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The 'Why We Get Vaccinated' immunisation campaign:

Lessons for those designing, delivering and commissioning vaccination communications



Executive summary

Introduction

The ‘Why We Get Vaccinated’ (WWGV) campaign (2024 – 2027) is a pan-London, multi-agency campaign co-produced with London communities together with NHS England (NHSE) London, the UK Health Security Agency (UKHSA), London Councils, the London Association of Directors of Public Health (ADPH London), Office for Health Improvement and Disparities (OHID) London. Informed by the JITSUVAX framework (Fasce et al., 2023), the campaign was designed to increase vaccination trust and awareness, particularly among communities with the lowest uptake, aiming ultimately to increase vaccination rates in London.

This report draws on the evaluation of the WWGV campaign and aims to identify practical lessons for future vaccination communications. It is intended to support policy makers and public health communication professionals to design more effective, community-informed approaches to communicating about vaccination.

The challenge

Vaccination is known to have significant public health and economic benefits (for example through deaths and disability-adjusted life years avoided, life-years saved). Despite these benefits, vaccine rates in England remain below World Health Organization (WHO) target of 95%, with London consistently recording lower vaccination uptake than other regions in England.

Methods

The evaluation combined a large-scale survey of London adults (n=2,016; YouGov) to assess attitudes to vaccination and test responses to WWGV campaign assets, alongside community focus groups (12 groups, 52 individuals in total) to explore vaccination perceptions, concerns and trust in general, as well as the reception of the WWGV campaign assets. The evaluation also included a linguistics-based analysis of how people talk about vaccination and how messaging is interpreted. This work builds on previous work on Coronavirus health messaging by the University of Nottingham and Cardiff University (Adolphs et al., 2023), for which vaccination messaging was a key part.

Key findings

What communities told us

- Vaccination decisions are shaped by multiple influences including trust, perceived risk, lived experience and access, not awareness alone.
- Fears about side effects, perceived lack of vaccine effectiveness and a belief that newer vaccines have been ‘rushed’ are central concerns.
- The Covid-19 pandemic and vaccine rollout eroded trust in vaccinations and institutions, and continue to influence public engagement with campaigns.
- For some communities, historical medical mistreatment and wrongdoings affect trust and continue to shape how messages are received. Present perceptions of differential treatment, even if well intended, can (re)ignite community fears.

What drives engagement with vaccine messaging

- Vaccination perceptions and values do not always match vaccination behaviours, and intentions can change over time. Improving data capture of people’s reasons for declining vaccination will help inform future immunisation messaging.
- Different communities respond differently to branding, messengers, tone and channels.
- Trusted sources of health information include the NHS, GPs and pharmacists, as well as family and community networks.
- Unfamiliar or poorly understood institutional branding can reduce trust and engagement. Logo use and campaign affiliation must be carefully considered. It may be necessary to increase awareness of public institutions to avoid negative assumptions.

What this means for communication

- Generic, one-size-fits-all messaging is unlikely to be effective across diverse communities; it is necessary to tailor communications to ensure they resonate with different groups.
- The “vaccine ambivalent” group is a key audience, as they are engaged but have unresolved concerns.
- Messaging that is perceived as moralising, blaming or fear-heavy is often rejected.
- People want clear, specific and transparent information to support informed decision-making; this includes information on side effects, vaccine effectiveness, how vaccines are developed and tested, and why vaccines are recommended.
- Communications that enable informed choice are more likely to build trust than those focused on compliance alone.

Recommendations

For policy makers and system leaders

- Support community-informed campaign development, where communities are involved from the design stage through to evaluation.
- Invest in communication approaches that build trust over time, rather than one-off awareness campaigns.
- Ensure alignment across organisations, including consistent use of trusted branding.
- Support tailored and multilingual communication approaches for different populations.
- Improve the routine capture and use of data on why people delay or decline vaccination.

For public health communication professionals

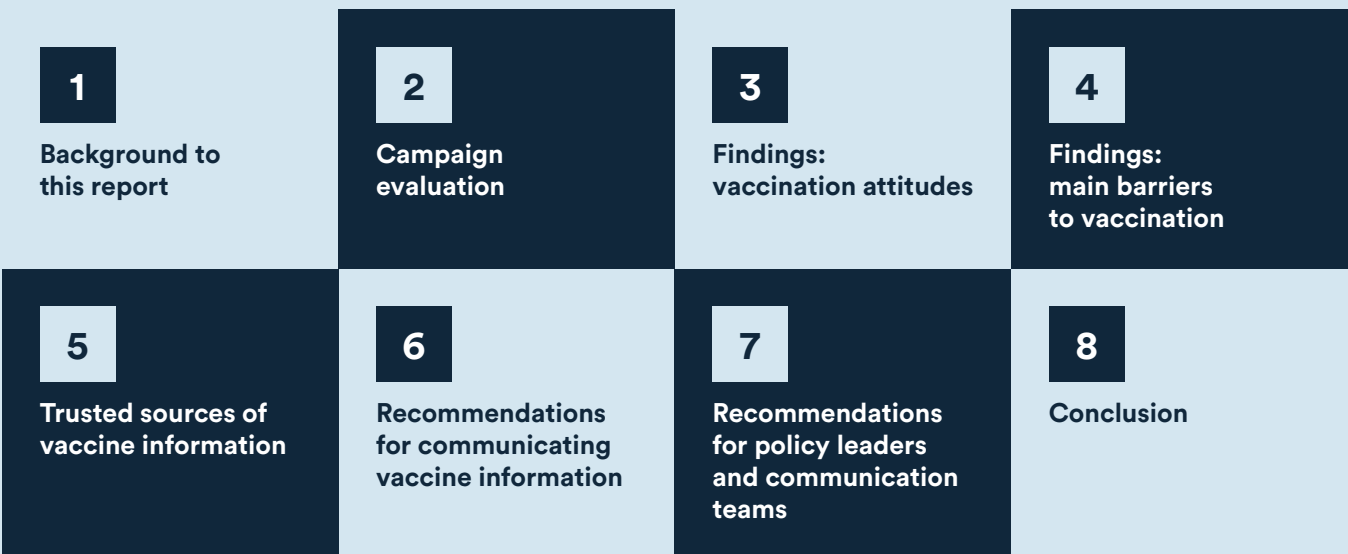
- Prioritise the “vaccine ambivalent” group as a key audience.
- Address concerns about side effects, safety, effectiveness and vaccine development clearly and directly.
- Avoid fear-based or moralising messaging and focus on campaigns that enable informed choices.
- Combine any mildly risk-framed messaging with clear, achievable actions.
- Use trusted messengers, particularly NHS-linked branding and health professionals.
- Ensure assets are clear, accessible, multilingual (where appropriate) and work across multiple formats and channels, including digital and offline.
- Consider audience preferences for channels, trusted messengers and messaging context (for example schools/soft play areas and midwives for childhood vaccines).
- Use statistics (including supporting visuals to make them accessible for individuals with low numerical literacies), relatable narratives, and emphasise scientific evidence.
- Use vaccine-specific messaging where misconceptions relate to particular vaccines.

Conclusion

This work offers a replicable approach to delivering community-centred public health campaigns in areas where trust, stigma or vaccine hesitancy are significant barriers. Rather than treating vaccine uptake as a problem of awareness or non-compliance alone, our community engagement approach allowed us to explore the social, cultural, historical and structural factors shaping hesitancy.

Organisation of this report

This report is organised into the following sections:



1. Background to this report

Introduction

Vaccine rates in England sit below the World Health Organization’s (WHO) 95% uptake target, with London consistently recording lower uptake than other regions in England across all vaccination programmes, and rates have continued to fall (GOV.UK, 2025, 2026; RCPCH, 2025). This brings significant health risks for the population; over half (51%) of measles outbreaks between 1 January 2026 and 20 July 2026 occurred in London (UKHSA, 2026). This situation, alongside inequalities in vaccine uptake and concerns over public trust in health authorities and the effects of misinformation driving conspiracy beliefs and Covid-19 vaccine hesitancy (Freeman et al., 2022) potentially spilling over into attitudes towards other vaccines, called for the development of a general campaign for London communities.

This report shares lessons from an evaluation of the first year of the pan-London ‘Why We Get Vaccinated’ (WWGV) campaign (2024-2027). This multi-agency immunisation campaign was co-produced with London communities and designed to address persistently low vaccine uptake by increasing trust and awareness, particularly in communities where uptake is lowest. Informed by the JITSUVAX framework (Fasce et al., 2023), WWGV was designed to complement local, regional and national vaccine-specific campaigns and strategies (for example the NHS Vaccination Strategy).

Agencies involved in the development of WWGV included: NHS England (NHSE), UK Health Security Agency (UKHSA), London Councils, the London Association of Directors of Public Health (ADPH London), Office for Health Improvement and Disparities (OHID) London and several local authorities. Across different London boroughs, WWGV assets have been distributed between vaccine specific campaigns or in parallel to them as required.

The Year 1 campaign evaluation explored vaccine attitudes and confidence across London populations, assessed the strengths and limitations of campaign assets, and identified practical recommendations to inform future phases of the campaign and vaccine communications more broadly. The insights provided in this report are drawn from community focus groups (52 participants across 12 groups; August – November 2025) and a large-scale survey of London adults delivered by YouGov (n=2016; October 2025). Both the focus groups and the survey considered vaccine attitudes in general and reception of WWGV messaging.

Initial development of the Why We Get Vaccinated campaign

The WWGV campaign was first developed through a structured, multi-phase process grounded in co-production with communities and iterative testing. Between January and July 2024, the campaign was shaped through a series of workshops with members of Asian, Charedi Jewish, Polish, Ukrainian and Black communities to understand perspectives, identify barriers, and inform messaging. This was complemented by wider engagement with faith and health networks to refine insights and build partnerships (February 2024). Four initial campaign concepts were developed and tested through online consultations, enabling community feedback to directly influence the direction of the campaign (March – April 2024, see Figure 1). Two final campaign asset options were reviewed by community members during three focus groups, and linguistic analysis experts (August 2024).

Figure 1 – Initial concept choices for WWGV



The initial co-production phase informed a more formal testing approach in August 2024, combining qualitative and quantitative insights. The three focus groups strengthened understanding of design, language and calls to action. A large-scale, representative YouGov baseline survey (n=2053) examined vaccination perceptions including familiarity with named vaccines; the perceived impact of measles, mumps and rubella, and the importance of being vaccinated against them; the reliability, relatability and effectiveness of example campaign assets; and respondents’ ability to interpret a campaign message.

The campaign was then implemented through a phased rollout, beginning with a soft launch aligned with the back-to-school period in August 2024, followed by a full launch in October 2024. Dissemination was coordinated across system partners including local authorities, London Councils, and UKHSA and NHS Integrated Care Boards, ensuring broad reach across London.

