Strategic Evidence Base for Bath and North East Somerset

Health Protection

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Health Protection

Bath & North East Somerset Council

Improving People's Lives

Click the green buttons to move to specific content

Anti-Microbial Resistance

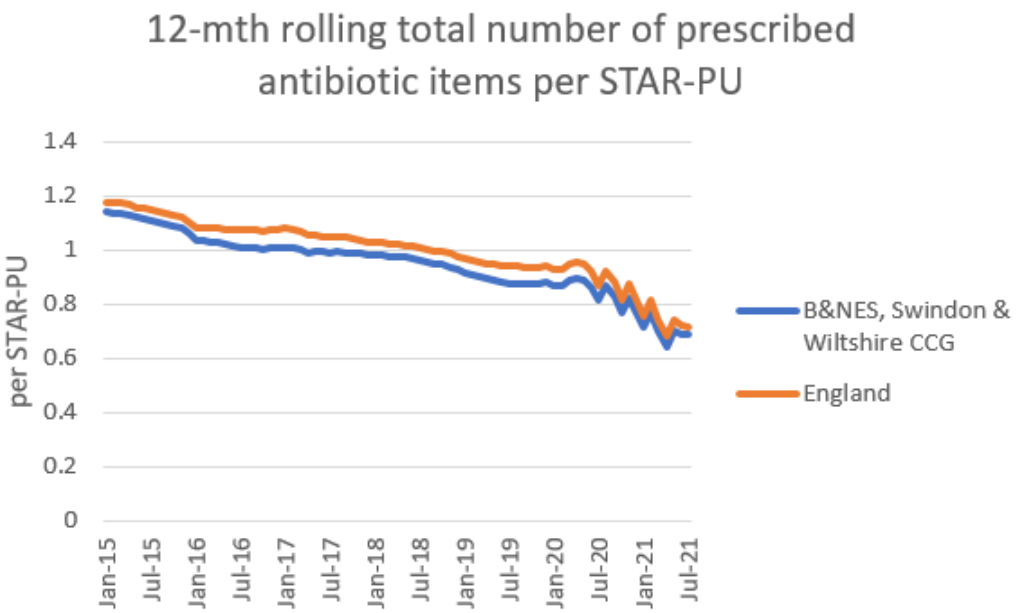
Childhood Vaccinations

Influenza Vaccinations

Covid-19 Vaccinations

Back to Section Contents

Antimicrobial Resistance (AMR)



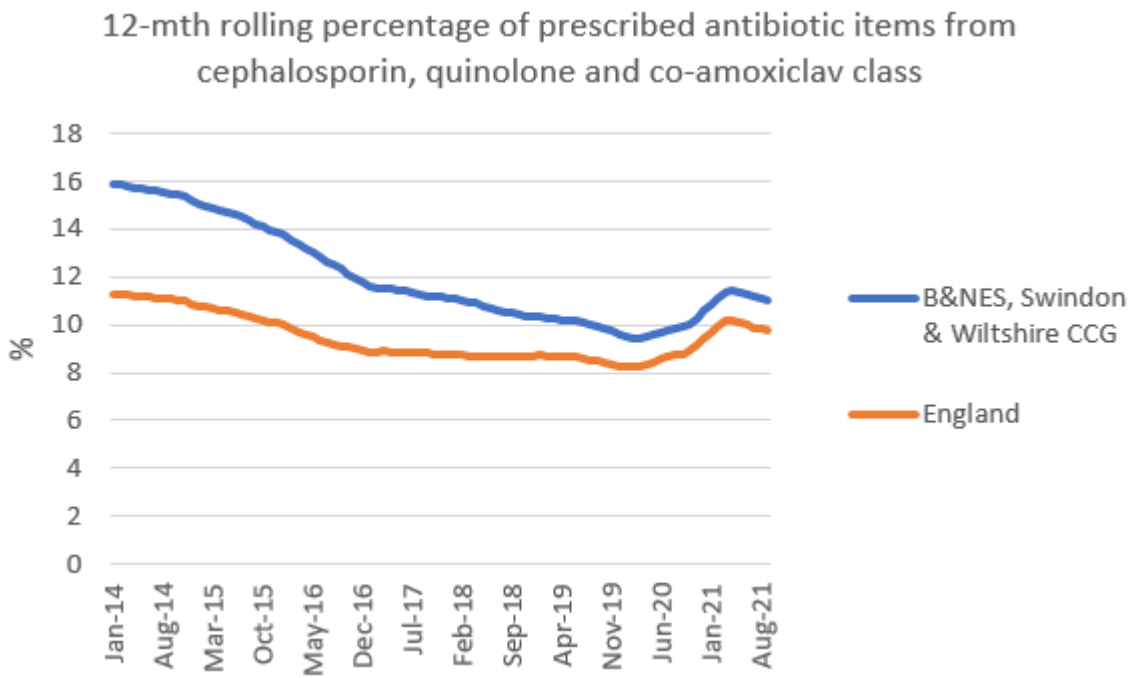
Definition: i) **Antimicrobials** are medicines used to prevent and treat infections caused by microorganisms in humans, plants and animals. ii) **Antibiotics** are medicines used specifically to treat bacterial infections iii) STAR-PU is a weighted unit that accounts for the age and sex of the population attending each practice and CCG so that different areas can be compared.

