

**From:** Clair Bell, Cabinet Member for Adult Social Care and Public Health  
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**To:** Health Reform and Public Health Cabinet Committee, 11 July 2023

**Subject:** **Update on the Immunisation Coverage in Kent with a Focus on Children**

**Classification:** Unclassified

**Past Pathway of Paper:** None

**Future Pathway of Paper:** None

**Electoral Division:** All

**Summary:** This report presents the current commissioning and provider arrangements for immunisation services and the latest data available on the immunisation coverage in Kent with a focus on children. We present the immunisation uptake for districts and boroughs in Kent and also document how the uptake varies by deprivation across Kent.

**Recommendation(s):**

Members of the Health Reform and Public Health Cabinet Committee are asked to **NOTE** the contents of this report and support the immunisation initiative by raising awareness of its importance among the communities they represent when there are opportunities to do so.

## **1. Introduction**

- 1.1 This report is being presented as requested by members of the committee to provide an update on immunisation coverage across Kent with a special focus on children.
- 1.2 It presents selected immunisation coverage for children aged up to five years registered with a Kent GP. The latest immunisation schedule in the UK is also included for information.
- 1.3 In addition, we are providing a brief overview of the commissioning and provider arrangements for childhood vaccinations. As the report only covers immunisations up to the age of five, school age vaccinations such as Human Papilloma Virus (HPV) is not included. The impact of the Covid-19 pandemic on the childhood immunisation coverage is presented by analysing uptake over the last four years from April 2019 to December 2022. To determine if there is any association between immunisation and deprivation childhood vaccination coverage is compared at general practice level based on practice deprivation

scores. Furthermore, immunisation coverage for all the local authorities in Kent is provided compared to the uptake figures for Kent County Council (KCC).

- 1.4 High immunisation coverage is a key measure to protect the population from infectious diseases. NHS offers free vaccination to various groups including children. It is important to analyse the uptake on immunisation and identify factors that influence this so that any actions can be taken to address this.
- 1.5 Using data from the Cover of Vaccination Evaluated Rapidly (COVER) programme we have analysed the childhood immunisation uptake for Kent, by districts and boroughs and any association with deprivation. Furthermore, we have also attempted to analyse the impact of the COVID-19 pandemic on the immunisation uptake.

## 2. Background

- 2.1 From the various tools available to Public Health practitioners, immunisation is one of the most effective interventions to protect the health of our population. Immunisation, also known as vaccination, is a process that stimulates the body's immune system to fight off infections and provides long-lasting protection against harmful diseases. Immunisation has saved countless lives and continue to protect the population from great harm (1).
- 2.2 Most immunisations are provided free of cost on the NHS, and they are provided across the life course from birth to the elderly. When specific diseases emerge, if appropriate population immunisation programmes are implemented, the most recent example being against COVID-19. General practices and school teams are a key part of the national immunisation programme.
- 2.3 KCC's Director of Public Health and his Team have a dual role of working with partners to raise awareness of the importance of immunisation and thereby ensuring coverage and an assurance function to ensure as a system we are doing our best to protect our population.
  - **Safeguarding against Infectious Diseases:** Immunisation acts as a shield, guarding individuals, communities, and even entire populations against a wide array of infectious diseases. Vaccines train the immune system to recognise and destroy specific pathogens, such as viruses and bacteria, before they can cause harm. Diseases such as measles, polio, diphtheria, tetanus, pertussis, and hepatitis B which used to kill many have been eliminated from many countries and the goal is to eradicate all vaccine preventable diseases.
  - **Protection across the Life course:** Immunisation is not limited to childhood; it is a lifelong process that provides benefits across all age groups. Infants and young children receive vaccines to shield them from diseases during their most vulnerable years. Vaccinations, such as the measles-mumps-rubella (MMR) vaccine and the diphtheria-tetanus-pertussis (DTaP) vaccine, are administered early on to establish a good immune foundation. As individuals transition into adolescence and adulthood, additional vaccines, like the human

papillomavirus (HPV) vaccine and the influenza vaccine, offer protection against specific diseases prevalent in these age groups. Moreover, immunisation is crucial for older adults, who are more susceptible to severe complications from infectious diseases. Vaccines such as the pneumococcal and shingles vaccines help safeguard against pneumonia and herpes zoster, respectively, reducing the burden of illness and promoting healthy aging.

- **Herd immunity or immunity of a community:** When a significant portion of a population is immunised against a disease, it creates a protective barrier that prevents the spread of the pathogen. This indirect safeguard extends to those who cannot receive vaccines due to clinical contraindications, such as individuals with weakened immune systems or certain allergies. By limiting the circulation of infectious agents, herd immunity plays a crucial role in shielding vulnerable individuals, including infants and the elderly, from preventable diseases. Immunisation campaigns and initiatives have made great contribution in eradicating diseases like smallpox and reducing the burden of others, such as polio and measles.
- **Importance of high immunisation coverage (2):** It is essential that we need to achieve high immunisation coverage of any population as the benefits are many folds. As discussed above this not only protects the individual but those in the community including vulnerable sections of our community. High coverage is essential for disease prevention, protection of vulnerable populations, prevention of epidemics, reduced healthcare burden and the eradication and control of diseases. By prioritising and promoting high immunisation coverage, we can create healthier communities and safeguard the well-being of the populations we are here to serve. There have been recent concerns on the falling coverage of MMR vaccine both globally and in the UK (3) and increase in measles cases which is currently being addressed.
- **UK immunisation schedule:** Each country operates its own vaccination schedules which are slightly different depending on the local disease risk. Immunisations offered include routinely offered to all, selective immunisation programmes for example pregnant women or to protect against TB and additional vaccines for individuals with underlying medical conditions (4). The current NHS immunisation schedule (5,6) is presented in Table 1.