The evaluation of the Year 1 campaign was embedded as a core component of the campaign and forms the focus of this report. For this, a further large-scale, representative survey of London adults was delivered by YouGov in October 2025 (n=2016), alongside a programme of focus groups held between August and November 2025 (see Figure 2). These qualitative sessions engaged 52 participants from communities with lower vaccination uptake as reported by internal NHS data for London and local authority feedback, including Black African, Black Caribbean, Pakistani, Bangladeshi, Charedi Jewish and Eastern European groups, across a range of London boroughs. Together, these evaluation activities provided a robust evidence base on campaign effectiveness, reach and relevance across diverse populations, informing future development and scaling.

Figure 2 – Campaign assets evaluated in focus group discussions



2. Campaign evaluation

The campaign evaluation combined insights from a large-scale public survey and focus groups. The survey questions and focus group schedule are provided in Appendix 1, and methods for analysis are described in Appendix 2.

Public survey

The public survey was administered by YouGov (n=2016 adults) between 23rd and 30th September 2025 and was carried out online. The survey included six closed questions and one open text question. The closed questions considered: vaccine attitudes and hesitancy; A/B testing of WWGV campaign assets to assess public trust in NHS or UKHSA branding, calls to action inviting the audience to scan a QR code, and two different messengers featured in the assets (a community leader and a GP); public awareness of 14 named vaccines available to the UK population; and preferences for sources of vaccine information. The open text question considered key messages that respondents would include in vaccine campaigns to encourage vaccine uptake. Survey results were weighted with quotas set across age, gender, social grade, and borough and are representative of all London adults (aged 18+).

Focus groups

Focus groups were carried out by members of the project team in collaboration with community groups across London. London boroughs represented in focus groups include Croydon, Brent, South East London, Stamford Hill, Camden and Tower Hamlets. Of 52 total participants, 30 were British born (other countries of birth included Bangladesh, Guyana, India, Israel, Italy, Jamaica, Nigeria, and Switzerland). All participants spoke English. Other languages spoken by participants included Bengali, Yiddish, Hebrew, Creole and Italian. There were 35 female and 17 male participants. Three participants were students and 33 were in paid work.

We gathered insights into three campaign materials (one poster and two social media assets); concerns over side effects; influences on vaccine decision making for themselves or their children; specific vaccines that concerned participants along with their reasons for this; what they think makes vaccine information trustworthy (for example messengers, message characteristics); trusted sources of vaccine information and how they assess trustworthiness; formats they prefer to engage with; misinformation and vaccines (whether they had read or heard anything about vaccines that they thought was untrue, how to decide the credibility of vaccine information, and any support they need for this); and opinions on directly addressing common myths in campaign materials.

Section summary

Engaging with communities to co-design and evaluate campaign messaging ensures that campaign assets resonate with community audiences. For the WWGV campaign, community engagement has supported the tailoring of messaging for underserved and vaccine hesitant London communities by identifying:

- systemic and personal barriers
- trusted information sources
- preferred channels of communication
- methods of tailoring communications (language use, content, visual elements)

3. Findings: vaccination attitudes

Vaccine confidence and hesitancy

Vaccine confidence levels differed across the evaluation survey respondents and focus group participants. More than half of the survey respondents (62.75%, 1265 respondents) had confidence in vaccines (see Table 1). In contrast, focus group participants evaluated vaccines more negatively (50.76% of the references to vaccines in focus group discussions included negative evaluations). Respondents who answered ‘don’t know’ to all questions on vaccine confidence were considered ‘disengaged’ (see page 33).

Table 1 – Confidence in vaccines derived from the vaccine hesitancy measure composite score applied to the YouGov survey (n=2016) Question 1.

Confidence in vaccines	Participants (freq.)	Participants (%)
confident	1265	62.75
ambivalent	620	30.75
hesitant	125	6.20
disengaged	6	0.29

Demographics associated with vaccine hesitancy include:

Age	The confidence in vaccines survey question (Q1) revealed that 18–24-year-olds are the most hesitant age group, and the 55+ age group was the most likely to be vaccine confident.
Gender	Men are more likely to be vaccine hesitant than women.
Social grade	Individuals belonging to lower social grade groups (C2DE group) are more likely to be vaccine hesitant than those belonging to higher social grades (ABC1 group).
Presence of children in the household	Those with children in the household were more likely to be vaccine hesitant than those without children in the household, often due to the desire to protect children from side effects, especially in relation to childhood vaccines (for example MMR).
London borough	Vaccine hesitancy varies across London boroughs. City of London, Hounslow, Kensington and Chelsea, and Westminster were areas with high levels of vaccine hesitancy despite relatively low levels of deprivation (Ministry of Housing, Communities and Local Government, 2025).

A corpus linguistic analysis of the open text survey responses discussing what content or messages should be included in a vaccination campaign to improve audience uptake (based on vaccine hesitancy composite scores, see Appendix 2) showed that:

- **Vaccine confident** respondents tended to be more informed than the ambivalent and hesitant groups. They explicitly mentioned illnesses and vaccines (*measles, polio, smallpox, rubella, and meningitis*) and discussed herd immunity. They also have concerns about not being vaccinated and their responses show a strong ‘us vs. them’ divide against hesitant populations (who they often refer to as ‘antivaxxers’). They are concerned about myths and would like to see vaccine communications include information about vaccination benefits, statistics (for example safety records) and facts. They consider the NHS logo to add credibility to campaign messaging.
- **Vaccine ambivalent** respondents showed similar interests to the confident respondents but were less likely to emphasise the problem of misinformation. They were primarily concerned with the Covid-19 vaccine over any other vaccine and they dislike messaging that carries a patronising tone. They tend to appreciate statistics and a balance of pros and cons in messaging. They are strongly supportive of messages containing real-life testimonials and favour children’s health over community health, unlike vaccine confident people, who favour wider community benefits.
- **Vaccine hesitant** respondents were primarily concerned about Covid-19 (both the illness and the vaccine) and emphasised the importance of personal choice more than the other groups. They raised concerns about side effects and their lack of trust in vaccines and authorities.

Across groups, people sought:

- Clear information on known risks of side effects
- Evidence of vaccine effectiveness
- Transparent explanation of research and trial processes
- Simple statistics comparing disease risk to vaccine risk

Focus group participants had mixed preferences for how they would like statistical information to be presented. Some preferred absolute numbers (for example ‘1 in 100,000’) and others preferred percentages. Including both would be the best compromise to maximise public understanding. Participants told us that visual resources such as figures or simple infographics (for example colour-coded figures to symbolise people (un)affected by a condition in (un)vaccinated populations) would make the numerical information more accessible and engaging.

Some vaccine confident participants felt that hearing about cases where people suffered severely from a disease due to being unvaccinated (for example acquired blindness due to polio) would raise awareness of immunisation. Others expressed negative stances towards over-emphasising potential health risks or adopting fear appeal message framing.

Fear appeals and moralising messages (messages that appeal to moral values to promote compliance) should be avoided. Individuals are typically less likely to adhere to health guidance if it is perceived as scaremongering (Adolphs et al. 2023; McClaughlin et al., 2023). Fear appeals and moralising messaging have been associated with ‘discursive othering’ (i.e., reinforcing an ‘us vs. them’ stance through language use) of non-compliant individuals, who are represented as different or inferior (Adolphs et al. 2023; McClaughlin et al., 2023). Instead, self-efficacy and personal responsibility messaging generate strong self-reported intentions to comply with health guidance (see Adolphs et al. 2023; McClaughlin et al., 2023). Any risk framing adopted in vaccine messaging must be mild and accompanied by clear calls to action.

Rejection of fear framing

The message [doctor’s poster] is quite threatening. I think the message is too harsh talking about some of us and ‘lower your risk of serious life changing illness’. I think that’s too harsh. So that would just strike fear into people. [Participant 14]

Acceptance of fear framing

I know by ‘life changing’ [individuals] could interpret it differently. You can change that and make it a little bit more worrying. Tangible. [Include] someone who is blind, or I’m sorry that I’m saying this, or someone who became deaf, because measles can cause both [Participant 46]

Importance of avoiding vague language

The speech ‘vaccines are safe for me and my friend’ doesn’t really answer the question [of why I should get a vaccine]. [Participant 12]

For me, what caught my eye, and it doesn’t sound great is describing diseases as ‘horrible’. And some of the childhood diseases may be life-threatening. So, in some ways, they can be life threatening. So in this, yeah, I don’t know, I would like the word ‘horrible’ to be replaced. [Participant 38]

Preferences for reporting statistics

including the statistics is quite helpful because a lot of people just see a statistic and assume it’s very truthful, even though it probably isn’t. So I think you should take advantage of that because you know, if someone sees a statistic [...] like you assume it’s correct. [Participant 10]

for me like numbers is quite important and the actual data itself ... [Participant 9]

I think that numbers is better as well as their percentage, yeah. If you can actually see it, you can visualise it. [Participant 24]

Importance of evidencing research

For me [...] what studies as well have they got done? Like, you know, what kind of human trials have they done prior to actually like rolling, rolling out? That’s the kind of information I would want before I actually take, you know a vaccine and put it into my body. [Participant 9]

Population profiles for vaccine hesitancy

The confidence groups identified for the evaluation survey reported above mirror, to some extent, findings reported for the baseline survey (n=2053, London adults (aged ≥18), see Rotous et al., 2026). A Latent Class Analysis carried out on the baseline survey responses surfaced five population profiles of vaccine hesitancy.

Class 1: ‘Consistent Uptakers’ (37.2%). This group is characterised by high vaccination uptake (89.2%), high perception of efficacy (98.0%), and lack of safety concerns. Class 1 respondents were significantly more likely to be aged ≥55, to be retired, homeowners, and parents of adult children.

Class 2: ‘Concerned Uptakers’ (17.5%). This group is characterised by vaccination uptake (41.4%) and high self-reported vaccination intent (72.2%) but has significant concerns about side effects (71.2%). Class 2 respondents were consistently from younger age groups (25-44 years), likely to be living in families with two or more children in the household, and likely to be from Mixed and Black ethnicities, potentially reflecting experiences of inequality and lack of institutional trust.

Class 3: ‘Consistent Refusers’ (18.4%). This group is characterised by an almost total rejection of vaccination and had concerns over side effects (74.4%). Class 3 respondents were more likely to be male, from Asian or Other ethnic backgrounds, and in part-time employment.

Class 4: ‘Unconcerned Refusers’ (20.8%). This group is characterised by acknowledgement of vaccine efficacy (98.4%), but no intention to vaccinate (only 1.7% reported having been vaccinated) despite reporting low levels of concern about side effects (14.4%). Class 4 respondents were more likely to be middle class, late-stage young adults.

Class 5: ‘Undecided or Uninformed’ (6%). This group is characterised by persistent uncertainty, respondents consistently provided “Don’t Know” or “Neutral” responses, especially in relation to vaccination efficacy (80.3%) and intention to vaccinate (52.1%), potentially showing a lack of engagement with vaccination discourse. Class 5 respondents were more likely to be from a lower social grade, unemployed, and/or with full-time student status.

