

**A: Studies conducted before the COVID-19 vaccine rollout.**

Author and year	Country	Data collection period	Sample size	Population HCW	Hesitancy rate for COVID-19 vaccine (%)
(Chew et al., 2021)	India; China; Singapore; Vietnam; Indonesia; Bhutan	December 2020	1720	HCW	3.8%
(Sirikalyanpaiboon et al., 2021)	Thailand	March - April 2021	705	Physicians	4.4%
(Castañeda-Vasquez et al., 2021)	Mexico	October - December 2020	543	HCWs	5.5%
(Aurilio et al., 2021)	Italy	December 2020	531	Nurse	8.5%
(Adeniyi et al., 2021)	South Africa	November - December 2020	1308	HCWs	9.9%
(Oduwole et al., 2021)	South Africa	February - March 2021	1015	HCWs	10.5%
(Dara et al., 2021)	India	January 2021	498	HCWs	10.6%
(Zigron et al., 2021)	Israel	March - April 2020	506	Dental HCWs	15.0%
(Robbins et al., 2021)	United Kingdom	September 2020	593	HCWs	16.6%
(J. Wang et al., 2021)	China	September 2020	3726	HCWs	20.9%
(M. W. Wang et al., 2021)	China	January 2021	1,329	HCWs	23.0%
(Gagneux-Brunon et al., 2021)	France	March - July 2020	2047	HCWs	23.1%
(Sun et al., 2021)	China	January 2021	505	HCWs	23.4%
(Day et al., 2021)	United States	November 2020 - January 2021	573	HCWs	26.0%
(Verger et al., 2021)	Belgium, Canada	October - November 2020	2678	Nurse	28.4%
(Abdulle et al., 2022)	Kenya	December 2020 -	997	HCWs	29.0%

Author and year	Country	Data collection period	Sample size	Population HCW	Hesitancy rate for COVID-19 vaccine (%)
		January 2021			
(Alhassan et al., 2021)	Ghana	September - October 2020	1605	HCWs	30.0%
(Barry et al., 2021)	Saudi Arabia	November 2020	1512	HCWs	30.0%
(Cuschieri & Grech, 2021)	Malta	September - October 2020	1802	HCWs	31.0%
(Grochowska et al., 2021)	Poland	September - November 2020	419	HCWs	31.3%
(Zaidi et al., 2021)	Qatar	March 2021	364	HCWs	31.9%
(Browne et al., 2021)	Philadelphia	November - December 2020	5929	HCWs	32.2%
(Suo et al., 2021)	China	May - July 2020	8040	HCWs	32.9%
(Di Gennaro et al., 2021)	Italy	October - November 2020	1723	HCWs	33.0%
(Arslanca et al., 2021)	Turkey	June 2020	251	HCWs	33.1%
(Elharake et al., 2021)	Saudi Arabia	October - December 2020	23582	HCWs	35.1%
(Costantino et al., 2022)	Italy	December 2020 - February 2021	1450	Pharmacists	36.0%
(Kuter et al., 2021)	Philadelphia	November - December 2020	12034	HCWs	36.3%
(Baghdadi et al., 2021)	Saudi Arabia	July - September 2020	411	HCWs	38.8%
(Robinson et al., 2021)	Nigeria	December 2020 - January 2021	1094	HCWs	40.0%
(Bauernfeind et al., 2021)	Germany	December 2020	2454	HCWs	40.1%
(Parente et al., 2021)	US	August 2020	3347	HCWs	40.5%

