

Research Report

Attitudes to Adolescent Vaccination 2019

Prepared for: Public Health Wales

Prepared by: BMG Research



GIG
CYMRU
NHS
WALES

Iechyd Cyhoeddus
Cymru
Public Health
Wales

Attitudes to Adolescent Vaccination 2019

Prepared for: Public Health Wales

Prepared by: Steve Handley (Research Director) and Shona MacAskill (Research Manager) at BMG Research

Date: 2019



Produced by BMG Research

© BMG Research Ltd, 2019

www.bmgresearch.co.uk

Project: 1862

Registered in England No. 2841970

Registered office:

BMG Research
Beech House
Greenfield Crescent
Edgbaston
Birmingham
B15 3BE
UK

Tel: +44 (0) 121 3336006

UK VAT Registration No. 580 6606 32

Birmingham Chamber of Commerce Member No. B4626

Market Research Society Company Partner

The provision of Market Research Services in accordance with ISO 20252:2012

The provision of Market Research Services in accordance with ISO 9001:2015

The International Standard for Information Security Management ISO 27001:2013

Interviewer Quality Control Scheme (IQCS) Member Company

Registered under the Data Protection Act - Registration No. Z5081943

A Fair Data organisation

Cyber Essentials certification

The BMG Research logo is a trade mark of BMG Research Ltd.

Public Health Wales acknowledges the support of Public Health England for the use of their questionnaire to complete this survey.

Table of Contents

1	Executive Summary.....	3
1.1	Methodology	3
1.2	Awareness and Recall of Publicity.....	3
1.3	Making a Decision.....	4
1.4	Vaccination Experiences among Teenagers	5
1.5	Vaccination Perceptions and Trust	6
2	Recommendations.....	7
3	Key Findings	9
4	Introduction	10
4.1	Background	10
4.2	Research Objectives	11
4.3	Methodology	12
4.3.1	Data collection.....	12
4.3.2	Sampling	13
4.3.3	Weighting	14
4.3.4	Questionnaire design	15
4.4	Reading this report	15
4.4.1	Significance tests	16
4.4.2	Rounding	16
4.4.3	Reporting conventions	16
5	Awareness and Recall of Publicity	17
5.1	Spontaneous recall of teenage health publicity	17
5.2	Recall of publicity concerning vaccinations for teenagers.....	19
5.3	Recall of publicity about immunisations on social media.....	23
5.4	Spontaneous recall of scare stories.....	25
5.5	Awareness of NHS branded resources	28
5.6	Awareness of Teenage Vaccinations	30
5.7	Disease recognition.....	35
5.8	Perceived severity of diseases	35
5.9	Safety of vaccinations	36
6	Making a Decision	39
6.1	Pre-school age take up	39
6.2	Teenage vaccination take-up	39

6.3	School as a source of vaccination information	40
6.4	Parental satisfaction with immunisation programme.....	42
6.5	Sources of information	42
6.6	Discussions	45
6.7	Decision making and the consent process.....	47
6.8	Disagreement.....	49
7	Vaccination Experiences among Teenagers	50
8	Vaccination Perceptions and Trust.....	52
9	Sample profile	55
10	Appendix	57
10.1	Socio-economic classification used in the report	57
10.2	Statement of Terms.....	57

1 Executive Summary

This report outlines the findings from the Attitudes to Adolescent Vaccination 2019 research undertaken on behalf of Public Health Wales. The research was undertaken to achieve a greater understanding of the awareness that teenagers aged 13-15 and their parents have about vaccines and vaccine preventable diseases, and explored attitudes to adolescent immunisation in order to inform strategic planning of immunisation programmes in Wales.

1.1 Methodology

Fieldwork took place in July and August 2019, with interviews conducted with the parents of teenagers between the ages of 13 to 15 years old, and the teenagers themselves, separately wherever possible, with only one teenager and one parent interviewed per household. The survey itself was aligned with the one that was used in the Public Health England (PHE) Young People and Parents Childhood Immunisation Survey 2018, and amended to account for the Wales specific context.

In total, 318 interviews were obtained, 160 with parents and 158 with teenagers aged 13-15. All interviews were conducted face-to-face using Computer Assisted Personal Interviewing (CAPI). Each interview took approximately 15 to 20 minutes (or 40 minutes per household).

The fieldwork was conducted using a stratified random location sampling approach, to ensure the representativeness of the sample of the geo-demographic and socio-economic diversity of each health board, and accordingly, Wales as a whole. Within each health board, all LSOAs (a geographic area known as a Lower Layer Super Output Area) were ranked by Welsh Index of Multiple Deprivation (WIMD), high to low in terms of relative deprivation categorised in quintiles, and from each of these quintiles LSOAs were systematically selected at random. At each selected LSOA 5 interviews with teenagers and 5 interviews with parents were carried out.

Within each sampling point quotas were applied by gender, age and ethnicity of the teenager, and the working status of the parent, to further ensure representative data.

The data was weighted by health board to reflect the relative size of the population within different health boards, and the teenagers' data were also weighted by school year with gender, using the mid-year 2017 population estimates to provide statistics.

1.2 Awareness and Recall of Publicity

Immunisations were the second most common health issue for teenagers spontaneously recalled by parents, after mental health. Among teenagers, immunisations are the sixth most commonly recalled topic, after drugs, mental health, sexual health, healthy eating/nutrition and smoking. When asked specifically whether they had heard, seen or read anything about vaccinations for teenagers in the last 12 months, half of those surveyed (49% of parents and 51% of teenagers) said that they had. This is highest among teenagers in Year 10 (66%) and parents of those in Year 10 (68%). For teenagers, the primary source of information is the school, with 86% of teenagers

coming across publicity in this way, (54% via a teacher or school staff, and 45% via a school nurse). There is less constancy in the sources of publicity among parents, with the most common place that they had seen or heard something about teenage immunisations being an email or letter (42%). Even when specifically prompted, publicity about teenage immunisations on Social Media was recalled at very low levels (8% of parents and 6% of teenagers). For both teenagers and parents, the immunisations they came across publicity for most commonly was HPV (58% of parents and 44% of teenagers).

Only 7% of parents and teenagers recall coming across anything that would make them concerned about a vaccination.

Turning to the diseases that teenage vaccines protect against, recognition of the diseases was in general higher among parents, with most recognised by more than nine in ten. The diseases that parents were least familiar with were: head and neck cancer (61%); diphtheria (87%); genital warts (87%); and genital cancer (84%). Among teenagers, the only diseases familiar to nine in ten was meningitis, and the least commonly recognised were diphtheria (28%), German measles (42%), septicaemia (47%) and head and neck cancer (49%). Teenagers who had heard of the disease before, were less likely than their parents to rate the disease as serious. The majority of parents and teenagers thought that all vaccines were lower risk than the disease (77% and 69% respectively, the lower proportion of teenagers who indicated this is driven by a higher proportion who said they did not know.) Accordingly, at least nine in ten parents indicate that it is important that their teenager is protected against each disease.

1.3 Making a Decision

Those teenagers who had already been offered a teenage vaccine (girls starting Year 9, 10 or 11 and boys starting Years 10 and 11), and their parents, were asked a series of questions to understand their decision-making process. Ninety-six percent of parents meeting this criterion indicated that they had received all the vaccines they had been offered. Refusal of the following teenage vaccines is reported by no more than 1% of parents in each instance:

- Tetanus, diphtheria, and polio Td/IPV ("teenage booster") ("3 in 1");
- MenACWY (Meningitis, meningococcal disease, septicaemia or blood poisoning);
- HPV vaccine (Cervical cancer);
- MMR (Measles, Mumps and Rubella combined).

Corroborating this, 90% of teenagers offered a vaccine indicate that they had all vaccinations done at the time. A similar number, (93%) feel that it is important that they get vaccinated, although this proportion is higher among females (98%) than males (89%). Among teenagers who recall seeing anything about vaccinations, 99% indicate that they feel it is important to get vaccinated, (cf. 87% of those who do not recall messages on this subject). While causation cannot be proven, it is reasonable to suggest that exposure to messages on immunisation are likely to be reinforcing teenagers' understanding of vaccination importance. (It should be noted that female teenagers are more likely to recall publicity among vaccinations, so this relationship contributes to higher levels of females than males indicating that vaccination is important.)

Just over half of teenagers (51%) indicate that they have been taught anything about vaccines at school, most often in assembly (31%). When asked to describe in their own words the nature of what they were taught in school the most common response was that these sessions provided information/explanation about vaccinations (28%).

Both parents and teenagers were asked to indicate where they got information about vaccinations, when deciding whether they/their child would have them. Among parents, the top three sources of information used when a teenager was offered a vaccination are all reliable ones, namely: school letter or email (60%), a school nurse (28%) and an NHS leaflet/booklet (26%). In total, 12% mentioned using information from the internet, with the largest online source being an NHS website (4%) followed by Facebook (3%), with and with no other Social Media channel cited. The most commonly mentioned sources of information about teenage vaccination among teenagers are school nurses (49%) and teachers or school staff (46%), followed by speaking to family (21%). Relative to parents the proportion of teenagers using internet-based sources is lower (6% cf. 12%). Within this the most common internet source used by teenagers for vaccination information is YouTube (3%). One in ten (10%) said they did not get information from any sources.

During the decision-making process, 59% of parents said they discussed the vaccinations with their child, while 60% of teenagers said that they discussed them with their parents. Discussions are more likely to take place between parent and child than among any other combination of parties. Among teenagers who have had teaching about vaccination at school the proportion who say that they have not had a discussion about this is 19%, whilst among those who have not engaged with this subject at school the equivalent proportion is 33%. The most common topic of discussion was the diseases that the vaccine protects against. This translates to 40% of parents saying that they made the decision together with their child. Agreement on the subject is almost universal, with 97% of parents whose child has been offered a vaccine and 91% of the teenagers themselves saying that they have never disagreed about vaccines. However, 69% of parents were not aware that their child has the right to give their own consent to having the vaccine; 57% of teenagers were also not aware of this. When giving consent, 63% of parents did so automatically, whilst 27% took their child's view into account, 14% took their partner's view into account, and 13% read through the information provided before consenting.

1.4 Vaccination Experiences among Teenagers

Over eight in ten teenagers who were offered a vaccine agree that they were happy with the vaccination process (87%) and that they had enough information to understand why the vaccine was being offered (80%). Among parents who have had their children offered a vaccine there is high levels of approval of the way the programme is delivered, with 96% happy that vaccinations are delivered at school, and 81% very satisfied with their experience of this. Furthermore, 88% of parents agree that they had enough information to decide whether to agree to teenager vaccinations.

Around two thirds of teenagers agree that the vaccination is just something you go ahead and do (68%) and that they didn't need a lot of information (65%). However, the

fact that 22% disagree that vaccination is something that you just go ahead and do suggests that information provision and reinforcement is required for some to provide the required assurances in terms of benefits versus risks.

When asked to consider their last vaccination, 72% of teenagers do not think that anything could have been done better. Among the 14% who thought that there could have been improvement, the key themes were:

- More information/explanation;
- More privacy/vaccination to be done individually (one-to-one).

1.5 Vaccination Perceptions and Trust

To capture how the vaccination experiences of teenagers and the receipt of information on this subject translate into general perceptions, both parents and teenagers were presented with a number of attitudinal statements towards the end of the survey. Encouragingly, nine in ten trust vaccines (90% of teenagers and 91% of parents). In fact, over half strongly agree that this is the case (53% amongst teenagers and 58% amongst parents). There are high levels of agreement that vaccines work (95% among parents and 90% among teenagers), and that vaccines are safe (90% among parents and 87% among teenagers). A slightly lower proportion agree that vaccines are properly tested before being given to teenagers, at 83% among parents and 79% among teenagers. The lower levels of agreement with this statement are driven by a higher proportion that state they 'do not know', (10% for teenagers and 9% for parents), suggesting a relative lack of awareness regarding the testing process. Interestingly, teenagers are more likely to agree that vaccination weakens a teenager's natural immune system than parents (27% cf. 20%), whilst parents are more concerned about the ingredients of vaccines compared to teenagers (27% cf. 14%).

Over nine in ten parents and teenagers trust the information on teenage vaccines provided by health professionals and the NHS. Continued use of the trusted NHS branding on information on this subject is recommended given that trust in the Government is comparatively lower (76% among teenagers, 75% among parents). When considering their trust in alternative sources, such as traditional media, the internet and social media, trust levels are lower, suggesting a higher degree of scepticism for information received via these channels. However, a third of teenagers (36%) do trust advice given by newspapers, magazines, television and radio as do 27% parents.

When considering social media, the channel with perhaps the greatest potential for misinformation, the highest proportion of both parents and teenagers are mistrustful (59% of parents compared to 44% of teenagers), although one in four (24%) teenagers do trust information received this way.

2 Recommendations

The data presented in this report suggest several actions may be taken that could be beneficial to the functioning of the immunisation programme and the up-take of teenage vaccinations.

- Continue to communicate the benefits of the vaccines and inform teenagers about the processes involved. Around two thirds of teenagers agree that the vaccination is just something you go ahead and do (68%) and that they didn't need a lot of information (65%). However, the fact that 22% disagree that vaccination is something that you just go ahead and do suggests that information provision and reinforcement is required for some to provide the required assurances in terms of benefits versus risks.
- For teenagers, the school is a key channel through which information can be disseminated, and 51% of teenagers recall being taught something about vaccinations at school. Across a range of health topics including vaccinations, those teenagers who received information about vaccinations from their schools were more likely to recall it, and recall other topics as well. For example, 19% of teenagers recalled seeing, hearing or reading anything about immunisations in the last 12 months, but for those who had received information via school (that they remember) this spontaneous recall increased to 29%. This underlines that the school is an important channel to utilise in communicating messages about immunisations.
- Female teenagers are more likely than males to recall coming across information about vaccinations (which correlates to agreeing that vaccinations are important), and they are also more likely to discuss vaccinations with their parents. Therefore, any initiative to communicate with teenagers about vaccinations, may need to work harder to engage with males.
- Among parents, the sources of information about teenage immunisations recalled were reliable ones: school letter or email (60%), a school nurse (28%) and an NHS leaflet/booklet (26%). Given that one in four parents uses an NHS leaflet/booklet, the data suggests that provision of high quality and accessible print materials remains vital. Although a very small proportion of parents came across publicity about immunisations on social media (8%), of those who did, almost all came across this information on Facebook (93%). Therefore, although only 6% of all parents have come across information on Facebook, this is the key social media platform where unregulated material could potentially provide disinformation. Parents in the lower socio-economic grades (C2DE) may be more at risk of disinformation, as 9% spontaneously recalled scare stories, compared to 5% of those in ABC1 segments. Therefore, any strategy to address disinformation may need to take account of this.

When thinking about their experiences of vaccinations, six in ten (64%) teenagers said they had enough privacy to discuss issues with the nurse, but one in five (20%) did not. Teenagers aged 13 are most likely to agree they had enough privacy (75%), compared to those aged 15 (60%), suggesting that privacy issue may be more of a concern for

older teenagers. Teenagers were asked how the experience could be improved, and although the majority (72%) do not think that anything could have been done better, among the 14% who thought that there could have been improvement, “more privacy/vaccination to be done individually” was a key theme that came through, along with “more information/explanation”. Approaching half of teenagers agreed that waiting with the rest of the class before the vaccination made them nervous (46%), which rises to 57% amongst females and drops to 28% amongst males. Again, it is females that are more likely to agree that seeing their class mates made them feel scared (43%, compared to 31% total and 11% of males).

3 Key Findings

Key messages from 2019 survey of attitudes towards immunisation amongst teenagers and parents

Information on teenage immunisation

Immunisations are the second most commonly recalled teenage health topic by parents after mental health issues. Among teenagers it is the sixth most recalled issue behind issues such as drugs, mental health, sexual health and healthy eating.



At point of decision making email/letter is the dominant source of information on vaccinations for parents (60%).



Among teenagers the key sources are school nurses (49%) and teachers / school staff (46%).



Only 7% of parents and teenagers recall coming across anything that would make them concerned about having a vaccination.

Trust and confidence



90% parents and 87% of teenagers believe that vaccines are safe.

77% of parents and 69% of teenagers believe that all vaccinations are lower risk than the associated disease. Among teenagers, 28% don't know rather than there being high concern.

91% of parents and 90% of teenagers trust vaccines. 95% and 90% respectively of each group feel that they work.

Nine in ten parents and teenagers trust the information provided by health professionals and the NHS on this subject matter.

93%

of teenagers state it is important to get vaccinated.

Decision making and vaccination experiences



97% of parents and 91% of teenagers say they have never disagreed on receiving any vaccine.

87% of teenagers were happy with the vaccination process and 80% said they had enough information.



72% of teenagers do not think that anything could have been done better when they had their last vaccine. Among the 14% who thought that there could have been improvement the key themes were:

- More information/explanation;
- More privacy/vaccination to be done individually (one-to-one).

4 Introduction

This report contains the findings for the first Parents and Adolescents Immunisation Survey conducted by BMG Research on behalf of Public Health Wales (PHW). It outlines parents' perception of the immunisation programme available for teenagers and the corresponding perceptions of the teenagers themselves who have been, or will be, offered vaccinations.

4.1 Background

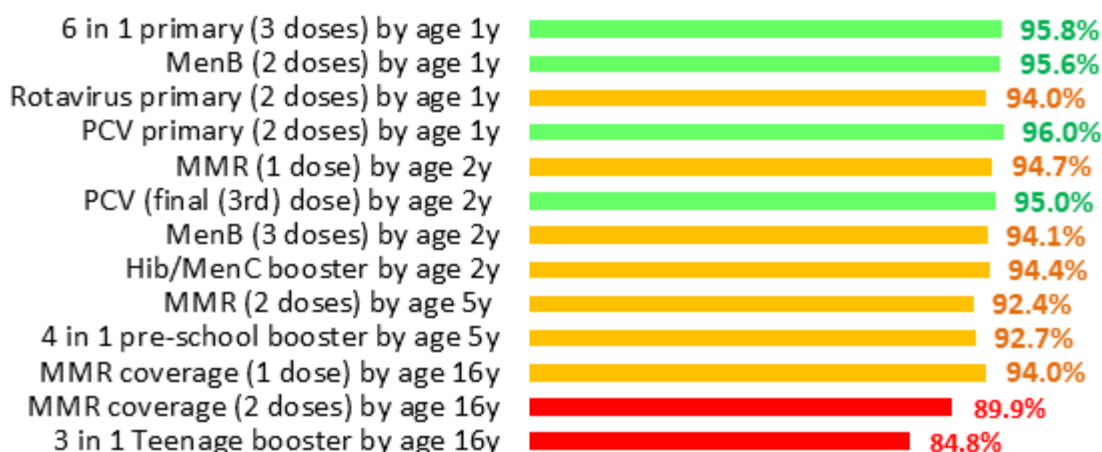
Immunisation is the most important way of protecting individuals and the community from vaccine preventable infectious diseases. There is a well-established national vaccination programme in Wales, and in 2003 the Vaccine Preventable Disease Programme in Public Health Wales was established to support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

There are four vaccines offered to teenagers between the ages of 12-16 years: MenACWY (for meningitis and septicaemia), Td/IPV 'teenage booster' (for tetanus, diphtheria and polio); HPV (offered to girls only prior to 2019/20 school year, for the Human papillomavirus, which can cause genital warts, cervical cancer, anal cancer and some head and neck cancers); and also MMR to those who have not previously received two doses. Teenage vaccine uptake for the annual period 2018/2019 in Wales was as follows¹:

- MenACWY: uptake in teenagers turning 15 years of age during the 2018/19 school year was 84%.
- Td/IPV 'teenage booster': uptake in teenagers turning 15 years of age during the 2018/19 school year was 84%.
- HPV among girls in school Year 9 2018/19, completion of the first dose was 87%, whilst completion of the second for girls in school Year 10 2018/19 was 82%.
- MMR: 91% and 90% for teenagers turning 15 and 16 years of age respectively during the 2018/19 school year.

¹ Public Health Wales Vaccine Preventable Disease Programme. Vaccine uptake in children in Wales; COVER Annual report 2019, June 2019. Cardiff: Public Health Wales.

