AGENDA ITEM

REPORT TO HEALTH AND WELLBEING BOARD

06/11/17

REPORT OF DIRECTOR OF PUBLIC HEALTH

HEALTH PROTECTION REPORT 2016-17

SUMMARY

This annual Health Protection Report to the Health and Wellbeing Board reports on key issues and indicators for Health Protection for 2016-17.

RECOMMENDATIONS

1. The Stockton-On-Tees Health and Wellbeing Board are asked to note the annual Health Protection report and to consider any implications on the health and wellbeing of the population and health inequalities.
2. For NHS England to work with local partners to develop a local action plan to improve immunisation and screening uptake in particular to improve uptake of 2nd MMR vaccination for children and Hepatitis B vaccination and whooping cough vaccinations for vulnerable groups.
3. For the local authority to improve chlamydia diagnostic rates and treatment through further targeted work with young people and at risk groups.
4. It is recommended that this report is circulated to the Adults' Health and Wellbeing Partnership and Children and Young People's Partnership for consideration.

DETAIL

1. Health protection seeks to prevent or reduce the harm caused by communicable diseases and minimise the health impact from environmental hazards such as chemicals and radiation. As well as major programmes such as the national immunisation programmes and the provision of health services to diagnose and treat infectious diseases, health protection involves planning, surveillance and response to incidents and outbreaks.

Health protection arrangements

2. Local authorities (and Directors of Public Health (DsPH) who would usually act on their behalf) have a critical role in protecting the health of their population, both in terms of planning to prevent threats arising and in ensuring appropriate responses when things do go wrong. The DPH is responsible for the local authority's contribution to health protection matters, including planning for and response to incidents that present a threat to the public's health. To carry this out, they liaise closely with the specialist health protection expertise available in Public Health England (PHE). The DPH also has an assurance role for Health Protection, in

ensuring appropriate plans are in place across partners, to protect the health of the population.

3. PHE has a responsibility to deliver the specialist health protection response, including the response to incidents and outbreaks, which is carried out through the Health Protection Team in the North East PHE Centre. These roles are complementary and both are needed to ensure an effective response. In practice this means that there must be early and ongoing communication between the PHE Centre and DPH regarding emerging health protection issues to discuss and agree the nature of response required and who does what in any individual situation.

4. The local health protection system therefore involves the delivery of specialist health protection functions by PHE and local authorities providing local leadership for health. In practice, local authorities and PHE work closely together as a single public health system. This joint working with clarity of responsibilities between them is crucial for the safe delivery of health protection.

Delivering health protection

5. There are four key components to the work of protecting the health of the population: prevention; surveillance; control; communication. All agencies have major roles in each of these components.

6. **Prevention** in communicable disease control is exemplified by immunisation but includes a wide range of activities such as promoting safe sex to prevent sexually transmitted diseases and needle exchange programmes to prevent transmission of hepatitis B and C in people who inject drugs. There is also a key role for Environmental Health teams within the local authority in several areas, including for example, food safety. For other hazards such as chemical incidents, prevention is about planning for incidents and emergencies and co-ordinating exercising and training.

7. **Surveillance** is dependent both on the system of disease notification from registered medical practitioners and on organism reporting from hospital laboratories plus a number of other information flows. Effective surveillance systems are essential in identifying trends and outbreaks and monitoring the outcome of control actions.

8. **Control** relates to the management of individual cases of certain diseases to minimise the risk of spread and the specific actions taken to control an outbreak of infectious disease. For other hazards or threats, advice can be provided to agencies co-ordinating the response, in particular on public health risk assessment and actions to protect the public.

9. **Communication** underpins prevention and control and includes the production of routine and ad hoc reports; the networks and groups to which all those involved in health protection contribute; proactive and reactive communications to the media and the communications response in urgent and emergency situations.

Prevention - immunisation and vaccine preventable disease

10. Immunisation remains one of the most effective public health interventions for protecting individuals and the community from serious diseases. The national

routine childhood immunisation programme currently offers protection against a wide range of vaccine preventable infections. In addition to the routine childhood programme, selective vaccination is offered to individuals reaching a certain age or with underlying medical conditions or lifestyle risk factors.

11. NHS England is responsible for commissioning local immunisation programmes. Screening and Immunisation Teams (SITs) employed by PHE Centres and embedded in NHS England provide local leadership and support to providers in delivering improvements in quality and changes in the programmes. The SITs are also responsible for ensuring that accurate and timely data is available for monitoring vaccine uptake and coverage and also produce a local plan to maximise the uptake of immunisations and screening by working with local partners. Further work by NHS England is needed on developing and implementing the local plan.

