Nottinghamshire County Council

Report to the Health and Wellbeing Board

06 December 2017

Agenda Item: 5

REPORT OF THE DIRECTOR OF PUBLIC HEALTH, NOTTINGHAMSHIRE COUNTY COUNCIL

HEALTH PROTECTION UPDATE

Purpose of the Report

1. To inform the Board about outcomes and arrangements for protecting the health of the local population.
2. Provide a progress update on the five areas of action highlighted in the paper to the Board dated 03 February 2016.

Information and Advice

3. Health protection is the domain of public health action which seeks to prevent or reduce the harm caused by communicable diseases, and to minimise the health impact of environmental hazards such as chemicals and radiation, and extreme weather events.

4. This broad definition includes the following functions within its scope, together with the timely provision of information and advice to relevant parties, and ongoing surveillance, alerting and tracking of existing and emerging threats:
   - National programmes for immunisation
   - National programmes for screening, including those for:
     - Antenatal (fetal anomaly, infectious diseases in pregnancy, sickle cell and thalassaemia) and newborn (nine life-limiting diseases, hearing, and physical examination)
     - Cancer (bowel, breast and cervical)
     - Diabetic retinopathy and abdominal aortic aneurism,
   - Management of environmental hazards including those relating to air pollution and food
   - Health emergency preparedness and response, including management of incidents relating to communicable disease (e.g. meningococcal disease, tuberculosis, pandemic flu) and chemical, biological, radiological and nuclear hazards
   - Community Infection prevention and control in health and social care community settings of health and care associated infections
   - The management and control of outbreaks
   - Other measures for the prevention, treatment and control of the management of communicable disease (e.g. tuberculosis, bloodborne viruses, seasonal flu)

   Contraception and sexual health are often considered to fall under the health protection domain. In Nottinghamshire, outcomes and arrangements for sexual health are overseen separately to those for other aspects of health protection, so are not considered within the scope of this paper.

Outcomes

5. The performance of the local system in protecting the health of the population is summarised in the Public Health Outcomes Framework (PHOF). These are set out in Appendix 1.

6. The PHOF indicates that the local system performs well in most areas. In common with every area of the country, there is unmet need in Nottinghamshire County relating to seasonal flu vaccination.

7. It should be noted that many of these indicators describe performance at county level. However, this obscures variations at a local level which usually represents inequity.

System responsibilities for health protection

8. Within the current system, delegated health protection responsibilities align to the following organisations:

    a. Public Health England (PHE) brings together a wide range of public health functions and is responsible for delivering the specialist health protection response to incidents and outbreaks

    b. NHS England hosts a PHE team with responsibility for implementation of national screening and immunisation programmes for Nottinghamshire

    c. NHS England also provides a co-chair and managerial support for the Local Health Resilience Partnership which, along with the development of emergency preparedness, coordinates any NHS multi-agency response to an emergency

    d. NHS Clinical Commissioning Groups commission treatment services which comprise an important component of strategies to control communicable disease

    e. Nottinghamshire County Council has arrangements within a Section 75 agreement for the provision of community infection prevention and control under the accountability of the Council's Adult Social Care and Public Health Committee. (The Council also commissions sexual health services and healthchecks which fall outside the scope of this paper).

    f. The Council, through the leadership role of the Director of Public Health, is also delegated a health protection duty to provide information and advice to relevant organisations, so as to ensure all parties discharge their roles effectively for the protection of the local population[1]. This leadership role of the Director of Public Health mainly relates to functions for which responsibility for commissioning or coordinating lies with other organisations in the system - as described above

9. Other organisations with significant responsibilities for aspects of the overall health protection system include district councils (environmental health), primary and secondary care (delivery of national programmes and incident response).

[1] Protecting the health of the local population: the new health protection duty of local authorities. DH, PHE, LGA. May 2013.

10. The Director of Public Health or her deputy chairs the Health Protection Strategy Group, whose remit is to seek assurance regarding outcomes and arrangements relating to most aspects of health protection for people in Nottinghamshire County and Nottingham City. Membership of the group includes a range of partners, who commission or provide elements of the overall health protection system in Nottinghamshire including: public health specialists and environmental health colleagues from local authorities, NHS clinical commissioning groups, NHS England, and Public Health England.