Source: OHID (2021), Local Health

- Antimicrobial resistance occurs when the organism that causes an infection becomes resistant to treatment. These organisms include bacteria, fungi, viruses and parasites and they can occur in humans, animals, and plants. As microorganisms become more resistant to drugs, vulnerable people are at greater risk from infections, and cancer treatments and common operations become much higher risk. Without effective treatments, more infections will cause serious illness, and deaths from AMR will increase.
- Some common bacterial infections such as urinary tract infections, sepsis and some sexually transmitted diseases, are already showing high levels of resistance to the antibiotics normally used to treat them.
- Resistance can happen naturally, but the inappropriate or ineffective use of antimicrobials can increase the rate at which resistance develops. Antibiotic prescribing in England is greatest in general practice settings, which accounts for ~73%, and it is estimated that at least 20% of all antibiotic prescriptions in primary care are inappropriate.
- The rate at which antibiotics are prescribed in GP settings has been declining since 2016 and this downward trend has also been seen in the B&NES, Swindon & Wiltshire CCG, shown opposite, which has been consistently lower than the equivalent value for England since 2015.
- Antibiotic prescribing in dental practises has also been declining between 2016 and 2019 but then increased in 2020. This is likely to be a result of the pandemic restricting access to other procedures which would have reduced the need for antibiotics.

Back to Section Contents

Antimicrobial Resistance cont.



Definition: Cephalosporin, quinolone and co-amoxiclav are all broad-spectrum antibiotics.

Source: OHID (2021), Local Health

- There has been an increase in prescribing for hospital inpatients, but this is likely to be a result of increasing blood stream infections which are normally treated in hospitals and a move away from prescribing single broad spectrum antibiotics in favour of multiple narrow spectrum antibiotics. There is a target to reduce the proportion of broad spectrum antibiotics prescribed, but the chart opposite shows that the percentage for B&NES, Swindon & Wiltshire CCG is consistently higher than that for England.

