



Public Health  
England



**11th July 2019**

**NHS England North Midlands Screening and Immunisation Team**

**Review of Seasonal Influenza (Flu) Immunisation Programme 2018-2019**

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## **Purpose**

This paper describes the performance of the seasonal influenza (flu) immunisation programme in Nottingham City which falls under NHS England North Midlands footprint. The paper outlines the strategies implemented to improve quality and performance in 2018/19 and plans to increase uptake in 2019/20.

## **Action Required**

The Committee is asked to scrutinize the local strategic approach to flu vaccination in Nottingham and recommend ways to increase uptake in target groups. The Screening and Immunisation Team will outline how partners across Nottingham City are working together to increase uptake in order to inform discussion.

## **Background Information**

Flu is a common infectious viral illness spread by droplets from coughs and sneezes. Whilst it can be very unpleasant, most individuals begin to feel better within about a week. Conversely older people, those with long-term conditions such as heart and lung disease, pregnant women and young children can develop more serious symptoms requiring hospitalisation and can, in some instances, lead to death.

Groups eligible for flu vaccination are based on the advice of the Joint Committee on Vaccination and Immunisation (JCVI). The national flu immunisation programme aims to provide direct protection to those who are at higher risk of flu associated morbidity and mortality. The objective of the national flu plan is to actively offer flu vaccination to 100% of those in eligible groups.

Frontline health and social care workers should be provided with flu vaccination by their employer. This should form part of the organisations' policy for the prevention of transmission of infection (flu) to help protect patients, residents, and service users.

A Flu Plan<sup>5</sup> is developed each year which sets out a coordinated and evidence-based approach to planning for, and responding to, the demands of flu across England. In

November 2017 NHS England announced that there would be funding up to £10m for the 2017/18 flu season to support the delivery of flu immunisation for social care workers that offer direct patient/client care. This was delivered by community pharmacies that were registered to deliver the seasonal flu advanced service. The scheme was continued in 2018/19 and extended to include health and care staff in the voluntary managed hospice sector that offer direct patient/client care.

In 2018/19, three types of flu vaccine were used in the flu programme. This would ensure that patients received the most suitable vaccine that gives them the best protection against flu. The three vaccines were:

**Adjuvanted trivalent flu vaccine (aTIV)** - This is licensed for people aged 65 years and over and is the vaccine recommended by the Joint Committee on Vaccination and Immunisations (JCVI) for this age group.

**Quadrivalent vaccine (QIV)** - This is recommended for children aged from 6 months to 2 years and in adults from 18 years to less than 65 years of age who are at increased risk from flu because of a long term health condition.

**In general practice and via school based programmes** - Live attenuated influenza vaccine (LAIV) - This is a nasal spray and is licensed for children and young people from 2 years old to less than 18 years of age. The age groups targeted in England for this vaccine in 2018/19 are two and three year olds (through their GP surgery) and school aged children in reception class through to Year 5 (through schools). If LAIV is clinically contraindicated QIV is used in this age group. Both are ordered centrally from Vaccine Supply.

In 2018/19 the one change in eligibility was the extension to an additional cohort of children, those in school year 5. Therefore, in 2018/19 the following are eligible for flu vaccination:

- all children aged two to nine (but not ten years or older) on 31 August 2018
- all primary school-aged children in former primary school pilot areas

- those aged six months to under 65 years in clinical risk groups
- pregnant women
- those aged 65 years and over
- those in long-stay residential care home
- carers

## Commissioning Arrangements and Responsibilities

NHS England is responsible for commissioning all of the national immunisation programmes. Details of the national commissioning arrangements for immunisation programmes are described in NHS public health functions agreement 2016-17<sup>2</sup> and NHS public health functions agreement 2017-18<sup>3</sup>

**Table 1: The flu programme was commissioned and delivered via various providers and is described in table 1.**

| Service Provider      | Cohort  |
|-----------------------|---|
| GP Practices          | <ul style="list-style-type: none"> <li>• Healthy Children aged 2, and 3 years</li> <li>• Those in an 'at risk' category (long term condition) aged 6 months -65 years</li> <li>• Over 65's</li> <li>• Pregnant women</li> </ul> |
| School Aged Providers | <ul style="list-style-type: none"> <li>• Children in school reception, years 1 to 5 (4-9 years of age)</li> </ul>   |
| Pharmacies            | <ul style="list-style-type: none"> <li>• Over 18's in an 'at risk' category (long term condition)</li> <li>• Over 65's</li> </ul>   |

## Local Initiatives to increase flu vaccination uptake in 2018/19

### Maternity/Pregnant women

For the second year, flu vaccination was offered in maternity services at Nottingham University Hospitals NHS Trust (NUH). NUH used a model with designated midwives offering Flu and pertussis immunisation in the antenatal clinic.



