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Research Report

Survey of Parental Attitudes towards Immunisation of Pre-School Children

Prepared for: Public Health Wales
Prepared by: BMG Research

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Date: May 2021

Produced by BMG Research

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Project: 2131

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The provision of Market Research Services in accordance with ISO 9001:2015
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2. Executive summary

This report outlines the findings from the Parental Attitudes towards Immunisations of Pre-School Children research undertaken by BMG Research in February and March 2021 on behalf of Public Health Wales. The research aims to provide a greater understanding of parental awareness on vaccines and vaccine preventable diseases, and explores attitudes to pre-school immunisations in order to inform strategic planning of immunisation programmes in Wales.

The findings presented result from the analysis of an online quantitative survey of 723 parents of children aged 0 to 5 years, and 20 in-depth qualitative interviews with a selection of survey participants.

2.1 Awareness of publicity

Overall, around six in ten (61%) parents surveyed say they have seen or heard something about childhood vaccinations, with those from more prosperous socio-economic backgrounds being more likely to recall this information. Health professionals, the Red book/Personal Child Health Record, social media and the NHS website are the most common sources of information.

A majority of parents say that the information they came across was in favour of vaccinations (46%) while around one in ten (8%) say that it was a mixture of information both for and against vaccinations. Only a small minority (1%) have seen something solely against immunisations.

When looking at the sentiment of information encountered by the source, information received via word of mouth (22%), online (18%) and traditional media (26%) is more likely than average to convey a mixture of messages both for and against vaccination. Qualitative research reveals that coming across information against vaccines on social media is common for some parents and nearly half of those who took part in qualitative research know someone in their social circle who is sceptic about vaccines.

One in ten (11%) parents have seen or heard something that would make them worried about having their child vaccinated. Over half (54%) of those who have come across concerning information say that they have seen this on social media.

Parents from modest socio-economic backgrounds are more likely than average to have encountered concerning information (19% of parents who don't work and 13% of those holding qualifications below degree level), as are disabled parents (23%).

2.2 Attitudes towards vaccination

A minimum of 65% of parents consider the diseases that pre-school vaccines protect from to be serious, with septicaemia (96%) and meningitis (95%) registering the highest 'very serious' scores. Conversely, rotavirus and the flu are rated as the least serious (37% and 22% respectively consider these diseases to be very serious). Parents classed as social grades C2DE, those out of work and those educated to below degree level are less likely than average to consider these diseases serious.

In terms of the safety of childhood immunisations, nine in ten (92%) believe either that vaccines are completely safe (56%) or that there is a very low risk (36%) while a small minority (6%) say there is a moderate (5%) or a high risk (1%). Again, parents classed as

C2DE (9%) and disabled parents (19%) are more likely to have reservations about vaccine safety.

There isn't one vaccine that parents are particularly concerned about as there are a number of immunisations that make parents worried, but those who have safety concerns commonly mention the MMR (41%) and the flu (39%) vaccines. Six out of 20 participants in qualitative interviews recall seeing information on the link between the MMR vaccine and autism in children.

Nonetheless, perceptions of vaccines are generally positive, with around seven in ten strongly agreeing that vaccines work (69%) and that they are properly tested (64%), and nearly six in ten strongly agreeing that vaccines are safe and that they trust vaccines (58% respectively).

Just under three out of four parents (73%) disagree that vaccination weakens a child's immune system, and agreement is low at 7%. However, there are some concerns around the ingredients of vaccines and the number of immunisations children get at one time, with 17% and 15% respectively agreeing that they are concerned about these. Parents classed as C2DE, BME parents and disabled parents are more likely to express concerns about these statements.

Qualitative research shows that concerns about ingredients relate to whether these are halal or not, and there is a desire to know what ingredients are in the vaccine, in case the child turns out to be allergic to any of them.

2.3 Vaccine uptake and experience of the process

Three separate questions were asked to determine uptake depending on the age of respondents' children. Parents of children aged from 0 to 3 years and 3 months were asked whether their child(ren) had received any immunisations. The vast majority (95%) of parents of children aged from 0 to 3 years and 3 months state that their child(ren) has had all immunisations offered, 3% say that they have had some but not all immunisations, 1% haven't had any but have received an invitation and an additional 1% haven't received an invitation yet.

Parents of children aged 3 years and 4 months or older were asked if their child(ren) had received the second dose of the MMR vaccine and the pre-school booster. Nearly nine in ten (88%) say that their child(ren) has had all immunisations offered, 2% say they have had some but not all vaccines, an additional 2% haven't had their immunisations but have received an invitation, and 5% haven't received an invitation yet.

In addition to the above, parents of children aged 2 years and 5 months or older were asked whether they had taken up on the offer of the flu vaccine for their child(ren). Levels of uptake for this are slightly lower than for other vaccines, with three-quarters (75%) saying that they had taken up on this. 15% state that they have been offered the vaccine for their child but that they have not been immunised, while 9% have not been offered this vaccine yet.

Parents who don't work and those classed as C2DE are less likely to have taken up on the offer of the flu vaccine and the vaccines for children younger than 3 years and 4 months.

Experiences of vaccinations are positive, with over four-fifths saying that they are satisfied with the way in which the vaccination was administered (95%), the ease of getting an appointment (93%); and the facilities and information provided at the visit (85% respectively).

In spite of this, qualitative research suggests that some improvements could be made, particularly in relation to GP surgeries sending reminders to book appointments when vaccinations are due for the child and offering flexibility in terms of the times available for vaccination. To a lesser extent, improvements for facilities were also suggested to allow for breastfeeding and to distract the child with toys and TVs. A minority of parents didn't have time to ask questions during their visit and would welcome having the opportunity to do so.

2.4 Access to information and making a decision

Just under four in five (79%) state that they had enough information to make an informed decision about immunising their child, with BME parents and those educated to below degree level being less likely to agree with this (67% and 75% respectively).

The most common sources of information about childhood vaccinations used by parents are health visitors or midwives (81%), the Red book/the Personal Child Health Record (75%), other healthcare professionals such as pharmacists, nurses and GPs (65%), and the NHS website (61%).

Health professionals and the NHS are also the most trusted sources of information for parents, with nearly all parents selecting these as one of their top three most trusted sources (96% respectively).

In this sense, if parents wanted to access further information in the future, they would mainly consult the NHS website (44%) or speak to a healthcare professional (42%). Less than a quarter say that they would use unregulated sources of information such as family members (24%), websites other than the NHS (17%) or social media (10%).

Most parents who received information from healthcare professionals say either that it made them more confident about immunising their child (55%) or that it didn't affect how they felt (41%). Nonetheless, the vast majority didn't change their mind about whether or not to immunise their child after talking to a health professional (95%) but 2% decided to immunise. Parents classed as social grades C2DE are more likely than average to have changed their mind after talking to a health professional and decide to immunise (4%), as are BME (9%) and single parents (7%).

When it comes to vaccinating their child, nine in ten (90%) parents say that they automatically had all their child's immunisations done when offered while just under one in ten (9%) say they weighted up the pros and cons of one or more vaccines before deciding whether or not to have their child immunised, with those out of work being more likely to have done this (19%). Having reliable information available is, therefore, important for increasing immunisations' take-up among this minority of parents.

3. Recommendations

Based on the findings from this report, we recommend that PHW consider taking the following actions to improve the functioning of the immunisation programme and the up-take of pre-school vaccinations:

- **Continue to communicate the benefits of vaccines**. Quantitative data shows that just under one in ten (9%) parents weigh up the pros and cons before deciding whether or not to have their child immunised and a similar proportion have seen mixed messages for and against vaccination (8% have seen mixed information and 2% have seen information against vaccination). Furthermore, one in ten (11%) parents have seen or heard something that would make them worried about having their child vaccinated.
- **Communications should focus on parents classed as social grades C2DE, BME and disabled parents** as they are more likely to have come across concerning information and express concerns about vaccine safety.
- **Communications which focus on concerns about the ingredients of vaccines and whether children are immunised against too many diseases at one time could be beneficial**, since 17% and 15% respectively expressed concerns about these issues. Parents classed as social grades C2DE and BME parents are more likely than average to express concerns about these issues.
- **Communicating the severity of diseases is also important** since quantitative data shows that parents who don't trust vaccines and consider them unsafe are more likely to state that the diseases childhood vaccines protect from are not serious.
- **Communicate the benefits of the flu vaccine more clearly**. Qualitative research shows that the flu vaccine is considered to be less important than other vaccinations, and quantitative data shows that uptake of this is lower than for other immunisations (95% of parents of children aged 0 to 3 years and 3 months say their child has had all immunisations offered, as do 88% of parents of children aged 3 years and 4 months or older. This compares to 75% of parents of children aged 2 years and 5 months or older who say that they have taken up on the offer of the flu vaccine).
- **Use search engine optimisation to ensure the PHW and NHS websites are the most visible when parents search information on vaccinations**. Qualitative research shows that parents are likely to search information online about side effects of vaccines when their child is about to have a vaccine so that they know what to expect or afterwards if the child experiences any side effects. Therefore, it is important to ensure that they can easily find reliable information. This point is reinforced by the fact that quantitative data shows that parents who have concerns about vaccine safety are more likely to use the internet to find information about vaccinations in the future.
- **Have an active social media presence** so that parents have access to regulated information on these channels. Over half (54%) of parents who have come across concerning information say that they have seen this on social media. Moreover, parents who have reservations on vaccine safety are more likely to say that they would use social media to get information about vaccines in the future.
- **Ensure health professionals have access to materials and information they can draw on to talk to parents about vaccines, and allow parents time to ask questions during visits**. Health professionals (together with the NHS) are among

the most trusted sources of information of vaccines, with 96% of parents ranking them in their top three most trusted sources, and nearly half of parents (46%) saying that they would use health professionals in the future if they wanted to find out more about vaccines. Qualitative interviews show that some parents felt they didn't have time to ask questions when they took their child to be vaccinated and they would welcome the opportunity to have verbal interactions with the nurse or GP.

- **Leaflets in electronic and printed formats should continue to play a prominent role when providing information to parents**. Qualitative data show that parents who say they have enough information to make an informed decision about whether or not to immunise their child are more likely to have received information leaflets, containing details on the diseases vaccines protect against, side effects, and where to find out more if desired. In contrast, parents who didn't have enough information say they would have liked to receive this, either on paper or electronic format.

4. Introduction

4.1 Background

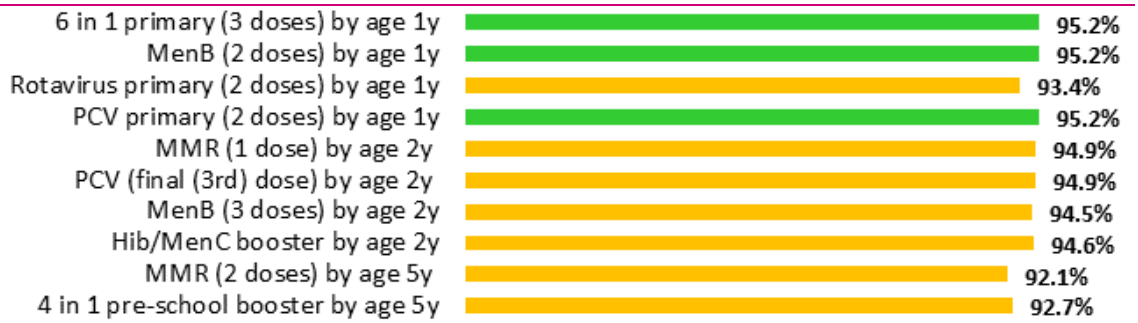
Immunisation is the most important way of protecting individuals and the community from vaccine preventable infectious diseases. There is a well-established national vaccination programme in Wales, and in 2003 the Vaccine Preventable Disease Programme in Public Health Wales was established to support the former.

As part of this, a programme of vaccinations for children aged 0 to 5 is offered to parents. The following vaccines are offered for pre-school children:

- "6-in-1"/DTaP/IPV/Hib/HepB (diphtheria, hepatitis B, Haemophilus influenzae, polio, tetanus, whooping cough (pertussis))
- Rotavirus vaccine
- MenB (meningitis B)
- Pneumococcal (PCV) vaccine
- Hib/MenC (Haemophilus influenzae, meningitis C)
- MMR (measles, mumps, rubella)
- Flu vaccine
- "4-in-1 pre-school booster" (diphtheria, polio, tetanus, whooping cough (pertussis))

The most recent data from Public Health Wales shows that between October and December 2020 over nine in ten children had received each of the immunisations outlined above (excluding the flu vaccine):

Figure 1: Pre-school vaccine uptake in Wales



Source: Summary of uptake rates for selected immunisations in resident children reaching their 1st, 2nd, 5th birthday between 01/10/20 and 31/12/20 and resident on 31/12/20, Public Health Wales.
http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=54144

In 2021, PHW commissioned BMG to conduct research to explore the attitudes of parents towards these pre-school vaccines for the first time.

4.2 Research objectives

The research explores attitudes towards vaccinations offered to young children, publicity and information about the vaccinations encountered, how far this information is trusted, and how parents make decisions about whether or not to vaccinate their children. The research is designed to:

- Inform the planning of the pre-school vaccination programme
- Ensure PHW's communication with parents meets their needs
- Develop a deeper understanding of vaccine confidence in Wales.

4.3 Methodology

The research methodology consists of two elements: a quantitative survey and qualitative interviews.

4.3.1 Quantitative survey

Interviewing for the quantitative survey took place using Computer Assisted Web Interviewing (CAWI). Fieldwork took place between 9th February and 21st March 2021.

Emails were sent to 1,031 childcare providers based in Wales, containing an outline of the research as well as an invite email and link that they could forward to parents. Providers were asked not to tell parents that the research was about immunisations so as not to discourage people who may have skeptical views on vaccines from taking part in the research.

Each interview took approximately 10 minutes to complete.

In total, 723 respondents filled in the survey.

An outline of the profile of respondents who took part in the quantitative research can be found in the appendices.

4.3.2 Qualitative interviews

At the end of the quantitative survey, respondents were asked whether they would like to take part in further research. 293 opted in and 20 interviews were conducted with a selection of those who had agreed to take part. We tried to include a mix of ages, ethnicities, deprivation groups and views on vaccine safety. Further information on the profile of participants who took part in the qualitative research can be found in the appendices.

Fieldwork took place between 1st and 18th March 2021.