**Table 1 NHS Immunisation schedule (4,5)**

The routine immunisation schedule		from February 2022		
Age due	Diseases protected against	Vaccine given and trade name		Usual site <sup>1</sup>
Eight weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, <i>Haemophilus influenzae</i> type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa or Vaxelis	Thigh
	Meningococcal group B (MenB)	MenB	Bexsero	Left thigh
	Rotavirus gastroenteritis	Rotavirus <sup>2</sup>	Rotarix <sup>2</sup>	By mouth
Twelve weeks old	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa or Vaxelis	Thigh
	Pneumococcal (13 serotypes)	Pneumococcal conjugate vaccine (PCV)	Prevenar 13	Thigh
	Rotavirus	Rotavirus <sup>2</sup>	Rotarix <sup>2</sup>	By mouth
Sixteen weeks old	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa or Vaxelis	Thigh
	MenB	MenB	Bexsero	Left thigh
One year old (on or after the child's first birthday)	Hib and MenC	Hib/MenC	Menitorix	Upper arm/thigh
	Pneumococcal	PCV booster	Prevenar 13	Upper arm/thigh
	Measles, mumps and rubella (German measles)	MMR	MMRvaxPro <sup>3</sup> or Priorix	Upper arm/thigh
	MenB	MenB booster	Bexsero	Left thigh
Eligible paediatric age groups <sup>4</sup>	Influenza (each year from September)	Live attenuated influenza vaccine LAIV <sup>3,5</sup>	Fluenz Tetra <sup>3,5</sup>	Both nostrils
Three years four months old or soon after	Diphtheria, tetanus, pertussis and polio	dTaP/IPV	Boostrix-IPV	Upper arm
	Measles, mumps and rubella	MMR (check first dose given)	MMRvaxPro <sup>3</sup> or Priorix	Upper arm
Boys and girls aged twelve to thirteen years	Cancers and genital warts caused by specific human papillomavirus (HPV) types	HPV (two doses 6-24 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	MenACWY	Nimenrix	Upper arm
65 years old	Pneumococcal (23 serotypes)	Pneumococcal Polysaccharide Vaccine (PPV)	Pneumovax 23	Upper arm
65 years of age and older	Influenza (each year from September)	Inactivated influenza vaccine	Multiple	Upper arm
70 to 79 years of age	Shingles	Shingles	Zostavax <sup>3</sup> (or Shingrix if Zostavax contraindicated)	Upper arm

## Pregnant women

### When it's offered

### Vaccines

During flu season

[Flu vaccine](#)

From 16 weeks pregnant

[Whooping cough \(pertussis\) vaccine](#)

### **3. Current commissioning and provider arrangements for childhood vaccinations in Kent**

- 3.1 Childhood immunisations, including the seasonal flu vaccination programme, are currently commissioned by NHS England through Primary Care. This includes all childhood immunisations as detailed in the NHS routine immunisation schedule. Childhood immunisations are delivered in primary care to all eligible children with call and recall requirements detailed within the contract. Providers receive an Item of Service (IoS) payment for each vaccination administered.
- 3.2 In addition, selective immunisation programmes such as Hepatitis B vaccination, flu vaccination for children in clinical risk groups are also commissioned to be delivered in primary care, alongside additional vaccines for individuals with underlying medical conditions. Primary care providers are also commissioned to offer catch-up for adolescent immunisation programmes where the child or young person has not been able to access the vaccination through the school aged immunisation service.
- 3.3 Adolescent vaccinations, as detailed in the routine schedule, are commissioned by the NHS England Public Health Commissioning Team to be delivered by School Aged Immunisation Services (SAIS). In Kent, the service is delivered by Kent Community Health Foundation Trust (KCHFT). The service is commissioned to deliver the routine adolescent vaccination programmes mainly within a school setting but also in community settings for those who are not in education or unable to access the school sessions. As this report only covers immunisations up to the age of five, school age vaccinations such as Human Papilloma Virus (HPV) is not included. The SAIS is also commissioned to offer opportunistic childhood immunisations to those aged 0-19 years (up to their 20th birthday) where routine immunisations have been missed or the family have been unable to access the vaccination in primary care.

### **4. Immunisation coverage:**

- 4.1 For this report we have included immunisation data for up to the age of five from the Cover of Vaccination Evaluated Rapidly (COVER) programme (7). Immunisation coverage of those aged up to five years provides a good indication of immunisation performance of a given area. From the list below we have included a few key vaccination indicators including MMR. The target coverage for all these vaccinations is 95%.

