

Appendices

Appendix 1. Search strategy

MEDLINE search

("coronavirus"[MeSH] OR "coronavirus infections"[MeSH Terms] OR "coronavirus"[All Fields] OR "covid 2019"[All Fields] OR "SARS2"[All Fields] OR "SARS-CoV-2"[All Fields] OR "SARS-CoV-19"[All Fields] OR "severe acute respiratory syndrome coronavirus 2" [supplementary concept] OR "coronavirus infection"[All Fields] OR "severe acute respiratory pneumonia outbreak"[All Fields] OR "novel cov"[All Fields] OR "2019ncov"[All Fields] OR "sars cov2"[All Fields] OR "cov22"[All Fields] OR "ncov"[All Fields] OR "covid-19"[All Fields] OR "covid19"[All Fields] OR "coronaviridae"[All Fields] OR "corona virus"[All Fields])

AND

("Immunization"[Mesh] OR "Immunotherapy"[Mesh] OR "Vaccination"[Mesh] OR "Mass Vaccination"[Mesh] OR "Immunization Programs"[Mesh] OR ((immunization OR immunisation OR vaccinat*) AND (program* OR rate*)) OR vaccinat* OR revaccinat* OR immunization OR immunization OR "Disease Outbreaks/prevention and control"[Mesh])

AND

(Acceptance OR willingness OR adherence OR uptake OR barrier* OR facilitator* OR "Health Knowledge, Attitudes, Practice"[MeSH] OR "Patient Acceptance of Health Care "[MeSH] OR "Vaccination/psychology"[MeSH])