The interviews were conducted by telephone and lasted around 20 minutes, although a few took a bit longer than this, with the longest interview lasting 45 minutes. Respondents who took part in the qualitative research received an Amazon voucher as a thank you for their time.

The qualitative interviews explored the themes of the survey in further detail, with an emphasis on uncovering the reasoning behind parental attitudes towards vaccinations, as well as their information needs.

4.4 About this report

4.4.1 Weighting

The survey data used for this report is unweighted, given that not all participants were willing to provide their postcode. This question was not made compulsory so as to maximise response rates.

4.4.2 Significance tests

Throughout the report, results are discussed in terms of differences between sub-groups and the total result. Sub-groups have been tested for significance with a two-tailed T-test on column proportions. Differences are considered to be significant at the 95% confidence level, meaning that there is only a 5% possibility that the difference occurred by chance rather than by being a real difference. This is a commonly accepted level of confidence.

All differences outlined in this report are statistically significant unless stated otherwise.

4.4.3 Rounding

The data used in this report are rounded up or down to the nearest whole percentage point. Because of this, on occasion, tables or charts may add up to 99% or 101%.

4.4.4 Reporting conventions

A symbol *% indicates a percentage that is greater than 0 but below 0.5%.

To ease reading, the word *parents* is used to refer to parents, carers and guardians that took part in the quantitative survey or qualitative interviews.

4.4.5 Research context

The wider context of the research should be taken into account when interpreting the results presented in this report. The survey and in-depth interviews were conducted during a national lockdown aimed at stopping the spread of COVID-19, which coincided with the ongoing rollout of the COVID-19 vaccines in the UK and other countries. This led to heighted awareness about COVID-19 and associated pressures on NHS. In addition to this, there was widespread media coverage of the rollout of COVID-19 vaccines, including safety issues and the start of COVID-19 vaccines trials on children. Although, we didn't ask about these issues directly in the quantitative survey so as not to influence responses, we were able to explore COVID-19 themes that were spontaneously brought up in qualitative interviews (given that this methodology, being less structured than quantitative surveys, allows the researcher flexibility to adapt the interview to delve into emerging themes that are relevant to the research enquiry).

In fact, the qualitative element of this research shows that the pandemic context has had an impact on some parents' experiences of, and access to, immunisations for children, including delays and shorter appointments to stop the spread of COVID-19 indoors within GP surgeries.

In addition to this, qualitative insights suggest that media coverage of COVID-19 vaccines didn't necessarily have an impact on views of the childhood immunisation programme for most parents. However, it is worth noting that qualitative research is used to provide

additional detail and in-depth information, and is not designed to provide robust data. Therefore, the results should be interpreted with caution and taking this context into account.

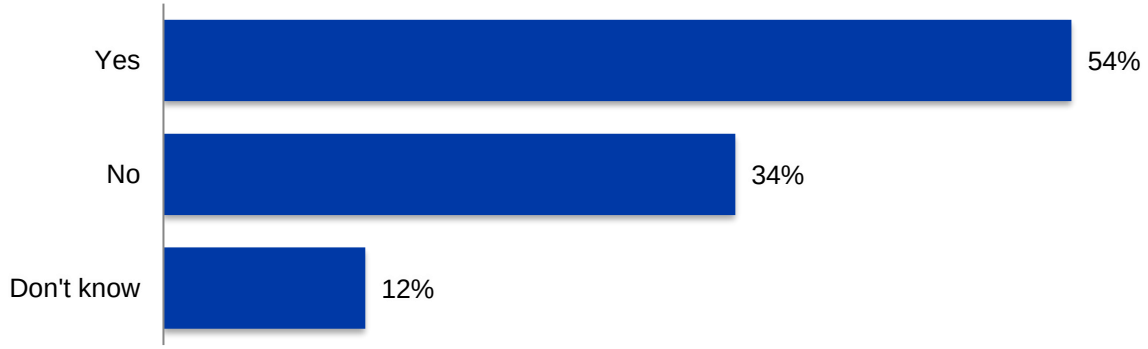
5. Awareness of publicity

This section examines parents' awareness of pre-school children's vaccinations, and awareness and recall of publicity concerning children's health issues and vaccination. The publicity discussed in this section covers not only official communications from PHW and the NHS, but also any other information participants may have come across in other settings; including whether they have seen, heard or read anything that concerned or worried them about childhood vaccinations.

5.1 Recall of publicity about health-related issues among children

So as to understand awareness of the pre-school vaccination programme in context, respondents were first asked whether they had come across any information about health-related issues that affect children in the last 12 months. Figure 2 shows that around one in two parents (54%) state that they have seen, heard or read information about this while the remainder either haven't (34%) or can't remember (12%).

Figure 2: In the last 12 months, have you seen, heard or read about any health issues that affect young children?



Base: All respondents (723)
Q2

There is a correlation between socio-economic factors and awareness, with parents classed as social grades ABC1 being more likely than average to have come across information on children's health issues (60%) while the opposite holds true for C2DE (43%). Parents who work are also more likely to recall having seen, read, or heard something (57% cf. 44% of those not working); as are those educated to degree level or above (63% cf. 44% among those holding qualifications below degree level). Similarly, when looking at the Welsh Index of Multiple Deprivation (WIMD) quintiles, those in the least deprived group are more likely to recall information on children's health issues than those in the most deprived areas (65% cf. 38%).

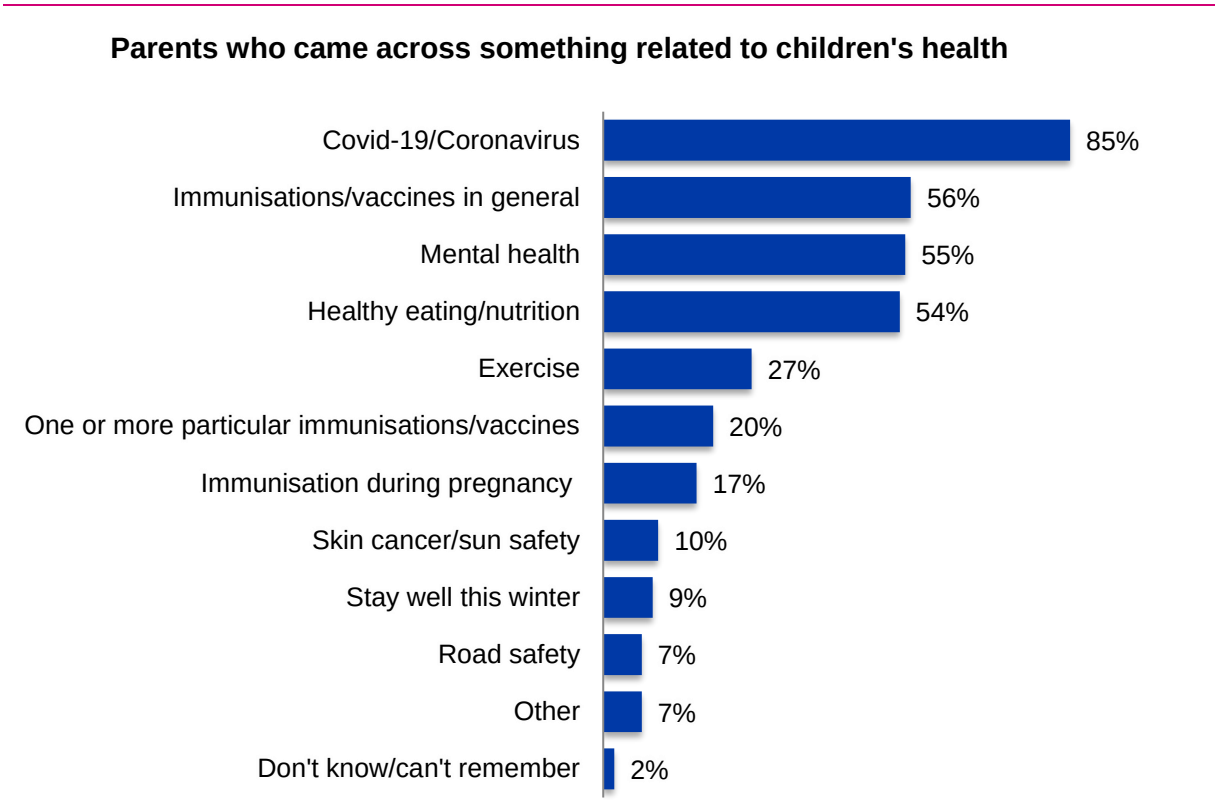
By health board, those within Cardiff and Vale University are more likely than average to have come across information on children's health issues (71%).

In addition to this, younger parents are less likely to recall something (50% for 16-34 year-olds cf. 60% for those aged 35+).

Those who recall having come across information on health issues affecting children were then asked to select, from the list in Figure 3, what the information they had come across

was about[1]. Perhaps unsurprisingly, the majority of those who have seen or heard information relating to children's health say that it was about Covid-19 (85%). This is followed by immunisations/vaccines in general (56%), mental health (55%) and nutrition (54%). In addition to this, around two in ten of those who have come across information say that it was about one or more particular vaccines (20%) and immunisation during pregnancy (17%).

Figure 3: And what was it about?



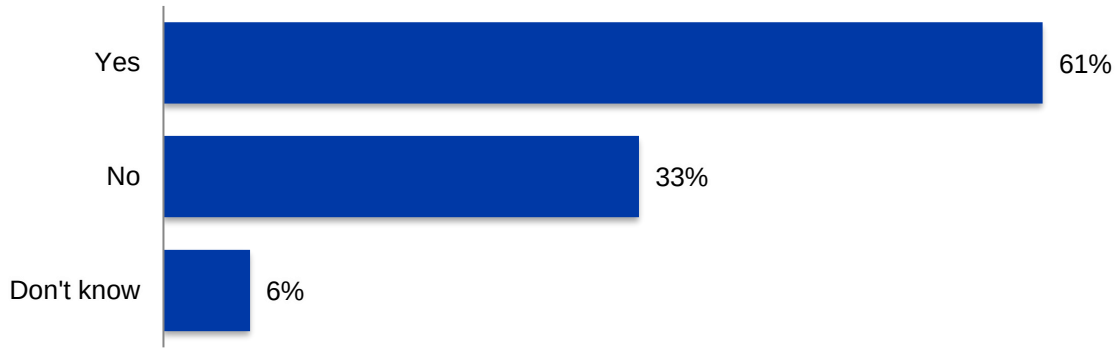
Base: Where have seen, heard or read about any teenage health issues that affect children in the last 12 months (394)
Q2a

5.2 Recall of publicity concerning vaccination for children

Those who didn't mention immunisations above were then asked a separate question on whether they had heard or read anything about children's immunisations in the last 12 months. Figure 4 is based on all respondents and contains answers to this question combined with any mentions of immunisations discussed above for Figure 3. Overall, around six in 10 (61%) parents have seen or heard something about childhood immunisations.

[1] It is worth noting that at this point in the survey respondents did not know that the research was about vaccinations and the subject was referred to as health issues affecting pre-school children. However, the childcare providers that were recruited to this research were notified up front that the survey was about attitudes towards vaccination and were provided details about the immunisations that are given to young children. Therefore, we do not know what information the childcare providers themselves may have provided alongside the survey link sent to parents, even though we provided them with email text and asked them not to inform parents about the exact research topic.

Figure 4: Have you seen, heard or read anything about vaccination or immunisation for children in the last 12 months?



Base: All respondents (723)
Q2a/Q3

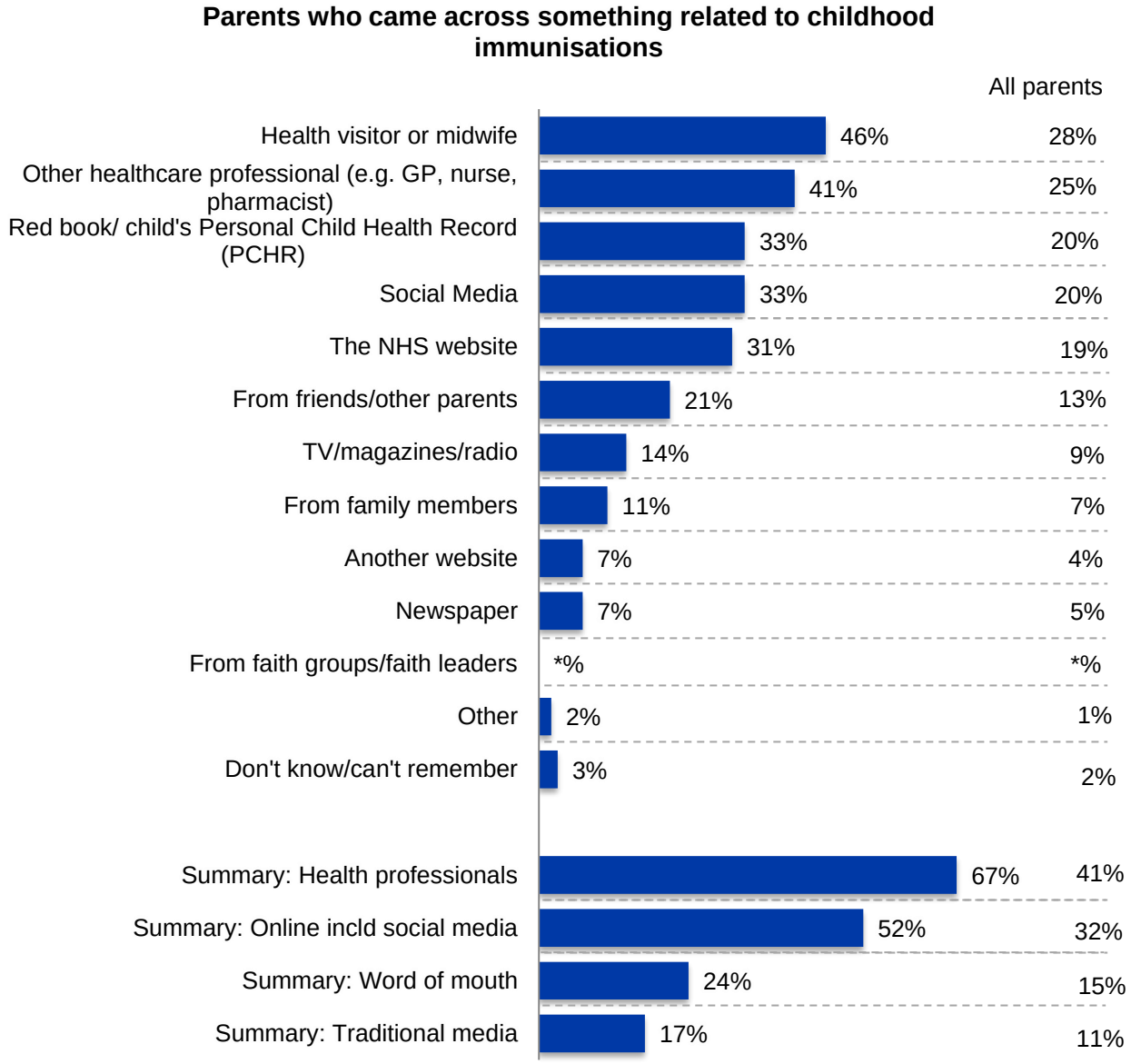
As observed with general information, parents in socio-economic group ABC1 are more likely to have come across information about immunisations (66% cf. 50% for C2DE), as are working parents (64% cf. 45% for those not working) and those educated to degree level or above (70%, cf. 49% for those holding qualifications below degree level). Conversely, those in the most deprived quintile are less likely than average to have seen information on vaccinations (45%),

Among parents who recalled coming across information about childhood vaccinations, close to half (46%) mention a health visitor or a midwife as the main source of information. This equates to 28% of all parents. Health visitors/midwives are followed by other healthcare professionals such as GPs, nurses or pharmacists (41%, 25% of all parents), and the Red book (33%, 20% of all parents). Online channels are also prominent, with around a third of parents who have seen information on childhood immunisations alluding to social media (33%) and the NHS website (31%). This represents 20% and 19% of all parents respectively.