## **Children**

For a second year, the Child Health Information service was commissioned to send a letter to all parents of children aged 2 and 3 years old across Nottingham City. The initiative was first piloted in Derby City, Nottingham City CCG and Mansfield and Ashfield CCG in 2017/18. An invitation letter was sent to parents of eligible children aged 2 and 3 year olds in November 2018, reminding them to book an appointment with their child's GP for flu vaccination.

## **School Aged Immunisation**

NHS England (North Midlands) commissioned Nottinghamshire County Health Partnership (Nottingham County & City), Derbyshire Community Health Services (Derbyshire County) and Nottingham City Care (Derby City) to provide School Aged Immunisation Services.

In addition to the increased cohorts the school aged immunisation service had to cover for this season (Reception and year 5 cohort) an initiative targeting special schools was undertaken across Derbyshire County and Nottinghamshire. All children outside of the National Healthy Children's Flu Programme in Special Schools (Y5-14) were identified and offered flu vaccination. Home schooled children were also prioritised working closely with the local authorities.

## **At Risk Patients**

Nottingham University Hospitals NHS Trust renal and gastroenterology services were commissioned to offer flu immunisation to all renal dialysis patients and some patients with cirrhosis. Notification of patients' vaccinations was sent to the GPs within two days electronically to avoid double vaccination.

## **National Context**

Higher levels of flu activity were observed in 18/19, especially in November/December/January. The impact of influenza was predominantly seen in older adults, with a consistent pattern of outbreaks in care homes noted. Admissions to hospital

and ICU/HDU particularly amongst older adults were observed and the impact on general practice was high during the months of November 2017 to January 2018.

### National Vaccine Uptake 2018/19

Influenza vaccine uptake in 2018 to 2019 in England was lower than the 2017 to 2018 season in under 65 year olds in a pre-defined clinical risk group (48% vs 49.7%), in pregnant women (45.2% vs 47%) and also lower in the over 65 year olds (72% vs 72.9%).

In 2018 to 2019, the universal childhood influenza vaccine programme with live attenuated influenza vaccine (LAIV) was offered to all healthy two, and three year olds across the UK. Uptake in all 2 year olds increased from 42.3% in 2017/18 to 43.8% in 2018/19. Uptake in all 3 year olds increased from 44.2% in 2017/18 to 45.9% in 2018/19. The school based childhood flu programme achieved uptake of 60% which is an increase from last year's uptake of 59.5%.

### Influenza Vaccination Uptake in Nottingham City in 2018/19

Based on the national Annual Flu Plan for 2018/19 and previous year uptake rates, the Screening and Immunisation Team developed a local Derbyshire and Nottinghamshire Flu Assurance plan, which aimed to increase uptake rates amongst children 2 and 3 year olds; pregnant women and patients with underlying health conditions. The tables and figures below describe uptake in eligible groups.

**Table 2: Flu vaccination uptake rates in Nottingham City between 1<sup>st</sup> September 2018 and 31<sup>st</sup> January 2019 (2017/18 data are in brackets).**

| CCG                         | 65 and over        | Under 65 (at-risk only) | All Pregnant Women | All Aged 2        | All Aged 3        |
|-----------------------------|--------------------|-------------------------|--------------------|-------------------|-------------------|
| Nottingham City             | 72.4(72.8)         | 47.5 (48.1)             | 40.0 (41.1)        | 44.5 (44.2)       | 42.2(45.1)        |
| <b>All Derby/Notts CCGS</b> | <b>75.2 (75.3)</b> | <b>50.9(51.1)</b>       | <b>48.6(50.2)</b>  | <b>50.4(50.1)</b> | <b>50.3(50.1)</b> |
| <b>England Average</b>      | <b>72.0(72.6)</b>  | <b>48.0(48.7)</b>       | <b>45.2(47.2)</b>  | <b>43.8(42.8)</b> | <b>45.9(44.2)</b> |

Source: Seasonal Flu Vaccine Uptake in GP patients: Final data from 1st September 2018 – 31st January 2019  
<https://www.gov.uk/government/statistics/seasonal-flu-vaccine-uptake-in-gp-patients-winter-2018-to-2019>



In Nottingham City, Flu vaccination uptake during the 2018/19 programme **decreased** in all of the above groups except in Children aged 2 years where a slight increase was observed.

