



Bristol Health Protection

Annual Report 2020

April 2019 to March 2020

Contents

Acknowledgments	4
1. Introduction	5
2. Tuberculosis (TB).....	5
3. Infection Prevention and Control (IPC) – Health Care Acquired Infections	10
3.1 MRSA.....	10
3.2 Clostridium Difficile	10
3.3 Ecoli	11
4. Antimicrobial Resistance (AMR).....	11
4.1 Antibiotic prescribing.....	11
5. Sexual Health.....	11
5.1 Sexually Transmitted Infections	12
5.3 Antimicrobial resistance in Sexual Health Services (Unity).....	14
5.4 HIV.....	14
5.5 Chlamydia Screening.....	16
6. Foodborne illness.....	17
7. Immunisations	18
7.1 Childhood immunisations.....	18
7.2 Shingles	19
7.3 PVV.....	19
7.4 Flu.....	20
8. Screening	20
8.1 Cancer	20
8.2 Cervical Screening.....	21
8.3 Bowel Screening	22
8.4 Breast screening	23
8.4 Antenatal and Prenatal Screening	23
9. Environmental hazards to health, safety and pollution control	24

9.1 Air Quality	24
9.2 Avonmouth.....	26
10. Emergency Preparedness, Resilience and Response (EPRR)	26
11. Covid 19	27
11.1 Timeline	27
11.2 Bristol specific	28

Acknowledgments

This report has been produced in exceptional circumstances at a time the Health and Public Health systems have been working under considerable pressure in responding to the Covid 19 pandemic.

My grateful thanks to the Bristol team, particularly Sophie Prosser, Simon Dicker and Katie Porter for going above and beyond to produce this report in extremely challenging circumstances.

Thanks also to all members of the Bristol Health Protection Committee and programme leads all of whom have continued to support both essential health protection work at the same time as supporting the Bristol Covid19 response.

Julie Northcott, Consultant in Public Health
31st May 2021

HP Committee Members

Name	Capacity	Organisation
Christina Gray	Chair, DPH	Bristol City Council (BCC)
Thara Raj	Consultant in Public Health	
Sophie Prosser	Health Protection Representative	
Katie Porter	Sexual Health Representative	
Adrian Jenkins	Environmental Health Representatives	
Indira Barker		
James Gillman	Civil Protection Representative	Public Health England (PHE)
Dominic Mellon	PHE Representative	
James Bayliss	CCG IPC and HCAI Representative	Bristol, North Somerset and South Gloucestershire Clinical Commissioning Group (CCG)
John Wintle	CCG EPRR Representative	
Jon Roberts	Screening and Immunisation Representative	PHE
Lianne Strauss	Screening and Immunisation Representative	PHE
Kate Bradley	NHSE EPRR Representative	NHS England

1. Introduction

This annual health protection assurance report covers the period April 2019 to March 2020. The report provides an overview of the status of health protection priorities, targets and recommended actions identified by the Health Protection Committee in 2019.

This report was due in September 2020, however during this period all resources were focused on managing the Covid 19 Local Outbreak Management Plan. This impacted on both availability of the data we need to have access to complete the report and, on our capacity to produce the report.

A number of routine any data sets for the year 2019/2020 have not been produced and during the final quarter of 2019/20 some key non Covid-19 health protection prevention deliverables were put on hold as the health and public health systems stood up the Covid 19 response.

As we have seen through Covid 19, there is inequality in the level of risk that different individuals and groups are exposed to. Health Protection risks and issues reveal these inequalities, just as Covid 19 has done. This report is a reminder of the range of communicable disease and environmental risks which we need to address as part of Covid Recovery.

Our next assurance report for the period 2020 to 2021 with focus on the impacts of Covid 19.

Christina Gray
Director of Public Health
31st May 2021

2. Tuberculosis (TB)

TB is a “notifiable disease”, so must be reported to government authorities. In England TB has been identified as a public health priority due to the health, social and economic burden of the disease. The rates of TB and the risks of delayed diagnosis, drug resistance, and onward transmission are greatest among socially marginalised, under-served populations such as illicit drug users and the homeless.

