North Tyneside

Joint strategic needs assessment

Adult immunisations

December 2022

North Tyneside Council

1. Introduction

Immunisation is the process whereby a person is made resistant or immune to an infectious disease, typically by the administration of a vaccine[1]. Vaccines teach your immune system how to create antibodies that protect you from diseases. It's much safer for your immune system to learn this through vaccination than by catching the diseases and treating them. Once your immune system knows how to fight a disease, it can often protect you for many years[2].

Vaccination is the most important thing we can do to protect ourselves and our children against ill health. They prevent up to 3 million deaths worldwide every year. Since vaccines were introduced in the UK, diseases like smallpox, polio and tetanus that used to kill or disable millions of people are either gone or seen very rarely. Other diseases like measles and diphtheria have been reduced by up to 99.9% since their vaccines were introduced. However, if people stop having vaccines, it's possible for infectious diseases to quickly spread again[2].

Having a vaccine also benefits your whole community through "herd immunity". If enough people are vaccinated, it's harder for the disease to spread to those people who cannot have vaccines. For example, people who are ill or have a weakened immune system. All vaccines are thoroughly tested to make sure they will not harm you[2].

Adults with a certain health condition or over a certain age are offered vaccinations that help protect against serious illnesses such as flu, pneumococcal and shingles. Pregnant women are offered vaccinations that help protect against pertussis and flu.

Adult immunisations are given in primary care usually by the practice nurse or sometimes in alternative settings such as hospital or maternity if you are pregnant. Immunisation rates are often referred to as coverage, this is because vaccination coverage is the best indicator of the level of protection a population will have against vaccine preventable diseases. Coverage tells us how many people in that specific cohort have received the vaccination by a point in time for example how many adults have had the shingles vaccine by the time they turn 78. Vaccination uptake is also referenced which is the number of people

vaccinated in a certain time such as how many people in a clinical at-risk group received the flu vaccine that winter.

The NHS Constitution advises that individuals have the right to receive the vaccinations that the Joint Committee on Vaccination and Immunisation recommends that you should receive under an NHS-provided national immunisation programme[3]. The Director of Public Health role for immunisation programmes includes providing the appropriate challenge and to advocate for an emphasis on reducing health inequalities and improving access in underserved groups in the work of commissioners, providers, and other key stakeholders[4].

This JSNA topic will focus on adult immunisations administered in accordance with the NHS vaccination schedule[5]. Table 1 lists the adult immunisation programmes.

Table 1 - adult immunisation schedule and the diseases they protect against

Age due	Vaccine given	Diseases protected against
65 years old	**Pneumococcal Polysaccharide Vaccine (PPV)**	**Pneumococcal (23 serotypes)**
65 years of age and older	**Inactivated influenza vaccine**	**Influenza (each year from September)**
70 to 79 years of age	**Shingles**	**Shingles**
Pregnant women	**DTaP/IPV / Inactivated flu vaccine**	**Flu and Pertussis**
Certain underlying medical conditions	**Additional vaccines are available**	

2. Key Issues

- **Shingles –** coverage increases the longer the person has been eligible for. North Tyneside are achieving higher than the North East and Cumbria and England average. Uptake is low at 32% when individuals first become eligible. The shingles vaccination helps prevent shingles, which is a common painful skin disease. The vaccine is expected to reduce the risk of getting shingles and if you do go on to have the disease, your symptoms may be milder and the illness shorter[7].
- **Flu –** Uptake of the flu vaccine remains lower than the national target for those in clinical at-risk groups, those aged 50-64 and pregnant women. In 2021/22 flu season North Tyneside achieved consistently higher uptake rates than the national and regional averages. North Tyneside observed improvement in all adult cohorts except for pregnant women who seen a decline of 5.7%[8]. Getting vaccinated against flu will provide protection for the individual and for those around them[9].
- **Pneumococcal (Pneumonia) –** Uptake of the PPV vaccine increases the longer the individual has been eligible. North Tyneside are achieving low levels of coverage for the first year the patient becomes eligible (21.3%). 6.7% of the eligible population received the PPV vaccination in 2020/21 however this is above the national and regional average. North Tyneside is achieving above the England average for coverage rates when the individual receives the vaccine at any time but are below the North East and Cumbria average[6]. There is limited regional data available for those in at risk groups which indicates lower coverage rates similar to the flu vaccination programme. The pneumococcal vaccine protects against serious and potentially fatal pneumococcal infections[10].
- **Pertussis –** Uptake of the pertussis vaccine is high in North Tyneside and North Tyneside are achieving higher than the regional and national averages[6]. Pertussis, more commonly known as **whooping cough,** has seen a sharp rise in recent years and babies who are too young to start their vaccinations are at greatest risk. Young babies with whooping cough are often very unwell and most will be admitted to hospital because of their illness. When whooping cough is particularly severe, they can die. Pregnant women can help protect their babies by getting vaccinated[11].

