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NEVER TOO LATE TO CHANGE THE RATE:

Attitudes of UK adults aged 50–70 towards respiratory vaccinations

REFERENCE

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Moderna has funded this research and had no editorial input into the content. Work was reviewed for compliance with the Association of British Pharmaceutical Industries Code of Conduct.

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FOREWORD

Health inequalities are causing disease, poverty and mortality rates to rise. And to the RSPH, tackling inequalities is critical to a healthier and fairer society. Ill health is not inevitable: a healthier and more prosperous future is possible with sustained investment in preventative policies and public health approaches.

A key part of this is vaccinations. Vaccines tackle health inequalities by protecting underserved communities and those living in deprivation from getting infectious diseases that can have significant consequences for their lives. They also prevent people from getting sick, reduce the number of severe cases of illnesses, reduce the burden of disease in certain social groups, and help alleviate pressures on the NHS.

Vaccines for respiratory illnesses are crucial for older adults, not only because of all already mentioned, but also because they impact their quality of life. Not having to miss family life or work because of flu or being concerned about a possible hospitalisation because of pneumonia affects people's lives positively, allowing them to live longer and happier lives.

It is reassuring to see that people who are 50 – 70 years old think vaccines are important to their health and know how vaccines work. But this new RSPH research also highlights that people with health conditions and of diverse backgrounds have different attitudes towards vaccinations. Understanding what they think and want is crucial to communicating effectively and supporting them well when offering vaccines.

Prevention is the thread that runs through all we do in public health and is crucial to tackling health inequalities. To tackle the latter effectively, we must design services that take into account people's experiences and concerns. Our commitment to tackling inequalities means that we and vaccine providers can use the research findings to support these groups to make informed decisions about their health and increase vaccine uptake.

William Roberts
RSPH CEO

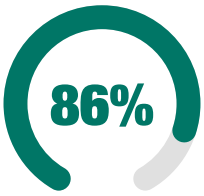
EXECUTIVE SUMMARY

Vaccines play a key role in keeping us and our communities healthy, and do this throughout our lives. There are specific vaccine programmes for older adults and adults with underlying health conditions in the UK, and these include vaccines for respiratory illnesses.

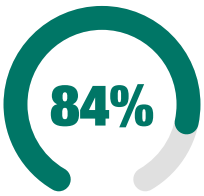
With growing concerns over the decrease in vaccination uptake and an increase in the incidence of preventable diseases, the Royal Society for Public Health (RSPH) surveyed adults between 50-70 years old on their thoughts about vaccines for respiratory illnesses, including the ones that are currently under development or could potentially be developed in the future. We wanted to know what they were concerned about, links between health conditions and perceptions, where they obtained trusted information and what would encourage them to have a vaccine.

MOST 50-70-YEAR-OLDS BELIEVE VACCINES ARE IMPORTANT TO THEIR HEALTH AND KNOW HOW VACCINES WORK

It is positive that the majority of people (86%) think that vaccines are important to their health, and that 84% can correctly identify how vaccines work. However, these numbers vary by nation, ethnicity, level of education and underlying health condition.



THINK VACCINES ARE IMPORTANT TO THEIR HEALTH



KNOW HOW VACCINES WORK

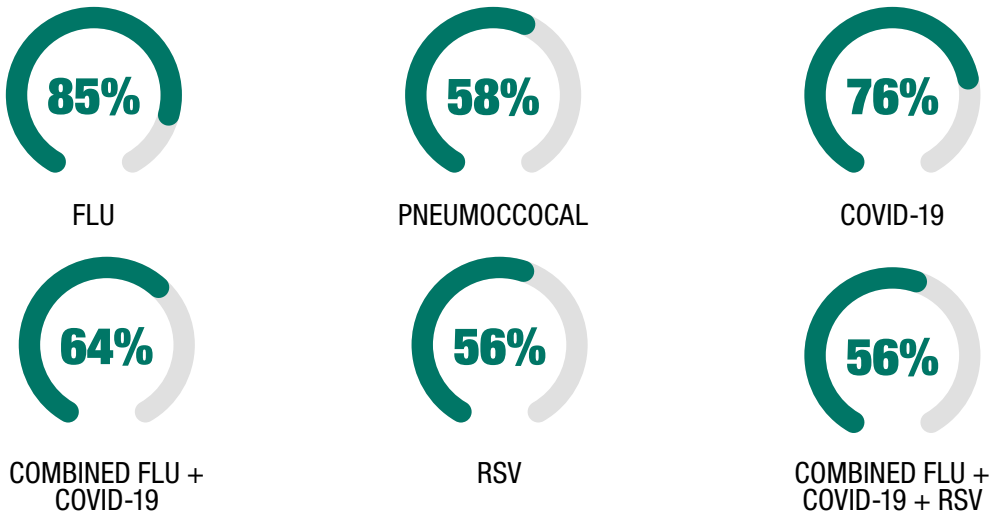
For example, people with high blood pressure, diabetes, asthma, and immunosuppression are more likely to agree that vaccines are important to their health than the general population (90%, 91%, 92%, and 93% respectively).

People from different ethnic backgrounds are less aware of how vaccines work. Only 67% chose the correct answer, compared with 85% of their white peers.

Concerns about health conditions vary. Perceptions of disease severity impact vaccine uptake. We asked which diseases and conditions respondents were most concerned about. No one disease or condition concerned the majority of 50-70-year-olds, but people of backgrounds other than white were more concerned than the general population.

Trust for single-disease vaccines is higher than for combination ones. Trust in vaccines for individual diseases is higher than for vaccines that combine two or more diseases. Trust is relatively high for the individual flu and Covid-19 vaccines (85% and 76% respectively), but this drops to 64% for a combined flu and Covid-19 vaccine[1]. This difference was observed in all groups regardless of age, ethnic background, health status and level of education.

% GENERAL PUBLIC WHO SAID THEY TRUST THE FOLLOWING VACCINES



The majority of people would consider the safety of the vaccine they are being offered. This factor was the most important for 68% of respondents, followed by the possibility of a vaccine making them ill (52%), and how to get to the venue offering a vaccine (22%). More people of backgrounds other than white said they would consider vaccine safety than their white peers (80% and 68% respectively), as well as vaccine costs (30% and 20% respectively).

Factors that encourage uptake include knowing that it protects individuals and communities. Knowing that a vaccine would protect them from a dangerous disease was the most encouraging factor when deciding on having a vaccine (78%), followed by knowing that it would prevent death (70%) and knowing that it would protect family and friends (63%). 46% of respondents told us that knowing the vaccine would protect them from more than one disease would encourage them as well. The employer making arrangements for people to have a vaccine would particularly encourage people from diverse backgrounds (17%).

Concern about new vaccines differs by ethnic background – but the general population is comfortable if they are recommended by a doctor. Many told us they were likely to worry about safety and unknown side effects of a new vaccine (62%), but they would not worry if a doctor recommended it (68%). People of backgrounds other than white are more worried than the general population though, with 75% expressing concerns about a new vaccine's safety and unknown side effects, and 48% saying they would not trust a new vaccine.

1 There are no flu + Covid-19 or flu + Covid-19 + RSV vaccines available for the general public in the UK currently, however the RSPH wanted to understand their perceptions to those.

Knowledge about which vaccines exist varies, and it is concerningly low for the pneumococcal vaccine. Most people aged 50-70 know there is a vaccine for flu (88%) and Covid-19 (93%), but just 31% know about the pneumococcal vaccine. Similarly, **knowledge of what vaccines they are personally eligible for varies by vaccine.** People were aware they could have the flu vaccine, but the same was not observed for the pneumococcal one.

Trust in information differs by ethnic background. The majority of people trust a healthcare professional and husband, wife or partner to give them information about vaccines (85% and 12%, respectively). Worryingly, 8% of respondents said they would not trust anyone to give them information, with a carer or someone who looks after them/ someone else came close to the bottom of the list (5%). The proportion of people from diverse ethnic backgrounds who said they would ask their partners (15%) and no-one (13%) is larger than their white peers, but a healthcare professional is still by far the person of choice (77%). Managers and work colleagues were not regarded as sources of information regardless of age, background or health condition.

People go online when looking for information about vaccines, but TV and leaflets are used as sources of information as well. 88% of people told us they access the NHS website when looking for information, followed by other websites such as BBC news (33%).

2 in 3 people are not concerned about potential side effects, but having a health condition impacts perceptions. Among those most worried about side effects were people with chronic heart or vascular diseases (43%) and chronic pain (40%).

Policy recommendations

Those delivering vaccines or developing vaccination programmes and policies should use multiple channels and approaches to reach and engage with 50-70-year-olds, with tailored strategies particularly for those in underserved communities.