National screening and immunisation programmes

11. The NHS England Screening and Immunisation Team undertake screening and immunisation functions and comprise of colleagues from Public Health England. The Health Protection Strategy Group receives a report from screening and immunisation team on the delivery of national screening and immunisation programmes. To add rigor to the assurance process, the Health Protection Strategy Group has implemented a rolling thematic reporting schedule, comprising a more in-depth report one of the programmes and an in-depth report on local environmental health protection issues. This facilitates more detailed consideration over an 18 months period of each programme.

Immunisation

12. After the provision of clean drinking water, immunisation programmes are one of the most cost effective health protection interventions and a cornerstone of public health practice. High immunisation rates are key to preventing the spread of infectious disease, complications and possible early death among individuals and supports good school attendance and educational attainment, reduced inequalities, and healthy independent living in later years.

13. Immunisation programmes aim to protect population health through both individual and herd immunity, which is achieved when a sufficient proportion of the target population is immunised to suppress the spread of disease to nonimmune or unimmunised individuals. For most infectious diseases in the national programmes, official estimates are that an uptake of 95% of the population is required to ensure herd immunity.

14. A number of routine and targeted immunisation programmes are commissioned by NHS England on a national basis and are delivered through a range of providers (e.g. general practitioners, hospital trusts, school immunisation service).

15. Uptake rates for several of the programmes form indicators within the Public Health Outcomes Framework. At aggregate level, Nottinghamshire County (along with its county peers in East Midlands) achieves performances at or close to that required for herd immunity, which is better than England average and represents very satisfactory outcomes.

16. Nottinghamshire County Council has made a commitment to increase the uptake of the offer of seasonal flu vaccination to eligible frontline workforce over the next three seasonal flu campaign periods. With an ambition to achieve 75 per cent uptake of the eligible frontline workforce by the 2019 campaign period. This is seen as a mechanism to protect the local population and aligns with NHS and Sustainability and Transformation Partnership (STP) workforce flu vaccination ambitions.

17. In October 2017, there was a national announcement to offer care workers the seasonal flu vaccination free of charge. NHSE's screening and immunisation team will lead on the roll out of this national offer.

18. Actions for improving immunisation outcomes of particular providers are regularly reviewed at NHSE quarterly immunisation programme board. General practice have web access to their childhood and flu immunisation uptake. If the screening and immunisation team identifies that a practice has poor uptake, contact is made with the immunisation lead in the clinical commissioning group and NHSE Primary Care Contracting team to identify whether there are other concerns regarding the practice and how best to address the uptake issues.

19. In response to a local and national decline in childhood immunisation uptake, NHS England's screening and immunisation team in the North Midlands have created a sub group to look at local strategies to improve uptake in the poorest performing areas and to develop a local action plan to improve the uptake and coverage of pre-school boosters (with emphasis on the second dose of the vaccine for measles/mumps/rubella). This runs alongside national work reviewing the general decline in uptake of childhood immunisations. The local group has now met twice and an options appraisal paper will be developed by the screening and immunisation team to identify funding within NHS England to support the development of local pilots to address poor performance. Practice level data is being scrutinised to identify where pilots should be implemented. The screening and immunisation team are being supported by Local Authorities and clinical commissioning groups with this work.

20. Examples of the work to improve immunisation uptake include: data cleaning, increasing the flexibility of general practice appointment system, changing clinic settings to improve access, information/posters on immunisation awareness in hospital emergency departments, paediatrics and other appropriate clinical areas.

National screening programmes

21. The purpose of screening is to reduce the potential harms to people who are currently healthy which are caused by a disease or its complications. It involves a service to offer individuals a test to identify whether they are at increased risk of the disease and whether they may benefit from the offer of diagnostic tests and effective treatment.

22. A number of national screening programmes are commissioned by NHS England including those for: antenatal and newborn, cancer (bowel, breast and cervical), diabetic retinopathy and abdominal aortic aneurysm.

23. Delivery of the national screening programmes to residents of Nottinghamshire County is overseen by the NHS England screening and immunisation teams for Derbyshire & Nottinghamshire and for South Yorkshire & Bassetlaw. Each programme is underpinned by rigorous quality assurance and monitoring arrangements to ensure that the target population benefit from the service and that individuals are not exposed to potential harms (e.g. failures to correctly differentiate individuals requiring further tests).