Section summary

Key takeaways

Immunisation disparities may be related to other health-related disparities, with some population groups showing higher health deprivation than others. Vaccine hesitancy correlates with systemic vulnerability. Demographic profiles suggest that vaccine sceptic individuals are more likely to be facing economic difficulties, have less access to quality healthcare, and belong to historically marginalised communities who mistrust medical institutions.

Vaccine hesitant and positive individuals share concerns and questions about vaccines (particularly concerns over side effects). Vaccine hesitant and positive individuals also share values, including responsibility for children’s health; pro-social vaccination/health behaviours to support loved ones and the wider community; and a desire for informed decision making. What differs is the final decision making, which is partly conditioned by personal and systematic barriers. This means that while engaging with vaccine-hesitant populations is essential, reducing the population to ‘vaccine hesitant’ and ‘vaccine positive’ may produce an unhelpful dichotomy when orientations to vaccination are more nuanced.

Recommendations

- **Use an intersectional approach** to address immunisation disparities, with tailored communications to address the needs of different populations.
- **Prioritise the ‘vaccine ambivalent’ group** in vaccine communications. This population engages with vaccination, and hesitancy is mainly associated with perceived (lack of) effectiveness and concerns about side effects. Tailored messaging can shift this group toward confidence, while reinforcing adherence among those already supportive of vaccination.
- **Avoid the use of fear appeals and moralising messages**, which may be perceived as scaremongering and contribute to an ‘us vs. them’ divide.

4. Findings: main barriers to vaccination

The focus groups revealed three main barriers to vaccination uptake: (1) concerns over specific vaccines, (2) fear of side effects and (3) mistrust, some of which stems from exposure to misinformation. Fear of side effects and mistrust correspond with two of the 11 barriers to vaccination identified in the JITSUVAX framework (Fasce et al., 2023).

Moral concerns about vaccines were also discussed by focus group participants, although these concerns were not in relation to vaccine production, as indicated in the JITSUVAX framework, but about doctors receiving incentives for vaccine promotion instead. Discussions of religious beliefs were largely absent, but some participants discussed concerns over vaccine ingredients for religious reasons.

Concerns over specific vaccines

Attitudes and reasons for negative evaluations differed substantially across vaccines.

Covid-19 vaccine

The Covid-19 vaccine emerged as a turning point in public understanding of, and trust in vaccines. It serves as a dividing line between ‘old’ pre-Covid-19 vaccines, which are better trusted and associated with thorough research, and ‘new’ (Covid-19 and post-Covid-19) vaccines, which are considered different, rushed and lacking in research. Specifically, we uncovered:

- Perceptions of ineffectiveness because vaccinated people can still contract Covid-19
- Feelings of coercion during the Covid-19 vaccine rollout
- Concerns that the vaccine was promoted and administered differently across populations, with some communities (for example the Black Caribbean community) believing that they were disproportionately offered vaccine types deemed less effective or associated with more side effects (i.e., AstraZeneca)

Concerns over the Covid-19 vaccine

You don't want your child to be the guinea pig or you or your sister or whoever it may be [Participant 33]

With the whole Covid vaccine stuff, it's actually made me kind of more cautious around what I actually put into my body, because there is some scepticism around it [Participant 9]

Prior to Covid, I think everybody was quite willing to take vaccines because you only had them once a year, twice a year, and because we assumed so much, what's the word? Not investigation, so much planning went on behind [them]. But then when we had Covid and a vaccine was being churned out, like overnight, I think it changed. [Participant 18]

Concerns about the Covid-19 vaccine are spreading to perceptions of other vaccines, including those that were previously better accepted.

Flu vaccine

Findings revealed perceptions of the flu vaccine to be ineffective as vaccinated individuals can still contract influenza. The vaccine was considered by many not to be cost-effective due to strong side effects. Participants also shared concerns over the vaccine changing every year. This was closely linked to Covid-19 vaccine concerns over vaccines ‘popping up’.

MMR vaccine

Common vaccination fears may be grounded on popularised and long-standing myths, regardless of when the misinformation took place. Almost 30 years on from Wakefield's (retracted 1998) paper, attitudes towards the MMR vaccine are still shaped by misconceptions about its association with autism. This misinformation is a major underlying cause of hesitancy, anxiety and refusal.

Concerns over the MMR vaccine

They've now combined it into three and there is some suggestion that children are autistic. Haven't had that particular injection [MMR]. [Participant 30]

we give it [MMR vaccine] with a fear ... [Participant 51] *Haven't had that particular injection [MMR].* [Participant 30]

HPV vaccine

The HPV vaccine is perceived as unnecessary and associated with female sexual promiscuity. For some respondents, rejecting it reflected their child's purity and moral virtue.

Concerns over the HPV vaccine

what's that in? I'm not saying it [HPV vaccine] brings endometri... [Endometriosis.] [...] But that has gone up a lot recently. And the fibroids thing, it's just gone up a lot. So I personally don't know if that's something that I would want to consider. [Participant 32]

[...] the rumour mill was running rife in that it [HPV vaccine] was only supposed to be for young ladies who were sexually promiscuous. So for me, based on that, it was a case of, well, as far as I'm aware, my kids aren't, you know, my kids don't fall into that category. So it was a big no, you know, they're not having it. [Participant 31]

Fears about specific vaccines: key takeaways

- The Covid-19 vaccine emerged as a turning point in public understanding of, and trust in vaccines. Concerns about the ‘new’ vaccines spill over to ‘old’, established vaccines.
- Steps must be taken urgently to prevent concerns from affecting perceptions of the new MMRV (MMR+varicella (chickenpox)) vaccine released in January 2026. MMRV carries the dual issue of being new and being associated with historic MMR concerns.
- Vaccine-specific messaging needs to be delivered alongside the general WWGV campaign to address concerns and misunderstandings around specific vaccines.

Fears about specific vaccines: recommendations

- Address factors contributing to mistrust in Covid-19 vaccines as concerns about these shape trust in other vaccines.
- Autism concerns need to be addressed directly in MMR-specific messaging.
- Present general vaccine campaign messaging alongside vaccine-specific messaging if feasible.
- Calls to action should be clear and direct people to information about specific vaccinations.

Questions emerging from focus group discussions to be addressed in relation to the Covid-19 vaccine

NB: These questions are paraphrased from recurring questions and misunderstandings and are not direct participant quotations

- Why is the Covid vaccine called a vaccine but it doesn't stop you from catching Covid?
- Is it ok to trust vaccines that have been developed quickly?
- How was the Covid vaccine developed so quickly? And can we trust it?

Fear of side effects

Fear of side effects emerged as a major concern influencing willingness to get vaccinated, particularly amongst participants with parental responsibility. Of the 53 mentions¹ of side effects in the focus groups, 37 occurrences explicitly evaluated them as concerning, 6 occurrences evaluated them as unconvincing (although two mentions were from the same participant), and 10 occurrences did not include any evaluation. Providing information about side effects can inform decision making in different ways. While transparency about side effects can reassure some individuals and promote trust in health authorities, others may be deterred from seeking out a vaccine. For hesitant individuals, this information may be a deterrent factor if the information is fear-inducing. Overall, participants were interested in communications about severe, low risk and more common side effects.

¹ Participants conflated side effects with adverse effects mirroring findings reported elsewhere, where social media users were noted to consider side and adverse effects interchangeably (i.e., conflating effects with a confirmed causal link with unwelcome experiences) (Duan et al., 2025).

Opinions on including information about side effects

I think that having knowledge [about side effects] kind of reduces my anxiety and would keep me informed, like you know, what I can expect and what [...] is abnormal so to speak. [Participant 2]

as a parent, I need to know exactly about the side effects because I'm making a decision for my child [Participant 1]

I like to know all the side effects, even the small little things [Participant 23]

sometimes I just want to bury my head in the sand. I'd rather not know the side effects [Participant 22]

Fears over side effects: recommendations

- **Directly address long standing and popular myths** by providing supporting information or references to reliable sources to promote better understanding of immunisation.
- **Immunisation messaging should provide information about side and adverse effects** while ensuring messages do not induce unnecessary fear.
- **Avoid campaigns that induce fear:** Health messaging that draws on fear appeals (i.e., emphasis on the health risk and negative outcomes) without offering practical, actionable steps to address the health risk may promote self-limiting behaviours and the 'othering' of those individuals that do not adhere to the health guidance (in this case, vaccine hesitant individuals).

Mistrust

The main barriers to trust in authorities in relation to health matters are community memory of historical (racial) medical mistreatment and recent political scandals.

Politicians and governmental agencies

Community members lacked trust in public authorities, particularly the Government, political figures, and pharmaceutical companies. To a lesser extent, lack of trust in frontline healthcare professionals also emerged in focus group discussions.

Community memory of historical (racial) medical mistreatment

Perceptions of differential treatment of communities by public authorities may trigger memories of historical (racial) medical wrongdoings, which in turn influences trust in health messaging for affected communities. The Tuskegee untreated syphilis study (Vonderlehr et al. 1936) was discussed in two focus groups held with Black/Black British participants.

The spike in perceptions of '(en)forced' vaccination, which occurred during the Covid-19 pandemic, are associated with negative public opinion overall, although there is some limited understanding that in certain circumstances it might be needed. Feeling pushed to vaccinate may exacerbate distrust associated with memory of historical medical mistreatment.

Concerns over discrimination and medical mistreatment

So it [Tuskegee Trial] went on and on and on, right. And so that is a big thing that comes back to us, those kind of trials and things that happened and it's just feels like it's only just ended just very recently [Participant 30]

the way they talk about the BCG [vaccine], it seems like they are trying to... It seems like they are categorising people, black people, that they are the only ones that can have tuberculosis. [Participant 17]

when I went into vaccinations with my first [child], we did vaccinate like fully, but then with our second [child], we felt like we didn't want to vaccinate. We didn't vaccinate because I felt like, there was like a huge emphasis by medical professionals pushing for people to vaccinate. [Participant 39]

Political scandals

The Partygate political scandal was referred to in three focus groups as an example of why participants do not trust political figures and Government authorities.

The legacy of Partygate

Do you remember ... during COVID ... [Politicians] come on the TV and they say this. And they were in Whitehall having parties and all of that, you know? So we don't really trust what they're saying or what they're doing anymore. [Participant 22]

Healthcare professionals

Factors influencing trust in health professionals include time and a perceived lack of knowledge. The inability to build long-standing relationships with health professionals (especially the family GP) contributes to a lack of trust and has a direct impact on how information is received. Likewise, receiving wrong or incomplete information from health professionals, or even perceiving a lack of knowledge on the part of health professionals, directly impacts on trust going forward.

It is crucial that professionals administering vaccines, or communicating information around vaccines, can answer patients' routine queries. The timing of information provision is critical: if patients leave appointments without receiving the information needed, they are unlikely to enquire again.

Participants also shared concerns about GPs receiving monetary incentives to vaccinate.

