

6. CHILDREN AND YOUNG PEOPLE

6.12 Immunisations in Children and Young People

Immunisation is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease. This section provides data on the local uptake of routine childhood immunisations which are part of national immunisation programmes (except influenza immunisation, which is included in the JSNA section on excess winter deaths).

6.12.1 The importance of Immunisation

Immunisation protects people and communities from serious infectious diseases. In addition to immunised children being protected themselves, they are also less likely to be a source of infection to others, and this reduces the risk of unvaccinated people being exposed to infection. The national childhood immunisation programmes include a 95% uptake target, which helps protect children who have not received the vaccine (including those who are too young, or who cannot receive them for medical reasons) as well as the individuals immunised. This is the principle behind 'herd immunity' which aims to ensure a sufficient level of immunity in a population to prevent transmission of an infectious disease. Protecting children against these diseases in early childhood is important as the infections can cause serious illness, long term disability or death.

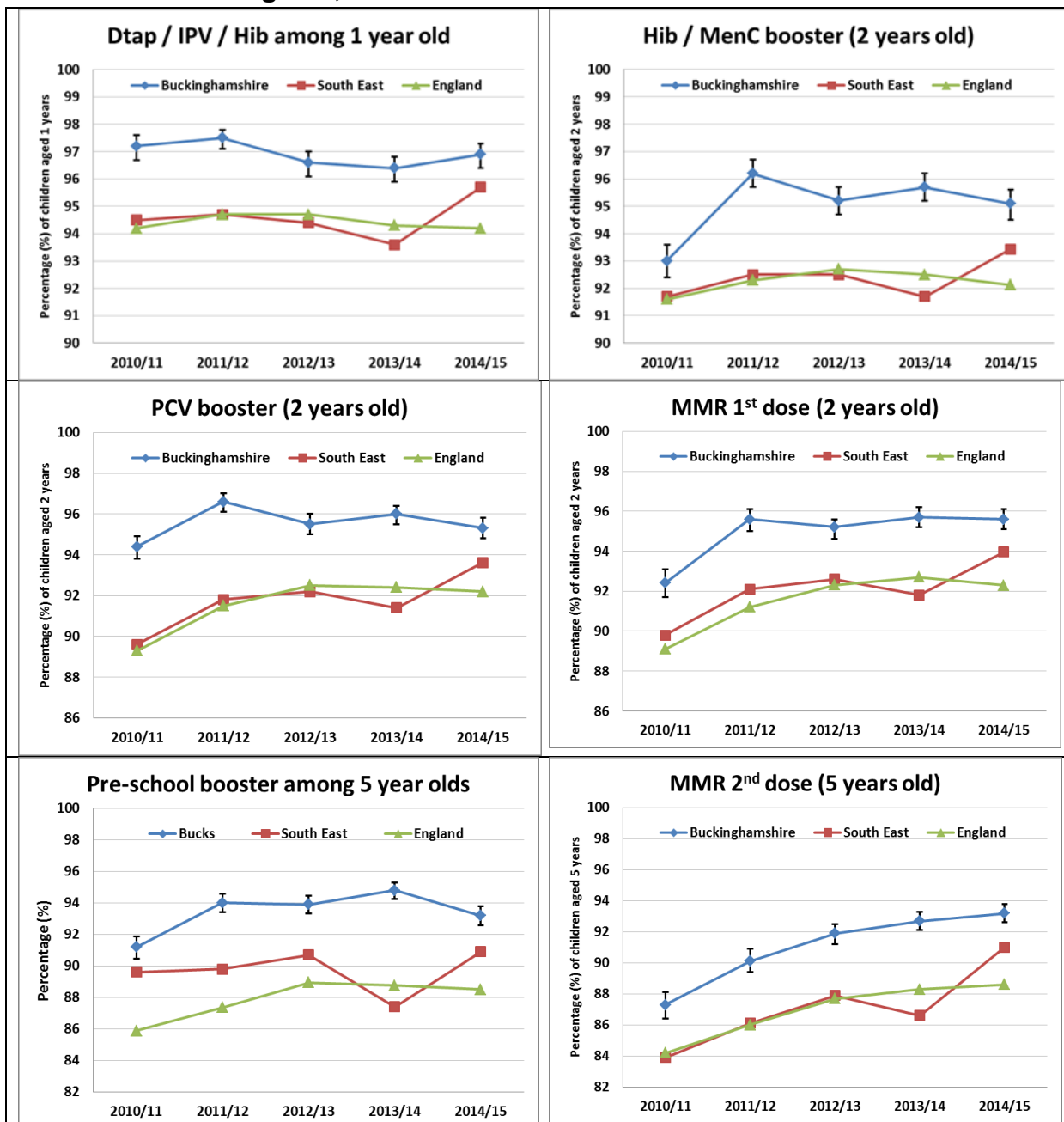
The World Health Organisation states that 'the two public health interventions that have had the greatest impact on the world's health are clean water and vaccines', as evidenced by the dramatic decline in many childhood infections in this country over the last few decades. The UK's routine immunisation schedule is kept under review and updated by the Department of Health, based on recommendations from the Joint Committee on Vaccination and Immunisation (JCVI)¹, and the latest information is included in the Department of Health's, 'Immunisation against infectious disease', also known as the Green Book². The current childhood immunisation schedule (summer 2015) is shown in the appendix and the complete schedule is available on the Department of Health site³.