There are some notable demographic differences regarding sources of information among parents who recall encountering something:

- Younger parents are more likely to cite health visitors or midwives (52% cf. 40% of parents aged 35-44), as are those who have more than one child (60% cf. 40% for those who have one child only) and those educated to degree level or above (50%, cf. 36% for those holding qualifications below degree level).
- The Red book is mentioned more frequently by parents who have more than one child (42%, cf. 29% for those with one child only) and those educated to degree level or above (37% cf. 24% for those educated to below degree level).
- The use of social media is greater among parents educated to below degree level (39%).

Figure 5: And where did you see or hear about vaccination for children?



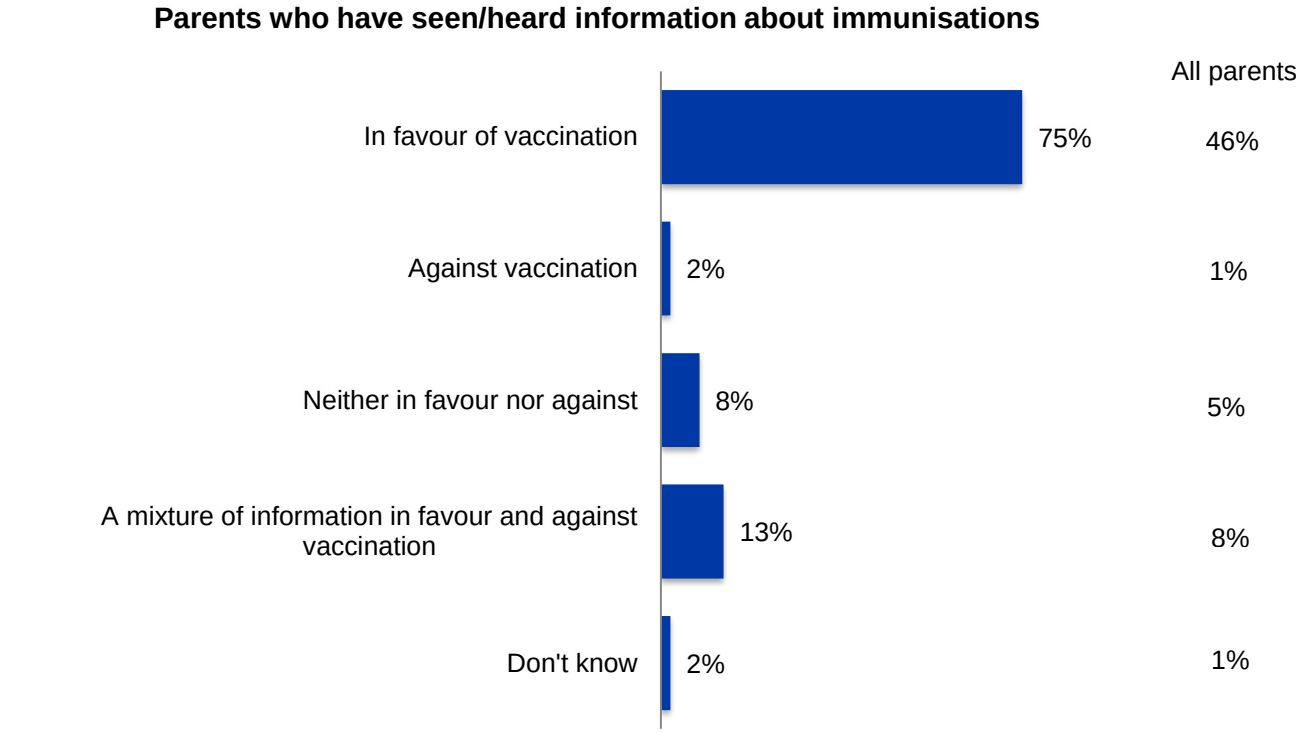
Base: Where have seen or heard about immunisations/ vaccinations in the last 12 months (442) Q4

Respondents were then asked whether the information they had seen was for or against vaccinations. The results are shown in Figure 6. Encouragingly, three-quarters (75%) of parents who had seen information say that it was in favour of vaccination. This equates to nearly half (46%) of all parents. 13% (or 8% of all parents) have seen a mixture of information both for and against vaccination and 8% (5% of all parents) state that the information they have seen was neither for nor against immunisations. Only 2% (1% of all parents) have come across information against vaccination and a similar proportion don't know (2%, 1% of all parents).

While there are no significant differences between groups who have seen information against vaccination, the following groups of parents (of those who have come across information) are more likely than average to have seen information in favour of

immunisations: White parents (76%), parents educated to degree level (80%) and those classed as deprivation quintile 2 (88%, least deprived quintile is 1 and most deprived is 5).

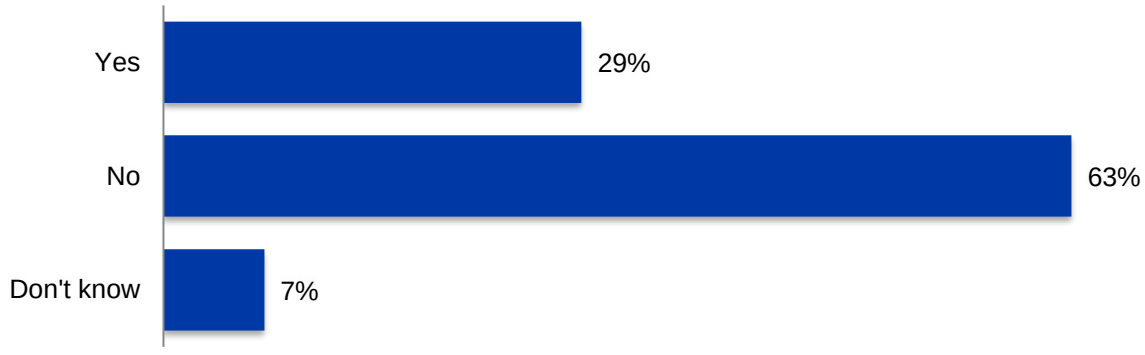
Figure 6: Overall was the information that you saw/heard ...



Base: Where have seen or heard about immunisations/ vaccinations in the last 12 months (442)
Q5

When asked specifically whether they had seen anything about vaccinations for children on social media, the majority (63%) say they haven't while over a quarter (29%) say that they have. The remainder 7% don't know/can't remember.

Figure 7: Have you seen anything on social media about vaccination for children in the last 12 months?



Base: All respondents (723)
Q6

Parents classed as ABC1 are more likely to have seen information on social media (33%, cf. 22% for C2DE), as are working parents (31%, cf. 21% of those not working) and those educated to degree level or above (35%, cf. 23% for those holding qualifications below degree level). In addition to this, although results are not statistically significant given the

relatively low base size for BME parents (42), two-fifths (40%) of BME parents have seen information on vaccinations on social media, compared to 29% of white parents.

Looking at the sentiment of the information encountered by source, the table below shows that information received via traditional media, word of mouth and online (including social media) is more likely than average to convey mixed messages for and against vaccinations. In contrast, information found on the Red book and provided by health professionals is more likely to be seen as in favour of immunisations.

Table 1: Overall was the information that you saw/heard ... by source

	TOTAL	Red book	Health professionals	Word of mouth	Online incl. social media	Traditional media
In favour of vaccination	75%	**81%**	**83%**	74%	74%	**60%**
Against vaccination	2%	1%	1%	1%	2%	4%
Neither in favour nor against	8%	8%	8%	**3%**	**4%**	9%
A mixture of information in favour and against vaccination	13%	10%	**8%**	**22%**	**18%**	**26%**
Don't know	2%	0%	**1%**	0%	2%	1%
Base	*442*	*145*	*294*	*108*	*230*	*77*

Figures underlined indicate statistically significant differences versus the total at the 95% level of confidence

5.3 Recall of negative publicity about childhood immunisations

When it comes to encountering information that would make parents concerned or worried about having their child(ren) vaccinated, around four in five (82%) parents say that they haven't encountered anything that would make them feel this way. Around one in ten (11%) state the opposite, and the remainder (7%) don't know.

Figure 8: Is there anything you have come across that would make you concerned or worried about your child having a vaccination?

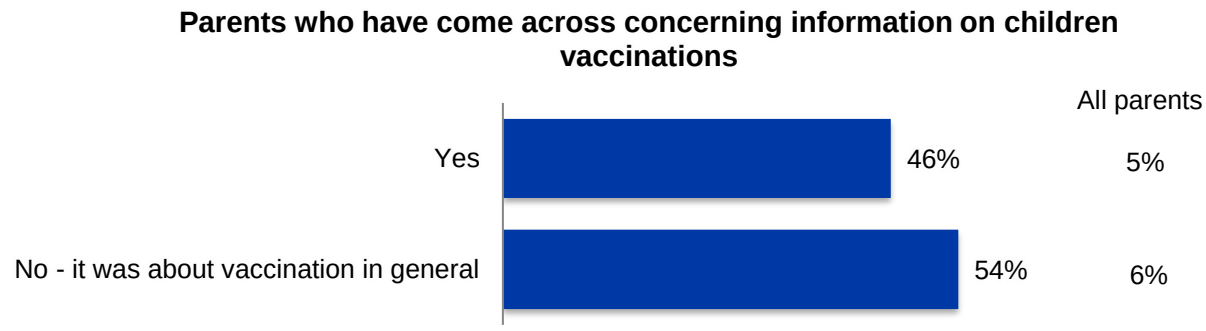
Base: All respondents (723)
Q7

The following groups of parents are more likely than average to have seen or heard concerning information on vaccinations:

- Parents who don't work (19%, cf. 9% for those working)
- Parents holding qualifications below degree level (13%, cf. 8% for those educated to degree level or above)
- Disabled parents (23%, cf. 9% for non-disabled)
- Those who received information on vaccinations via word of mouth (17%)
- Those who have seen information against, neither in favour nor against, or a mixture of information in favour and against vaccinations (26%, cf. 8% for those who have seen information in favour of vaccinations).

Around half (54%) of those who encountered concerning information say that it was about vaccinations in general, and over two-fifths (46%) say that it relates to specific vaccinations.

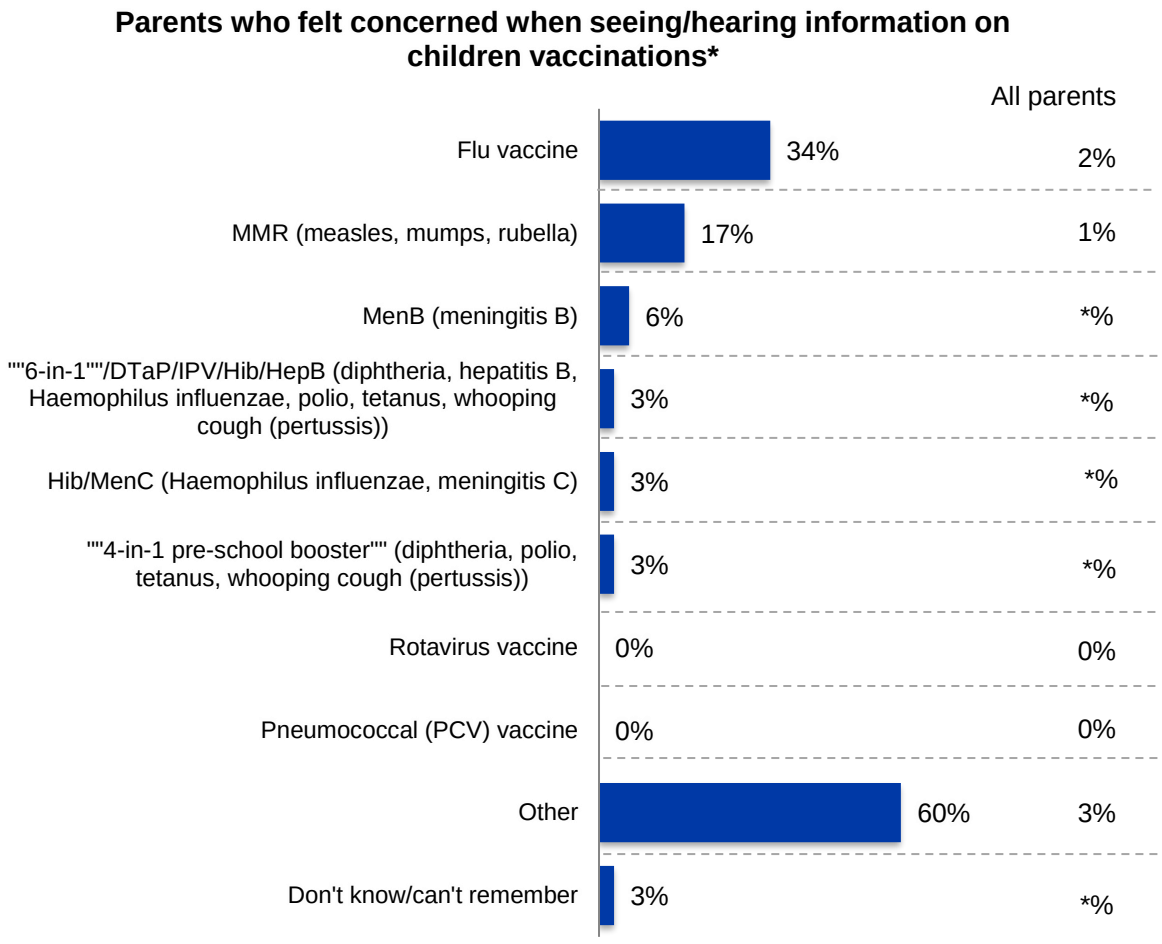
Figure 9: Did it make you concerned about a specific vaccination?