24. Nottinghamshire County (along with its County peers in East Midlands) achieves performances better than or similar to that for England average. Actions for improving the outcomes of particular providers or in particular populations are regularly reviewed at NHS England's quarterly programme boards.

25. The Cervical Screening Programme is experiencing increasing delays in the turnaround time for screening results. This is a national issue linked to laboratory backlogs as a result of workforce shortages and staff resource issues associated with the implementation of Human Papillomavirus (HPV) primary screening.

26. In June 2017, the Health Protection Strategy Group escalated the matter to the NHS England Director of Commissioning. The advice received from NHS England is that cervical screening turnaround time continues to worsen. The impact for local women relates primarily to increased anxiety associated with an extended period of waiting for the test result. The likelihood of possible harms relating to the progression of an undiagnosed cancer is assessed to be very low.

27. NHS England have since confirmed that they continue to take this situation very seriously and are utilising all channels to escalate the concerns and potential impact on the population cohort affected.

Environmental hazards

28. Environmental hazards constitute a wide range of threats to the health of the population, and are addressed through the work of diverse public and private organisations, much of which is underpinned by legislation or statutory powers. Amongst these, local authorities maintain services and enforcement measures for ensuring: enforcement of safe standards for food, clean air, safe levels of noise, disposal of waste, safe housing conditions.

29. Some of these environmental health hazards are reflected in the Public Health Outcomes Framework which describes the level of exposure in Nottinghamshire County to poor air quality and high levels of noise.

30. The Health Protection Strategy Group's thematic reporting schedule enables the review of local arrangements for air quality management, noise, and standards of food safety and housing standards. During 2017 work has been undertaken to develop the Nottinghamshire Air Quality Strategy, led by District Council Environmental Health Leads, and supported by Public Health colleagues within the Council. The Nottinghamshire Air Quality Strategy will be presented to the Board in early 2018.

Health emergency preparedness & response, including outbreak management

31. Ensuring that the local health system is prepared to deal with emergencies is the responsibility of the Local Health Resilience Partnership (LHRP) which is facilitated by NHS England and is co-chaired by the Director of Public Health for Nottinghamshire County. The LHRP brings together NHS commissioners, healthcare providers, local authorities and public health for this purpose. This is also the group through which, in the event of an incident requiring a multi-agency health response, NHS England would lead coordinated action across Nottinghamshire. The LHRP and NHS England work in close collaboration with the Local Resilience Forum.

32. The LHRP work plan is developed with regard to the local community risk register. Partners regularly exercise their plans and a desk-based exercise is regularly included in LHRP meeting agendas.

33. During 2017, work has been taken forward to refresh the Nottingham and Nottinghamshire Strategic Plan for Pandemic Influenza. This work has been coordinated by NHS England, with contribution from multi agency partners within the LRF and LHRP. The plan provides clarity and formalises the procedures and structures for the response to pandemic influenza locally. The LRF has responsibility to review and monitor the contents of the plan against contemporary good practice and amend as required.

34. Communicable disease outbreaks and chemical incident response is coordinated by Public Health England to ensure that there are clear and appropriate arrangements in place to protect the local population.

35. In July 2017, following the recommendations by the House of Commons Select Committee in a report on the public health system post 2013[2], all LHRP's were tasked with completing an audit of local arrangements for health protection. Nationally, this work was endorsed by Public Health England, NHS England, Local Government Association, and other national bodies.

36. Following submission of the local health protection arrangements audit, it is anticipated that the LHRP will receive a report and recommendations. This will enable an action plan to be developed to enhance local arrangements and provide a comparison to other LHRPs.

37. Work has been taken forward locally to strengthen the adequacy of some aspects of individual organisational responsibilities (function and funding) to respond to local arrangements for the management of small outbreaks and incidents. This work has been led by Public Health England working with local clinical commissioning groups, supported by Nottinghamshire County Council Public Health and other parties. This work is ongoing and may need further consideration as the local health and care system architecture is developed to reflect the STP.

Other arrangements for the prevention and control of communicable disease

38. In recent years, tuberculosis (TB) has re-emerged as a significant public health problem nationally but the incidence of tuberculosis in Nottinghamshire County remains relatively low (PHOF 3.05ii).