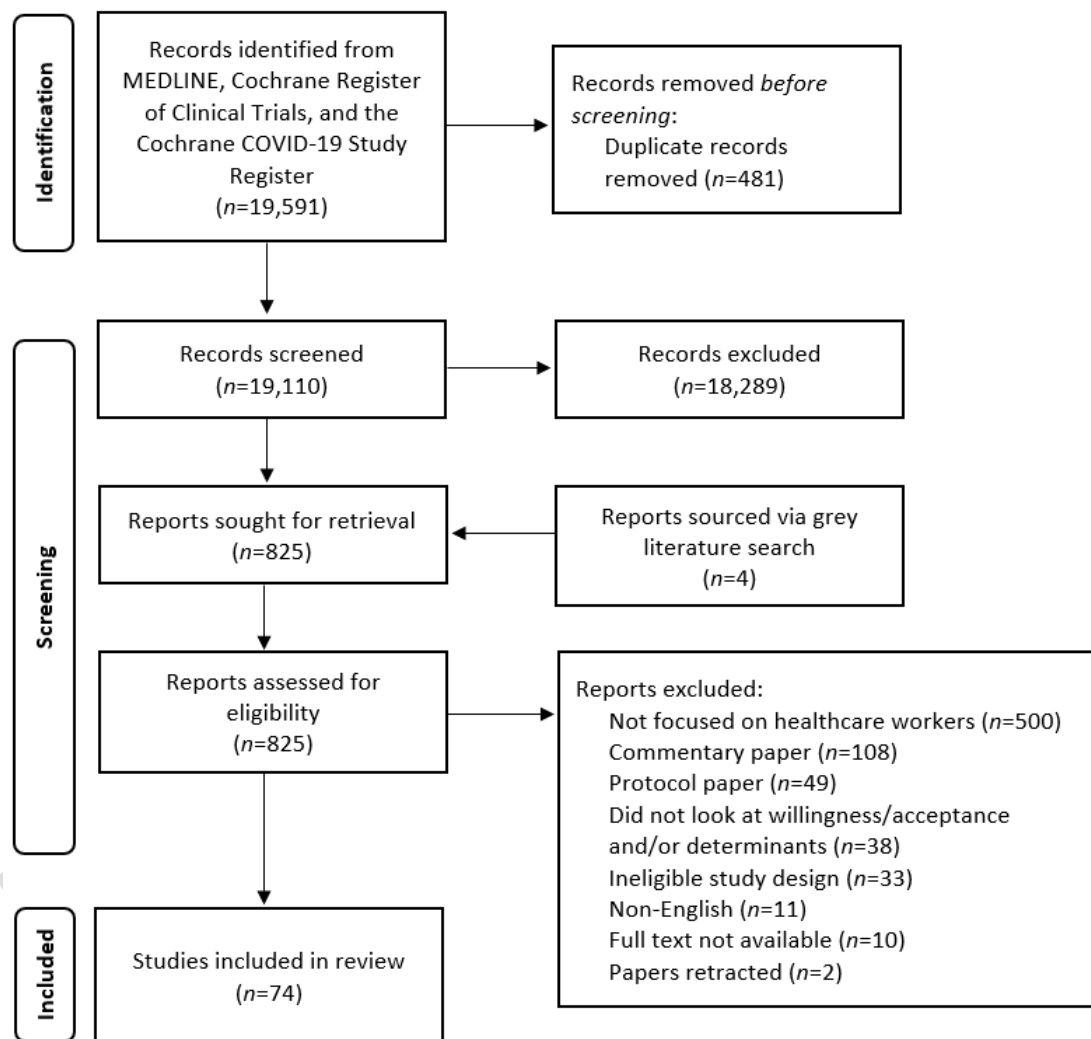
Cochrane databases search

(vaccin* OR immunizat*)

AND

(Acceptance OR willingness OR adherence OR uptake OR barrier* OR facilitator*)

Appendix 2. PRISMA flow diagram



Appendix 3. Evidence of COVID-19 vaccination acceptance among healthcare workers (HCWs) (number of studies [k]=74)

Author	Publication status	Country	Design	Sample	Sample size	Data collection period	Mean % vaccine acceptance	TDF domains
North American studies (k=23), listed in order of end of data collection period								
Manning et al.	Published	USA	CS	HCWs (nurse faculty and student nurses)	1,212	Aug 10 - Sep 14, 2020	50%	<i>Beliefs about consequences</i>
Lucia et al.	Published	USA	CS	HCWs (medical students)	168	Sep 14-30, 2020	77%	<i>Social influences Beliefs about consequences</i>
Gadoth et al.	Preprint	USA	CS	HCWs (non-physicians)	609	Sep 24 - Oct 16, 2020	32%	<i>Environmental context and resources Social/professional role and identity Beliefs about consequences</i>
Verger et al.*	Published	Canada data only	CS	HCWs	1,055	Oct-Nov, 2020	45%	<i>Social influences Beliefs about consequences Reinforcement</i>
Shekhar et al.	Published	USA	CS	HCWs	3,479	Oct 7 - Nov 9, 2020	36%	<i>Social/professional role and identity Beliefs about consequences</i>
Unroe et al.	Published	USA	CS	HCWs (nursing home and assisted living staff)	8,243	Nov 14-17, 2020	45%	<i>Social/professional role and identity Beliefs about consequences</i>
Mascarenhas et al.	Published	USA	CS	HCWs (dental students)	245	Dec, 2020	56%	<i>Social influences Beliefs about consequences</i>

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SafeCare-BC	Published (report)	British Columbia, Canada	CS	HCWs (continuing care workers)	1,503	Dec, 2020	57%	<i>Social influences Social/professional role and identity Beliefs about consequences Beliefs about capabilities Reinforcement</i>
Shaw et al.	Published	USA	CS	HCWs	5,287	Nov 23 - Dec 5, 2020	58%	<i>Social/professional role and identity Beliefs about consequences</i>
Kuter et al.	Published	USA	CS	HCWs	12,034	Nov 13 - Dec 6, 2020	64%	<i>Knowledge Social/professional role and identity Beliefs about consequences Reinforcement</i>
Jain et al.	Preprint	USA	CS	HCWs	2,135	Nov 16 - Dec 8, 2020	69%	<i>Beliefs about consequences</i>
Meyer et al.	Published	USA	CS	HCWs	16,158	Dec 4-22, 2020	53-80%	<i>Beliefs about consequences</i>
Harrison et al.	Published	USA	Qual	HCWs (skilled nursing facility staff)	58	Dec 17-23, 2020	Not reported (Qual data)	<i>Knowledge Social influences Beliefs about consequences</i>
Dzieciolowska et al.	Published	Canada	CS	HCWs	2,761	Dec 15-28, 2020	81%	<i>Social/professional role and identity</i>
Canadian PSW Network	Published (report)	Canada	CS	HCWs (personal support workers)	562	Jan 5, 2021	64%	<i>Knowledge</i>