Author and year	Country	Data collection period	Sample size	Population HCW	Hesitancy rate for COVID-19 vaccine (%)
(Botwe et al., 2021)	Ghana	February 2021	108	Radiographers	40.7%
(Albahri et al., 2021)	Dubai	July 2020	176	Family physicians and nurses	40.9%
(Famuyiro et al., 2021)	United States	December 2020	205	HCWs	45.5%
(Aemro et al., 2021)	Northwest Ethiopia	May - June 2021	440	HCWs	45.9%
(Adejumo et al., 2021)	Nigeria	October 2020	1470	HCWs	46.5%
(Unroe et al., 2021)	Indiana	November 2020	8243	Nurse	55.0%
(Papagiannis et al., 2020)	Greece	February 2020	500	HCWs	57.0%
(Aoun et al., 2021)	Middle East region	December 2020	864	HCWs	59.3%
(Wang et al., 2020)	China	February - March 2020	806	Nurses	60.0%
(Zürcher et al., 2021)	Switzerland	December 2020	3793	HCWs	60.2%
(Shekhar et al., 2021)	United States	October - November 2020	3479	HCWs	64.0%
(Gadoth et al., 2021)	Los Angeles	September - October 2020	540	HCWs	65.5%
(Fakonti et al., 2021)	Cyprus	December 2020	437	Nurses, midwives	70.0%
(Nzaji et al., 2020)	Congo	March - April 2020	613	HCWs	72.3%
(El-Sokkary et al., 2021)	Egypt	January 2021	308	HCWs	74.0%
(Kukreti et al., 2021)	Taiwan	September - November 2020	500	HCWs	76.4%
(Fares et al., 2021)	Egypt	December 2020 - January 2021	385	HCWs	79.0%

## **B: Studies conducted after the COVID-19 vaccine rollout**

Author and year	Country	Data collection period	Sample size	Population HCW	Hesitancy rate for vaccine (%)
(Di Valerio et al., 2021)	Italy	January 2020 - February 2021	10898	HCWs	1.1%
(Perez et al., 2022)	US	January 2021	11405	HCWs	1.5%
(Otiti-Sengeri et al., 2022)	Uganda	June - August 2021	300	Eye HCWs	2.3%
(S. W. C. Koh et al., 2022)	Singapore	May - June 2021	528	HCWs	5.1%
(Hoffman et al., 2022)	US	April - June 2021	511	HCWS	6.0%
(Li et al., 2021)	China	January - February 2021	1779	HCWs	6.1%
(Papini et al., 2022)	Italy	February - April 2021	2137	HCWs	6.8%
(Chudasama et al., 2022)	37 countries (Europe, Asia, North America, Africa, Oceania, South America, and others)	April - July 2021	275	HCWs	7.0%
(Amin & Palter, 2021)	US	January 2021	240	HCWs	8.0%
(Holzmann-Littig et al., 2021)	Germany	February 2021	4500	HCWs	8.3%
(Galanis, Moisoglou, et al., 2022)	Greece	August 2021	885	HCWs	8.5%
(Ofei-Dodoo et al., 2021)	US	December 2020	307	Family physicians	9.4%
(Baynouna Al ketbi et al., 2021)	United Arab Emirates	November 2020 - February 2021	596	HCWs	10.8%
(Ye et al., 2021)	China	February 2021	2156	HCWs	10.9%
(Shallal et al., 2021)	US	December 2020 - January 2021	513	HCWs	12.0%
(Dubov et al., 2021)	Southern California	February - April 2021	2491	HCWs	12.2%
(Afifi et al., 2022)	Saudi Arab	April - June 2021	171	HCWs	13.5%