12. PHE Centres lead the response to disease outbreaks of vaccine preventable disease and provide expert support and advice to the SITs.

13. Local Authorities are responsible for providing independent scrutiny and challenging the arrangements of NHS England, PHE and providers.

14. The Joint Committee on Vaccination and Immunisation (JCVI) has not recommended the introduction of further immunisations into England's national immunisation programme for 2016-17. In July 2017 an interim report recommending to extend HPV vaccinations to adolescent boys has been published for consultation.

15. Taking all these changes into account, a summary of the current vaccination programmes in England (Autumn 2017) can be seen in the appendix.

Childhood immunisations

16. Vaccine coverage rates in for children (12 months) in Stockton were above the national and similar to the regional average. Uptake in the North East for the routine childhood immunisation programme remains amongst the highest in England.

17. Childhood vaccinations are provided through GP and a sub-regional school vaccination service. Local health visiting and school nursing services are promoting vaccinations.

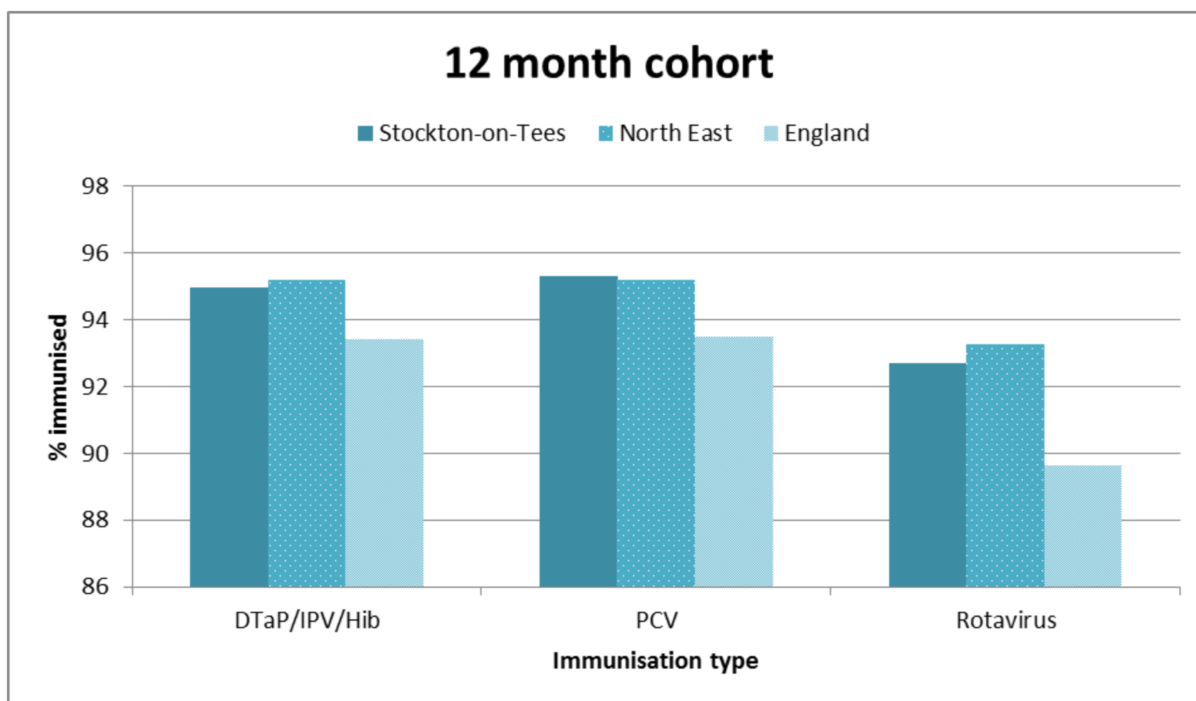


Figure 1 Vaccination coverage rates for children aged 12 months for 2016/17

12 month cohort	Stockton-on-Tees		North East	England
	Number	*%*	*%*	*%*
DTaP/IPV/Hib	2,121	***95.0***	*95.2*	*93.4*
PCV	2,128	***95.3***	*95.2*	*93.5*
Rotavirus	2,070	***92.7***	*93.3*	*89.6*

Table 1 Vaccination coverage rates for children aged 12 months for 2016/17

DTaP	Diphtheria, tetanus and acellular pertussis
IPV	Inactivated polio vaccine
Hib	Haemophilus influenzae type b
MenC	Meningitis C
PCV	Pneumococcal conjugate vaccine
MMR	Measles, mumps and rubella

18. Vaccine coverage rates in for children (24 months) in Stockton were above the national and similar to the regional average.