Summary points

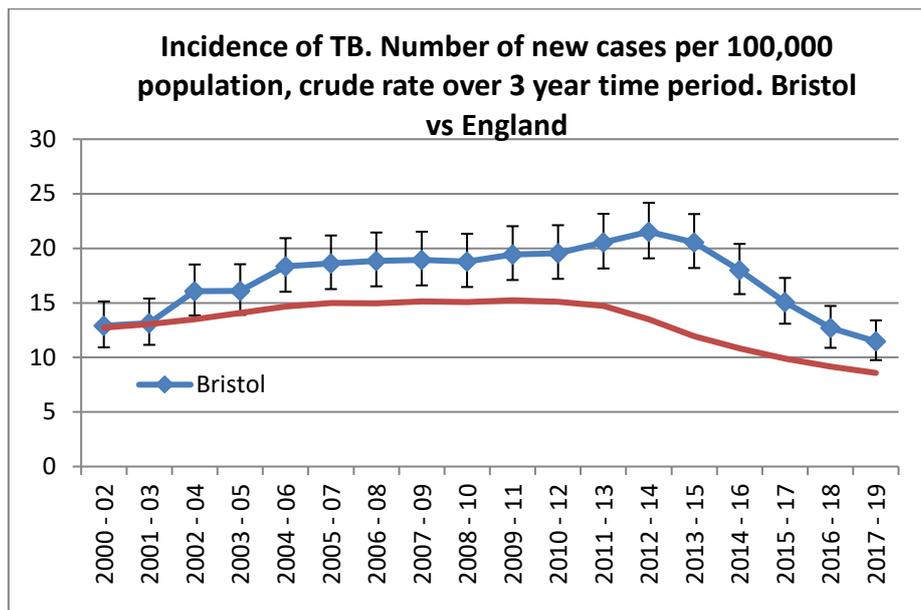
- The TB incidence rate in Bristol remains statistically significantly higher than England’s average. In the 3 years 2017-19 the average number of notifications in Bristol was 53 per year.
- There were 50 notified TB cases in Bristol in 2019¹, a slight increase from 2018 (48). The annual rate per 100,000 population has also slightly increased from 10.4 in 2018 to 10.8 in 2019.
- Among Core Cities, Bristol’s TB incidence rate is 4th highest – after Manchester, Birmingham and Nottingham.
- In 2019 88% of pulmonary TB cases started treatment within 4 months of symptoms onset – higher than England’s average of 69.1%.

Incidence

In Bristol, incidence rates of TB are significantly higher than the England average – see fig.1. The latest 3 year average rate of TB in Bristol (2017-19) was 11.5 notified cases per 100,000 population – a 9.6% reduction from the 2016-2018 period. The incidence rate for Bristol has decreased since 2012-2014 and is the lowest recorded since 2000-2002 period. However, that is still significantly higher than England average of 8.6 notifications per 100,000 and South West regional average of 3.9 per 100,000 South West average.

¹ Public Health England. (2021) Tuberculosis in the South West 2020: Presenting data to end of 2019. Public Health England: South West; <https://www.gov.uk/government/publications/tuberculosis-tb-regional-reports>