Over 50% of respondents said they would trust combined vaccines and 69% said they would be likely to receive a vaccine that protected them from more than one disease with one shot. However they said they would have a vaccine if it protected them from dangerous diseases, but did not perceive diseases such as flu as dangerous to them. This indicates a level of uncertainty, and demonstrates that people working with vaccines at all levels must fine-tune engagement and communication strategies so people feel supported with their questions or concerns.

Vaccine providers and all involved in this group of people's health and wellbeing should share the benefits of vaccination and how they impact their lives and their community's health, including unusual spaces such as workplaces.

Our communication approach should be multi-channelled, and this includes using spaces where the public is to reach them. Public health approaches and programmes can be delivered opportunistically across a range of settings that are convenient to the public, such as workplaces. Despite ranking low in this poll, there is evidence that workplaces can support the public with their health. Trust in information from employers was low, but the workplace offers an opportunity to support vaccination understanding and uptake. This might include promoting vaccine literacy, protecting time off, and advocating for accessible, equitable, and timely vaccination of employees.

Training and support should be made available to all those working with or supporting older people so that they feel able to have informative and valuable conversations about the benefits of vaccination.

Healthcare professionals are trusted by 50-70 year-olds, however they may not always have the time or be in the most convenient places to engage with communities and individuals. Their work has an enormous impact on this group's perceptions of vaccinations; they must have the time, support and training required to deliver their work to the level they want to. Other professionals, volunteers, family members and people can support the public around vaccines as well. With training and support, they can acquire the knowledge and skills needed to have conversations about vaccines and become a much-needed person of trust to provide information.

INTRODUCTION

Vaccines are vital to keep communities healthy

Vaccines play a key role in keeping us and our communities healthy, and do this throughout our lives. There is growing concern about the decreasing uptake of routine vaccinations in the UK, putting everyone from children to adults at risk of catching severe diseases. (1,2,3) Infectious diseases pose a considerable risk for adults and older people, and flu and pneumonia alone are responsible for 8% of all deaths in people 65+. (4) There are specific vaccine programmes for older adults and adults with underlying health conditions in the UK, such as asthma, chronic heart diseases, diabetes and immunosuppression.

Adults are currently offered a range of vaccines for respiratory illnesses on the NHS, depending on their age or underlying condition: (5,6)

- Flu vaccine (65+ or depending on health condition)
- Pneumococcal vaccine (65+ or depending on health condition)
- Covid-19 (65+ or depending on health condition)

Concerns over uptake are growing

Taking flu as an example, there is growing concern about the decrease in vaccine uptake. During the pandemic, uptake in England for those 65+ was 80.9% for 2020-21, increasing to 82.3% the following year. At this time, the flu vaccine was also available to those 50 years and over, and uptake for those 50-64 years old was 45.2% in 2020-21 and 52.5% in 2021-22. Uptake fell to 79.9% in the 2022-23 season, and decreased even further in 2023-24 season, to 77.8% for those aged 65+. (7,8)

The impact of vaccines cannot be underestimated. Not only do they save lives, but vaccine programmes save the NHS money. For example, the reason why 50-64-year-olds who were not at clinical risk were offered a Covid-19 and a flu jab as part of the NHS programme in the last 3 flu seasons was to reduce hospitalisations associated with flu while the NHS was still dealing with the aftermath of the pandemic. (9) Flu and pneumococcal vaccination programmes helped save the NHS £71 million in direct treatment costs and freed thousands of hospital beds. (10)

An eye on the future

Those working across public health are also constantly assessing future needs. In 2023, the Joint Committee for Vaccinations and Immunisations (JCVI) advised for an RSV (respiratory syncytial virus - which can cause pneumonia) programme for those who are 75+. With an eye on the future, the committee is now observing if this should be expanded to people 65+ as well. (11) With advances in science and risks from emerging diseases, scientists are highlighting the value of combination vaccines, which protect against two or more diseases, or against two or more variants of the same disease. (12)

Understanding what people think about current and future vaccine programmes is crucial, so that governments and local authorities, policymakers, practitioners, communities and industry can work together to design effective vaccination programmes that support as many people as possible.

Building the evidence-base for older adults

Many factors influence vaccine uptake in people 50+. Perceptions of how dangerous a disease is, concerns that vaccines could interact with medication, trust and past experiences with the health system and other vaccine side effects can influence their decision. (13,14,15)

To generate new evidence and insight, RSPH surveyed adults between 50-70 years old on their thoughts about vaccines for respiratory illnesses. We wanted to know what they were concerned about, links between health conditions and perceptions, where they obtained trusted information and what would encourage them to have a vaccine.

METHODS

For this study, the RSPH commissioned YouGov to collect relevant data in this 50-70 age group using their 50+ Omnibus. Survey questions were drafted by the RSPH policy team, with input from YouGov. Data was collected on 24-28 May 2024, using YouGov 50+ Omnibus.

A sample of 1,508 50-70-year-old people representative of the UK population (aged 50-70) was recruited. Participants agreed to answer our survey and were signposted to information sources should they have any questions about the subject matter of the research.

To build a detailed picture of this age group's attitudes and experiences, we also collected/included contextual data, including current physical and mental health status, and working status. This was alongside asking about knowledge of vaccines, how they work, which vaccines are available to them, how important they think vaccines are, trust for vaccinations against particular diseases, where they get trusted information from, concerns about side effects and what would encourage them to get a vaccine.

This survey is a snapshot of attitudes and experiences; trends were not measured. All data was anonymised and data is presented descriptively.

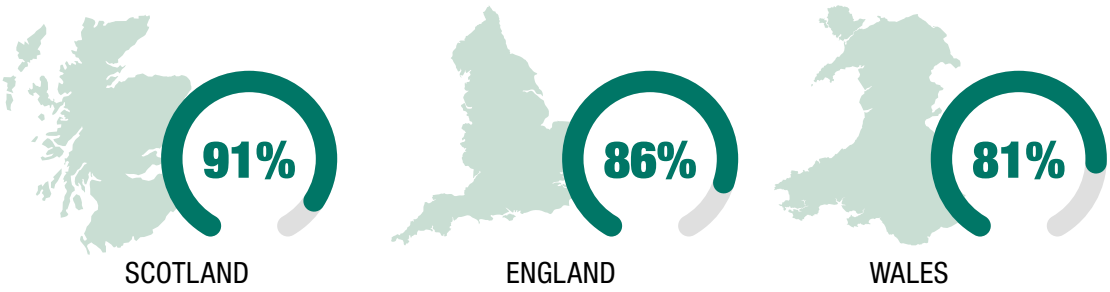
GENERAL PERCEPTIONS

Most 50-70-year-olds believe vaccines are important to their health

What came across clearly from the survey is that the overwhelming majority (86%) of people aged 50-70 think that vaccines are important to their health. This percentage increases with age, with 89% of people who are 66-70 years old thinking they are important, compared with 84% of 50-55 years old.

This varies when we look across the UK, most markedly in Wales. Scotland is the nation that most believe vaccines are important (91%), while Wales had a lower proportion of people (81%). In England 86% told us they believe vaccines are important to their health, as did 35 of the 40 people who responded from Northern Ireland[2].

PERCENTAGE OF PEOPLE WHO THINK VACCINES ARE IMPORTANT TO THEIR HEALTH BY NATION



When we examined the responses of people with particular health conditions, we found that the ones with high blood pressure, diabetes, asthma, and immunosuppression think that vaccines are more important to their health than the general population (90%, 91%, 92%, and 93% respectively). This is very positive, as people with underlying health conditions such as these are more likely to struggle with complications of diseases such as flu.

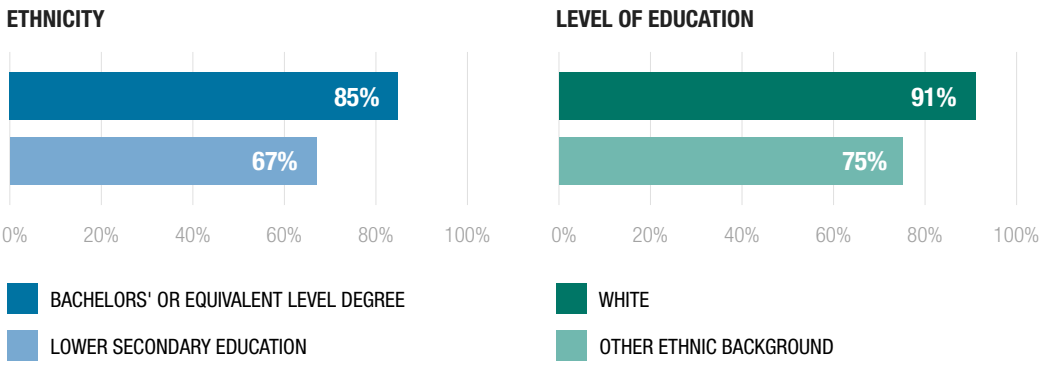
Education and ethnicity impact vaccine knowledge

Knowledge of how vaccines work is important because it helps increase confidence in vaccinations and tackle hesitancy. It is also crucial for people's understanding of the real protection vaccines can offer. (16) Overall, around 4 in 5 people know how vaccines work (84%). While results did not vary much by age or nation, they did by level of education. Of those who finished lower secondary school (equivalent to GCSE), 75% know how vaccines work, compared with 91% of those with a Master's degree-level education.