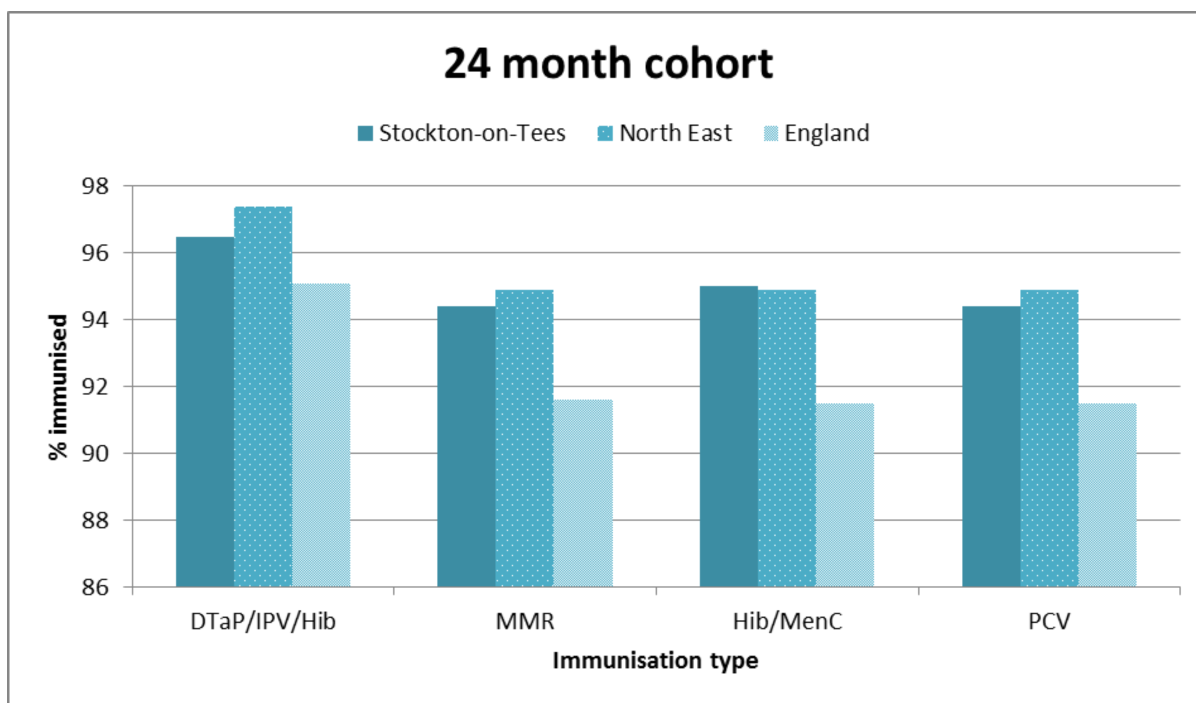


Figure 2 Vaccination coverage rates for children aged 24 months for 2016/17

24 month cohort	Stockton-on-Tees		North East	England
	Number	*%*	*%*	*%*
DTaP/IPV/Hib	2,293	***96.5***	*97.4*	*95.1*
MMR	2,243	***94.4***	*94.9*	*91.6*
Hib/MenC	2,257	***95.0***	*94.9*	*91.5*
PCV	2,245	***94.4***	*94.9*	*91.5*

Table 2 Vaccination coverage rates for children aged 24 months for 2016/17

19. Vaccine coverage rates in for children (5 years) in Stockton were above the national but below to the regional average.