- DTaP/IPV/Hib (1 year old)
- DTaP/IPV/Hib (2 years old)
- MMR for one dose (2 years old)
- MMR for two doses (5 years old)
- DTaP/IPV/Hib (5 years old)
- DTaP and IPV booster (5 years old)
- DTaP - Diphtheria Tetanus and Pertussis, Hib – Human influenza type b, IPV – Inactivated Polio Vaccine, MMR – Mumps Measles and Rubella

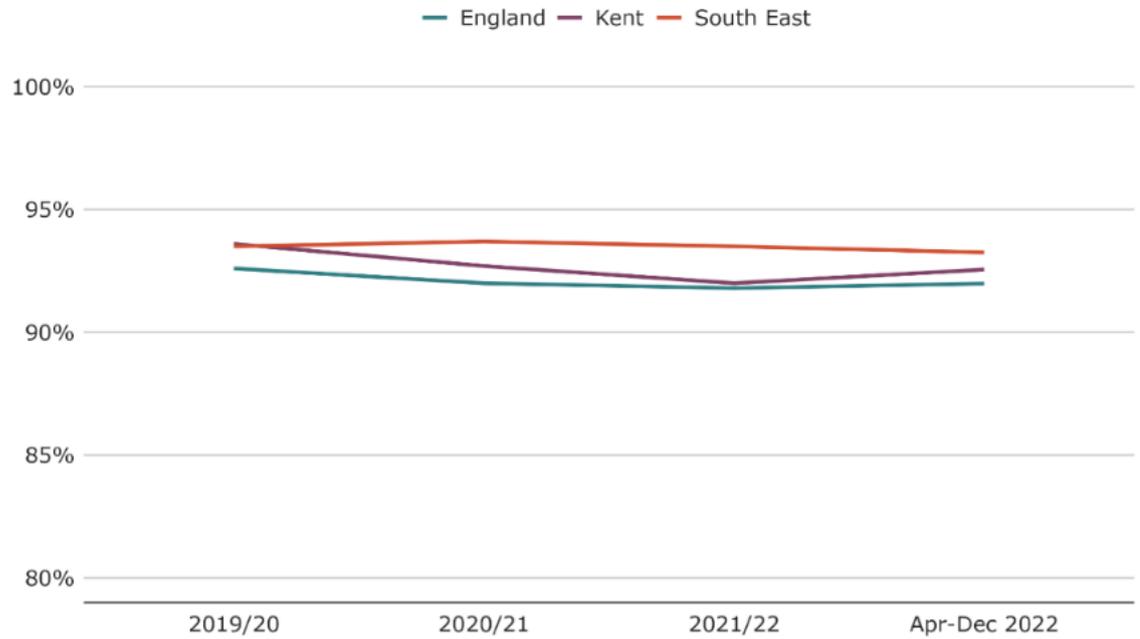
### **5. Impact of the Covid-19 Pandemic on vaccination coverage**

5.1 There has been an impact on all health care related activities during the pandemic including childhood vaccination. The figures below show the coverage for various vaccination for the period April 2019 to March 2020 and April 2022 to December 2022 the latest quarter for which data is available.

5.2 Figure 1 below shows Kent's 1-year DTaP/IPV/Hib immunisation coverage in 2019/2020 was 93.6% which was higher than both the Southeast average of 93.5% and the England average of 92.6%. While Kent's coverage since has remained higher than England average it has dropped lower than the Southeast average most notably in 2021/2022 with coverage of 92%. Kent's coverage appears to have increased slightly for the three-quarters of 2022/2023 to 92.6%.

Figure 1

**1 year of age DTaP/IPV/Hib Immunisation Coverage**  
**April 2019 to December 2022**



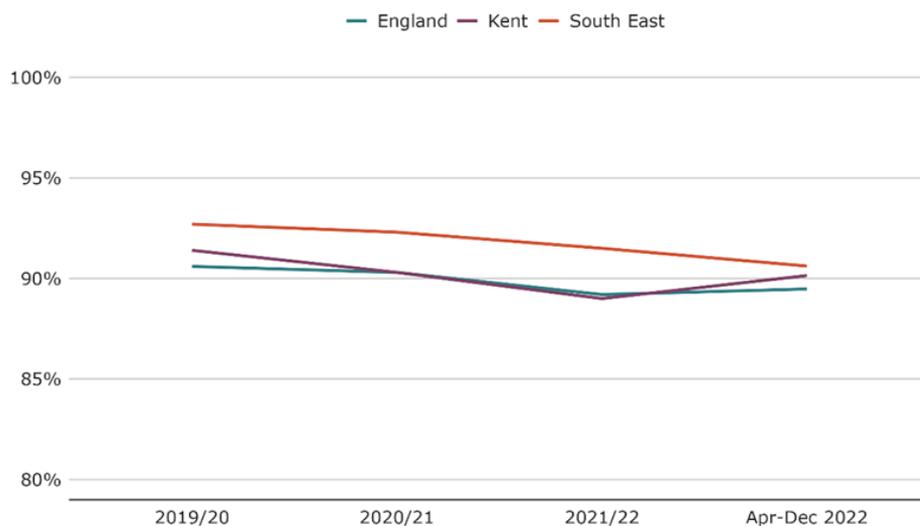
Source: Vaccination coverage statistics from UKHSA

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5.3 Figure 2 shows Kent's MMR1 immunisation coverage fell below the national average in 2021/2022 to 89% from 91.4% in 2019/2020 but is showing signs of an increase in uptake at 90.1% in 2022.