2 Our sample people living in Northern Ireland was 41 people, therefore it does not represent a wide enough cross-section of the target population to be considered statistically significant.

People from different ethnic backgrounds also are less aware of how vaccines work. Only 67% chose the correct answer, compared with 85% of their white peers. Of this group, 20% told us they did not know, or believed the answers provided in the survey did not describe what a vaccine does.

% OF PEOPLE AWARE OF HOW VACCINE WORK:



Concern about health conditions varies

Research indicates that a lack of perception about the seriousness of particular diseases or conditions can influence vaccine uptake. (13) In order to understand more about this among 50-70 year-olds, we asked which diseases and conditions they were most concerned about. No one disease or condition concerned the majority of 50-70-year-olds. Diseases with the highest proportions were bacterial pneumonia (concerning 49%) and viral pneumonia (46%). People who are 66-70 are more concerned than those aged 50-55.

However, this varies when people's health conditions and ethnicity are taken into account. For example, people with asthma are more concerned about flu (57%), bacterial pneumonia (61%), RSV (57%) and Covid-19 (61%) than the general population (37%, 49%, 46% and 44% respectively). People of backgrounds other than white are also more concerned about bacterial pneumonia (60%) and RSV (59%) than their white counterparts (48% and 46%).

Trust in single-disease vaccines is high - but drops for combination vaccinations

We wanted to find out 50-70 year-olds' levels of trust in vaccines which are currently available, in upcoming vaccines (such as the RSV vaccine for when they reach 75) and in combined vaccines which could be available in the future.

What came across strongly was that trust in vaccines for individual diseases is higher than for vaccines that combine two or more diseases. Trust is relatively high for the individual flu and Covid-19 vaccines (85% and 76% respectively), but this drops to 64% for a combined flu and Covid-19 vaccine. This difference was observed in all groups regardless of age, ethnic background, health status and level of education.

Despite not being introduced to the NHS vaccination programme until September 2024, (17) just over half of respondents (56%) told us they trust the viral pneumonia (RSV) vaccine. Trust for a trivalent vaccine (flu, Covid-19 and RSV) is lower than for flu and Covid-19 combination (56% versus 64%).

Trust for the trivalent vaccine is very similar to the one observed for the RSV vaccine. This could be just a coincidence, a consequence of people's lack of knowledge, or could also happen because only recently the acronym RSV was more present in NHS and media outlets communications, leading to confusion.

A finding that needs further research is that the overwhelming majority trust the flu vaccine and 3 in 4 trust the Covid-19 one, but the proportion drops considerably when both are combined into one single vaccine. It is known that parents worry about combination vaccines given to their children, thinking that they can overload the child's immune system. (18) Research in other countries show that older people also have concerns about their bodies being able to cope with so many diseases at once, combined with a distrust of manufactured drugs. (13) This shows we need to continue studying this population's perception in the UK, so that we can better understand their concerns and further reassure them.

People with asthma, who are immunosuppressed or have high blood pressure tended to trust flu, Covid-19, RSV and combined vaccines more than the general population or people without health conditions, but we observe a similar drop in levels of trust in combined vaccinations.

PERCENTAGE OF PEOPLE WHO SAID THEY WOULD TRUST SPECIFIC VACCINES

GENERAL PUBLIC

FLU	85%
COVID-19	76%
RSV	56%
PNEUMOCOCCAL	58%
FLU + COVID-19	64%
FLU + COVID-19 + RSV	56%

PEOPLE WITH NO HEALTH CONDITIONS

FLU	84%
COVID-19	76%
RSV	55%
PNEUMOCOCCAL	56%
FLU + COVID-19	66%
FLU + COVID-19 + RSV	56%

ASTHMA

FLU	90%
COVID-19	79%
RSV	61%
PNEUMOCOCCAL	68%
FLU + COVID-19	66%
FLU + COVID-19 + RSV	59%

IMMUNOSUPPRESSED

FLU	95%
COVID-19	80%
RSV	77%
PNEUMOCOCCAL	72%
FLU + COVID-19	72%
FLU + COVID-19 + RSV	68%

HIGH BLOOD PRESSURE

FLU	89%
COVID-19	79%
RSV	58%
PNEUMOCOCCAL	59%
FLU + COVID-19	64%
FLU + COVID-19 + RSV	59%

KNOWLEDGE OF WHICH VACCINES EXIST AND WHAT IS AVAILABLE

Knowledge varies and it is concerningly low for the pneumococcal vaccine

Whilst most people aged 50-70 know there is a vaccine for flu (88%) and Covid-19 (93%), just 31% know about the pneumococcal vaccine. The pneumococcal vaccine protects people from serious forms of lung infections, and the survey shows low levels of awareness among people with respiratory conditions such as asthma (35%) and chronic obstructive pulmonary disease (48%)[3]. Whilst awareness did increase with age and reached 50% in the group whose age made them eligible for it (66-70yo), it is still below optimum levels. 3 in 10 (32%) white respondents were aware, compared to 2 in 10 (20%) people of diverse backgrounds. This sends a clear message that more work needs to be done to raise awareness levels across the UK.

The older people get, the more aware they are of what vaccines are available to them personally. However, figures vary greatly depending on the vaccine. Among the group of 66-70 year-olds, 90% of them knew they could have the flu vaccine, but this number went down to 33% for the pneumococcal one. The proportion of people with health conditions who are aware of this specific vaccine is even lower than the reported uptake. This could mean that GPs can reach people and offer them the jab despite their lack of awareness, or that vaccinations are not something memorable to this population.

Comparison between level of awareness on survey and UKHSA vaccine coverage report

Condition	Chronic obstructive pulmonary disease (i.e. COPD)	Chronic heart or vascular disease	Diabetes	Immunosuppression
Awareness RSPH survey	43%	30%	31%	34%
Latest UKHSA vaccine coverage report (19)	56.8%	44.1%	56.2%	40.5%

3 Our sample people with chronic obstructive pulmonary disease (COPD) was 37 people, therefore it does not represent a wide enough cross-section of the target population to be considered statistically significant. However, it can provide a general indication of what this group is feeling and this is why we are sharing these numbers.

One interesting finding from this RSPH survey is that despite the RSV vaccine being recommended for use only in 2023, (11) 1 in 4 people said they already knew this vaccine existed (25%). Older people seemed even more aware of its existence (30% of those 66-70 years old), and people of backgrounds other than white were the group with the smallest level of awareness (18%). The RSV vaccine will be offered for all adults aged 75-79 years old in England through the NHS in September 2024. (20) Our sample seemed to be aware of this: only 13% believed the RSV vaccine was currently available to them (the survey was conducted in May 2024).

Changing eligibility and new programmes can be confusing

Before the Covid-19 pandemic in 2020, those who were 65 years old + or had a health condition were eligible for a flu vaccine on the NHS. During the pandemic, eligibility changed so that more people could be protected against flu. So, the vaccine was also offered to those who were 50+, those living with someone immunocompromised, or those caring for an older person. (21) However, since Covid-19 restrictions were lifted, eligibility changed once again for those 65+ and with a health condition. All this, summed up with the new RSV programme, can be confusing to people - for some time they were eligible, then they were not. It would be important to help people understand if they can have a vaccine on the NHS or privately, and how to access it.

ALL THIS, SUMMED UP WITH THE NEW RSV PROGRAMME, CAN BE CONFUSING TO PEOPLE - FOR SOME TIME THEY WERE ELIGIBLE, THEN THEY WERE NOT. IT WOULD BE IMPORTANT TO HELP PEOPLE UNDERSTAND IF THEY CAN HAVE A VACCINE ON THE NHS OR PRIVATELY, AND HOW TO ACCESS IT.