39. Reflective of the National TB Strategy[3], PHE established an East Midlands Tuberculosis Control Board (EM TBCB) which provides leadership and strategic direction to support improved outcomes for TB across the East Midlands. The EM TBCB has an action plan and links with the work of the three TB stakeholder groups which oversee arrangements in Nottinghamshire. This work includes an annual review of local cases of TB to inform learning.

40. Other communicable disease hazards include complications arising from untreated viral hepatitis. A recent refresh of the Viral Hepatitis chapter of the Joint Strategic Needs Assessment (JSNA) presents a number of opportunities across the health system to implement key recommendations around harm reduction, diagnosis and access to treatment.

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[2] The House of Commons Health Committee. Public health post 2013second report of session 2016-17. 18.07.2016 HC 140. https://publications.parliament.uk/pa/cm201617/cmselect/cmhealth/140/140.pdf

[3] Collaborative Tuberculosis Strategy for England 2015-2020. 2015. PHE https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/403231/Collaborative_TB_Strategy_for_England_2015_2020_.pdf

41. The prevention and control of HIV and other sexually transmitted infections are overseen as part of the arrangements for sexual health, so are not reported here.

Community Infection Prevention and Control (CIPC)

42. CIPC concerns the prevention of health and care associated infections amongst people receiving care in health or social care settings, and includes community settings such as nursing and residential homes, GP practices and dentists.

43. Performance of the local system impacts a range of stakeholders and directly bears on the following high level public health and NHS outcomes for our residents: PH 4.3 deaths due to preventable causes, NHS 5.2 Incidence of health and care associated infections. It also underpins indicators in NHS Outcome Domain 1 (preventing people from dying prematurely) and NHS Outcome Domain 3 (helping people to recover from episodes of ill-health). Outcomes across Nottinghamshire County are broadly similar to the average for England.

44. During the period 2015-2018 and on behalf of the health and social care community, the Council has funded some additional CIPC resource. Delivery has been contracted through a Section 75 agreement, whereby Mansfield and Ashfield CCG managed the CIPC resource. The CIPC Team have undertaken proactive and reactive work to prevent, minimise and treat infections, of which many are largely preventable. This includes a proactive infection control audit programme of care homes within the county.

45. Discussions are underway to explore options for the future funding of CIPC provision within Nottinghamshire.

46. A Nottinghamshire wide Infection Prevention and Control Group meets quarterly, the group coordinates cross agency collaboration and insight to identify and develop a planned approach to address emerging issues and cross-cutting themes, most of which extend beyond the community. An Antimicrobial Resistance sub group has been established to take forward a local action plan to address this significant, global threat. The Nottinghamshire wide IPC Group provides six monthly reports to the Health Protection Strategy Group.

Summary

47. Arrangements for health protection in Nottinghamshire County deliver outcomes which are generally satisfactory or good.

48. Recent work has focussed on the areas of risk identified in the paper presented to the Board in February. A summary of the delivery to the five areas identified is provided in table 1 below:

49. **Table 1** Update to actions from February 2016 Health Protection Report

	Action	Work undertaken	Complete or ongoing
a.	Antimicrobial resistance	Develop Notts-wide action plan AMR Group provides a 6 monthly update to Health Protection Strategy Group (refer to paragraph 46)	Ongoing AMR remains an international threat

b.	Pandemic flu – update plans	Major revision to the local Pandemic Flu Plans refer to paragraph 33)	Completed
c.	Nottinghamshire Air Quality Strategy	Strategy updated to come to Health and Wellbeing Board in January 2018 Annual in-depth report to Health Protection Strategy Group	Completed
d.	Local management of small outbreaks and incidents	Task and Finish Group (refer to paragraph 37)	Ongoing
e.	Variation in uptake of Immunisations	Work is being taken forward , led by NHS England screening and immunisation team (refer to paragraph 19)	Ongoing

Other options

50. None

Reasons for Recommendations

51. Guidance envisages that, through their Director of Public Health, Health and Wellbeing Boards will wish to be assured that there are robust measures for addressing acute and longer term health protection hazards to people in Nottinghamshire. Accordingly, this report is to inform the Board about outcomes and arrangements for health protection. Evidence shows that these are generally satisfactory or good.