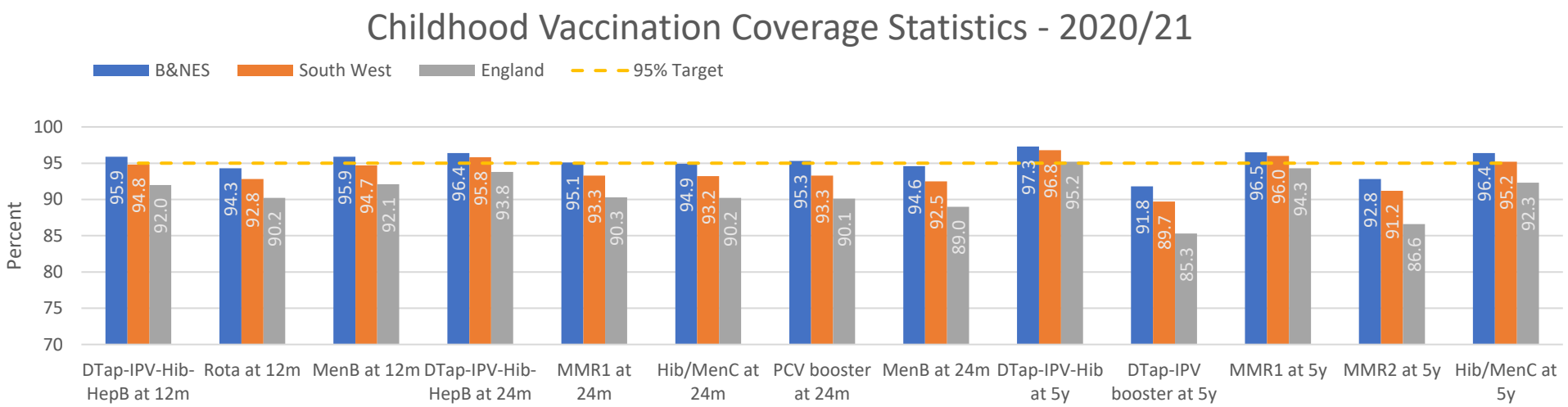
- It was estimated that there were 2,596 deaths in England during 2019 caused by antibiotic-resistant bacteria (700,000 globally), and this decreased in 2020 to 2,228. Prior to 2020, it was estimated that the number of deaths had been increasing year-on-year since 2016, and this recent reduction is likely to have several causes including changes in treatment guidance, restrictions due to the pandemic and laboratory testing capacity.

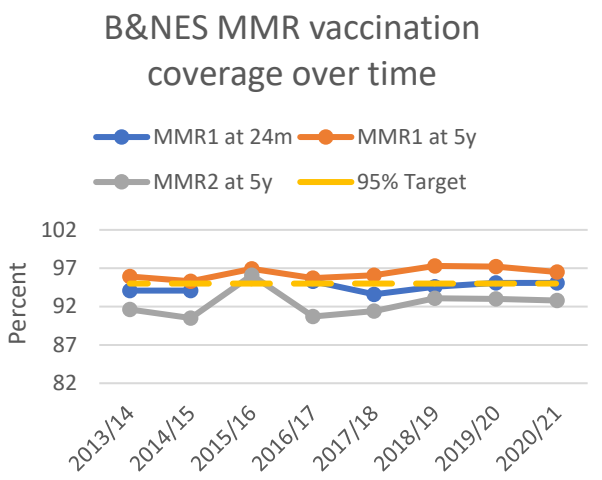
- It is expected that by 2030, global human consumption of antibiotics will have increase by 30% and, if the effectiveness of our current medicines are not protected and new medicines are not developed, from 2050 there could be 10 million deaths globally every year due to AMR.

- The UK has a 20-year vision and a 5-year plan to address the issue of antimicrobial resistance which includes better infection prevention and control through immunisation, sanitation and hygiene, reducing the use of antibiotics in animals by improving animal health and incentivising the development of new medicines.

Back to Section Contents

Childhood Vaccinations





- The UK routine childhood immunisation programme[1] includes immunisations recommended by WHO and the Joint Committee on Vaccination and Immunisation (JCVI) with the expectation of at least 95% of children being immunised against vaccine preventable infectious diseases. In 2020/21 B&NES coverage was higher than the national rate for all routine vaccinations and above the 95% target for 8 of the 13 routine vaccinations. MMR vaccine rates in B&NES have been stable in recent years with a first dose by 2 or 5 years exceeding the 95% target. Although below the 95% target in 2020/21, the South-West region had the second highest coverage (91.2%) for those receiving 2 doses of MMR before 5 years of age, and B&NES was in the top quintile of all LAs (92.8%). **However, this means around 1 in 14 children in B&NES have not received the full recommended dose of MMR by age 5**.
- In high-income countries substantial differences exist in vaccine uptake relating to parental socioeconomic characteristics, gender, ethnic group, geographic location, religious belief and education levels [2, 3]. Vaccine misinformation and consumption of negative media also reduce uptake. In B&NES, targeted pilot projects successfully improved uptake rates in areas with known low uptake rates (e.g. Twerton, with MMR booster uptake increasing from 71% in Q1 2017/18 to 100% in Q3 2018/19). However, areas with low uptake continue to exist. In Q2 2021/22, **MMR2 uptake rates were below 90% in surgeries located in Kingsway, Twerton, Central East, Lower Peasedown St John, Chew Valley North and Westmoreland**.