Figure 2

## 2 Years of Age MMR for One Dose Immunisation Coverage April 2019 to December 2022



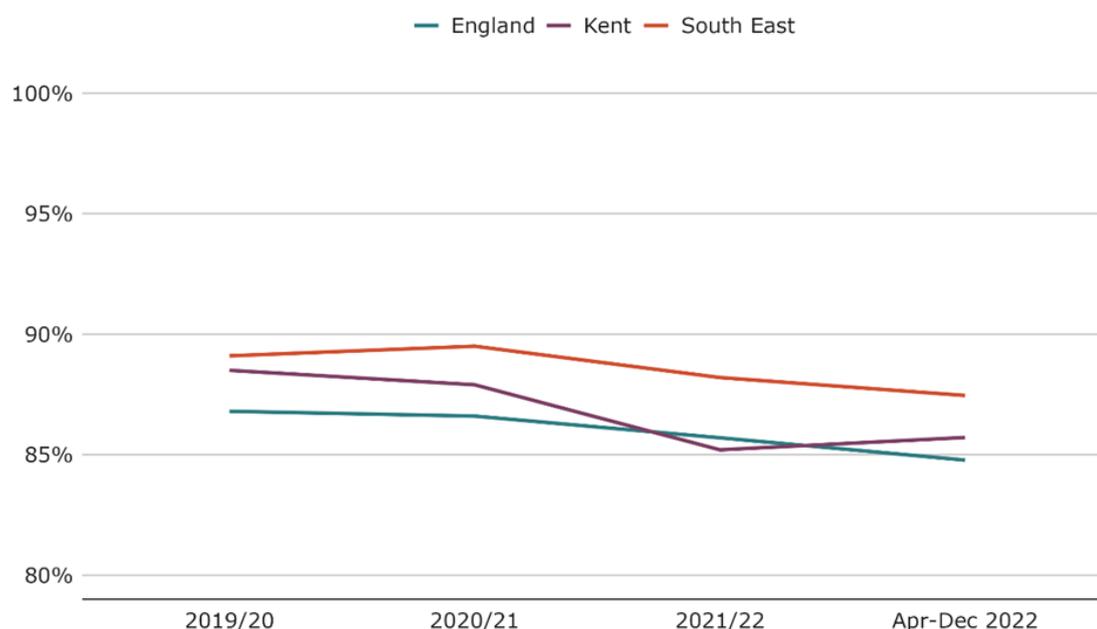
Source: Vaccination coverage statistics from UKHSA

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- 5.4 Figure 3 shows Kent’s MMR2 immunisation coverage saw a fall from 88.5% in 2019/2020 to 85.2% in 2021/22 with a slight increase in uptake beginning to show in 2022 at 85.7%.

Figure 3

## 5 Years of Age MMR for Two Doses Immunisation Coverage April 2019 to December 2022



Source: Vaccination coverage statistics from UKHSA

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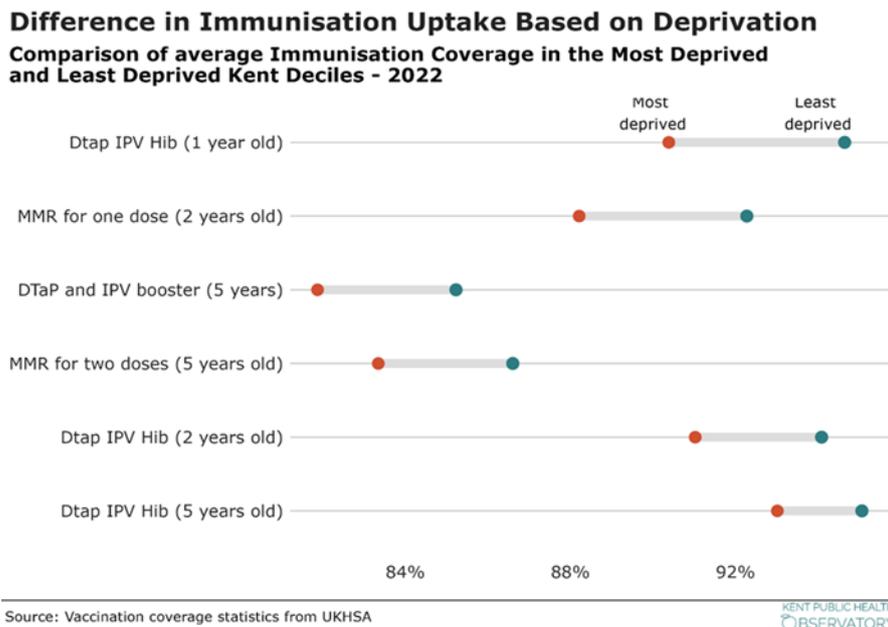
## 6. Immunisation coverage and the effect of deprivation

- 6.1 It has been well documented that immunisation uptake is influenced by deprivation. A study in Liverpool (8) showed that higher unemployment and

lower household income were significantly associated with low uptake. We examined this hypothesis in Kent.