Trust in healthcare professionals

Trust is something you build, so until you, if you just met that GP for the first time, you know I'm not going to be like, I just trust him because he's and he's a GP [Participant 13]

[you] used to have your, a family doctor. So that was really effective before. ... I know some GP perhaps are trying to bring that back in, but realistically you're seeing different people all the time. [Participant 12]

but even when my children were young, when I asked them over the phone, oh, what vaccination is this? They'll have to look on the system. They don't know exactly which one. 'Oh, it's this four-month one', or 'you'd have to speak to the nurse'. And then I go in and I spoke to the nurse. She's, it's like she's not fully equipped either about what it entails or what you have in it. [Participant 42]

do they [doctors] get paid for every vaccine? [Participant 46]

Misinformation

The desire for research perceived as 'independent', i.e. not funded by pharmaceutical companies, can lead to people trusting misinformation shared by figures in the antivaxx community, who are considered to be 'independent sources'. Fifteen participants across seven focus groups mentioned carrying out self-led research of this kind.

Engagement with conspiracy theorists

I would say not just the NHS, it has to be like a... independent research or something that. ... I can't remember his full name. Doctor Rashid... Bhutan, is it? [Rashid Bhuttar, prominent conspiracy theorist and anti-vaxxer, now deceased] ... he seemed trustworthy. [Participant 4]

Other participants recognised that misinformation is contributing to vaccine hesitancy, refusal or post-vaccine regret in London communities. Many participants discussed the merits of countering popular myths in campaign assets to address gaps in vaccine literacy, reach vaccine hesitant populations and address misinformation ('debunking').

Others explained that identifying popular myths as misinformation may not be enough for them to change their opinions if supporting information is not provided. This is especially true of individuals who have low trust in official information sources. For those who have not yet been exposed to a myth, this strategy may have the effect of 'prebunking' (i.e., providing a psychological inoculation against misinformation) (Lewandowsky & Van Der Linden, 2021). Contributors to misinformation include:

- Reliance on anti-vaxx sources, particularly social media content aimed at 'explaining' vaccine information to the public in a digestible format.
- Confirmation bias sought and/or received through third-person testimonials or popular community stories (for example experience of severe side effects by an acquaintance).
- Popular and long-standing myths, regardless of whether they are known to have been refuted by research (for example Wakefield's (1998) retracted study still conditions decision making over the MMR vaccine). See concerns over specific vaccines above.

Stances towards debunking myths in vaccination campaigns

there's some crazy myths out there... then sometimes you hear, oh, do you actually realise it, especially if it's coming from a doctor saying it's not true... you tend to go, oh, wow. I didn't know that. So maybe one or two on the poster, like, oh, do you know that this doesn't cause this? [Participant 22]

And they say it's a myth and you're like, well, why am I going to believe anything you say anyway type thing. [Participant 13]

it [myth busting] might not make a difference. It might think. ... Why? By reading that, am I going to believe it's because you've written that it's not? [Participant 12]

Vaccine ingredients and religious beliefs

While religious beliefs were not explicitly cited in focus group discussions as an absolute barrier to vaccination, nine participants (across five focus groups) shared concerns about vaccine ingredients partly for religious reasons and otherwise due to suspected allergens and concern over live virus content. Charedi Jewish individuals discussed the appropriateness of vaccinations on the Sabbath (deemed acceptable in cases of risk).

Vaccination and religion

I'd like to know what's actually in it. ... have a little bit more information about the ingredients before I make, I'd make a decision or take anything.
[Participant 31]

[pork gelatine, halal] I think it was the flu, one that... like had animal products in or something like that? ... that was obviously a concern because obviously we wouldn't have it and wouldn't give it to our daughter. [Participant 13]

if a doctor advises it [vaccination], you are allowed to. That means breaking the law of Sabbath to give it, that's very serious, it's only done in cases of risk
[Participant 48]

Misunderstandings of immunisation

Some participants held misconceptions about how vaccination works and how immunisation is acquired. Inadequate understanding of immunisation affects pro-social behaviours. Overall, participants displayed high pro-social attitudes towards their families and community. If vaccines are perceived as risky, pro-social behaviour is demonstrated by preventing the loved ones from getting vaccines to protect them from potential side effects.

Pro-social reasons for rejecting vaccination

[Not getting vaccinated] Doesn't mean you're not protecting your family. You could be protecting your family from not getting it [the vaccine]. Yeah, because we don't know what's about this vaccine.
[Participant 12]

Summary of barriers to vaccination

Vaccine-specific concerns

Concerns about the Covid-19 vaccine and its effectiveness are spreading to 'new' (post-Covid) vaccines, which are perceived as unreliable. These concerns are also spreading to 'old' vaccines, though they are better trusted and associated with robust research and development overall.

The MMR vaccine is the exception, with perceptions still being shaped by the false association of the vaccine with autism.

Fear of side effects

Fear of side effects is a major source of concern influencing decisions to get vaccinated.

Mistrust of health authorities and political leadership

The Government and political figures stand as the least trusted sources due to recent political scandals following the Covid-19 pandemic, and memories of historical racial medical wrongdoings.

Inability to build long-standing relationships with health professionals and perceptions of receiving incomplete or wrong information from them have a negative impact on trust.

Recurring questions

Countering popular myths in campaigns ('debunking') may contribute to addressing misunderstandings and misinformation.

Providing information about side effects could increase trust, but must not induce fear.

The following questions emerged from focus group discussions to be addressed in relation to vaccine misinformation and mistrust.

- Is there really no connection between the MMR jab and autism? How can we be sure about this? Does the risk come down to the age of the child at the time of vaccination?
- How about vaccine expiration dates – are these always triple checked before vaccination? (hesitancy relates to an incident with the polio vaccine)
- Are doctors and pharmacists offered incentives to 'push' vaccinations?
- Does the Government just do what the pharmaceutical companies want?
- Who does the research and can they be trusted?
- I'm worried about my community being used as test subjects for the wider population. How can Black communities trust health authorities when we have been let down in the past? What has changed?
- How can older people trust the health authorities?

Questions emerging from focus group discussions to be addressed to support vaccine literacy

- Have vaccines been tested on people from different backgrounds to make sure they're suitable for all?
- Is there a particular Covid vaccine that is safer for Black people?
- How soon is too soon to get your child vaccinated (and is it ever too late)?
- How does a vaccine change your body?
- Why is everyone expected to have the same set of vaccines when it seems like some people are more susceptible to illness and therefore at greater risk?
- Should different people be offered different dosages depending on their height/weight/health background? Does this ever happen?
- What is the distinction between side effects and adverse effects?
- How can I find a list of ingredients in a vaccine? And how can I make sense of them?
- Where can we find a list of vaccines to take at different stages of life?
- Isn't the UK a safe place? Why do we need to get vaccinated here?

NB: These questions are paraphrased from recurring questions and misunderstandings and are not direct participant quotations.

5. Trusted sources of vaccine information

Community trust in vaccine information has a direct impact on reported willingness to get vaccinated. We explored trusted sources of health information with survey respondents and focus group participants. Trusted sources of health information include the NHS, health professionals with an emphasis on GPs and pharmacists, scientists and researchers. We also explored preferred communication spaces in the focus groups.

Participants reported that they would be most likely to engage with messaging displayed on public transport, traditional media, social media platforms, and podcasts as well as at markets and in soft play settings (for messaging about childhood vaccines).

See Table 2 for an overview of information sources and channels according to survey and focus groups results, and Figure 3 for a summary of survey responses on trusted sources of vaccine information.

Health authorities

The NHS website is often the first port of call for health information and 86.2% (25 of 29) of references made to the NHS or the NHS website in focus group discussions were aligned with positive trust. Participants also attributed a high level of trust to scientists and researchers.

Some members within the focus groups noted that the term 'UK Health Security Agency' was unfamiliar to them. It is therefore important to consider organisational branding of campaign assets.

Trust in public health authorities and authority figures

everyone loves the NHS [Participant 3]

I believe scientists more. I think scientists are the best people to pass such information. [Participant 14]

I didn't know there was a health UK Health Security Agency. [Participant 11]

Health professionals

Perceptions of health professional competency directly impacted on perceptions of trustworthiness for our focus group participants.

The professionals that are typically considered to be the most trustworthy by communities included GPs and pharmacists. Nurses were mentioned less often and received more negative evaluations in terms of competence than GPs. Midwives were highly trusted by those who had interacted with them as they were able to build a relationship over time.

Professionals belonging to the same ethnic or religious community as service users can increase trust among the community, both through their health professional authority and by making the message culturally relatable through visual cues. Charedi Jewish participants mentioned that they would be more inclined to trust a message from a Charedi doctor, while participants from Black African and Black Caribbean backgrounds mentioned that including an image of a Black doctor in campaign assets made them feel represented.

Although most focus group members from Black backgrounds evaluated a campaign asset featuring a Black GP positively, others shared concerns over feeling targeted, tokenised and potentially at risk of being blamed for low vaccination uptake by the wider community.

Trust in health professionals

I think people will trust doctors and nurses and midwives and whatnot. But I think a doctor is always better. [Participant 7]

when it comes to technical knowledge, I think pharmacists do have like an extremely high level like in comparison with doctors [Participant 9]

I've experienced the pharmacy and I trust them a lot because I've been able to get prescriptions that worked. Even after I've been to the hospital, [...] the prescription I was given didn't work. Then I went to the pharmacy and I was given the right prescription, so I will definitely trust the pharmacy [Participant 17]

I think midwives are [trustworthy], yeah. Midwives because you, you have them for a long duration of time. [Participant 12]

Health professionals from the same community

it could be a doctor from our [Charedi Jewish] community [featured on the poster] ... then the people would trust them [Participant Focus Group 19]

Like, have a, I guess a brown doctor on the poster with area, with a lot of brown people. I think that would create more trusts, possibly because it's more relatable. [Participant 10]

I think in our community, word of mouth is way more powerful [than statistics], like my mum would rather listen... I could give you all the stats and statistics right in front of her, but if her friend told her that, she would take that. [Participant 13]

Mixed opinions about visual references to ethnicity and religion

would they just think, 'Oh yeah, you're just targeting me?' [by displaying someone of the same ethnicity] [Participant 13]

This [the campaign asset featuring the doctor] would get my attention simply because I see somebody that looks like me. ... I think having a doctor is a good a good level of representation. [Participant 30]

So why are you using Black doctors? Are you trying to tell us that Black people are the ones that need [forcing], that do not get vaccinated? [Participant 14]

Family and community

Family members are one of the most trusted sources of health information, particularly when relatives are regarded to be well-educated or versed in health-related matters through the benefit of lived experience. Community word-of-mouth and friends are also highly trusted, especially among older individuals. These sources can be a strong resource for myth debunking, but they are also capable of contributing to vaccine hesitance by reinforcing biases through the retelling of personal or community stories, or misinformation.

Community and faith leaders were identified as caring, respectable, and reliable sources. However, focus group participants also indicated that the authority of faith leaders on health matters is increasingly being questioned, evidencing shifts in trust.

Focus group participants had mixed opinions about vaccine guidance featuring children as the sole messenger. Some felt that this may be appropriate for childhood vaccines, while others commented that when children deliver a health message, the information is not credible. Some members of the Charedi Jewish community also mentioned that decision-making power for childhood vaccinations in their community does not sit with children, but solely with the elders.