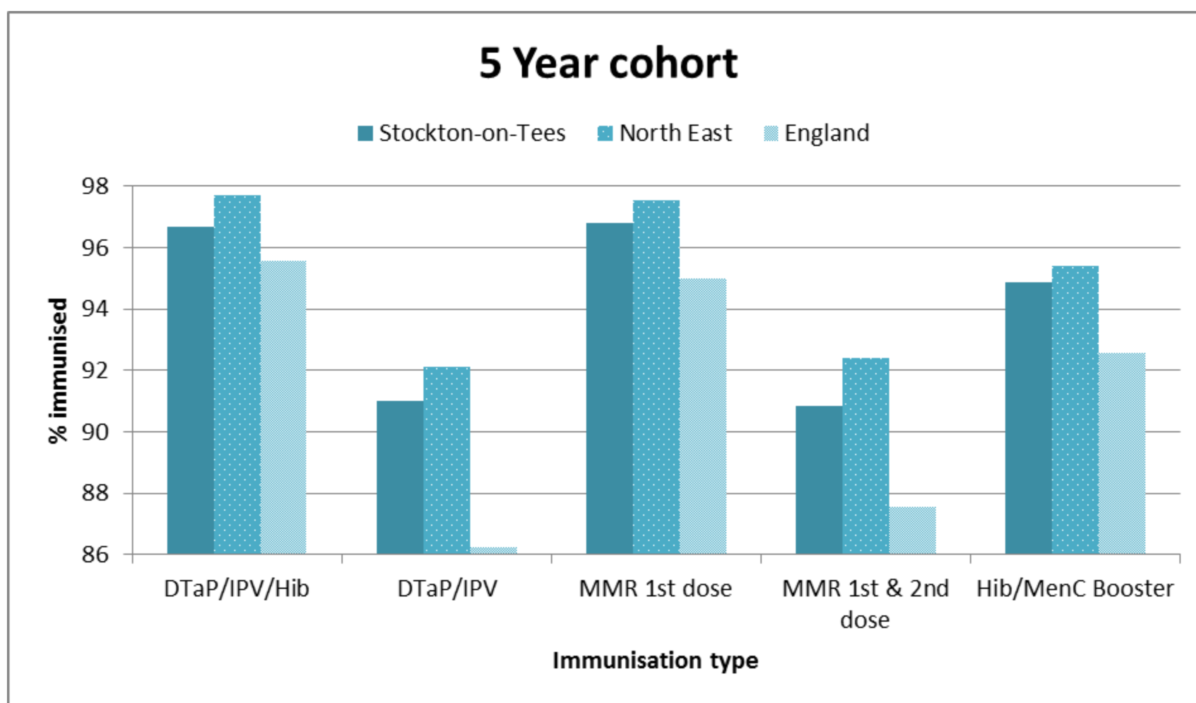


Figure 3 Vaccination coverage rates for children aged 5 years for 2016/17

5 year cohort	Stockton-on-Tees		North East	England
	Number	*%*	*%*	*%*
DTaP/IPV/Hib	2,463	***96.7***	*97.7*	*95.6*
DTaP/IPV	2,319	***91.0***	*92.1*	*86.2*
MMR 1st dose	2,466	***96.8***	*97.5*	*95.0*
MMR 1st & 2nd dose	2,315	***90.9***	*92.4*	*87.6*
Hib/MenC Booster	2,417	***94.9***	*95.4*	*92.6*

Table 3 Vaccination coverage rates for children aged 5 years for 2016/17

Control - specific diseases

Gastroenteric disease

20. Stockton Borough has seen the following cases of disease in 2016/17: campylobacter is the commonest cause of bacterial food poisoning, typically affecting several hundred individuals per year (259) in Stockton-on-Tees. Other bacterial causes of gastroenteric disease are less common and trends are difficult to comment on at local level due to the relatively low numbers and hence often significant fluctuation in rates (for small amounts of cases) from year to year.

21. PHE works closely with the local environmental health service to prevent, investigate and respond to cases of gastroenteric disease.

2016/17			
		Stockton-on-Tees	**North East**
Salmonella enteritidis	No:	9	141
	Rate:	4.6	5.4
Salmonella typhimurium	No:	8	77
	Rate:	4.1	2.9
Salmonella other	No:	17	171
	Rate:	8.8	6.5
Escherichia coli o157	No:	<5	42
	Rate:	0.5	1.6
Campylobacter	No:	259	2800
	Rate:	133.0	106.7
Cryptosporidium	No:	18	355
	Rate:	9.2	13.5
Giardia	No:	26	250
	Rate:	13.4	9.5

Table 4 Numbers and incidence (annualised rate per 100,000 population) of selected gastroenteric diseases/organisms for 2016/17

Note: All rates calculated from mid-2015 population estimates from ONS

Vaccine Preventable Disease/ Exanthema

22. In 2016/17, there was one confirmed case of measles, 9 confirmed cases of Mumps and no confirmed cases of rubella in Stockton-on-Tees, it is important to maintain MMR vaccination rates to ensure there are no cases. There was a higher rate than normal of mumps in Q4 2016/17, where there were 8 confirmed cases; this was also an issue for the North East, where there were 68 confirmed cases.

