

NORTH LINCOLNSHIRE COUNCIL

**HEALTH AND WELLBEING
BOARD**

North Lincolnshire Public Health's response to the risk of measles outbreak.

1. OBJECTIVE AND KEY POINTS IN THIS REPORT

1.1 The number of cases of measles in England has increased since October 2023 and, according to data reported by UKHSA, from 1st October 2023 there have been 347 laboratory confirmed measles cases reported in England, with 127 of these cases confirmed in January 2024. 75% of these cases have occurred in the West Midlands⁽¹⁾.

There have been no cases in North Lincolnshire, however this remains a risk. It is therefore the purpose of this report to provide a briefing to the Health and Wellbeing board about the current level of risk in NL, and of the actions in progress to reduce the risk of an outbreak of measles and to promptly and effectively respond to an outbreak should one occur.

1.2 The content of this report is:

- An update on MMR vaccination coverage across North Lincolnshire.
- An outline of the work by NLC's Public Health team to lead a programme to increase the vaccination coverage and thereby reduce the risk of outbreak.
- An update on the current preparedness work developed by the Public Health team and UKHSA to respond to potential reports of measles cases North Lincolnshire, ranging from single cases to outbreaks.

2. BACKGROUND INFORMATION

2.1 Measles Epidemiology

[Measles](#) is a highly transmissible viral infection. Symptoms include a runny nose; cough; conjunctivitis (sore, itchy, watery, red, and sticky eyes); high fever and small white spots (Koplik spots) inside the cheeks. Around day 3 into the illness, a rash of flat red or brown blotches appears, beginning on the face, behind the ears and spreading over the body⁽²⁾. The incubation period is between 10 to 12 days but can vary from 7 to 21 days⁽³⁾.

Measles is highly infectious and is transmitted via airborne or droplet spread, or through direct contact with nasal or throat secretions of infected persons. Cases are infectious from 4 days before the onset of the rash to 4 days after⁽³⁾. Measles has a basic reproductive number (R_0) of 12-18, meaning that among a susceptible population, each measles case will typically lead to 12-18 other cases. People who are susceptible include those who are unvaccinated and/or do not have immunity from prior infection⁽⁴⁾.

Death occurs in 1 in 5000 cases in the UK, higher in children under 1 year of age, lower in children aged 1-9 years, and rising again in teenagers and adults. Those most vulnerable to complications include poorly nourished and/or chronically ill children, including those who are immunosuppressed⁽⁵⁾.

2.2 Vaccination benefits

The MMR (measles, mumps, and rubella) vaccine is the safest and most effective way to protect against measles. People are recommended 2 doses of MMR to be protected against measles, mumps, and rubella⁽²⁾.

Typically, 90% protection against measles infection is achieved with the first dose, and 95% after the second dose or booster. A small number of people are not able to have the vaccine, this is due to being pregnant or co-existent health conditions with a reduced immune response for example organ transplant or cancer⁽⁶⁾.

The World Health Organisation has set a 95% vaccination coverage target to achieve the level of herd immunity that would provide protection for those who are unable to receive the MMR vaccine⁽⁷⁾. Following the introduction of the MMR vaccine in 1988 coverage in the UK reached over 90%, this was affected by disproved links between the vaccine and autism and coverage reduced from 92% in 1996 to 80% in 2003⁽⁸⁾.

Following the coronavirus COVID-19 pandemic, there has been a significant drop in the number of children being vaccinated with MMR and other childhood vaccines⁽⁹⁾. Coverage is as low as 60% in some areas of London. Measles is highly infectious so even a small decline in MMR vaccine uptake can lead to increases in cases⁽¹⁰⁾.