Fig 1: TB incidence rates, 2000/02 to 2017/19

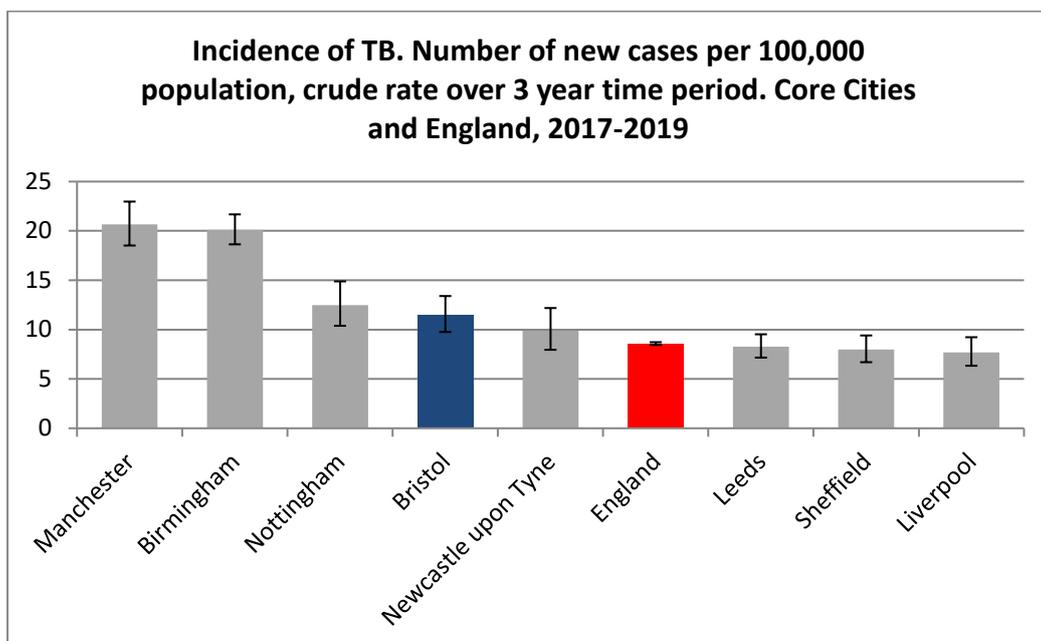


Source: Public Health Outcomes Framework March 2021

Compared to other cities, Bristol is 4th highest of English Core Cities, and 6th highest of “CIPFA nearest neighbours”- fig 2 and fig 3.

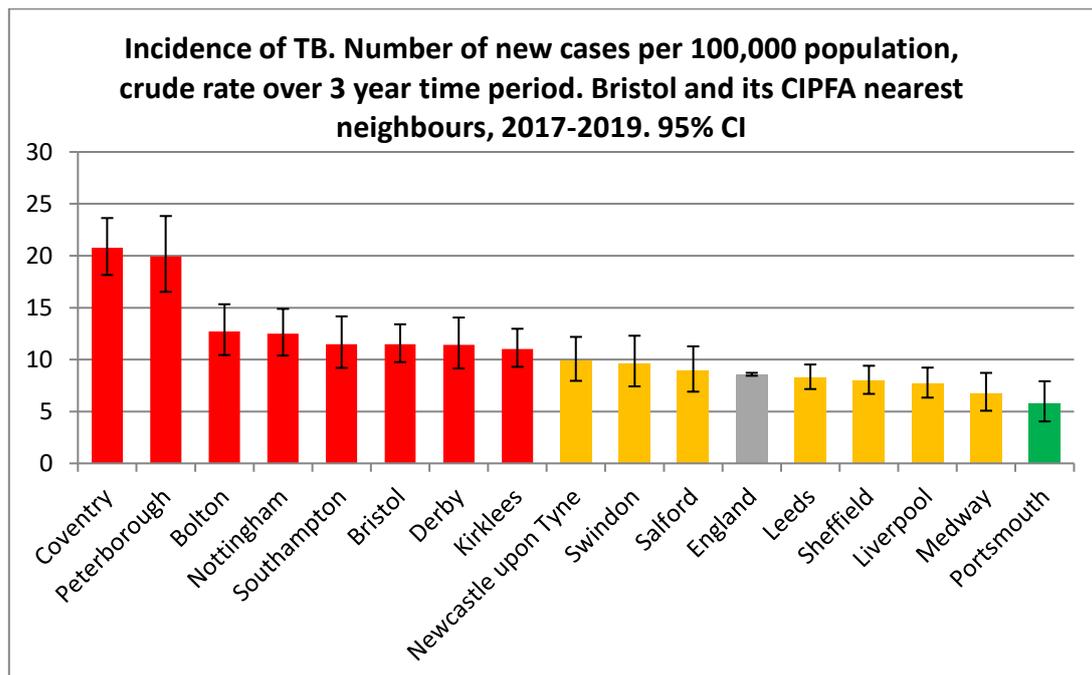
Red bars indicate rates statistically significantly higher than England average; amber bars indicate rates statistically similar and green bars – rates statistically significantly lower than England average

Fig 2: TB incidence rates, 2017 - 2019 for Core Cities;



Source: Public Health Outcomes Framework March 2021

Fig 3: TB incidence rates, 2017-2019 for CIPFA nearest neighbours



Source: Public Health Outcomes Framework March 2021

Treatment

In 2019, 52% of pulmonary TB cases started treatment within two months of symptoms onset (England average 40.6%) and 88% within 4 months of symptoms onset (England average 69.1%).

The number of new cases per year places a notable demand on the health care system. TB “contact tracing” provides an opportunity to identify unrecognised cases and is key to management of TB, and with new testing tools latent TB can be identified (that could otherwise wake up and cause active disease) and appropriate action taken to support these people.