INFORMATION AND COMMUNICATION

Trust in information varies and differs by ethnic background

Trust in vaccines, healthcare providers and policymakers impact vaccine acceptance and uptake because it is a key factor in people's decision-making processes. (22) It is known that in the UK, trust in the NHS was a strong predictor for the uptake of Covid-19 vaccination. (23)

We asked people who they would trust to give them information about vaccines. Given a wide range of options, the majority chose a healthcare professional as their single choice. This preference for a healthcare professional can be seen across all different groups of people and ages in this survey. This does not differ from findings from other research: UKHSA's study with parents showed that 86% trust healthcare professionals, and an RSPH survey with children and young people reached the same conclusion, as they told us they would trust GPs and school nurses and their parents. (24,2)

Healthcare professionals are aware of their role in supporting patients, and point out that besides lack of time and priority of other medical issues, they need further education and support so that they can help people to the best of their ability. (25)

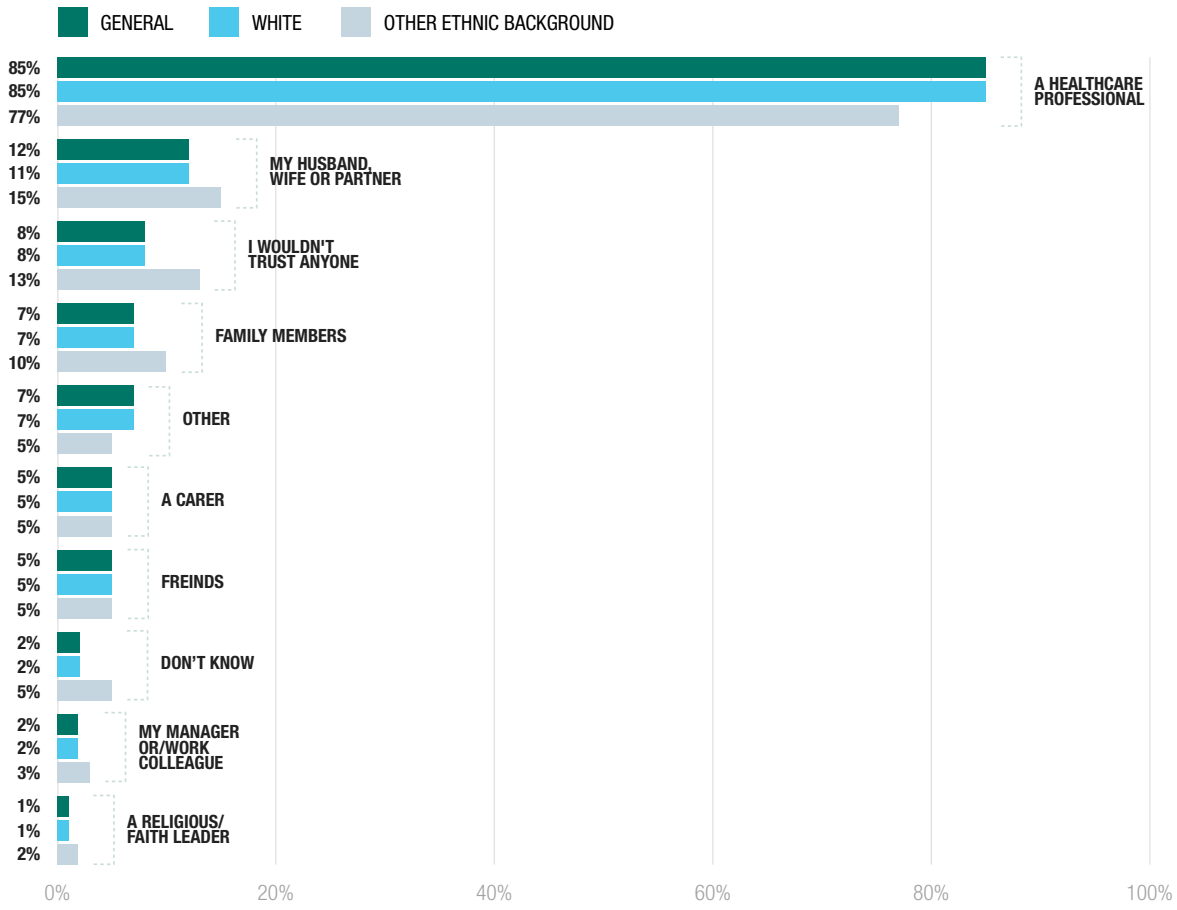
Husband, wife or partner came second. Interestingly, in third, people said they would not trust anyone to give them information about vaccines. Surprisingly, a carer or someone who looks after them/someone else came close to the bottom of the list. While it might be expected that people would trust their partner or a carer as someone who looks after people's health and wellbeing, (26) this was not reflected in the survey.

There is a difference between people of other ethnic backgrounds when compared to their white peers. The proportion of those who said they would trust their partners, no-one or family members is greater, however, a healthcare professional is still by far the person of choice.

Whilst it is concerning that 13% of people of diverse backgrounds said they would trust no-one to give them information, there was a lot of debate during the Covid-19 pandemic about this group's lack of trust in NHS services, healthcare treatments and even medicine. (27,28) We hypothesise that this lack of trust is not to the vaccine alone, but to a combination of factors and people that lead to this numeric figure.

Faith leaders were at the bottom of the list regardless of people's age, background, health and work status, but this mimics results from previous research. (23). It did not matter whether people were religious or not.

PERSON PEOPLE WOULD TRUST TO GIVE THEM INFORMATION ABOUT VACCINES



Recently there has been a focus from business, Government and the public health community for workplaces to be settings for health improvement. With only 1% of people aged 56-60 who are working said they would trust their managers or work colleagues, there is work to be done to progress this approach. Many workplaces will have health champions who could be equipped to answer questions, signpost appropriately and encourage vaccine uptake. Embedding public health support in the workplace could be an effective and relatively inexpensive way of getting information to the workforce. (29)

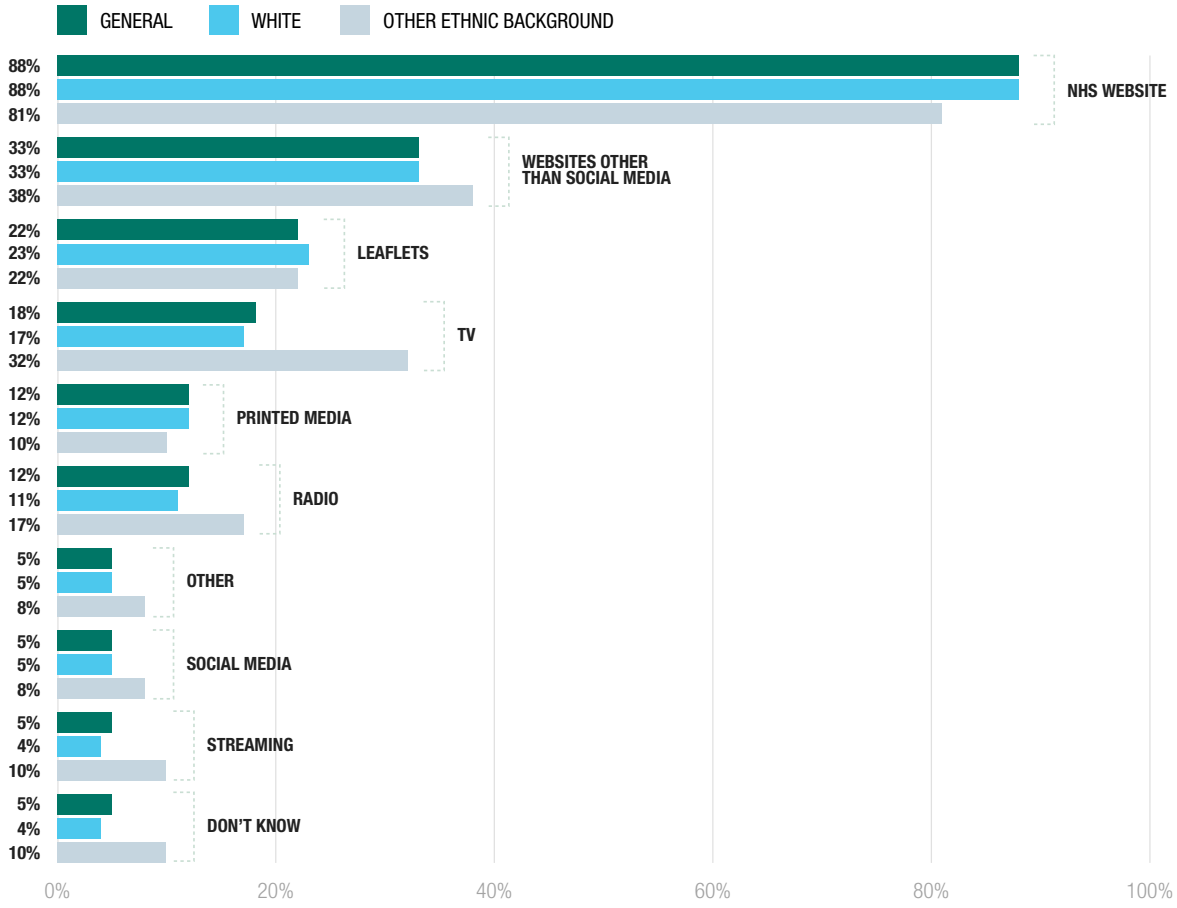
Majority use NHS website, TV and leaflets for information

We also asked participants where they look for information about vaccines. The vast majority told us they go online and check information on the NHS or other websites. The NHS website is by far the place of choice, with 88% of respondents telling us this is what they access when wanting to know more. This was seen across all groups in our survey, regardless of age, health condition, background or education. More people with diabetes, high blood pressure and bachelor's degrees said they would access it (91%, 92% and 92% respectively).