6.12.2. Information on vaccine uptake in Buckinghamshire

There is an extensive immunisation programme for children under the age of 5 in this country, and Figure 1 shows trends in the uptake of some of the key immunisations in Buckinghamshire compared to national and regional averages between 2010/11

and 2014/15. The charts show uptake of the infant vaccines Diphtheria, tetanus, pertussis, polio and Haemophilus influenza B; the haemophilus influenza B and meningitis booster, the pneumococcal vaccine, and MMR (measles mumps and rubella) (all given by the age of 2), and the preschool booster and 2nd dose of MMR (given by the age of 5).

Figure 1 Trends in immunisation uptake by age group in Buckinghamshire, South East and England, 2010/11 to 2014/15



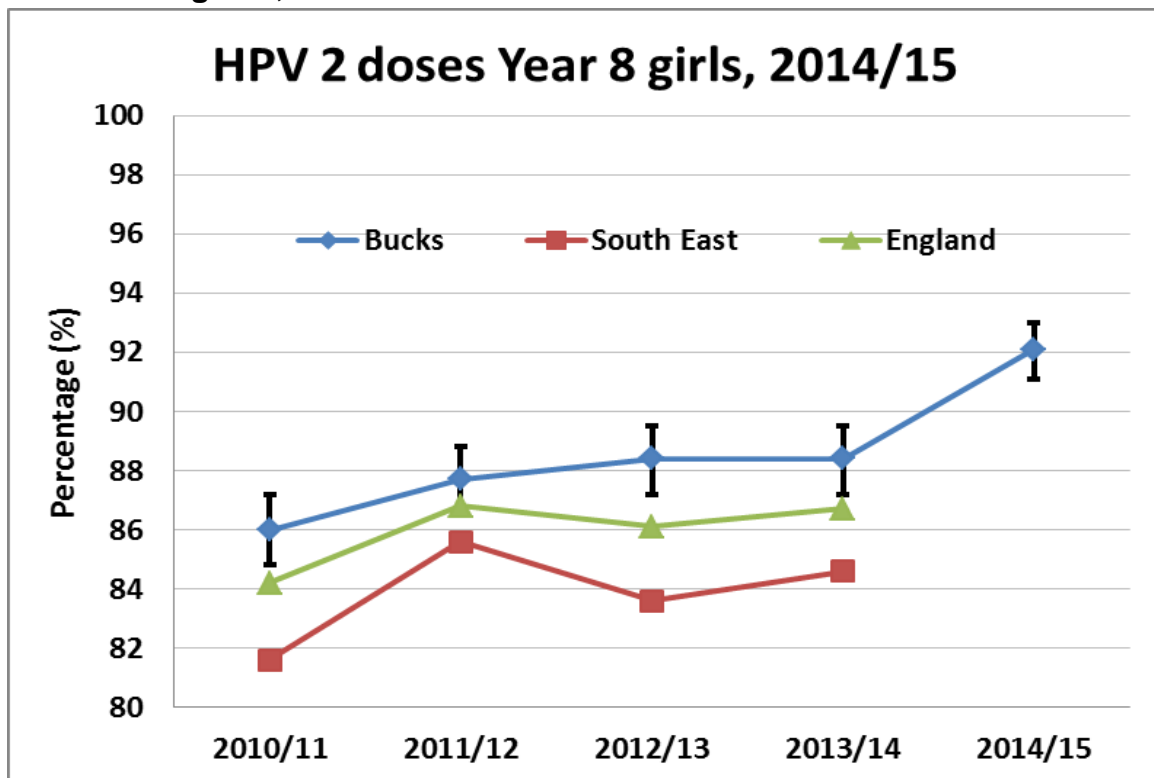
Source: Cover of Vaccination Evaluated Rapidly (COVER) data collected by Public Health England (PHE). Available from The Health and Social Care Information Centre (HSCIC).