3. High Level Priorities

The World Health Organization Immunization Agenda 2030 envisions a world where everyone, everywhere, at every age, fully benefits from vaccines to improve health and well-being. It aims to maintain hard-won gains in immunization, recover from the disruptions caused by COVID-19, and achieve even more – by leaving no one behind, in any situation or at any stage of life[12].

The goal for North Tyneside is to achieve vaccination coverage levels that protect as many individuals as possible and to achieve effective herd immunity. To do this we need to tackle the inequalities in vaccine uptake.

It is likely that higher flu vaccine uptake has been partly driven by concerns about the COVID-19 pandemic and a greater understanding about the role of vaccines in preventing illness, as well as, in a small number of circumstances, the influenza vaccination being offered to eligible patients when they presented for their COVID-19 vaccination or booster. The national programme wants to build on the momentum of this achievement in the influenza programme and the successful roll-out of the COVID-19 vaccination programme, to continue to encourage influenza vaccine uptake in those who are eligible. Improved uptake in those in clinical risk groups, and pregnant women should be achieved to provide direct protection to those at increased risk from influenza[13].

The national flu letter states the need to support those who are living in the most deprived areas, from ethnic minorities and other underserved communities to have as high flu vaccination uptake as the population as a whole. High quality dedicated and interculturally competent engagement with local communities, employers, faith and advocacy groups will therefore be required. Providers should therefore ensure they have robust plans in place for tackling health inequalities for all underserved groups to ensure equality of access to the influenza vaccine. Efforts should be made to show improvement in coverage in those groups who were more than 5% lower than the national average[13].

General practices and school providers must demonstrate a 100% flu vaccine offer this season by ensuring all eligible patients are offered the opportunity to be vaccinated by active call and recall mechanisms, supplemented with opportunistic offers where pragmatic. The aim of the influenza programme for 2022 to 2023 is to demonstrate a 100% offer and to achieve at least the uptake levels of 2021 to 2022 for each cohort, and ideally exceed them[13].

Flu vaccination uptake rates remain low for those in clinical at-risk groups. The risk of death or serious illness is high in some of these at-risk groups and focused attention should be given to understand barriers and enablers and improve uptake.

Uptake of the flu vaccination in pregnant women is low. North Tyneside should understand if there are any improvement plans from maternity and/or NHS England and NHS Improvement. Unlike the flu vaccination programme, coverage is much higher for the pertussis vaccination offered in pregnancy. It would be beneficial to understand why there is such a difference. Whilst pertussis vaccine coverage rates are high (85%), there is still 15% of pregnant women whose babies will not have the protection from whooping cough and areas for improvement should be considered.

PPV and Shingles vaccination coverage rates should be given attention to improve timely access to the vaccination when individuals become eligible. Local services should aim to make Shingles immunisation available for 100% of the eligible group in accordance with the Green Book and other official guidance[14]. Local services must aim for 100% of relevant individuals being offered PPV immunisation in accordance with the Green Book and other official guidance[14]. There may be some benefit to do some joint work with the flu and PPV programme to improve vaccine acceptance rates for those in clinical at-risk groups.

North Tyneside should consider the use of the Shingles Toolkit available from NHS England and NHS Improvement to improve coverage rates.

North Tyneside should understand if there are plans from NHS England and NHS Improvement to widen access to Shingles and Pneumococcal vaccinations for example via pharmacy like the flu vaccination programme.