Family members

So I asked my sister-in-law, even though she's not an actual, like, Doctor Doctor [she has a PhD], she will do the research [Participant 11]

You go back to them [mothers and grandmothers] because if they've raised you for a start and you, you feel like you're doing OK [Participant 30]

Community and faith leaders

I think that that would be wrong for them [faith leaders] to get involved. People need to make their own decision [Participant 24]

But at the same time, even if the image had somebody who was local to Tower Hamlets, a local figure from there, community leader on the poster [...] Because then you're saying, 'I see this person, I kind of recognise and see them around me so I know they are somebody who lives in this part of town, somebody who's credible. I'm able to relate to them'. [Participant 5]

it [a letter published to encourage vaccination in a community publication] was signed by two local Jewish doctors, yeah Charedi doctors, no, one was Charedi doctor, one was non-Charedi doctor but Jewish and three senior Rabbis from a union of all sorts of congregations that services like our community [...] so that was using both health professionals and senior Rabbis and the letter had the logos from those mainstream agencies as well [Participant 48]

The use of children as sole messengers in campaign assets

in our society, the elders are the one that have got their influence, what is the knowledge and the people look up to. I have a feeling that in some societies the children are the one who pick the tone. [Participant 46]

Although you know children do have influence. Like my son will come home and he'll tell me, 'oh, my teacher said', 'but Simon said something'. They do listen [Participant 41]

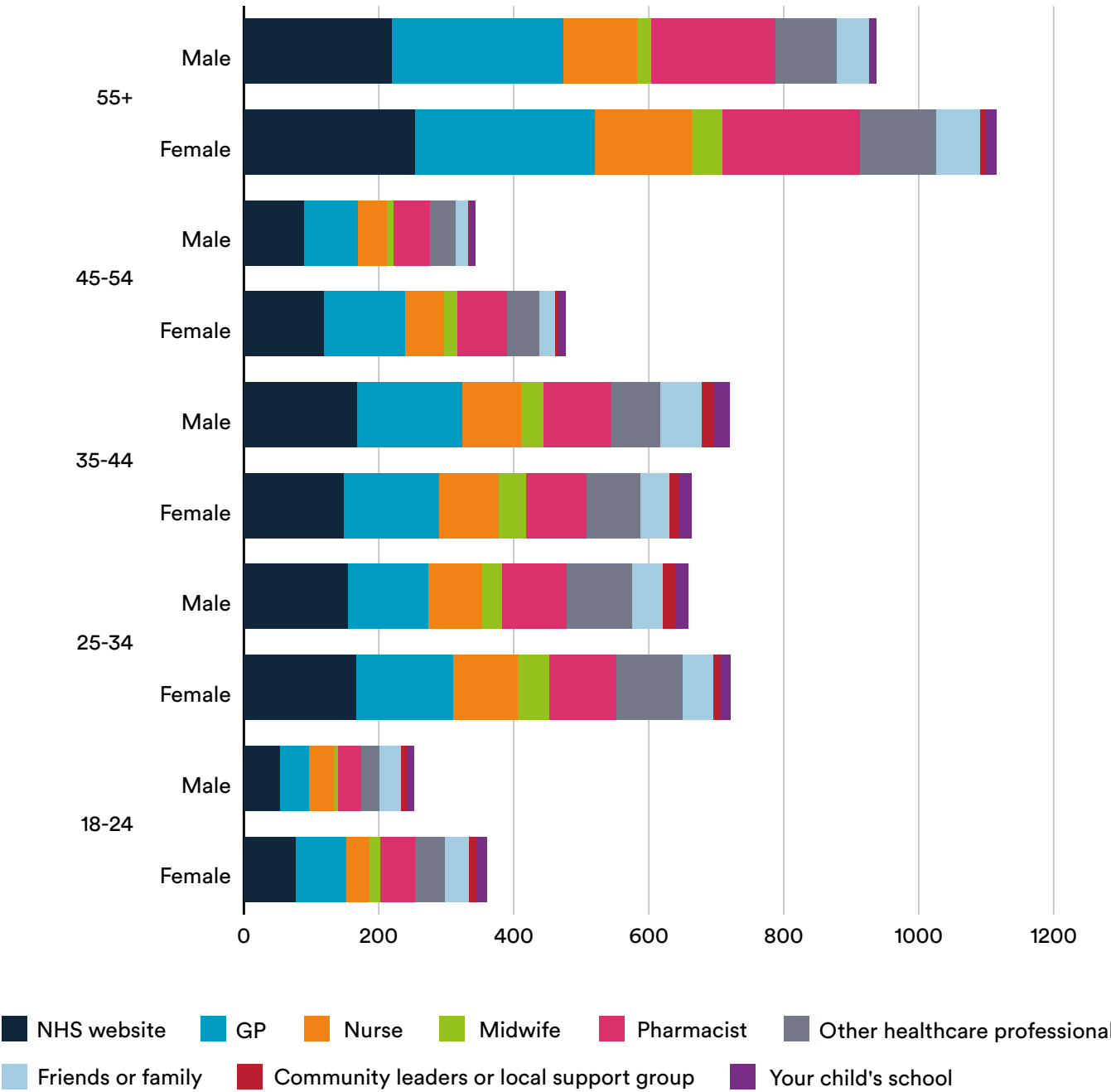
Table 2 – Sources of health information and information channels

Commonly used and/or trusted sources	Sources with mixed or context-dependent views	Communication settings or channels identified as useful for engagement
■ NHS website (71.68%) for focus group participants, this was a first port of call for health information. ■ Government websites. Overall, participants evaluated Government websites as highly trustworthy, even though they had low trust in politicians. ■ GPs (69.35%) were identified in focus groups as a highly trusted and preferred source of information. ■ Pharmacists (49.01%) were identified in focus groups as highly valuable sources of information, especially for their technical knowledge about medicines. ■ Friends or family (20.68%) although not highly reported in the survey, focus group participants showed a high reliance on the community, especially family members who are educated or otherwise perceived to be knowledgeable. Some acknowledged the risk of confirmation bias. ■ Midwives (13.10%) focus group participants trusted midwives due to long-standing relationships built with them.	■ Social media: social media received mixed appraisals in relation to trustworthiness. Participants found social media to be useful for learning about others' experiences but evaluated it as untrustworthy overall. ■ AI-generated content: Participants who trusted AI-generated content reported that they did not use it as a sole source of information; trustworthiness in AI-generated content was lower for important health issues. AI use was driven by barriers to healthcare access (for example difficulties securing GP appointments). ■ Nurses (38.64%) focus group participants evaluated nurses as caring but less knowledgeable than GPs, leading to lower trust attribution. ■ Other healthcare professionals (35.12%) other healthcare professionals (for example Physician Associates (PAs)) were positively evaluated overall, but GPs are the preferred source. ■ Community leaders or local support groups (4.96%). Community leaders garnered mixed opinions in focus group discussions. While some considered them trustworthy, others would not rely on them for health-related matters. ■ Faith leaders. While some focus group participants evaluated faith leaders as caring and trusted figures, others mentioned that health matters were beyond their remit, indicating a possible shift in trust away from faith leaders. ■ UKHSA: Participants showed a lack of awareness of, and misunderstandings about, the Agency and its activities. Where the UKHSA was recognised by participants, any perceived association with politics resulted in reduced trust. ■ Politicians were the least trusted of all sources of vaccine information; negative trust evaluations derived from moral judgements about political scandals (in particular the Partygate scandal). ■ Child's school (7.34%). Very few survey respondents indicated schools as a present source of vaccine information; focus group participants did not explicitly identify schools as trusted sources, but they did suggest including campaign assets in schools and soft play areas to capture audience attention.	■ Traditional media (TV, radio) were recommended as a way to reach more people, particularly community-specific channels and programming. ■ Scientists and researchers were trusted overall and many participants would like to see more scientific evidence in campaigns. ■ Charities were mentioned as a trusted route to disseminate vaccine information. ■ Sports personalities are considered to be good ambassadors for health-related issues, including vaccination.

Figure 3 – Survey responses to the question, 'Which, if any, of the following sources would you seek information about vaccines from?'

Overall, 2,016 people participated in the survey. Of these, 209 were aged 18–24, 425 were aged 25–34, 413 were aged 35–44, 289 were aged 45–54, and 680 were aged 55 or over.

Most participants would seek vaccine information from the NHS website (71.68%) or a GP (69.35%). Other common sources were pharmacists (49.01%), nurses (38.64%) and other healthcare professionals (35.12%). Smaller proportions would seek information from friends or family (20.68%), a midwife (13.10%), their child's school (7.34%), other sources (5.75%), or a community leader or local support group (4.96%). A small proportion did not know where they would seek information (1.59%), while 6.15% said they would not seek vaccine information.



Formats and channels

Online channels

Social media

- The social media accounts of official health information sources (for example NHS Twitter/X account) are trusted.
- Some participants noted the possibility of turning vaccination campaigns into adverts to be distributed on YouTube, Spotify, or online forum communities such as Reddit. Some participants also noted a preference for video explainers (for example to be posted on TikTok and YouTube) to engage younger audiences, which may hold greater appeal than ‘comic strip’ or cartoon visual explainers.
- Featuring recognised health professionals discussing vaccine information on podcasts and social media was highlighted as trust-building.
- Some participants noted that they tend to regard social media information as unreliable in general; having a well-known public figure or the backing of an official source (for example NHS) can help to increase trust.

Official websites

- The websites of official health information sources (for example NHS) are trusted.

Use of online channels and social media

Show it on YouTube or even on any website. [Participant 6]

I think the videos work, would work quite good. I mean like for social media, what they could do is like on Instagram and TikTok, they’ve got like a reel formats where they’re like shorthand videos. They may be like 10 seconds or 15 seconds. So you could engage younger people through that way or what you could do is to kind of like dispel some of that disinformation ... [Participant 9]

It’s podcasts. If you see on YouTube and Spotify, I mean that area, it’s not like it’s massive and if you could have someone ... like quite sort of famous NHS doctor or something like that go on to a podcast and discuss some of this stuff. [Participant 9]

Use of QR codes as a means to access further health information online

- Participants held mixed opinions about QR codes in vaccination messaging as a means to access further information from official sources: of the 53 references to QR codes in focus group discussions, 20 references included positive evaluations and 20 included negative evaluations (the others did not include appraisal).
- Participants who habitually use QR codes commented that they would also scan one on vaccination campaign posters.
- Participants who had concerns about QR codes in general expressed fears about being scammed, and about lack of technological means or ability.
- Suggestions for QR code use included the possibility of providing translations or further information, such as timelines for vaccination.

