

# Peri-pandemic acceptance of influenza and COVID-19 vaccination by Swiss healthcare workers in primary care 2020/21: a cross-sectional study

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## Epidemiology of Influenza\*

- Estimated 1 billion cases of Influenza worldwide, of which 3 to 5 million are severe and resulting in 290,000 to 650,000 influenza-related respiratory deaths.
- In Switzerland, influenza vaccination is recommended for high-risk groups (such as elderly, and those with NCDs) and those in contact with high risk groups (such as HCW).
- Influenza vaccination uptake in Switzerland for flu season 2020/21 is 38% among seniors +65, 37% NCD patients and 26% HCW.
- In 2015/16, QualiCCare survey to evaluate influenza vaccination uptake in HCW, their recommendations and reasoning for and against vaccination (IJPH.2023; 68:1605175).

\*WHO, John Hopkins, FOPH

## Epidemiology of COVID-19\*

- Worldwide between Jan 2020 - Jan 2023, an estimated 752 million people were infected with SARS-CoV-2 and of which 6.83 million people have died from or with it in 2020/21.
- There were > 4 million laboratory-confirmed cases of COVID-19 disease in Switzerland and Liechtenstein from June 2020 to October 2022, of which almost 12,000 died from or with COVID-19.
- COVID-19 vaccination was first recommended for high-risk groups (such as elderly, and those with NCDs) and those in contact with high risk groups (such as HCW); general recommendation afterwards.
- COVID-19 vaccination uptake in Switzerland in the general population is approx. 70% (as of June 2022; <https://www.covid19.admin.ch/en/vaccination/persons>).

## Objectives

- To evaluate influenza vaccination uptake, recommendations and reasoning by Swiss HCWs in primary care during the COVID-19 pandemic in 2020/21 and compare it to the results from 2015/16.
- To assess COVID-19 vaccination uptake, recommendations and reasoning to compare these results with the respective influenza results.