There is an established TB service operating across Bristol which leads on the clinical management of cases, contact tracing and works with Public Health England in response to more complex TB incidents or outbreak situations.

Equalities data

The Public Health England ‘Tuberculosis in the South West: 2020’² report provides data on health inequalities within the South West region.

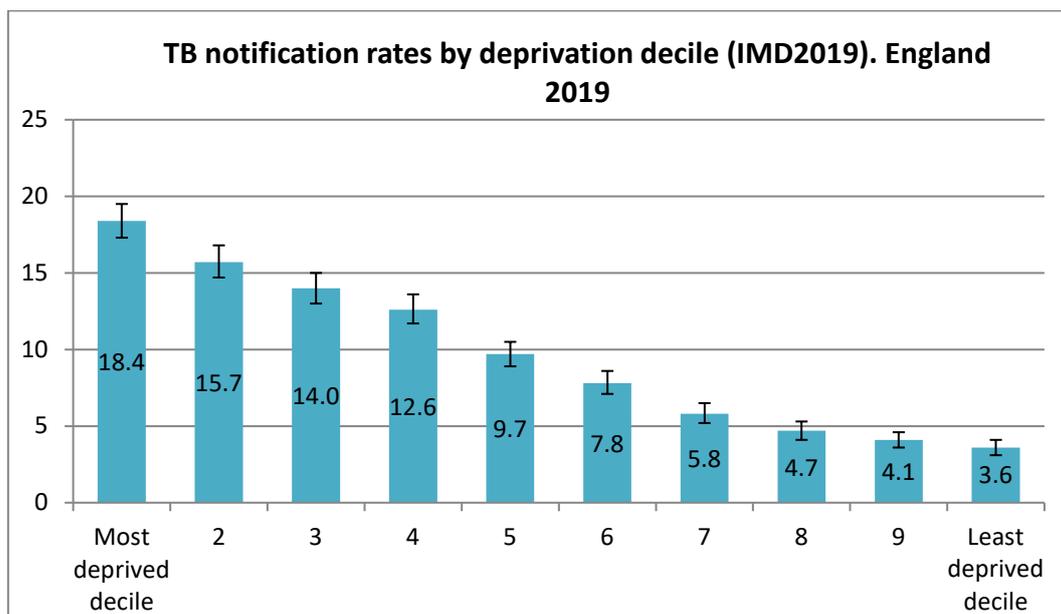
Most TB cases in 2019 were of White ethnicity (48.5%), the next most common ethnicities were Mixed-Other (14.9%), Black-African (12.8%) and Indian (11.9%).The

² Public Health England. (2021) Tuberculosis in the South West 2020: Presenting data to end of 2019. Public Health England: South West; <https://www.gov.uk/government/publications/tuberculosis-tb-regional-reports>

proportion of cases in the Mixed-Other population increased in 2019 compared to 2018. The largest proportion of cases (21.4%) lived in the most deprived areas of the region (the most deprived IMD2019 decile).

The Public Health England's 'Tuberculosis in England 2020 report' presents the TB notification rates per 100,000 population for the year 2019 by deprivation decile (IMD 2019) – fig 4. The rate of TB increases with increasing levels of deprivation: 18.4 per 100,000 in the 10% of the population living in the most deprived areas compared with only 3.6 per 100,000 in the 10% of the population living in the least deprived areas.

Fig 4: TB notification rates by deprivation, England 2019



Source: Public Health England's 'Tuberculosis in England 2020 report'.

Further data and links

- Public Health England. (2021) Tuberculosis in the South West 2020: Presenting data to end of 2019. Public Health England: South West. [Tuberculosis \(TB\): regional and devolved administration reports - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/97222/tuberculosis-tb-regional-and-devolved-administration-reports-2020.pdf)
- Public Health Outcomes Framework [Public Health Outcomes Framework - OHID \(phe.org.uk\)](https://www.phe.org.uk/public-health-outcomes-framework)

3. Infection Prevention and Control (IPC) – Health Care Acquired Infections

The BNSSG Health Care Acquired Infection (HCAI) Group met quarterly during the reporting period, maintaining oversight and supporting joint action where needed.