Statutory and Policy Implications

52. This report has been compiled after consideration of implications in respect of crime and disorder, finance, human resources, human rights, the NHS Constitution (Public Health only), the public sector equality duty, safeguarding of children and vulnerable adults, service users, sustainability and the environment and ways of working and where such implications are material they are described below. Appropriate consultation has been undertaken and advice sought on these issues as required.

Financial Implications

53. The cost of the health protection function of the Director of Public Health and the supporting public health roles are funded by the public health grant. This paper proposes no change to these roles or their funding.

RECOMMENDATIONS

1. Consider the outcomes and arrangements (including the matters highlighted in the February 2016 Board report) for protecting the health of the local population against

communicable disease and environmental threats and identify any other actions required.

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Constitutional Comments (LMC 27.11.2017)

2. The Health and Well Being Board is the appropriate body to consider the content of the report and whether there are any actions they are required to take in relation to the issues contained within the report.

Financial Comments (DG 27.11.2017)

3. The financial implications are contained with paragraph 53 of this report

Background Papers and Published Documents

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Electoral Divisions and Members Affected

- All

See also Chair's Report
Item 3: Seasonal Flu Campaign

Appendix 1

Public Health Outcome Framework selected Health Protection indicators – 2017

The Public Health Outcomes Framework (PHOF) is a national set of indicators, set by the Department of Health and used by local authorities, NHS and Public Health England to measure public health outcomes. They focus on improving life expectancy, and reducing differences in life expectancy and healthy life expectancy between communities.

The majority of PHOF indicators for health protection focus on vaccinations. There are also indicators for deaths caused by air pollution, antibiotic prescribing in Primary Care by the NHS and NHS development action plans. Refer to figures 1 and 2.

Vaccinations

Population vaccination coverage relates to the percentage of a defined population that have received a recommended vaccination according to schedule. The data show that ***Nottinghamshire has good vaccination coverage***, and exceeds the national goals for all vaccinations with the exception of seasonal flu and the second dose of MMR vaccine at age 5. Flu vaccination uptake is an area of unmet need across the country, particularly among at risk individuals (refer to Figure 1, PHOF 3.05xiv and 3.05xv).

Tuberculosis

PHOF indicator 3.05i and 3.05ii relate to TB treatment completion and incidence. Between 2014 -16, Nottinghamshire had lower incidence of TB than the national average. The percentage of people with drug-sensitive TB who complete treatment within 12 months (PHOF 3.05i) is in line with the England average, though in some years (e.g. 2015) there are too few cases to calculate this indicator.

Chlamydia Detection Rate

Whilst Chlamydia is dealt with as part of the sexual health portfolio through the Adult Social Care and Public Health Committee, it is noted that a Chlamydia Action Plan sets out a multi-agency plan to work collectively to support delivery to achieve this PHOF indicator. The work has used the National Chlamydia Screening Pathway Tool to identify areas that will support improvement in the detection of chlamydia amongst local young people aged 15 -24 years.

The data in tables 1 and 2 is derived from the PHOF (https://fingertips.phe.org.uk/profile/public-health-outcomes-framework) and are accurate as of 22nd November 2017.