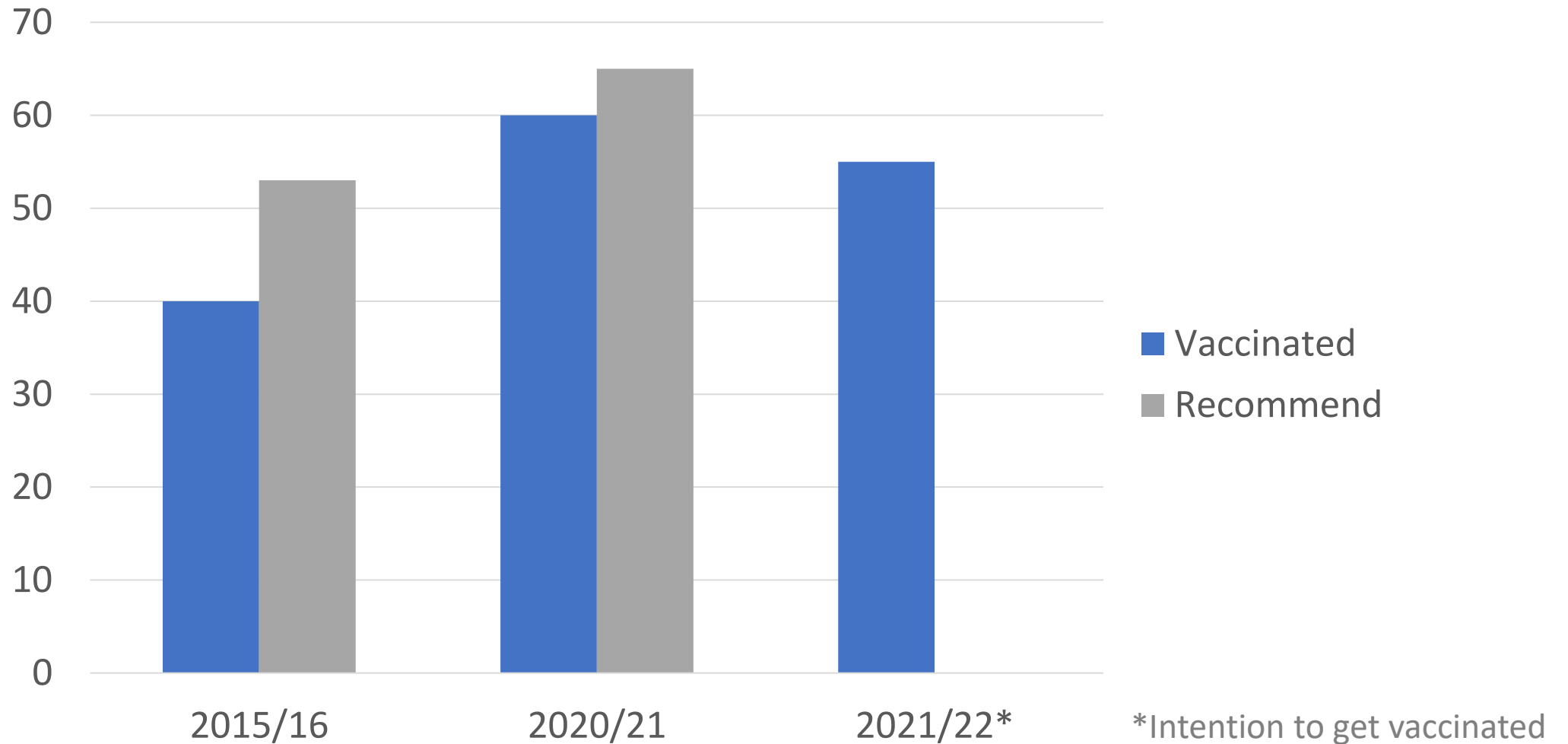
# Methodology

- Replicated study design of the survey performed in 2015/16\*
- Target population: primary care
  - Physicians, pharmacists, nurses, medical practise assistants (MPA) and pharmacy technicians as well as public health officers.
  - Recruitment via newsletters or direct mailings by QualiCCare, its member organisations, its influenza working group and other relevant organisations (e.g. healthcare leagues, Spitex Schweiz, pharmaSuisse, ARAM, SVA, mfe, HMOs)
- Online survey via Survey Monkey
  - Semi-structured questionnaire
  - Completion between November 2021 – February 2022
  - 2 reminders were sent