The following figures compare Nottingham’s flu vaccination uptake in comparison to England and other core cities and the national target/ambition for each of the vaccination cohorts where comparators are available:

- Adults aged 65 years and older
- At risk groups excluding pregnant women
- Pregnant women
- Children aged 2 and 3 years

Figure 1 illustrates that the proportion of adults aged 65 years and older receiving the flu vaccination in Nottingham has remained constant in 2018/19 and the England average has decreased. An additional 1,134 citizens aged 65 years and over in Nottingham would require vaccination in order to reach the 75% target. It is worth noting the gap between Nottingham and the England average is at the lowest level since 2011/12. Closing the gap with the national uptake is a big achievement for Nottingham City.

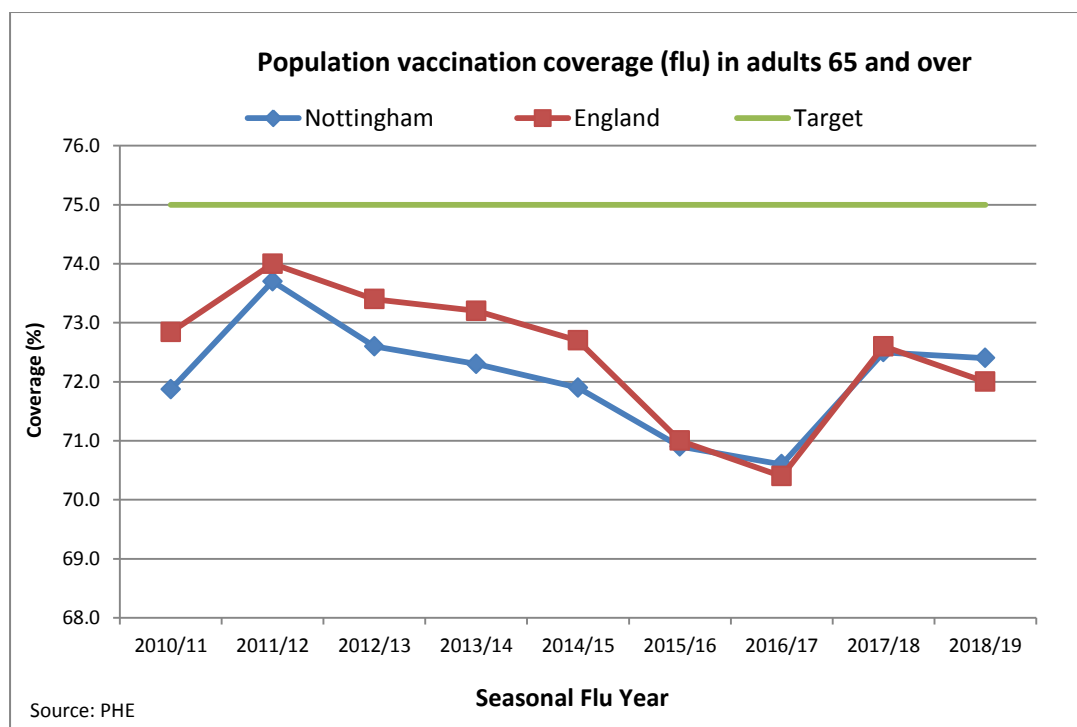


Figure 2 illustrates that the proportion of at risk individuals aged 6 months to 65 years (excluding pregnant women) receiving the flu vaccination in Nottingham increased slightly in 2018/19 whilst the England average has decreased. An additional 3,296 ‘at risk’ citizens in Nottingham would require vaccination in order to reach the 55% ambition/target.