Overall, the uptake in Buckinghamshire was significantly higher than the regional and national averages for all the above immunisations during this period. All have

also been above the national target of 95% for the last 4 years in Buckinghamshire, except the pre-school booster and MMR 2nd dose at the age of 5, which are just under 95%.

The immunisations routinely given to young people between 11 and 19 years of age (school years 7 to 13) are HPV (Human Papilloma Virus) (given to girls aged 12-13), and Td/IPV (tetanus diphtheria and polio) and MenACWY (meningococcal vaccine) which are given to 14 year olds. Figure 2 shows that the proportion of girls receiving 2 doses of HPV vaccine in Buckinghamshire was significantly higher than the regional and national averages in most of the years since 2010/11, and is increasing. In 2014/15, the uptake in Buckinghamshire went above the national target of 90% for the first time. Data for regional and national uptake in 2014/15 are not yet available.

Figure 2 Trends in the uptake of HPV vaccination in Buckinghamshire, South East and England, 2010/11 to 2014/15



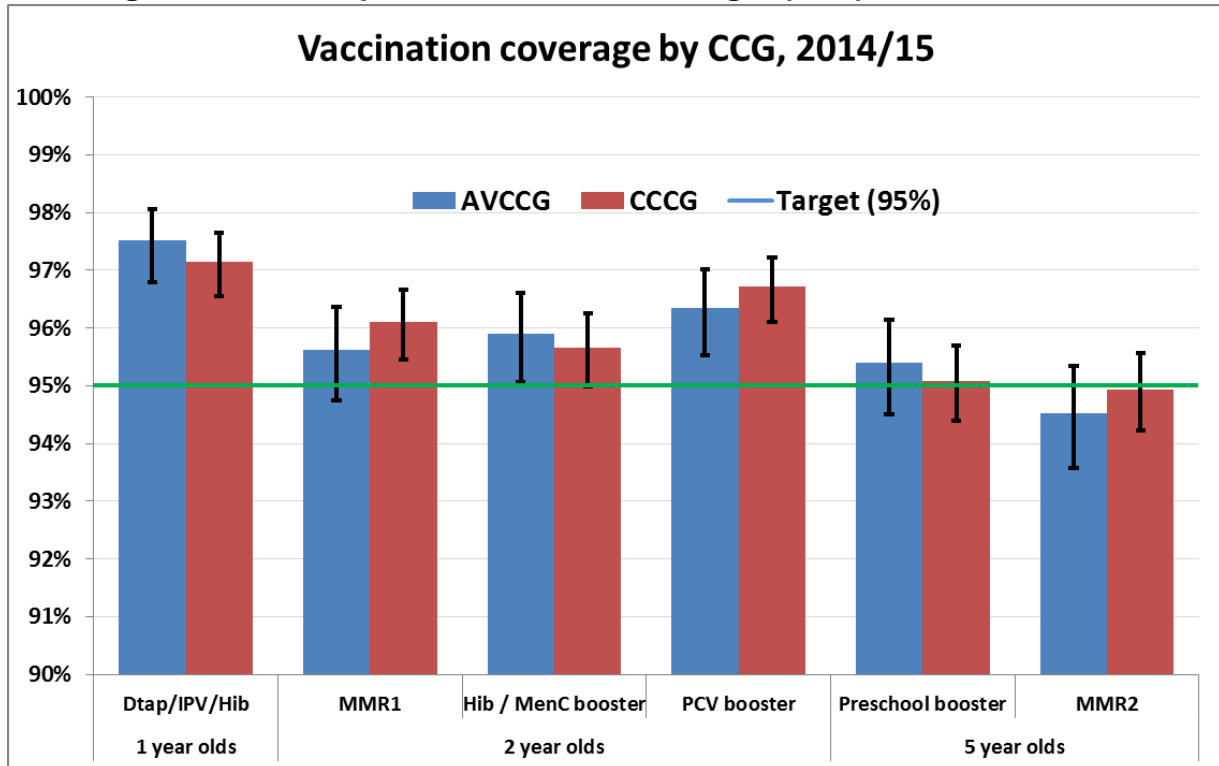
Source: Department of Health (DH). Note: National data for 2014/15 was not yet available.