23. Whooping cough (pertussis infection) can be particularly dangerous in small infants and this is why, following an upsurge in cases a few years ago, a programme of vaccination in pregnant women has been introduced in recent years in order to try to prevent transmission to the most vulnerable. There have been 5 confirmed cases of whooping cough in Stockton (rate of 2.6 compared to 9.4 in North East).

24. Meningococcal disease can be particularly serious and often causes much anxiety amongst parents. Rates have been falling in recent years and with the introduction of new vaccination programmes to include both serogroups B and W for certain age groups, it is hoped this can be controlled even further. There have been no confirmed cases of meningococcal disease in 2016/17 in Stockton.

			2016/17	
			Stockton-on-Tees	North East
Measles	Unconfirmed	No:	10	101
		Rate:	5.1	3.9
	Confirmed	No:	<5	<5
		Rate:	0.5	0
Meningococcal disease	Unconfirmed	No:	<5	23
		Rate:	1.5	0.9
	Confirmed	No:	0	62
		Rate:	0	2.4
Mumps	Unconfirmed	No:	42	492
		Rate:	21.6	18.7
	Confirmed	No:	9	104
		Rate:	4.6	4.0
Rubella	Unconfirmed	No:	0	22
		Rate:	0	0.8
	Confirmed	No:	0	0
		Rate:	0	0
Whooping cough	Unconfirmed	No:	5	169
		Rate:	2.6	6.4
	Confirmed	No:	5	248
		Rate:	2.6	9.4

Table 5 Number and incidence (annualised rate per 100,000 population) of cases of common vaccine preventable diseases and other exanthema reported in 2016/7

Note: All rates calculated from mid-2015 population estimates from ONS

Other selected organisms

25. There were no cases of Hepatitis A, legionella or listeria in Stockton-on-Tees in 2016/17, but 18 cases of Hepatitis B and 17 cases of Hepatitis C. Key elements of protection against Hepatitis are provided though Hep A and B immunisation programmes of at risk groups and needle exchange programmes via local drug services. Legionnaires' disease is an uncommon, though potentially serious, infection transmitted via droplets from poorly maintained water systems. Business operators who use cooling towers and evaporative condensers have a duty to report these to the local authority so a register of all such industrial units can be maintained. This may be useful in the investigation of cases, clusters and outbreaks of Legionnaires' disease.
26. Public health commissioned services (Sexual Health Service and Drug Treatment Service) offer Hepatitis A and B vaccinations to vulnerable groups. Needle exchange programmes are commissioned and offered through the Drug Treatment service and local pharmacies.

		2016/17	
		Stockton-on-Tees	**North East**
Hepatitis A	No:	0	19
	Rate:	0	0.8
Hepatitis B	No:	18	220
	Rate:	9.3	8.4
Hepatitis C	No:	17	265
	Rate:	8.8	10.1
Legionella	No:	0	13
	Rate:	0	0.5
Listeria	No:	0	9
	Rate:	0	0.4

Table 6 Numbers and incidence (annualised rate per 100,000 population) of other selected diseases/organisms for 2016/17 Note: All rates calculated from mid-2015 population estimates from ONS

Tuberculosis

27. In 2016/17 a total of 16 TB cases were reported in Stockton-on-Tees at a rate of 8.2 per 100,000 compared to an average rate of 4.7 per 100,000 in the North East (published figure for 2016). The North East in general is a low incidence area for TB. England as a whole saw 5664 cases in 2016 at a rate of 10.2 per 100,000, so approximately double the North East rate. There has been a steady reduction from 2011 when 8780 cases at 15.6 per 100,000 were reported. (For comparison purposes you may want to use published data for Stockton, in 2016 there were 15 cases, rate of 7.7 per 100000 population.

Sexual Health

28. Sexually transmitted infection (STI) rates in Stockton were generally lower than the North East average except for syphilis. Chlamydia infections were most

common with 323 cases, followed by genital warts with 151 cases and gonorrhoea with 103 cases. There were 12 cases of Syphilis in 2016. PHE aims for higher chlamydia diagnosis rates.

29. Public Health commissions Sexual Health Teesside to offer STI testing and treatment including outreach for young people and vulnerable groups. Chlamydia testing is offered at the hub and spokes of the service, through GP practices and pharmacies and through online ordering of postal test kits.