# Participation

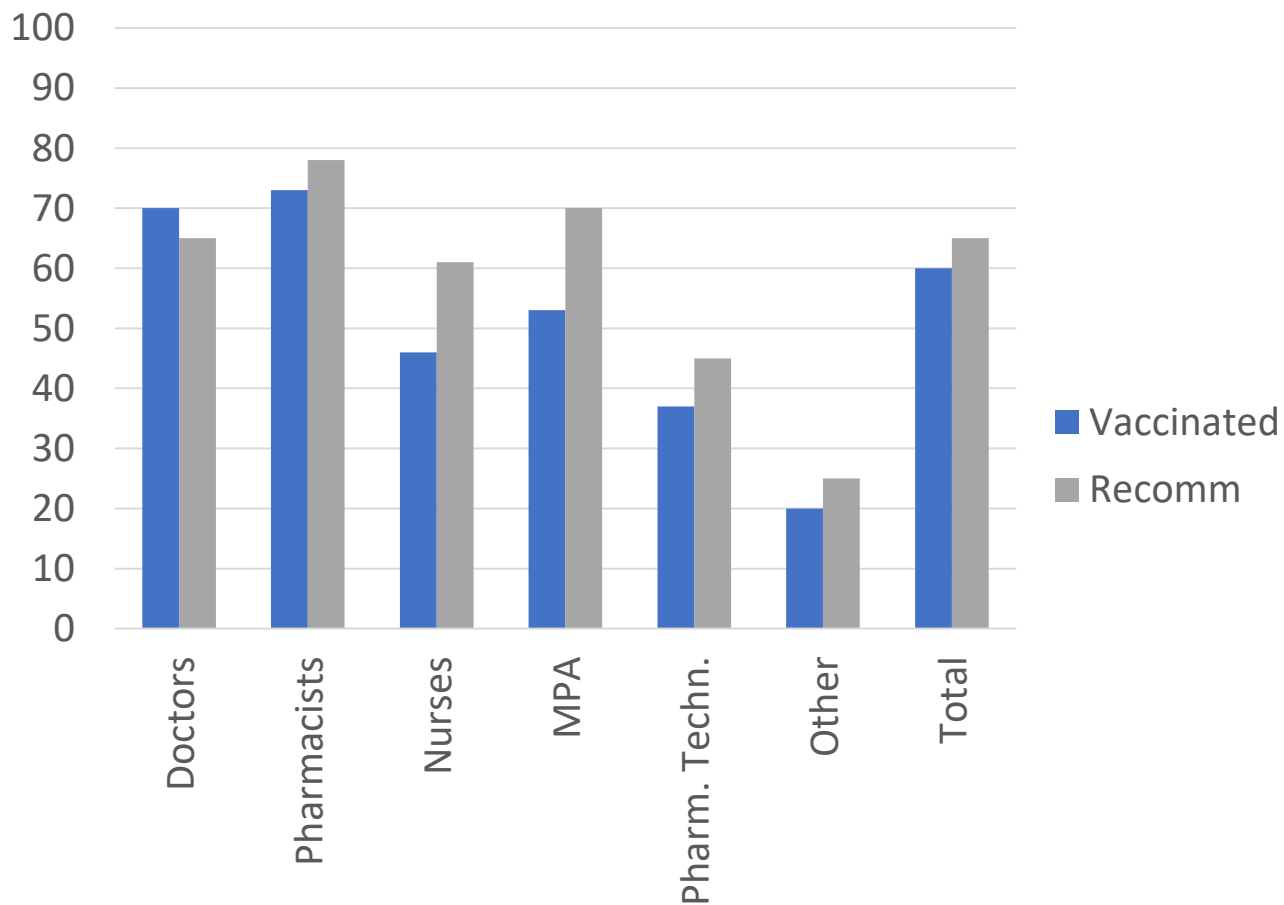
Demographics	n	Survey (n=1237)	Swiss population 2021
Language			
German	834	67%	62%
French	368	30%	23%
Italian	35	3%	8%
Sex			
Male	190	15%	50%
Female	1043	84%	50%
Diverse	4	0%	
Age group			
16-20	17	1%	5%
21-30	128	10%	12%
31-40	241	19%	14%
41-50	354	29%	14%
51-60	386	31%	15%
60+	111	9%	10%