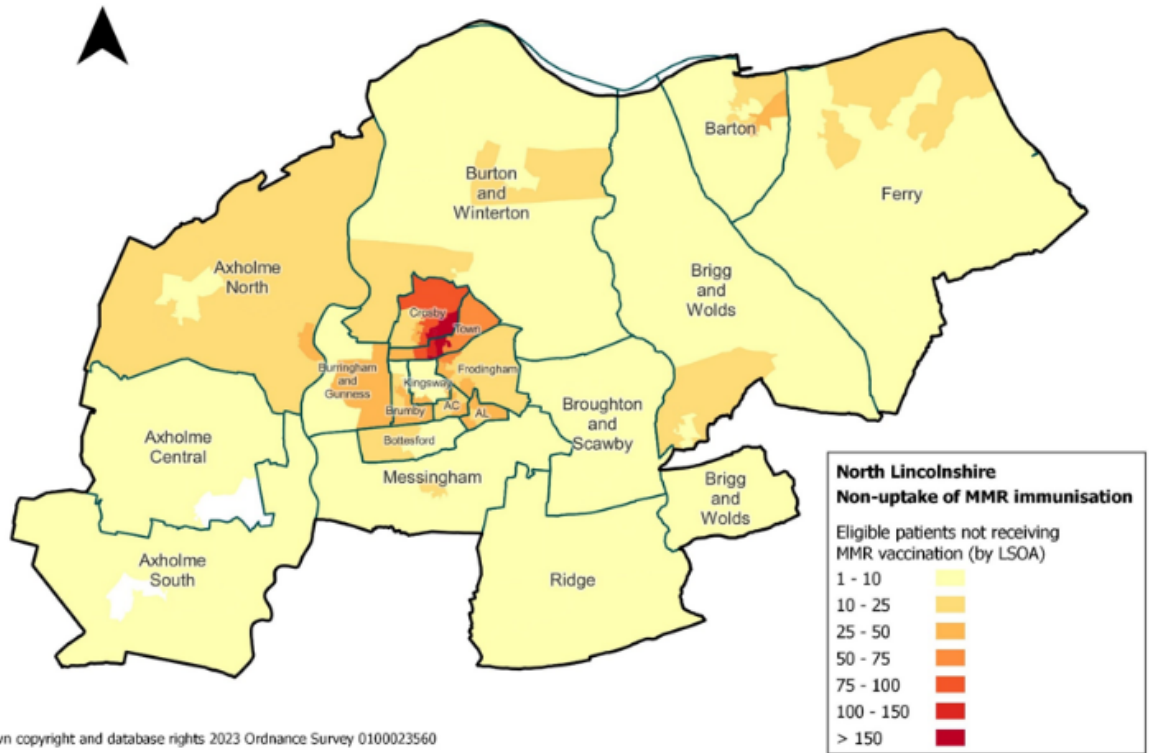
2.3 Variation of vaccination coverage across North Lincolnshire

In a joint activity the Public Health - Health Protection team in collaboration with the ICB data management team and the Public Health Intelligence team conducted mapping by geography and demography to better understand MMR vaccination coverage in North Lincolnshire.

The total uptake of MMR vaccination in North Lincolnshire is 86%, however there are variations. Areas of higher deprivation, including in Scunthorpe North and Scunthorpe South, have lowest coverage. In terms of demography, English, Romanian, Polish and Lithuanian groups have the lowest uptake or incomplete MMR vaccination⁽¹¹⁾.

North Lincolnshire Council

Incomplete MMR vaccination by LSOA 5-15 years (numbers) North Lincolnshire



© Crown copyright and database rights 2023 Ordnance Survey 0100023560

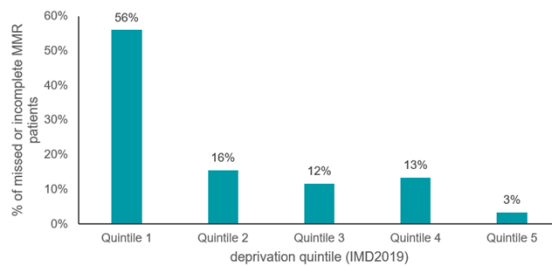
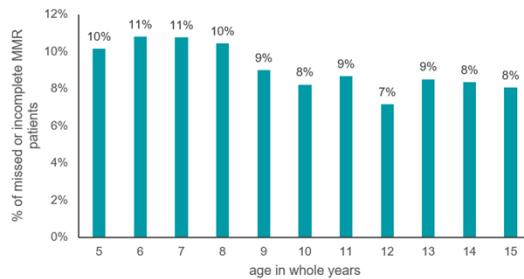
MMR heat map presenting geographic variation in MMR coverage. August 2023 (11)

This map clearly shows the variation in coverage, with wards in Scunthorpe North being most at risk. It is in these wards that activity to boost uptake will be initially focussed.