Figure 1- PHOF health protection indicators

Indicator Name	Time period	Sex	England	East Midlands region	Nottingham	Nottinghamshire
3.01 - Fraction of mortality attributable to particulate air pollution	2015	Persons	4.7	5.1	5.3	5.0
3.02 - Chlamydia detection rate (15-24 year olds)	2016	Persons	1,882.3	1,820.4	2168.2	1,422.8
	2016	Female	2,479.1	2,481.3	3,123.6	2,031.3
	2016	Male	1,268.9	1,180.6	1,202.1	845.0
3.03i - Population vaccination coverage - Hepatitis B (2 years old)	2015/16	Persons	-	-	95.0	100.0
3.03ii - Population vaccination coverage - BCG - areas offering universal BCG only	2015/16	Persons	-	-	-	-
3.03iii - Population vaccination coverage - Dtap / IPV / Hib (2 years old)	2015/16	Persons	95.2	97.0	94.6	97.4
3.03iv - Population vaccination coverage - MenC	2015/16	Persons			94.1	
3.03v - Population vaccination coverage - PCV	2015/16	Persons	93.5	95.5	90.7	95.2
3.03vi - Population vaccination coverage - Hib / MenC booster (2 years old)	2015/16	Persons	91.6	94.0	89.3	94.0
3.03vi - Population vaccination coverage - Hib / Men C booster (5 years old)	2015/16	Persons	92.6	93.4	88.8	95.2
3.03ix - Population vaccination coverage - MMR for one dose (5 years old)	2015/16	Persons	94.8	96.5	95.9	96.2
3.03x - Population vaccination coverage - MMR for two doses (5 years old)	2015/16	Persons	88.2	90.5	84.2	89.9
3.03vii - Population vaccination coverage - PCV booster	2015/16	Persons	91.5	94.0	89.2	94.3
3.03viii - Population vaccination coverage - MMR for one dose (2 years old)	2015/16	Persons	91.9	94.1	89.7	93.9
3.03xii - Population vaccination coverage - HPV vaccination coverage for one dose (females 12-13 years old)	2015/16	Female	87.0	87.3	87.7	91.8
3.03xiii - Population vaccination coverage - PPV	2015/16	Persons	70.1	71.7	71.2	73.7
3.03xiv - Population vaccination coverage - Flu (aged 65+)	2016/17	Persons	70.5	71.9	70.6	73.5
3.03xv - Population vaccination coverage - Flu (at risk individuals)	2016/17	Persons	48.6	47.9	46.4	49.6
3.03xvi - Population vaccination coverage - HPV vaccination coverage for two doses (females 13-14 years old)	2015/16	Female	85.1	81.0	83.9	90.1
3.03xvii - Population vaccination coverage - Shingles vaccination coverage (70 years old)	2015/16	Persons	54.9	57.0	57.9	59.2
3.03xviii - Population vaccination coverage - Flu (2-4 years old)	2016/17	Persons	38.1	42.4	34.1	44.0
3.05i - Treatment completion for TB	2015	Persons	84.8	82.0	80.4	85.3*
3.05ii - Incidence of TB	2014 - 16	Persons	10.9	7.8	15.8	3.3
3.06 - NHS organisations with a board approved sustainable development action plan	2015/16	Organisations	66.2	60.0	100.0	63.6
3.08 - Adjusted antibiotic prescribing in primary care by the NHS	2016	Persons	1.08	1.08	1.05	1.11

* Nottinghamshire 2014 data. Too few cases in 2015 to calculate

Figure 2 - Recent trend PHOF Indicators for Health Protection

Indicator Name	Time period	Sex	England	East Midlands region	Nottingham	Nottinghamshire
3.01 - Fraction of mortality attributable to particulate air pollution	2015	Persons	·	·	·	·
3.02 - Chlamydia detection rate (15-24 year olds)	2016	Female	⇩	⇩	⇩	⇩
	2016	Male	⇩	⇩	⇩	⇩
	2016	Persons	⇩	⇩	⇩	⇩
3.03i - Population vaccination coverage - Hepatitis B (2 years old)	2015/16	Persons	·	·	⇔	·
3.03ii - Population vaccination coverage - BCG - areas offering universal BCG only	2015/16	Persons	·	·	·	·
3.03iii - Population vaccination coverage - Dtap / IPV / Hib (2 years old)	2015/16	Persons	⇩	⇩	⇔	⇔
3.03iv - Population vaccination coverage - MenC	2015/16	Persons	·	·	·	·
3.03v - Population vaccination coverage - PCV	2015/16	Persons	⇩	⇩	⇔	⇔
3.03vi - Population vaccination coverage - Hib / Men C booster (5 years old)	2015/16	Persons	⇧	⇧	⇧	⇧
3.03vi - Population vaccination coverage - Hib / MenC booster (2 years old)	2015/16	Persons	⇩	⇩	⇔	⇔
3.03vii - Population vaccination coverage - PCV booster	2015/16	Persons	⇧	⇧	⇧	⇧
3.03viii - Population vaccination coverage - MMR for one dose (2 years old)	2015/16	Persons	⇧	⇧	⇧	⇧
3.03ix - Population vaccination coverage - MMR for one dose (5 years old)	2015/16	Persons	⇧	⇧	⇧	⇧
3.03x - Population vaccination coverage - MMR for two doses (5 years old)	2015/16	Persons	⇧	⇧	⇧	⇧
3.03xii - Population vaccination coverage - HPV vaccination coverage for one dose (females 12-13 years old)	2015/16	Female	·	·	·	·
3.03xiii - Population vaccination coverage - PPV	2015/16	Persons	⇧	⇧	⇔	⇧
3.03xiv - Population vaccination coverage - Flu (aged 65+)	2016/17	Persons	⇩	⇩	⇩	⇩
3.03xv - Population vaccination coverage - Flu (at risk individuals)	2016/17	Persons	⇩	⇩	⇩	⇩
3.03xvi - Population vaccination coverage - HPV vaccination coverage for two doses (females 13-14 years old)	2015/16	Female	·	·	·	·
3.03xvii - Population vaccination coverage - Shingles vaccination coverage (70 years old)	2015/16	Persons	·	·	·	·
3.03xviii - Population vaccination coverage - Flu (2-4 years old)	2016/17	Persons	·	·	·	·
3.05i - Treatment completion for TB	2014	Persons	⇧	⇧	⇔	·
3.05ii - Incidence of TB	2013 - 15	Persons	·	·	·	·
3.06 - NHS organisations with a board approved sustainable development action plan	2015/16	Organisations	⇧	⇔	⇔	⇔
3.08 - Adjusted antibiotic prescribing in primary care by the NHS	2016	Persons	·	·	·	·