[1] UK routine childhood immunisations: diphtheria, tetanus, pertussis, polio, Haemophilus influenzae type b (Hib), Hepatitis B, measles, mumps, rubella (MMR), pneumococcal disease (PCV), Rotavirus, Meningococcal group B and group C.

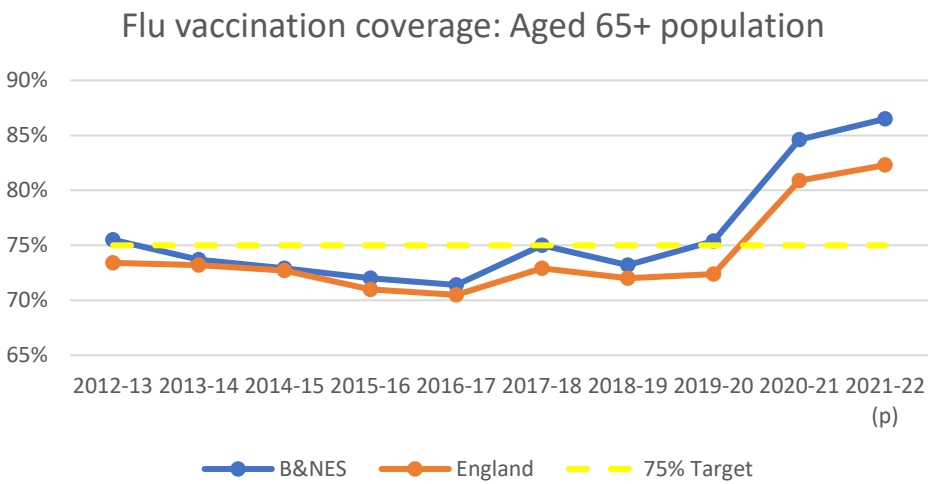
Graph Source: NHS Digital Interactive Dashboard

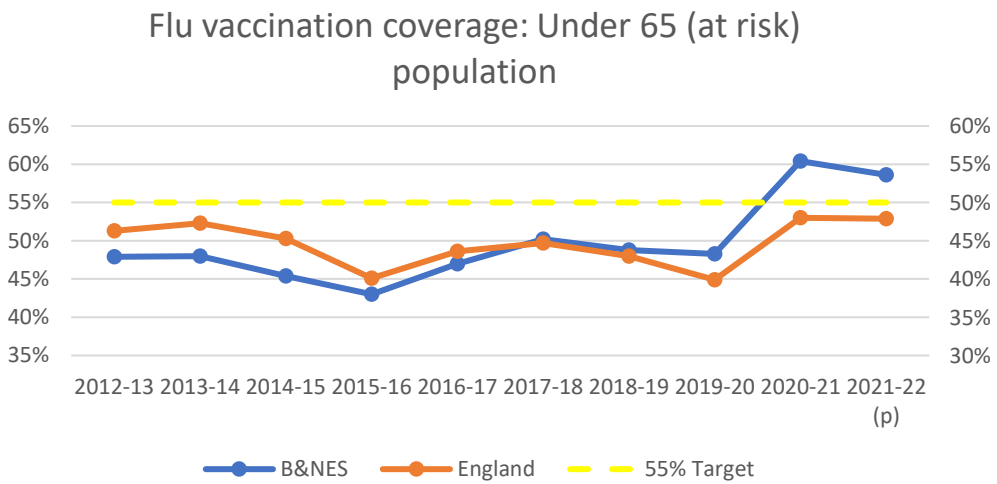
Statistics show the number of children vaccinated as a proportion of the eligible population (coverage). Coverage data not available for PCV for the 12 month cohort.