Base: Where concerned about immunisations/ vaccinations (76)
Q8

Perhaps unsurprisingly given that the survey was conducted during a national COVID-19 lockdown, among parents who have seen concerning information about specific vaccinations, the Covid-19 vaccine is the greatest concern. 21 parents referred to this unprompted: although the Covid-19 vaccine wasn't listed in the questionnaire (as shown in Figure 10), all those who selected 'other' mentioned this (60% of those who have seen concerning information about specific vaccines, 21 respondents). The flu vaccine is the next biggest focus of concern for parents (34%), followed by the MMR vaccine (17%).

Figure 10: Which vaccination did it make you feel concerned about?



Base: Where concerned about a specific immunisation/ vaccination (35)

*Caution: low base size
Q8a

Qualitative research reveals that concerns about the covid-19 vaccines relate to the speed at which they have been developed and their novelty, including safety issues which reflect media coverage of side effects reported at the time of fieldwork:

> *"It was about the COVID vaccine. I read information trials on children and also people worrying about anaphylaxis in a couple of healthcare workers".* Female, White British, aged 35-44, deprivation quintile 3

> *"About the COVID vaccine. The RNA vaccine is new technology and therefore the vaccine could potentially be dangerous or it could cause allergic reactions".* Female, White Other, aged 35-44, deprivation quintile 2

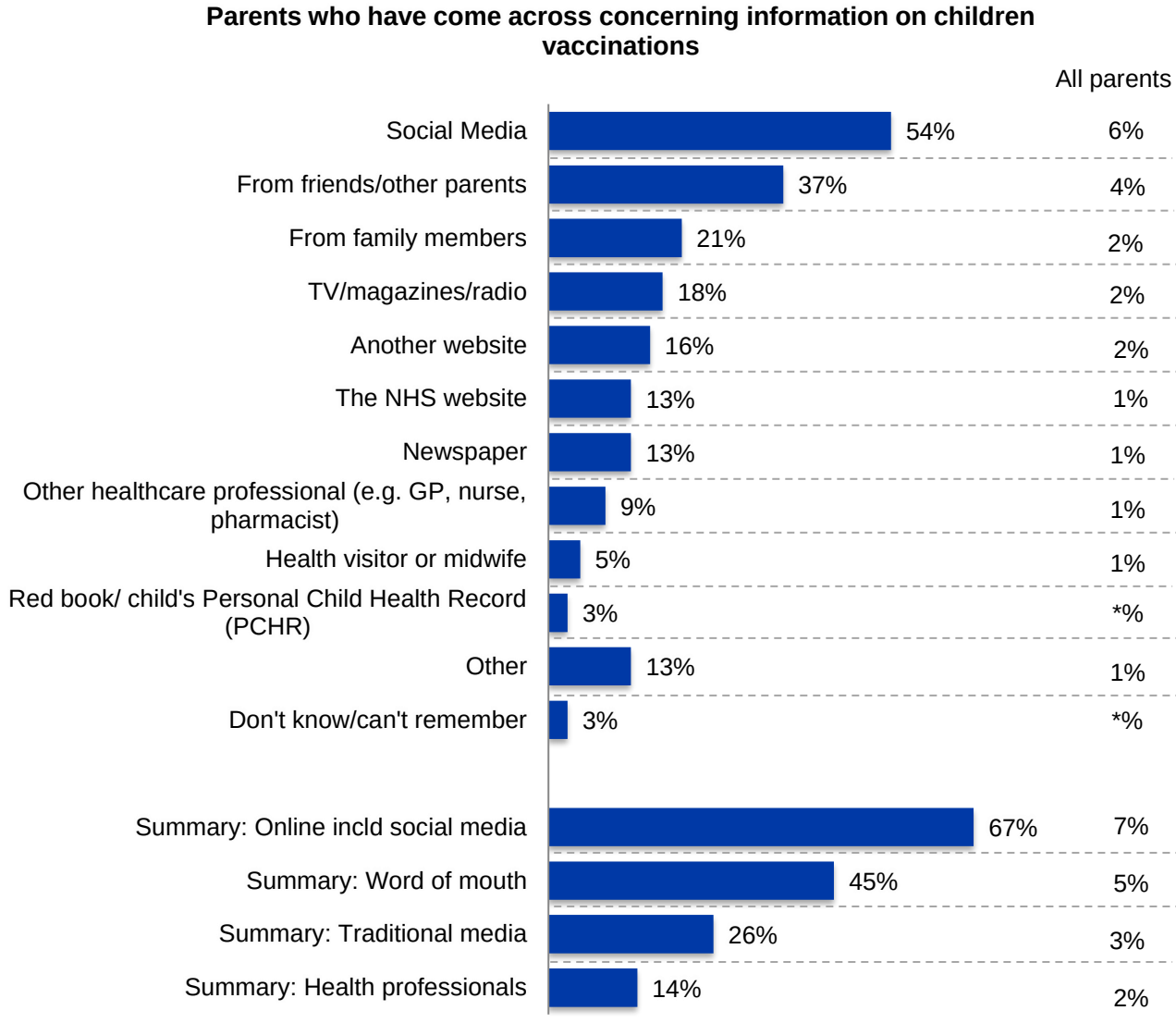
Six out of the 20 parents who took part in qualitative research also cited coming across information showing a link between the MMR vaccine and autism in children:

> *"I think there's been a lot of negative press. There was a study some years ago which suggested there was a link with autism and people can't let go of that even though I think it was discredited in the end".* Female, White British, aged 35-44, deprivation quintile 3

Parents who indicated that they had come across something which concerned them about vaccination were then asked to specify where they had come across this information.

Figure 11 shows that the most common sources of information that caused concern are online channels, with social media being the main source (54%), and word of mouth from friends/other parents (37%) and family members (21%). Traditional media is the third most prominent channel of concerning information, with 18% citing television, magazines and radio.

Figure 11: And where did you see or hear this information which would make you concerned about your child having a vaccination?



Base: Where come across concerning information about immunisations/ vaccinations (76)
Q9

Qualitative insights reveal that negative publicity about vaccines is most commonly found online -mainly on social media and blogs- and some parents expressed concerns about the presence of people who are anti-vaccination on social media, particularly on Facebook and Twitter:

> *"[I have seen information] from anti-vaxxers on social media saying vaccines are bad".* Female, White British, aged 35-44, deprivation quintile 5 (most deprived)

> *"I occasionally come across blogs from anti-vaxxers. […] Links to blogs that come up on Facebook posts. [The most recent one she remembers] said vaccines lower children's immunity and that you shouldn't give them Nurofen if they have a temperature because a cold compress would be fine, so very old-fashioned".* Female, White British, aged 35-44, deprivation quintile 3

> *"I've read there's an anti-vax movement and some diseases are coming back so vaccines are important and worthwhile".* Female, White British, aged 25-34, deprivation quintile 5 (most deprived)

Moreover, nine out of the 20 participants who took part in qualitative research stated that they know at least one person in their circle who are sceptic about vaccinations:

> *"Most of my friends have the same opinions as me but some are more sceptic. Some say: 'Does the vaccine really protect you?' or 'I don't know what things are put in vaccines, could they be dangerous?'*". Male, White Other, 35-44, deprivation quintile 1 (least deprived)

> *"My closest friends are on the same page as me but with my family it is not as clear: Some have strong opinions against vaccines".* Female, White Other, aged 35-44, deprivation quintile 2

6. Attitudes towards vaccinations

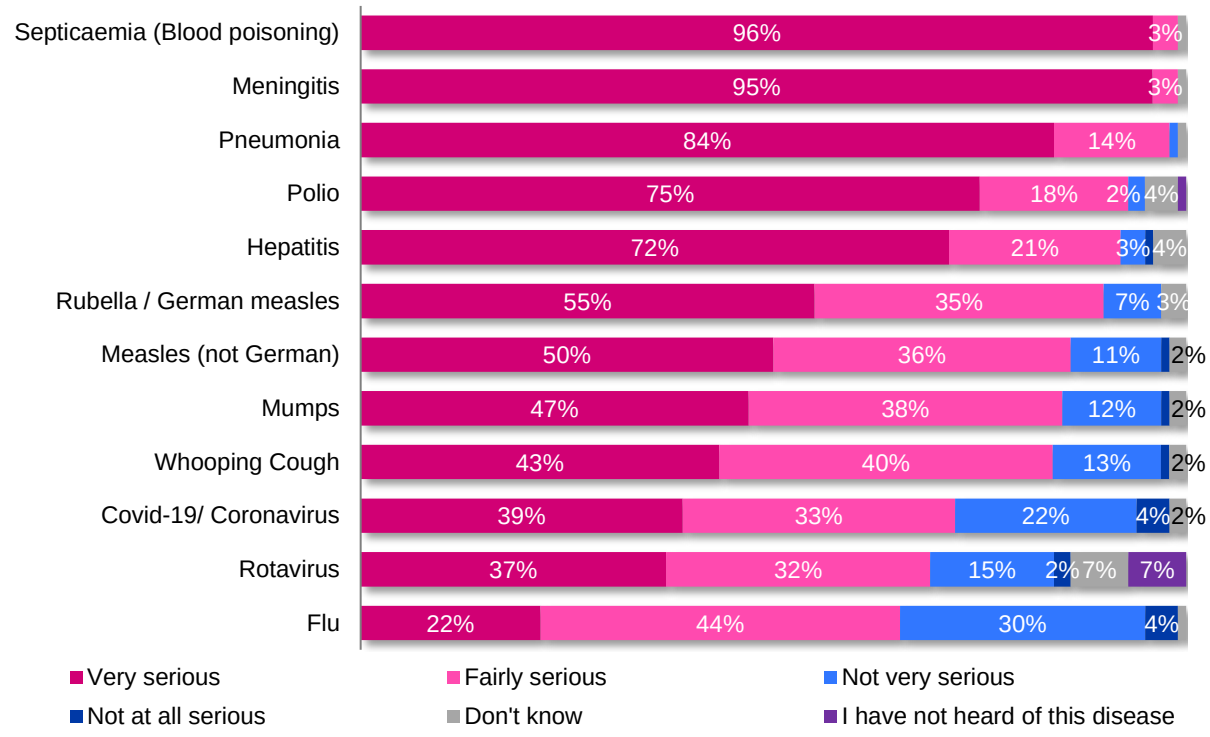
This section explores the attitudes that parents hold towards vaccination, including their perceptions of how serious the diseases are that the vaccines combat, the perceived safety of vaccinations, as well as wider views on vaccinations, including how much parents trust them.

6.1 Perceived severity of diseases

Parents were asked to consider how serious they thought it would be if their child(ren) contracted any of the diseases that the pre-school vaccination programme protects them from.

All the diseases shown in the figure below are considered to be very or fairly serious by at least 65% of parents, with septicaemia (96%) and meningitis (95%) registering the highest 'very serious' scores. This is followed by pneumonia (84%), polio (75%) and hepatitis (72%). Conversely, the diseases rated as less serious are: coronavirus (39% consider this disease to be very serious), rotavirus (37% consider this to be very serious) and the flu (22% consider this to be very serious). It is worth noting, however, that knowledge of rotavirus is lower than for other diseases, with 7% of parents saying that they don't know how serious this would be and an additional 7% indicating that they have never heard of this disease. For the rest of diseases, 1% or fewer said that they had never heard of them.

Figure 12: How serious do you think it could potentially be if your child got the following diseases?



Base: All respondents (723)
Q10
Labels for values below 2% have been removed to ease reading

Parents who trust vaccines and think vaccines are safe are more likely than average to say that most diseases listed above are serious while those who don't trust vaccines and consider them unsafe are more likely to state the opposite.

By socio-economic indicators, parents classed as ABC1 are more likely to consider the following diseases as serious compared to those classed as C2DE: Meningitis (100% cf. 96%), septicaemia (100% cf. 96%), pneumonia (99% cf. 96%), polio (95% cf. 88%), whooping cough (85% cf. 78%), and flu (68%, cf. 59%). Conversely, parents from lower socio-economic backgrounds are more likely than those classed as ABC1 to regard Covid-19 as serious (79% cf. 69%).

Similarly, the majority of diseases are more likely to be considered serious by parents who work and those educated to degree level or above, with the opposite being true of those who are out of work and parents holding qualifications below degree level.

Additionally, parents who don't recall seeing concerning information about vaccines are more likely to say that most of the diseases above are serious while those who do recall seeing a concerning information are more likely to say that the diseases are not serious.

Qualitative research shows that these diseases are considered serious because they could make children severely ill, cause long-term health issues and even be fatal in some cases:

> *"Potentially pretty serious. Mumps could render him infertile or measles could give him a long-term chest condition".* Female, White British, 35-44, deprivation quintile 3

"Very serious. Polio could make your child disabled for the rest of their lives". Female, White Other, 25-34, deprivation quintile 1 (least deprived)

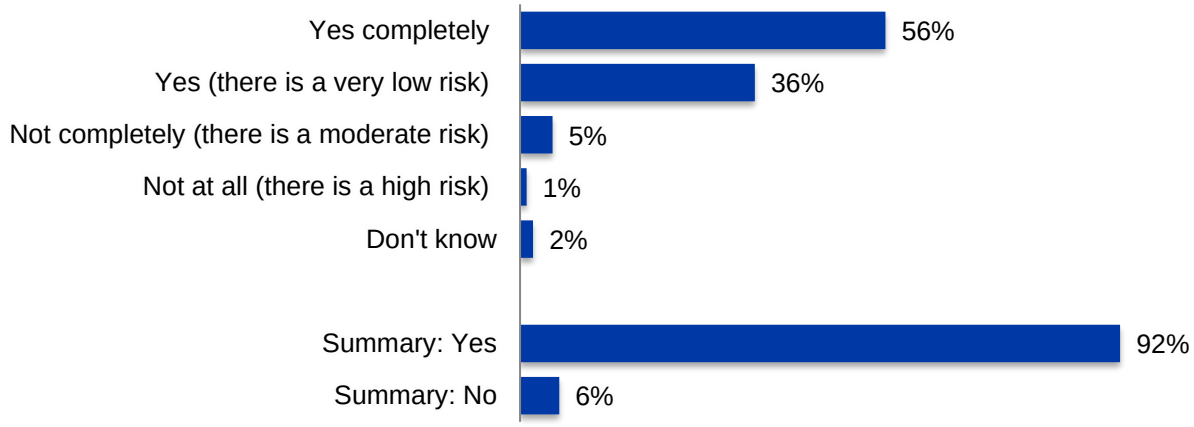
"Pretty serious. It could end up with hospitalisation […] There could be life-long effects from not having the vaccination". Female, White British, 35-44

6.2 Views on safety of childhood immunisations

Following on from the perceived severity of the diseases, parents were asked the extent to which they are satisfied with the safety of children's immunisations.