Whilst up-take is very high, it is not accepted universally, and the possible headroom for growth is evident in the higher levels of uptake for children's immunisation. This is shown in the chart below using data from the COVER annual report for 2019 'Vaccine Uptake in Children in Wales'².



During and immediately preceding the fieldwork period in August, there were some media stories about the impact of 'anti-vac' views on vaccinations and the outbreaks of preventable diseases.³ Against the background of re-established endemic circulation of measles in the UK, in 2018 an outbreak of measles was confirmed in England between April and June 2019.⁴ Whilst this occurred in the North East of England, it follows an outbreak seen in the South East of Wales at the same time last year. This backdrop both informs, and importantly is informed by, the perceptions of the teenage vaccination programme outlined in this report.

The HPV vaccine specifically was more prominent in the national conscious UK-wide, as from September, boys in Year 9 are now eligible for the vaccine. This was reported on throughout the UK.⁵

4.2 Research Objectives

Within this context, research was undertaken to achieve a greater understanding of the awareness that teenagers aged 13-15 and their parents have about vaccines and vaccine preventable diseases. The survey was designed to explore attitudes to adolescent immunisation to inform strategic planning of immunisation programmes in

² Ibid.

³ For example, on parents who had concerns: <https://www.bbc.co.uk/news/health-47787908>, BBC, April 2019; on a surge in measles: <https://www.theguardian.com/society/2019/aug/29/lives-at-risk-from-surge-in-measles-across-europe-experts-warn>, the Guardian, August 2019; on the UK losing its status as 'measles-free': <https://www.newscientist.com/article/2213764-the-uk-has-lost-its-world-health-organization-measles-free-status/>, The New Scientist, August 2019.

⁴ 'MMR vaccination call following high numbers of cases' Gov.UK, May 2019, <https://www.gov.uk/government/news/mmr-vaccination-call-following-high-numbers-of-measles-cases>

⁵ For example, before the fieldwork took place: <https://www.bbc.co.uk/news/health-48881008>, and during the fieldwork period: <https://www.bbc.co.uk/news/health-49522669>.

Wales. The surveys cover experiences of the service offered, trust in information providers and how these relate to their acceptance of the programme, and beliefs about risk of vaccination versus risk of disease. The survey potentially also provides a valuable early warning of emerging concerns.

More specifically, the research was designed to understand among parents, as well as teenagers, across Wales:

- Recall of specific sources of information relating to teenage vaccines;
- Perceptions of the quality of these sources and their impact;
- Perceptions of vaccine safety and disease risks;
- Decision making discussions and the extent to which the views of parents and teenagers converge or diverge regarding vaccine uptake;
- The experiences teenagers have had of vaccine delivery;
- Trust in information sources;
- Overall levels of belief in the safety, efficacy and value of being vaccinated.

4.3 Methodology

4.3.1 Data collection

Fieldwork took place in July and August 2019, to coincide with teenagers being more available throughout the day during the period of school summer holidays. The aim was to interview 150 parents of teenagers between the ages of 13 to 15 years old, and the teenagers themselves. (Parents were defined as being the person responsible for making most of the health care decisions for the 13-15-year-old, either solely or jointly with another person, and therefore those with all forms of legal guardianship were eligible to participate in the research.)

As much as possible, interviews were obtained from parents and teenagers in the same household, with a maximum of one teenager and one parent interviewed per household. In addition to enabling us to link up the responses by household, this allowed the interviewers to interview the parent first and obtain their consent for interviewing the teenager in advance of conducting the interview. In the small number of cases where only a teenager interview was conducted in a household (where the parent may have refused to take part), parental permission was again sought before the teenager interview took place. However, given the similarity of the teenager's and parent's surveys, the parent interview was conducted where the teenager would not be able to hear their parent's answers.

At the same time, to ensure that the parent did not influence the answers given by the teenager, teenager interviews were conducted out of earshot of the parent (although for safety reasons we advised interviewers to ensure the parents were in the vicinity/sight of the interview). To further avoid this bias occurring, there were places in the survey where the parent or teenager was asked to read out the code of their answer as it was shown on the showcard, rather than the full answer. Teenagers were given a £5 high street shopping voucher upon completion of the interview.

In total, 318 interviews were obtained, 160 with parents and 158 with teenagers aged 13-15. All interviews were conducted face-to-face by fully trained BMG interviewers using Computer Assisted Personal Interviewing (CAPI). Each interview took approximately 15 to 20 minutes (or 40 minutes per household).

The below table shows the sampling error, at 95% confidence, resulting from the 318 interviews achieved.

Table 1: Number of interviews and sampling error

Group	Sample size (n)	Range of confidence interval for percent responses at or near these levels		
		10% or 90% +/-	30% or 70% +/-	50% +/-
Teenagers (aged 13 to 15 / starting in Year 9 to 11)	158	4.68%	7.15%	7.80%
Year 9	68	7.13%	10.89%	11.88%
Year 10	45	8.77%	13.39%	14.61%
Year 11	45	8.77%	13.39%	14.61%
Parents of teenagers aged 13 to 15	160	4.65%	7.10%	7.75%

4.3.2 Sampling

When collecting data for this research it was crucially important to have a representative sample, in order to understand the perceptions, behaviours and experiences of teenagers and their parents throughout Wales. To ensure the representativeness of the sample the fieldwork was conducted using a stratified random location sampling approach. Across each health board a number of interviews were achieved that were proportional to the relative population size albeit with Powys having a disproportionate number of interviews due to its relatively small population size.

Within each health board, all LSOAs (a geographic area known as a Lower Layer Super Output Area, the primary sampling unit) were ranked by Index of Multiple Deprivation (IMD), high to low in terms of relative deprivation within that geographic strata. Once the LSOAs were ranked by relative IMD within their health board, they were categorised in quintiles, and from each of these quintiles LSOAs were systematically selected at random. At each selected LSOA 5 interviews with teenagers and 5 interviews with parents were carried out. This approach ensured that the data is representative of the geo-demographic and socio-economic diversity of each health board, and accordingly, Wales as a whole.

Within each sampling point quotas were applied by gender, age and ethnicity of the teenager, and the working status of the parent, to further ensure representative data.

4.3.3 Weighting

Despite the steps taken to ensure that the sample represents the Welsh population within this demographic overall, it is necessary to weight the data to account for any minor over- or under-representation of key profile groups within the sample. Powys Teaching Health Board was over-represented in the sample to allow for a robust sample to look at the results within this board, given that Powys has a smaller population than other health boards in Wales. Therefore, the total data set was weighted by health board to reflect the relative size of the population within different health boards. The teenagers' data was also weighted by school year with gender. The mid-year 2017 population estimates provide statistics of the number of teenagers aged 13 to 15 resident in each region by gender, which was used to ensure accurate weighting was applied.

Table 2: Sample Profile

	Unweighted sample (%)	Weighted sample (%)
Parents		
Health Board		
Aneurin Bevan University Health Board	18%	19%
Swansea Bay University Local Health Board	16%	17%
Cardiff and Vale University Health Board	16%	16%
Hywel Dda University Health Board	11%	12%
Betsi Cadwaladr University Health Board	23%	22%
Cwm Taf Morgannwg University Local Health Board	9%	9%
Powys Teaching Health Board	8%	4%
Teenagers		
Health Board		
Aneurin Bevan University Health Board	17%	20%
Swansea Bay University Local Health Board	16%	17%
Cardiff and Vale University Health Board	16%	15%
Hywel Dda University Health Board	11%	12%
Betsi Cadwaladr University Health Board	23%	22%
Cwm Taf Morgannwg University Local Health Board	9%	10%
Powys Teaching Health Board	7%	4%
Age/Gender		
Male Year 9	23%	17%
Female Year 9	19%	16%
Male Year 10	15%	18%
Female Year 10	14%	16%
Male Year 11	11%	17%
Female Year 11	18%	17%

4.3.4 Questionnaire design

The questionnaire used in this research was aligned with the one that was used in the Public Health England (PHE) Young People and Parents Childhood Immunisation Survey 2018. This PHE questionnaire was designed, following cognitive testing in 2017. Consistency has been maintained as far as is appropriate in the Wales questionnaire, although there were minor amendments to account for Wales specific context.

4.4 Reading this report

This report summarises the main findings of the Public Health Wales 2019 survey. These findings are analysed by socio-demographic subgroups where this provides valuable insight, including age, gender and SEG (socio-economic grade).

4.4.1 Significance tests

Throughout the report, when differences are shown in tables and charts, they have been tested for significance, with a two-tailed T-test on column proportions. Where a difference is significant at the 95% level this is indicated by an arrow (at the $p < 0.05$ level). This means that if 20 samples were selected, the difference would appear in 19 out of 20 samples. Unless otherwise stated, the significance difference shown is between the highlighted subsample and the total sample.

4.4.2 Rounding

The data used in this report are rounded up or down to the nearest whole percentage point. It is for this reason that, on occasions, tables or charts may add up to 99% or 101%. Where tables and graphics do not match exactly to the text in the report this occurs due to the way in which figures are rounded up (or down) when responses are combined.

4.4.3 Reporting conventions

In order to ensure that respondents were able to understand the concepts and issues under investigation in the survey full descriptions of each of the vaccines were provided at all relevant questions.

For ease of visual reporting these have been summarised as follows:

- Tetanus, diphtheria, and polio Td/IPV (Teenage booster or "3 in 1") → Teenage booster
- MenACWY (protects against Meningitis, meningococcal disease, septicaemia or blood poisoning) → MenACWY
- HPV vaccine (protects against cervical cancer, some head and neck cancers, some genital cancers and genital warts) → HPV
- MMR (Measles, Mumps and Rubella combined) → MMR

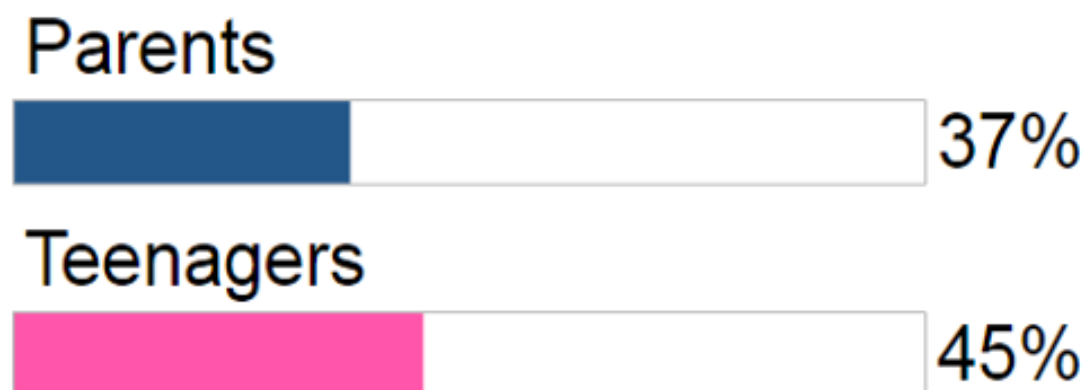
5 Awareness and Recall of Publicity

Before respondents were asked about their perceptions and experiences of the teenage immunisation programme, they were asked about their awareness of publicity surrounding vaccinations and overall awareness of the vaccination information available. At this point in the survey, the respondents did not know that the research was about vaccinations, and this produces a genuine read on awareness. This section looks at the awareness of publicity about vaccinations in a broader health context, before focusing on immunisations and examining the more specific messages that parents and teenagers have extracted from any publicity they have encountered.

5.1 Spontaneous recall of teenage health publicity

Figure 1 below shows the proportion of parents and teenagers who recalled having seen, heard or read about any health-related issues for teenagers in the last 12 months.

Figure 1: Can you recall having seen, heard or read any health-related issues for teenagers in the last 12 months?



Base: All Parents (159) and All Teenagers (158)
PQ4 and TQ1

Thinking about any health issues that affect teenagers, 37% of parents said they had seen, heard or read something about one of these issues, whilst slightly more teenagers recalled encountering this information, at 45%.

There are no statistically significant differences by demographic or geographic variations among parents. However, recall of information regarding health-related issues among teenagers is higher for females than males. Recall among male teenagers is 32%, compared to 59% among females. Recall increases to nearly 2 in 3 (65%) among females in school years 10 and 11.



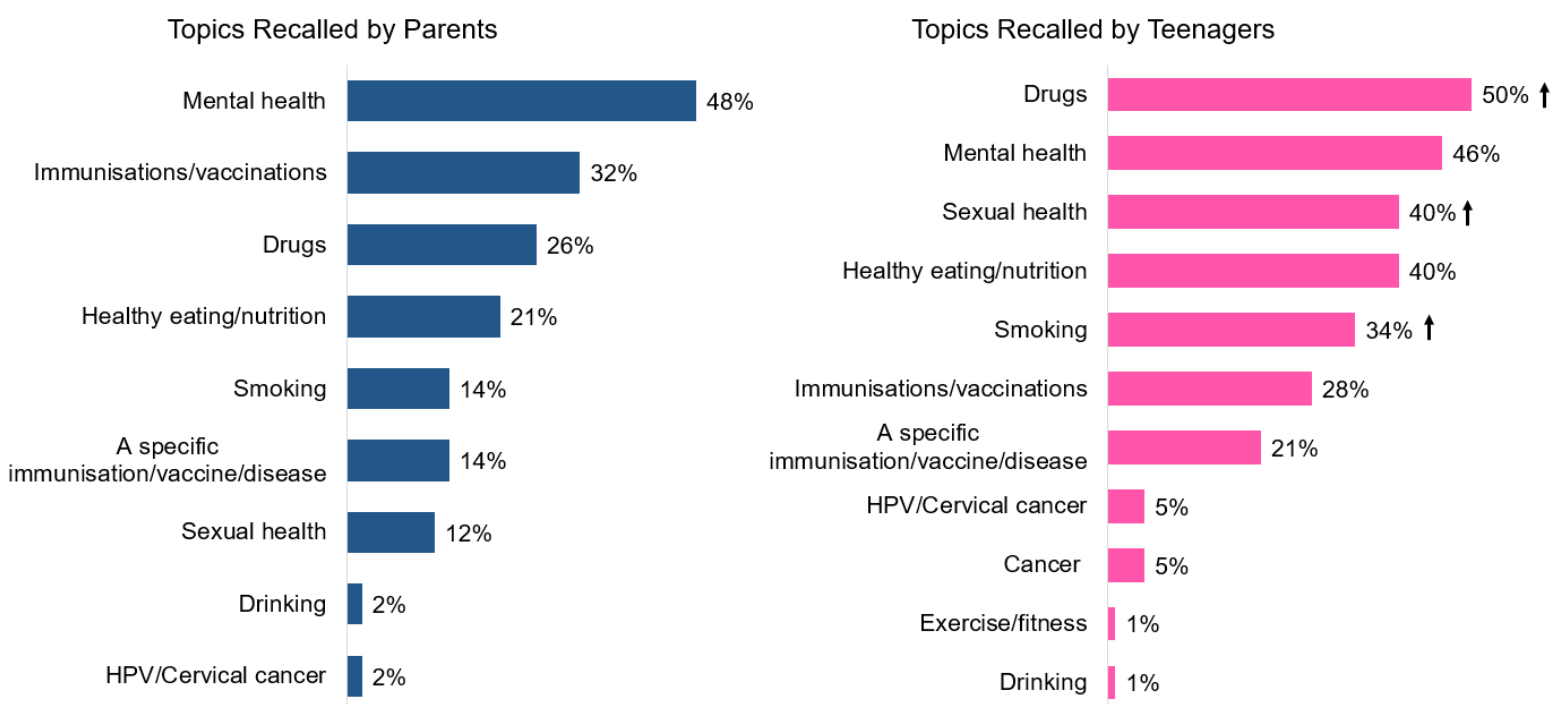
59%



32%

Those parents and teenagers who recall having seen, heard or read anything about health issues affecting teenagers in the last 12 months were then asked, unprompted, what the information was about. There is some variation between the topics recalled by parents and those recalled by teenagers.

Figure 2: And what was it about?



Summary, any mention immunisation:
Parents- 37%

Teenagers- 41%

Base: All who recalled seeing, reading or hearing about a health issue affecting teenagers, Parents (60) and Teenagers (72)

PQ5 and TQ2

Arrows indicate statistically significant differences among teenagers compared to parents at the 95% level of confidence.

Just under half of teenagers and their parents who recall any publicity remember coming across information regarding mental health, (recalled by 48% of parents and 46% of teenagers). At a total sample level, this was recalled by 18% of parents and 21% of teenagers). Of the five most commonly recalled topics that teenagers had seen information regarding, mental health was the only topic that a similar proportion of parents also cited. Teenagers most recalled publicity was about drugs, which 50% of those who recalled any publicity remembered, double the proportion of parents recalling this (26%). Teenagers were also significantly more likely to recall publicity about sexual health (40% cf. 12%) and smoking (34% cf. 14%).

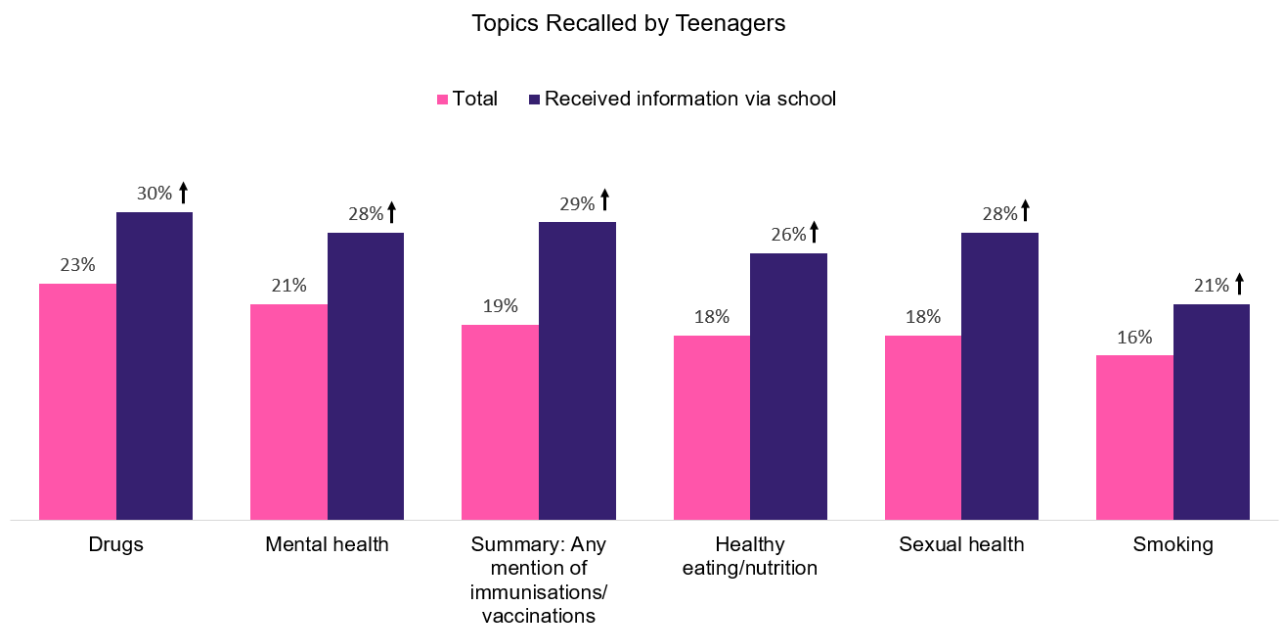
In terms of vaccinations, a similar proportion of parents and teenagers recalled seeing any publicity about immunisations: 37% of parents and 41% of teenagers. Parents were marginally more likely to recall encountering information about vaccinations in general, at 32%, compared to 28% of teenagers. This was the second most commonly cited topic

by parents. However, only 14% of parents recalled information about a specific disease or vaccination, compared to 21% of teenagers.

Mirroring the higher recall of publicity among female teenagers, teenage girls were also more likely than their male counterparts to recall coming across publicity for vaccinations. Out of all teenagers surveyed, 29% of females recalled any publicity about immunisations, compared to only 9% of male teenagers. This reflects higher recall among female teenagers across a range of topics, including mental health, for which 30% of all female and 12% of all male teenagers surveyed said they had seen, heard or read something about.