## Influenza vacc uptake and recommendation (%) of HCW

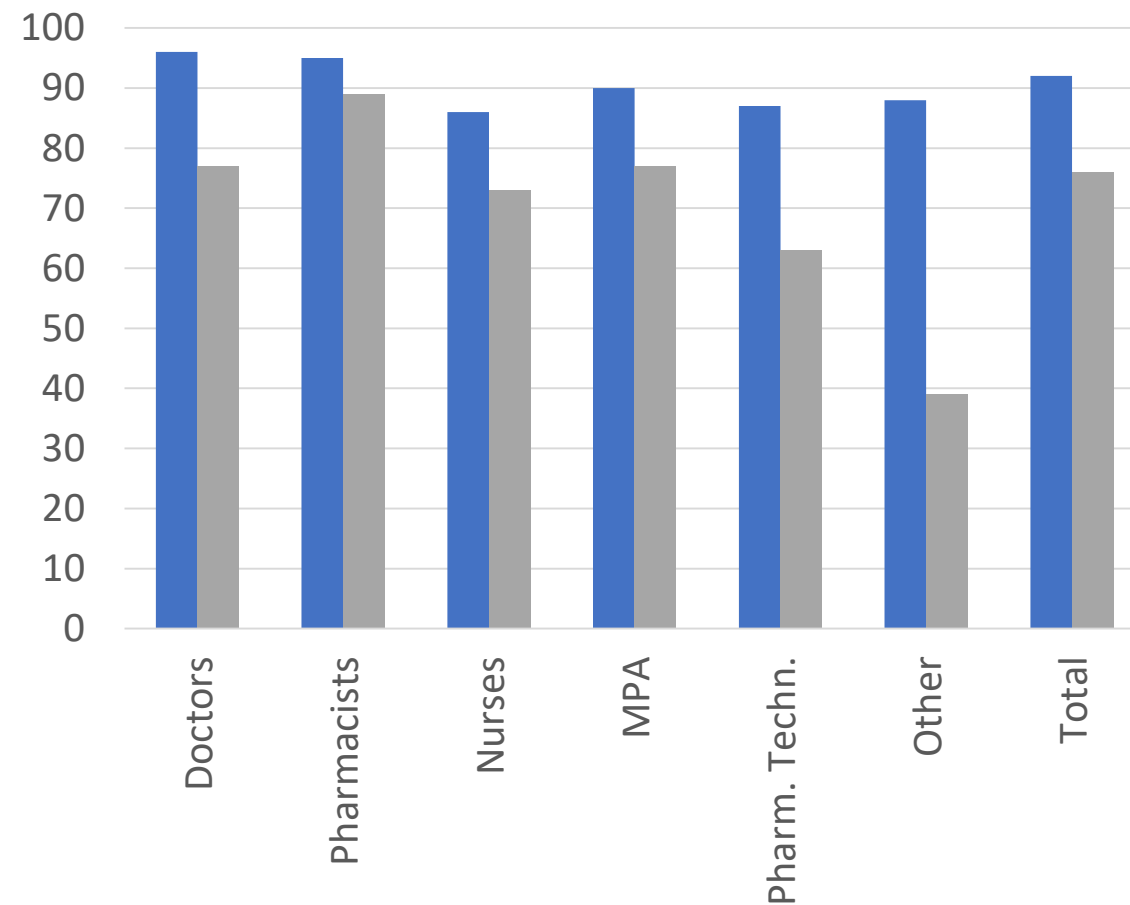


# Vacc uptake and recommendations of HCW

## Influenza



## COVID-19





## Factors affecting influenza vaccination uptake of HCW

Characteristics	n	AOR	95% CIL	95% CIU	p-value
<b>Vaccination Training</b>					
No	388	Ref			
Yes	849	1.77	1.29	2.43	<.001
<b>Language</b>					
German	834	Ref	-	-	-
French	368	0.93	0.70	1.24	.613
Italian	35	0.58	0.27	1.25	.164
<b>Sex</b>					
Male	190	Ref	-	-	-
Female	1043	0.79	0.52	1.20	.273
Diverse	4	2.05	0.23	18.62	.523