The vast majority (92%) of parents are satisfied with the safety of vaccines, which comprises over half (56%) who are completely happy and over a third (36%) who say that there is a very low risk. Less than one in ten (6%) are not happy, consisting of 5% who state that they are not completely happy with the safety of vaccines as there is a moderate risk and 1% who are not at all happy and consider the risk of vaccines to be high. The remaining 2% don't know.

Figure 13: Overall are you happy with the safety of childhood immunisations?



Base: All respondents (723)
Q11

By social grade, parents classed as ABC1 are more likely to say that they are happy with the safety of vaccines (94% cf. 87% for C2DE) while those classed as C2DE are more likely to be concerned about the safety of vaccines (9% cf. 5% of ABC1). Similarly, parents who work are more likely than those who don't to perceive vaccines as safe (94% cf. 84%). By educational attainment, parents educated to degree level or above are more likely than average to see vaccines as safe (95%).

There are also differences when looking at results by ethnicity, with white parents being more likely than BME parents to see vaccines as safe (93% cf. 88%). The figure for BME parents, however, is not statistically significant given the relatively low base size for this group (42).

Moreover, parents who are disabled are more likely than their non-disabled counterparts to have reservations about vaccine safety (19% cf. 5%).

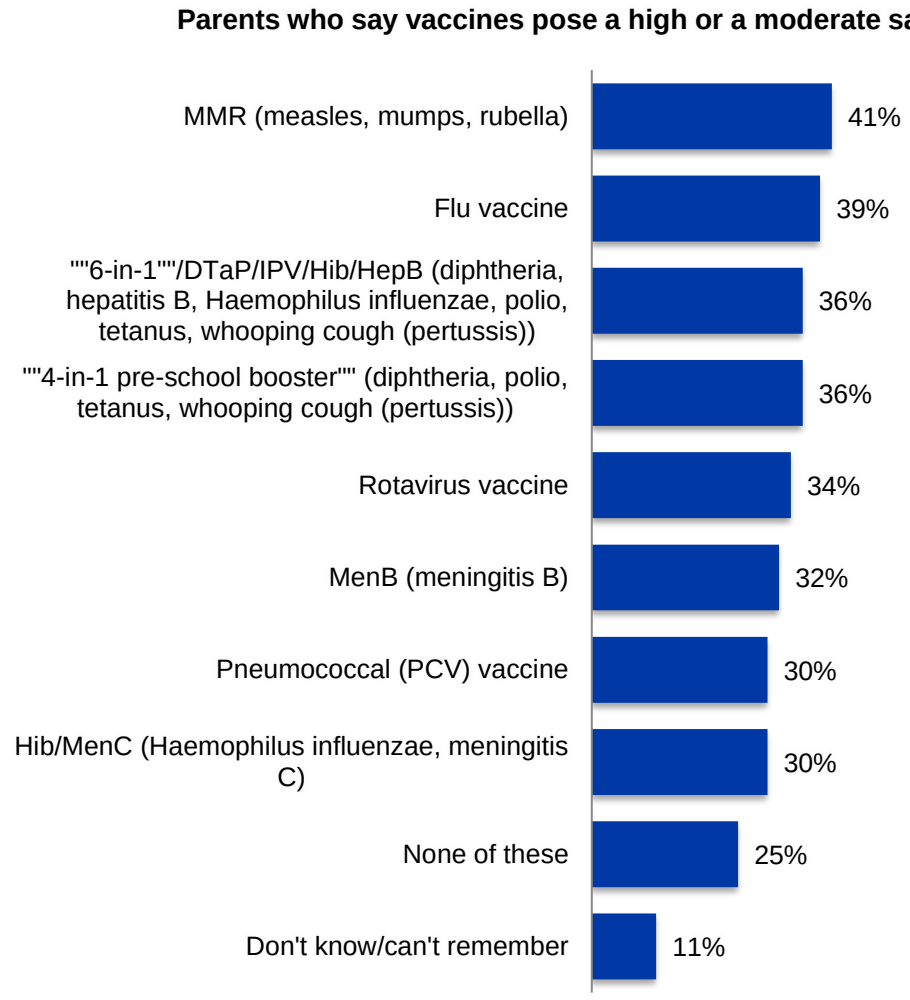
There is also a correlation between views around vaccine safety and the sentiment of the information parents have come across in the last year relating to childhood vaccines. Parents who have seen information in favour of immunisations are more likely to say that

they are happy with the safety of childhood vaccines (95%) while parents who have encountered information against, neither in favour nor against or a mix of messages in favour and against vaccines are more likely to express concerns in regards to vaccine safety (14% cf. 5% for parents who have seen information in favour of immunisations).

Parents who recall concerning information that would make them worried about vaccinating their child are more likely to be concerned about the safety of vaccines (34% cf. 2% of those who haven't come across this type of information), suggesting that there is a role for PHW to play in reassuring parents.

Respondents who say that vaccines pose a moderate or a high risk were then asked to specify which vaccine(s) they have safety concerns about. The MMR vaccine tops the list (41%), closely followed by the flu vaccine (39%).

Figure 14: Which of these vaccinations do you have safety concerns about, or do you think are not completely safe?



Base: Where feel there is a moderate/ high safety risk (44)
Q11a

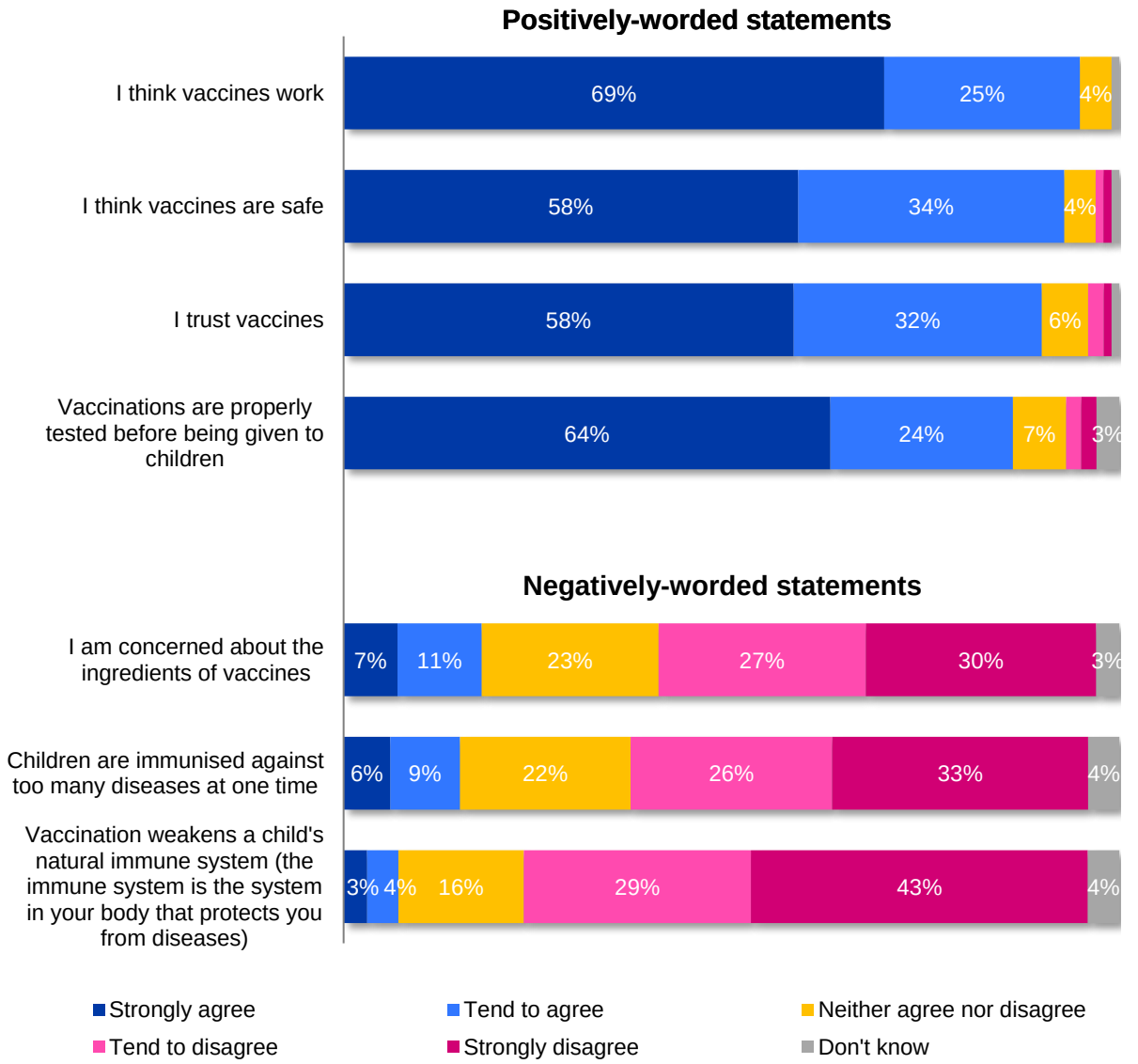
6.3 Vaccination perceptions and trust

Perceptions of vaccinations are generally positive, with more than four in five agreeing overall with the positively-worded statements listed in Figure 15. Around seven in ten strongly agree that vaccines work (69%) and that they are properly tested (64%), and nearly

six in ten strongly agree that vaccines are safe and that they trust vaccines (58% respectively). Disagreement scores are low, and the highest levels of disagreement recorded are for “I trust vaccines” and “Vaccinations are properly tested before being given to children” (3% respectively).

Turning to the statements with negative sentiments, just under three out of four parents (73%) disagree that vaccination weakens a child’s immune system, and agreement is low at 7%. However, in comparison to this statement, parents are more inclined to be concerned about the ingredients of vaccines and whether children are immunised against too many diseases at one time, with 17% and 15% agreeing with these statements respectively (and 56% and 59% disagreeing).

Figure 15: Here are some things that other people have said about vaccinations for children. How much do you agree or disagree with each one?



Base: All respondents (723)
Q21
Labels for values below 3% have been removed to ease reading

Whilst still low, agreement that vaccination weakens a child's immune system is higher among parents classed as C2DE (15%), single parents (15%), those in the most deprived areas (14%) and those holding qualifications below degree level (11%).

The following groups of parents are more likely than average to be concerned about the ingredients of vaccines: Disabled parents (32%), BME parents (31%), parents classed as C2DE (24%) and single parents (27%).

A similar pattern can be observed when looking at agreement with the statement *Children are immunised against too many diseases at one time*, with the following groups being more likely to agree with this: Those out of work (26%), single parents (24%) and parents classed as C2DE (21%).

Parents in the least deprived quintiles are more likely than average to agree with the positively-worded statements and more likely to disagree with negatively-worded statements.

As could be expected, agreement with the three negatively-worded statements is also higher than average among parents who have seen concerning information about vaccination, and those who have seen information either against vaccination, neither for nor against vaccination, or a mixture of information for and against vaccination.

Qualitative research provides insights as to why parents trust childhood vaccines and consider them to be safe. The most prominent are:

- Not personally having been negatively affected by vaccines or know anyone that has:

  "I haven't had any personal experience where I found anything negative happen and don't know anyone close who has". Female, BME, 25-34, deprivation quintile 3

- Trust in the testing carried out and a belief that the NHS would act if negative outcomes were uncovered:

  "I think they're very safe. They obviously have to pass several stringent tests for the process of creating them to be able to then pass them on to children". Female, White British, 35-44

  "If they weren't safe, they'd get withdrawn or stopped for the time being". Female, White British, 25-34, deprivation quintile 1 (least deprived)

- And that there is proof that vaccines work since some illnesses are no longer prevalent.

  "I pretty much completely trust them because common human experience shows me that vaccinations work because things like polio have been eradicated and other diseases that would have been common ground and would have severely affected children in the past no longer do". Female, White Other, 25-34, deprivation quintile 1 (least deprived)

Even though all parents who took part in qualitative interviews say that they trust vaccines, a minority (3) expressed some concerns about their safety; which relate to ingredients, human error and testing:

> *"[I trust them] seven out of 10 because sometimes I don't know about the ingredients or you could get the vaccine in the wrong part of the body and then some issues could happen*". Female, BME, 25-34, deprivation quintile 3

"[I trust them] 9.8 out of 10. There's a small risk of side effects or the nurse picking the wrong vaccine". Female, White Other, 35-44, deprivation quintile 2

"As long as they're not brand-new ones, I'd say they're all pretty safe but I do get apprehensive when new ones come out […] I don't feel they're tested enough". Female, White British, 35-44, deprivation quintile 2

7. Vaccine uptake and experience of the process

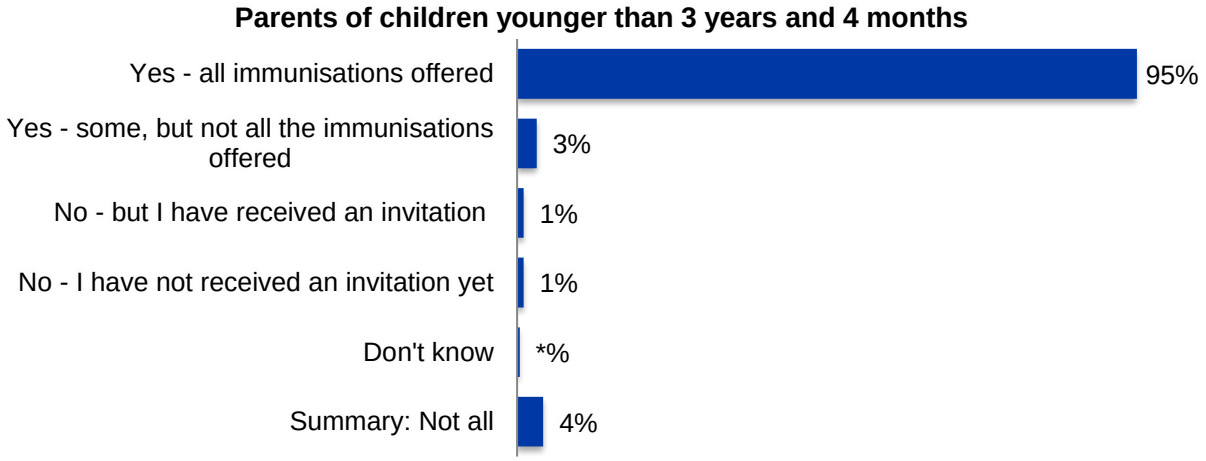
This section examines levels of take-up of children's immunisations, including how parents found the experience of the vaccination process in terms of booking appointments, how the vaccine was administered, views of the facilities, and the information they received during their visit.