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Desveaux et al.	Preprint	Ontario, Canada	CS	HCWs (non-physicians)	8,634	Jan 4-12, 2021	80%	<i>Environmental context and resources Social/professional role and identity Beliefs about consequences Reinforcement</i>
Grumbach et al.	Published	USA	CS	Gen pub & HCWs samples	3,161 (Gen pub); 1,803 (HCWs)	Nov 27, 2020 - Jan 15, 2021	66% (Gen pub); 84% (HCWs)	<i>Social influences Beliefs about consequences</i>
Berry et al.	Published	USA	Qual	HCWs	193	Dec 30, 2020 - Jan 15, 2021	Not reported (Qual data)	<i>Beliefs about consequences</i>
Kociolek et al.	Published	USA	CS	HCWs	4,448	Dec 21, 2020 - Jan 13, 2021	59%	<i>Social/professional role and identity Beliefs about consequences</i>
Ontario College of Pharmacists	Published (report)	Canada	CS	HCWs (pharmacy professionals)	6,677	Jan 12-21, 2021	79%	<i>Social/professional role and identity Beliefs about consequences</i>
McCabe et al.	Preprint	USA	CS	Gen pub (inc. HCWs)	34,470	Dec 4, 2020 - Feb 9, 2021	81%	<i>Social/professional role and identity</i>
Moniz et al.	Preprint	USA	CS	HCWs	11,387	Feb 1-15, 2021	85%	<i>Social/professional role and identity Reinforcement</i>

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King et al.	Preprint	USA	Coh	Gen pub (inc. HCWs)	732,308	Jan 6 - Mar 31, 2021	86%	<i>Social/professional role and identity</i>
Author	Publication status	Country	Design	Sample	Sample size	Data collection period	Mean % vaccine acceptance	TDF domains
Rest-of-the-world studies (k=52), listed in order of end of data collection period								
Papagiannis et al.	Published	Greece	CS	HCWs	461	Feb 10-25, 2020	43%	<i>Social/professional role and identity</i>
Zigron et al.	Published	Israel	CS	HCWs (dental professionals)	506	Mar - Apr, 2020	85%	<i>Social/professional role and identity</i>
Fu et al.	Preprint	China	CS	HCWs	352	Mar 17-18, 2020	76%	<i>Social influences Beliefs about consequences</i>
Wang et al.	Published	Hong Kong	CS	HCWs (nurses)	806	Feb 26 - Mar 31, 2020	40%	<i>Social/professional role and identity Beliefs about consequences Reinforcement</i>
Dror et al.	Published	Israel	CS	Gen pub (inc. HCWs)	829	Mar 26 - Apr 9, 2020	61-78%	<i>Environmental context and resources Social/professional role and identity Beliefs about consequences</i>

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Fouogue et al.	Preprint	Cameroon	CS	HCWs	464	Apr 14-29, 2020	49%	<i>Social influences Beliefs about consequences</i>
Kwok et al.	Published	Hong Kong	CS	HCWs (nurses)	1,205	Mar - Apr, 2020	63%	<i>Social/professional role and identity Beliefs about consequences Emotion</i>
Nzaji et al.	Published	Democratic Republic of Congo	CS	HCWs	613	Mar 20 - Apr 30, 2020	28%	<i>Social/professional role and identity Beliefs about consequences</i>
Gagneux-Brunon et al.	Published	France	CS	HCWs	2,047	Mar 26 - Jul 2, 2020	77%	<i>Social/professional role and identity Beliefs about consequences Reinforcement Emotion</i>
Wang et al.	Published	China	CS	HCWs	3,726	Sep 15-20, 2020	79%	<i>Social/professional role and identity Beliefs about consequences</i>
Kose et al.	Published	Turkey	CS	HCWs	1,138	Sep 17-20, 2020	69%	<i>Beliefs about consequences Reinforcement</i>
Maltezou et al.	Published	Greece	CS	HCWs	1,521	Sep 1 - Oct 31, 2020	51%	<i>Social/professional role and identity Reinforcement</i>
Verger et al.*	Published	France and Belgium data only	CS	HCWs	1,623	Oct-Nov, 2020	46%	<i>Social influences Beliefs about consequences Reinforcement</i>
She et al.	Published	China	CS	HCWs (doctors and nurses)	2,064	Oct - Nov, 2020	75% doctors, 68% nurses	<i>Social influences Beliefs about capabilities Emotion</i>