Consideration should be given to seek service user views as to how to improve vaccine acceptance within the borough.

North Tyneside should understand what action high achieving practices are taking to share positive learning across the borough.

4. Those at Risk

Immunisation protects individuals and populations from many serious and potentially deadly diseases[2]. High vaccination rates provide increased probability of immunity throughout the population (herd immunity), which is particularly important for protecting individuals who cannot be vaccinated and can also lead to the elimination of some diseases. Even when a disease is no longer common in the UK, without sustained high rates of vaccination it is possible for these diseases to return as demonstrated by recent measles outbreaks[15].

Groups with a higher risk of disease, or more severe disease, benefit even more from vaccination; ensuring high coverage in these groups can narrow inequality in disease outcomes[16].

National data indicated that individuals diagnosed with schizophrenia were less likely to get vaccinated (30.3 per cent) compared to non-diagnosed (41.2 per cent). Individuals with learning disabilities were also less likely to get vaccinated (28.1 per cent) compared to individuals who were not diagnosed with a learning disability (41.1 per cent)[17].

National evidence suggests that in general, lower socioeconomic status was associated with lower coverage as well as later attainment of vaccination[16].

Vaccine coverage data quality is less complete in older individuals, particularly those born before 2000. This potentially masks inequalities as it is difficult to ascertain whether low coverage in these older individuals represents data issues or under-immunisation. This is particularly true for adults born abroad, who are less likely to be vaccinated compared with British born individuals of the same age, and for whom vaccine coverage is not well captured[16].

Young people show lower intentions to get vaccinated: individuals aged 16-34 were twice as likely to report that they are unlikely to get vaccinated or that they definitely won't compared to individuals aged 55-75. People aged 30-60 are less likely to get vaccinated compared to people aged 65 and more[17].

In the adult programmes, shingles vaccine uptake has a small gender difference. It is 45.8% for females and 44.8% for males in the routine cohort for the year to August 2017[11]. More broadly it has been identified that women showed slightly

lower intentions to get vaccinated than men. Women from priority groups were found less likely to get vaccinated (39.6 per cent) than men (43.1 per cent)[17].

Evidence nationally, suggests that there is no simple relationship between ethnicity and coverage. However, coverage did appear to be more consistently lower than White-British children in certain ethnic groups, for example Black Caribbean, Somali, White Irish, and White Polish populations[16].

Inadequate vaccine coverage in under-vaccinated groups is often demonstrated by outbreaks among these communities. There have been measles outbreaks in Europe between 2005 and 2008 in Roma & Sinti, Traveller, and Steiner communities. It is difficult to determine vaccination coverage levels in traveller populations, as many may face barriers to engagement with health services. Estimated uptake rates for MMR and polio vaccines among Gypsy Travellers in 2010 suggested far lower rates than in the England population; possibly below 50% in some areas[16].

Migrant communities also exhibit more outbreaks of vaccine-preventable disease, suggesting inadequate coverage. In a recent measles outbreak in West Yorkshire, there were more cases in areas with a higher density of new migrants[16].

5. Level of Need

Data below shows that North Tyneside consistently achieve higher rates than the England average and, in most cases, higher than the North East regional average. Coverage in some eligible groups or immunisation programmes is lower than what we would like to see resulting in an increased risk of vaccine preventable disease[6,8].

Shingles Coverage Data

Shingles Vaccine	coverage aged 70 (%)	coverage aged 71 (%)	coverage aged 72 (%)	coverage aged 73 (%)	coverage aged 74 (%)	coverage aged 75 (%)	coverage aged 76 (%)	coverage aged 77 (%)	coverage aged 78 (%)	coverage aged 79 (%)	coverage aged 80 (%)
North Tyneside LA Q2 2021/22	32										
Cumbria and North East Q2 2021/22	28.3										
England Q2 2021/22	22.3										
North Tyneside LA Q1 2021/22	39.7										
Cumbria and North East Q1 2021/22	31.5										
England Q1 2021/22	27.5										
North Tyneside LA Q4 2020/21	28.6	51.5	59.0	63.6	67.5	76.3	78.8	81.7	64.1	52.3	60.8
Cumbria and North East Q4 2020/21	23.6	45.5	57.8	63.3	68.1	73.8	77.8	79.8	63.4	48.5	59.7
England Q4 2020/21	20.2	42.1	54.5	60.9	66.1	71.6	76.0	77.9	59.9	46.7	56.7
North Tyneside LA Q3 2020/21	23.5	49.9	58.3	63.0	67.1	76.1	78.8	81.4	62.1	50.9	59.7
Cumbria and North East Q3 2020/21	19.2	44.2	57.3	62.8	67.7	73.6	77.7	79.0	60.2	46.4	58.6
England Q3 2020/21	15.8	40.7	53.8	60.4	65.7	71.4	75.8	77.1	56.9	43.8	55.8