7.1 Uptake of immunisations for pre-school children

So as to accurately ascertain levels of pre-school vaccines uptake, slightly different questions were asked to parents depending on the age of their child(ren).

Parents of children aged from 0 to 3 years and 3 months were asked whether their child(ren) had received any immunisations. The vast majority (95%) state that their child(ren) had all immunisations offered, 3% say that they have had some but not all immunisations, 1% haven't had any but have received an invitation and an additional 1% haven't received an invitation yet.

Figure 16: Has your child or any of your children who are currently younger than 3 years and 4 months received any immunisations?



Base: Parents of children aged 3 years and 3 months or younger (511)
Q12

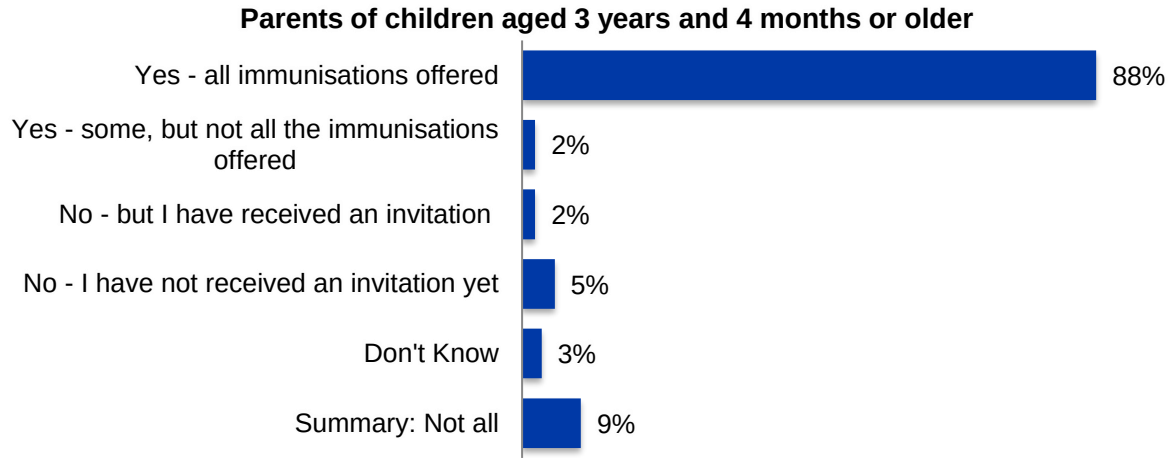
The following groups of parents are more likely to say that their child has not received all immunisations offered: Parents who don't work (13%, cf. 3% for those who work), parents who recall concerning information (22% cf. 2% of those who don't), and those who have reservations about the safety of vaccines (23%, cf. 3% of those who have no reservations).

Parents of children aged 3 years and 4 months or older were asked if their child(ren) had received the second dose of the MMR vaccine and the pre-school booster. Nearly nine in ten (88%) say that their child(ren) has had all immunisations offered, 2% say they have had some but not all vaccines, an additional 2% haven't had their immunisations but have

received an invitation and 5% haven't received an invitation yet. The remaining 3% don't know.

No significant differences can be observed due to the low base size for this question.

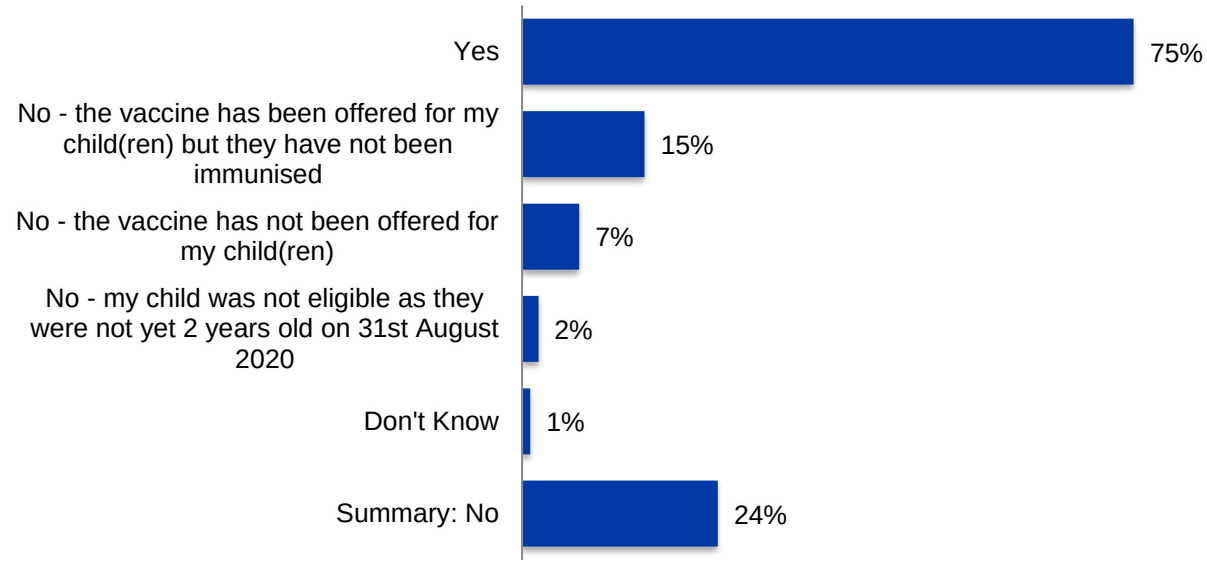
Figure 17: Has your child or any of your children who are currently aged 3 years and 4 or older had either or both of their pre-school immunisations yet: that is, the second dose of MMR and the pre-school booster?



Base: Parents of children aged 3 years and 4 months or older (323)
Q13

In addition to the above, parents of children aged 2 years and 5 months or older were asked whether they had taken up on the offer of the flu vaccine for their child(ren). Levels of uptake for this are slightly lower than for other vaccines, with three-quarters (75%) saying that they had taken this up. 15% state that they have been offered the vaccine for their child but that they have not been immunised while 7% have not been offered this; an additional 2% were not offered it because their child wasn't 2 years old on 31st August 2020.

Figure 18: Have you taken up the offer of the children's flu vaccine for your child or any of your children?



Base: Parents of children aged 2 years and 5 months or older (540)
Q14

Parents classed as social grades C2DE are less likely to have taken up on the offer of the flu vaccine for their child(ren): 20% haven't vaccinated their child against the flu after getting the offer, compared to 13% of ABC1 parents. This is also the case of parents who are out of work (27%, cf. 13% for working parents) and those with qualifications below degree level (23%, cf. 8% for those educated to degree level or above).

Moreover, there is a relationship between recalling concerning information and flu vaccine take-up, with parents who recall this information being less likely to get their children vaccinated against the flu after being invited (47% cf. 9% for those who don't recall this information).

Those who have reservations about the safety of vaccines are also more likely to have refused the flu vaccine for their children (50% cf. 13% among those with no reservations). This is also true of parents who felt that they didn't have enough information to make an informed decision about whether or not to get their child(ren) immunised (33% refused the flu vaccine, compared to 11% of those who had enough information).

Overall, combining the information of the questions above, 58% of respondents' children have had all vaccines offered (excluding the flu vaccine), 34% have had all immunisations offered including the flu vaccine and 8% have not had all immunisations offered.

Qualitative insights shed light into the reasons why parents want to get their children immunised. The most commonly mentioned are:

- So that children develop an immune response against illnesses that can be severe and even fatal;

  "The risks of not having [son] vaccinated are huge. Diseases like mumps, rubella could make him seriously ill or kill him whereas a vaccination he will never remember". Female, White British, 35-44, deprivation quintile 3

- To protect other people in society by stopping the spread of these diseases.

  "There's a minority of parents that won't vaccinate so it means their children are also protected. Herd immunity". Female, BME, 35-44, deprivation quintile 4

Only a small minority say that they get their child vaccinated to comply with public health advise unprompted, with a majority alluding to a knowledge of the severity of diseases that pre-school vaccines protect from either from what they have seen on the news over the years and information they have gotten via worth of mouth, or because they know someone who has been affected by one of these diseases.

> *"I didn't get any of these diseases luckily [but] from general knowledge I know they can be dangerous".* Female, White Other, 25-34, deprivation quintile 3
>
> *"My grandfather had polio and couldn't walk properly".* Female, White British, 25-34, deprivation quintile 1 (least deprived)

In addition to this, qualitative research explored perceptions around the perceived importance of vaccines. Although most parents consider all pre-school vaccines to be equally important, the flu vaccine is considered to be less important than the rest for some parents (3 out of 20 parents mentioned this unprompted):

> *"The flu [vaccine] is less important. I was never vaccinated against it myself and I've had the flu but it's not serious, I recovered".* Female, BME, 25-34, deprivation quintile 3

In fact, only two of the 20 parents that took part in the qualitative interviews say that they have refused a vaccination and, in both cases, it was the flu vaccine:

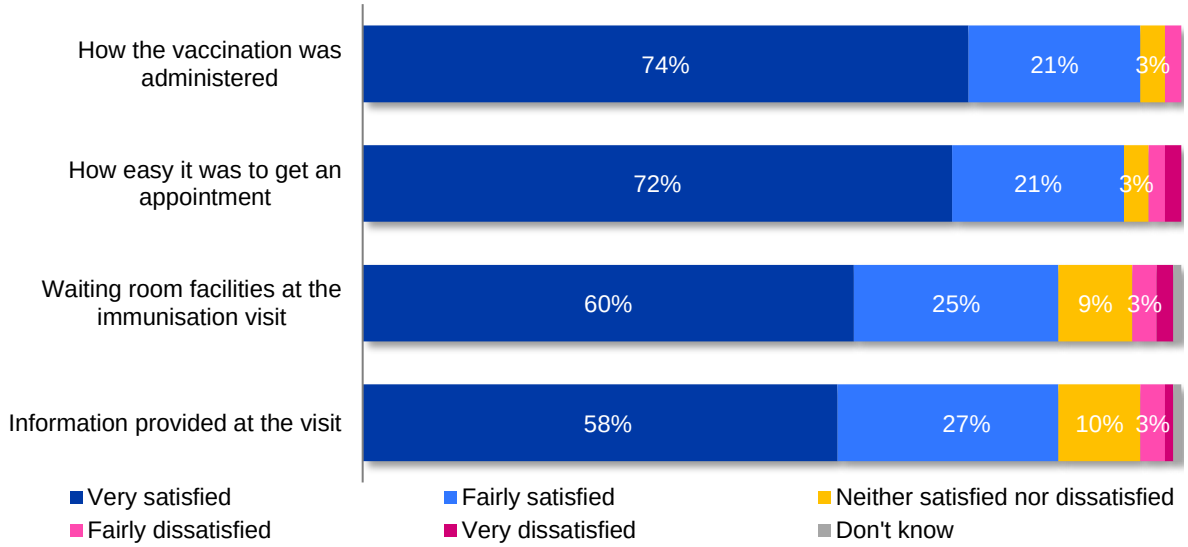
> "*The flu spray. I didn't have it myself and my understanding is that there are different strands of the flu virus and I was thinking: 'which one is it that she's having?' […] 'will she have to be given something different each time?'. I don't have the flu ever and if I do it's maybe once a year".* Female, BME, 25-34, deprivation quintile 3

> *"For the flu vaccine some GPs have no option for halal so I've refused those. Most nurses and doctors don't know the ingredients of the vaccines*". Female, BME, 25-34, deprivation quintile 3

7.2 Experience of vaccinations

When it comes to experiences of the pre-school vaccination programme, satisfaction is high with over nine in ten saying that they are satisfied with the way in which the vaccination was administered (95%), the ease of getting an appointment (93%); and over eight in ten being satisfied with the facilities (85%) and the information provided at the visit (85%). Although dissatisfaction scores with the four statements are low (ranging between 2% and 5%), neutral scores are higher when asked about the information provided at the visit (10%) and the room facilities (9%), suggesting that there could be room for improvement in these areas.

Figure 19: Thinking about the immunisation process for the most recent immunisation your child has received, how satisfied were you with...?



Base: Where had child vaccinated (707)
Q22
Labels for values below 3% have been removed to ease reading

BME parents are more likely to be dissatisfied with the information they were provided with at the visit (13%, cf. 4% for white parents), which indicates that they should be a target of information campaigns on children's vaccinations going forward. It is worth noting that the survey was conducted in English/Welsh. Therefore, it can be assumed that language is not a barrier for these parents.

In addition to this, the data suggests that parents who have come across conflicting information on vaccines (against, a mixture of for and against or neither) and those who have seen concerning information are more likely to need reassurance during visits since they tend to be more dissatisfied than average with the information provided when taking their child to be vaccinated (10% and 14% respectively).

Experiences of vaccinations were also explored via qualitative interviews. Although they echo quantitative findings in terms of satisfaction, with most parents describing their experiences as "straightforward" and "easy" despite their child crying, there were some improvements suggested by a minority of parents. In this sense, two of the 20 parents who took part in the qualitative element of this research say that they didn't have enough time to ask questions during their visit. One of them believes that this is because her child was vaccinated shortly after the Covid-19 outbreak and associated social distancing measures, which explain why the GP surgery didn't want parents to stay at the practice too long. The other parent simply "*didn't get the impression"* that nurses wanted to have a discussion. Both parents would have liked more information on side effects and what to do should the child have an anaphylactic shock. Both parents live in Cardiff.