The NHS website is a very reliable source of information with the most up-to-date figures and facts about health. Their webpage about vaccination offers age and disease-specific information on who is eligible for different vaccinations, and when. Therefore, this finding is particularly positive.

In 2020, to ensure that people found trusted information online, the NHS developed with Google what they called Knowledge Panels: search results from Google would feature sourced content from the NHS, ensuring people could easily access NHS advice. (30) So the fact that people also use other websites to look for information is not necessarily negative, as they could be reading NHS-sourced information.

SOURCES OF INFORMATION



One interesting finding is that people of other backgrounds would use TV and radio as sources of information more than their white peers. Among this group, 32% told us they would get information from TV, and 17%, radio; while people of white backgrounds would use TV and radio less.

The story this data tells us is that we must have a multichannel approach when sharing information, particularly if we want to reach those of diverse backgrounds and underserved communities. Relying just on online resources or leaflets could mean that an important proportion of people are left out.

Despite social media ranking low, with only 5% saying they use it as a source of information, research shows that people aged 50+ do use it and look for information on these platforms, particularly Facebook and X (Twitter). (31) We hypothesise that this difference reflects people's awareness of where they should be looking for information (e.g. official NHS website) versus their actual behaviour (e.g. using platforms such as Facebook or WhatsApp).

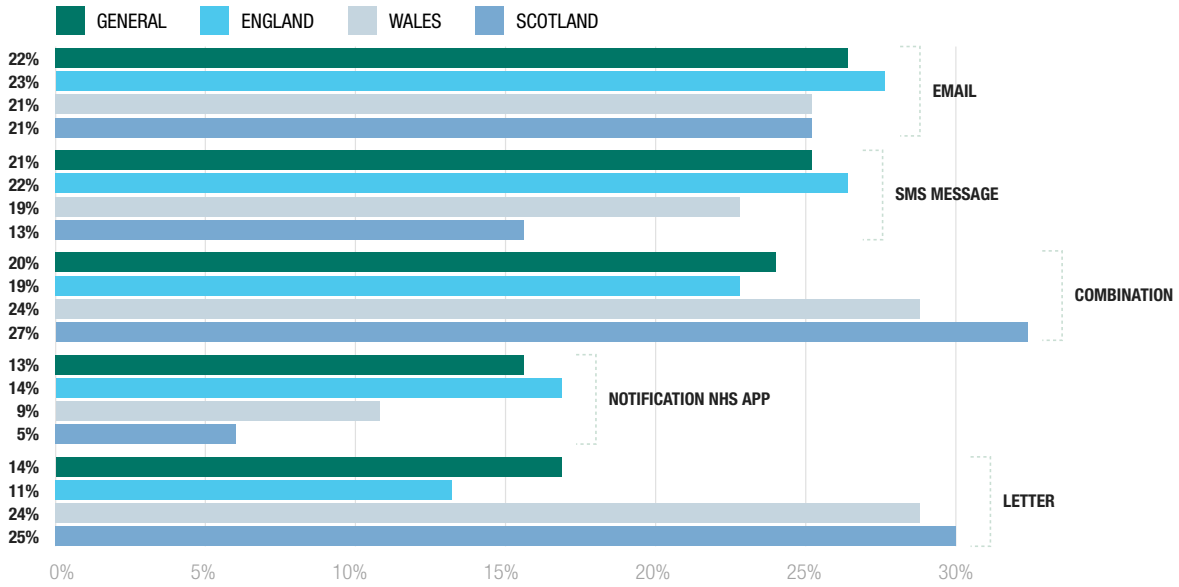
Other surveys also showed similar results, where respondents declared that most used sources were official channels, such as the UK government or NHS websites. (23)

Options for receiving appointment information varies by age and nation

Currently, the NHS uses different methods to tell people about upcoming appointments or how to book one. The majority of people told us they prefer to be contacted about their vaccine appointments via e-mail, with SMS messages on their phones and a combination of electronic methods plus another one (such as email and phone call) coming in close second and third. Interestingly, more people aged 66-70 want e-mails (25%) than their younger peers, as 21% of people aged between 50 and 55 said they would like one. They also seem less inclined to want to receive a letter (12%) than people who are 50-55 (17%).

In the USA, text messages and videos sent to people's phones were successful in increasing Covid-19 vaccine uptake. (32) And the National Institute for Health and Care Excellence (NICE) highlights that invitations to vaccinate and following reminders should preferably be of different methods, to ensure people are being reached. (33) People's preferences indicated in our poll suggest that a blended approach when inviting people for their vaccinations could be effective.

PREFERENCE OF CONTACT BY NATION



Despite a push from the government during the Covid-19 pandemic for people to download the NHS App, (34) and download statistics for older people are relatively high, (35) only 13% of people would like to be reached via this app notification.[4] It is still more popular than a phone call (3%), but it is still low in terms of preference. Worryingly, 5% told us they would not like to be contacted about vaccines or vaccine appointments in any way.

4 The NHS has been using more the NHS app to send patients notifications about their appointments and follow ups, however the service depends on individuals' GP clinics and healthcare provider. (62)

SIDE EFFECTS AND ENCOURAGING FACTORS

2 in 3 are not concerned about potential side effects, but having a health condition changes perception

In general, side effects do not seem to be a major concern for people aged 50-70. Just under 1 in 3 (30%) told us they are very or fairly worried, with 7 in 10 (68%) saying they are not very, or at all, worried.

This was fairly consistent across 50-70 year-olds, however having a health condition can impact on perceptions of side effects. Among those most worried about side effects were people with chronic heart or vascular diseases (43%) and immunocompromised (36%). People with health conditions that do not make them eligible for a vaccine, such as chronic pain (40%), or whose health conditions limited daily activities such as walking (45%), cooking (59%), bathing or dressing (53%) or working (43%) are more concerned about side effects too. Only 26% of those without any health condition said they were worried about side effects. People of diverse ethnic backgrounds (50%) and people with lower secondary education (36%) are very worried or fairly worried, compared to 30% of the overall 50-70 year-old population.

Previous research done in the UK before the pandemic found that 32.7% of people over 20 years old in the country were concerned about side effects. (36) And even during the pandemic, one study found that only 29% were worried about them, however, when asking people who were hesitant to have the new Covid-19 vaccine, this number went up to 67%. (37)

We asked the 30% who were very or fairly worried what they were the most worried about. Heart and vascular issues came first (94%), but people told us they are more worried about pain, fatigue and headache (69%) than more concerning side effects such as fever and diarrhoea (63%). People who already live with chronic pain were particularly worried about side effects such as pain, fatigue and headaches (80%).

Factors to consider when being offered a vaccine include costs, accessibility and becoming ill

Vaccine safety is the feature 68% of people would consider when being offered a vaccine, followed by the possibility of a vaccine making them ill (52%), and how to get to the venue offering a vaccine (22%). More people of backgrounds other than white said they would consider vaccine safety than their white peers (80% and 68% respectively).