3.1 MRSA

Methicillin-Resistant Staphylococcus Aureus (MRSA) is a gram-positive bacterium that commonly colonised in the human skin and mucosa without causing infection. When infection occurs, usually because the bacterium enters the body via broken skin or medical procedures it can produce a wide variety of disease; minor skin and wound infections, pneumonia, life-threatening blood stream infections (septicaemia) and sepsis.

The number of MRSA bacteraemia cases assigned to Bristol, North Somerset and South Gloucestershire health system area, and Bristol specifically, remains a challenge. Over the last three years we have seen a reduction in the Bristol assigned cases: 2017/18 = 33, 2018/19 = 30 and 2019/20 = 27 but remain an outlier. Most cases are community onset of which approximately 50% are related to intravenous drug use. A Post Infection Review (PIR) process is undertaken for each case irrespective of onset. There is ongoing multiagency work through the Design Council Project to develop and implement harm reduction / risk management in this group.

3.2 Clostridium Difficile

Clostridium Difficile (C Diff) is an anaerobic spore-forming gram positive, toxin producing bacterium. It is more common in elderly, hospitalised patients, especially those with current or recent history repeat or extended courses of antibiotics. C Diff can lead to severe illness and mortality but is preventable through antibiotic stewardship, high levels of environmental cleaning in addition to standard infection prevention and control measures by staff.

The number of C. difficile cases assigned to BNSSG for 2019/20 was under the system threshold announced by NHS England. Over the last three years there has been a reduction in the Bristol cases of C Diff: 2017/18 = 96, 2018/19 = 82 and 2019/20 = 74.

The CCG reviews hospital onset cases with secondary care providers and processes are robust.

3.3 Ecoli

The national ambition targets to achieve sustained reductions in E.coli bacteraemia have been a challenge regionally and nationally. At the end of 2019/20, BNSSG CCG as a system did report a reduction in cases of around 6%. More specifically, Bristol also saw a reduction in assigned cases from 2018/19 to 2019/20, from 344 to 297 cases.

As a system there were a number of initiatives adopted in 2019/20 to support a reduction in cases including the introduction of catheter passports and a range of projects with a focus on patient hydration.

4. Antimicrobial Resistance (AMR)

Bacteria, viruses and fungi are naturally adapting and becoming resistant to medicines used to treat infections that they cause. Coupled to this, the development pipeline for new antibiotics is at an all-time low. Together this means society is rapidly getting close to a point where we may not be able to prevent or treat everyday infections or diseases. Antibiotic prescribing and antibiotic resistance are inextricably linked, as overuse and incorrect use of antibiotics are major drivers of resistance (PHE, 2018).

A Bristol, North Somerset and South Gloucestershire (BNSSG) health system Antimicrobial Resistance Strategy group has been established with a remit to implement AMR 5-year plan. The BNSSG antimicrobial stewardship collaboration and Healthcare Acquired Infections group report to the strategy group.

4.1 Antibiotic prescribing

Support was given to practices by the CCG medicines optimisation team in the form of teaching sessions and time with practice pharmacists. This supported 38 out of 43 Bristol practices to meet the both the prescribing targets of overall prescribing 0.965 antibiotics/STAR-PU and less than 10% of antibiotics prescribed being broad spectrum, cephalosporins, quinolones and co-amoxiclav. This work will continue with practices that remain above the prescribing targets.

5. Sexual Health

Efforts to improve the sexual health of the population are a public health priority. Sexually transmitted infections (STIs) can have lasting long-term and costly complications if not treated and are entirely preventable. Diagnosing HIV and starting treatment earlier, minimises the impact on patients, their families and services.

Poor relationships can have a lasting effect on an individual's mental wellbeing, self-esteem, and confidence. Prevention of unintended pregnancies and control over reproductive choices preserves good mental and psychosexual health.

Although progress has been made e.g. in the reduction in teenage conceptions and increasing access to sexual health services), STIs in Bristol continue to rise.

Bristol has a relatively young population compared to England and this is predicted to rise. The city is ethnically diverse and has areas of high deprivation. There is an active lesbian, gay, bisexual and trans (LGBT) scene. These factors mean sexual health is a high priority for Bristol.

5.1 Sexually Transmitted Infections

Sexually Transmitted Infections (STIs) is a term used to describe a variety of infections passed from person to person through unprotected sexual contact. STIs can have lasting long term and costly complications if not treated and are entirely preventable.