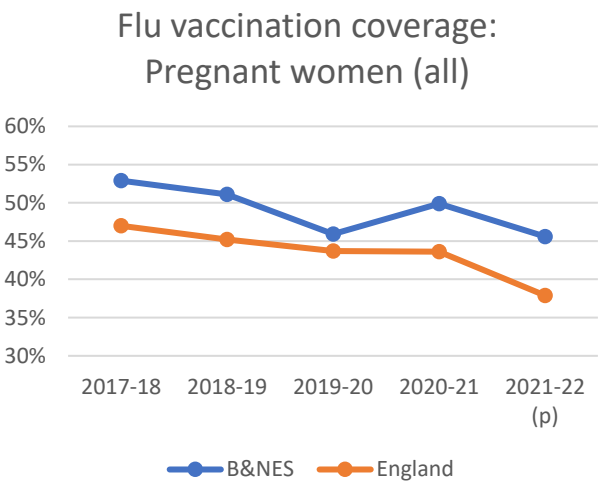
MMR first dose is usually given within a month of first birthday. A booster dose (MMR2) is then given between 3 and 5 years of age. **Note**: 2015/16 MMR1 at 24m data is known to be incorrect and we await a correction by NHS Digital.

Back to Section Contents

Influenza Vaccinations







- Flu vaccination coverage rates in the **over 65 population** have been higher in B&NES than the national rate for the past decade. During the winter of 2020-21, rates increased significantly to the highest on record both nationally and in B&NES, likely due to the pandemic and the lack of Covid-19 vaccine until Dec '20. Coverage rates in 2020-21 were 85% in B&NES and provisional figures for 2021-22 show a further increase to 87%.
- Similarly, flu vaccination coverage rates in the **under 65 at risk population** have increased during the Covid pandemic with rates in B&NES of 60% in 2020-21, dropping slightly to 59% in 2021-22. These rates are higher than the 55% target for the first time in a decade but still below the national ambition of 75% coverage.
- Flu vaccination coverage rates in **all pregnant women** (healthy and in at-risk groups combined) are higher in B&NES than nationally but have shown declines both nationally and in B&NES over recent years. Provisional figures for 2021-22 show 46% of B&NES pregnant women received a flu vaccination compared to 38% nationally.
- In **children** there has been a phased introduction of the seasonal flu vaccine since 2013/14 commencing with the introduction to 2- and 3-year-old children gradually extending with additional age groups added each year. Coverage in 2- and 3-year-olds in B&NES has gradually increased from 48% in 2014/15 to 58% in 2019/20. This increased further to 74% in 2020/21 and was the highest coverage across all LAs in England[1]. Coverage in B&NES has been consistently higher than the national rate (57% in 2020/21). In 2020-21, all children aged 2-12 (i.e. to school year 7) were offered the flu vaccination. In B&NES, 72% of primary school aged children received the flu vaccine in 2020 compared to 63% nationally.

Note: 2021-22 figures are provisional. Rates cover period 1Sept20 to 28Feb21.