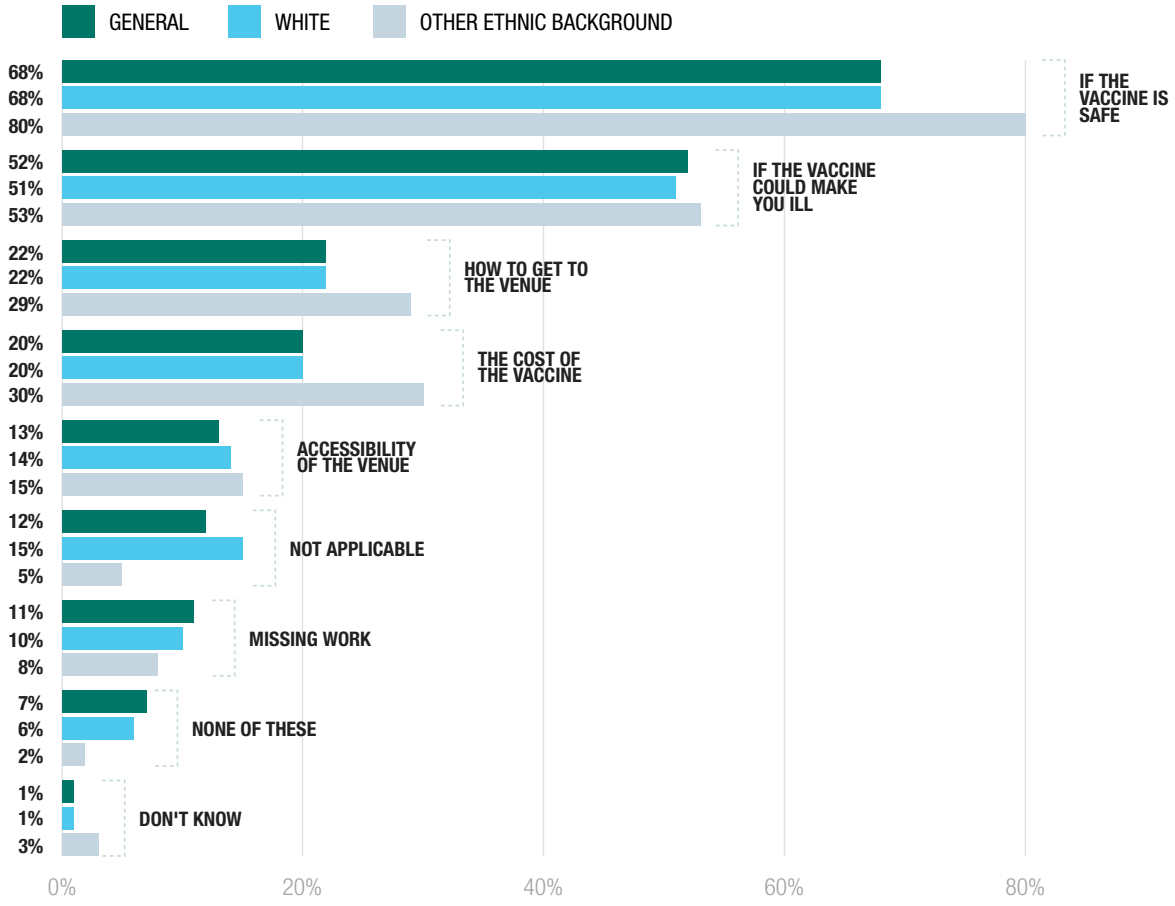
Vaccine safety is crucial to maintain or gain people's trust and confidence in vaccines. (38) Concerns about vaccine safety are valid, and this is a topic that is taken seriously into account by the scientific community. For example, in 2020 the World Health Organisation

Global Advisory Committee for Vaccine Safety reviewed 20 years of evidence to assess safety in currently available vaccines. (39) Moreover, it is known that with the development of new vaccines (including combined ones) and new technologies to produce them, people's levels of concern could rise. (40) Addressing people's apprehensions around vaccine safety is therefore fundamental to ensure they trust this medicine.

There were concerns about vaccine costs across 50-70 year-olds, with 1 in 5 worried about it. This was slightly higher for those 50-55, at around 1 in 4. This raised to around 30% for people from backgrounds other than white. It makes sense that younger groups (50-55) would be concerned about costs. Unless they have a particular condition, flu and Covid-19 vaccines are not available for them for free on the NHS as they have to be purchased privately. The average cost of the flu vaccine is £20, and around £100 for the Covid-19 vaccine. (41)

However, many people in our sample were eligible for respiratory vaccines for free, due to their health conditions, and yet, they were worried about costs. Concerningly, 21% of people with asthma and 14% of people immunosuppressed told us so. Even 10% of those who were 66-70 years old and whose age made them eligible were concerned with costs. We must emphasise these respiratory vaccinations are free to a list of people with certain underlying health conditions and age, so improving our communications strategy to reach them should be considered.

FACTORS PEOPLE WOULD CONSIDER WHEN OFFERED A VACCINE



Workplaces offer an opportunity to engage their workforce on vaccines

Those in work aged 50-55 and 56-60 were concerned about costs (26% and 21% respectively), and they were also more concerned about having to miss work to have the vaccine than the general population (21% and 19% respectively, versus 11% of all respondents). Employers could play a significant role by offering these vaccines as part of their health support offer, which would benefit both employees and the organisation. Previous RSPH research showed that timings of vaccine appointments were usually an issue for adults to have a vaccine, (42) so giving people time to have these or even offering them in health schemes would positively impact the workforce's health.

Factors that encourage uptake include knowing that it protects individuals and communities

People told us that knowing that a vaccine would protect them from a dangerous disease was the most encouraging factor when deciding on having a vaccine (78%), followed by knowing that it would prevent death (70%) and knowing that it would protect family and friends (63%). These demonstrate the importance of building a narrative around vaccines being important to our health and those around us, and how diseases that seem inoffensive (such as flu) can be harmful. A multi-layered approach spreading the message that vaccines protect people but also the ones they care about should be considered.

Convenience influences their decision too but to a lesser degree. Being able to have the vaccine close to their homes (39%) or in a place that they visit often (17%) are factors, but knowing it would prevent them from going to the hospital was more important (61%).

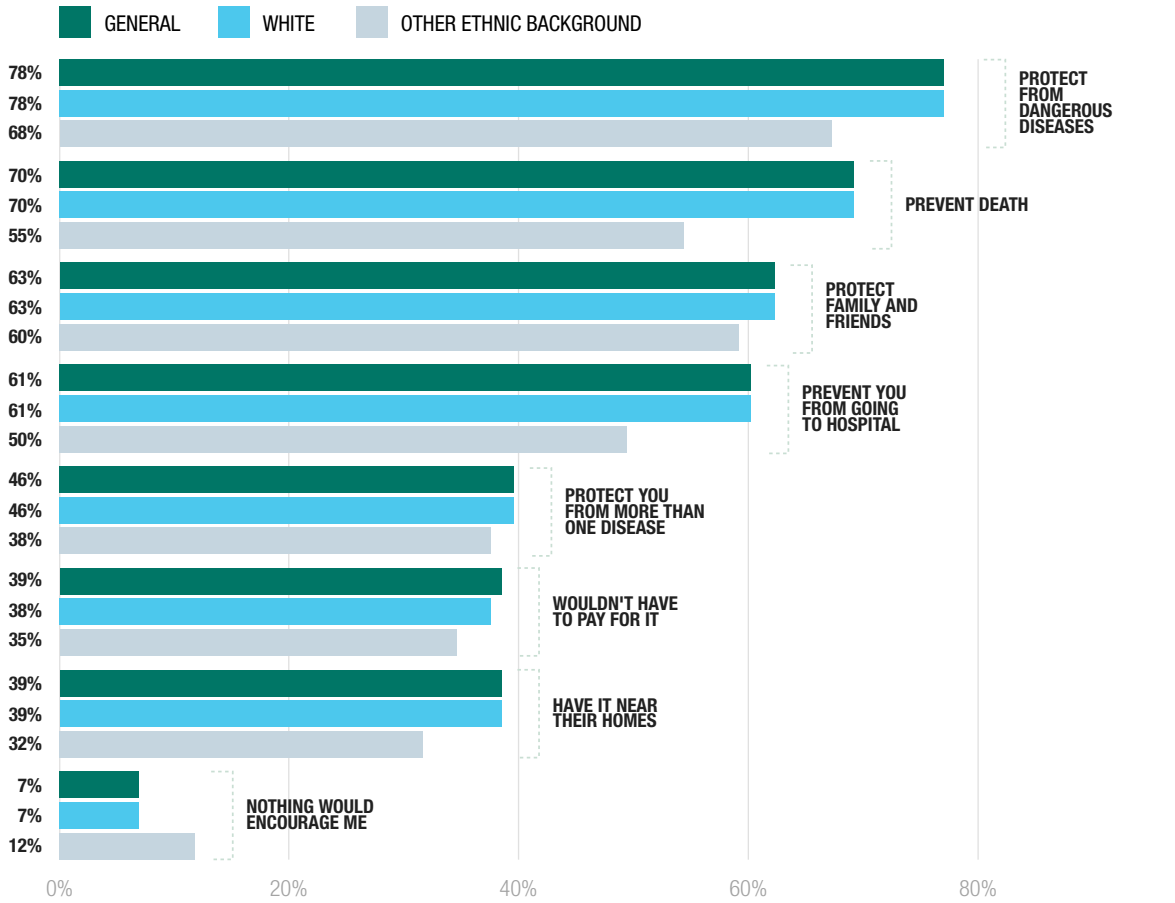
However the story is not black and white…

One interesting finding of our survey is that 46% of respondents told us that knowing the vaccine would protect them from more than one disease would encourage them to have it. Nonetheless, they told us that they trust combined vaccines less than the ones for individual diseases. In this case, there is an opportunity to further inform people about the advantages of a combined vaccine and how our immune system responds to it. From reducing needle burden to simplifying vaccine programmes and reducing costs, there are many benefits to combined vaccine that should be shared with the public. (12)

The employer making arrangements for people to have a vaccine would encourage particularly people from diverse backgrounds (17%), people between 50-55 and 56-60 years old who are working (20% and 17% respectively), and people with a bachelor's degree (17%), demonstrating employers can play an interesting role in this debate.