MMR low uptake by age, deprivation, and language August 2023 ⁽¹⁾

North Lincolnshire Council

Demographic break downs of missed or incomplete MMR patients*



Language spoken by patient	Number of patients which were missed or incomplete	% of missed or incomplete MMR patients
Blank - not recorded and n/a	464	19.0%
English language	881	36.0%
Romanian/Rumanian language	554	22.6%
Polish language	157	6.4%
Lithuanian language	100	4.1%
other language	75	3.1%
Portuguese language	45	1.8%
Slovak language	33	1.3%
Ukrainian language	23	0.9%
Turkish language	19	0.8%
Tetum language	19	0.8%
Russian language	18	0.7%
Bengali language	17	0.7%
Malayalam language	17	0.7%
Kurdish language	13	0.5%
Arabic language	12	0.5%

Totals under 10 combined to 'other'

*Missed or incomplete patients are only included here if they were part of a participating practice at the time of the search

SAFE WELL PROSPEROUS CONNECTED

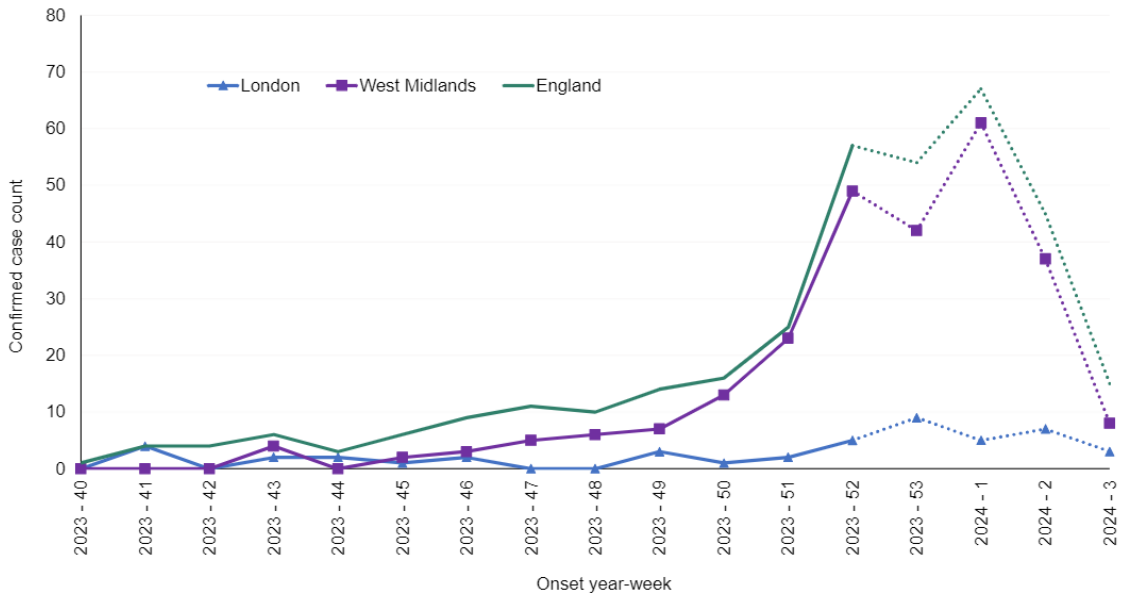
- The mapping exercise also included HPV and shingles vaccination coverage, whilst HPV vaccine distribution is broadly similar to MMR uptake in North Lincolnshire, the shingles uptake distribution differs. 4406 people aged 70 to 79 years who were unlikely immunocompromised had an incomplete or no record of a Shingles vaccination within the report. 3970 were residents of North Lincolnshire LA, the remainder are registered with GP practices in NL but live outside its boundary. By single year of age, 70-year-olds accounted for a larger proportion of the total than for other ages with percentage declining with increasing age.