In terms of room facilities, two parents offered suggestions for improvements, which include bigger waiting rooms so that they can sit and breastfeed the baby and a room with distractions such as a TV or toys so that the child can get distracted from the vaccine.

> *"Possibly it could have been more child friendly. I'd like to have a distraction for the child while he's getting the injection […] a toy or a TV screen".* Female, White British, 25-34, deprivation quintile 1 (least deprived)

> *"Uncomfortable. There was just a tiny bench to sit on so it wasn't easy to breastfeed a baby and the hall was tiny so I had to constantly stand up to let people go through. It was also upstairs and there was no lift".* Female, BME, 35-44, deprivation quintile 4

Furthermore, qualitative research reveals that some parents have problems in relation to booking appointments and being able to attend, either because: a) they have to contact the GP surgery to book appointments and don't get reminders, b) it isn't clear whether the GP or the parent should be booking the appointment, or c) the time for which the appointment is offered is not convenient because parents are working and/or children are in nursery. These issues were mentioned by five out of 20 parents.

> *"The organisational aspect was pretty terrible. For every round of vaccination without exception, it would be us calling the doctor to say there's a vaccine due in three weeks: 'How does it work? Do we book an appointment?'. They said: 'Don't worry, we'll send you a letter'. Nothing happened. Called again and they said they'd send us an email. But it had to be the mum calling again saying we have called and received no information for surgery to say they we could come on the day [to get child vaccinated]".* Male, White Other, 35-44, deprivation quintile 1 (least deprived)

> *"That's the most difficult part because we don't have a say in it whatsoever. We get a letter with a date and time from the GP and it's not optional. It's hard because my husband and I work full time".* Female, White Other, 35-44, deprivation quintile 2

8. Access to information and making a decision

This section explores the levels of information parents have in order to make an informed decision about whether or not to have their child(ren) vaccinated, and what their sources of information on childhood immunisations are. Trust in sources of information is also examined, as well as the decision-making process parents go through ahead of immunising their child(ren) so as to understand the importance of the information available.

8.1 Levels of information

Respondents were asked whether they felt they had enough information to make an informed decision about immunising their child. Just under four in five (79%) state that they had enough information while 14% disagree. The remaining 7% don't know.

Figure 20: Thinking about any immunisations that your child (or children) under the age of 5 has been offered or is due to be offered, did you feel that you had enough information to make an informed decision?

Base: All respondents (723)
Q15

BME parents are less likely than average to say that they had enough information to make an informed decision about immunising their children (67%, cf. 80% for white parents), as are those holding qualifications below degree level (75%, cf. 82% for those educated to degree level or above).

Additionally, those who have come across information in favour of vaccinations are more likely to say that they had enough information to make an informed decision (85%) while those who have seen information either against vaccines, information containing mixed messages for an against vaccination or neither for nor against are more likely to feel that they did not have enough information to make an informed decision (23%). Parents who recall concerning information that would make them worried are also more likely to say that they didn't have enough information to make an informed decision (37%, cf. 10% for those who don't recall scare stories).

Qualitative research reveals that some parents didn't necessarily look for information when thinking about immunising their child:

> *"I didn't care to look too much because I wanted to do it anyway".* Male, 35-44, White Other, deprivation quintile 1 (least deprived)
>
> *"It's difficult to say [whether I had enough information] because it never crossed my mind not to vaccinate him".* Female, White Other, 25-34, deprivation quintile 1 (least deprived)

8.2 Sources of information

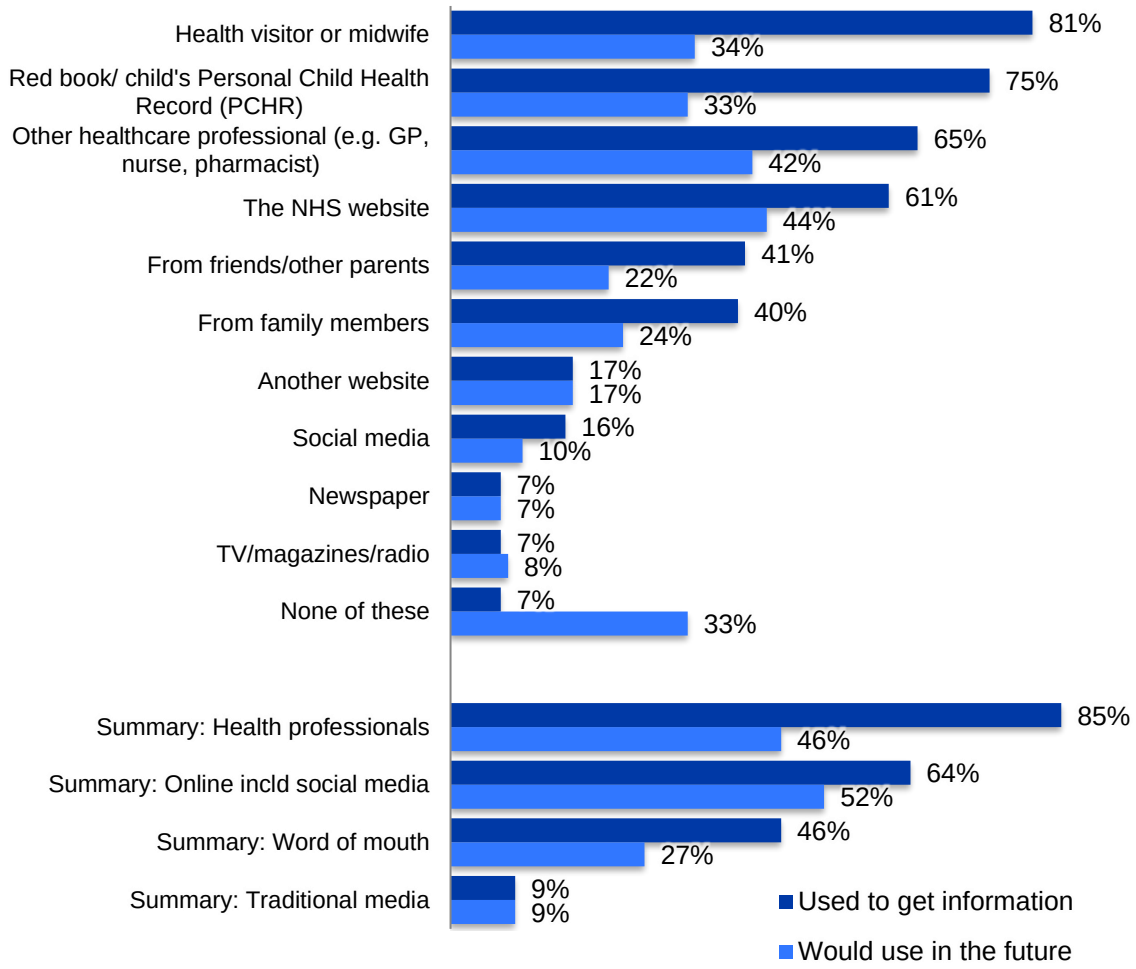
To understand how parents make decisions about immunisations they were asked about what sources of information they have used, and which they would use in the future.

The most common source of information about childhood vaccinations used by parents are health visitors or midwives, mentioned by around four in five parents (81%). This is followed by the Red book or the Personal Child Health Record (75%), other healthcare professionals such as pharmacists, nurses and GPs (65%), and the NHS website (61%).

To access further information, parents would primarily consult the NHS website (44%) or speak to other healthcare professionals (42%). Therefore, it could be important to ensure that parents can easily access the NHS website by focusing on search engine optimalisation and that healthcare professionals are confident informing parents about vaccines. Qualitative research shows that the topic parents are most likely to enquire about are side effects from vaccines, including what these could be and how long they would last.

Although Figure 21 shows that the use of unregulated information online is relatively low, with fewer than ten parents saying that they have used or that they would consider using social media or websites other than the NHS website to find information on vaccines, qualitative research shows that some parents come across information against vaccines on social media without necessarily searching for it. The platforms commonly mentioned in regards to this are Facebook and Twitter, suggesting that having regulated information on these platforms is important so as to balance the content of the information that parents are being exposed to on these channels. This point is further reinforced if we take into account that parents who have come across concerning information that would make them worried are more likely to say that they would use social media to get information about vaccines in the future (18%, cf. 8% for those who have seen this), as are those who have reservations regarding the safety of vaccines (25%, cf. 9% for those who don't have reservations).

Figure 21: Have you gotten any information about childhood vaccinations from any of these sources? And would you use these sources to get information about vaccination in the future?



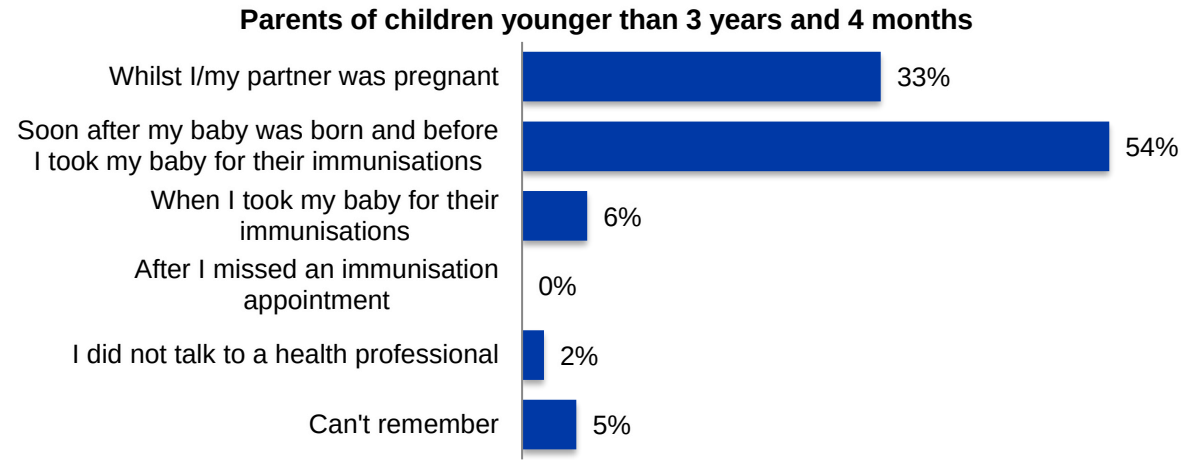
Base: All respondents (723)
Q16

Qualitative research also explored whether parents would like to get information about children's immunisations in ways that they don't currently receive it. 12 out of the 20 parents who took part in qualitative interviews would like to receive more information about vaccinations before the child has them, including what they protect against, side effects and, to a lesser extent, a list of the vaccines' ingredients. 10 of these parents would like this information in a written format (either email or letter) whereas two participants would prefer this to be given to them in a conversation with the nurse/GP when they take the child to be vaccinated.

The quantitative survey delved into the extent to which parents of children younger than 3 years and 4 months have had conversations with healthcare professionals regarding immunisations. As Figure 22 shows, more than half (54%) say that a health professional talked to them soon after their baby was born and before they took them for their immunisations, while around one in three (33%) say that this happened when they/their partner was pregnant. Conversations with health professionals about immunisations are less common as the child gets older, with only 6% stating that these have these interactions

when they took their child for their immunisations. 2% haven't talked to healthcare professionals about this and 5% can't remember.

Figure 22: When did a health professional first talk to you about immunisations for your baby?



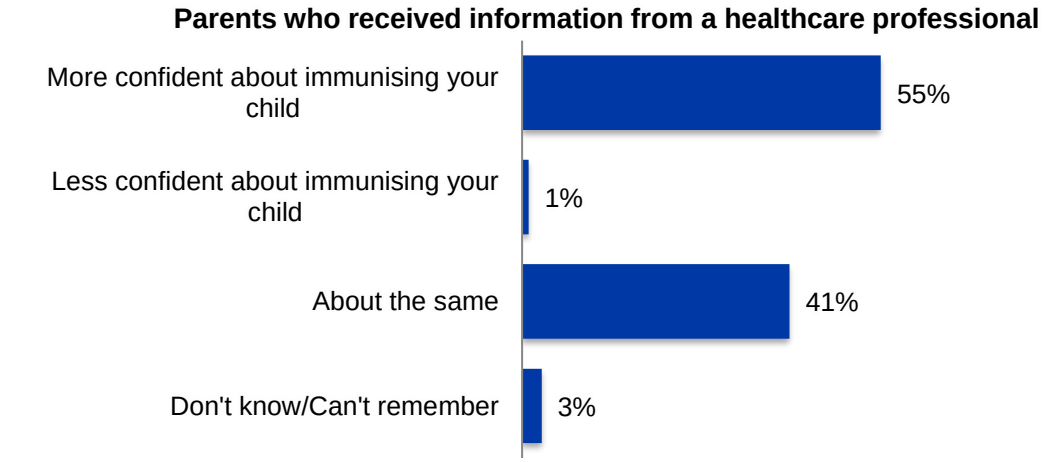
Base: Parents of children aged 3 years and 3 months or younger (511)
Q17

Parents who feel they didn't have enough information to make an informed decision about vaccinating their child are more likely to say that they did not talk to a healthcare professional (7%, cf. 1% of those who had enough information).

8.3 Impact of information from healthcare professionals

Parents who had received information from a health professional about immunisations were then asked about how this had made them feel. More than half (55%) say that they felt more confident about immunising their child, which highlights the importance of encouraging health workers to talk to parents about childhood vaccinations. Around two-fifths (41%) state that they felt about the same as they did before talking to the healthcare professional. 1% felt less confident about immunising their child and 3% can't remember.