Whilst it seems a relatively low number, is it concerning that 7% said nothing would encourage them to have a vaccine. This rises to 12% among people from diverse backgrounds and 11% among people with only lower secondary education. This means that these people do not feel that convenience or reassurance would encourage them. We must understand their reasoning and needs better so that we can support them properly.

WHAT WOULD ENCOURAGE PEOPLE TO HAVE A VACCINE



Other factors people consider include vaccines increasing need for care and this varies by underlying health condition

In our survey, 30% were concerned about potentially combining the side effects of vaccine and their own medication's. This is reflected in other research. (13,14) What concerns them the most is the vaccine potentially making their health condition worse (33%). This proportion was higher among those already with a chronic condition, for example diabetes (46%), chronic heart and vascular disease (61%), immunosuppressed (49%) and chronic pain (57%). To these groups, it would be important to give them time to ask questions and speak to their health and care professional, so that they could make an informed choice.

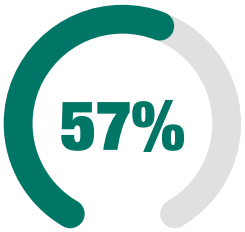
In third place came concerns that the vaccine would increase their need for care (28%), with people of backgrounds other than white being more concerned than their white peers (49% compared to 26%). In addition, people with health conditions such as chronic heart and vascular disease and chronic pain (45% and 44%) also expressed concern.

A cause of this could be that they already need care or help while performing these activities, and the idea of needing more of it could be unsettling. A clear message about what vaccine side effects are and the consequences of these to people's life should be shared with these particular groups, so they feel better supported and encouraged to have a vaccine.

NEW VACCINES AND NEW TECHNOLOGIES

One shot vaccine versus multiple vaccines - the evidence paints a varied picture

It is expected that new vaccines will be produced and added to the schedule because of new and emerging diseases and climate change (as it will expand the geographical range of diseases transmitted by mosquitos). (43) Technological advances will allow us to combine more vaccines in one, reducing needle burden and simplifying the programmes. Our survey asked if people would be likely to receive a vaccine produced with a new method, technology or approach, and 57% of the UK adult population aged 50-70 said they would. This reduced to 39% of people from diverse backgrounds. A similar behaviour is observed for vaccines that would be developed for new or emerging diseases. While 65% of the UK adult population aged 50-70 said they would have them, this reduced to 47% of people from diverse backgrounds.



57% OF THE UK ADULT POPULATION AGED 50-70 SAID THEY WOULD BE LIKELY TO RECEIVE A VACCINE PRODUCED WITH A NEW METHOD, TECHNOLOGY OR APPROACH.

Discussing vaccination development with this group is key. There are many debates currently about the development of new vaccines and inclusivity in clinical trials. Studies show that Asian, Black and mixed-ethnic groups are under-represented in clinical trials in the UK, (44) and that lack of representativity of ethnic groups in vaccine trials may impact key principles of public health, such as equity and justice. (45) There are many reasons why people of other backgrounds mistrust medical research, such as historical racism, language barriers and logistical obstacles (such as transportation costs). (45) This topic is so crucial that the Health Research Authority (HRA) and Medicines and Healthcare products Regulatory Agency (MHRA) are working together with scientists to develop an Inclusion and Diversity Plan, to ensure clinical trials are inclusive and welcome groups of people currently underserved by research. (46)

And even though 56% of people said they would trust a vaccine that combined flu, Covid-19 and RSV, 69% told us they would be likely to receive a vaccine that protected them from more than one disease in one shot. This proportion was slightly higher among those with asthma (71%), high blood pressure (71%), diabetes (72%) and immunosuppressed (76%), but

also with those with no health conditions (70%). These proportions suggest that regardless of people's health status, they would be interested in having such a vaccine.

People from backgrounds other than white had the lowest proportion among all groups, with 57% saying they would be likely to receive a vaccine that protected them from more than one disease with one shot. This demonstrates once again the importance of supporting these populations so that they can make informed decisions about their health.

Concern about new vaccines differs by ethnic background - but this cohort are comfortable if vaccines are recommended by a doctor

During the Covid-19 pandemic, there was a lot of questioning about the new vaccine and how it was developed, with some people concerned about the expedited process, its safety and government actions. (47) In the UK, most people who would not accept the new Covid-19 vaccine showed lower levels of trust in scientists, healthcare professionals and the state. (48)

Bearing this in mind, we asked people about their thoughts on new vaccine production and different methods. Many told us they were likely to worry about safety and unknown side effects (62%), while 68% agreed they would not worry if a doctor recommended the vaccine.

People of backgrounds other than white are more worried than the general population about the new vaccine safety and unknown side effects (75%), as well as people with lower levels of education (74%). However, the most concerned groups are the people whose health conditions limits them a lot to perform daily activities, such as walking (74%), bathing or dressing (77%), and cooking (78%).

These groups also tend to worry more even if the doctor recommended the vaccine. 54% of people from diverse backgrounds said they would not worry if it was recommended by their doctor, compared with 68% of their white peers. A smaller proportion of people limited by their health conditions to perform daily activities would not worry after a medical recommendation, with 56% telling us so.

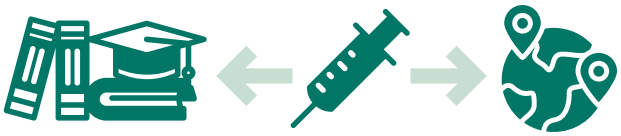
WITH AROUND 1 IN 8 PEOPLE UNSURE ABOUT WHAT TO DO, THERE IS A WINDOW OF OPPORTUNITY TO INFORM THEM ABOUT WHAT A NEW VACCINE MEANS AND HOW NEW VACCINES ARE DEVELOPED

Only 30% of people told us they would not trust a new vaccine, with only 11% strongly agreeing they would not trust it. However, this number changes when we look at people from diverse backgrounds: 48% of those from non-white backgrounds said they would not trust a new vaccine, with 16% strongly agreeing they would not trust it. In this question in particular, many people told us they do not know what they would do. Among the whole UK population aged 50-70, 12% said they did not know if they agreed or disagreed, with this proportion being great among those living in Wales (21%).

With around 1 in 8 people unsure about what to do, there is a window of opportunity to inform them about what a new vaccine means and how new vaccines are developed. Easy-to-understand information shared by trustworthy sources in a culturally competent way can support people to feel empowered to make decisions about their health.

DISCUSSION

This study brings fresh evidence and insight into the experiences, perceptions and concerns about the current and future vaccine programme for 50-70 year-olds. While it paints a broadly positive picture, there are some concerning differences across the four nations, between peers from different ethnic groups and those with different levels of education.



WHILE IT IS ENCOURAGING THAT THE MAJORITY OF 50-70 YEAR-OLDS THINK VACCINES ARE IMPORTANT TO THEIR HEALTH, THE EVIDENCE TELLS US THAT KNOWLEDGE ABOUT VACCINES VARIES ACCORDING TO LEVEL OF EDUCATION AND ETHNIC BACKGROUND

Some of the findings mirror the existing evidence base for this age group, for example, the perceptions that some diseases do not pose a risk to their health. (13,14) But there were new and unexpected findings which need to be considered when developing and communicating about current and new vaccine programmes, ensuring communities are engaged and supported to understand the value of vaccines to their health and to access trusted sources of information.

While it is encouraging that the majority of 50-70 year-olds think vaccines are important to their health and know how vaccines work, the evidence tells us that knowledge about vaccines varies according to level of education and ethnic background. Knowing how vaccinations work can help people better understand what side effects mean and how the vaccine protects them from ill health. Evidence from this survey suggests that targeted actions to help increase levels of knowledge within these groups would be beneficial.

Similarly, trust differs across different groups and communities. This needs to be considered when developing communication and engagement strategies at the local and national level. While at a quick glance the proportion of people who said they would not trust anyone to give them information about vaccines appears low, this is in fact over 1 in 10 for people who are from backgrounds other than white. In addition, given the role carers have in supporting older people, this research highlights the lack of trust in carers as a source of information.