	Cumulative Shingles Coverage in 70 year olds	**Cumulative Shingles Coverage in 78 year olds**
North Tyneside LA annual data 2019/20	28.9	27.2

Cumbria and North East annual data 2019/20	28.2	27.6
England annual data 2019/20	26.5	25.8

Flu Vaccination Uptake Data

Vaccination cohort	North Tyneside 2020/21	North East and North Cumbria 2020/21	England 2020/21	North Tyneside 2021/22	North East and North Cumbria 2021/22	England 2021/22
65 years and over	85.1	83.3	80.9	86.5	85.5	82.3
6 months to under 65 years at-risk	58.4	54.8	53.0	58.8	57.9	52.9
Pregnant women	50.4	47.7	43.6	44.7	43.3	37.9
50 to under 65 years and NOT in a clinical risk group	43.8	39.0	35.2	55.4	52.7	45.7
50 to 65 years and IN a clinical risk group	71.8	68.3	66.3	72.5	71.1	66.1
All aged 50 to under 65 years	53.2	48.8	45.2	61.4	59.2	52.5

PPV Vaccination Coverage Data

	Age 65 and over	
	Received the Pneumococcal (PPV) vaccine between 1 April 2020 and 31 March 2021 inclusive	Received the Pneumococcal (PPV) vaccine At Any Time
North Tyneside	6.7	72.2
Cumbria and North East	6.0	73.3
England	4.9	70.6

Prenatal Pertussis Coverage Data

Prenatal Pertussis	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21
North Tyneside	71.6	85.6	81.0	80.2	90.0	85.6	85
England	61.4	76.2	74.7	72.9	73.5	68.8	65.4
Cumbria and North East					81.6	80.4	73.3

There is no published data available at practice level. Unpublished data indicates that there is practice level variation in uptake and coverage of the adult immunisation programmes. Practice variation means that in some areas in North Tyneside we have high levels of vaccination coverage and in some areas, we have lower levels resulting in an increased risk of local outbreaks.

6. Unmet Needs

Adult immunisation uptake and coverage data indicates there is unmet need within the borough resulting in an increased risk of vaccine preventable disease. Some examples are discussed below.

Flu is usually self-limiting, and symptoms can be managed with self-care. However, for some people flu can be far more dangerous[18]. Those in at-risk groups are more likely to experience complications from flu resulting in hospitalisation or death[19]. At risk groups include people with respiratory conditions, diabetes, heart conditions, being very overweight, chronic kidney disease, liver disease, neurological conditions, learning disability, a weakened immune system or spleen problems[20]. In England, those aged six months to 64 years of age with a clinical at-risk condition are 11 times more likely to die from flu than members of the general population[21]. However, the risk varies by condition; for example, the risk of death from flu is highest among people with chronic liver disease, immunosuppression, chronic neurological disease, chronic renal disease, and diabetes. Pregnant women are also at increased risk from flu death[21].

The most effective way of managing influenza is by preventing it, with vaccination being the most successful means of protection[18]. In North Tyneside for 2021/22 flu season 12,701 individuals in clinical at-risk groups did not get their flu vaccination. Unpublished data indicates that uptake varies between clinical at-risk groups. In the same flu season 1,252 pregnant women did not get their flu vaccination[8]. Unpublished data and local intelligence could provide helpful guidance on focused areas for the borough.