(Xu et al., 2021)	China	April 2021	1051	HCWs	13.8%
(Nasr et al., 2021)	Lebanon	February 2021	357	Dental HCWs	14.0%
(Schrading et al., 2021)	US	January 2021	1398	HCWs	14.0%
(Avakian et al., 2022)	Greece	February-June 2021	1136	HCWs	14.7%
(Quiroga et al., 2021)	Spain	February 2021	708	Nephrologist	15.0%
(Haddaden et al., 2021)	US	January - February 2021	300	HCWs	15.7%
(Mehta et al., 2022)	India	January - February 2021	624	HCWs	15.9%
(Baniak et al., 2021)	US	February 2021	276	Nursing staffs	16.3%
(Al-Sanafi & Sallam, 2021)	Kuwait	March 2021	1019	HCWs	16.7%
(Kociolek et al., 2021)	US	December 2020 - January 2021	4448	HCWs	18.9%
(Oliver et al., 2022)	US	December 2020 - February 2021	1933	HCWs	19.0%
(Dzieciolowska et al., 2021)	Canada	December 2020	2761	HCWs	19.1%
(Ilori et al., 2022)	Nigeria	March - May 2021	309	HCWs	19.7%
(Pacella-LaBarbara et al., 2021)	US	January 2021	524	HCWs	20.6%
(Zheng et al., 2021)	China	April 2021	662	HCWs	21.0%
(Kaufman et al., 2022)	Australia	February - March 2021	3074	HCWs	22.0%
(Razzaghi et al., 2022)	US	March - April 2021	2,434	HCWs	22.0%
(Bălan et al., 2021)	Romania	January - March 2021	1581	HCWs	22.0%
(Alhofaian et al., 2021)	Saudi Arabia	March - April 2021	390	HCWs	22.2%
(Fotiadis et al., 2021)	Greece	May 2021	1456	HCWs	22.3%
(Kim et al., 2021)	Republic of Korea	May 2021	837	HCWs	22.3%

(Zaitoon et al., 2021)	Israel	January 2021	714	HCWs	22.5%
(Nohl, Ben Abdallah, et al., 2021)	Germany	December 2020 - January 2021	285	HCWs	22.6%
(Laiyemo et al., 2022)	US	March 2021	277	HCWs	23.0%
(Puertas et al., 2022)	14 Caribbean countries.	April - May 2021	1197	HCWs	23.0%
(Gupta et al., 2021)	India	February - March 2021	815	HCWs	23.7%
(Malik et al., 2021)	Pakistan	December 2020 - February 2021	5237	HCWs	24.5%
(Ledda et al., 2021)	Italy	September - December 2020	787	HCWS	25.0%
(Yilma et al., 2022)	Ethiopia	February - April 2021	1314	HCWs	25.5%
(Ciardi et al., 2021)	US	December 2020 - January 2021	428	HCWs	27.0%
(Boche et al., 2022)	Southwest Ethiopia	June - July 2021	319	HCWs	27.3%
(Yassin et al., 2022)	Sudan	April 2021	400	HCWs	27.4%
(Nohl, Afflerbach, et al., 2021)	Germany	December 2020 - January 2021	1296	Emergency HCWs	27.6%
(Fossen et al., 2021)	US	January 2021 - March 2021	3401	HCWs	29.0%
(Digregorio et al., 2022)	Belgium	July - November 2021	1142	Nursing home staffs	29.5%
(Štěpánek et al., 2021)	Czech Republic	December 2020 - May 2021	3550	HCW	30.2%
(Noushad et al., 2022)	Sudan, Pakistan, Nigeria, Kenya, India, Egypt, Turkey, Qatar, Malaysia, Saudi Arabia, Jordan, and Brazil	February - April 2021	2963	HCWs	31.0%
(Turbat et al., 2022)	Mongolia	February - April 2021	238	HCWs	32.8%