When looking at the proportion of the total sample of teenagers who recalled encountering publicity about health topics, the data shows that a higher proportion of teenagers who received information through schools spontaneously recalled publicity. Across a range of health topics including vaccinations, those teenagers who received information about vaccinations from their schools were more likely to recall it, and recall other topics as well, highlighting the key channel of disseminating information that schools provide, both regarding immunisations and health topics more generally.

Figure 3: And what was it about? (All teenagers and those who received information about immunisations through schools)



Base: All teenagers (158) and teenagers who received information about immunisations through school (87)
TQ2

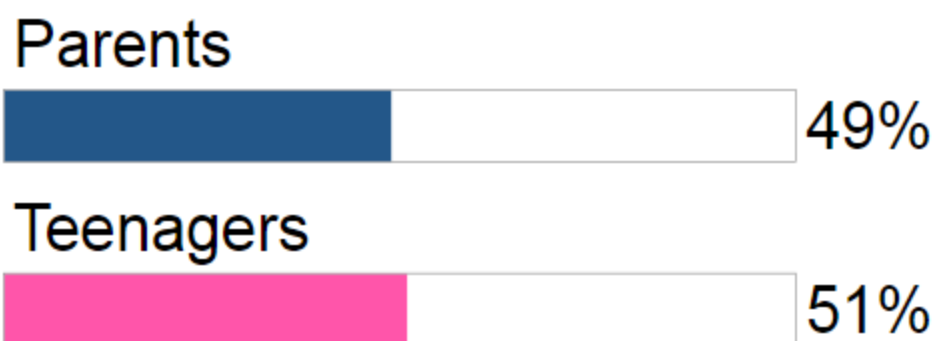
Arrows indicate statistically significant differences between the samples, at the 95% level of confidence.

5.2 Recall of publicity concerning vaccinations for teenagers

Parents and teenagers were then asked specifically whether they recalled seeing, hearing or reading anything about vaccinations for teenagers in the last 12 months.

Figure 4: Can I just check, have you seen, heard or read anything about vaccination for teenagers in the last 12 months?

Recall of Publicity about Immunisations (Prompted)



Base: All parents (159) and teenagers (158)

Approximately half of parents and teenagers (49% and 51% respectively) recalled encountering something about immunisations in the last 12 months.



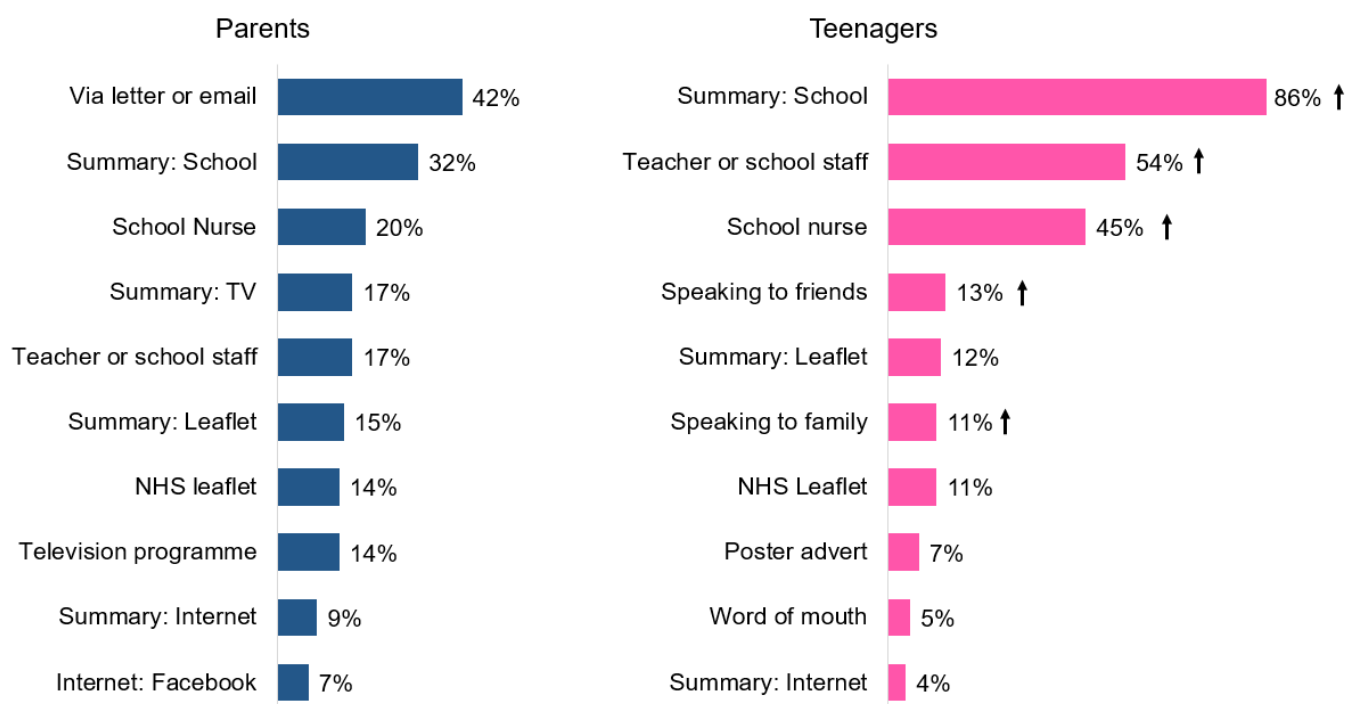
Teenagers in Year 10 are especially likely to have come across information about immunisations (66%). Similarly, awareness of such publicity among parents is highest among those who have a child in Year 10, of whom 68% recall something about immunisations. The relevance of immunisation

information to teenagers in Year 10 and their parents is supported by the data when we look at the households where both a parent and teenager were surveyed. Of these 153 households, 31% contain a parent and teenagers who both recall immunisation information. Of the 49 households surveyed where at least one teenager lived who was in school Year 10, over half (52%) had a parent and teenager who both recalled coming across information about immunisations. Reflecting the pattern seen among teenagers when asked about health issues in general, females are significantly more likely than males to recall encountering information about immunisations.

There is some variation in the sources that teenagers and their parents recalled obtaining information about immunisation from, as shown in the below chart. Unsurprisingly the majority of teenagers, 86%, came across information through their school, with 54% of all teenagers receiving information from a teacher or member of school staff, and 45% getting information from a school nurse. This compares to 32% of parents who recalled information from the school. Moreover, teenagers were

significantly more likely to obtain information through speaking to friends (13%) or family (11%), although information through these channels still reached a relatively low proportion of teenagers. Conversely, parents were most likely to have received information via a letter or email, cited by 42%, whilst no teenager recalled coming across information in this way. Among all parents surveyed, this amounts to 20% who received a letter, but increases to 31% among those who have at least one child in Year 10, perhaps alluding to the permission letter.

Figure 5: And where did you see or hear this? (Top 10) (Those who recall publicity about teenage vaccination)



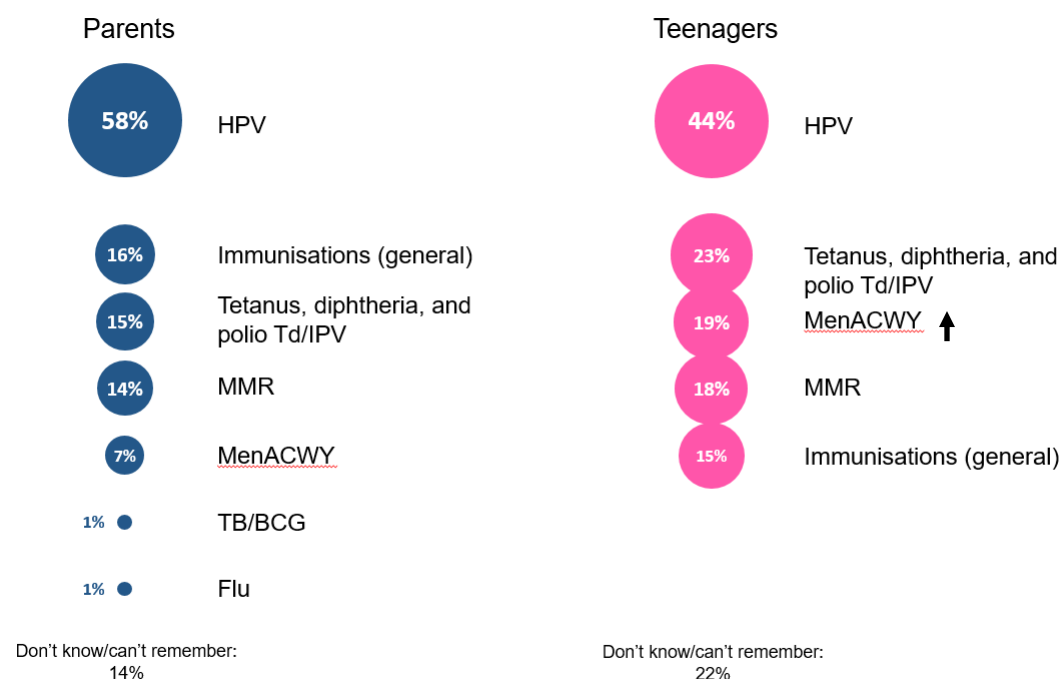
Base: Where have seen, heard or read anything about vaccination for teenagers in the last 12 months: Parents (79) and Teenagers (75)

Arrows indicate statistically significant differences between parents and teenagers at the 95% level of confidence

Those who recalled publicity concerning teenage vaccination were asked what vaccination the information they had seen, heard or read was about.

For both parents and teenagers, the vaccination most recalled seeing something about was HPV, with 58% and 44% respectively citing this disease/vaccination. Recall of this is higher among female teenagers (62%) and parents of females (66%), although the base sizes of these groups are too small to infer any statistical significance from the data. However, the pattern makes intuitive sense as this vaccine had not yet been rolled out to males at the time of the fieldwork. The second most commonly cited vaccine that respondents had come across information regarding was tetanus, diphtheria and polio (Td/IPV), slightly more commonly recalled by teenagers at 23%, than parents at 15%.

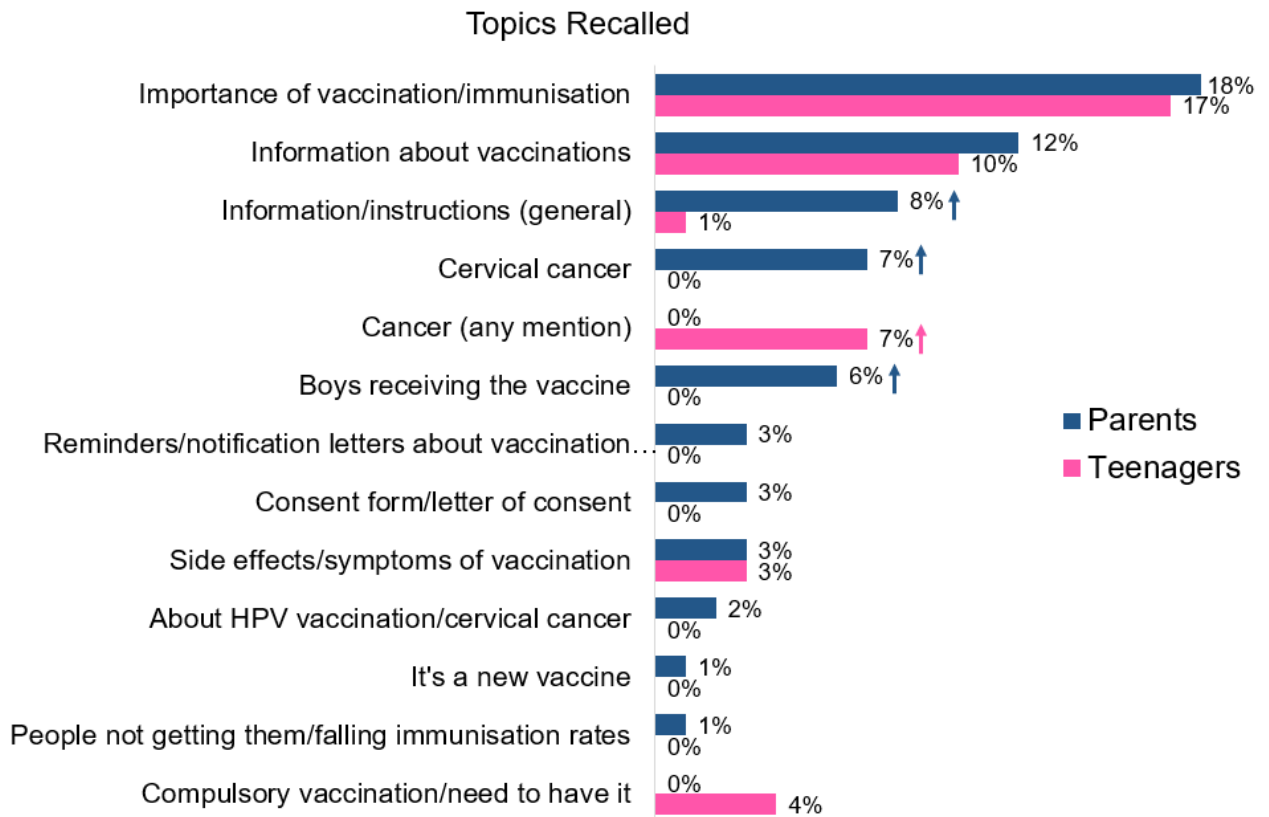
Figure 6: What vaccination was it about? (Those who recall publicity about teenage vaccination)



Base: Where have seen, heard or read anything about vaccination for teenagers in the last 12 months: Parents (79) and Teenagers (75)

When those who recalled seeing, hearing or reading something about vaccinations were asked what they could remember most about it, 26% of parents and 43% of teenagers could not recall anything specific. The most common theme that was recalled was the importance of having vaccinations, by 18% of parents and 17% of teenagers.

Figure 7: And what do you remember most about what you saw or heard? (Those who recall publicity about teenage vaccination)



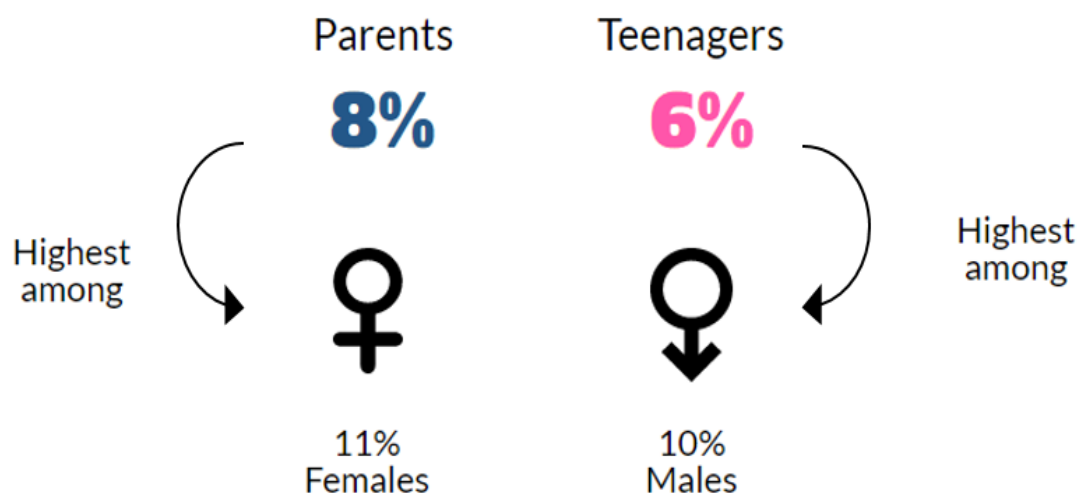
Base: All Parents (159) and All Teenagers (158)

Arrows indicate statistically significant differences between parents and teenagers at the 95% level of confidence

5.3 Recall of publicity about immunisations on social media

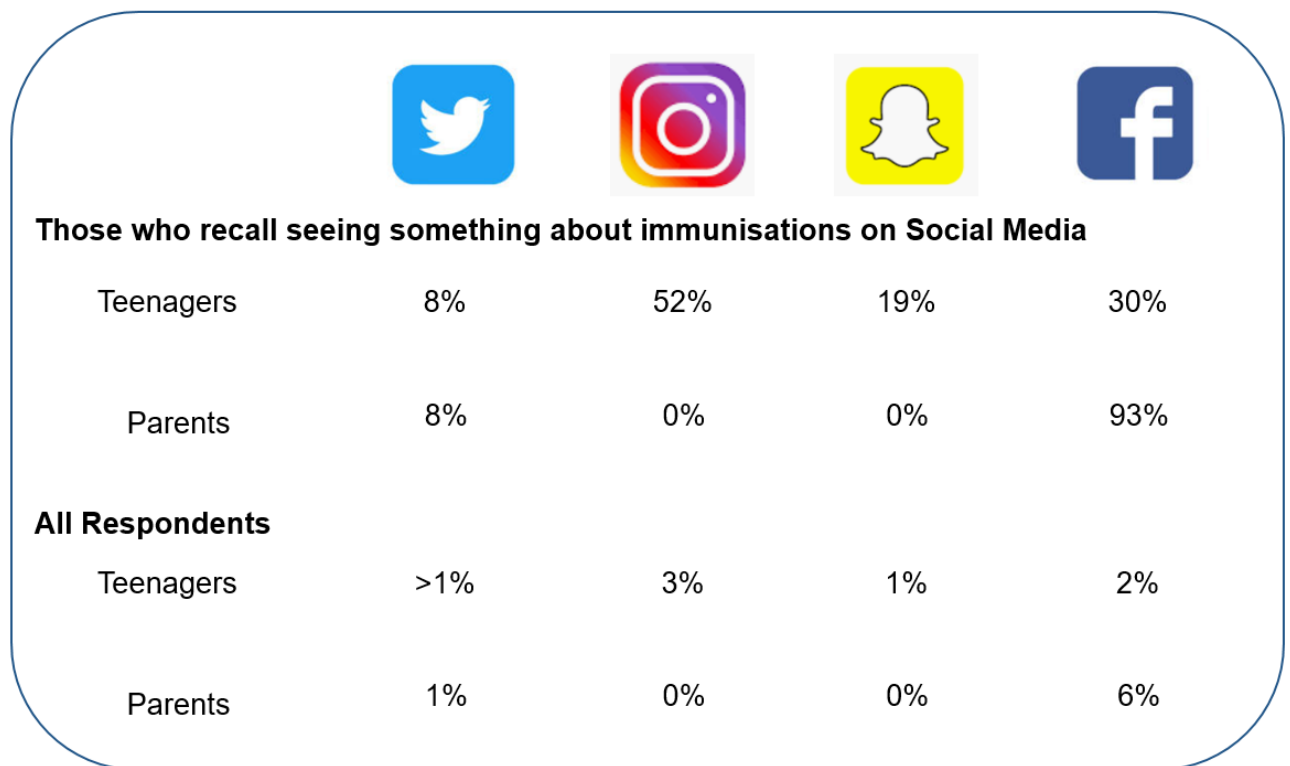
Respondents were specifically asked whether they recalled seeing anything about immunisation on social media. Levels of awareness of publicity about vaccinations on social media was very low, with only 8% of parents and 6% of teenagers recalling anything via this channel. For parents the proportion increases among females, whilst for teenagers it is highest among males, but overall, recall of the topic on social media was low across all demographic groups.

Figure 8: Have you seen anything on social media about vaccination for teenagers in the last 12 months?



Base: All Parents (159) and All Teenagers (158)

Among those who recalled seeing something about immunisations on social media, over half of teenagers saw it on Instagram (52%), whilst the large majority of parents saw it on Facebook. (93%). This does suggest a potential risk that parents and teenagers are seeing different messages. However, these figures should be taken as an indication only, due to the very small numbers of respondents who recalled seeing anything about immunisations through this channel. When we look at this among the total sample, it is clear that there are a very small number of parents and teenagers receiving messages about immunisation through social media. When these messages are recalled, it is most likely to be by parents who obtained the information via Facebook, who make up 6% of the parents surveyed.

Figure 9: Where did you see this?

