

Summary table of papers on vaccination uptake mainly focusing on barriers and facilitators to influenza/covid vaccination in healthcare workers

Paper Title	Authors	Journal (Year)	Pop group	Keywords	Main findings	Barriers/facilitators?	BCW/COM-B/TDF used?
1. A systematic review of barriers and enablers associated with uptake of influenza vaccine among care home staff	Faisal Alsaif, Michael Twigg, Sion Scott, Annie Blyth, David Wright, Amrish Patel	Vaccine (2023)	Care home staff	Barriers; Behaviour ; Care homes; Influenza vaccine; Seasonal influenza; Staff; Systematic review.	Systematic review investigating barriers and enablers associated with uptake of the influenza vaccine among care home staff. - Screened 4,025 studies and included 42 that met their criteria (quantitative, qualitative or mixed-method). - Five theoretical domains were frequently found to mediate vaccine uptake: 1. Beliefs about consequences (e.g. perceptions of efficacy, safety) — reported in 32 studies 2. Environmental context and resources (e.g. accessibility, availability) — reported in 30 studies 3. Emotions (e.g. fear of side effects) — reported in 26 studies 4. Social influences (e.g. peer norms, influence from others) — in 25 studies	Key barriers to vaccination among care home staff included: • Insufficient understanding about influenza vaccines, their benefits, or safety (knowledge gaps) • Misconceptions or beliefs that the vaccine is ineffective or unsafe (beliefs about consequences) • Fear of side effects (emotional concerns) • Difficulty accessing the vaccine (logistical or environmental constraints)	Yes - TDF

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					5. Knowledge (e.g. awareness, understanding of the vaccine) — in 22 studies. The authors conclude that interventions to increase influenza vaccine uptake in care home staff should target those domains: improve knowledge with accurate information, counter misconceptions, address emotional concerns, and make vaccine access easier (e.g. on-site availability).		
2. Barriers to seasonal influenza vaccine uptake among health care workers in long-term care facilities: A cross-sectional analysis	Eanna Kenny, Aine McNamara, Chris Noone and Molly Byrne.	British Journal of Health Psychology (2020)	HCW in long-term care facilities (ROI)		This cross-sectional study surveyed 372 healthcare workers (HCWs) in 21 long-term care facilities in western Ireland to identify psychological factors influencing influenza vaccine uptake. Using the Theoretical Domains Framework (TDF), the study found that past vaccination, personal goals, intentions, social influences, and reinforcement were significant predictors of vaccine uptake. Notably, past vaccination was the strongest predictor (OR = 16.16). The	Past vaccination, personal goals, intentions, social influences, and reinforcement = significant predictors of vaccine uptake (<i>these could be targets for reducing barriers/increasing facilitation of behaviour</i>)	Yes - TDF

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					findings suggest that interventions targeting these specific behavioural domains could effectively improve vaccine uptake among HCWs in long-term care settings. Performing a logistic regression using the theoretical domains framework demonstrated a strong ability to correctly classify whether or not HCWs received the influenza vaccine. Conclusions: This research identified the key psychological determinants associated with HCW vaccine uptake. Interventions that target the theoretical domains, Goals, Intentions, Social influences, and Reinforcement, may enhance vaccine uptake among HCW in long-term care facilities.		
3. Influenza vaccination and healthcare workers: barriers and predisposing factors. A	Assunta Guillari, Francesco Polito, Gianluca Pucciarelli, Nicola Serra, Gianpaolo	Acta Biomedica (2021)	HCW Italy	influenza; vaccination; healthcare workers; adherence;	This narrative review examined 22 studies to identify barriers and facilitators influencing influenza vaccination among healthcare workers. Key facilitators included self-protection, protecting others, and community	The authors identify various barriers and predisposing factors affecting healthcare workers' influenza vaccine uptake (e.g. personal beliefs,	No

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literature review	Gargiulo, Stefano Botti, Teresa Rea, Silvio Simeone			barriers; review	responsibility. Common barriers were misconceptions (e.g., belief the vaccine causes flu), perceived low risk, belief in natural immunity, laziness, and trivialising the disease. The review found that current vaccination campaigns are largely ineffective. Making vaccine refusal more “complex and traceable” appears to improve uptake. The authors recommend designing targeted educational interventions based on these identified factors. The authors recommend that efforts to increase vaccination among healthcare workers should target both individual beliefs and institutional / system-level changes (e.g. policies, education, support)	institutional / organisational issues) Barriers: misconceptions about vaccine safety and effectiveness, fear of side effects, low perceived risk of contracting influenza, and lack of institutional support or incentives Facilitators: include positive attitudes toward vaccination, awareness of benefits (both for self and patients), and organisational measures such as free access, reminders, or institutional encouragement	
4.Determinants of seasonal influenza vaccination hesitancy	Caroline M. Hall, Holly Northam, Adrian Webster,	Journal of Clinical Nursing, 2021	HCW		This integrative literature review examined 78 studies to identify factors influencing seasonal influenza vaccination (SIV) compliance among		No