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Yu et al.	Published	China	CS	HCWs	2,254	Oct - Nov, 2020	75% nurses; 68% doctors	<i>Environmental context and resources</i> <i>Social influences</i> <i>Beliefs about consequences</i> <i>Beliefs about capabilities</i>
Di Gennaro et al.	Published	Italy	CS	HCWs	1,723	Oct 1 – Nov 1 2020	67%	<i>Environmental context and resources</i> <i>Social/professional role and identity</i> <i>Reinforcement</i>
Temsah et al.	Preprint	Saudi Arabia	CS	HCWs	2,007	Nov 1-12, 2020	9-24% (depending on type of COVID-19 vaccine)	<i>Beliefs about consequences</i>
Barry et al.	Preprint	Saudi Arabia	CS	HCWs	1,512	Nov 4-14, 2020	70%	<i>Environmental context and resources</i> <i>Beliefs about consequences</i>
Gönüllü et al.	Published	Turkey	CS	HCWs (paediatricians)	506	Nov 1-15, 2020	83%	<i>Social/professional role and identity</i> <i>Beliefs about consequences</i>
Di Giuseppe et al.	Published	Italy	CS	HCWs	811	Sep 14- Nov 30, 2020	81%	<i>Environmental context and resources</i> <i>Social/professional role and identity</i> <i>Beliefs about consequences</i> <i>Reinforcement</i>
Ledda et al.	Published	Italy	CS	HCWs	787	Sep - Dec, 2020	75%	<i>Knowledge</i> <i>Beliefs about consequences</i>

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Castañeda-Vasquez et al.	Published	Mexico	CS	HCWs	43	Oct - Dec, 2020	94%	<i>Social/professional role and identity</i>
Kaplan et al.	Published	Turkey	CS	HCWs	1,574	Dec, 2020	85%	<i>Social influences Beliefs about consequences Reinforcement Emotion</i>
Patelarou et al.	Preprint	Multiple (Europe)	CS	HCWs (nursing students)	2,249	Dec, 2020	44%	<i>Knowledge Social influences Beliefs about consequences Reinforcement Emotion</i>
Karagiannidis et al.	Published	Germany	CS	HCWs (intensive care staff)	2,305	Dec 3-12, 2020	64%	<i>Beliefs about consequences</i>
Qattan et al.	Published	Saudi Arabia	CS	HCWs	673	Dec 8-14, 2020	51%	<i>Social/professional role and identity Beliefs about consequences Reinforcement</i>
Raftopoulos et al.	Published	Greece & Cyprus	CS	HCWs	2,238	Dec 1-15, 2020	48%	<i>Social influences Social/professional role and identity</i>
Al-Metwali et al.	Published	Iraq	CS	Gen pub (inc. HCWs)	1,680	Dec 1-19, 2020	62%	<i>Environmental context and resources Social influences Social/professional role and identity Beliefs about consequences Reinforcement</i>
Yigit et al.	Published	Turkey	CS	HCWs	343	Dec 15-20, 2020	55%	<i>Social/professional role and identity Beliefs about consequences</i>