(Townsel et al., 2021)	US	February 2021	8295	reproductive-aged female HCWs	33.2%
(Khamis et al., 2022)	Oman	January - February 2021	433	HCWs	34.0%
(Peirola et al., 2022)	Switzerland	June 2021	1800	HCW s	34.0%
(Kara Esen et al., 2021)	Turkey	January - March 2021	3937	HCWs	34.0%
(Patelarou et al., 2021)	European Countries (Albania, Cyprus, Greece, Spain, and Kosovo)	January 2021	1135	Nurses	34.6 %
(Noushad et al., 2021)	Saudi Arabia	February - March 2021	674	HCWs	35.0%
(Anthony Iwu et al., 2022)	Nigeria	September - October 2021	347	HCWs	35.4%
(Vignier et al., 2021)	French Guiana	January - March 2021	579	HCWs	35.5%
(Martin et al., 2021)	United Kingdom	December 2020 - February 2021	19044	HCWs	35.5 %
(Adane et al., 2022)	Ethiopia	May 2021	404	HCWs	36.0%
(Askarian et al., 2022)	91 countries	February - April 2021	4630	HCWS	37.0%
(Khalis et al., 2021)	Morocco	January 2021	303	HCWs	38.0%
(Shehata et al., 2021)	Egypt	March - May 2021	1268	Physicians	39.0%
(Wiysonge et al., 2022)	South Africa	March - May 2021	395	HCWs	41.0%
(Youssef et al., 2022)	Lebanon	December 2020	1800	HCW	42.0%
(Saddik et al., 2021)	United Arab Emirates	November 2020 - January 2021	517	HCWs	42.0%
(Shaw et al., 2021)	US	November - December 2020	5287	HCWs	42.5%
(Lataifeh et al., 2022)	Jordan	February - March 2021	364	HCWs	44.9%
(Meyer et al., 2021)	US	December 2020	16158	HCWs	44.9%

(Afzal et al., 2022)	US	February - March 2021	3759	HCWs	45.6%
(Janssen et al., 2021)	France	December 2020 - March 2021	4349	Doctors, nurses, assistant nurses and others	46.8%
(Aw et al., 2022)	Singapore	March - July 2021	241	HCWs in community hospital	48.5%
(Angelo et al., 2021)	Southwest Ethiopia	March 2021	423	HCWs	52.3%
(Alle & Oumer, 2021)	North Central Ethiopia	February - March 2021	319	HCWs	57.7%
(Elkhayat et al., 2022)	Egypt	June - August 2021	341	HCWs	58.0%
(Yendewa et al., 2022)	sub-Saharan Africa	January - March 2022	592	HCWs	60.1%
(Paudel et al., 2021)	Nepal	January - February 2021	266	HCWs	61.7%
(Maraqa et al., 2021)	Palestine	December 2020 - January 2021	1159	HCWs	62.2 %
(Briko et al., 2022)	Russia	January 2021	85216	HCWs	65.0%
(Qunaibi et al., 2021)	Arab countries	January 2021	5708	HCWs	73.3%
(Chrissian et al., 2022)	Southern California	February - April 2021	2103	HCWs	15.6% primary vaccine 33.0% booster
(Pal et al., 2021)	US	February - March 2021	1374	HCWs	7.9% primary vaccine 14.3% booster
(Alhasan et al., 2021)	Saudi Arabia	August 2021	1279	HCWs	44.7% booster dose
(Alobaidi & Hashim, 2022)	Saudi Arabia	October - November 2021	2059	HCWs	28.9% booster dose
(Galanis, Vraka, et al., 2022)	Greece	May 2022	795	Nurses	30.9% booster dose
(Klugar et al., 2021)	Czech Republic	November 2021	3454	HCWs	28.8% booster dose
(Sky Wei Chee Koh et al., 2022)	Singapore	January - December 2021	891	HCWs	26.0% booster dose
(Lounis et al., 2022)	Algeria	January - March 2022	787	HCWs	58.8% booster dose
(Luo et al., 2022)	China	August - September 2021	1085	HCWs	13.0% booster dose



(Martin et al., 2022)	UK	April - Jun 2021	990	HCWs	27.7% booster dose
(Paris et al., 2022)	France	October - November 2021	1655	HCWs	35.8% booster dose
(Al-Qerem et al., 2022)	Jordan	October - December 2021	915	HCWs	55.4% booster dose
(Vellappally et al., 2022)	India and Saudi Arabia	January - March 2022	833	HCWs	16.0% - India (booster) 33.0% - Saudi Arabia (booster)

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