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among healthcare personnel: An integrative review	Karen Strickland				healthcare personnel (HCP). Six key themes emerged: perceived vulnerability, trust, past behaviour, professional duty, access/convenience, and knowledge/experience. The Health Belief Model was the most commonly used framework in these studies. The review highlights the critical role of trust and emotional factors in vaccination decisions, which also appear relevant to COVID-19 vaccine uptake. However, there is a lack of well-developed behaviour change models tailored to this context, suggesting a need for further research. Understanding these determinants is important for improving vaccine compliance among HCP, especially during pandemics. The Health Belief Model (HBM) was the most commonly utilised health behaviour change model within the seasonal influenza vaccination context. Efforts to influence the relevant domains to increase		
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					compliance, are likely to be impeded by a lack of a well-developed and tested behaviour change model.		
5. Attitudes, beliefs, determinants and organisational barriers behind the low seasonal influenza vaccination uptake in healthcare workers – A cross-sectional survey	Lise Boey; Charlotte Bral; Mathieu Roelants; Antoon De Schryver; Lode Godderis; Karel Hoppenbrouwers; Corinne Vandermeulen	Vaccine, 2018	HCW in Belgium		The study surveyed 5,141 Belgian healthcare workers (HCWs) from 13 hospitals and 14 nursing homes, plus interviews with vaccination campaign coordinators. Mean vaccination coverage was 40.4% in hospitals and 45.3% in nursing homes. Although up to 90% of HCWs believed it is important <i>not to infect patients</i>, only about 20% of non-vaccinated HCWs saw influenza vaccination as a duty to avoid harming patients. Misconceptions were common among non-vaccinated staff: • ~40% believed they could get influenza after vaccination. • That vaccination weakens the immune system. • Only ~20% of unvaccinated HCWs thought they had a high	*Not framed as barriers/facilitators but findings are similar! Factors positively influencing vaccine uptake: • Encouragement by supervisors (strong odds ratios in both hospitals and nursing homes). • Well-organized vaccination campaigns, especially with on-site vaccination availability. Factors negatively affecting vaccine uptake: • Misconceptions about	No (but could be mapped on to them?)

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					chance of catching influenza themselves. Motivations to vaccinate (for those unvaccinated) included self-protection and protection of family members. See next column for Factors positively influencing and factors negatively influencing vaccine uptake. Conclusion/Recommendation: There is a need for better guidance in organising seasonal influenza vaccination campaigns, with emphasis on education, communication, and making vaccination easily accessible.	influenza and the vaccine (e.g. belief in vaccine causing influenza, weakening immunity). • Underestimating the risk of contracting influenza, either by themselves or posing risk to patients.	
6. Barriers and enablers to influenza vaccination uptake in adults with chronic respiratory conditions: applying the behaviour change wheel	Allyson J. Gallant, Paul Flowers, Karen Deakin, Nicola Cogan, Susan Rasmussen, David Young, Lynn Williams	Psychology & Health (2021)	NOT HCW (adults with chronic respiratory conditions) *Included because it applies the BCW		This paper examines the barriers and facilitators (enablers) to influenza vaccination among adults with chronic respiratory conditions, and applies the Behaviour Change Wheel framework to propose targeted intervention strategies (see key findings on barriers/facilitators in next column).	Barriers identified include: -Misbeliefs or doubts about vaccine effectiveness or side effects -Concerns about safety -Low perceived risk of influenza -Logistical issues (e.g. access, convenience)	Yes – BCW/COM-B

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to specify multi-levelled tailored intervention content					The authors map these barriers/enablers to components of the Behaviour Change Wheel (e.g. capability, opportunity, motivation) and suggest multi-level, tailored intervention content to target these mechanisms.	-Lack of reminders or prompts -Facilitators / Enablers include: -Positive past experiences with vaccination -Health professional recommendation -Institutional support or provision (e.g. free vaccination, ease of access) -Clear, trustworthy information addressing safety and efficacy	
7. A qualitative study exploring healthcare providers' and trainees' barriers to COVID-19 and influenza vaccine uptake	Abhinand Thaivalappil, Ian Young, Melissa MacKay, David L. Pearl, Andrew Papadopoulos	Health Psychology and Behavioural Medicine (2022)	Healthcare providers and trainees		From semi-structured interviews (n = 18) with healthcare providers and trainees in Canada, the authors identified barriers and facilitators regarding uptake of COVID-19 and influenza vaccines (see next column for themes identified). The study maps findings to the Theoretical Domains Framework (TDF), showing how domains such as social influences, environmental	Three overarching themes emerged: 1. Making informed health decisions with added responsibility - Participants described balancing personal health decisions with a duty to protect both themselves and their patients. 2. A pro vaccine social network,	Yes - TDF