2.4 National Measles Cases Update 30.01.2024.(1)

From 1 October 2023, there have been 347 laboratory confirmed measles cases reported in England, with 127 of these cases confirmed in January 2024.

75% (260/347) of these cases have been in the West Midlands, 13% (46/347) in London and 7% (24/347) in Yorkshire and The Humber. The majority (343 of 521, 66%) of these cases have been in children under the age of 10 years and 25% (133 of 521) in young people and adults over the age of 15 years.

Figure 2. Laboratory confirmed cases of measles by week of onset of rash or symptoms reported, London, West Midlands and England: 1 October 2023 to 23 January 2024 [note 1 and 2]



[This graph demonstrates how fast measles can spread; this is evident in the 2 peaks of infection in the West Midlands Region whilst London has had an increase of measles cases in a lower scale.](#)

- Currently, no cases of measles have been reported in North Lincolnshire. However less than 5 cases of measles have been confirmed in Hull City at the Hospital Trust, (20.02.2024)
- From learning from the incidents in Sandhill and Birmingham the main risk of infection is within the areas of low MMR vaccination uptake amongst children 10 years old and under. Therefore, it is crucial to administer at least the first dose of the MMR vaccine that will provide up to 90% protection to reduce the risk of measles outbreaks.
- All recommendations to date to reduce inequalities in the coverage of MMR vaccination are part the current action plan in North Lincolnshire⁽¹²⁾. These include approaches based on a combination of social media communication, with face-to-face engagement with the community through schools, health visitors, nurseries, and primary care to increase vaccination uptake.

2.5 Outlining the work of NLC's Public Health team to increase the vaccination coverage and thereby reduce the risk of outbreak.

The Health Protection team within the Public Health Team in North Lincolnshire Council have established an "MMR task and finish group" with the aim of increasing vaccination uptake in North Lincolnshire to 95% across all groups and geographies by the end of March 2025. This is a multidisciplinary group that includes stakeholders from ICB, UKHSA, Education, School nurses, Public Health intelligence team, 0-19 services, NHS England, and the voluntary sector.

Work has begun with the targeting of the areas where the uptake of the MMR vaccine is lowest. To support this work an application was made to NHS England for funds for targeted promotion and outreach work, this application has been successful.

The funding will be invested in social media campaigns in different languages (including basic English, Romanian, Lithuanian and Polish) and digital radio through 2024, as well as a coordinated effort to increase awareness and engagement with BAME groups through educational settings, workplaces, health visitors and school nurses as well as engagement through focus groups to understand the barriers that are affecting the vaccination uptake amongst these groups. This aligns with work by primary care in North Lincolnshire to contact people missing vaccination to invite them to receive the vaccine.

In coordination with GP practices, a social media and digital radio campaign will be launched in February to urge unvaccinated people to contact their practice with the objective of increasing the MMR vaccine uptake.

The health protection team will review the uptake through data provided by GP practices every 2 weeks to continue to engage and target specific groups.

2.6 Update on the current preparedness work developed by the Public Health team and UKHSA to respond in a potential measles outbreak in North Lincolnshire.

Due to increasing number of measles outbreaks in England, particularly in London, West Yorkshire and recently in Sheffield, the Health Protection team within North Lincolnshire Public Health team has led on the formation of a Measles preparedness group, the aim of which is to have a fast, coordinated, and efficient response in case of a measles outbreak in North Lincolnshire. Although there has not been any case of measles in North Lincolnshire, due to the geographical closeness to areas where there have been outbreaks it is relevant for all stakeholders with a response role to understand their and others' roles and responsibilities, as well as to establish the team response dynamic. To this end, a training session and desk-top exercise were held based on an outbreak typical in nature to those being experienced elsewhere. This was a well-attended multidisciplinary group that included the ICB, UKHSA, IPC teams, School nurses, health visitors, NHS England, Health Protection team and Primary Care.

