (NR)
Jiang 2021 [1]	Observational (2019)	China (L)	I	Individuals ≥ (n = 1,120
Ko 2020 [1]	Observational (2014-2017)	South Korea (N)	I	Individuals ≥ (n=7,559
Leung 2017 [1]	Experimental (2015)	Hong Kong (L)	I	Community-dv individuals ≥ (n=529)
Litt 2020 [2]	Observational (2016-2018)	Australia (N)	Z	Individuals 7 (NR)

Lv 2016 [2]	Observational (2013)	China (L)	I	Individuals ≥ (n=1,673
McAdam-Marx 2019 [2]	Observational (2013-2017)	USA (L)	P	At-risk adults age (n=18,851) Adults ≥65 [n=1
McGreevy 2020 [2]	Experimental (2019)	USA (L)	P	Individuals ≥ (n=695)
Naito 2020 [2]	Observational (2009-2018)	Japan (N)	P	Individuals ≥ (NR)
Nowalk 2017 [2]	Experimental (2013-2015)	USA (L)	I, P, T	High-Risk Individu (n=4,737
Pizzi 2018 [1]	Observation (2014)	USA (L)	P	Individuals ≥ (n=276)
Restivo 2019 [2]	Observational (2016)	Italy (L)	I	Individuals ≥ (NR)
Rosseli 2017 [1]	Observational (2014-2015)	Italy (L)	I	Individuals ≥ (NR)
Schattner 2020 [1]	Experimental (2018)	Israel (L)	I	Community-dv patients ≥6 (n=100)
Sheer 2021 [2]	Experimental (2017)	USA (L)	I, P	Medicare Pa Beneficiaries 6 (n=2,135 Medicare Pa Beneficiaries 1 (n=2,798
Szilagyi 2020 [2]	Experimental (2018-2019)	USA (L)	I	Primary care pa (n=164,20
Tao 2019 [2]	Experimental (2016-2017)	China (L)	I	Individuals ≥35 diabetes (n=1,538
Wright 2019 [1]	Experimental (2017-2019)	USA (L)	I, P, T, Z	Primary care pat Nurse Practitione clinic ≥65 (n=808)
Yan 2018 [1]	Observational (2012-2014)	USA (N)	T, Z	Medicare Pa beneficiaries (n=427,444 / n=8 n=346,417
Yang 2016 [1]	Observational (2013-2014)	South Korea (N)	P	Individuals ≥ (NR)

Yi 2018 [2]	Experimental (2014-2015)	China (L)	I	Individuals ≥ (n=12,513
Yokum 2018 [1]	Experimental, Pragmatic Randomized Trial (2014-2015)	USA (N)	I	Medicare benefici (n=228,00
Yue 2020 [1]	Randomized Control Trial (2018)	Singapore (L)	I	Individuals ≥ (n=4,000
Yürüyen 2018 [1]	Experimental (2013-2015)	Turkey (L)	I, P, T	Individuals ≥ (n=267)
Zimmerman 2017 [2]	Experimental (2012-2015)	USA (L)	P	Individuals ≥ (n=18,107

Studies designated with [1] and [2] were respectively identified during the initial and supplemental searches

[A] L = local/regional, N = national, UK = United Kingdom, USA = United States of America

[B] I = influenza, P = pneumococcal, T = tetanus-containing, Z = herpes zoster

[C] Some N values were not reported. (n = NR)

Numbers indicate age in years. Some populations included individuals not within the target population age - studies were included with results reported when stratified by age of interest

GP= general practitioner; HCP= healthcare provider, NIP = national immunization program