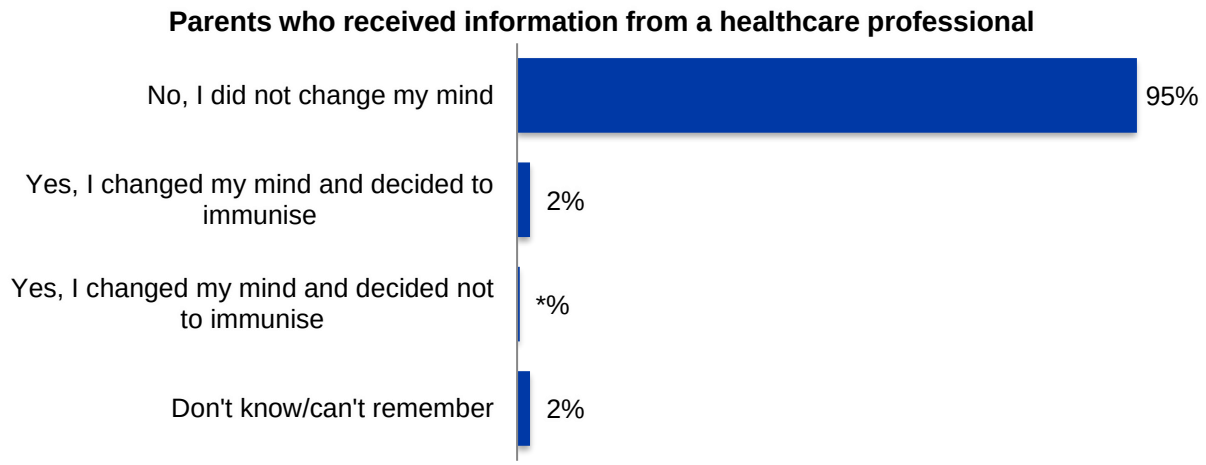
Figure 23: After receiving information from a healthcare professional, would you say you felt:...?



Base: Where had information from a healthcare professional (618)
Q18

Even though over half (55%) of those who received information from healthcare professionals felt more confident about immunising their child, the vast majority (95%) didn't change their mind on whether or not to immunise their child(ren). Just 2% say that they changed their mind and decided to immunise and less than 0.5% changed their mind and decided not to immunise. The remaining 2% can't remember.

Figure 24: And as a result of receiving information from a healthcare professional, did you change your mind on whether or not to immunise your child/children?



Base: Where had information from a healthcare professional (618)
Q19

Parents classed as social grades C2DE are more likely than average to have changed their mind and decide to immunise (4%, cf. 1% of ABC1), as are BME (9%, cf. 1% for white parents) and single parents (7%, cf. 1% of those who have partners).

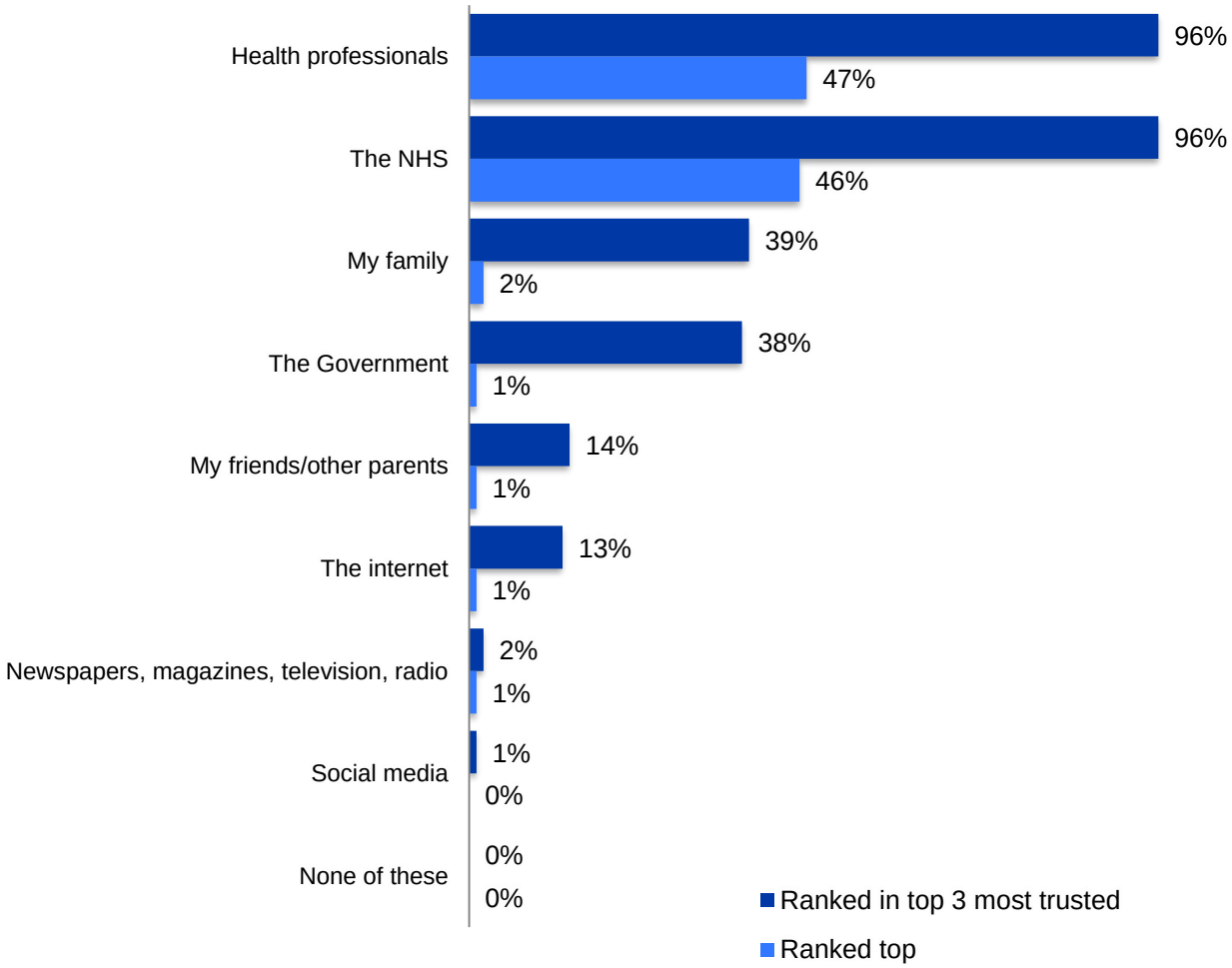
Even though those who recall concerning information are more likely to have changed their mind and decide to immunise (11%), this group is also more likely to have changed their mind in the opposite direction, with 4% saying that they decided not to immunise, a figure that is higher than average. This also applies to parents who are out of work, as they are more likely to both have changed their mind and decide to immunise (7%) and decide not to immunise (2%).

8.4 Trust in sources of information

So as to understand how far parents trust the information they come across through various sources, survey participants were shown a list of possible sources of information about vaccines and asked to rank them according to how much they trust them. Almost all parents (96%) said that the health professionals and the NHS were one of their three most trusted sources. These are also the sources that parents most commonly selected as their most trusted source, with nearly half of parents (47%) trusting health professionals the most and a similar proportion (46%) trusting the NHS. The third most commonly trusted source are families closely followed by the Government, with 39% and 38% respectively ranking these among their top 3 most trusted sources. However, only 2% and 1% respectively selected these as their top trusted source, considerably fewer than those who selected health professionals and the NHS.

Social media comes at the bottom of the list, with 1% of parents ranking this channel within their top 3 most trusted.

Figure 25: Here are some sources of information of vaccines. Please order these based on how much you trust them



Base: All respondents (723)
Q23

There are some differences in the sources trusted (top 3) when looking at results by socio-economic factors. Those in the least deprived areas are more likely than those in the most deprived quintile to trust the Government (47% cf. 38%). By level of educational attainment, parents educated to degree level or above are more likely than those holding qualifications below degree level to trust the Government (42%. cf. 32%) and less likely to trust their family (31%, cf. 50% of those educated to below degree level).

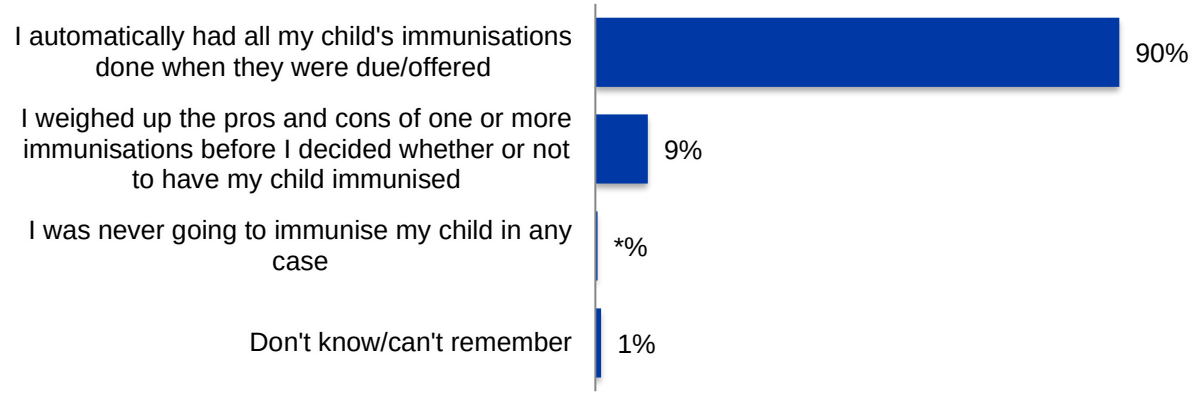
Participants who are happy with the safety of vaccines are more likely than average to select health professionals, the NHS and the Government among their top three trusted sources; whereas those who have reservations about vaccine safety are more likely to trust the internet (34%) and their friends/other parents (25%). Similarly, those who recall concerning information are more likely to trust the internet (29%), social media (4%) and their friends/other parents (24%), and less likely to trust health professionals (88%), the NHS (87%) and the Government (17%).

Furthermore, single parents are more likely than average to trust their family (49%), as are younger parents (aged 16-34, 43%).

8.5 Decision-making process

Respondents were then shown a series of statements (Figure 26) to gauge their decision-making process when it comes to vaccinating their child. Nine in ten (90%) say that they automatically had all their child's immunisations done when offered. Just under one in ten (9%) say they weighted up the pros and cons of one or more vaccines before deciding whether or not to have their child immunised, suggesting that the information available on childhood vaccines could be key in encouraging this group to take up vaccinations for their children. Less than 0.5% say that they were never going to immunise their child in any case and 1% don't know or can't remember.

Figure 26: When considering immunisations offered to your child/children under 5, which of the following best applies/applied to you?



Base: All respondents (723)
Q20

Parents who don't work are more likely to have weighed up pros and cons on vaccines (19%, cf. 9% of those who work).

Moreover, parents who recall concerning information are more likely to have weighed pros and cons (37%) and to say they were never going to immunise their child(ren) (4%). This also applies to those who have reservations regarding vaccine safety: 45% weighed up pros and cons and 7% say they were never going to immunise their child. Similarly, parents who have come across information either against vaccines, neither for nor against or mixed messages for and against vaccinations are more likely to say they were never going to immunise their child anyway (2%). These differences show the detrimental effect of conflicting information on vaccine take-up.

Appendix A: Quantitative sample profile

The table below summarises the profile of the respondents to the quantitative survey. Where answers within the same category do not add up to the total number of respondents (723), this is because some participants chose not to provide this information.

		Base size	%
Health board	Betsi Cadwaladr University	142	28%
	Aneurin Bevan University	113	22%
	Hywel Dda University	67	13%
	Cardiff and Vale University	68	13%
	Cwm Taf Morgannwg University	56	11%
	Swansea Bay University	42	8%
	Powys Teaching	28	5%
WIMD quintile	1 - Least deprived	135	26%
	2	95	18%
	3	111	22%
	4	97	19%
	5 - Most deprived	77	15%
Gender	A woman (including transgender woman)	676	93%
	A man (including transgender man)	34	5%
	Non binary	1	*%
	Other	2	*%
Age	Under 25	36	5%
	25-34	344	48%
	35-44	317	44%
	45-54	17	2%
	55-64	2	*%
	65-74	0	0%
	75 or over	0	0%
Age of child(ren)	0 up to 11 months	75	10%
	1 year up to 1 year 11 months	164	23%
	2 years up to 2 years 11 months	257	36%
	3 years up to 3 years 11 months	240	33%
	4 years up to 5 years	158	22%

		Number of interviews	%
Disability	Yes	31	4%
	No	669	93%
Ethnicity	White	670	93%
	BME	42	6%
Social grade	ABC1	499	69%
	C2DE	224	31%

Appendix B: Qualitative sample profile

		Number of interviews	%
WIMD quintile	1 - Least deprived	5	25%
	2	2	10%
	3	6	30%
	4	1	5%
	5 - Most deprived	3	15%
Gender	A woman (including transgender woman)	19	95%
	A man (including transgender man)	1	5%
	Non binary	0	0%
	Other	0	0%
Age	Under 25	1	5%
	25-34	9	45%
	35-44	10	50%
	45-54	0	0%
	55-64	0	0%
	65-74	0	0%
	75 or over	0	0%
Age of child(ren)	0 up to 11 months	4	15%
	1 year up to 1 year 11 months	4	15%
	2 years up to 2 years 11 months	6	23%
	3 years up to 3 years 11 months	8	31%
	4 years up to 5 years	4	15%
Ethnicity	White	15	75%
	BME	5	25%
Vaccine safety views	Happy (completely or very low risk)	17	85%
	Not happy (moderate or high risk)	3	15%

Appendix C: Statement of Terms

Compliance with International Standards

BMG complies with the International Standard for Quality Management Systems requirements (ISO 9001:2015) and the International Standard for Market, opinion and social research service requirements (ISO 20252:2012) and The International Standard for Information Security Management (ISO 27001:2013).

Interpretation and publication of results

The interpretation of the results as reported in this document pertain to the research problem and are supported by the empirical findings of this research project and, where applicable, by other data. These interpretations and recommendations are based on empirical findings and are distinguishable from personal views and opinions.

BMG will not publish any part of these results without the written and informed consent of the client.

Ethical practice

BMG promotes ethical practice in research: We conduct our work responsibly and in light of the legal and moral codes of society.

We have a responsibility to maintain high scientific standards in the methods employed in the collection and dissemination of data, in the impartial assessment and dissemination of findings and in the maintenance of standards commensurate with professional integrity.

We recognise we have a duty of care to all those undertaking and participating in research and strive to protect subjects from undue harm arising as a consequence of their participation in research. This requires that subjects' participation should be as fully informed as possible and no group should be disadvantaged by routinely being excluded from consideration. All adequate steps shall be taken by both agency and client to ensure that the identity of each respondent participating in the research is protected.

With more than 25 years' experience, BMG Research has established a strong reputation for delivering high quality research and consultancy.

BMG serves both the public and the private sector, providing market and customer insight which is vital in the development of plans, the support of campaigns and the evaluation of performance.

Innovation and development is very much at the heart of our business, and considerable attention is paid to the utilisation of the most up to date technologies and information systems to ensure that market and customer intelligence is widely shared.

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