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					context & resources, beliefs about consequences, and knowledge play a role in vaccine acceptance or hesitancy.	widespread accessibility, and pursuing normalcy Having supportive peer networks, easy access to vaccines, and the desire to return to normal life facilitated uptake. 3. A more nuanced, respectful, and calculated approach to vaccine communication & policy implementation Participants emphasized the need for respectful dialogue, clarity in communication, and thoughtful policy (rather than mandates) to build trust.	
8. Behavioural determinants of COVID-19 vaccination acceptance among healthcare	J. Crawshaw, K. Konnyu, G. Castillo, Z. van Allen, J.M. Grimshaw, J. Presseau	Public Health (2022)	HCW (Canada)	COVID-19 Vaccination on Healthcare workers Healthcare	RR examined studies on COVID-19 vaccine acceptance among healthcare workers (HCWs) to identify modifiable behavioural factors influencing uptake. From 74 studies (out of 19,591 records), the median	Major barriers included concerns about vaccine safety and development speed, professional role, and mistrust in public health	Yes - TDF

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workers: a rapid review				professionals Rapid review Barriers and enablers Theoretical Domains Framework	willingness to be vaccinated was 64%. Using the Theoretical Domains Framework (TDF), the researchers identified 20 key barriers and enablers across eight behavioural domains. These insights can inform tailored strategies to boost vaccine uptake among HCWs.	responses. Key enablers were routine flu vaccination, fear of contracting COVID-19, and working directly with COVID-19 patients.	
9. Understanding the barriers and facilitators of vaccine hesitancy towards the COVID-19 vaccine in healthcare workers and healthcare students worldwide: An Umbrella Review	Jemma Louise McCready, Bethany Nichol, Mary Steen, John Unsworth, Dania Comparcini, Marco Tomietto	PLOS ONE (2023)	HCW and HC students worldwide		This umbrella review analysed 31 systematic reviews to identify barriers and facilitators of COVID-19 vaccine hesitancy among healthcare workers (HCWs) and healthcare students. Vaccine hesitancy was more prevalent in certain roles (e.g., nurses) compared to others (e.g., physicians). See next column for Key factors influencing hesitancy. The findings highlight the need for tailored strategies targeting specific healthcare groups to improve vaccine uptake and ensure safe healthcare delivery globally.	Key factors influencing hesitancy included sociodemographic traits (gender, age, ethnicity), occupational risks, health and vaccination history, concerns about vaccine safety and development, social influences, distrust in authorities, and misinformation.	No - but could be mapped on?

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10.Enablers and barriers to COVID-19 vaccine uptake: An international study of perceptions and intentions	Paul F. Burke, Daniel Masters, Graham Massey	Vaccine (2021)	General population (not HCW) in Australia, Canada, England, New Zealand, and the United States.	COVID-19 Vaccination hesitancy Health beliefs model Conspiracy beliefs Immunization Structural equation model	This study investigates psychological factors influencing COVID-19 vaccine hesitancy using the Health Belief Model. Surveying over 4,300 people from five countries (Australia, Canada, England, New Zealand, and the U.S.), it found that vaccine intentions are most strongly shaped by trust in vaccine approval, belief in protecting others, and conspiracy beliefs . People who are older, unemployed, or recently vaccinated for influenza are more likely to intend to get vaccinated. The study highlights the importance of targeting younger populations, using altruistic messaging, and improving government transparency to boost vaccine uptake.	Vaccine intentions most affected by trust in vaccine approval, belief in protecting others, and conspiracy beliefs .	No – Health Belief Model
11.Understanding occupational and attitudinal factors	Quisha Bustamante, Dominic Sparkes Lucy Findlater, Katie Munro,	Vaccine (2025)	HCW		This UK-based study surveyed healthcare workers (HCWs) in the SIREN cohort (Feb–Mar 2024) to identify factors influencing uptake of seasonal COVID-19 and influenza vaccines. Of 5,357	Not framed as B/F, more a demographic predictor analysis. But reasons for getting vaccine could be mapped to motivation etc.	No – but possibly could be mapped...