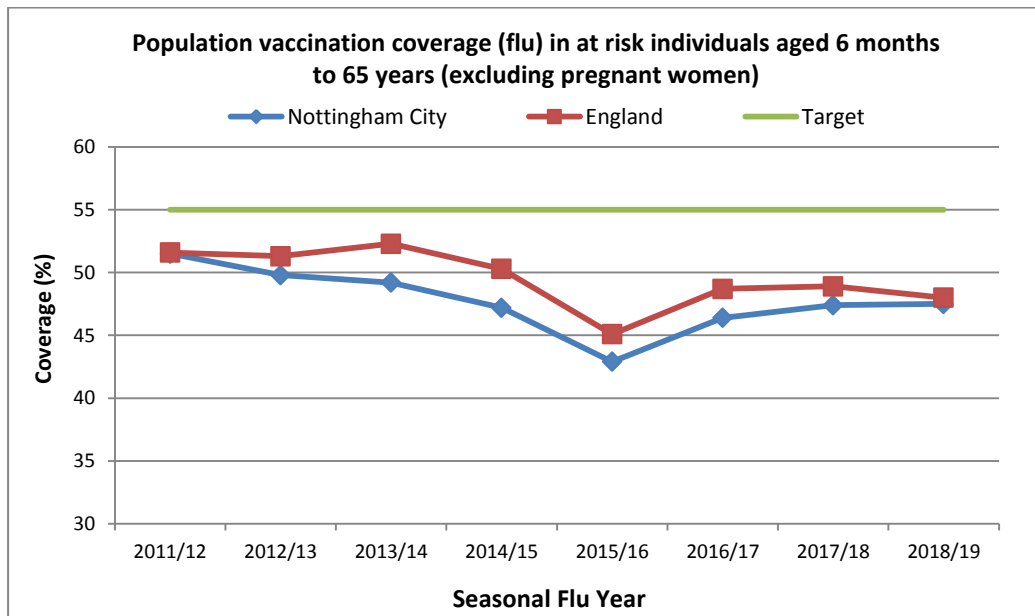


Figure 3 below illustrates a decrease in uptake amongst pregnant women in Nottingham in 2018/19 in line with the national average. The gap between Nottingham and the England average has reduced from 7.2pp (2016/17) to 5.0pp (2018/19). An additional 710 pregnant women in Nottingham would require vaccination in order to reach the 55% ambition/target.