The pneumococcal vaccine protects against serious and potentially fatal pneumococcal infections. It is also known as the pneumonia vaccine. Pneumococcal infections are caused by the bacterium Streptococcus pneumoniae and can lead to pneumonia, blood poisoning (sepsis) and

meningitis. At their worst, they can cause permanent brain damage, or even kill[10]. Data indicates that 12,460 individuals 65 and over registered with a GP in North Tyneside are eligible for the PPV vaccine but have not received it. PPV coverage increases as the individual ages therefore the number of individuals outstanding the vaccine is expected to be higher for those in younger age groups. There is no numerator and denominator available for those in at risk groups[6].

Shingles can be very painful and uncomfortable. Some people are left with pain lasting for years after the initial rash has healed. Shingles can also be fatal for around 1 in 1,000 over-70s who develop it. The shingles vaccine is expected to reduce the risk of getting shingles. If individuals do go on to have the disease, their symptoms may be milder and the illness shorter[7]. Cumulative Shingles Coverage in 70-year-olds within North Tyneside indicates that 71.1% of individuals are not vaccinated[6].

Whooping cough (pertussis) rates have risen sharply in recent years and babies who are too young to start their vaccinations are at greatest risk. Young babies with whooping cough are often very unwell and most will be admitted to hospital because of their illness. When whooping cough is particularly severe, they can die. Getting vaccinated while pregnant is highly effective in protecting the baby from developing whooping cough in the first few weeks of their life[11]. Within North Tyneside we are achieving higher coverage than the regional and national average however their remains 15% of pregnant women unvaccinated[6].

In 2018, a report by the Royal Society of Public Health undertook a survey to identify barriers to vaccination across the life course[15]. The report stated that accessibility and convenience of vaccination services can be important determinants of vaccine uptake, and this may be particularly true for those who are not explicitly anti-vaccination, but perhaps are more questioning, as reassurance from a healthcare professional (usually a nurse) is the most effective way of encouraging them to vaccinate[22].

Based on that survey, the most common barriers to getting vaccinated were[22]:

- timing of appointments (49%)
- availability of appointments (46%)
- childcare duties (29%)

7. Projected Need and Demand

Population projections indicate an ageing population for North Tyneside. There are approximately 90,000 people aged 50+ registered with a GP within the borough. Data indicates that the number of people aged 65 years will increase significantly by 2025. The percentage of the North Tyneside population with a limiting long-term illness is significantly higher than the average for England[23].

8. Community Assets and Services

A whole system approach is required to improve vaccine uptake[15]. Eligible adults may have regular contact with services for example at annual health checks or collecting medication from pharmacy. These opportunities could be used to discuss vaccine eligibility and any questions or worries the individual has about vaccine acceptance.

9. Evidence for Interventions

Several interventions have been associated with improving immunisation acceptance and increasing coverage. Successful interventions related to processes include sending invites and reminders, checking immunisation status at all opportunities, using IT software to flag those that have missed out, recording vaccinations with the appropriate codes. Offering flexible appointments, planning sufficient time for appointments, and not holding waiting lists alongside local promotion of immunisations were also found to be successful. Clinicians offering call backs for anyone unsure about immunisation and feeling confident to speak about vaccines also featured within the evidence[22].

Making every contact count is an embedded model of practice and should be followed for immunisations[24,25]. Practitioners should take every opportunity to enquire about vaccination history, and to counsel individuals, of the importance of vaccination. Where possible, vaccinations should be offered during consultations[22].

10. Views

11. Additional Needs Assessments Required

A needs assessment to explore and understand children's immunisation will support an overall view of immunisation in North Tyneside.

12. Key Contacts

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References

1. Vaccines and Immunization [Internet]. Who.int. 2022. Available from: https://www.who.int/westernpacific/health-topics/vaccines-and-immunization
2. Why vaccination is safe and important [Internet]. nhs.uk. 2019. Available from: https://www.nhs.uk/conditions/vaccinations/why-vaccination-is-safe-and-important/
3. The NHS Constitution for England [Internet]. GOV.UK. 2021. Available from: https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england
4. Directors of Public Health in Local Government. Gov.uk. 2020.
5. Complete routine immunisation schedule [Internet]. GOV.UK. 2022. Available from: https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule
6. Research and statistics [Internet]. GOV.UK. 2022. Available from: https://www.gov.uk/search/research-and-statistics?parent=/health-and-social-care/health-protection-immunisation&content_store_document_type=statistics_published&topic=43d071e7-a450-4bb6-b34a-c4ed256a226d&order=updated-newest
7. Shingles vaccine overview [Internet]. nhs.uk. 2021. Available from: https://www.nhs.uk/conditions/vaccinations/shingles-vaccination/