Symbol	Recent trend
·	Cannot be calculated
⇩	Decreasing and getting worse
⇧	Increasing and getting better
⇔	No significant change

Key to Comparisons

3.01 - Fraction of mortality attributable to particulate air pollution	Not compared		
3.02 - Chlamydia detection rate (15-24 year olds)	<1,900	1,900 to 2,300	>=2,300
	Not compared		
	Not compared		
3.03i - Population vaccination coverage - Hepatitis B (2 years old)	<90%	90% to 95%	>=95%
3.03ii - Population vaccination coverage - BCG - areas offering universal BCG only	<90%	90% to 95%	>=95%
3.03iii - Population vaccination coverage - Dtap / IPV / Hib (2 years old)	<90%	90% to 95%	>=95%
3.03iv - Population vaccination coverage - MenC	<90%	90% to 95%	>=95%
3.03v - Population vaccination coverage - PCV	<90%	90% to 95%	>=95%
3.03vi - Population vaccination coverage - Hib / MenC booster (2 years old)	<90%	90% to 95%	>=95%
3.03vi - Population vaccination coverage - Hib / Men C booster (5 years old)	<90%	90% to 95%	>=95%
3.03vii - Population vaccination coverage - PCV booster	<90%	90% to 95%	>=95%
3.03viii - Population vaccination coverage - MMR for one dose (2 years old)	<90%	90% to 95%	>=95%
3.03ix - Population vaccination coverage - MMR for one dose (5 years old)	<90%	90% to 95%	>=95%
3.03x - Population vaccination coverage - MMR for two doses (5 years old)	<90%	90% to 95%	>=95%
3.03xii - Population vaccination coverage - HPV vaccination coverage for one dose (females 12-13 years old)	<80%	80% to 90%	>=90%
3.03xiii - Population vaccination coverage - PPV	<65%	65% to 75%	>=75%
3.03xiv - Population vaccination coverage - Flu (aged 65+)	<75%		>=75%
3.03xv - Population vaccination coverage - Flu (at risk individuals)	<75%		>=75%
3.03xvi - Population vaccination coverage - HPV vaccination coverage for two doses (females 13-14 years old)	<80%	80% to 90%	>=90%
3.03xvii - Population vaccination coverage - Shingles vaccination coverage (70 years old)	<50%	50 to 60%	>=60%
3.03xviii - Population vaccination coverage - Flu (2-4 years old)	<40%	40 to 65%	>=65%
3.05i - Treatment completion for TB (compared to upper tier LAs)	>50th percentile	50th to 90th	>90th percentile
3.05ii - Incidence of TB (compared to upper tier LAs)	>50th percentile	51st to 90th	>90th percentile
3.06 - NHS organisations with a board approved sustainable development action plan - compared to England	Worse	Similar	Better
3.08 - Adjusted antibiotic prescribing in primary care by the NHS	<= England mean		> England mean