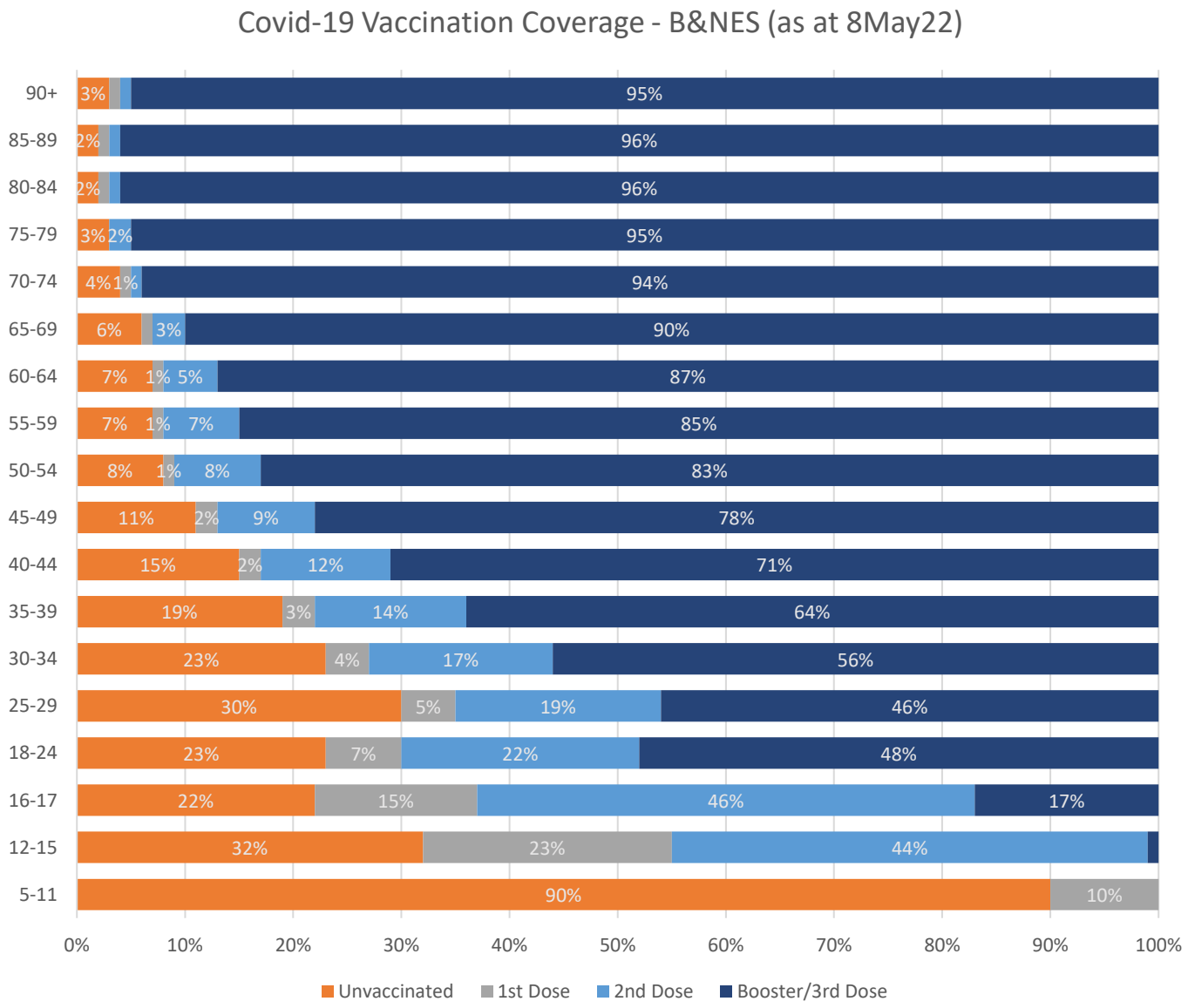
Data sources: OHID Public Health Outcomes Framework and 2021-22 Influenza Vaccination Monthly uptake figures

The under 65 at risk population includes individuals aged 6 months to under 65 years old in one or more clinical risk groups. A list of clinical risk groups can be found here.

[1] Source: Flu vaccination coverage by LA

Back to Section Contents

Covid-19 Vaccinations



	Total 1st Dose	Total 2nd Dose	Total Booster/ 3rd Dose
B&NES	85%	81%	68%
South West	87%	83%	69%
England	80%	76%	59%

- Coverage rates in B&NES are **higher compared to national** rates but **slightly lower than South West regional** rates
- Coverage rates in B&NES are over 90% in the **over 50s** for 1st & 2nd dose
- In B&NES over 70% of **12-17 year olds** have received a 1st dose
- In B&NES **residents in older adult care homes** have exceeded 95% coverage for 1st, 2nd & booster/3rd doses, while **staff** have exceeded 95% coverage for 1st & 2nd doses.
- In B&NES, **residents in younger adult care homes** have exceeded 80% coverage for 1st & 2nd doses, while **staff** have exceeded 90% coverage for 1st & 2nd doses. **Staff of Domiciliary Care Providers** have exceeded 90% coverage for 1st & 2nd doses.
- Nationally, Covid-19 vaccination rates among **pregnant women** have been a concern but this has improved in recent months with 53.7% of women giving birth in England having received at least one dose in Dec 2021, up from 22.7% in Aug 2021.

Source: https://coronavirus.data.gov.uk/details/vaccinations. Data as of 8 May 22. Care home data as of 1 May 22.

Note: The denominator used in % coverage calculations is the National Immunisation Management System (NIMS) 12+ Population

Booster vaccinations are offered to people who have had their 2nd dose. 3rd dose vaccinations are offered to people aged 12+ with severely weakened immune systems. Unlike boosters, 3rd doses are considered part of the primary vaccination course.