- 6.2 Figure 4 shows data on GP immunisations for the four quarters from January 2022 to December 2022 were aggregated and sorted into deprivation deciles according to the GP deprivation scores. The average immunisation uptake for the GP populations which fell into the most and least deprived deciles were then compared. The difference in uptake between the two deciles ranged from two to four percentage points. The biggest difference was seen within the one- year DTaP/IPC/Hib immunisation with an uptake range of 94.6% for the least deprived falling to 90.4% for the most deprived areas.

Figure 4



## 7. Immunisation coverage by local authority

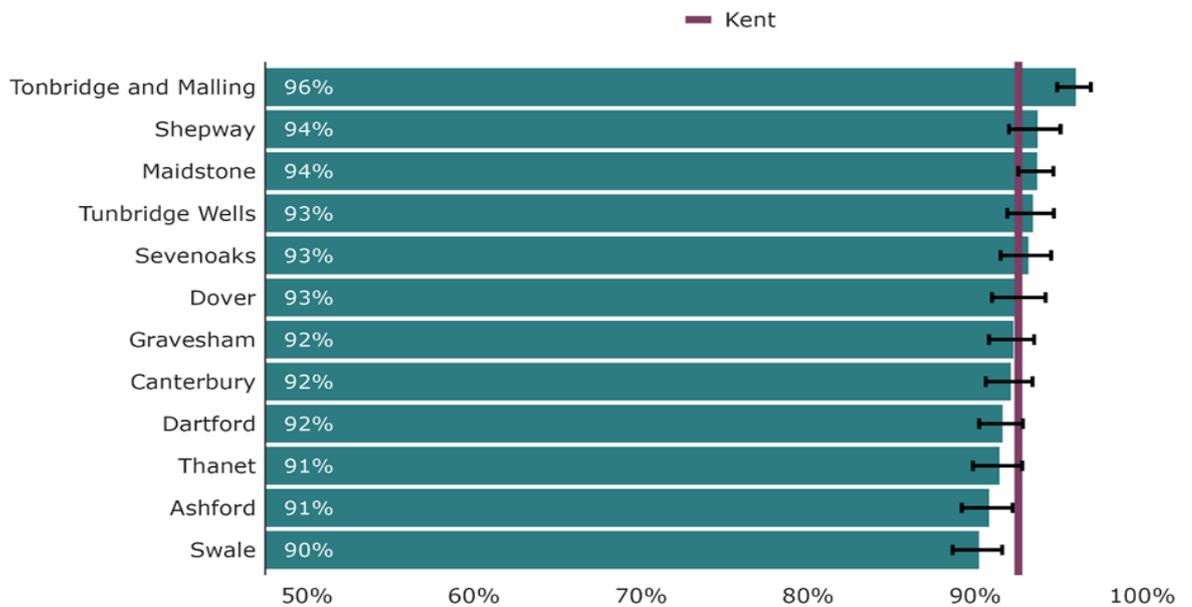
- 7.1 We analysed the immunisation coverage by local authority areas for the calendar year 2022. There is variation among districts and boroughs marked for some but not for all the immunisation indicators.
- 7.2 The results for all the indicators are presented below. Immunisation coverage for each authority is compared to Kent. The vertical pink line denotes the coverage for Kent and the horizontal black line represents the statistical uncertainty associated with the coverage value with the small horizontal bars representing the upper and lower values of the coverage. If the horizontal black lines cross the Kent value (Pink vertical line) then that local authority coverage

is not different from Kent. For example, in Figure 5 coverage in Tonbridge and Malling is significantly higher than Kent and coverage in Swale is lower.

- 7.3 Significance indicates the difference seen is not due to chance or random variation but is real. There is some amount of variation between authorities and on rare occasions there is a 10-percentage point difference between the authority with the highest coverage Shepway 88% compared to Dartford 77% for DTaP and IPV booster at 5 years of age indicator (Figure 10)

Figure 5

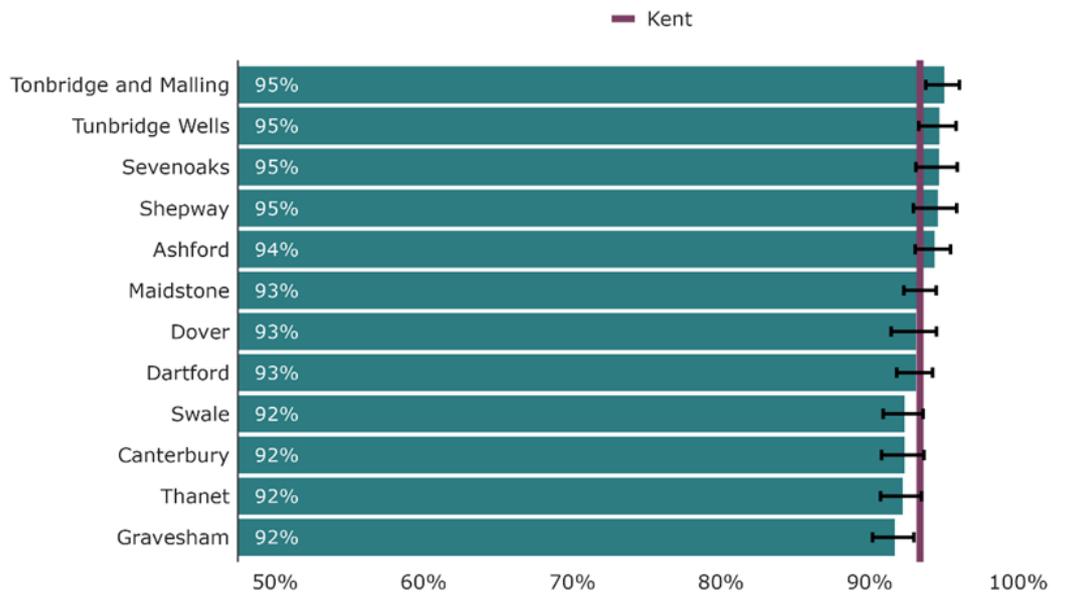
### 1 Year of Age DTaP/IPV/Hib Immunisation Coverage District Average - 2022