		Stockton-on-Tees	North East
Gonorrhoea	No:	103	1686
	Rate:	52.9	62.7
Chlamydia	No:	323	5529
	Rate:	166	211
Syphilis	No:	12	152
	Rate:	6.16	5.79
Genital warts (first episode)	No:	151	2967
	Rate:	78	113
Genital herpes (first episode)	No:	96	1465
	Rate:	49	56

Table 7 Number and incidence per 100,000 population of cases of common sexually transmitted infections reported in 2016

Control - outbreaks

Care home outbreaks

30. Outbreaks of illness are relatively common in the care home setting. These are typically viral outbreaks with person to person spread in a closed setting. As can be seen in the table below, there were 18 such outbreaks in 2016/17 in Stockton-on-Tees.

Year	Month	Stockton-on-Tees	NE
2016	April	2	23
	May	4	20
	June	1	12
	July	0	13
	August	3	18
	September	2	16
	October	0	19
	November	1	24
	December	3	27
2017	January	1	28
	February	0	28
	March	1	23
Total		18	251

Table 8 Number of gastrointestinal outbreaks in care homes by month and Local Authority

31. The causative organism in care home outbreaks is most commonly norovirus (also known as winter vomiting bug), though other viral causes such as rotavirus, astrovirus and sapovirus can be seen. However, it is often the case that no organism is identified, either because samples could not be obtained or they did not test positive in the laboratory. There can be occasional outbreaks linked to food production such as from Clostridium perfringens or Salmonella.
32. PHE asks care homes to report any outbreaks, advises on control measures and monitors the outbreak.

Emergency preparedness, resilience and response (EPRR)

33. Emergency planning aims, where possible, to prevent emergencies occurring and when they do occur good planning should reduce, control or mitigate the effects of the emergency. It is a systematic and ongoing process which should evolve as lessons are learnt and circumstances change.
34. It is the responsibility of the local authority to prepare emergency plans to detail its response and recovery to a major incident or emergency.
35. The Major Incident Response Plan has been reviewed and updated for 2017 in accordance with Section 5 of Emergency Preparedness – Guidance on Part 1 of the Clinical Contingencies Act (2004), its associated Regulations and non-statutory arrangements.

36. The plan aims to allow for flexible management and adaptability to a wide range of circumstances. It addition it provides a means of coordinating the activities of all council staff and partners engaged in responding to major emergencies such as to provide support to initial responder, maintain essential services and lead on post incident recovery.

37. A Cleveland Incident Recovery Plan details the mechanisms and protocols by the Local Resilience Forum in the event of an incident requiring a restauration phase. Local authorities lead the recovery process. Recovery training and exercises for SBC have been led by the Emergency Planning Unit

38. The council is represented on multiagency planning and strategic groups such as the Cleveland Local Resilience Forum (LRF). The LRF coordinates planning, training and exercising in relation to a range of threats identified in their community risk register.

39. There have been no major incidents in Stockton in 2016/17.

Environmental Health

40. The Environmental Health Unit has three main strands: Commercial (working with businesses to ensure food hygiene and safety), Environmental Protection and Animal Health and Welfare. These cover a diverse range of issues including food safety and improving work conditions to reduce the occurrence of accidents and ill health, improving the quality of the environment for residents of Stockton-On-Tees, pest control, animal welfare and investigating public nuisance.

Food safety

41. A total of 515 food safety inspections were undertaken in 2016/17. Broad compliance was achieved by 94% of these. The majority of the others required informal notices only.

42. A total of three formal notices were issued (two Hygiene Improvement Notices, one Emergency Prohibition Notice), in addition to eight simple cautions and five food hygiene prosecutions undertaken against food businesses. A further ten premises were ‘Voluntarily Closed’ due to poor standards; unfit foodstuffs were ‘Voluntarily Surrendered’ in fifteen premises.

43. All non-compliant premises are thoroughly investigated and either worked with to secure compliance or subject to further formal action as detailed above.

44. The team carried out 717 bacteriological samples during the year and responded to many food safety requests for service. These included 592 complaints about premises, 127 food complaints and 162 requests for food safety advice. In terms of investigation of notified infectious disease, there were a total of 292 food poisoning notifications.