Trust between people and care providers positively impacts their lives and health. (26) Paid and unpaid carers play an important role in the delivery of public health approaches and in supporting people to make informed decisions about their health. We need to consider how

we can support carers (for example, through training and information campaigns), ensuring they have access to information which supports health-related decision making for both themselves and the people they look after.

While there has been positive reporting of the development of combination vaccines for adults, (49,50) seen in theory as simplifying the process for people to protect themselves against respiratory viruses that typically surge around the same time of the year, the survey data suggests that there is still a way to go in terms of older people's trust in them. Findings were typically not clear cut, with participants trusting bivalent or trivalent vaccines less, but that they would feel encouraged to have a vaccine that protected them from more than one disease with one shot.

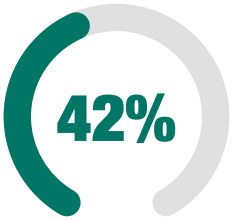
AS WE SAW IN THE COVID-19 PANDEMIC, THERE WERE SOME CONCERNS FROM THE PUBLIC ABOUT THE SPEED AT WHICH VACCINES WERE DEVELOPED, AND WE MIGHT SEE SIMILAR CONCERNS ABOUT TRUST IN THE PROCESS AND DELIVERY OF COMBINATION ONES.

Concern about side effects is one of the most common reasons for people to refuse vaccinations, (51) but low levels of concern about side effects in our results could indicate that in the UK other factors influence people's decisions more. Our survey suggests that one of these factors could be concerns about vaccine safety. Convenience seems to play a role too, as how to get to the venue where the vaccine is offered and the costs of a vaccine are issues people consider.

As a matter of fact, a greater proportion of people of backgrounds other than white consider vaccine safety, costs and how to get to the venue when offered a vaccine. This suggests that policy makers and practitioners need to consider the role of bespoke interventions and information to support this population, so they feel informed and supported in their decision-making process. As we saw in the COVID-19 pandemic, there were some concerns from the public about the speed at which vaccines were developed, and we might see similar concerns about trust in the process and delivery of combination ones.

Most people said they would not see their work managers or colleagues as trusted sources of information, and concerns around missing work because of the vaccine varied according to age, background and work status. This is interesting, as most adults in the UK spend their lives working or sleeping, (52) meaning that workplaces can be used to ensure people's wellbeing. With the right support, public health programmes can be delivered across many settings not traditionally considered, including workplaces. This research sheds light on this growing approach to improving our health and shows how little people aged 50-70 perceive the role of workplaces in supporting the uptake of vaccines.

This may be for a number of reasons, including that trust in employees and businesses around supporting something so personal as health needs to grow. However, we have seen that employers and workplaces can help when given the right support. During the Covid-19 pandemic, UKHSA sponsored the CONVINCE (COVID-19 New Vaccine Information, Communication, and Engagement) initiative, to promote vaccine uptake among private sector employers and employees. (53) This included promoting vaccine literacy and advocating for accessible, equitable, and timely vaccination of employees. This approach does not come without its own risks, and appropriate training on the impact of inequalities on particular groups and the importance of behaviour change models would ensure workplaces are appropriate settings to deliver.



4 IN 10 (42%) SAID THEY EITHER WOULD NOT TRUST A NEW VACCINE, OR DO NOT KNOW IF THEY WOULD.

Previous research tells us that over 50s tend not to perceive certain illnesses as a concern. Our data tells us that while this age range may feel encouraged to have a vaccine that protected them from dangerous diseases, they do not necessarily see flu or pneumonia as potentially hazardous to them. This perception that these diseases are harmless, or not a concern for them, can influence their decision making, and possibly make them less likely to accept a vaccine. Understanding this is crucial to support them to make decisions about their own health.

Regarding new vaccines and new ways of producing vaccines, the picture is not cut and dry. 4 in 10 (42%) said they either would not trust a new vaccine, or do not know if they would. In addition, 6 out of 10 (62%) were worried about new vaccinations' safety and unknown side effects. This strongly suggests that more work is to be done to win over the public around the science behind vaccines and the benefits they bring. We must also give opportunities for individuals and communities to ask questions around how vaccines give protection and the balance between experiencing side-effects and the benefits vaccines bring (especially if it involves needing to take time off work or impacting on caring responsibilities). All concerns should be treated as valid and given the appropriate focus in terms of programme communications, with time to answer individual questions by professionals and community champions built in.

Several vaccination strategies across the UK have taken this approach. (54,55,56). But our new research suggests that more needs to be done, including that the experiences and concerns of older people should shape services and interventions to their benefit.

POLICY RECOMMENDATIONS

Based on the findings of our survey, we propose a number of actions that would support 50-70-year-olds, so that they become more confident when making decisions about their own health and feel encouraged to have a vaccine.

Those delivering vaccines or developing vaccination programmes and policies should use multiple channels and approaches to reach and engage with 50-70-year-olds, with tailored strategies particularly for those in underserved communities.

Our survey reflects that perceptions and concerns are not hard and fast. Respondents said they would trust combined vaccines and 69% said they would be likely to receive a vaccine that protected them from more than one disease with one shot. However they said they would have a vaccine if it protected them from dangerous diseases but did not perceive diseases such as flu as dangerous to them. This indicates a level of uncertainty and demonstrates people working with vaccines at all levels must fine-tune engagement and communication strategies, so people feel supported with their questions or concerns. People told us they use different methods to get informed, from reaching to healthcare professionals and going online to asking family and watching TV. All of these must be used to support as many people as possible.

Moreover, instead of just promoting vaccines to them, people developing vaccine programmes must also focus on the reasons behind the offer, specifically sensitively discussing the harms diseases can bring to individuals and communities if left unchecked. Community leaders and gatekeepers are crucial to engagement and promotion, so this isn't seen as a top-down approach. Winning the confidence of older people is also crucial when developing and implementing new programmes, to address understandable concerns and help to mainstream new approaches.

Vaccine providers and all involved in this group of people's health and wellbeing should share the benefits of vaccination and how they impact their lives and their community's health, including in unusual spaces such as workplaces.

Our communication approach should be multi-channelled, and this includes using spaces where the public is to reach them. Public health approaches and programmes can be delivered opportunistically across a range of settings that are convenient to the public, such as workplaces. Despite ranking low in this poll, there is evidence that workplaces can support the public with their health. (29) And while trust in information from employers was low, the workplace offers an opportunity to support vaccination understanding and uptake. This might include promoting vaccine literacy, protecting time off, and advocating for accessible, equitable, and timely vaccination of employees. For example, business can

support employees by allowing them to take paid time off to have a vaccine, in case they are eligible via NHS programmes, or making arrangements so that they can access one, by purchasing flu vaccines privately.

Appropriate training, such as the RSPH Level 2 Award in Encouraging Vaccination Uptake, (57) would be crucial for businesses, including on behaviour change models, so they can understand the very real impact of inequalities on an individual's decision-making.

There is growing support for this approach from across the business world, the public health community and governments. This approach needs to acknowledge that increasing trust in businesses supporting health takes time and commitment. In addition, the public health community and governments' need to demonstrate to businesses that this is worthwhile and wont impact negatively on them. For example, flu has a substantial productivity burden on employers and society as a whole, (58) and supporting vaccine engagement and uptake will benefit business in the long term. There are existing structures in place, such as Integrated Care Boards which may be well placed to engage and support local businesses.

Training and support should be made available to all those working with or supporting older people so that they feel able to have informative and valuable conversations about the benefits of vaccination.

Healthcare professionals are trusted by 50-70 year-olds, however they may not always have the time or be in the most convenient places to engage with communities and individuals. As their work has an enormous impact on this group's perceptions of vaccinations, they must have the time, support and training required to deliver their work to the level they want to, increasing access to health professionals is likely to be the change with the biggest impact on willingness to take vaccines, particularly novel ones.

THERE IS GROWING SUPPORT FOR THIS APPROACH FROM ACROSS THE BUSINESS WORLD, THE PUBLIC HEALTH COMMUNITY AND GOVERNMENTS. THIS APPROACH NEEDS TO ACKNOWLEDGE THAT INCREASING TRUST IN BUSINESSES SUPPORTING HEALTH TAKES TIME AND COMMITMENT.

Alongside this, we need to realistically consider all other professionals, volunteers, family members and other people who can support the public around vaccines. For example, cares - both unpaid and paid - play a key role in supporting older people in their health decisions. While they came very low in terms of trusted sources of information, they provide an untapped potential in supporting the people they care for to make informed decisions.[5]

Although there are pressures on the care sector already, they make up nearly 10% of the population of the UK. With the right training and support, many of them can acquire the knowledge and skills needed to have conversations about vaccines and become a much-needed person of trust to provide information.

5 It is estimated that there are 5 million unpaid carers in England and Wales, (60) and around 1.52 million working in social care in England. (61)

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