6.12.3 Vaccine uptake in different population groups

Figure 3 shows rates of vaccine uptake among children aged under 5 in Buckinghamshire CCGs in 2014/15. There were no significant differences in uptake between the two CCGs. Figure 4 shows vaccine uptake among children aged under 5 by CCG locality in 2014/15. There were no significant differences in uptake between the localities, but uptake was significantly higher than 95% for some individual vaccines in some of the localities, notably all vaccines up to the age of 2 in

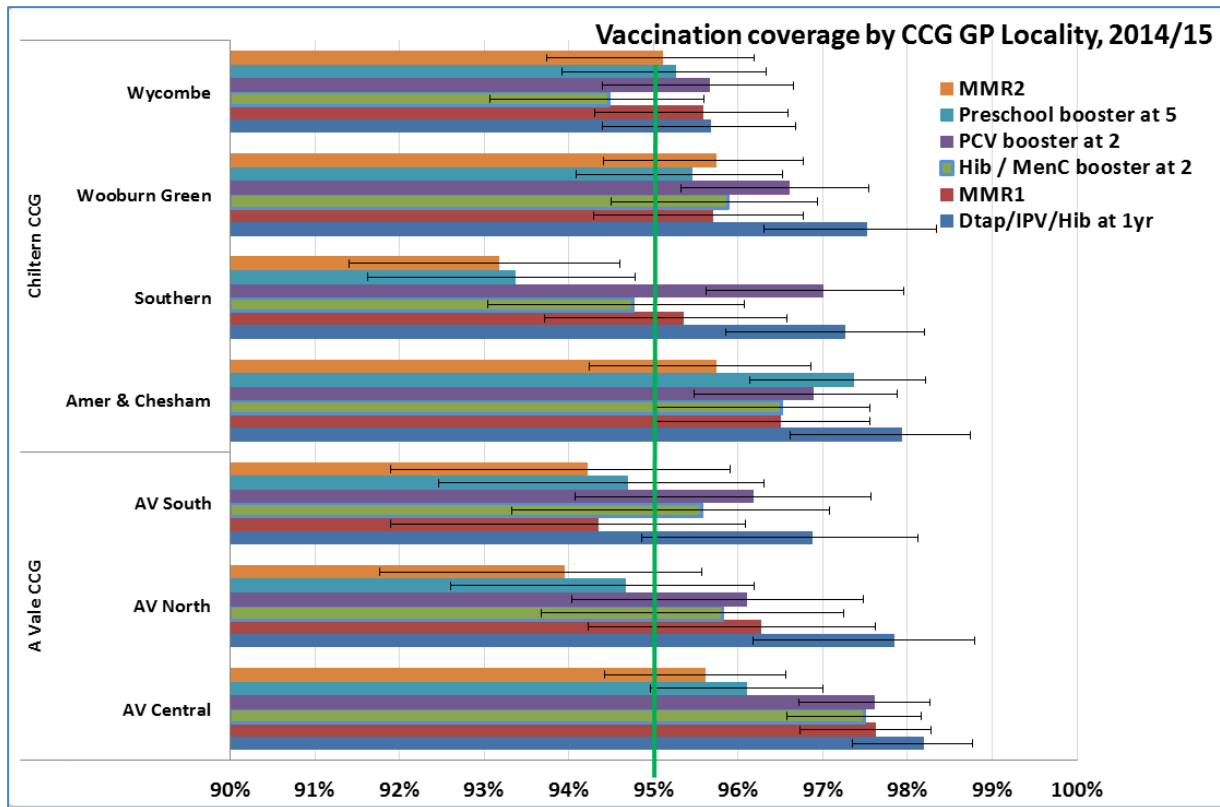
Aylesbury Vale Central, and Dtap/IPV/HiB in all areas but Wycombe and Aylesbury Vale South. No vaccine uptake was significantly lower than the 95% target apart from MMR 2nd dose and pre-school booster at 5 years in Southern locality.

Figure 3 Immunisation uptake among 0-5 year olds by age group and CCG in Buckinghamshire compared to the national target (95%), 2014/15



Source: Cover of Vaccination Evaluated Rapidly (COVER) data collected by Public Health England (PHE). Available from The Health and Social Care Information Centre (HSCIC).