Mixed opinions about QR codes

I think phone number would be easier for many people who are not technologically well to do it because for me, if I get the QR code, I’ll not be able to use it. [Participant 43]

I would look for a, for a web page and then kind of search for it and go for it. Yeah. I wouldn’t really scan [the QR code] either just for the safety and security purpose myself. [Participant 2]

I like the QR code... Yeah, I like to be able to get a little bit more in depth information. [Participant 24]

Positive evaluations of the use of translations

I think in areas that are predominantly speak that language, I think having it in the, in that language would probably be useful [Participant 12]

when you see in a different language, it again invokes some kind of emotion that you know you otherwise won’t feel you will just pass by. But if you see for example, mine is Hindi. If you see it in a Hindi language, it would grab my attention right away [Participant 2]

I like the idea. The idea of other languages, but it has to be the same poster. [...] And it might be like maybe smaller print in English at the bottom if you’re trying to, you know, so both languages can actually be on there. [Participant 22]

I think it would be great to have them in multiple languages, but you have to place them side by side. You have to place English besides Spanish beside Arabic so that people don’t feel like they’re being targeted or they’re blaming them. [Participant 14]

Negative evaluation of the use of translations on messaging

[...] it’s just because it’s the UK and you’re supposed to know English over here. I would say that. Yeah, it should be in English first and foremost but have that kind of option for convenience behind the scenes, behind the QR code. [Participant 6]

Offline channels

The following offline locations were suggested by focus group participants to be the most appropriate places to display vaccination campaign assets:

- **Public transport**, trains, buses, and other Transport for London sites, particularly, the London underground, where people spend time commuting.
- **Public spaces**, where people spend time waiting, including soft play areas and parks (for childhood vaccine campaigns). Local markets and public toilets (for example at shopping centres, train stations) were also suggested.
- **Schools and nurseries**, for childhood vaccine campaigns.
- **Gyms**, which are associated with health and wellbeing.

While GP surgeries and clinics involve passive waiting time, they were not considered by all participants to be spaces where people can engage comfortably with new health information, since many people are in a heightened state of anxiety over their health at this time.

Public transport and public spaces

there’s now the, the screens that move to different adverts on the trains, on the tubes they have those adverts. While you sit in there, you read them, isn’t it? ... So it’s a captive audience. ... you have to read it when you’re going up the escalator steps. [Participant 18]

I would say any public place like the public transfer the tube or a shopping centre from all High Street or supermarkets ... [Participant 6]

Gyms

I think it’s a very good point ... [to display vaccination campaigns at gyms], because in the gym, like some people are resting for like a minute between sets and you know during that time they’re going to look around. [Participant 10]

Trusted sources of vaccine information: Section summary

Trusted sources of health information include:

- The NHS
- Health professionals, particularly GPs and pharmacists
- The community (family members, friends)
- Community and faith leaders, though we observed shifts in trust away from these messengers

Preferred communication channels include:

- Public spaces (for example markets, soft play areas, gyms)
- Public transport (deemed particularly important in the London context)
- Traditional media, social media, podcasts

Recommendations

- **Be aware that providing QR-only access to further information excludes individuals** who are concerned about security or lack technological capabilities to scan these codes.
- **Prioritise trusted sources and messengers, channels of communication and messaging locations** for the display of vaccine communications assets.
- **Foreground NHS branding** on vaccine messaging over and above that of other health authorities.
- **Ensure continued engagement with communities** to keep track of future shifts in community trust towards and away from different messengers, particularly in relation to religious leaders.

6. Communicating vaccine information

This section contains guidance for health communication professionals and policy makers on communicating vaccine information to communities. The recommendations are derived from community engagement and gaps in understanding emerging from our Year 1 evaluation of the WWGV campaign. Supporting evidence for the recommendations is presented in sections 1 through 5 in this report.

Promote informed decision making

Having enough information to make informed decisions about vaccination is important to community members. The questions raised by focus group participants demonstrate low self-belief that they have the knowledge necessary to make informed, vaccine positive decisions, which is proving a significant barrier to vaccination. It is vital that gaps in knowledge are addressed. Misconceptions and lack of understanding in hesitant and ambivalent populations directly contribute to hesitancy. Our community engagement and evaluation research highlighted the need to:

■ Include information about what a vaccine is and how it works

It is important to emphasise that vaccines are not a 'cure' or a guarantee of not contracting a disease, but a boost for the immune system to lower risk.

■ Be specific and avoid condescending and jargonistic language

It is important to be specific and avoid highly specialised terms. Take care to provide definitions when medical terminology cannot be avoided and pay special attention to avoiding condescending language in the process.

General statements such as 'vaccines are safe' are not well received if they are not accompanied by an explanation of *why* vaccines are safe.

Vague descriptions such as 'vaccines prevent you from getting horrible diseases' were considered patronising and were not well received. It is better to use phrases like 'serious diseases' or 'life-threatening diseases' (but see also the need to balance risk framing with clear, achievable action points below).

■ Include information about research trials

Some focus group participants shared concerns about vaccines not having been properly trialled or spending too short a time in the development phase. Explaining that vaccines have been adequately trialled on different populations before being rolled out to the public would help to address those fears.

■ Include supporting statistics

Including supporting statistics and evidence research in campaign assets can increase trustworthiness. Include both percentages and absolute numbers (for example 1 in 100,000) to cater to different audience preferences.

Descriptive statistics could include information on:

- How many people participated in trials before rolling out the vaccine
- How many people have taken the vaccine to date or over a period of time (for example last year)
- Potential health risks (for example low risk of vaccine side effects; relative risk of contracting the disease for vaccinated and unvaccinated individuals)
- Community specific vaccine uptake and risk rates
- Vaccine effectiveness: lives saved or illnesses prevented
- Figures or simple infographics (for example colour-coded figures to symbolise people (un)affected by a condition in (un)vaccinated populations)

■ Foreground NHS branding and do not include unfamiliar and unnecessary branding

The NHS and NHS branding (logo, colours) were received extremely positively and were preferred to less familiar organisational branding. Community members trusted the NHS as a source of health information, despite sharing concerns over difficulties accessing NHS services in recent years.

A logo/button for the WWGV campaign featuring on campaign assets caused confusion and detracted from the message.

Health campaign branding

when I've seen the NHS logo, I believe it's from a trusted source [Participant 15]

What about that [WWGV campaign logo/button]? There's a question mark next to NHS. What does it say inside the circle? [Participant 21]

if this campaign comes from such reliable sources like the NHS ... we expect strong evidence behind it. [Participant 1]

Centre the messenger in the call to action

Community members prefer inclusive language in campaign assets, which positions the messenger as central to the action expected of the audience. This preference for a shared call to action applies regardless of the authority of the messenger. Campaign assets discussed in focus groups included:

- 'Why do I get vaccinated?' [child as messenger]
- 'Why did we vaccinate our children?' [family as messenger]
- 'Why should you get vaccinated?' [doctor as messenger]

Participants negatively evaluated the wording of the message in poster C (doctor as messenger) for positioning the doctor as separate to the guidance addressing the public (i.e., 'should **you**'). Alternative wording preferred by participants was 'Why [do] **we** get vaccinated?' Inclusive language which positions health professionals in a horizontal relationship with the public/patients instead of an asymmetric power relationship is essential for patient-centred communication and the promotion of shared-decision making (Slade et al. 2015).

Rejection of asymmetric power relationship between messenger and audience

can I say something about the question? ... why doesn't he include himself? Why should 'we' get vaccinated? Because he's a doctor he doesn't need vaccination? [Participant 51]

Different readings of the 'why' question on campaign assets

Why did we vaccinate our children? So you're looking for answers? [Participant 20]

I don't like that 'why'; everything is in a question format [Participant 47]

Avoid the modal verb 'should'

The modal verb 'should' in 'why should we get vaccinated?' led to multiple interpretations of the tagline: an information request (the intended meaning); an expression of disappointment or annoyance (emphatic *why* implying 'I wish I hadn't done it'); or an emphatic *should* implying 'why should we bother to get vaccinated?'. To avoid ambiguity:

- Avoid the modal verb 'should' in campaign slogans presented in a question format
- Instead, use the dummy auxiliary 'do' ('Why do I get vaccinated?'; 'Why did we get vaccinated?')

Provide health information in statements

Although questions are a useful means of capturing public attention and promoting engagement, many of our participants expressed discontent with the tagline being presented in the interrogative form when they felt that the information they needed to answer the question was not provided.

- Where possible, present health information in the form of statements (declarative voice). Where questions are used to capture engagement (for example Why do I get vaccinated?), be sure that a response to the question posed is provided.

Preference for statements instead of questions on campaign assets

Vaccinations help X amount of people and say, blah blah blah. That'd be probably a better statement. [Participant 33]

Explicitly communicate the benefits of vaccination

Vaccine confident survey respondents would like the benefits of vaccination to be explicitly communicated, indicating that a focus on the positives of being vaccinated instead of the negatives of remaining unvaccinated can be persuasive, while avoiding being perceived as fear inducing. When reporting information about the risks of being unvaccinated:

- present information factually
- use non-evaluative descriptions
- include supporting statistics to help to achieve a balance between being informative about the risk without promoting fear

Provide tailored assets in multicultural and multilingual environments

Cultural sensitivity plays a major role in campaign efficacy. Two ways in which tailoring culturally sensitive assets can be achieved are by including translations and visual references to the communities addressed.

Overall, participants appreciated the use of translations and evaluated this positively, mentioning that it helps the message feel more personal and relatable, increases engagement and supports individuals with low English proficiency to make informed decisions.

There were, however, two occasions where participants expressed discontent about providing information in a language other than English in public spaces in the context of the UK. While this stance was not prominent in focus groups discussions, it is important to acknowledge that these feelings may be shared in the broader community, and care should be taken not to exacerbate sociopolitical tensions. Participants also acknowledged difficulties around identifying which languages to translate into, given the high and diverse multilingualism in London.

- **Provide health messaging in languages spoken by the main linguistic communities of multilingual environments.**
- **Provide translations alongside English using side-by-side translations, each accompanied by images of individuals belonging to the corresponding linguistic community.** An alternative suggestion offered by focus group participants involved providing the original messaging in English and including a QR code to access the translated versions. This will help to guard against the linguistic communities addressed in the messaging being (or made to feel) targeted or implicitly blamed for not vaccinating.

Certain features of tailored messaging may work well for more than one group and can even be used as a ‘baseline’ standard if necessary. Focus group discussions revealed that ‘modest clothing’ in the form of long sleeves and high necklines is particularly appreciated by the Charedi Jewish community, while not being contentious for other communities. Featuring other culture-specific tailoring, however, may be appreciated by some communities but will not appeal to others. For example, images of people wearing head coverings may not resonate with some groups and carries the risk of unintentionally reinforcing social divides in periods of high socio-political tension. Care should be taken to ensure that messaging content and display context are inclusive and minimise the risk of harm to the audiences it is tailored towards.

Ensure campaign assets are self-contained

Campaign assets included a QR code to access information about immunisation. Engagement with QR codes, however, is reportedly low. Including a point of contact for further vaccine information (for example website, telephone number) is considered a suitable alternative, but essential vaccine information should be provided directly on campaign assets to ensure they are self-contained.