Source: Vaccination coverage statistics from UKHSA

Figure 6

**2 Years of Age DTaP/IPV/Hib Immunisation Coverage  
District Average - 2022**

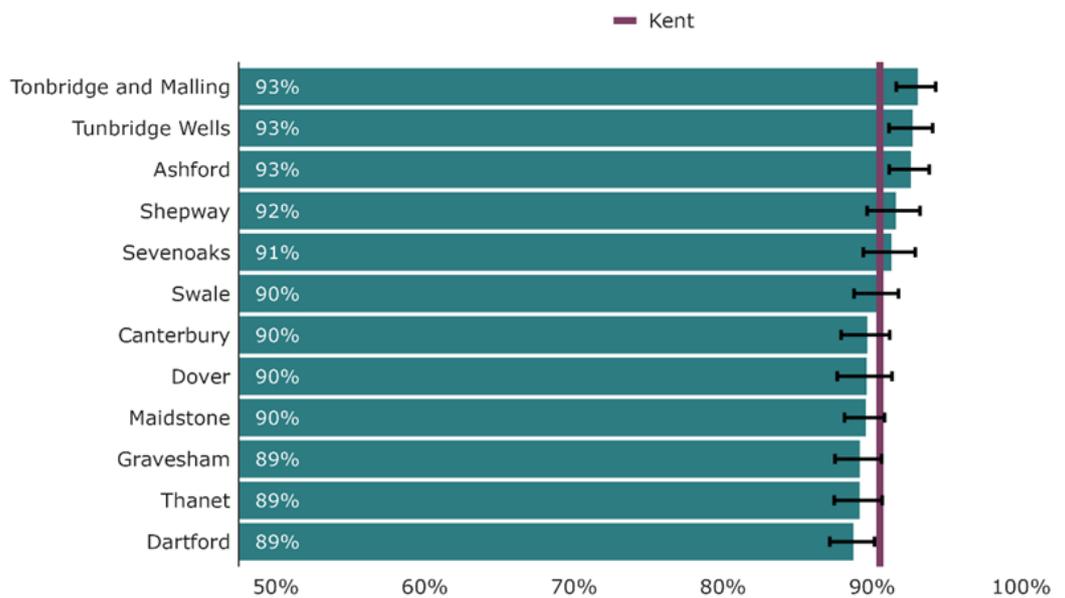


Source: Vaccination coverage statistics from UKHSA

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Figure 7

**2 Years of Age MMR for One Dose Immunisation Coverage  
District Average - 2022**

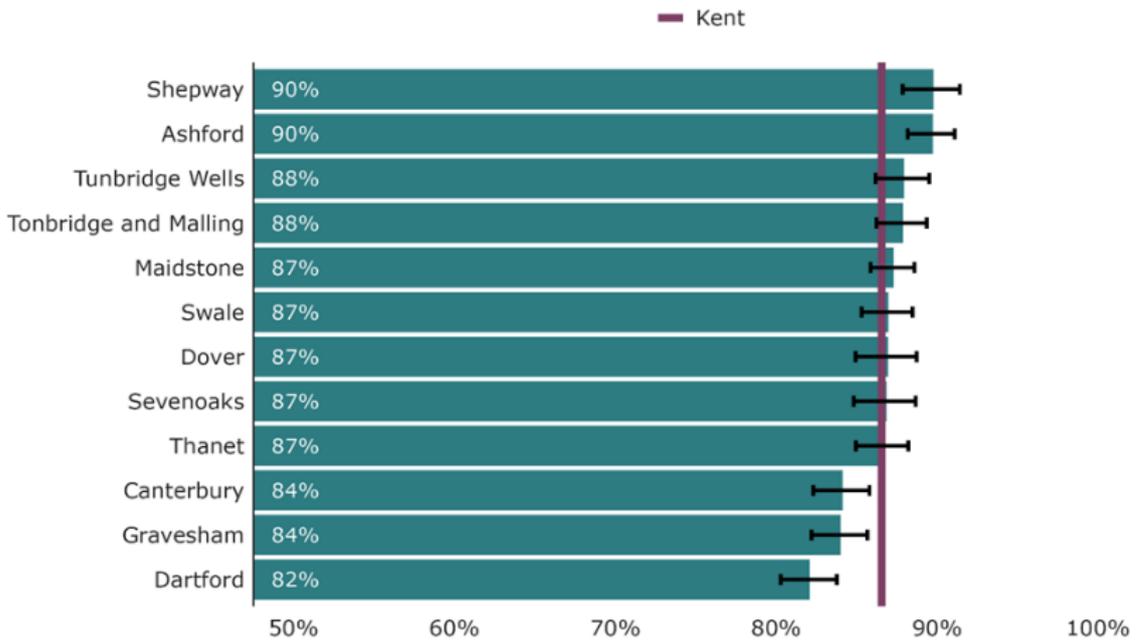


Source: Vaccination coverage statistics from UKHSA

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Figure 8

## 5 Years of Age MMR for Two Doses Immunisation Coverage District Average - 2022

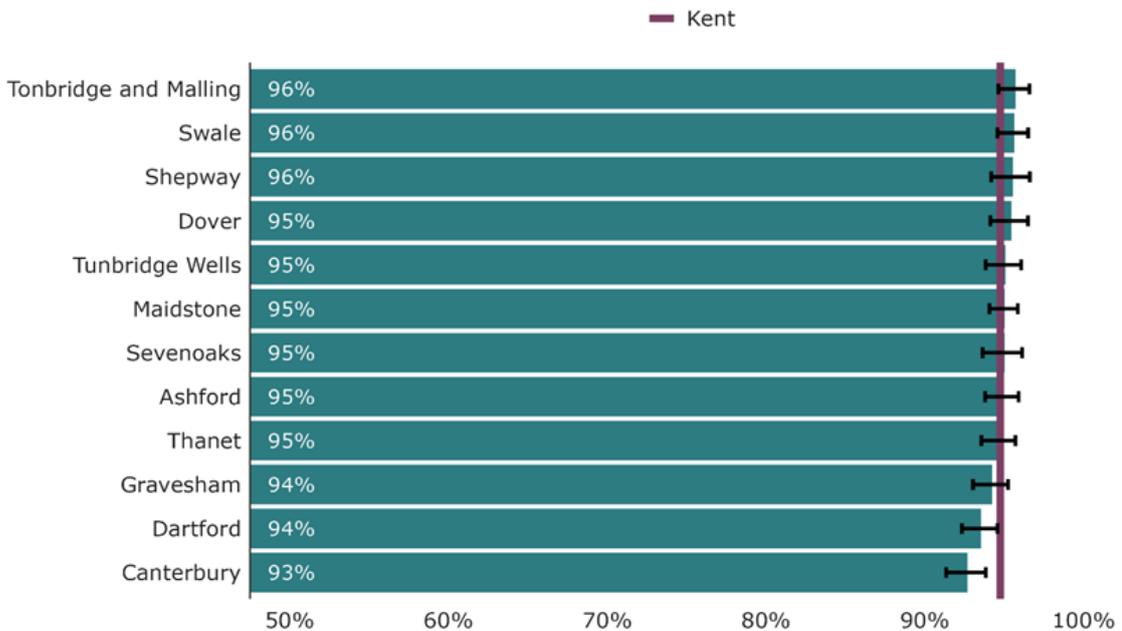