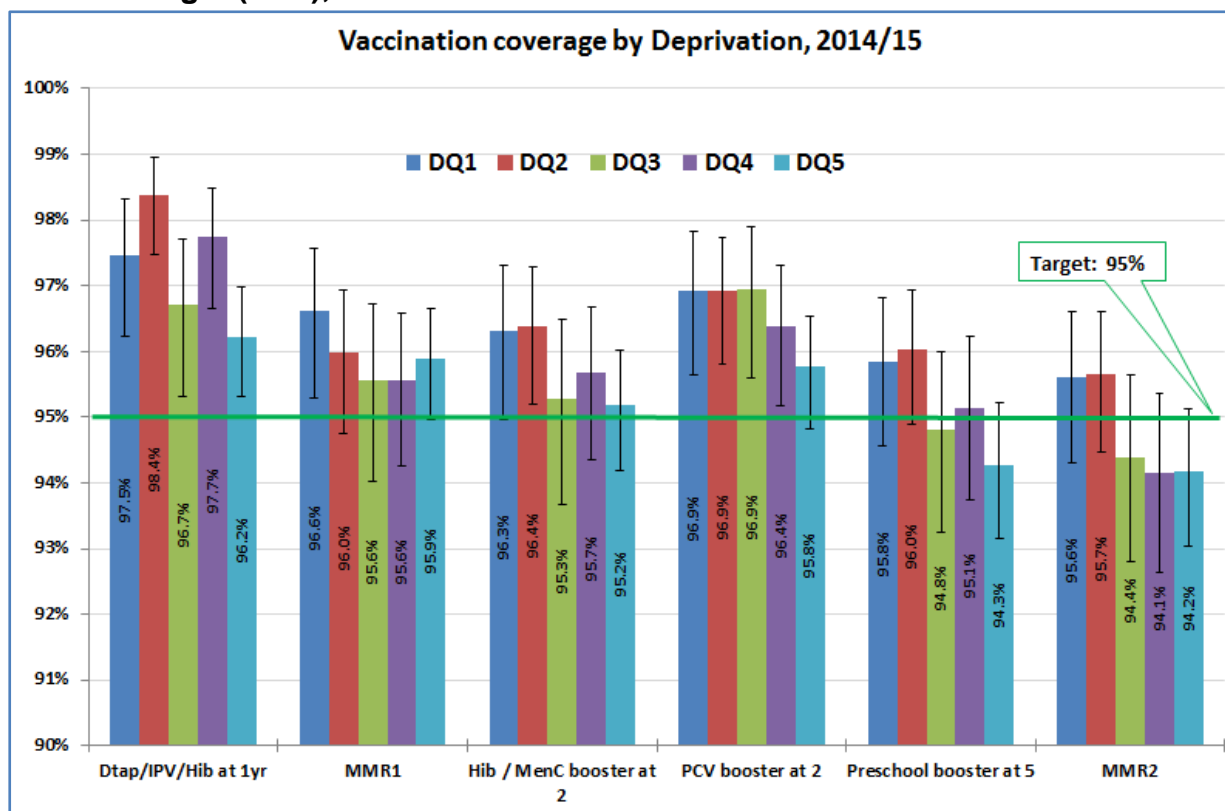
Figure 4 Immunisation uptake among 0-5 year olds by age group and CCG GP locality in Buckinghamshire compared to the national target, 2014/15



Source: Cover of Vaccination Evaluated Rapidly (COVER) data collected by Public Health England (PHE). Available from The Health and Social Care Information Centre (HSCIC).

Figure 5 shows the uptake of childhood immunisations up to the age of 5 by deprivation quintiles in Buckinghamshire in 2014/15. The uptake of all the immunisations was lower among children living in the most deprived areas compared to those living in the least deprived areas, but the differences between deprivation quintiles were not statistically significant.

Figure 5 Immunisation uptake among 0-5 year olds by age group and deprivation quintiles (DQ1 to DQ5) in Buckinghamshire compared to the national target (95%), 2014/15



Source: Cover of Vaccination Evaluated Rapidly (COVER) data collected by Public Health England (PHE). Available from The Health and Social Care Information Centre (HSCIC) and GP practice level IMD scores where the child registered, 2015.

6.12.4. Geographical variations in vaccine uptake

The uptake of most of the childhood immunisations is better in Buckinghamshire than many of the local authorities in the South East region and also better than some of its CIPFA nearest neighbours. Figures 6 and 7 compare the uptake of the 2nd dose of MMR at 5 years in Buckinghamshire in 2013/14 with other local authorities in the South East and its CIPFA nearest neighbours respectively. Buckinghamshire was one of only 4 local authorities where the MMR 2nd dose uptake was above 90%, and uptake in Buckinghamshire was second highest among the 19 local authorities in the South East. Buckinghamshire ranks 5th highest uptake among the 15 CIPFA nearest neighbours in 2013/14.