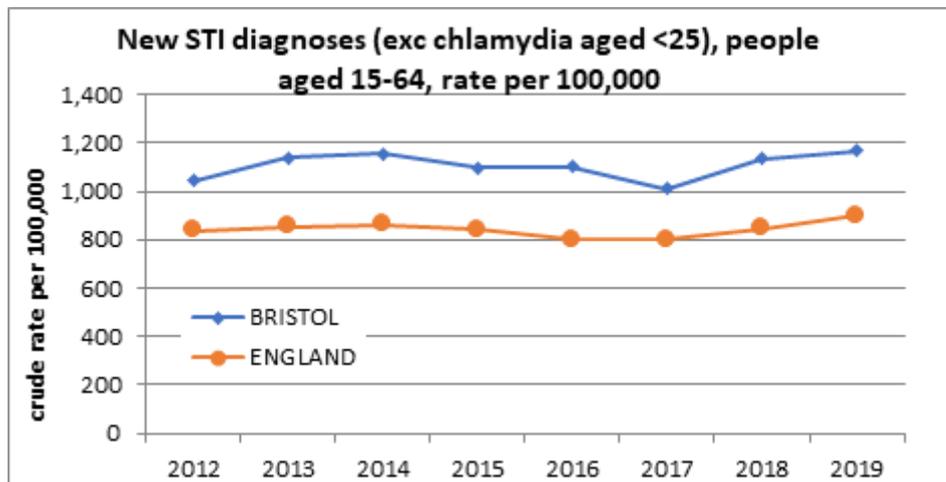
There are high rates of diagnosed STIs in Bristol. 2019 saw a small increase in the rate of new STI diagnoses (excluding chlamydia in under 25 year olds^[1]) to 1,167 per 100,000 population aged 15-64 (3% higher than in 2018) which is significantly higher than the national average (900 per 100,000). When age is taken into account, Bristol rates of all new STIs appear similar to England's rate. However, when broken down by gender, Bristol's female rate was statistically significantly higher than England's.

The continued local rise in STIs reflects the national pattern. Whilst this is in part due to improved testing it is also likely to reflect increased infection rates in the population from ongoing unsafe sexual behaviours. The impact of STIs remains greatest in young heterosexuals aged 15 to 24 years, black ethnic minorities and men who have sex with men.

A current concern is the observed increase in syphilis cases. There were 62 diagnoses of syphilis in 2019. This gives a rate of 13.4 per 100,000, which is similar to England's rate but reflects a 7% increase since 2018 and a doubling since 2016. Although absolute numbers are relatively low in comparison to other STIs, syphilis can cause serious long-term problems if left untreated.

The diagnostic rate for gonorrhoea (109.4 per 100,000) has also significantly increased in Bristol in 2019 although it is still lower than the national rate (123.5 per 100,000). Whilst the diagnostic rate for genital herpes (81.8 per 100,000) has increased by over 13% in Bristol in 2019 and it is statistically significantly higher than the national average (60 per 100,000).

Fig 5: New STI diagnoses (exc chlamydia aged <25) crude rate per 100,000 population aged 15-64



Source: PHE Sexual and Reproductive Health Profiles, September 2020

5.1.1. STI Outbreaks

An outbreak of lymphogranuloma venereum (a type of chlamydia that causes a more serious infection) was identified by Unity in March 2020. Unity highlighted the increased number of cases to public health and an outbreak management team was set up and an action plan has been put in place.

In March 2020 Unity also identified a sharp increase in cases of syphilis. There has been an ongoing outbreak of syphilis in men who have sex with men (MSM) population since 2018 but these cases were amongst the heterosexual population. An outbreak management team was convened. As syphilis can present in a number of different ways, information was shared with partners in primary care, secondary care and Unity subcontracted partners. The Unity website and postal self-test kits were updated to highlight the importance of testing for everyone regardless of gender or sexuality.

5.2 Sex and relationships education

From September 2020 Relationships Education (primary schools), Relationships and Sex Education (secondary schools), and Health Educations (state schools) are to become a statutory requirement.

In February 2020, the [Bristol Primary Teaching School](#) in partnership with the [Cabot Learning Federation's Institute](#) and [Bristol City Council](#) was successful in winning a national Department for Education(DfE) bid to support the implementation of the new requirements of Relationships, Sex and Health Education (RSHE) as one of the country's RSHE hubs.