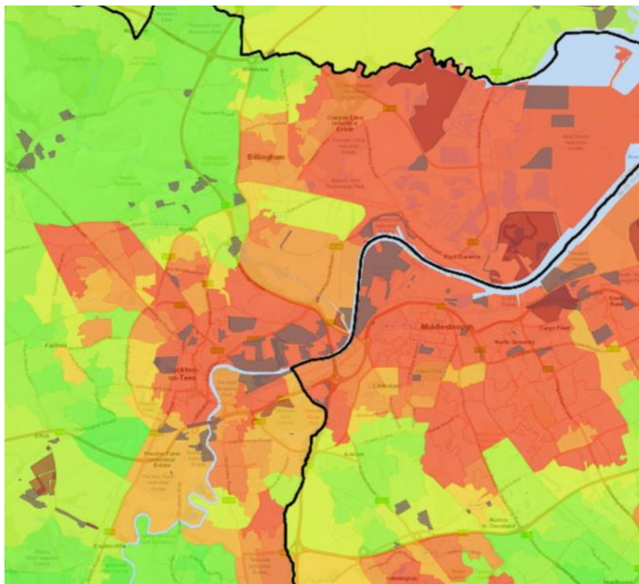
45. The team provided food training across a range of levels including catering courses, hygiene awareness and allergen training. A total of 500 attendees were trained in level 2 Food Hygiene, 11 in level’s 3&4 Food Hygiene, 34 in Hygiene Awareness, 74 on Allergens and 28 on other courses including HACCP for manufacturers.

Environmental Protection

46. Environmental Protection covers issues such as air quality, contaminated land and investigations into noise and statutory nuisances such as smoke, dust, fumes and industrial odours.

47. According to Public Health England, poor air quality is the largest environmental risk to public health in the UK1. Evidence from the World Health Organization (WHO) shows that older people, children, people with pre-existing lung and heart conditions, and people on lower incomes may be most at risk. Stockton-on-Tees has formally reviewed air quality since 2000 and the annual reports to Government show that there has been consistently good air quality compared to national objectives. As a result there has been no need to declare an 'Air Quality Management Area (AQMA)' to improve conditions.

48. There are a number of sites that may require remediation to develop due to the contamination of land. Planning policy is in place to ensure any contamination will be removed before development can occur. There are also sites where there may be existing contamination due to historic uses such as landfill. This map plots current and historic landfill sites across the Borough overlaying deprivation and shows a concentration of historic sites along the river Tees from Stockton to Billingham where deprivation is high.



49. There were 14.9 noise complaints per 1000 residents in Stockton-on-Tees in 2014/15 which is higher than the England average of 7.1 per 1000 residents and higher than all but one of the North East Local Authorities. This position differs from the previous two years when the rate of complaints in Stockton-on-Tees was lower than the England average and can be explained as the Out of Hours noise service was reaching its height of popularity and was operational 24hrs a day 7days a week in 2014/15.

50. In 2016/17 the Environmental Protection Team investigated 1090 noise complaints, the majority of which were mediated and resolved through officer's negotiation and mediation skills with only 3 Noise Notices being served for none compliance and 5 Notices being served for deactivation of sounding Intruder Alarms.

FINANCIAL IMPLICATIONS

There are no direct financial implications of this update.

LEGAL IMPLICATIONS

There are no specific legal implications of this update.

RISK ASSESSMENT

Consideration of risk will be included in the narrative around any health protection issues, together with actions being taken to mitigate this risk.

SUSTAINABLE COMMUNITY STRATEGY IMPLICATIONS

Reporting on health protection issues and performance across Board organisations will have a positive impact on coordinated activity to deliver both the Sustainable Community Strategy and Joint Health and Wellbeing Strategy themes.

CONSULTATION

Consultation has been an integral part of generating priorities for action, through the Joint Strategic Needs Assessment and Joint Health and Wellbeing Strategy development process.

Name of Contact Officer:	Dr Tanja Braun/ James O'Donnell
Post Title:	Consultant in Public Health / Public Health Intelligence
Telephone No:	528706
Email address:	Tanja.braun@stockton.gov.uk, James.O'Donnell@stockton.gov.uk