Figure 6 MMR 2nd dose uptake among 5 year olds in Buckinghamshire compared to other South East local authorities, regional and national averages, 2013/14 (PHOF). (Less than 90% is labelled as RED)

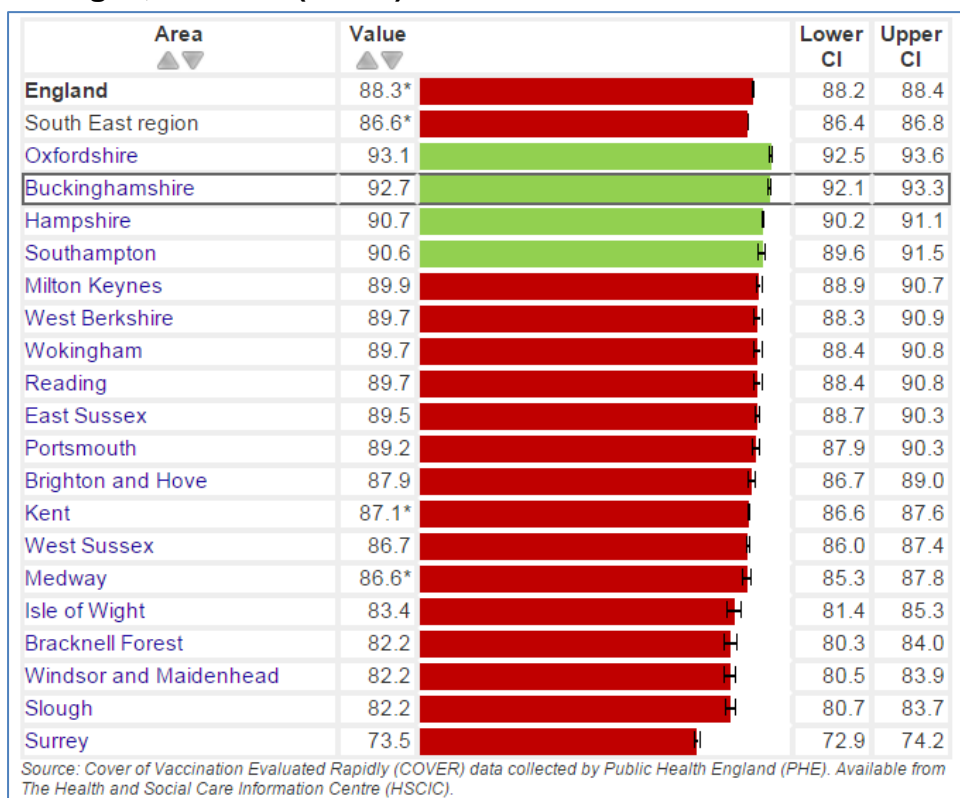
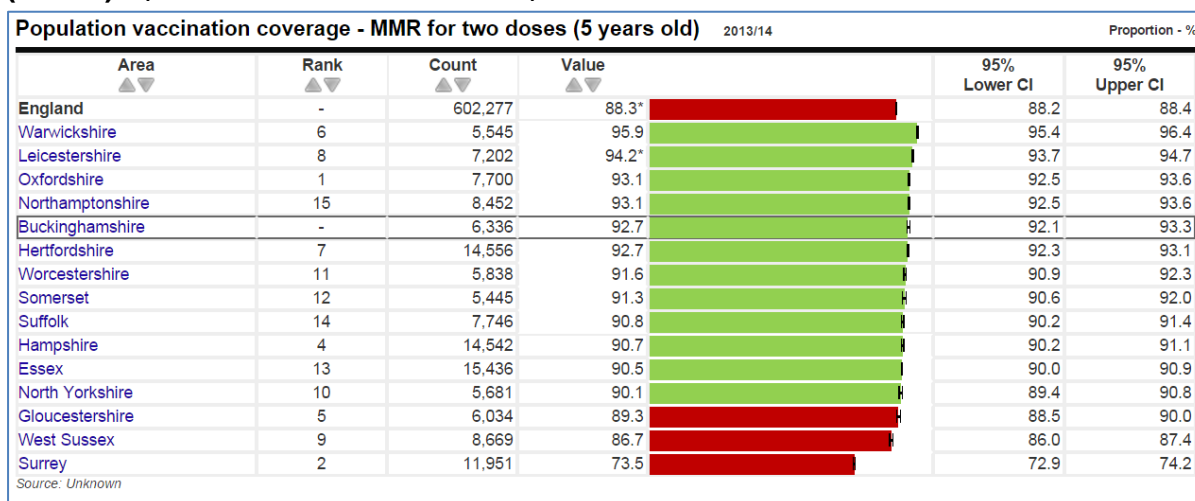


Figure 7 MMR 2nd dose uptake among 5 year olds in Buckinghamshire compared to its CIPFA nearest neighbours and national averages, 2013/14 (PHOF). (Less than 90% is labelled as RED)



Figures 8 and 9 compare completed HPV vaccination in Buckinghamshire in 2013/14 with other local authorities in the South East and its CIPFA nearest neighbours respectively. Buckinghamshire ranked 6th best out of the 19 local authorities in the South East in 2013/14 and 9th best its 15 CIPFA nearest neighbours.