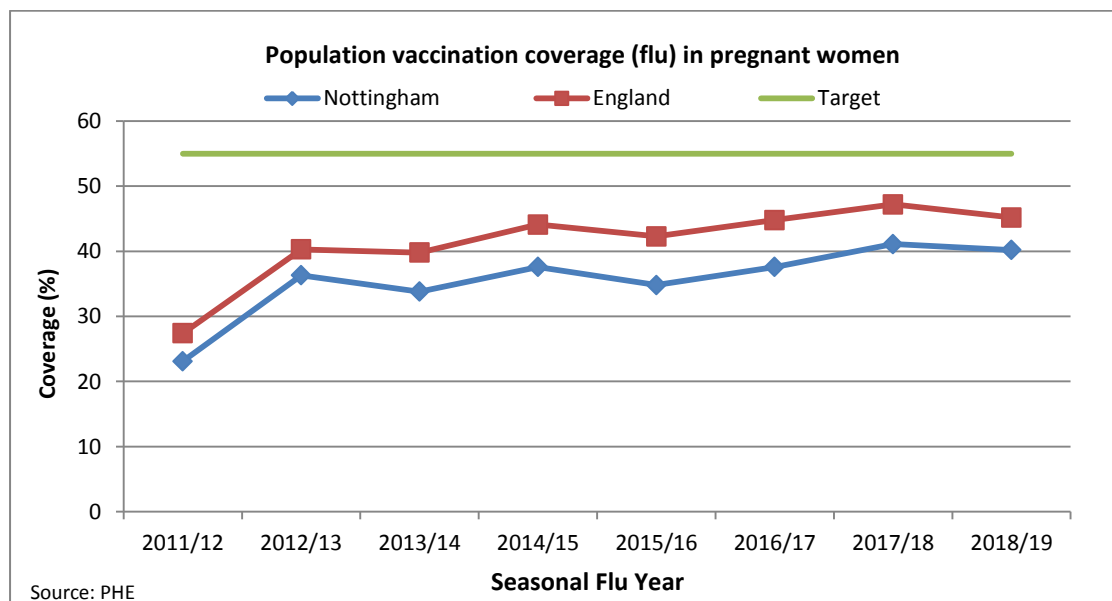
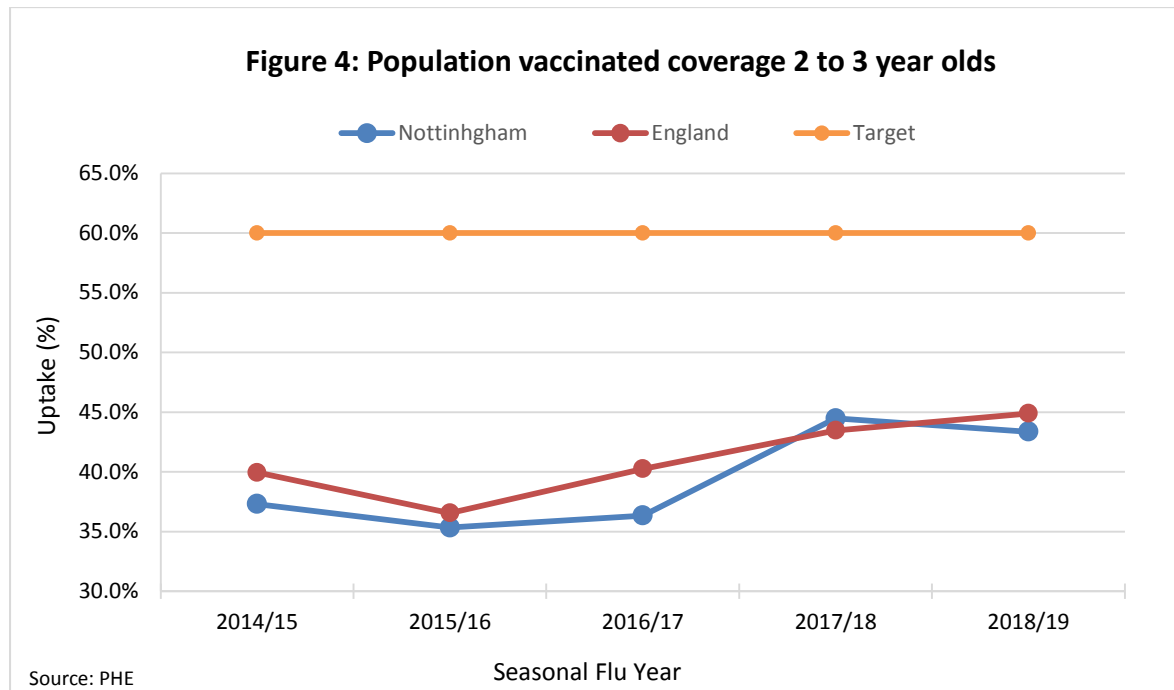


Figure 4 illustrates a decrease in uptake rate for two to three year olds in Nottingham in 2018/19 and an increase in the national average. An additional 1497 two to three year olds in Nottingham would require vaccination in order to reach the 60% target. The national target is set at 40-60%. This may seem low but vaccinating over 30% of children will provide the community with a high level of herd immunity



### **Pharmacy Flu Provision**

Pharmacies were commissioned at a national level last year and continue to deliver the seasonal flu vaccination to those eligible, over the age of 18 years. National data is not available and local data is not validated.

### **Core Cities**

Comparison with core cities, rather than the England average, is arguably a better comparison of Nottingham's performance. Liverpool, City of Bristol and Sheffield local authorities are co-terminus with CCGs which is the reporting format for 2018/19; consequently they may allow a more sensible comparison. As table 3 illustrates Nottingham City performance is better than Liverpool and Birmingham in all 5 groups. For example, flu vaccination uptake in 2 year olds is 6.8 percentage points (pp) higher than Liverpool and 5.5pp higher than Birmingham.