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Abuown et al.	Published	UK	CS	HCWs	514	Dec 1-21, 2020	59%	<i>Beliefs about consequences Reinforcement</i>
Chew et al.	Published	Multiple (Asia)	CS	HCWs	1,720	Dec 12-21, 2020	96%	<i>Social/professional role and identity Beliefs about consequences</i>
Bauernfeind et al.	Published	Germany	CS	HCWs	2,454	Dec 12-21, 2020	60%	<i>Social/professional role and identity Reinforcement</i>
Petravić et al.	Published	Slovenia	CS	Gen pub (inc. HCWs)	12,042 (2,068 were HCWs)	Dec 17-27 2020	59%	<i>Social influences Social/professional role and identity Beliefs about consequences Reinforcement</i>
Kukreti et al.	Published	Taiwan	CS	HCWs & patient samples	500 (HCWs); 238 (patients)	Sep 24 - Dec 31, 2020	23% (HCWs); 31% (patients)	<i>Beliefs about consequences Reinforcement</i>
Youssef et al.	Preprint	Lebanon	CS	HCWs	1,800	Dec 10-31, 2020	58%	<i>Knowledge Environmental context and resources Social influences Beliefs about consequences</i>
Fares et al.	Published	Egypt	CS	HCWs	385	Dec, 2020 - Jan, 2021	21%	<i>Social influences Social/professional role and identity Reinforcement</i>

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Alvarado-Socarras et al.	Published	Colombia	CS	HCWs (physicians)	1,066	Jan, 2021	Free vaccine that was 60% effective: acceptance rate=77% Free vaccine that was 80% effective: acceptance rate=91%	<i>Social/professional role and identity Reinforcement</i>
Konopińska et al.	Published	Poland	CS	HCWs (ophthalmology residents)	126	Jan, 2021	71%	<i>Beliefs about consequences</i>
Hussein et al.	Preprint	Egypt	CS	HCWs	496	Dec 1, 2020 - Jan 1, 2021	46%	<i>Beliefs about consequences Emotion</i>
Maraqqa et al.	Published	Palestine	CS	HCWs	1,159	Dec 25, 2020 - Jan 6, 2021	38%	<i>Knowledge Social/professional role and identity Reinforcement</i>
Rabi et al.	Published	Palestine	CS	HCWs (nurses)	639	Jan 1-7, 2021	40%	<i>Social influences Beliefs about consequences Emotion</i>
Szmyd et al.	Published	Poland	CS	HCWs	1,971	Dec 22, 2020 - Jan 8, 2021	83%	<i>Beliefs about consequences Reinforcement Emotion</i>
Yurttas et al.	Published	Turkey	CS	Gen pub, patient & HCWs samples	320	Jan 4-13, 2021	53%	<i>Emotion</i>

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Nohl et al.	Published	Germany	CS	HCWs (emergency medical services personnel)	1,296	Dec 4, 2020 - Jan 15, 2021	57%	<i>Social/professional role and identity</i>
Saied et al.	Published	Egypt	CS	HCWs (medical students)	2,133	Jan 8-15, 2021	54%	<i>Knowledge Social/professional role and identity Beliefs about consequences Reinforcement</i>
Singhania et al.	Published	India	CS	HCWs	754	Jan 20-24, 2021	80%	<i>Social influences Social/professional role and identity Beliefs about consequences</i>
Huynh et al.	Published	Vietnam	CS	HCWs	410	Jan - Feb, 2021	76%	<i>Environmental context and resources Beliefs about consequences</i>
Rehman et al.	Preprint	Pakistan	CS	HCWs	436	Jan 31 - Feb 9, 2021	60%	<i>Beliefs about consequences</i>
Agyekum et al.	Preprint	Ghana	CS	HCWs	234	Jan 16 - Feb 15, 2021	39%	<i>Social influences Social/professional role and identity Reinforcement</i>
Paris et al.	Published	France	CS	HCWs	1,965	Feb 9-18, 2021	73%	<i>Social/professional role and identity Beliefs about consequences Reinforcement</i>
Woolf et al.	Preprint	UK	Coh	HCWs	11,584	Dec - Mar, 2021	77%	<i>Knowledge Social influences Beliefs about consequences Reinforcement</i>

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Kanyike et al.	Published	Uganda	CS	HCW (medical students)	600	Mar 15-21, 2021	37%	<i>Beliefs about consequences Reinforcement</i>
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Notes: Greyed boxes in the data collection period column represent studies conducted from November 2020 onwards. Coh = cohort study; CS = cross-sectional survey; Gen pub = general public; HCW = healthcare worker; Qual = qualitative; TDF = Theoretical Domains Framework. * = Verger et al. collected data from Canada, France, and Belgium so was included in both North America and rest-of-the-world sections.

PREPRINT