This was to be one of only a small number of DfE funded RSHE hubs across England will develop a cohesive programme of free support and development to help schools in the South West region in the year ahead as they considered their implementation of the new statutory duty.

The Healthy Schools programme continues to focus on the new three tier awards system; essential, specialist and advanced. Demonstrating good practice in relationships and sex education (RSE) is a key part of the new awards.

5.3 Antimicrobial resistance in Sexual Health Services (Unity)

Increased access to rapid STI testing (Gonorrhoea and Chlamydia) and same day results using Panther has enabled more appropriate use of antibiotics and early identification of antimicrobial resistance in STIs. This access has increased throughout 19-20. An evaluation of Panther in terms of its costs, acceptability and timeliness is currently underway.

Unity have also developed local guidelines for expanded local testing for *Mycoplasma genitalium* (currently tests are sent to London). Its implementation was due April 2020 (delayed because of Covid which reduced laboratory capacity).

In Jan 2020 Bristol SHIP HIT (Sexual Health Improvement Health Integration Team) co-hosted an international conference with the London School Hygiene & Tropical Medicine's STI Research Interest Group ([STIRIG](#)), with funding from WHO and LSHTM's AMR Centre, to explore STI AMR. The National AMR Strategy highlighted concern regarding gonorrhoea resistance and local clinicians will be working with national leads to address this issue.

HIV PrEP (Preexposure Prophylaxis) appears to have resulted in higher rates of bacterial STIs. A qualitative study has been undertaken and exploring PrEP users' knowledge, attitudes and perception of sexual health risk in an age of STI AMR. A review of the quality of commercial on-line STI testing providers is also underway.

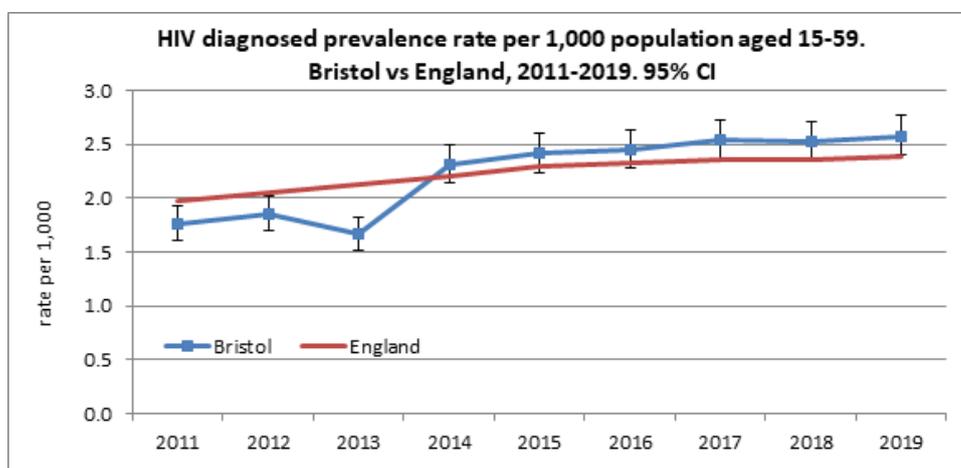
5.4 HIV

HIV (Human Immunodeficiency Virus) is a chronic health condition that damages the cells in your immune system and weakens your ability to fight everyday infections and disease. The development of antiretroviral treatments over the past few decades has transformed HIV infection from an almost uniformly fatal infection into a manageable chronic condition with the potential for normal life expectancy when diagnosed promptly. However, being diagnosed late is linked with increased rates of illness, hospital admission and reduced life expectancy. Whilst great strides have been made around HIV treatment, people living with HIV remain a stigmatised group who can have a poorer quality of life due to their HIV status.

Some groups are disproportionately affected by HIV. Black African communities collectively contain the largest number of people with undiagnosed HIV infection in the UK, and this is mirrored in Bristol - stigma is one of the main reasons for this. Men who have sex with men continue to be the group most affected by HIV infection.

870 Bristol residents were living with diagnosed HIV in 2019. Bristol's rate is 2.6 per 1,000 population (aged 15-59), which is similar to the national rate (2.4 per 1,000). The diagnosed HIV prevalence rate for Bristol has increased in recent years, which is probably due to people living longer as a result of effective treatment. The percentage of adults in Bristol accessing HIV care in 2019 who were virally suppressed (had an undetectable viral load) was 97.2%, similar to 97.4% in England.