**Table 3: Uptake of influenza vaccine for the over 65s, under 65s at risk, pregnant women and children aged 2, and 3 years for Nottingham Local authority and 'core cities' and England for seasonal flu period 1 September 2018 to 31 January 2019 (2017/18 in brackets)**

| Country & Local Authority     | % over 65 years    | Under 65 (at risk only) | Pregnant women     | All 2 year olds    | All 3 year olds    |
|-------------------------------|--------------------|-------------------------|--------------------|--------------------|--------------------|
| <b>England</b>                | 72.0(72.6)         | 48.0(48.9)              | 45.2 (47.2)        | 43.8 (42.8)        | 45.9 (44.2)        |
| <b>Newcastle upon Tyne</b>    | 74.4 (75.6)        | 48.8 (50.2)             | 54.2 (50.0)        | 42.9 (42.9)        | 45.4 (45.4)        |
| <b>Liverpool<sup>1*</sup></b> | 71.3 (73.7)        | 46.3 (49.2)             | 39.1 (45.0)        | 37.6 (37.6)        | 39.3 (39.3)        |
| <b>Manchester</b>             | 68.9 (70.7)        | 48.0 (50.0)             | 44.5 (47.2)        | 37.2 (37.2)        | 39.5 (39.5)        |
| <b>Leeds</b>                  | 75.2 (76.2)        | 48.4 (50.3)             | 49.3 (53.9)        | 45.1 (45.1)        | 48.0 (48.0)        |
| <b>Nottingham</b>             | <b>72.4 (72.5)</b> | <b>47.5 (47.4)</b>      | <b>40.2 (41.7)</b> | <b>44.0 (44.0)</b> | <b>44.9 (44.9)</b> |
| <b>Birmingham</b>             | 67.6 (69.3)        | 45.1 (47.7)             | 37.6 (41.8)        | 38.5 (38.5)        | 38.0 (38.0)        |
| <b>Bristol, City of*</b>      | 74.7 (74.8)        | 48.3 (49.8)             | 43.1 (48.2)        | 44.6 (44.6)        | 46.9 (46.9)        |
| <b>Sheffield*</b>             | 75.8 (76.0)        | 50.2 (51.4)             | 55.6 (56.4)        | 45.1 (45.1)        | 47.5 (47.5)        |

Source: Public Health England Seasonal influenza vaccine uptake amongst GP Patients

Table 4 shows that the proportion of children vaccinated against flu in Nottingham City in 2018/19 has increased by 1.7pp in school year three and has remained constant for other school years.

**Table 4: Uptake of influenza vaccine for children of school years 1, 2, 3 and 4 for Nottingham Local authority and 'core cities' and England for seasonal flu period 1 September 2018 to 31 January 2019 (2017/18 uptake in brackets)**

| Country & Local Authority | Reception (age 4-5 years) | Cohort Y1 (5-6years) | Cohort Y2 (6-7 years) | Cohort Y3 (7-8 years) | Cohort Y4 (8-9 years) | Cohort Y5 (9-10 yrs) | Total (reception to yr5) |
|---------------------------|---------------------------|----------------------|-----------------------|-----------------------|-----------------------|----------------------|--------------------------|
| <b>England</b>            | 64.3 (62.6)               | <b>63.6 (61.0)</b>   | <b>63.6 (60.4)</b>    | <b>60.4 (57.6)</b>    | <b>58.3(55.8)</b>     | <b>56.5</b>          | <b>60.8</b>              |
| Newcastle upon Tyne       | 68.1 (59.9)               | 66.6(56.9)           | 65.1 (58.9)           | 65.4 (57.3)           | 62.7(55.1)            | 58.0                 | 64.3                     |
| Liverpool                 | 55.7 (54.1)               | 55.6 (50.5)          | 54.2 (52.8)           | 53.7(49.3)            | 50.7(48.8)            | 51.0                 | 53.5                     |
| Manchester                | 52.7 (53.7)               | 53.5 (51.6)          | 50.3 (51.3)           | 50.3 (48.3)           | 49.6(46.5)            | 47.5                 | 50.7                     |
| Leeds                     | 63.3 (64.4)               | 63.3 (61.3)          | 60.8 (61.3)           | 62.4 (59.5)           | 60.0(57.5)            | 62.4                 | 62.0                     |
| <b>Nottingham</b>         | 51.7 (51.7)               | <b>53.5 (53.5)</b>   | <b>50.2 (50.0)</b>    | <b>49.9 (48.2)</b>    | <b>47.2 (47.4)</b>    | <b>45.8</b>          | <b>49.7</b>              |
| Birmingham                | 48.4 (47.1)               | 48.1 (46.2)          | 47.0 (45.8)           | 45.9 (43.1)           | 43.3(41.8)            | 40.4                 | 45.5                     |
| Bristol, City of          | 57.8 (56.0)               | 58.9 (50.4)          | 55.2 (47.1)           | 53.8 (44.6)           | 50.3(38.7)            | 49.3                 | 54.3                     |
| Sheffield                 | 60.2 (61.2)               | 60.9 (61.9)          | 60.9 (60.2)           | 59.0 (58.2)           | 57.4(56.2)            | 55.0                 | 58.9                     |