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influencing UK healthcare worker decisions for COVID-19 and influenza vaccination: A cross-sectional survey within SIREN	Irina Lut, Jameel Khawam, Sophie Russell, Ana Atti, Sarah Foulkes, Susan Hopkins, Victoria Hall, Jasmin Islam				respondents, 66.7% received both vaccines, while 18.3% received neither. Higher vaccination rates were linked to being over 65, a doctor, or having a chronic respiratory condition. HCWs of Black ethnicity were less likely to be vaccinated. Protection of self was the main reason for getting vaccinated (81.6%), while concern about long-term side effects was the top reason for declining the COVID-19 vaccine (30.1%). These findings highlight the need for tailored vaccine strategies based on demographic and occupational factors.		
12. Strategies used to improve vaccine uptake among healthcare providers: A systematic review	Rosaline de Koning, Mariana Gonzalez Utrilla, Emma Spanaus, Michael Moore, Marta Lomazzi	Vaccine X (2024)	Healthcare providers	Vaccine uptake Health workforce Public health Prevention Influenza vaccination	This systematic review analysed 60 studies to identify effective strategies for increasing vaccine uptake among healthcare providers, with a focus largely on influenza vaccines. Key interventions included education (e.g., lectures, posters), improved access (e.g., mobile units, extended hours), reminders, incentives,	Not directly framed as B/F but strategies suggested could be mapped onto intervention functions to reduce barriers etc.	No - but could be mapped to BCW int types?

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					feedback, and leadership involvement. A multifaceted approach—combining education, accessibility, and motivation—was found to be most effective, especially in contexts where mandatory vaccination is contentious. The findings support tailored, holistic strategies to address vaccine hesitancy and boost uptake among healthcare workers, reinforcing their critical role in public health.		
13. The Effectiveness of Interventions for Increasing COVID-19 Vaccine Uptake: A Systematic Review	Eleonore Batteux, Freya Mills, Leah Ffion Jones, Charles Symons, Dale Weston	Vaccines (Basel)	Not HCW specifically	COVID-19, vaccines, vaccine uptake, systematic review, interventions, behaviour change	This systematic review examined 39 studies evaluating interventions to increase COVID-19 vaccine uptake. Most studies focused on communication strategies, policy changes, and vaccine delivery, with 7 assessing actual uptake and 32 measuring vaccination intention. The review found personalised messaging and text message reminders to be effective in increasing real-world vaccine uptake. While communicating uncertainty didn't reduce intention to	Not directly framed as B/F but strategies suggested could be mapped onto intervention functions to reduce barriers etc.	No - but could be mapped to BCW int types?

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					vaccinate, mandatory vaccination policies could negatively impact it. Most studies used experimental designs, but few measured actual behaviour. More research is needed to identify what works best for vaccine-hesitant groups and for booster campaigns .	
14. COVID-19 vaccine uptake and hesitancy survey in Northern Ireland and Republic of Ireland: Applying the theory of planned behaviour	Gavin Breslin, Martin Dempster, Emma Berry, Matthew Cavanagh, Nicola C. Armstrong	PLOS ONE (2021)	NOT HCW (public)		This cross-sectional survey of 439 adults in Northern Ireland and the Republic of Ireland assessed COVID-19 vaccine uptake and hesitancy using established psychological scales. Results showed high intention (66.7%) and confidence to vaccinate, with low overall hesitancy. However, 27.15% preferred to wait and see, and 6.15% had no intention of getting vaccinated. Concerns were particularly noted around side effects in children. The study supports the usefulness of the Theory of Planned Behaviour in guiding public health strategies to reduce hesitancy and promote vaccine uptake.	No - Theory of Planned Behaviour

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15. A systematic review of communication interventions for countering vaccine misinformation	Hannah S. Whitehead, Clare E. French, Deborah M. Caldwell, Louise Letley, Sandra Mounier-Jack	Vaccine (2023)		Vaccine hesitancy Vaccine acceptance Misinformation Disinformation Communication strategies	This systematic review examined 34 studies on communication strategies to combat vaccine misinformation, with 29 assessing their effectiveness. Nine types of interventions were identified, mostly focusing on message content (e.g., debunking, humour, scare tactics, misinformation warnings) and some on message delivery (e.g., timing, source). Scare tactics and overly certain messaging were often counterproductive, while communicating scientific consensus, using humour, and warning about misinformation showed promise. Results for debunking and informational strategies were mixed. The review highlights the need for real-world evaluations that measure actual vaccine uptake, not just attitudes or knowledge.	Not directly framed as B/F but strategies suggested could be mapped onto intervention functions to reduce barriers etc.	No - but could be mapped to BCW int types?
16. Understanding the	WHO (2022)				This is the first position paper to be published by WHO on the behavioural and social drivers		

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behavioural and social drivers of vaccine uptake WHO position paper					(BeSD) of vaccine uptake. It summarizes the development of new tools and indicators to assess the BeSD of vaccine uptake for childhood and COVID-19 vaccination, enabling decision-makers on immunization policy, programme managers, and partners to address under-vaccination through an enhanced understanding of the underlying causes. This paper also reports the main findings of a scoping review that examined existing systematic reviews and meta-analyses on interventions to improve vaccine uptake – a first step towards understanding which interventions work to increase vaccine uptake, for whom, and in what settings. Finally, this paper makes recommendations for using the new tools and the resulting data to prioritize local interventions, and concludes with future research directions.		
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