Figure 8 Uptake of HPV vaccination in Bucks compared to other South East local authorities, regional and national averages, 2013/14 (PHOF)

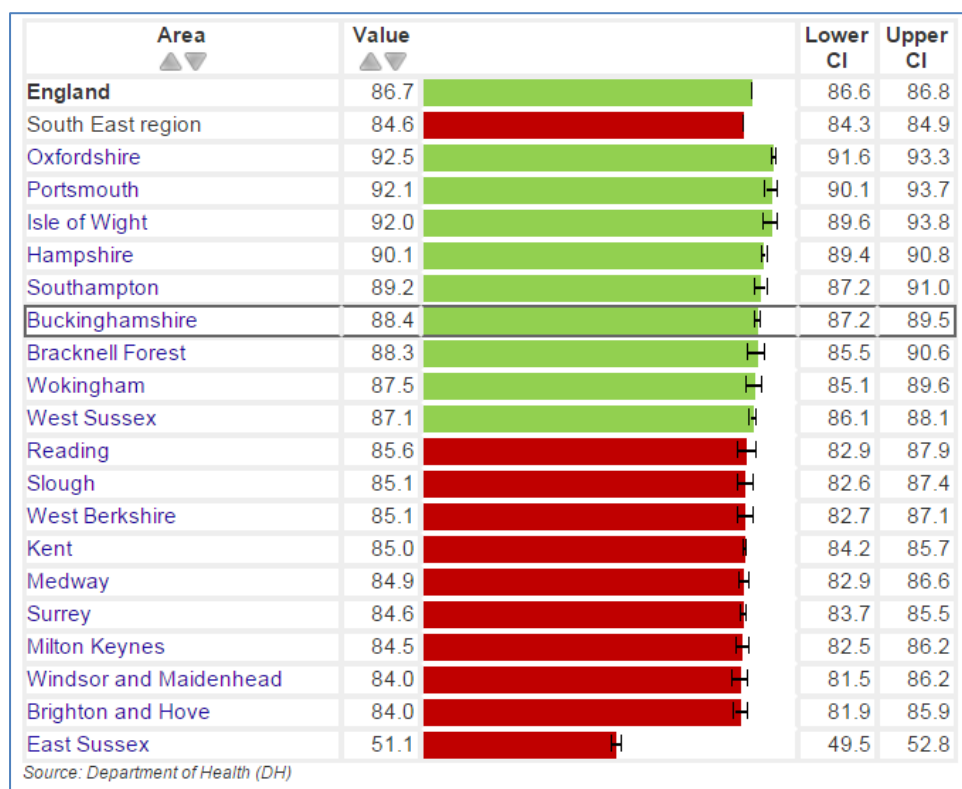
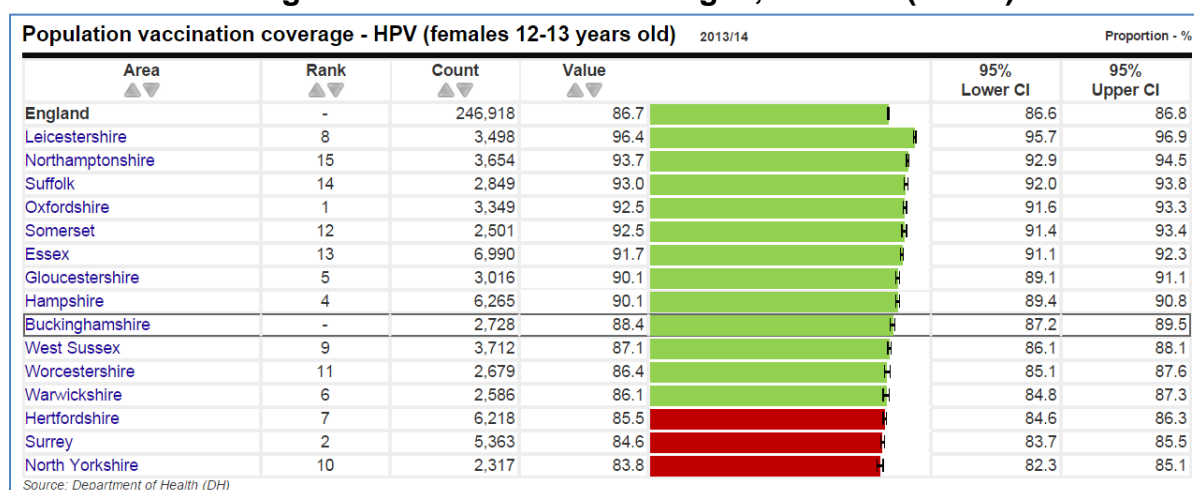


Figure 9 Uptake of HPV vaccination in Buckinghamshire compared to its CIPFA nearest neighbours and national averages, 2013/14 (PHOF)



6.12.5 Demand

The number of children and young people in Buckinghamshire is projected to increase and so the number of children needing routine immunisations will be

increasing. There is also an increase in the number of routine immunisations given to children as the immunisation schedule has expanded in recent years. This places additional pressure on local resources required to deliver these immunisations.