Appendix

The routine immunisation schedule from Autumn 2017

Age due	Diseases protected against	Vaccine given and trade name		Usual site
Eight weeks old	Diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa	Thigh
	Pneumococcal (13 serotypes)	Pneumococcal conjugate vaccine (PCV)	Prevenar 13	Thigh
	Meningococcal group B (MenB)	MenB	Bexsero	Left thigh
	Rotavirus gastroenteritis	Rotavirus	Rotarix	By mouth
Twelve weeks old	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa	Thigh
	Rotavirus	Rotavirus	Rotarix	By mouth
Sixteen weeks old	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB	Infanrix hexa	Thigh
	Pneumococcal (13 serotypes)	PCV	Prevenar 13	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	Prevenar 13	Upper arm/thigh
	Measles, mumps and rubella (German measles)	MMR	MMR VaxPRO[2] or Priorix	Upper arm/thigh
	MenB	MenB booster	Bexsero	Left thigh
Two to eight years old[1] (including children in reception class and school years 1-4)	Influenza (each year from September)	Live attenuated influenza vaccine LAIV[3]	Fluenz Tetra[2]	Both nostrils
Three years four months old or soon after	Diphtheria, tetanus, pertussis and polio	DTaP/IPV	Infanrix IPV or Repevax	Upper arm
	Measles, mumps and rubella	MMR (check first dose given)	MMR VaxPRO[2] or Priorix	Upper arm
Girls aged 12 to 13 years	Cervical cancer caused by human papillomavirus (HPV) types 16 and 18 (and genital warts caused by types 6 and 11)	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 disease	MenACWY	Nimenrix or Menveo	Upper arm
65 years old	Pneumococcal (23 serotypes)	Pneumococcal Polysaccharide Vaccine (PPV)	Pneumococcal Polysaccharide Vaccine	Upper arm
65 years of age and older	Influenza (each year from September)	Inactivated influenza vaccine	Multiple	Upper arm
70 years old	Shingles	Shingles	Zostavax[2]	Upper arm

1. Age on 31 August 2017.
2. Contains porcine gelatine.
3. If LAIV (live attenuated influenza vaccine) is contraindicated and child is in a clinical risk group, use inactivated flu vaccine.

All vaccines can be ordered from www.immform.dh.gov.uk free of charge except influenza for adults and pneumococcal polysaccharide vaccine.

immunisation
The safest way to protect children and adults

NHS

Selective immunisation programmes

Target group	Age and schedule	Disease	Vaccines required
Babies born to hepatitis B infected mothers	At birth, four weeks and 12 months old[1,2]	Hepatitis B	Hepatitis B (Engerix B/HBvaxPRO)
Infants in areas of the country with TB incidence >= 40/100,000	At birth	Tuberculosis	BCG
Infants with a parent or grandparent born in a high incidence country[3]	At birth	Tuberculosis	BCG
Pregnant women	During flu season At any stage of pregnancy	Influenza	Inactivated flu vaccine
Pregnant women	From 16 weeks gestation	Pertussis	dTaP/IPV (Boostrix-IPV or Repevax)

1. Take blood for HBsAg at 12 months to exclude infection.
2. In addition hexavalent vaccine (Infanrix hexa) is given at 8, 12 and 16 weeks.
3. Where the annual incidence of TB is >= 40/100,000 – see www.gov.uk/government/publications/tuberculosis-tb-by-country-rates-per-100000-people

Additional vaccines for individuals with underlying medical conditions

Medical condition	Diseases protected against	Vaccines required[1]
Asplenia or splenic dysfunction (including due to sickle cell and coeliac disease)	Meningococcal groups A, B, C, W and Y Pneumococcal Haemophilus influenzae type b (Hib) Influenza	Hib/MenC MenACWY MenB PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Cochlear implants	Pneumococcal	PCV13 (up to two years of age) PPV (from two years of age)
Chronic respiratory and heart conditions (such as severe asthma, chronic pulmonary disease, and heart failure)	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Chronic neurological conditions (such as Parkinson's or motor neurone disease, or learning disability)	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Diabetes	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Chronic kidney disease (CKD) (including haemodialysis)	Pneumococcal (stage 4 and 5 CKD) Influenza (stage 3, 4 and 5 CKD) Hepatitis B (stage 4 and 5 CKD)	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine Hepatitis B
Chronic liver conditions	Pneumococcal Influenza Hepatitis A Hepatitis B	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine Hepatitis A Hepatitis B
Haemophilia	Hepatitis A Hepatitis B	Hepatitis A Hepatitis B
Immunosuppression due to disease or treatment[3]	Pneumococcal Influenza	PCV13 (up to two years of age)[2] PPV (from two years of age) Annual flu vaccine
Complement disorders (including those receiving complement inhibitor therapy)	Meningococcal groups A, B, C, W and Y Pneumococcal *Haemophilus influenzae* type b (Hib) Influenza	Hib/MenC MenACWY MenB PCV13 (to any age) PPV (from two years of age) Annual flu vaccine

1. Check relevant chapter of green book for specific schedule.
2. To any age in severe immunosuppression.
3. Consider annual influenza vaccination for household members and those who care for people with these conditions.

immunisation
The safest way to protect children and adults

NHS