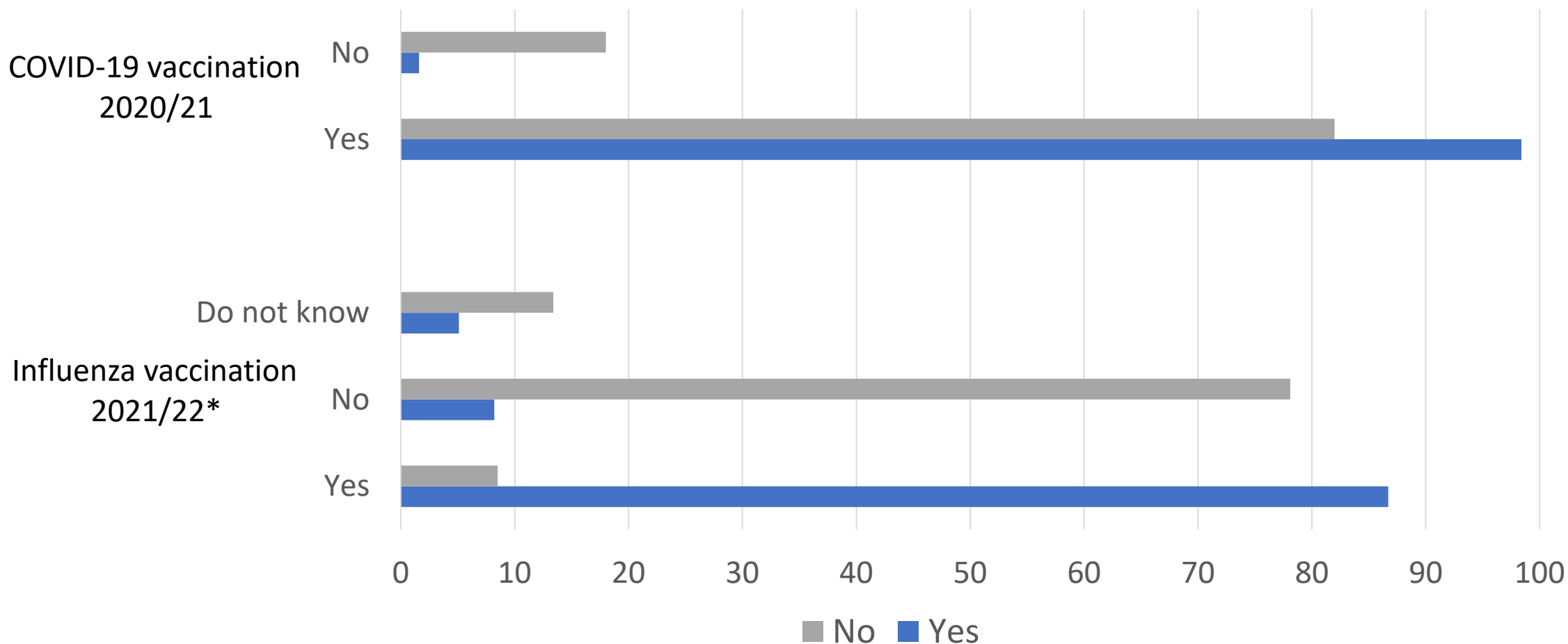
Characteristics	n	AOR	95% CIL	95% CIU	p-value
<b>Age group</b>					
16-20	17	Ref	-	-	-
21-30	128	4.12	0.86	19.65	.076
31-40	241	5.11	1.09	23.97	.039
41-50	354	5.77	1.24	26.90	.026
51-60	386	9.71	2.08	45.24	.004
60+	111	7.18	1.47	35.13	.015
<b>Profession</b>					
Nurse	17	Ref	-	-	-
Physician	128	6.10	3.12	11.92	<.001
Pharmacist	241	3.40	1.90	0.07	<.001
MPA	354	1.37	0.76	2.49	.300
Pharm.techn.	386	1.06	0.49	2.28	.884
Other	111	0.39	0.20	0.76	.006

## Factors affecting COVID-19 vaccination uptake of HCW

Characteristics	n	AOR	95% CIL	95% CIU	p-value
<b>Vaccination Training</b>					
No	388	Ref			
Yes	849	1.48	0.88	2.50	.144
<b>Language</b>					
German	834	Ref	-	-	-
<b>French</b>	<b>368</b>	<b>0.61</b>	<b>0.39</b>	<b>0.96</b>	<b>.034</b>
Italian	35	1.86	0.24	14.16	.551
<b>Sex</b>					
Male	190	Ref	-	-	-
Female	1043	1.26	0.65	2.46	.493
Diverse	4	1.00	-	-	-