Feature messengers who resonate with the audience

The doctor (GP) figure as messenger (poster B) was the most positively evaluated as trustworthy; the child as messenger (poster A) was the least positively evaluated, with participants commenting that they would not consider health guidance attributed to children; and the family (poster C) was positively evaluated for aligning with the pro-social values of the focus group participants.

- Use messengers with authority in the health space (our participants had higher trust in doctors and pharmacists than nurses).
- Feature children on campaign assets with a parent or as part of a family, rather than the sole messenger.

Anticipate diverse interpretations to vaccine messaging

Taglines such as ‘We made a choice to protect our family’ will not always lead to the audience making vaccine positive decisions. Those who perceive vaccines as potentially harmful will exhibit pro-social behaviours by avoiding vaccination to protect their families. On the other hand, vaccine confident individuals interpret such messaging as an accusation of blame towards unvaccinated people.

- Consider how messaging may be interpreted differently by vaccine ambivalent individuals who hold strong pro-social values.
- Encouraging social unity in messaging to counter ‘othering’ of ‘antivaxxers’ is important for vaccine confident individuals. Phrases like ‘protect loved ones’ and ‘saved millions of lives’ appeal to this group.

Section summary

Summary of recommendations for effective vaccine communication

- **Community involvement should not be limited to consultation or validation.** Treat lived experience as a source of expertise equal to clinical and academic knowledge and address hesitancy without blaming communities.
- **Anticipate and account for diverse interpretations of vaccine messaging.** Combine community engagement with applied linguistics approaches to ensure clarity and avoid unintended connotations.
- **Be specific and avoid jargon** but take care to balance this with the need to avoid condescending language.
- **Foreground NHS branding** to capitalise on trust but not at the expense of supporting information. Be sure to include information about what a vaccine is and how it works.
- **Include supporting statistics and infographics** where possible (for example providing information about research trials would be valued in vaccine communications).
- **Centre the messenger in the call to action** to provide clear guidance and avoid the ‘us’ vs. ‘them’ divide.

- **Provide health information in statements where possible.** If using questions to capture audience attention, avoid the modal verb ‘should’.
- **Explicitly communicate the benefits of vaccination.**
- **Present information factually** using non-evaluative descriptions.
- **Provide tailored assets in multicultural and multilingual environments.**
- **Ensure campaign assets are self-contained.** While it is good to provide a reference to additional sources of health information, it is important to ensure that all the relevant information needed to fulfil the call to action is contained within the campaign asset.
- **Foreground messengers who resonate with the audience and use messengers with authority in the health space** (NHS doctors, pharmacists, and community leaders are best trusted by communities for health topics).
- **Avoid children being the sole messenger**, but rather include them with a parent or as part of a family.

7. High level recommendations summary

Recommendations for policy/system leaders

- Invest in trust-building approaches – for example work with communities, acknowledge historical wrongdoings, acknowledge political scandals
- Prioritise underserved communities and the ‘vaccine ambivalent’ group
- Address vaccination misunderstandings – for example debunk myths, provide information about the most common side effects, do not assume vaccine literacy
- Align messaging across agencies and campaigns
- Collaborate with trusted sources of health information to promote messaging – for example NHS, health professionals (especially GPs, pharmacists and midwives), and researchers
- Collaborate with communities to understand communication needs, changes in trusted sources, and the most relevant channels of communication

Recommendations for communications teams

- Tailor messaging to the needs of the addressed communities
- Collaborate with communities to co-produce and evaluate vaccine messaging
- Prioritise the ‘vaccine ambivalent’ group
- Use mild, but not extreme, risk framing: avoid fear-based messaging
- Avoid patronising or moralising tones
- Ensure messaging does not position hesitant individuals as (morally or intellectually) inferior
- Use clear, inclusive statements
- Use side-by-side translations for populations whose first language is not English
- Use NHS branding: the NHS is broadly perceived as a reliable source of health information

8. Conclusion

This report includes findings from the first-year evaluation of the WWGV campaign gathered through a representative survey of London adults and focus groups with underserved communities. Findings reflect the reception of WWGV messaging and general vaccine attitudes and (mis)understandings. Findings outlined in this report have informed the development of WWGV campaign iterations and recommendations can be adopted more broadly for vaccine communications. It is important to adopt recommendations that apply to vaccine-specific campaigns (for example Covid-19, MMR(v)) to protect against lack of trust in these vaccines spilling over into other new and established vaccines.

Profiles of vaccine hesitancy

The latent class analysis of the baseline survey identified five key population profiles:

Consistent Uptakers: This group is characterised by high vaccination uptake, high perception of efficacy, and lack of safety concerns. ‘Consistent uptakers’ were significantly more likely to be aged ≥55, to be retired, homeowners, and parents of adult children.

Concerned Uptakers: This group is characterised by vaccination uptake and high self-reported vaccination intent but has significant concerns about side effects. ‘Concerned uptakers’ were consistently from younger age groups (25-44 years), likely to be living in families with two or more children in the household, and likely to be from Mixed and Black ethnicities, potentially reflecting experiences of inequality and lack of institutional trust.

Consistent Refusers: This group is characterised by an almost total rejection of vaccination and had concerns over side effects. ‘Consistent refusers’ were more likely to be male, from Asian or Other ethnic backgrounds, and in part-time employment.

Unconcerned Refusers: This group is characterised by acknowledgement of vaccine efficacy, but no intention to vaccinate despite reporting low levels of concern about side effects. ‘Unconcerned refusers’ were more likely to be middle class, late-stage young adults.

Undecided or Uninformed: This group is characterised by persistent uncertainty; respondents consistently provided “Don’t Know” or “Neutral” responses, especially in relation to vaccination efficacy and intention to vaccinate, potentially showing a lack of engagement with vaccination discourse. ‘Undecided or uninformed’ respondents were more likely to be from a lower social grade, unemployed, and/or with full-time student status.

Analysis of the evaluation survey revealed that:

- 18–24-year-olds were the most likely to be vaccine hesitant
- the 55+ age group was the most likely to be vaccine confident
- men were more likely to be vaccine hesitant than women
- individuals belonging to lower social grade groups (C2DE group) are more likely to be vaccine hesitant than those belonging to higher social grades (ABC1 group)
- those with children in the household were more likely to be vaccine hesitant than those without children in the household
- vaccine hesitancy varies across London boroughs

Vaccine hesitant and positive individuals share:

- concerns and questions about vaccines (especially concerns over side effects)
- values, including responsibility for children’s health
- pro-social health behaviours to support loved ones and the wider community
- a desire for informed decision making

Barriers to vaccination

- Concerns about side effects are the primary barrier to getting vaccinated.
- Old myths still influence people's understanding of vaccines and vaccination decisions.
- The Covid-19 vaccine stands as a turning point in public understanding of, and trust in vaccines ('old' vaccines which are associated with robust research and development, vs. 'new' vaccines, the development of which is perceived as rushed). Concerns are spreading to 'old' vaccines.
- Mistrust of government and political leadership.

Main trusted sources

- The NHS
- Health professionals (especially GPs and pharmacists)
- The community (family members, friends)

Preferred communication channels

- Public spaces (for example markets, soft play areas, gyms – depending on the vaccine)
- Public transport (deemed particularly important in the London context)
- Traditional media
- Podcasts
- Social media (deemed particularly important to engage with younger audiences)

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Key recommendations for the WWGV campaign, and future vaccination campaigns

- Provide references to additional sources of information while ensuring that the call to action is self-contained within the asset.
- Include references to websites of official sources of health information (for example NHS) and phone numbers as well as or instead of QR codes.
- Foreground NHS branding.
- Provide health information in statements, not questions.
- Use trusted healthcare professionals as messengers; include children as part of a family rather than as sole messengers.
- Use an intersectional approach to tailor vaccine communications and prioritise the 'vaccine ambivalent' group.
- Provide tailored assets in multicultural and multilingual environments, including side-by-side translations.
- Provide information on risk and side effects to increase trust but avoid fear appeals.
- Incentivise pro-social attitudes but avoid moralising messages.
- Include supporting statistics, but ensure numerical information is accessible – for example by including visual support.
- Explicitly communicate the benefits of vaccination, including information about what a vaccine is and how it works.
- Counter popular myths.

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Appendix 1. Survey questions and focus group schedule

Survey questions

Closed question 1

To what extent do you agree or disagree with each of the following statements? [all respondents]

Vaccines are effective [1]	I am concerned about serious adverse effects (i.e. negative side effects or unwanted results) of vaccines [2]	Childhood vaccines are important for a child's health [3]
strongly agree	strongly agree	strongly agree
tend to agree	tend to agree	tend to agree
neither agree nor disagree	neither agree nor disagree	neither agree nor disagree
tend to disagree	tend to disagree	tend to disagree
strongly disagree	strongly disagree	strongly disagree

Closed question 2

Have you heard of the following vaccinations? Please select all the vaccines you are familiar with. [all respondents]

- Rotavirus vaccine
- MenB vaccine (meningitis)
- Pneumococcal vaccine (pneumonia, meningitis)
- MMR vaccine (measles, mumps, rubella)
- Hib/MenC vaccine
- Children's flu vaccine
- HPV vaccine (human papillomavirus)
- 6-in-one vaccine (diphtheria, hepatitis B, Hib, polio, tetanus, whooping cough)
- Td/IPV vaccine (tetanus, diphtheria, polio)
- MenACWY vaccine (meningitis, sepsis)
- Flu vaccine
- Shingles vaccine
- RSV vaccine (respiratory syncytial virus)
- COVID-19 vaccine

Randomise order of Q3, Q4, Q5, Q6 plus A/B testing

Closed question 3

Do you trust this message? [A/B testing of logos (1000 people each)]

- Extremely trustworthy
- Very trustworthy
- Somewhat trustworthy
- Not very trustworthy
- Extremely untrustworthy



Closed question 4

Would you scan the QR code on this message to [find out more/join the conversation]? [A/B testing (1000 people each) of different calls to action]

- Yes
- No
- I don't scan QR codes



Closed question 5

How trustworthy do you consider this [community leader/GP] to be? [A/B testing (1000 people each) for different messengers]

- Extremely trustworthy
- Very trustworthy
- Somewhat trustworthy
- Not very trustworthy
- Extremely untrustworthy



Closed question 6

Which of the following sources would you seek information about vaccination from? Select all that apply. [all respondents]

- NHS website
- GP
- Nurse
- Midwife
- Other healthcare professional
- Pharmacist
- Your child's school
- Community leaders or local support group
- Friends or family

Open question 7

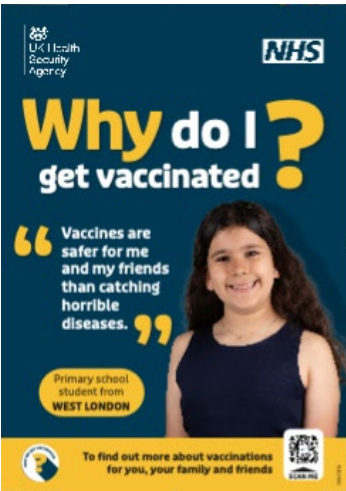
If you were designing a campaign to encourage people to get vaccinated, what key messages or content would you include? [all respondents]

Focus group schedule

Introductions: Invite participants to introduce themselves and share their reasons for attending.