Base: Parents who recall seeing something about immunisations on Social Media (13%), teenagers who recall seeing something about immunisations on social media (9), all parents (159) and all teenagers (158)

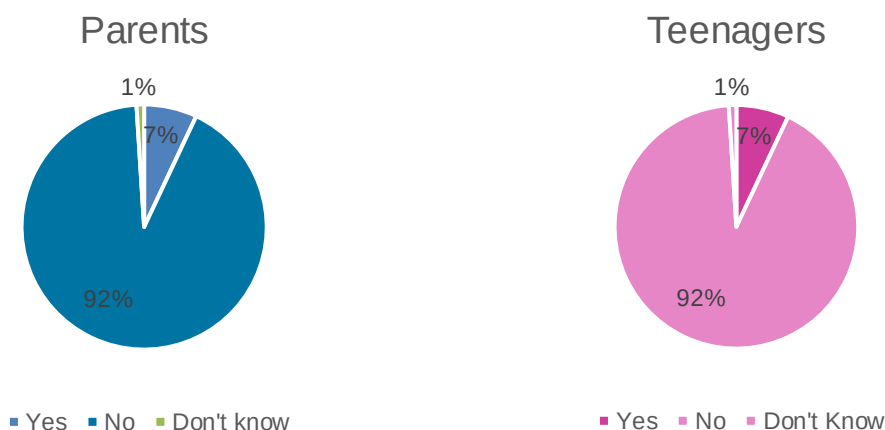
As a result of the low proportion of both parents and teenagers that have come across social media messages about vaccination in the last 12 months, the subsequent questions that were asked about the nature of these messages and the frequency with which they have been come across produced sample sizes that are too small to permit robust analysis.

5.4 Spontaneous recall of scare stories

In recent months, coverage of the “anti-vac” movement and the impact upon immunisation has gained some traction in the national media. In this context both parents and teenagers were asked if they had come across anything that would make them concerned or worried about themselves/their child having a teenage vaccination.

Only 7% of both teenagers and parents have come across anything that would make them concerned or worried about themselves or their child having a teenage vaccination. Among parents in the C2DE socio-economic group (the lower three of the six socio-economic divisions) this proportion rises to 9% compared to 5% among those categorised as ABC1 (the higher socio-economic groups).

Figure 10: Is there anything you have come across that would make you concerned or worried about your child having a teenage vaccination/having a vaccination?



Base: All Parents (159) and All Teenagers (158)

When probing the nature of these concerns, the amount of analysis possible is limited due to the small sample size of respondents. Among the 11 teenagers who gave further detail, two fifths mentioned side effect issues (42%). Other mentions were made of negative stories/experiences from others and dislike of needles.

Amongst the parents who recall anything concerning (only 10 respondents – low base), the most common theme within these messages was again side effects (60%). Other mentions included vaccine ingredients.

Two fifths of the teenagers (44%) who recall anything concerning did not relate it to a specific vaccination. Among parents (50%) attributed this information to the HPV vaccine. However, to put this result into the appropriate context, this equates to just 3% of all parents having exposure to some form of concern relating to the HPV vaccine.

Although the analysis below is from a low base size, parents are more likely to have seen or heard information that may concern them from the internet (50%), whereas teenagers are more likely to see concerning information at school (38%) or in leaflets (27%).

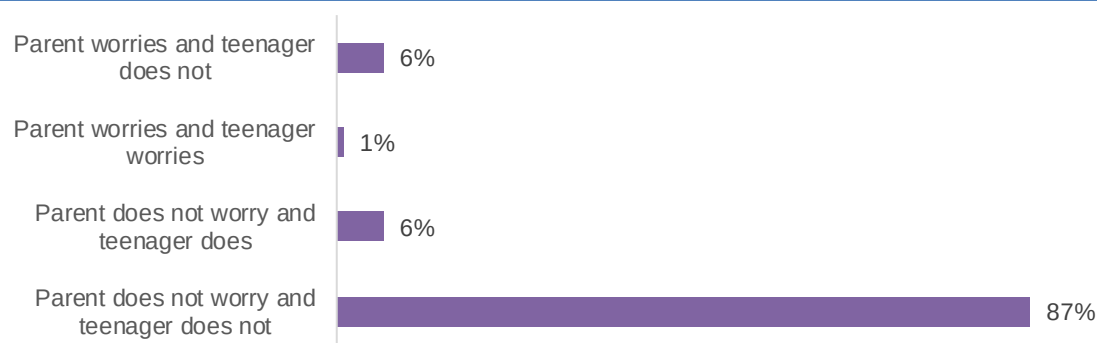
Figure 11: And where did you see or hear this information which made you concerned about your child having a vaccination/having a vaccination?

	Teenagers	Parents
 Internet	0%	50%
 Newspapers	0%	0%
 TV	0%	20%
 Leaflets	27%	10%
 School	38%	na

Base: Where have concerns about vaccination for teenagers Parents (10) and Teenagers (11)

Using the responses where both a teenager and a parent from the same household were interviewed allows us to identify the extent to which parents and teenagers converge. Based on this matched household data, in almost nine in ten instances (87%) neither a parent nor a teenager has been exposed to something that concerns them about vaccinations. Just 1% have households containing both a parent and a teenager that have been exposed to something that concerns them about teenage vaccinations, although this is not to say that this is necessarily the result of the same message.

Figure 12: Is there anything you have come across that would make you concerned or worried about your child having a teenage vaccination/having a vaccination?



Base: Matched interviews (153)

5.5 Awareness of NHS branded resources

Parents and teenagers were shown a range of PHW resources some of which were produced with the Welsh Government containing information about specific vaccinations. The respondents were then asked whether they could recall having ever seen any of these leaflets previously. Only leaflets that were relevant to the age and gender of the teenagers (or the parents' children) were shown.

Figure 13: Materials shown

Protect Yourself Against Meningitis And Septicaemia Leaflet



Protect Yourself Against Meningitis and Septicaemia Poster



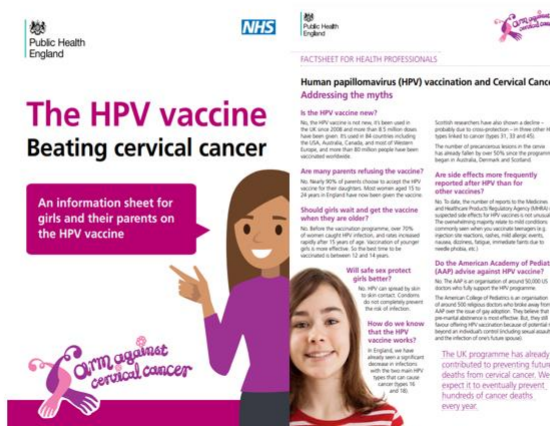
Protection Against Tetanus, Diphtheria And Polio Leaflet



Your Guide to HPV Vaccination Leaflet



The HPV Vaccine: Beating Cervical Cancer: Q&A Sheet for Girls and Parents



HPV Vaccine Don't Miss Out Poster



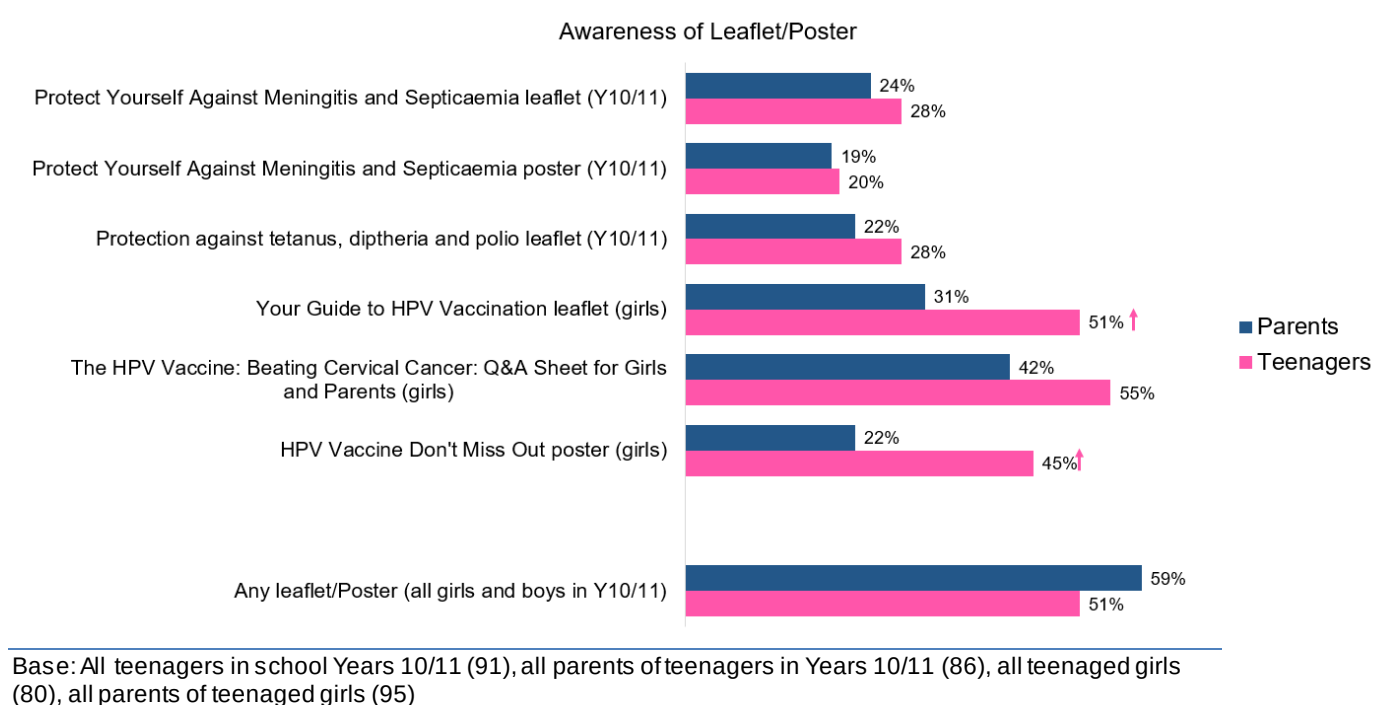
Teenagers going into school years 10 and 11 were shown a leaflet about meningitis and septicaemia, a leaflet about tetanus, diphtheria and polio and a poster about meningitis and septicaemia. Around 1 in 4 teenagers recalled seeing these materials previously: 28% recalled the meningitis and septicaemia leaflet, 20% recalled the poster about the vaccine, and 28% recalled the tetanus, diphtheria and polio leaflet. The data suggests that girls are more likely to recognise the meningitis and septicaemia leaflet (39%) and the tetanus, diphtheria and polio leaflet (42%), whilst both resources are recognised by a higher proportion of those in Year 11.

All female teenagers were shown materials relating to the HPV vaccine. Awareness of these materials was higher than that of the materials discussed above, with 45% recalling the "Don't Miss Out" poster, 51% the "Your Guide to the HPV vaccination" leaflet, and 55% the Q & A Factsheet. The data hints at the impact that the HPV materials could be having, as among girls who were spontaneously aware of the HPV vaccine

when asked what vaccinations are available for teenagers, 67% recalled “Your Guide to the HPV Vaccination”, 78% recalled the factsheet, and 62% recalled the “Don’t Miss Out” poster. This data is suggestive of a relationship, but not definitive, given the base size of 42 respondents.

The parents of girls going into years 9, 10 and 11 were also shown the same HPV materials, and overall recognised them to a lesser extent. Thirty one percent of parents recognised the leaflet, and 22% recognised the poster, both of which are significantly below the levels of recognition among the teenage girls.

Figure 14: Poster/ Leaflet recognition. Do you remember seeing this...?



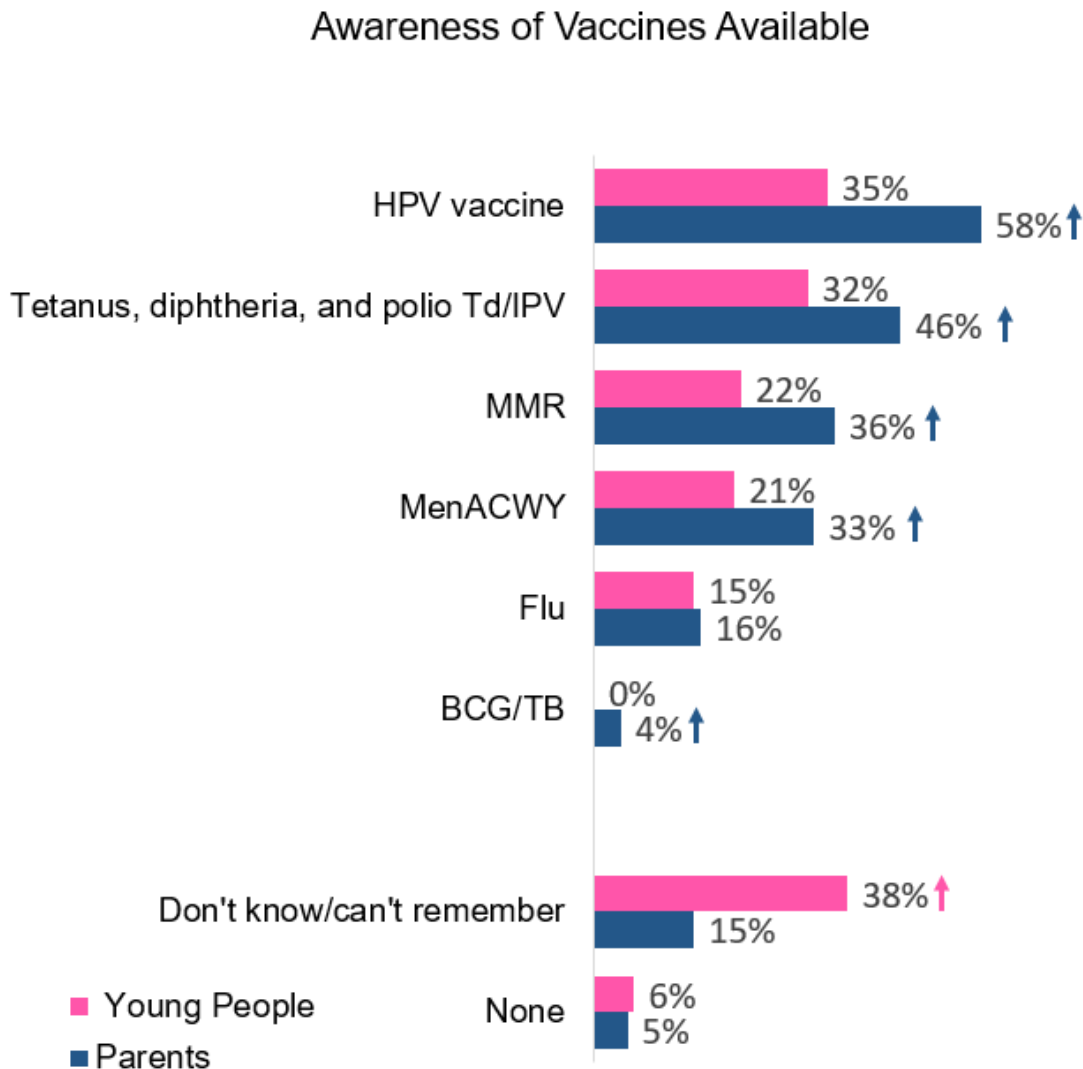
5.6 Awareness of Teenage Vaccinations

Figure 15 below shows the unprompted awareness of which vaccines are available to teenagers, among teenagers and their parents. The pattern of vaccination awareness among teenagers and their parents is the same, with HPV being the vaccine most groups were most likely to be aware of, followed by vaccines against tetanus, diphtheria and polio, then MMR, then MenACWY.

However, parents are aware of the vaccines at consistently higher levels, with awareness of all vaccines significantly higher among parents. Fifty-eight percent of parents are aware of the HPV vaccine, and 46% are aware of the vaccine for tetanus, diphtheria and polio. Conversely, more than double the number of teenagers than parents said they did not know or could not remember any vaccinations that are available for teenagers (38% cf. 15%). Parents in Wales are significantly more likely to be aware of the HPV vaccine. It should be noted that there may have been more communication about the HPV vaccine compared to this time last year, as the plans to introduce the vaccine to boys are made more widely known. However, awareness among parents with only a female child/child is at 69%, compared to 46% among those who only have a

male child/child, which suggests that HPV remains significantly more relevant to parents of girls. Accordingly, this substantial level of awareness is driven by female parents, 65% or whom said that they were aware of the HPV vaccine (cf. 36% of males).

Figure 15: What vaccinations do you think are currently available for teenagers?



Base: All Parents (159) and All Teenagers (158)
PQ14 and TQ1

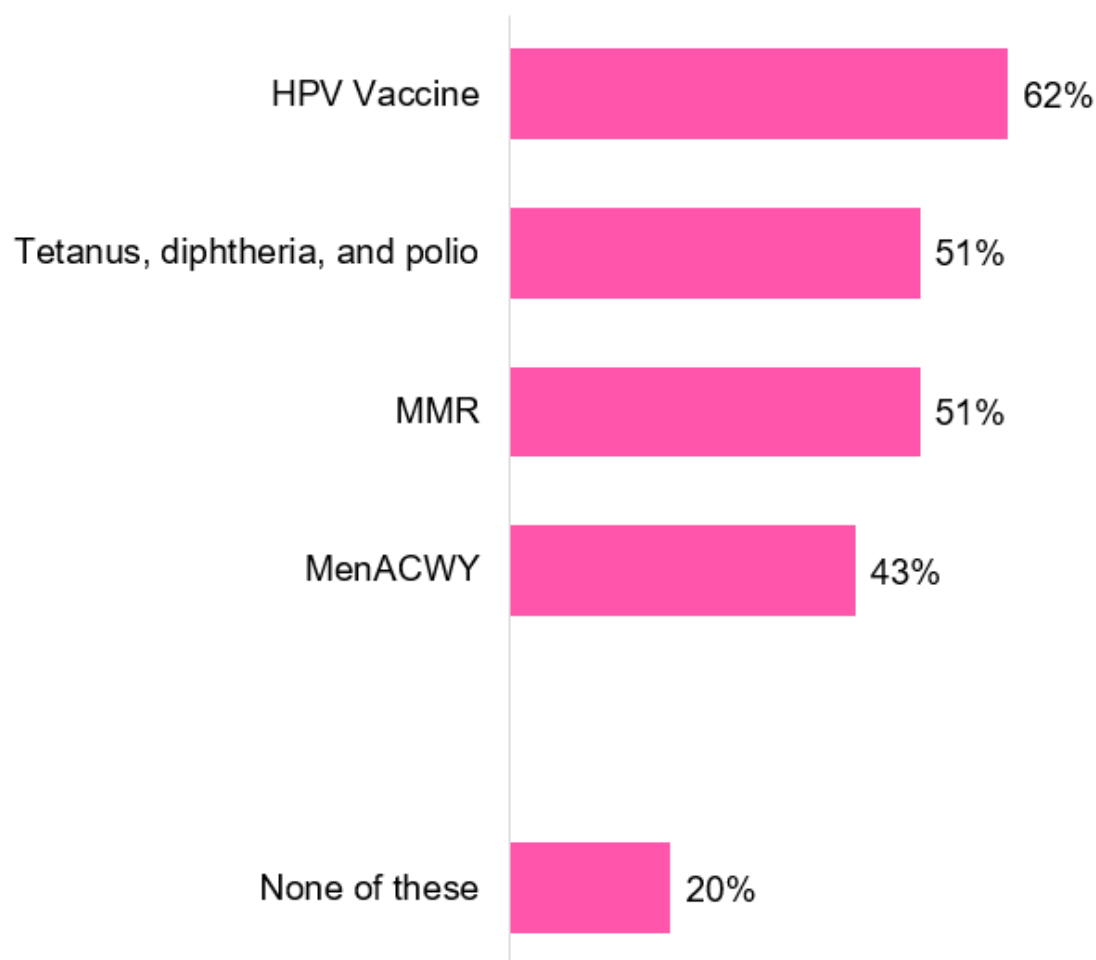
Arrows indicate statistically significant differences between parents and teenagers at the 95% level of confidence

Teenagers were also provided with a list of the vaccines that are available to their age group, and were asked whether they had heard of each vaccine individually. This data is shown in Figure 16 below.

The vaccine that teenagers were most familiar with was HPV, which 62% said they had heard of before. Half of teenage respondents (51%) had heard of the tetanus, diphtheria and polio, and the MMR vaccines, whilst fewer teenagers were aware of the MenACWY vaccine (43%). One in five (20%) teenagers were not aware of any vaccine when prompted.