Source Public Health England National childhood influenza vaccine programme coverage in England 2018-19

<sup>1</sup>Newcastle, Liverpool, City of Bristol and Sheffield local authorities are co-terminus with CCGs which is the reporting format for 2018/19

## Summary of successes

Targeting 'at risk' groups via hospital services was also successful. NHS England North Midlands commissioned Nottingham University Hospitals to offer flu vaccinations via their liver and kidney out-patients clinics. This has been a successful addition to the flu programme in Nottingham City and has been welcomed by patients and staff alike.

## Current Challenges in Increasing Flu Vaccination Uptake and Planned Activity

### Annual Activity

- Flu planning meetings take place monthly
- A local flu assurance plan has been developed
- Flu uptake data will be reviewed on a monthly basis at GP level
- The Screening and Immunization Team supports local flu training
- School Age Immunisation Programme will continue to vaccinate in schools from reception to year 5.
- Flu messages will be promoted nationally by Public Health England (PHE) and NHS England. These are filtered to local comms teams.
- Nationally commissioned pharmacy flu service.
- Vaccination of front line staff: Nottingham University Hospitals NHS Trust, Nottinghamshire Healthcare NHS Foundation Trust and Nottingham City Council are responsible.

### Ambitions for next flu season.

| Eligible Group                                     | Ambition  |
|--|---|
| Aged 65 years and over                             | 75%   |
| Aged under 65 'at risk', including pregnant women  | At least 55%  |
| Preschool children aged 2 and 3 years              | At least 48% with most practices aiming to achieve higher                     |
| School aged children (in reception class & years 1 | An average of at least 65% to be attained by every provider across all years. |

## Planned initiatives to improve uptake for next flu season

- Astra Zeneca pilot to increase childhood uptake in GP practices – we are working with AstraZeneca, the sole manufacturer of the nasal flu vaccine to increase flu vaccine uptake for the forthcoming flu season.
- Letters will be sent to parents of 2 & 3 year olds by Child Health. A reminder letter was sent out to all parents of two and three year olds in Nottingham City during the 2018/19 flu season. This reminder had a positive effect and NHSE intend to repeat this for the next flu season.
- Continue with commissioned services at NUH for pregnant women and ‘at risk’ patients. Pregnant women received their flu vaccine when they attended their antenatal appointments in hospital.
- Training packages for health care professionals in the run up to flu season
- Maintain close working relationships with all stakeholders
- Continue with monthly flu meetings

## Conclusion

A successful annual flu programme was observed in 2018/19 with more vaccines being delivered nationally than in any other European country. Nottingham City saw an increase in flu vaccinations in most cohorts. Through joint working, NHS England and Nottingham City Council, in conjunction with other stakeholders such as the CCG, worked together to ensure that all citizens eligible for flu vaccination received their offer of vaccination. It is hoped that the planned initiatives outlined above will increase uptake in 2019/20 to keep the circulation of influenza at a minimum, which in turn will reduce the pressure on our NHS services through the busy winter season. Ongoing support of the annual flu vaccination programme, by all stakeholders, is vital to ensure its success.

## Additional Information

Influenza and the importance of vaccination is well described at:

<http://www.nhs.uk/conditions/flu/Pages/Introduction.aspx>

## Contributors

Shade Agboola – Consultant in Public Health, Nottingham City Council,

[Shade.Agboola@nottinghamcity.gov.uk](mailto:Shade.Agboola@nottinghamcity.gov.uk)

Sarah Mayfield-Screening and Immunisation Manager, NHS England North Midlands,

[sarahmayfield@nhs.net](mailto:sarahmayfield@nhs.net)

Eka Famodile - Public Health Principal Analyst, Nottingham City Council

[Eka.famodile@nottinghamcity.gov.uk](mailto:Eka.famodile@nottinghamcity.gov.uk)

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