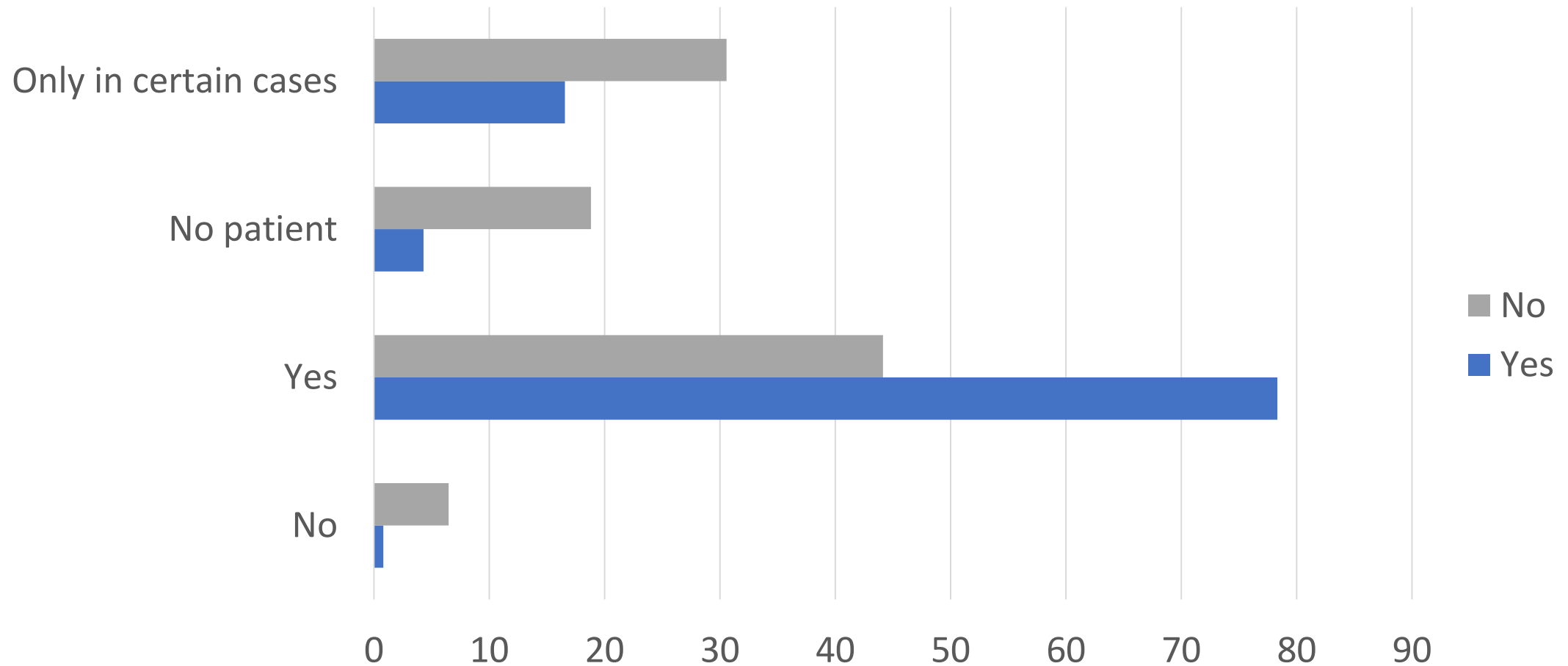
Characteristics	n	AOR	95% CIL	95% CIU	p-value
<b>Age group</b>					
16-20	17	Ref	-	-	-
21-30	128	1.04	0.26	4.14	.954
31-40	241	1.85	0.47	7.26	.376
41-50	354	2.16	0.56	8.29	.262
51-60	386	3.39	0.87	13.26	.080
60+	111	2.20	0.49	9.79	.300
<b>Profession</b>					
Nurse	17	Ref	-	-	-
<b>Physician</b>	<b>128</b>	<b>3.40</b>	<b>1.19</b>	<b>9.73</b>	<b>.022</b>
<b>Pharmacist</b>	<b>241</b>	<b>3.27</b>	<b>1.33</b>	<b>8.03</b>	<b>.010</b>
MPA	354	1.67	0.68	4.10	.265
Pharm.techn.	386	1.58	0.52	4.81	.420
Other	111	1.42	0.56	3.60	.458