8. Seasonal flu vaccine uptake in GP patients: monthly data, 2021 to 2022 [Internet]. GOV.UK. 2022. Available from: https://www.gov.uk/government/statistics/seasonal-flu-vaccine-uptake-in-gp-patients-monthly-data-2021-to-2022

9. Flu vaccine [Internet]. nhs.uk. 2021. Available from: https://www.nhs.uk/conditions/vaccinations/flu-influenza-vaccine/

10. Pneumococcal vaccine overview [Internet]. nhs.uk. 2019. Available from: https://www.nhs.uk/conditions/vaccinations/pneumococcal-vaccination/

11. Whooping cough vaccination in pregnancy [Internet]. nhs.uk. 2019. Available from: https://www.nhs.uk/pregnancy/keeping-well/whooping-cough-vaccination/

12. Immunization Agenda 2030 [Internet]. Who.int. 2022. Available from: https://www.who.int/teams/immunization-vaccines-and-biologicals/strategies/ia2030

13. National flu immunisation programme 2022 to 2023 letter [Internet]. GOV.UK. 2022. Available from: https://www.gov.uk/government/publications/national-flu-immunisation-programme-plan/national-flu-immunisation-programme-2022-to-2023-letter

14. NHS England » Public health national service specifications 2019/20 [Internet]. England.nhs.uk. 2020. Available from: https://www.england.nhs.uk/publication/public-health-national-service-specifications/

15. Royal College of Paediatrics and Child Health (2020) State of Child Health. London: RCPCH. [Available at: stateofchildhealth.rcpch.ac.uk]

16. PHE immunisation inequalities strategy [Internet]. GOV.UK. 2021. Available from: https://www.gov.uk/government/publications/phe-immunisation-inequalities-strategy

17. A review of research into vaccine uptake in the UK [Internet]. Local.gov.uk. 2022. Available from: https://www.local.gov.uk/our-support/coronavirus-information-councils/covid-19-service-

information/covid-19-vaccinations/behavioural-insights/resources/research

18. Ghebrehewet S, MacPherson P, Ho A. Influenza. BMJ. 2016;:i6258.

19. Cromer D, van Hoek A, Jit M, Edmunds W, Fleming D, Miller E. The burden of influenza in England by age and clinical risk group: A statistical analysis to inform vaccine policy. Journal of Infection. 2014;68[4]:363-371.

20. Flu [Internet]. nhs.uk. 2019 [cited 6 July 2021]. Available from: https://www.nhs.uk/conditions/flu/

21. Recommendations for research | Flu vaccination: increasing uptake | Guidance | NICE [Internet]. National Institute for Health and Care Excellence. 2018 [cited 6th July 2021]. Available from: https://www.nice.org.uk/guidance/ng103/chapter/Recommendations-for-research

22. Kassianos G, Ramsay M. Increasing vaccine uptake: Strategies for addressing barriers in primary care - UK Health Security Agency [Internet]. Ukhsa.blog.gov.uk. 2019. Available from: https://ukhsa.blog.gov.uk/2019/05/16/increasing-vaccine-uptake-strategies-for-addressing-barriers-in-primary-care/

23. North Tyneside Ageing Well Strategy 2020-2025. North Tyneside; 2020.

24. NHS England » Making Every Contact Count (MECC): Consensus statement [Internet]. England.nhs.uk. 2017. Available from: https://www.england.nhs.uk/publication/making-every-contact-count-mecc-consensus-statement/

25. Bennett V. Vaccination is a lifelong benefit – make every contact count - UK Health Security Agency [Internet]. Ukhsa.blog.gov.uk. 2016. Available from: https://ukhsa.blog.gov.uk/2016/04/28/vaccination-is-a-lifelong-benefit-make-every-contact-count/