Figure 16: Can I ask you whether you have heard of each of the following vaccinations? (Teenagers only)

Prompted Awareness of Vaccines among Young People

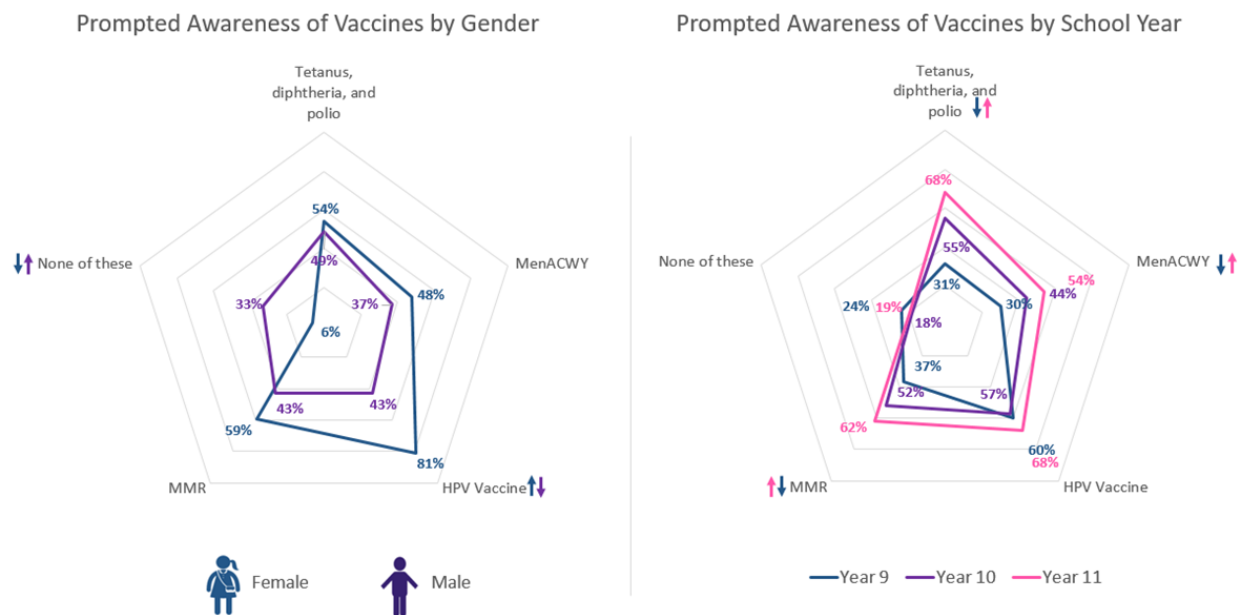


Base: All Teenagers (158)

The data evidences some variation by gender and age. Female teenagers are significantly more likely than males to be aware of the HPV vaccine, (81% of females are aware, cf. 43% of males), which contributes to a significantly lower proportion of females who are aware of none of the vaccines offered (6%, cf. 33% of males). The data suggests that female teenagers are more aware of vaccines in the programme, as awareness for all immunisations is higher among this group compared to males, albeit not by a sufficient margin to make definitive statistical inferences, as outlined in Figure 14.

The data also shows that the older the teenager is, the greater the likelihood that they are aware of the vaccines, especially for tetanus, diphtheria and polio, MMR and MenACWY.

Figure 17: Can I ask you whether you have heard of each of the following vaccinations? (Teenagers only) By Gender and Age



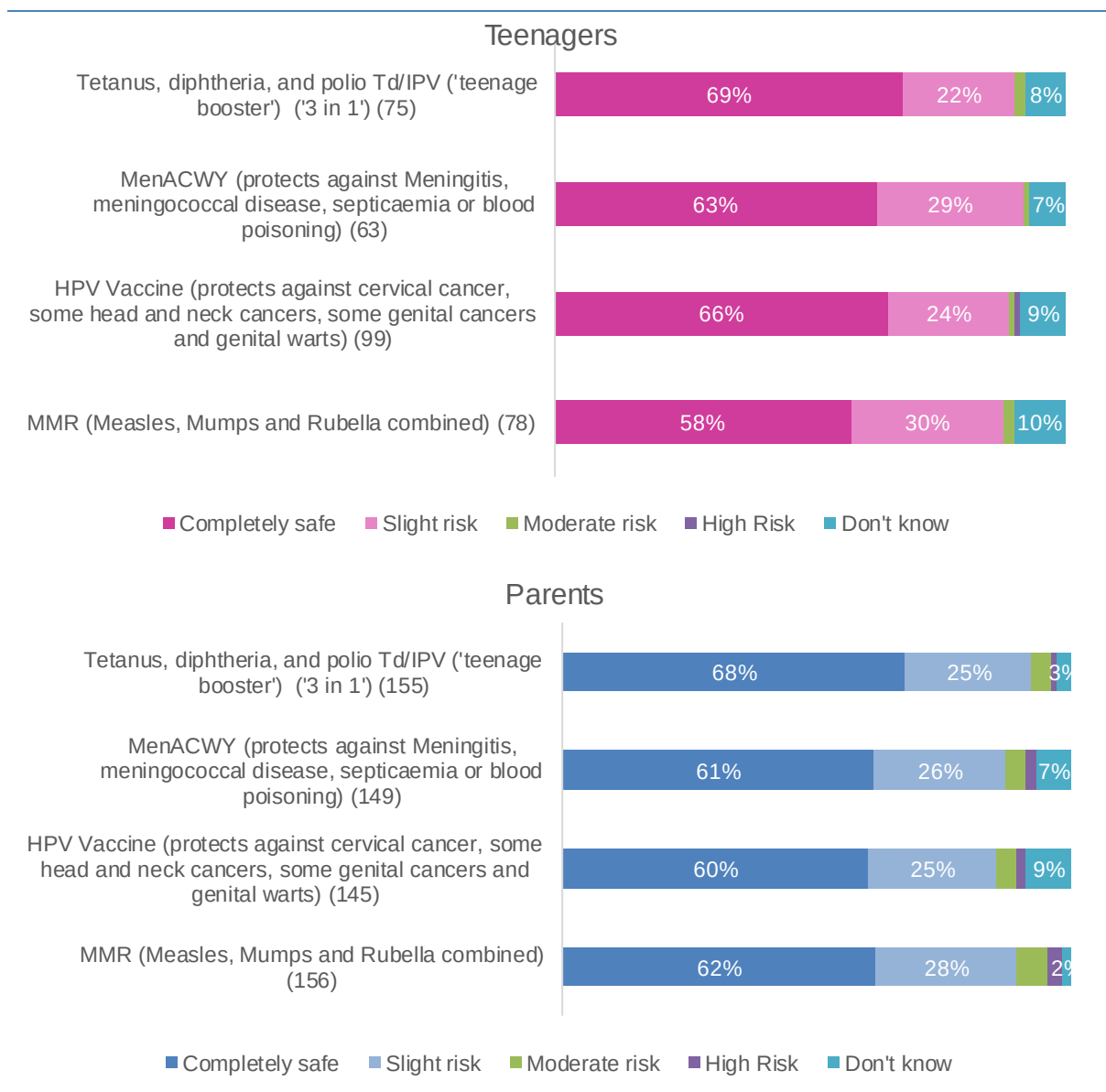
Base: Teenagers, females (80), males (78), those going into Year 9 (67), Year 10 (46) and Year 11 (45)
 Arrows indicate statistically significant differences demographics charted and the total sample.

In response to a question that asked directly whether they feel that each vaccination offered to teenagers is safe, a majority of those with prior knowledge about each vaccination describe these as either completely safe or only a slight risk. The proportion giving these 'low risk' assessments per vaccination are as follows:

- Tetanus, diphtheria, and polio Td/IPV ('teenage booster') ('3 in 1'): 92% of parents and 90% of teenagers;
- MenACWY: 87% of parents and 91% of teenagers;
- HPV: 85% of parents and 90% of teenagers; and,
- MMR: 90% of parents 89% of teenagers.

The full detail of the responses given to this question are shown in the figure below. The teenager responses are shown in the pink chart and the responses of parents are in the blue chart.

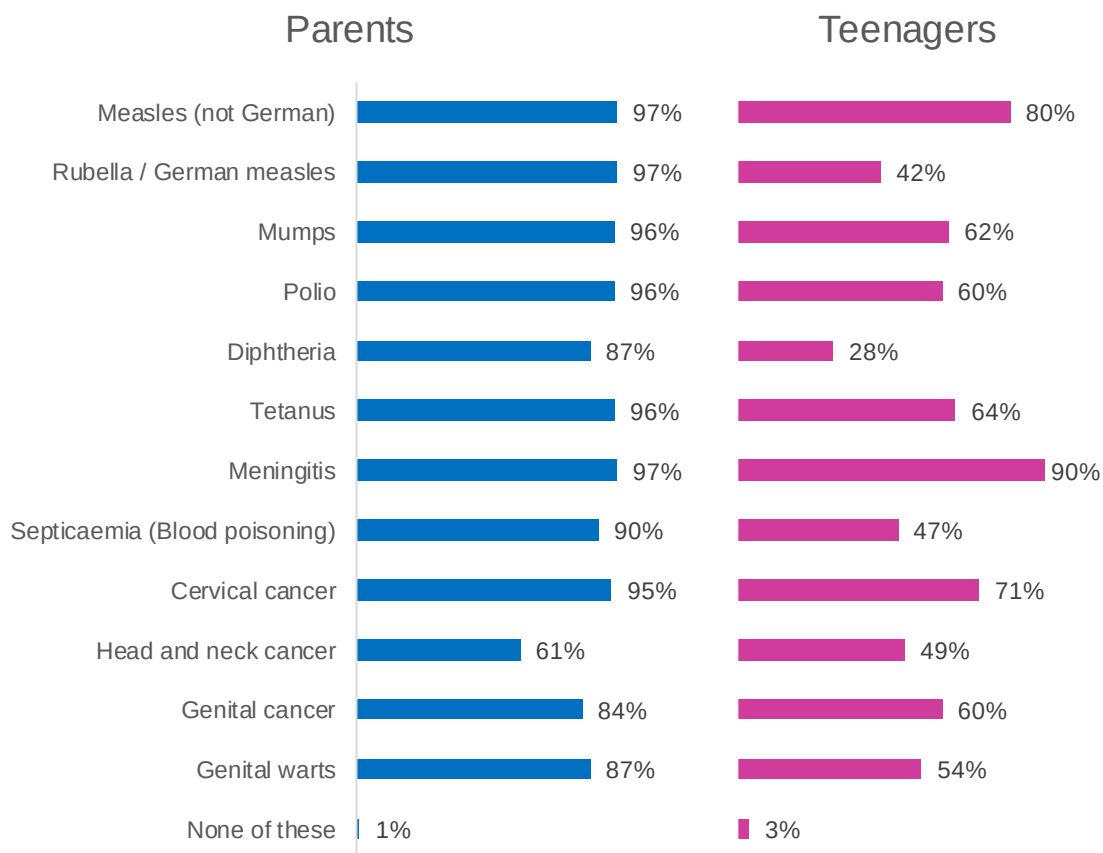
Figure 18: Could you please tell me how safe you personally feel each vaccination is? (All teenagers /parents who have heard of the vaccination)



5.7 Disease recognition

Recognition of the diseases that vaccines can prevent against is notably different among parents and teenagers. With the exception of head and neck cancer (61%) diphtheria (87%), genital warts (87%) and genital cancer (84%), more than nine in ten parents were aware of the diseases presented to them. Among teenagers, only for meningitis do 90% indicate that they have heard about the disease. For teenagers the diseases least commonly recognised are diphtheria (28%), septicaemia (47%) and head and neck cancer (49%).

Figure 19: Can I ask you whether you have heard of the following diseases? (All responses)

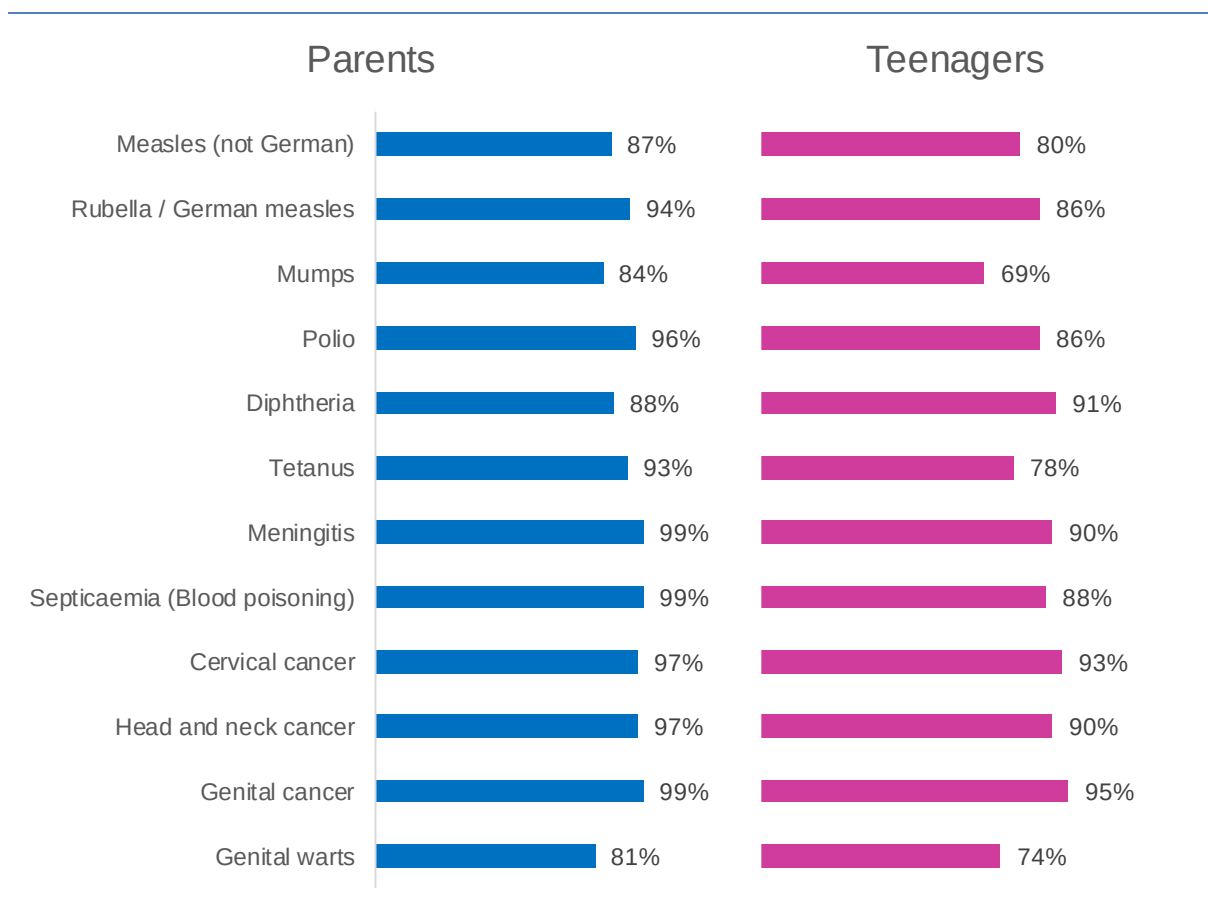


Unweighted sample bases: 159/158

5.8 Perceived severity of diseases

All parents and teenagers were then asked to rate how serious they feel it would be if they got each disease. Only those who were aware of each disease were asked about it. Among parents there is high recognition that each disease is potentially serious, with this understanding near universal for meningitis (99%) and septicaemia (99%) in particular. Among teenagers where a disease is heard of, a majority rate each as either very or fairly serious. However, in all but one instance the proportion of teenagers giving this serious rating is lower than the equivalent proportion among parents.

Figure 20: Can you tell me how serious you think it would be if you got each of the following diseases? (All responses) “Very Serious” / “Fairly Serious”

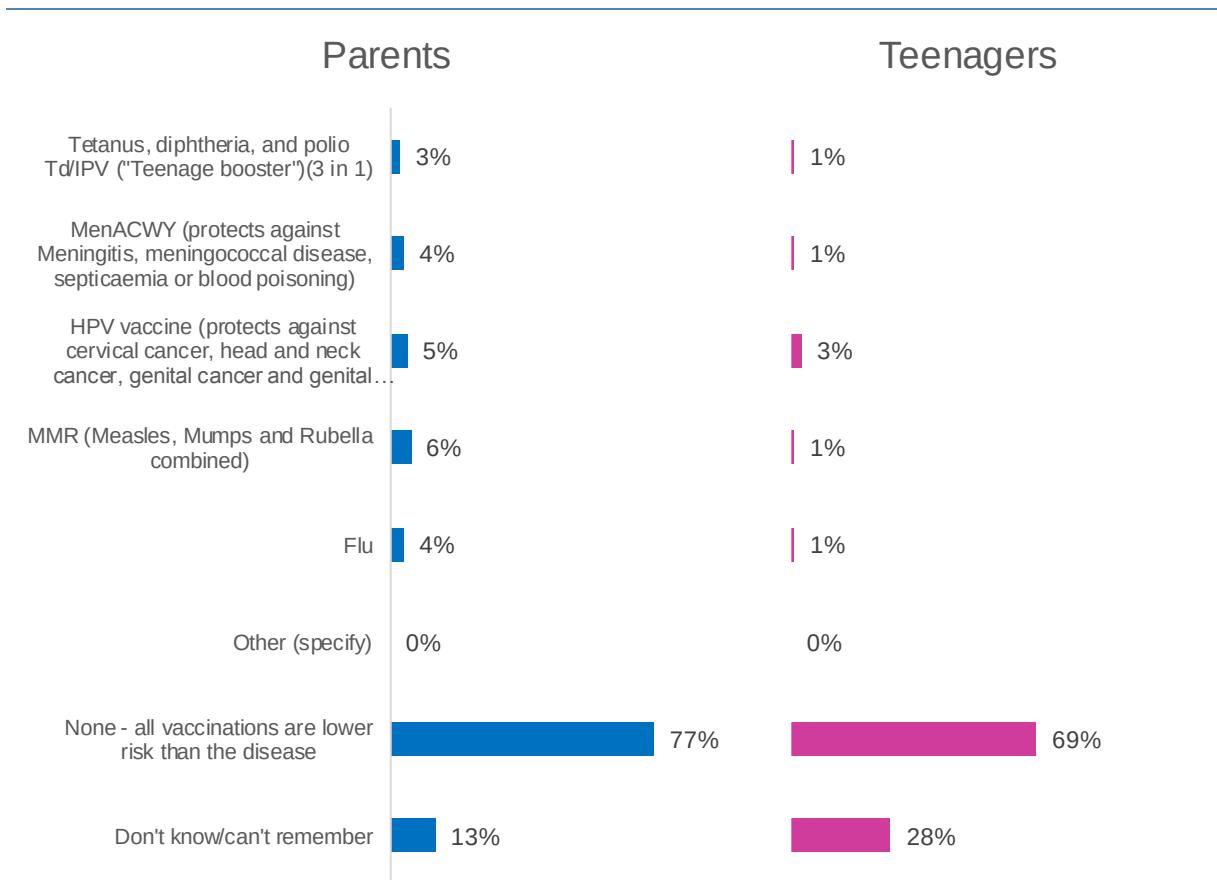


Among teenagers the diseases most commonly rated as very serious are genital cancer (89%), head and neck cancer (85%) and cervical cancer (also 85%). Among parents at least nine in ten described these cancers as very serious along with septicaemia (94%) and meningitis (95%).

5.9 Safety of vaccinations

In order to provide a proxy indicator of the risk assessments parents and teenagers are making in regards to vaccination, both samples were asked directly if they think there are any vaccines that are worse for teenagers than the disease. In response to being presented with all of the possible vaccinations for this age group, 77% of parents state that all vaccinations are lower risk than the associated disease(s). A further 13% answered don't know while the proportions identifying the vaccinations as riskier than the disease are in single digits. MMR is the vaccine most commonly identified by parents to have this risk profile (6%). Among teenagers, while the balance of opinion on vaccinations being less risky than the disease is positive, uncertainty is prominent with 28% answering don't know. This result is likely to reflect the uneven awareness of the diseases that vaccines prevent that has already been identified.