# Vaccination uptake (%) of HCW, based on vaccination history 2020/21

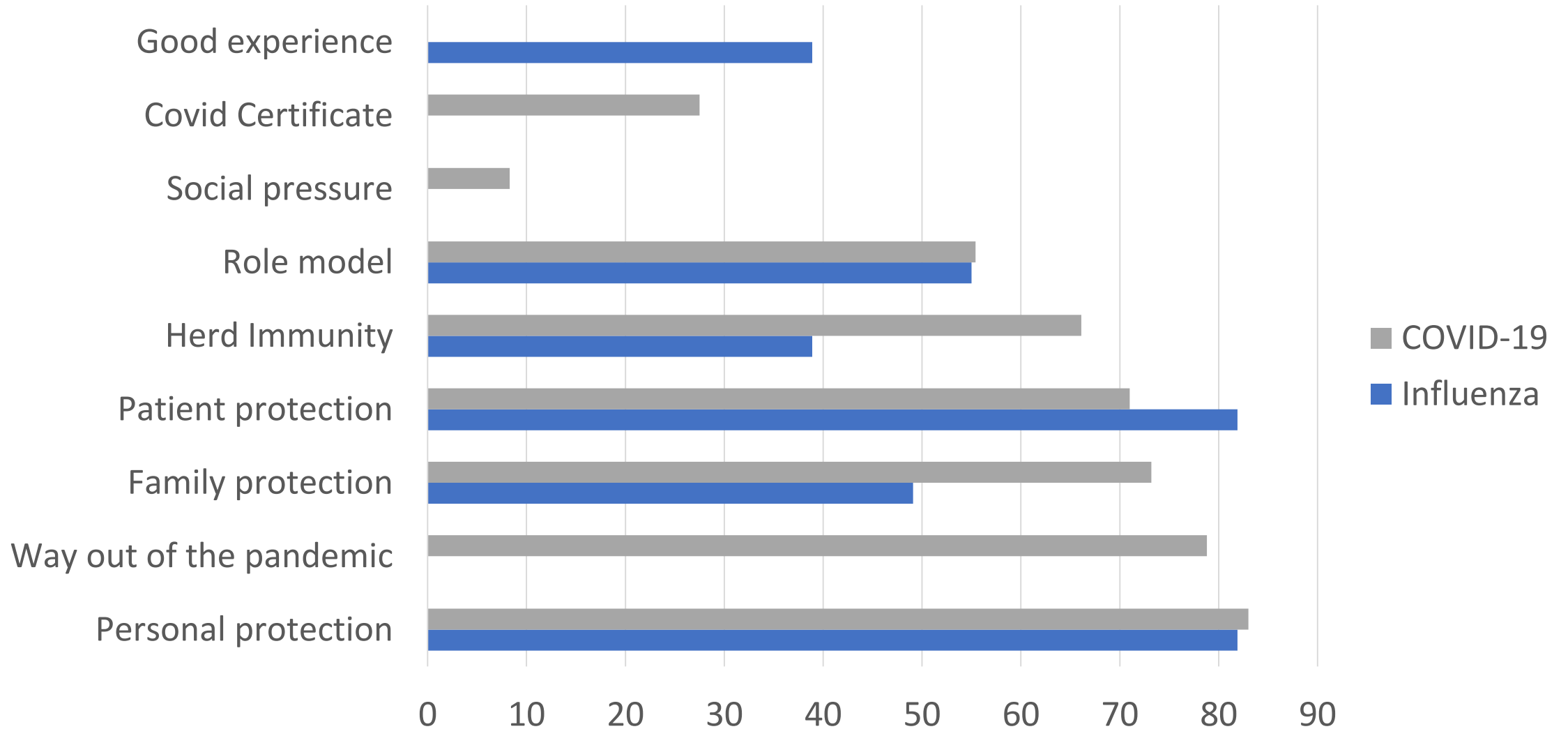


\* Intention to get vaccinated

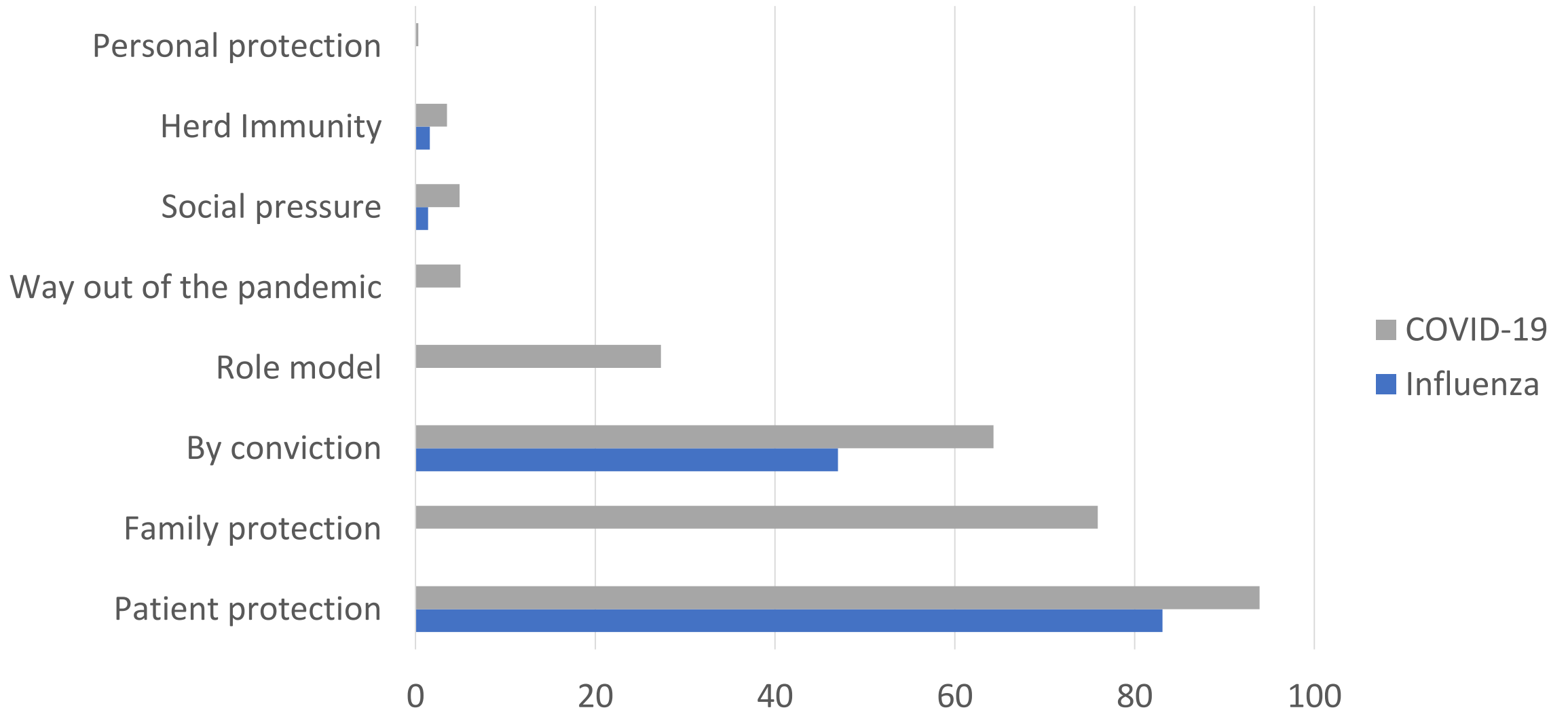
# Influenza recommendation (%) of HCW, based on vaccination history 2020/21



## Reasons for getting vaccinated against Influenza and COVID-19



## Reasons for recommending Influenza and COVID-19 vaccinations



# Conclusions

- Influenza vaccination among HCWs in the primary care sector has increased from 40% in 2015/16 to 60% in 2020/21; COVID-19 vaccination is high at 92%.
- Factors that affect influenza / COVID-19 vaccination uptakes are: vaccination training status, history of previous influenza vaccination, profession, (age). COVID-19 has an overreaching effect on vaccination uptake.
- HCW tended to be better vaccinated against COVID-19 than Influenza, with little variations across professions. Same observations apply for recommendations of vaccination.
- More HCW tended to be vaccinated against COVID-19 than their tendency to recommend the vaccination to their patients; vice-versa with Influenza.
- Reasons for vaccinations and recommendations of Influenza and COVID-19 are similar. But for COVID-19, other reasons also included herd immunity/solidarity, COVID-19 certificate and social pressure.

## Recommendations

- Curriculum and training for HCWs need to emphasize vaccination-follow-up survey before and after training.
- Vaccination campaigns need to be tailored to the target population to be effective.
- As vaccination history is a strong predictor of getting vaccinated against influenza, and recommendation of vaccinations, it is important to begin the effort to engage HCWs during their educational years to promote influenza vaccinations.



# Thank you for your attention!

## Acknowledgments:

- HCW who participated in the survey
- Participating healthcare organisations and QCC member organisations
- QualiCCare Working Group Influenza
- Funding provided by Astra Zeneca, Janssen, QualiCCare



**National Influenza Vaccination Day**  
**Nov 10, 2023**

*The results are submitted to be published in IJPH (currently in review)*

<https://qualiccare.ch/projekt/laufende-projekte/grippe-und-covid-impfung-gesundheitsfachpersonen>