- 1 First, we would like to show you three examples of messaging from the current 'Why we get vaccinated' campaign. We would like to hear your first impressions.

A: First person narrative



B: Trusted person (doctor)



C: Pro-social vaccination (family)



2 Now we would like to hear your thoughts on vaccine confidence.

How concerned are you about vaccine side effects for you (and your children)? *Participants to drag their colour to the scale to vote*

Drag your colour onto the scale to vote

How concerned are you about vaccine side effects for you (and your children)?

Not at all concerned ————— Extremely concerned

Would you be more likely to get a vaccination if you were given information about potential side effects? *Participants to drag their sticky note to a box to vote. Invite participants to talk rather than type if they prefer.*

Place your post-it into a box to vote. Type on your note to tell us more

Would you be more likely to get a vaccination if you were given information about potential side-effects?

Yes Depends/Not sure No

Besides possible side-effects, what other things influence your decision to get yourself or your child vaccinated? *Invite participants to talk rather than type if they prefer.*

Type on your post-it note to share your thoughts on the question below. Use more than one note if you wish.

Besides possible side effects, what influences your decision to get yourself or your child vaccinated?

Are there any specific vaccines that concern you? Please tell us which one(s) and why. *Invite participants to talk rather than type if they prefer.*

Type on your post-it note to share your thoughts on the question below. Use more than one note if you wish.

Do any specific vaccines concern you? Please tell us which one(s) and why.

- 3 Which communities/groups/individuals do you consider to be trustworthy sources of vaccine information? Which message characteristics contribute to trustworthiness?**
- 4 Are there any particular sources, content providers or authors that stand out as being especially reliable or trustworthy to you?**
- 5a Thinking about information formats, which types of information do you usually engage with?**
- 5b Would you say that you can trust certain formats more than others when it comes to vaccine information? Why (i.e., which factors make formats more or less trustworthy)?**
- 5c Do you find it easy to assess whether to trust information on websites and social media?**
- 6a Have you ever seen something written or said about vaccines that you thought was untrue?**
- 6b How do you decide if vaccine information is correct, or if this is difficult, what would help to support you with this?**
- 6c Would it help you if vaccination campaigns (for example leaflets, posters, social media) included information on common myths?**

Appendix 2. Approaches to analysis

Latent Class Analysis

A Latent Class Analysis (LCA) was carried out on the 2024 baseline survey, which preceded this evaluation (see Section 3). LCA is ‘a statistical procedure used to identify qualitatively different subgroups within populations who often share certain outward characteristics’ (Weller et al., 2020). This analysis was used to draw out five main classes or profiles according to vaccine beliefs and sociodemographic profiles.

Z-scores and descriptive statistics

Z-scores were used to establish that age, gender, social grade and London region are significantly associated with vaccine hesitancy in the survey results.

Vaccine hesitancy measure composite scoring

The 2025 evaluation survey considered vaccine hesitancy in Q1 through three statements derived from Shapiro et al. (2018) and Luyten et al. (2019):

- Vaccines are effective
- I am concerned about serious adverse effects (i.e., negative side effects or unwanted results) of vaccines
- Childhood vaccines are important for a child’s health

For each question, participants were asked to specify whether they “Strongly agree”, “Tend to agree”, “Neither agree nor disagree”, “Tend to disagree” or “Strongly disagree”. Responses were assigned a value between 1 and 5, with 5 meaning the most vaccine positive and 1 the most vaccine hesitant (statement 2 was reverse scored accordingly). A composite score for each participant was calculated using the mean score for the three questions. Hesitancy degrees were assigned to participants based on composite scores: <3.0 = vaccine hesitant; 3.0–3.99 = ambivalent; ≥4.0 = vaccine confident; ‘don’t know’ to all three questions = disengaged.

These confident, hesitant and ambivalent classifications were applied to the open text survey question on recommendations for content or messages to include in a vaccination campaign designed to improve audience uptake. This provided us with three textual datasets split according to vaccine attitudes.

Corpus linguistics

Computer-assisted analysis of digitised textual data was used to analyse the three textual datasets extracted from the open text survey question on recommendations for content or messages to include in a vaccination campaign designed to improve audience uptake. The following corpus analyses were used:

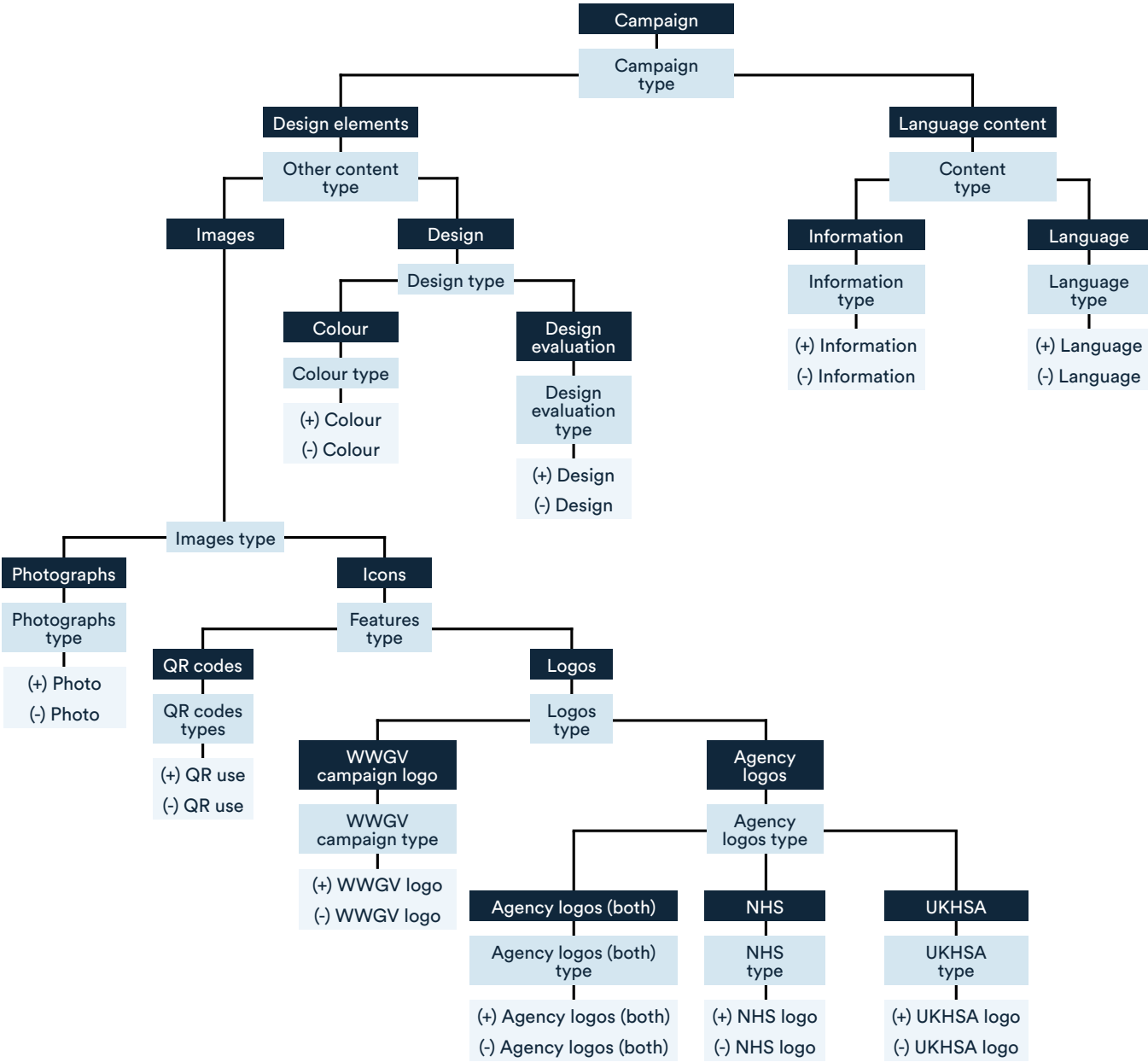
- **Frequency lists:** automated retrieval of raw frequencies of words present in a dataset, with the option to retrieve/exclude frequencies for specified grammatical classes (for example nouns, verbs, adjectives, prepositions).
- **Keywords:** automated retrieval of words or groups of words (multi-word terms) that are statistically salient in a target dataset (in this case, the open text survey responses) in comparison to a reference dataset, usually a larger, representative corpus of general language use. This analysis reveals language that is specific to the target dataset. For this study, the reference corpus was the British English sub-corpus (gathered from .uk websites) of the English Web enTenTen21 corpus available in Sketch Engine.
- **Concordances:** lists of text extracts that display a word or expression of interest centrally, making it possible to examine the context of use and identify patterns across the different occurrences.

Thematic schemas

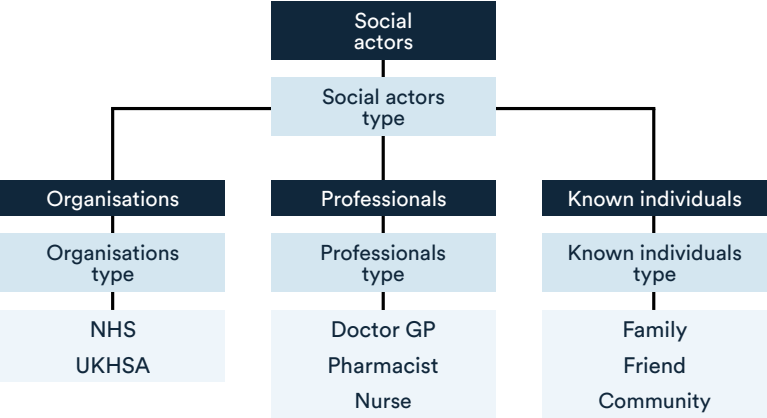
Thematic annotation codes were developed to annotate focus group discussions on the topics of ‘WWGV campaign’, ‘vaccines’, ‘social actors’, ‘information’, ‘evaluation’, and ‘barriers and facilitators’. The schemas were developed iteratively among two members of the research team, informed by relevant academic literature and focus group discussions. The overviews of the two example schemas provided below for illustration were generated using the UAM corpus tool (v.6) developed by Mike O’Donnell (www.corpustool.com).

Barriers to vaccination were interpreted following the JITSUVAX framework (Fasce et al., 2023, which was designed to work with people’s motivations rather than against them, with the aim of helping people to make health decisions without relying on misconceptions. The 11 barriers identified in the JITSUVAX framework are conspiracist ideation, distrust, moral concerns, unwanted beliefs, fears and phobias, worldview and politics, religious concerns, distorted risk perception, perceived self-interest, epistemic relativism (meaning that knowledge and trust depend on context and perspective) and reactance (a perceived threat to freedom causing anger; see also Adame et al., 2025).

Campaign schema



Social actors schema





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