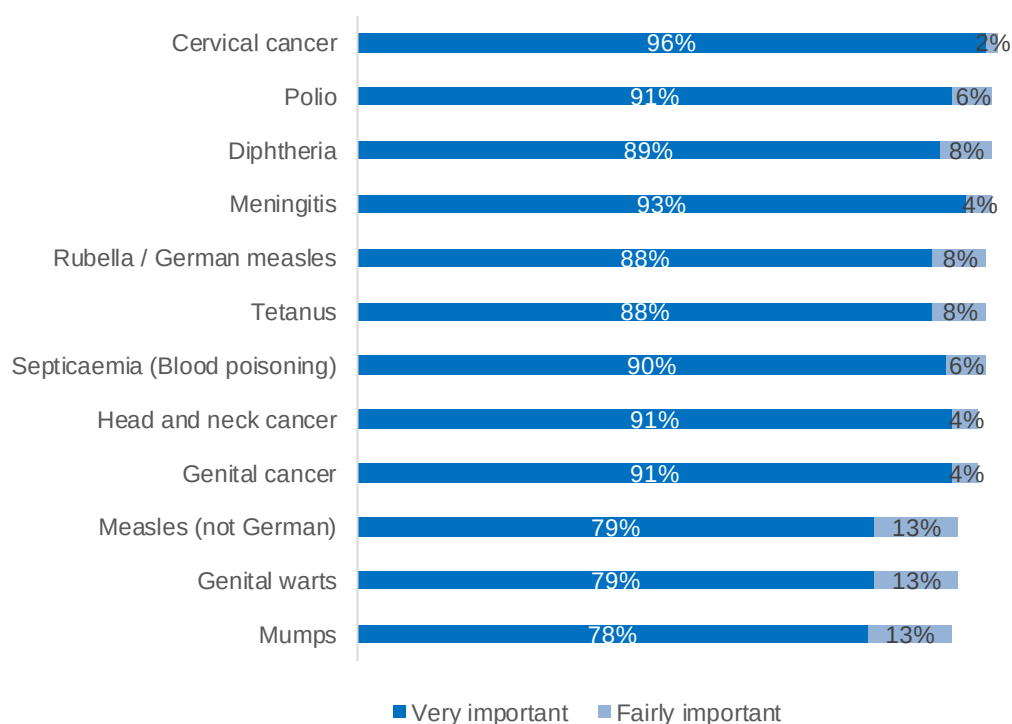
Figure 21: Do you think there are any vaccines that are worse for teenagers than the disease? (All responses)



Unweighted sample bases: 159/158

Reflecting the high recognition of the seriousness of the diseases that teenage vaccines protect against, at least nine in ten parents indicate that it is important that their teenager is protected against each disease. Furthermore, as shown by the figure below the vast majority of parents give the strongest response possible, "very important". Only in relation to measles, genital warts and mumps does the proportion answering very important dip slightly.

Figure 22: How important do you feel it is that your child aged 13 to 15 is protected against each disease? (All responses)



Unweighted sample base: 159

Combining the parental responses regarding disease seriousness and the importance of teenagers being vaccinated provides a priority indicator for each disease. These are provided below in descending order

- Meningitis: Serious and Important (99%);
- Septicaemia: Serious and Important (98%);
- Polio: Serious and Important (97%);
- Genital cancer: Serious and Important (97%);
- Head and neck cancer: Serious and Important (96%);
- Tetanus: Serious and Important (94%);
- Rubella / German measles: Serious and Important (93%);
- Diphtheria: Serious and Important (88%);
- Measles: Serious and Important (86%);
- Mumps: Serious and Important (83%);
- Genital warts: Serious and Important (79%).

6 Making a Decision

6.1 Pre-school age take up

All parents were asked if there were any vaccines that they decided one or more of their teenagers aged 13-15 years should not have as a baby or before they started school. In response, only 4% said they did not have one or more vaccination. Among the remainder 95% of parents indicate that up until starting school their child had all of their vaccinations, with just 1% answering don't know. The 4% equates to 7 respondents, so the follow up questions on which vaccinations they did not have and the explanatory factors cannot be reported on due to an insufficient base size. While it is unsound to report the numbers from this question it can be seen that MMR vaccine is among the most prominent of the vaccines that were not taken.

6.2 Teenage vaccination take-up

In order to provide accurate insight into vaccine uptake at the teenage phase, the next set of questions were asked specifically to girls starting Year 9, 10 or 11 and boys starting years 10 and 11. Among parents with children meeting this criteria a clear majority, 96%, indicate that their teenager(s) had all vaccinations done when offered.

Among the remainder in Wales 2% of parents indicate that they have postponed at least one vaccination. Refusal of the following teenage vaccines is reported by no more than 1% of parents in each instance:

- Tetanus, diphtheria, and polio Td/IPV ("teenage booster") ("3 in 1");
- MenACWY (Meningitis, meningococcal disease, septicaemia or blood poisoning);
- HPV vaccine (Cervical cancer);
- MMR (Measles, Mumps and Rubella combined).

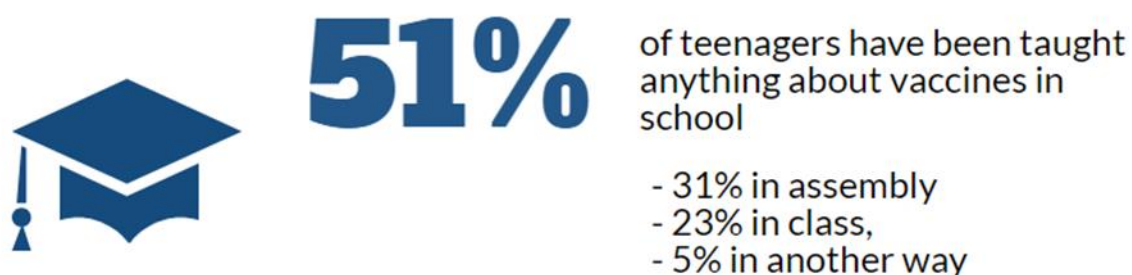
The responses from the teenage data corroborate this high uptake, albeit with some numerical variation relative to the parental responses. Ninety percent of teenagers indicate that they have had all vaccinations done when offered.

Among the remainder, 5% indicated that they had not, 3% said don't know and 2% indicated that, despite their eligibility in terms of age, they had not been offered any vaccinations. Once those who have not been offered a vaccine and those who answered don't know are removed from the sample base, and the percentages are re-calculated, the proportion who answered yes (full uptake) rises to 95%, in line with the parent's data. Among all teenagers the highest refusal is found in relation to the HPV vaccine (2% of all teenagers who have been offered a vaccine).

6.3 School as a source of vaccination information

Just over half of teenagers (51%) indicate that they have been taught anything about vaccines at school. Most commonly this was done in assembly (31%), with 23% of teenagers having also covered this in class.

Figure 23: Have you been taught anything about vaccines at school (All teenagers)

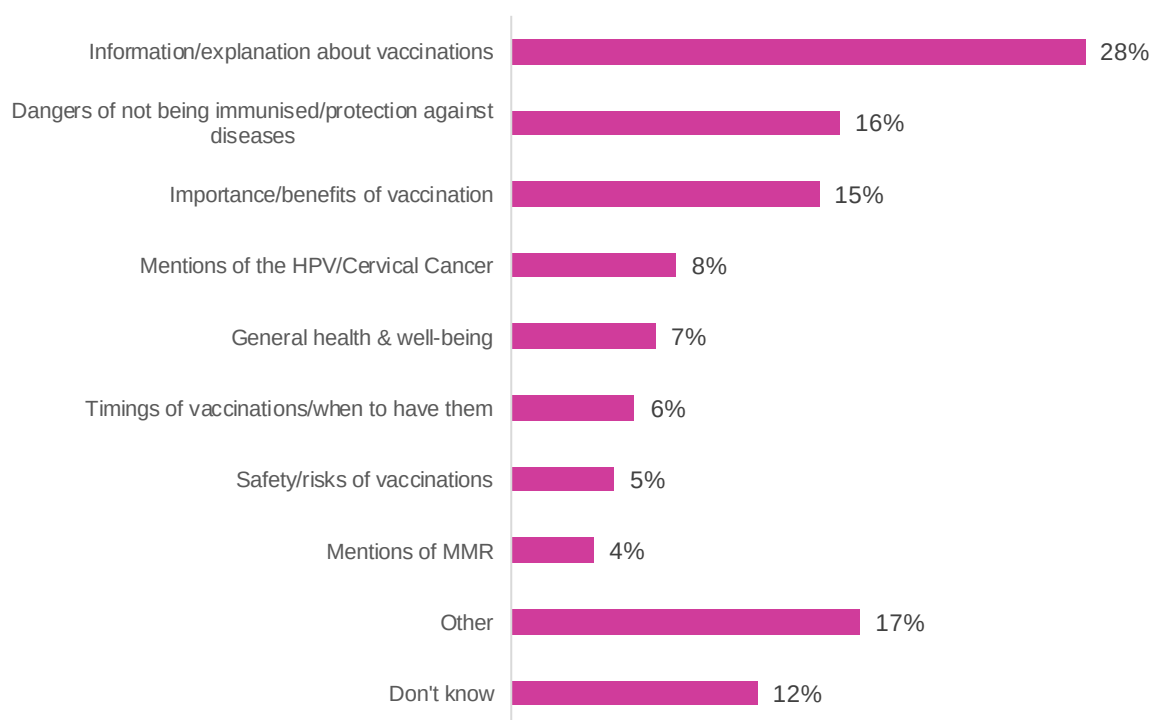


Unweighted sample base: 158

Delivery of this school-based information most commonly was carried out by teachers (52%), followed by a school nurse (37%) and head teachers (22%).

When asked to describe in their own words the nature of what they were taught in school the most common response was that these sessions provided information/explanation about vaccinations (28%). Other messages that are recalled include the dangers of not being immunised against diseases (16%) and the importance/benefits of vaccination (15%). HPV is the individual vaccine that was most commonly mentioned in these responses. All of the main themes in the responses to this question are shown in the figure overleaf.

Figure 24: Recalled messages from school teaching about vaccines (All teenagers who have received teaching on this)



Unweighted sample size: 77

Among all teenagers, nine in ten (93%) feel that it is important that they get vaccinated, and 75% gave the most positive response of very important.



Probing these responses in more detail shows that agreement is at or above the nine in ten level for those in Year 9 (91%), Year 10 (95%) and Year 11 (93%). However, there is a variation by gender, with 89% of males indicating this is important, compared to 98% of females.

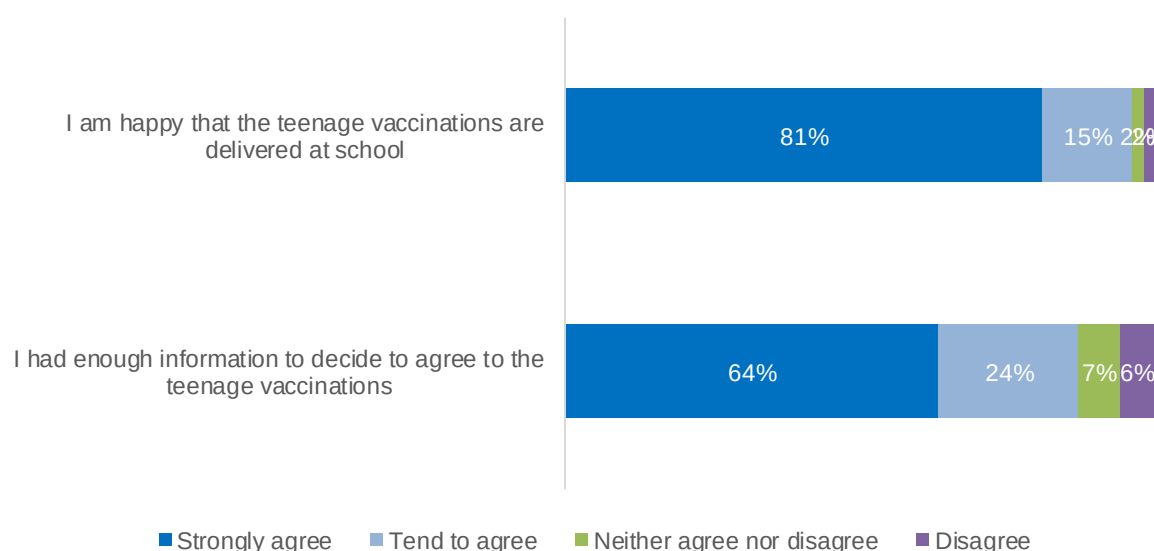
Among teenagers who recall seeing anything about vaccinations 99% indicate that they feel it is important to get vaccinated. Among those who do not recall messages on this subject this agreement drops to 87%. While causation cannot be proven here, it is reasonable to suggest that exposure to messages on immunisation are more likely to be reinforcing rather than eroding understanding of vaccination importance. (As outlined above, female teenagers are more likely to recall publicity among vaccinations, so this relationship contributes to higher levels of females than males indicating that vaccination is important.)

6.4 Parental satisfaction with immunisation programme

Among parents who have had their children offered a vaccine there appears to be strong endorsement of the way the immunisation programme is delivered. In total 96% of parents are happy that teenage vaccinations are delivered at school. This includes 81% who give the most positive response of very satisfied. For reference, 86% of eligible teenagers indicate that they have had a vaccination in schools while 17% have had one at a GP practice. Please note that more than one response was possible at this question given the number of vaccines available for this age group.

Furthermore, just under nine in ten (88%) parents agree that they had enough information to decide whether to agree to teenager vaccinations. Among the remainder, 6% disagree to some extent that this was the case. However, given the level of uptake described above, these perceptions regarding the level of information provision do not appear to be translating into reluctance for teenagers to be immunised.

Figure 25: To what extent do you personally agree or disagree with each of the following statements concerning teenage vaccination? (All whose teenager was offered a vaccine)



Unweighted sample base: 124

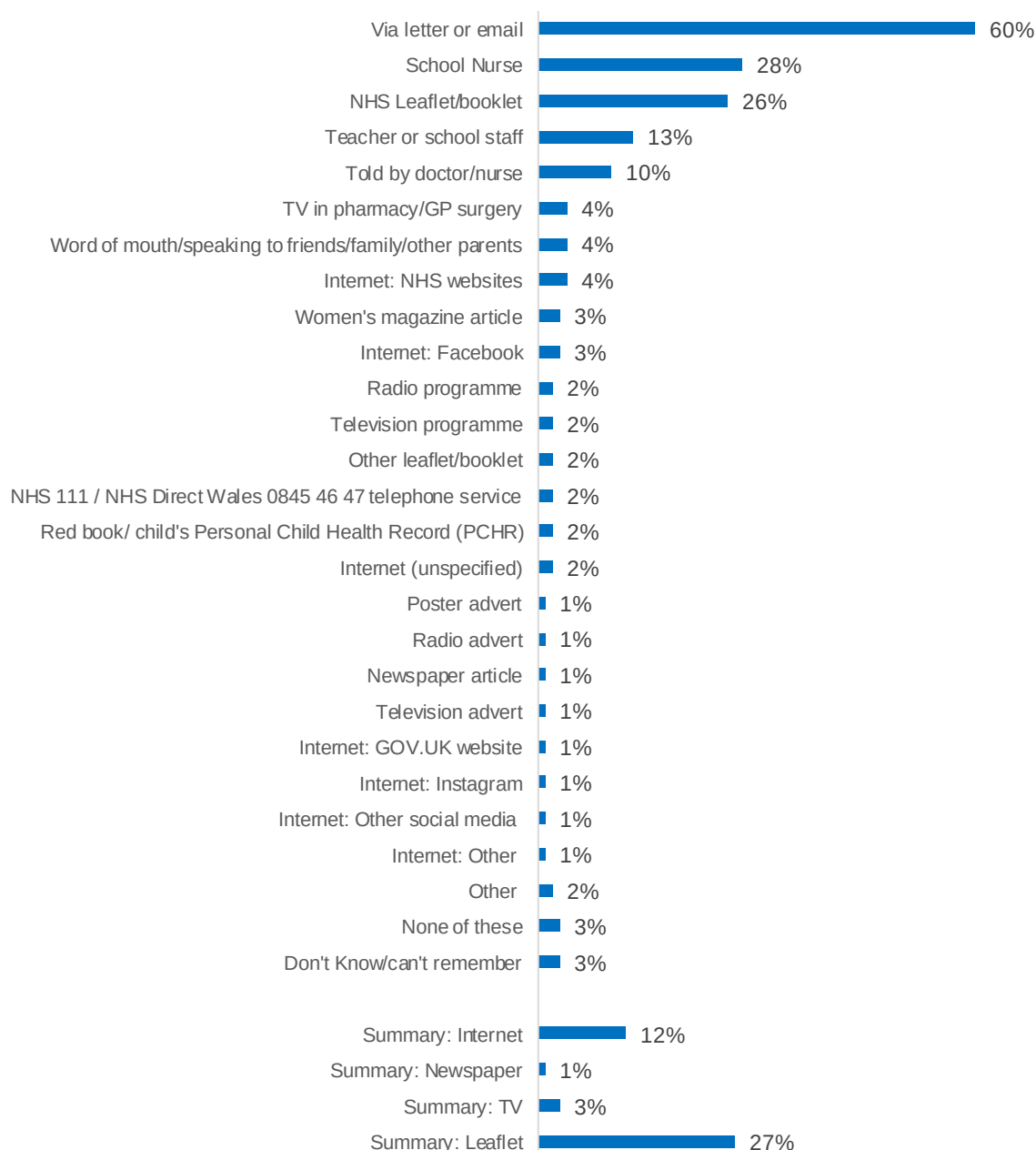
6.5 Sources of information

Both parents and teenagers were asked to indicate where they got information about vaccinations, at the point at which their child/they were making decisions about whether to have them. The purpose of these questions was to identify the relative prevalence of official and reliable sources of information along with levels of interaction with sources that may have a greater propensity to be inaccurate.

Among parents, the top three sources of information used when a teenager was offered a vaccination are all reliable ones, namely: school letter or email (60%), a school nurse (28%) and an NHS leaflet/booklet (26%). A further 13% mentioned teachers and 10% mentioned information directly from a doctor or nurse. In total, 12% mentioned using

information from the internet. Within this, the single largest online source was NHS websites (4%) followed by Facebook (3%). Among parents it is notable that there were no mentions of such sources as Twitter, WhatsApp, Snapchat and Netmums despite these being possible options presented to parents to choose from. While the figure below shows that there are multiple information channels that provide information about vaccination, it is clear that the sources that PHW would endorse are those that are having the greatest reach to parents.