6.12.6 Horizon scanning

Immunisation programmes are commissioned by NHS England and childhood immunisation is delivered predominantly through General Practices, school nurses and Health Visitors. The role of local Public Health is to monitor and scrutinise the delivery of the vaccination programmes. Local Authority Public Health also gives assurance to the Health and Well Being board on how these programmes are being delivered to the local communities. The responsibility for commissioning children's public health services, including school nurses and health visitors has now transferred from NHS England to local authorities.

6.12.7 Conclusions

Overall Buckinghamshire performs well on childhood immunisation, with higher uptakes of all routine childhood immunisations than in comparator areas or national averages. Uptake rates are also improving. However, there is still scope for improvement, particularly in uptake of the 2nd dose of MMR, the preschool booster at 5 years of age and HPV vaccination which are still below the 95% target. Uptake also varies between CCG localities, and tends to be lower in more deprived socioeconomic groups; these differences need addressing to ensure children in more deprived areas are not disadvantaged.

The declining rates of many of the childhood infections covered by currently available vaccines are a reflection of the success of these programmes. While many of these infections can be mild and self-limiting they also have the potential to cause serious illness, disability or death, and it is crucial to continue comprehensive immunisation programmes to ensure that current and future generations of children are protected.

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Appendix 1 The UK Routine childhood immunisation schedule

The routine immunisation schedule		from summer 2015		
Age due	Diseases protected against	Vaccine given and trade name		Usual site ¹
Two months old	Diphtheria, tetanus, pertussis (whooping cough), polio and <i>Haemophilus influenzae</i> type b (Hib)	DTaP/IPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	Pneumococcal (13 serotypes)	Pneumococcal conjugate vaccine (PCV)	Prevenar 13	Thigh
	Meningococcal group B (MenB) ²	MenB ²	Bexsero	Left thigh
	Rotavirus gastroenteritis	Rotavirus	Rotarix	By mouth
Three months old	Diphtheria, tetanus, pertussis, polio and Hib	DTaP/IPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	Meningococcal group C (MenC)	MenC	NetsVac-C	Thigh
	Rotavirus	Rotavirus	Rotarix	By mouth
Four months old	Diphtheria, tetanus, pertussis, polio and Hib	DTaP/IPV/Hib	Pediacel or Infanrix IPV Hib	Thigh
	MenB ²	MenB ²	Bexsero	Left thigh
	Pneumococcal (13 serotypes)	PCV	Prevenar 13	Thigh
Twelve months old	Hib and MenC	Hib/MenC booster	Menitorix	Upper arm/thigh
	Pneumococcal (13 serotypes)	PCV booster	Prevenar 13	Upper arm/thigh
	Measles, mumps and rubella (German measles)	MMR	MMR VaxPRO ³ or Priorix	Upper arm/thigh
	MenB ²	MenB booster ²	Bexsero	Left thigh
Two to six years old (including children in school years 1 and 2)	Influenza (each year from September)	Live Influenza vaccine	Fluenz Tetra ^{3,4}	Both nostrils
Three years four months old	Diphtheria, tetanus, pertussis and polio	DTaP/IPV	Infanrix IPV or Repevax	Upper arm
	Measles, mumps and rubella	MMR (check first dose given)	MMR VaxPRO ³ or Priorix	Upper arm
Girls aged 12 to 13 years	Cervical cancer caused by human papillomavirus (HPV) types 16 and 18 (and genital warts caused by types 6 and 11)	HPV (two doses 6-12 months apart)	Gardasil	Upper arm
Fourteen years old (school year 9)	Tetanus, diphtheria and polio	Td/IPV (check MMR status)	Revaxis	Upper arm
	Meningococcal groups A, C, W and Y disease	MenACWY	Nimenrix or Menveo	Upper arm

Source: Department of Health ⁴

References

¹ Joint Committee for Vaccinations and Immunisations – an independent expert advisory committee that advises Ministers on matters relating to the provision of vaccination and immunisation services. Available at: <https://www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation> (accessed on 7/12/2015)

² Immunisation against infectious disease <https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book> (accessed 25/1/2016)

³ The Routine Immunisation Schedule available at: <https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule> (accessed on 7/12/2015)

⁴ DH 2015. The complete routine immunisation schedule <https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule> (accessed 25/1/2016)