2.7 Future Strategies:

Public health will continue to work and develop strategies to increase vaccination uptake across all vaccination types in North Lincolnshire to reduce the risk of preventable diseases.

3. OPTIONS FOR CONSIDERATION

3.1 The Health and Wellbeing Board is asked to note the content of this report and endorse work to reduce the risk of measles to the residents of North Lincolnshire.

4. ANALYSIS OF OPTIONS

4.1 n/a

5. FINANCIAL AND OTHER RESOURCE IMPLICATIONS (e.g. LEGAL, HR, PROPERTY, IT, COMMUNICATIONS etc.)

5.1 The funding utilised to implement the actions described above has been obtained from a grant awarded directly for these purposes by NHS England through a bidding process. The grant amount is £30,200. There is no cost or resource implications.

6. OTHER RELEVANT IMPLICATIONS (e.g. CRIME AND DISORDER, EQUALITIES, COUNCIL PLAN, ENVIRONMENTAL, RISK etc.)

6.1 Not Applicable

7. OUTCOMES OF INTEGRATED IMPACT ASSESSMENT (IF APPLICABLE)

7.1 Not Applicable

8. OUTCOMES OF CONSULTATION AND CONFLICTS OF INTERESTS DECLARED

8.1 n/a

9. RECOMMENDATIONS

9.1 Conclusion:

North Lincolnshire has a generally good vaccination coverage but variations in coverage present risks of outbreak. North Lincolnshire Public Health is leading work both to reduce and remove this risk, and to respond promptly and effectively, and therefore to minimise the impact of cases and outbreaks should they occur.

9.2 Recommendations:

The Health and Wellbeing Board is asked to note the content of this report and to endorse this work.

DIRECTOR OF PUBLIC HEALTH

Church Square House
SCUNTHORPE
North Lincolnshire
Post Code
Authors: Miguel Duran / Greg Gough
Date: 15/02/2024

Background Papers used in the preparation of this report – References

1. UK Health Security Agency. National Measles Standard Incident - measles epidemiology (from October 2023). 2024.
2. NHS England. NHS Measles. 2021.
3. UK Health Security Agency. UKHSA. 2023. Guidance, Managing specific infectious diseases A to Z.
4. Guerra M Fiona P, Bolotin Shelly P, Heffernan Jane P, Deeks L Shelly M, Li Ye P, et al. The basic reproduction number (Ro) of measles: a systematic review. *Lancet Infect Dis.* 2017 Jul 27;
5. Miller CL. Current impact of measles in the United Kingdom. *Review of infectious diseases.* 1983 May 1;427–32.
6. NHS England. MMR (measles, mumps and rubeola vaccine). 2020.
7. Minta A. Progress towards measles elimination - Worldwide - 2000 - 2022. *Centres for Disease Control and Prevention - Weekly morbidity and mortality reports.* 2023 Nov 17;
8. Godlee F, Smith J, Marcovitch H. Wakefield's article linking MMR vaccine and autism was fraudulent. *Vol. 342, BMJ.* 2011. p. 64–6.
9. UKHSA. Parents urged to check children's MMR vaccine record following rise in measles cases. 2023.
10. UKHSA. London at risk of measles outbreak with modelling estimating ten of thousands of cases. 2023.
11. Public Health data Intelligence team. Immunisations in North Lincolnshire (MMR, HPV and Shingles). Scunthorpe; 2023 Sep.
12. Local Government Association. Webinar - Measles Cases on the rise: information for officers and local councillors. Zoom. Sandhill Local Authority; 2024.
13. Laverack G. *Health Promotion Practice: Power and empowerment.* SAGE Publications. London; 2004.