Figure 26: Thinking about the teenage vaccinations that they have been offered, did you get information about these vaccinations from any of these sources? (All those whose teenagers have been offered vaccination)

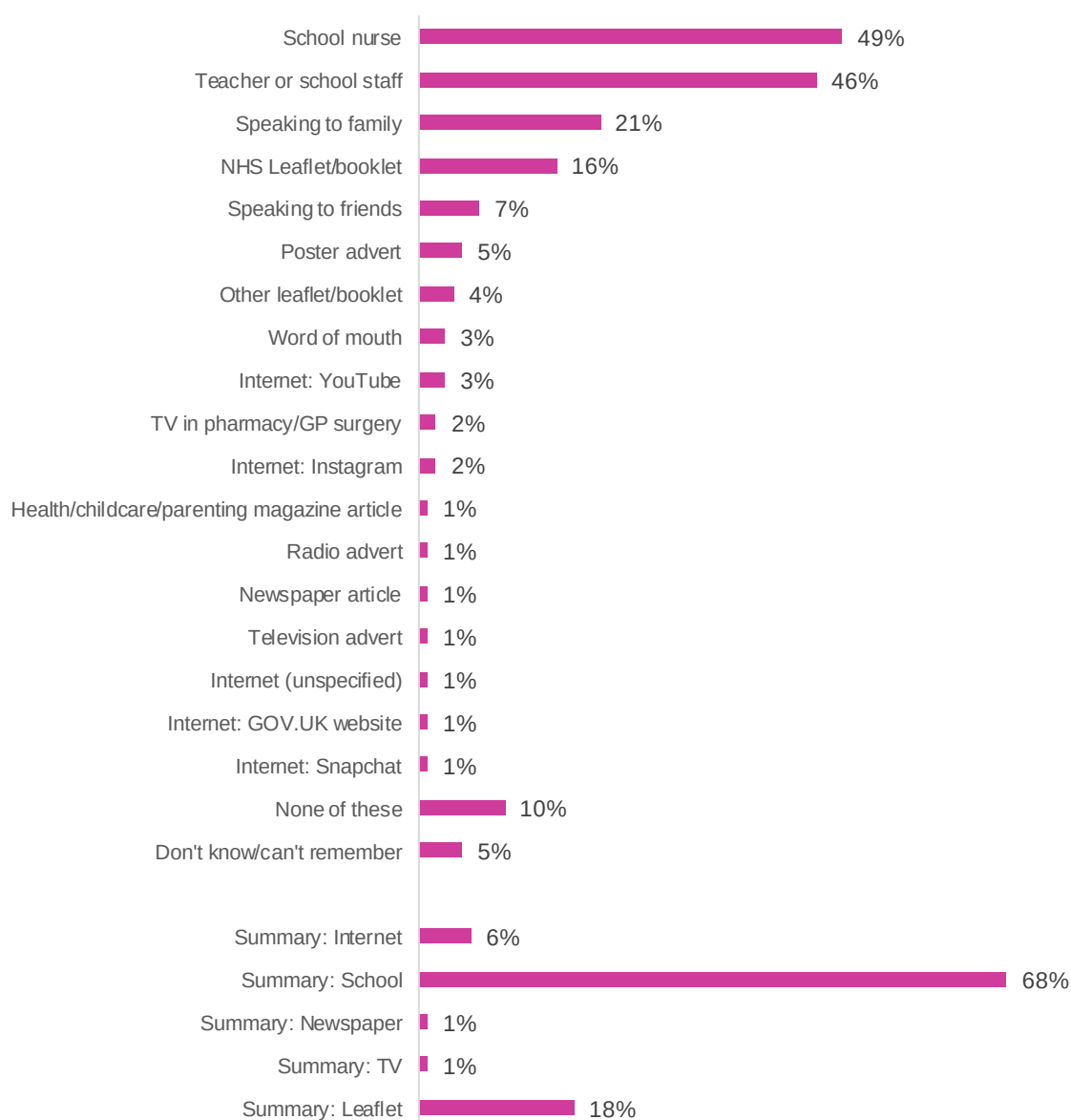


Unweighted sample base: 124

Looking at the same responses from teenagers, fewer information sources were mentioned overall relative to parents. It is also notable that one in ten (10%) said they did not get information from any sources. It is difficult to ascertain from this data whether this particular proportion is driven by choice or by a lack of available information. However, the prevalence of letter and school-related mentions in the parents' data would suggest it is more likely to be the former. The most commonly mentioned sources of information about teenage vaccination among teenagers are school nurses (49%) and teachers or school staff (46%), followed by speaking to family (21%). A further 16% mentioned an NHS leaflet/booklet.

Relative to parents the proportion of teenagers using internet-based sources is lower (6% cf. 12%). Within this the most common internet source used by teenagers for vaccination information is YouTube (3%).

Figure 27: Did you get information about teenage vaccination from any of these sources? (All those who have been offered vaccination)



Unweighted sample base: 119

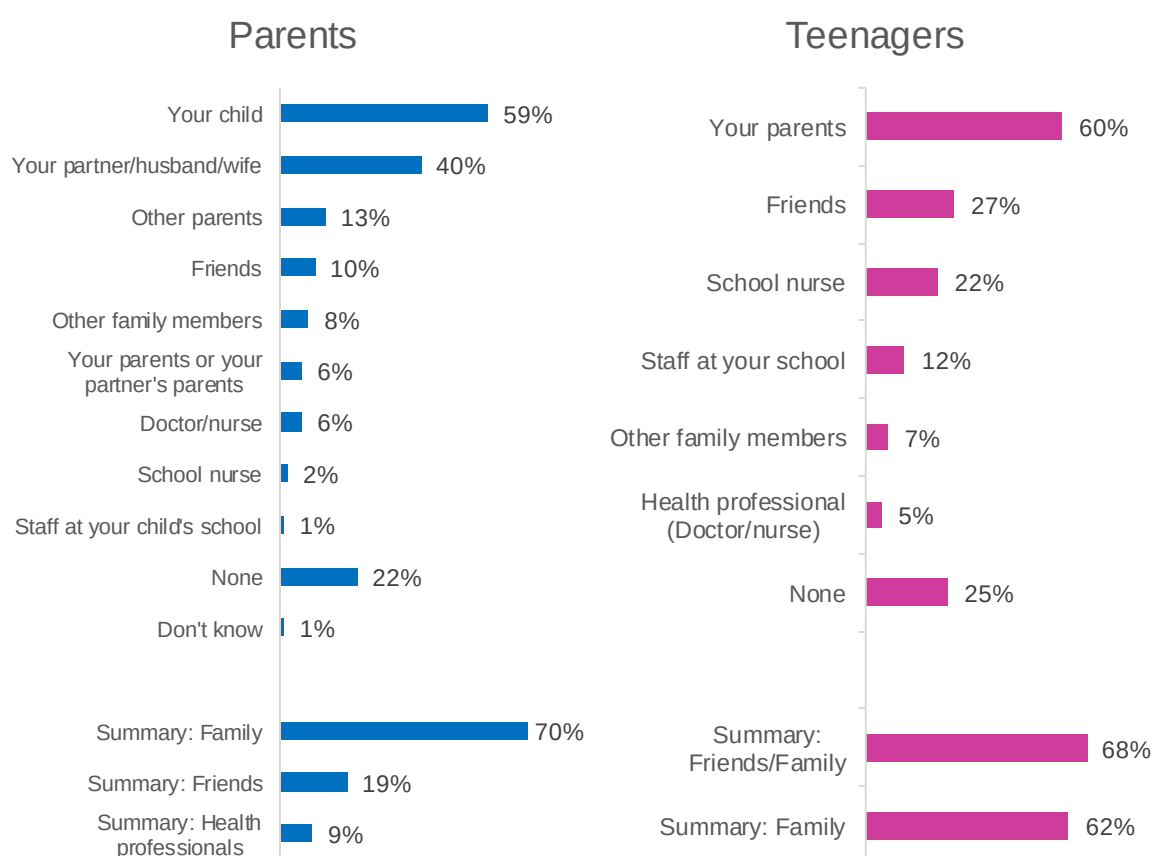
6.6 Discussions

Both parents and teenagers were asked what types of discussion had taken place when they were most recently offered a teenage vaccination.

Among parents whose child has been offered teenage vaccines, six in ten (59%) indicate that they have discussed teenage vaccinations with their child. Two in five (40%) have discussed this topic with their partner, while 13% have done so with other parents and 10% have done so with friends. In total 9% of parents with teenagers who have been offered vaccinations have had discussions about this subject with health professionals.

Reassuringly, six in ten teenagers also indicate that they have discussed this topic with their parents, so this percentage from the two survey samples aligns. Among the teenager sample, 27% have discussed this topic with friends and 22% have done so with a school nurse. It is however notable that 25% of teenagers state that they have not discussed this topic with anyone. The proportion of male teenagers who have not had such a discussion is higher at 36% compared to 17% of females.

Figure 28: Have you discussed teenage vaccinations with anyone? If so, was this...? (Where offered teenage vaccination)



Unweighted sample bases: 124 /119

Among those who have had teaching about vaccination at school the proportion of teenagers who say that they have not had a discussion about this is 19%. Among those who have not engaged with this subject at school the equivalent proportion is higher at 33%.

Probing the interactions between parents and teenagers regarding immunisation (for the last one offered) shows that these conversations were most commonly characterised by talking about the diseases that the vaccine was protecting against (72% of parents 61% of teenagers). Consideration of whether or not to have the vaccine was mentioned by a third of parents (32%) and a quarter (26%) of teenagers. In total, 16% of parents mentioned discussing the reactions and choices of friends, indicating that there may be some influence from peers on this issue. One in eight of both samples (13%) seem to suggest that discussion on this subject was minimal, not stretching beyond the completion of the consent form.

Table 3: Nature of discussions around most recent vaccination (Those whose teenager has been offered a vaccination)

Parents	%
Yes, we talked about the diseases that the vaccine was protecting against;	72%
Yes, we talked about whether or not they should have the vaccine;	32%
Yes, we talked about what their friends had said and whether their friends were getting the vaccine;	16%
Yes, we talked about why I didn't feel they should have the vaccine;	1%
Yes, we talked about why I wanted them to have the vaccine;	21%
No, we didn't talk about it I just consented and gave them the form;	13%
No, we didn't talk about it I just did not provide consent;	4%
Don't know	1%
Teenagers	
Yes, we talked about the diseases that the vaccine was protecting against	61%
Yes, we talked about whether or not I should have the vaccine	26%
Yes, we talked about what my friends had said and whether they were getting the vaccine	8%
Yes, we talked about why my mother/father didn't feel I should have the vaccine	3%
Yes, we talked about why my mother/father wanted me to have the vaccine	15%
No, we didn't talk about it, my mother/father just gave me the permission form	13%
No, we didn't talk about it, my mother/father just did not provide permission	8%
I never showed my parents the information so they didn't know that the vaccine was being offered to me.	0%
Don't know	5%

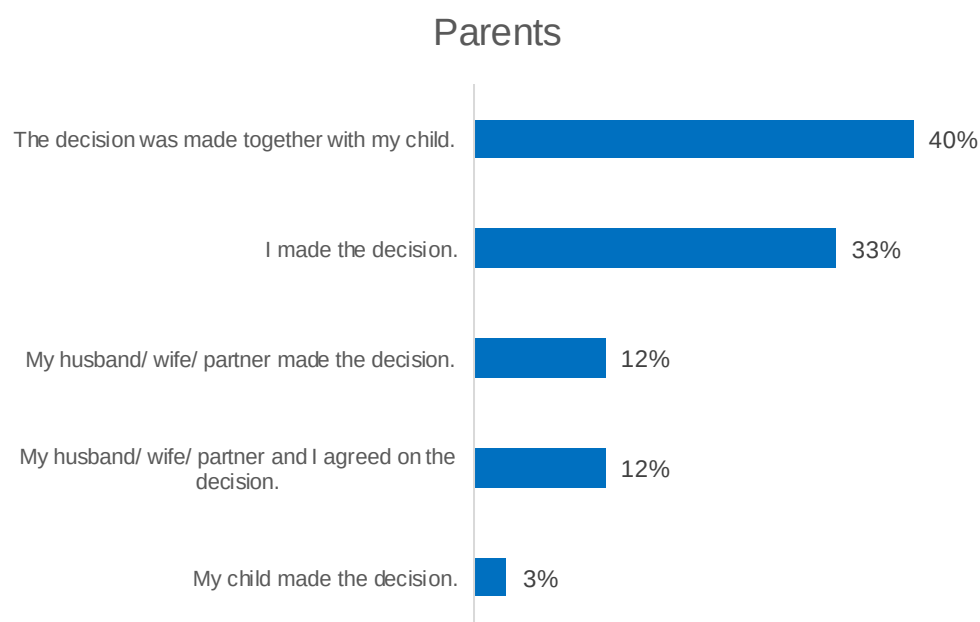
The proportion of teenagers who selected the 'no' responses at this question, indicating that they didn't have detailed discussions with their parent is 29% among males compared to 16% among females. There were no instances where the teenager stated that they never showed their parents the information so that they didn't know that the vaccine was being offered.

6.7 Decision making and the consent process

This section explores how parents and teenagers make their decisions about whether or not to accept the vaccinations offered to them, including the dialogue that takes place within households.

When describing the way in which it was decided whether the teenager should receive the vaccine on offer, two in five parents (40%) indicate that this was a collaborative process, with the decision being made with their child. Less than one in twenty (3%) indicated that the teenager made the decision, with the remaining 57% indicating that this decision making was parent led. The equivalent 2018 figures from England have been included below for reference. This comparison suggests that decision making is more collaborative in Wales, albeit with a lower proportion of children making vaccination uptake decisions themselves.

Figure 29: How would you describe the way in which it was decided whether your child in this instance received the teenage vaccine that was offered? (Where teenager offered vaccine)

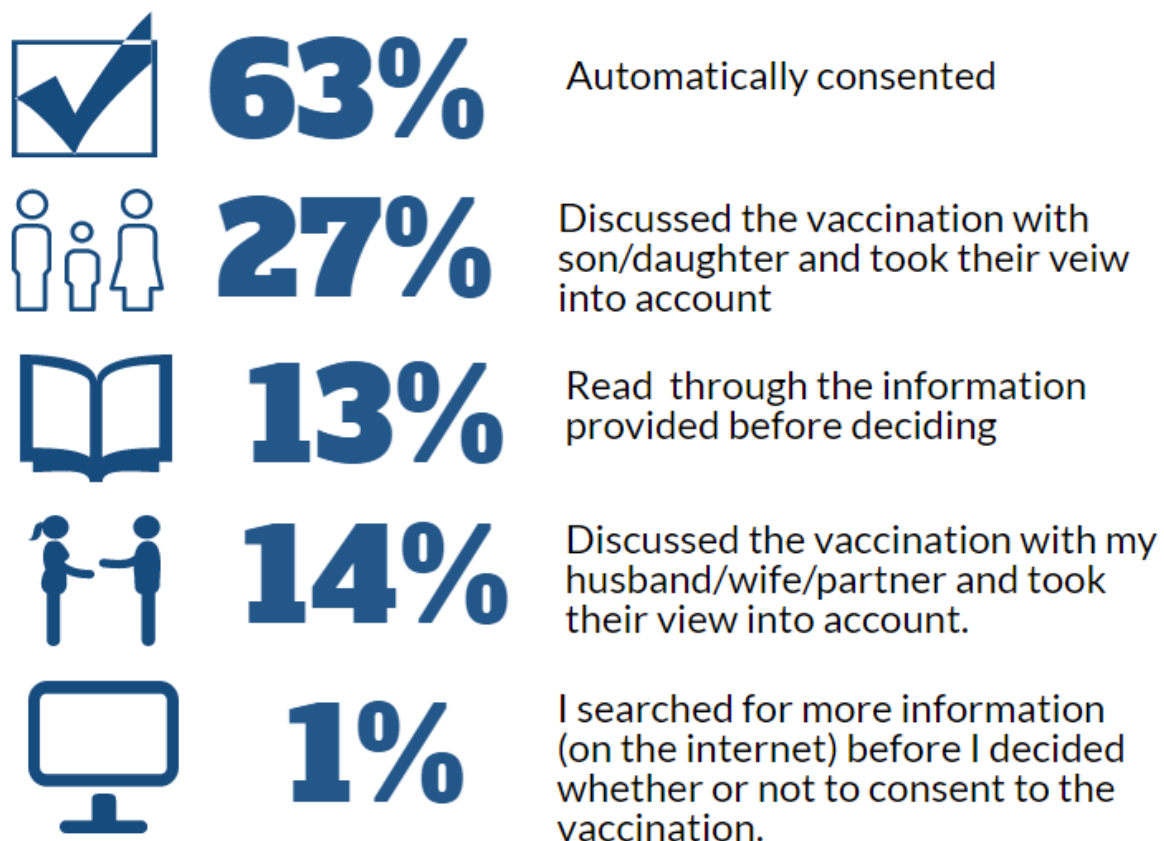


Unweighted sample base: 106

Among parents whose child received a vaccination at school, at the point at which they were asked to provide consent for their child's vaccination 63% automatically consented. As this automatic reaction was most common, this provides a further indication of the understanding parents have of the risks posed by diseases and the associated importance of vaccination. This automatic response was equally likely among both socio-economic grouping, ABC1s (62%) and C2DEs (64%).

Thirteen percent of parents at this decision-making juncture mentioned referring to the information provided before deciding. Only 1% indicated that more information was needed and that they sought to fill this gap via an internet search.

Figure 30: Considering the most recent time you were asked to provide consent for your child's teenage vaccination, which of the following best describes how you made the decision? (All those whose teenager has been offered a vaccination at school)



Unweighted sample base: 106

Among parents there does seem to be a gap in awareness that their child has the right to give their own consent to have a teenage vaccine offered, regardless of their parental decision. While 32% of parents who have had their teenager offered a vaccine were aware of this, 69% were not aware of this. Even among those who have discussed teenage vaccines with a health professional, this awareness is still found among a minority of parents.

Among teenagers, knowledge of their consent powers is slightly stronger albeit still a minority at 48%. Awareness that if a teenager understands enough to make the decision for themselves, they have the right to decide to have a teenage vaccine, without seeking permission from their parent is below the 50% level among all year groups (Year 9: 37%, Year 10: 45%, Year 11: 46%).

Approaching two in five teenagers who have been offered a teenage vaccination have never been asked to provide permission for their own vaccinations (38%). In terms of consent preferences, only a minority of teenagers would like to be able to provide permission for their own vaccinations. More than twice as many (43%) would prefer their parents to provide this permission, while two in five (40%) don't mind who gives this

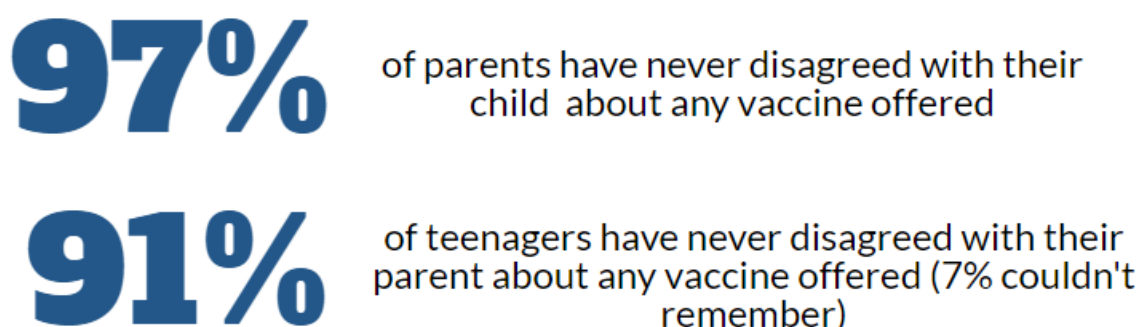
permission. The table below shows the balance of opinion on these preferences by gender and school year.

Table 4: Which of the following best describes your current view on permission? (All teenagers who have been offered a vaccine)

	Total	Female	Male	Year 9	Year 10	Year 11
I would like to be able to provide permission for my own vaccinations	17%	17%	18%	21%	13%	19%
I would prefer my parents to provide permission for my vaccinations	43%	50%	33%	44%	40%	45%
I don't mind whether it is me or my parents who give permission for my vaccinations	40%	34%	49%	34%	46%	36%
Unweighted Bases	119	80	39	30	45	44

6.8 Disagreement

The question that was included in the survey to probe the levels of household disagreement regarding vaccine uptake shows high levels of consensus between parents and teenagers who have been offered a vaccine. Ninety seven percent of parents state that they have never disagreed on any vaccine. Among teenagers this proportion is lower at 91%. This difference is due to 7% of teenagers answering 'can't remember' with only 2% of teenagers indicating that there was disagreement.



Unweighted sample base: 124 /119

While a question was included in which respondents could specify which vaccines parents and teenagers disagreed about, the sample sizes of 4 in the parents sample and 2 in the teenagers sample prohibits further analysis of this.

Further evidence that parents and teenagers tend to agree on whether or not to take the vaccines that are offered to them is shown by the fact that only 1% of parents state that there has ever been an instance where their child had a teenage vaccination when they preferred that they did not have it.