Source: Vaccination coverage statistics from UKHSA

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Figure 9

## 5 Years of Age DTaP/IPV/Hib Immunisation Coverage District Average - 2022

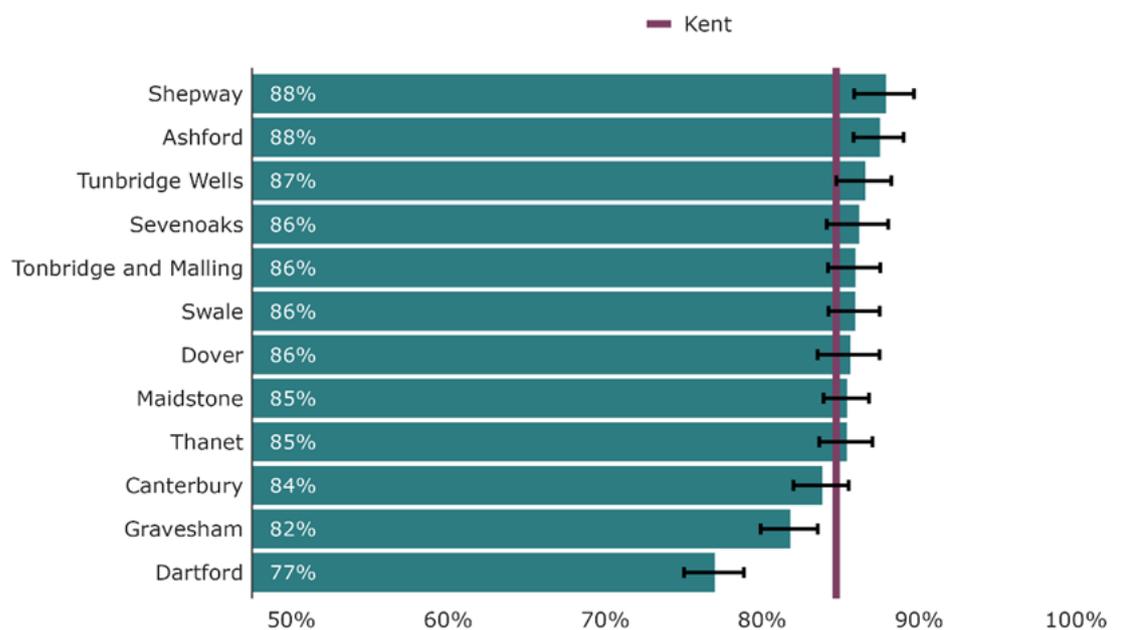


Source: Vaccination coverage statistics from UKHSA

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Figure 10

### 5 Years of Age DTaP and IPV Booster Immunisation Coverage District Average - 2022



Source: Vaccination coverage statistics from UKHSA

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## 8. Key findings:

- The pandemic appears to have had an impact on the immunisation uptake and the downtrend appears to be stabilising now.
- As expected, there is a negative association with the uptake of childhood vaccinations and deprivation although the difference is not very marked in Kent.
- There is some variation in childhood immunisation coverage observed by geography based on district and borough boundaries which is very marked for a few indicators but for most indicators the coverage of districts and boroughs is not very different from the Kent average.
- There are also significant variations in childhood immunisation uptake at Primary Care Network and General Practice levels which are masked when data is presented in aggregate form.

## 9. Ongoing work to address the variation in immunisation uptake

- Kent County Council Public Health colleagues are liaising with the UK Health Security Agency to improve the uptake of the measles vaccination. Recently a press release was issued to raise awareness among the public on the falling MMR coverage and the need to get children vaccinated.

- The Kent and Medway Integrated Care System is in the process of setting up the Vaccination and Immunisation Board to provide system wide leadership and address the variation in immunisation uptake across the system.
- Kent Public Health colleagues are also working at the Health Care Partnership level to improve immunisation coverage. Consultants in Public Health provide leadership and support to these partnerships across a broad range of Public Health issues including immunisation.
- KCC's Public Health team is working closely with the Kent and Medway Integrated Vaccination Board and the Southeast Screening and Immunisation Team at NHS England to further improve vaccination uptake among the population we serve.
- The Kent Public Health Observatory Team will continue to undertake detailed analysis (such as this report) to identify areas and factors influencing uptake to prioritise action.
- A further update will be presented to the Health Reform and Public Health Cabinet Committee in the next twelve months to report on progress and highlight any other issues identified.

## 10. Financial Implications

10.1 None

## 11. Legal implications

11.1 None

## 12. Equalities implications

12.1 There is a negative association observed between deprivation and childhood vaccination indicators which is a very well-known fact and this is being addressed by all partners.

## 13. Conclusion

13.1 The pandemic appears to have had an impact on the immunisation uptake and the downtrend appears to be stabilising now . As expected, there is a negative association with the uptake of childhood vaccinations and deprivation although the difference is not very marked in Kent.

13.2 There is some variation observed by geography based on district & borough boundaries marked for few indicators but for most indicators the coverage of district and boroughs is not very different from the Kent average. By raising awareness of this data and intelligence we hope to achieve better vaccination coverage among the Kent population.

## 14. Recommendation(s):

14.1 Members of the Health Reform and Public Health Cabinet Committee are asked to **NOTE** the contents of this report and to support the immunisation initiative by raising awareness of its importance among the communities they represent when there are opportunities to do so.

## 15. Background information and References

1. Salisbury D, Ramsay M, Noakes K. Immunisation against infectious diseases. The Stationary Office, 2006.
2. Rodrigues CMC, Plotkin SA. Impact of Vaccines; Health, Economic and Social Perspectives. Front Microbiol. 2020 Jul 14;11:1526. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7371956/> (accessed 6 June 2023)
3. UK Health Security Agency (2023). Parents urged to check children's MMR vaccine records following rise in measles cases. Internet. Available from <https://www.gov.uk/government/news/parents-urged-to-check-children-s-mmr-vaccine-records-following-rise-in-measles-cases> (accessed 7 June 2023).
4. UK Health Security Agency. Guidance - The complete routine immunisation schedule from February 2022 Updated 13 April 2023. Internet. Available from <https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule/the-complete-routine-immunisation-schedule-from-february-2022> (accessed 6 June 2023)
5. NHS. NHS vaccinations and when to have them. Internet. Available from [www.nhs.uk/conditions/vaccinations/nhs-vaccinations-and-when-to-have-them/](http://www.nhs.uk/conditions/vaccinations/nhs-vaccinations-and-when-to-have-them/) (accessed on 6 June 2023)
6. NHS. The routine immunisation schedule from February 2022. Internet. Available from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1055877/UKHSA-12155-routine-complete-immunisation-schedule\\_Feb2022.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1055877/UKHSA-12155-routine-complete-immunisation-schedule_Feb2022.pdf) (accessed 6 June 2023)
7. Gov.UK (2023). Cover of vaccination evaluated rapidly (COVER) programme: annual data. Internet. Available from <https://www.gov.uk/government/publications/cover-of-vaccination-evaluated-rapidly-cover-programme-annual-data> (accessed 6 June 2023).
8. Hungerford D, Macpherson P, Farmer S, Ghebrehewet S, Seddon D, Vivancos R, Keenan A. Effect of socioeconomic deprivation on uptake of measles, mumps and rubella vaccination in Liverpool, UK over 16 years: a longitudinal ecological study. Epidemiol Infect. 2016 Apr;144(6):1201-11.
9. NHS Digital. Statistics published for all routine childhood vaccinations in England in 2021-22: statistical press release. Internet. Available from <https://digital.nhs.uk/news/2022/childhood-vaccinations-2021-22> (accessed 12 June 2023).

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