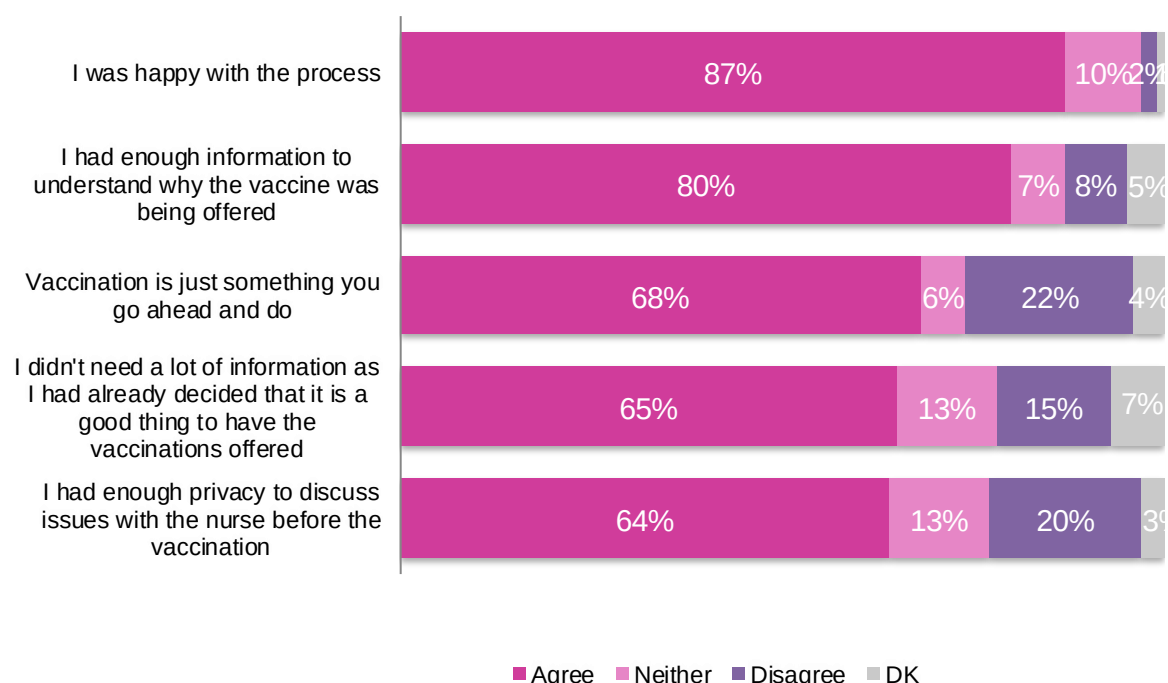
7 Vaccination Experiences among Teenagers

When reflecting on their experiences of being vaccinated as a teenager, those in the teenager sample are generally positive. Over eight in ten teenagers who were offered a vaccine agree that they were happy with the vaccination process (87%) and that they had enough information to understand why the vaccine was being offered (80%). In the case of the latter, it is female teenagers who are more likely to agree (88%), compared to their counterparts (male teenagers; 68%) that they had enough information. Overall, 8% of teenagers indicated they did not have enough information.

Around two thirds of teenagers agree that the vaccination is just something you go ahead and do (68%) and that they didn't need a lot of information (65%). However, the fact that 22% disagree that vaccination is something that you just go ahead and do suggests that information provision and reinforcement is required for some to provide the required assurances in terms of benefits versus risks.

Six in ten (64%) teenagers said they had enough privacy to discuss issues with the nurse, but one in five (20%) did not. Teenagers aged 13 are most likely to agree they had enough privacy (75%), compared to those aged 15 (60%), suggesting that privacy issue may be more of a concern for older teenagers.

Figure 31: How much do you agree or disagree with each of the following statements about teenage vaccination? – Positively worded statements (All teenagers)



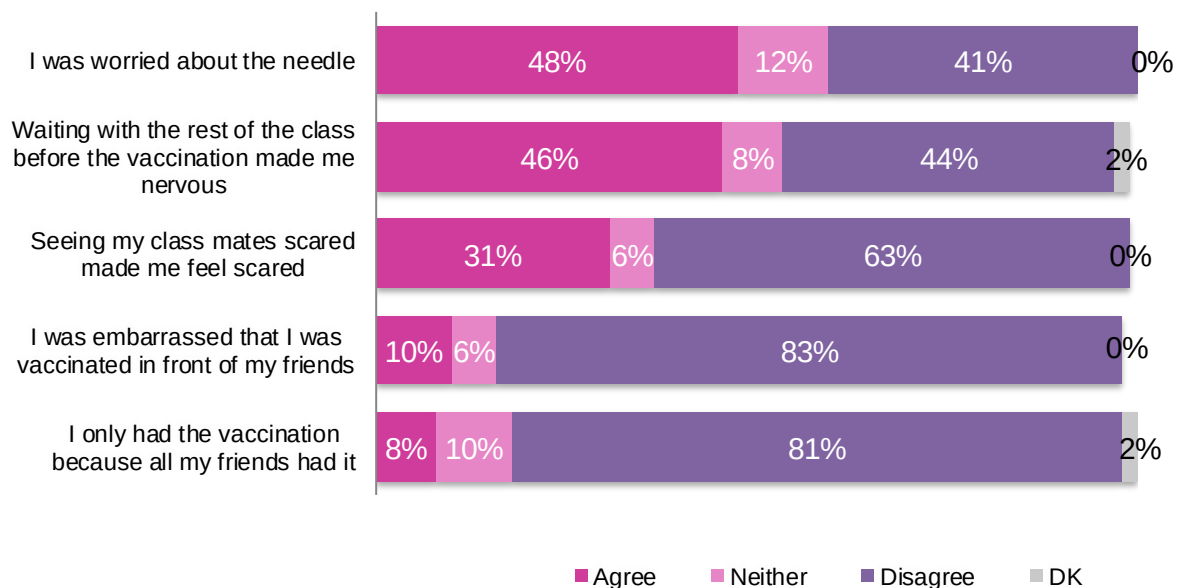
Base: Where offered any teenage vaccine (at school); Teenagers (>107)
PQ10 and TQ7

The responses to the negative worded statements presented to the teenage sample are provided in the figure below. The nature of the wording used here means that high disagreement is the optimum result.

Encouragingly, less than one in ten teenagers felt embarrassed that they were vaccinated in front of their friends (10%), suggesting that the school delivery setting is not overly detrimental to the overall experience. Furthermore, only 8% said that they only had the vaccination because their friends did. By implication 81% were therefore doing so because of their own choice rather than any sort of peer pressure or desire for conformity.

Nearly half of the teenagers were worried about the needle (48%), with this proportion higher amongst females (59%) and lower amongst males (31%). Those in Year 9 were more likely to be worried (68%) about needles, especially compared to those in Year 11 (35%). Approaching half of teenagers agreed that waiting with the rest of the class before the vaccination made them nervous (46%), which rises to 57% amongst females and drops to 28% amongst males. Again, it is females that are more likely to agree that seeing their class mates made them feel scared (43%), compared to 31% total and 11% of males.

Figure 32: How much do you agree or disagree with each of the following statements about teenage vaccination? Negatively worded statements (All teenagers)



Base: Where offered any teenage vaccine (at school); Teenagers (>108)
PQ10 and TQ7

When asked to consider their last vaccination, 72% of teenagers do not think that anything could have been done better. Among the 14% who thought that there could have been improvement, the key themes were:

- More information/explanation;
- More privacy/vaccination to be done individually (one-to-one).

8 Vaccination Perceptions and Trust

In order to capture how the vaccination experiences of teenagers and the receipt of information on this subject translate into general perceptions, both parents and teenagers were presented with a number of attitudinal statements towards the end of the survey. These statements sought to tease out the levels of trust in the vaccination as a concept, as well as trust in the advice on this subject that is received via different communication channels.

Figure 33 overleaf shows the perceptions of both teenagers and parents when thinking about vaccinations. Generally, perceptions are positive, with over eight in ten agreeing with each positive statement, and parents appearing to be slightly more positive than their children.

Critically, nine in ten teenagers and parents trust vaccines (90% and 91% respectively). In fact, over half strongly agree that this is the case (53% amongst teenagers and 58% amongst parents).

Both samples believe in the efficacy of vaccinations. Nine in ten teenagers agree that vaccines work (90%). Furthermore, 95% of parents think the vaccines work. Slightly fewer agree that vaccines are safe, but still 87% agree amongst teenagers and 90% amongst parents.

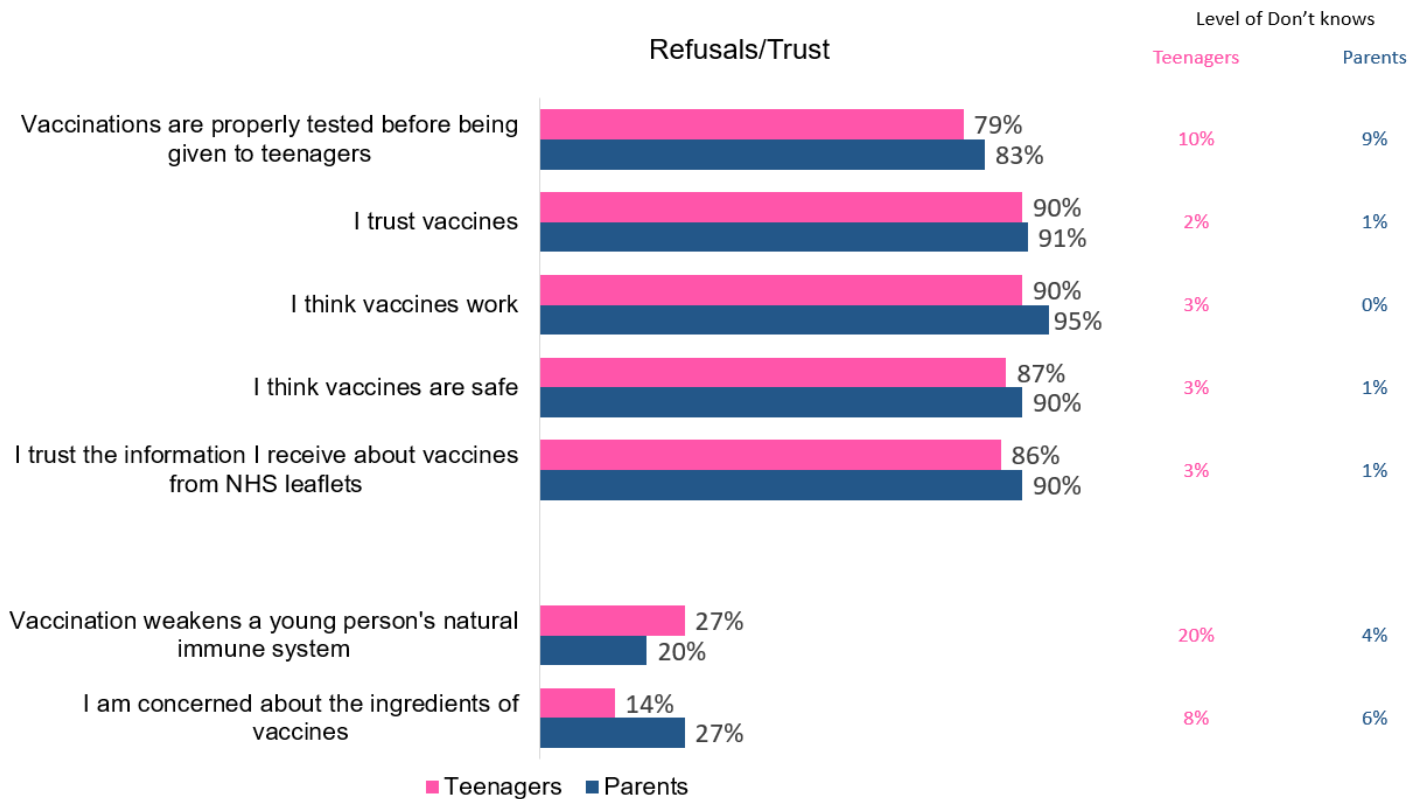
Probing this safety issue further, there is no significant variation between ABC1 or C2DE respondents. However, it is noticeable that agreement on vaccine safety drops to 59% among those who recall scare stories that have made them worried about vaccination. Careful interpretation is required here as the PHW dataset is insufficiently large to unpick whether these lower safety perceptions are driven by these messages or whether these individuals already have heightened concerns that adverse messages reinforce.

The proportion that state they 'do not know' in terms of vaccinations being properly tested before being given to teenagers, is around one in ten (10% for teenagers and 9% for parents), suggesting a relative lack of awareness regarding the testing process.

Looking at the negatively worded questions, teenagers are more likely to agree that vaccination weakens a teenager's natural immune system than parents (27% cf. 20%). There is a higher proportion that state they 'do not know' at this question amongst teenagers than parents (20% cf. 4%).

Parents are more concerned about the ingredients of vaccines compared to teenagers (27% cf. 14%).

Figure 33: I'm now going to read out some things that other people have said about vaccinations for teenagers. Please tell me how much you agree or disagree with each one. % Agree



Base: All Parents (>145) and All Teenagers (>127)
PQ41 and TQ30

Both parents and teenagers were then asked how much they trust advice on vaccinations provided by various sources. Responses show extremely high trust (over nine in ten) among both groups in the information provided by health professionals and the NHS. Continued use of the trusted NHS branding on information on this subject is recommended given that trust in the Government is comparatively lower (76% among teenagers, 75% among parents).

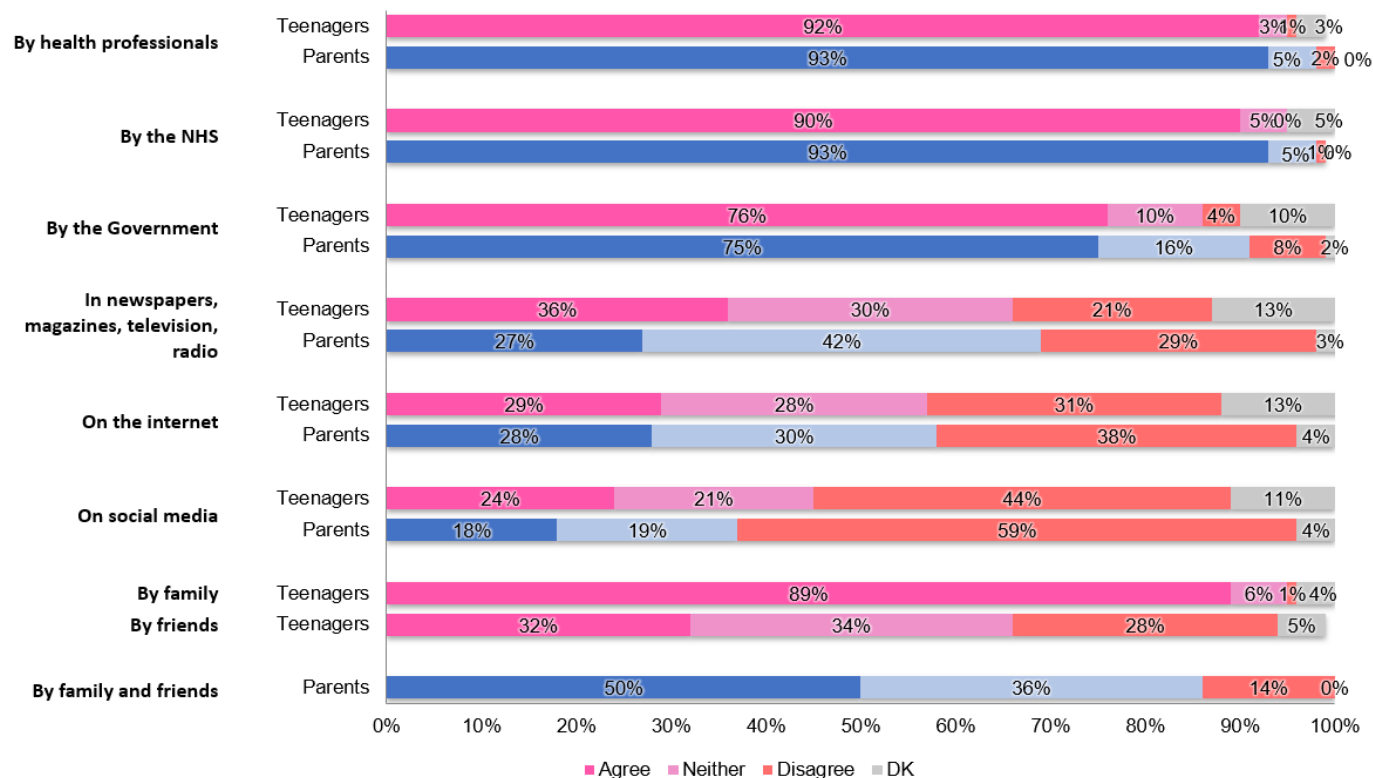
When considering their trust in alternative sources, such as traditional media, the internet and social media, trust levels are lower, suggesting a higher degree of scepticism for information received via these channels. However, a third of teenagers (36%) do trust advice given by newspapers, magazines, television and radio as do 27% parents.

When considering social media, (the channel with perhaps the greatest potential for misinformation), the highest proportion of both parents and teenagers are mistrustful (59% of parents compared to 44% of teenagers). However, one in four (24%) teenagers do trust the information they receive via social media.

Teenagers are much more likely to trust advice on vaccinations from their family (89%) compared to their friends (32%), with nearly three in ten disagreeing they can trust advice from friends (28%). Additionally, half of parents agree they can trust advice on vaccinations by family and friends (50%), with 36% that state they neither agree nor

disagree. As has been shown elsewhere in this report, the incidence of disagreement between parents and their children in relation to vaccinations is generally low.

Figure 34: Please tell me how much you agree or disagree with each of the following statements. I trust the advice on vaccination given...



Base: All Parents (>152) and All Teenagers (>137)
PQ42 and TQ31

9 Sample profile

Table 5: Profile of parents

Parents	Weighted N	Weighted %	Unweighted N	Unweighted %
Gender				
Female	123	77%	124	78%
Male	36	23%	35	22%
Age				
16-34	29	18%	29	18%
35-44	67	42%	68	43%
45+	61	40%	60	38%
SEG				
ABC1	68	44%	69	43%
C2DE	86	53%	85	53%
Ethnicity				
White	153	97%	153	97%
BME	6	3%	6	3%
Employment status				
Working	100	63%	100	63%
Not working	59	36%	58	36%
Qualifications				
No qualifications	23	15%	23	14%
GCSE/O-Level/CSE/NVQ1/NVQ2/A-Level/NVQ 3,4,5	99	63%	100	62%
Degree or above	30	19%	30	19%
Marital status				
With partner	112	70%	113	71%
Single/Widowed/Divorced/Separated	46	30%	46	30%
Disability				
Yes	12	8%	12	8%
No	147	92%	147	92%
Religion				
Christian	77	48%	76	48%
Muslim	4	2%	4	3%
Other	1	1%	1	1%
No religion	78	49%	78	49%

Table 6: Profile of Teenagers

Teenagers	Weighted N	Weighted %	Unweighted N	Unweighted %
Gender				
Female	77	49%	78	49%
Male	81	51%	80	51%
School year				
Year 9	52	33%	67	42%
Year 10	53	34%	46	29%
Year 11	53	34%	45	28%
SEG				
ABC1	65	43%		
C2DE	85	56%		
Ethnicity				
White	148	94%	146	93%
BME	11	6%	12	7%
Age				
13	53	34%	69	44%
14	52	33%	45	28%
15	51	32%	43	27%
Disability				
Yes	10	6%	10	6%
No	147	93%	146	92%
Religion				
Christian	65	41%	62	39%
Muslim	3	2%	5	3%
Other	0	0%	0	0%
No religion	87	55%	89	56%

10 Appendix

10.1 Socio-economic classification used in the report

The socio-economic classifications used in this report are the accepted classifications used in the United Kingdom, used as a national standard in market research and endorsed by the Market Research Society. The segmentation to which a household belongs is defined by the occupation of the chief income earner of that household. It is determined by a variety of factors, including: the occupation of the chief income earner; their exact role; the type of organisation this role is at; their job title/rank/grade; whether they are self-employed; whether they are responsible for other employees, and if so, how many; how many people work at their place of employment overall; what qualification they have. The below table shows the segmentations used in this demographic classification.

Table 8

Grade	General description of chief income earner's occupation	% of population (2016) ⁶
A	Higher managerial, administrative or professional	4%
B	Intermediate managerial, administrative or professional	23%
C1	Supervisory or clerical and junior managerial, administrative or professional	28%
C2	Skilled manual workers	20%
D	Semi-skilled and unskilled manual workers	15%
E	State pensioners, casual and lowest grade workers, unemployed with state benefits only	10%

10.2 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.

⁶ National Readership Survey: <http://www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/> (retrieved October 2019)

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 are 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.