Fig 6: HIV Diagnosed Prevalence Rate per 1000 population aged 15 to 59



Source: Public Health Outcomes Framework March 2021

Bristol signed up to become a Fast Track City in November 2019 to accelerate our progress towards ending HIV transmission. The Fast Track Cities Initiative is a global programme to accelerate work around HIV. A Bristol HIV Health Needs Assessment was published in 2020. This identified our local HIV needs and informed the priorities for Bristol's Fast Track City Action Plan. The Fast Track City Action Plan was finalised in March 2020 with actions broken down in to 3 work streams: Increasing HIV Testing, Tackling HIV Stigma & Systems Leadership.

Fast Track City actions planned for 20-21 include undertaking a late diagnosis lookback, working with Black communities to improve HIV dialogue, developing a Fast Track Cities website and running a local Undetectable = Untransmittable health promotion campaign.

Bristol was visited by the national HIV Commission in March 2020 to inform their recommendations to the government on ending HIV.

Fast Track Cities members joined with African Voices Forum at the start of 2020 to develop a bid for The Health Foundation Common Ambition Fund to co-produce HIV interventions with Black African and Caribbean populations.

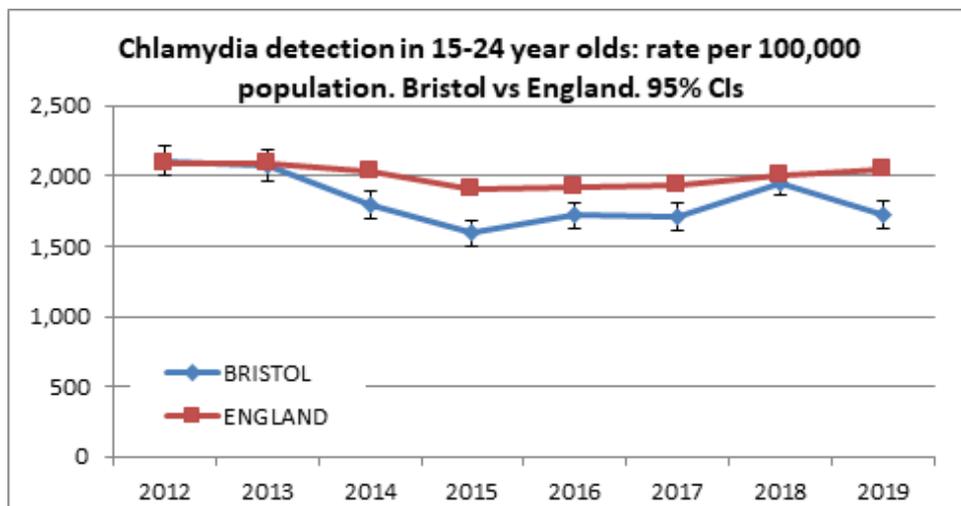
Combination prevention of HIV includes education, condoms, HIV testing, Treatment as Prevention and Pre-exposure prophylaxis (PrEP). PrEP is a medication which can be taken by someone who does not have HIV to prevent the risk of acquiring HIV. Bristol's commissioned sexual health service have continued to be involved in the national PrEP (IMPACT) trial.

5.5 Chlamydia Screening

Chlamydia is the most common Sexually Transmitted Infection (STI) in England and is most common in young people aged 15 to 24. There were 2,284 cases of chlamydia in 2019, with 1,331 of these being among 15 to 24 year olds.

The National Chlamydia Screening Programme supports opportunistic screening for asymptomatic young people aged 15 to 24, to increase detection, to enable treatment and interrupt spread and thus reduce chlamydia prevalence. Bristol has not been achieving the Public Health England recommended detection rate of 2,300 per 100,000 people in the 15 to 24 age group. The 2019 data on the detection of chlamydia (fig 7.2.2.1) shows that Bristol rate (1,722 per 100,000) has fallen below the national average (2,043 per 100,000).

Fig 7: Chlamydia Detection in 15-24 year olds: rate per 100,000 population



Source: Public Health Outcomes Framework March 2021

Local partners have responded to a national consultation on proposed changes to the national Chlamydia Screening Programme. We are awaiting the outcome of the consultation and we will consider local actions to address any changes needed. We will also continue to explore how we can better understand chlamydia prevalence at

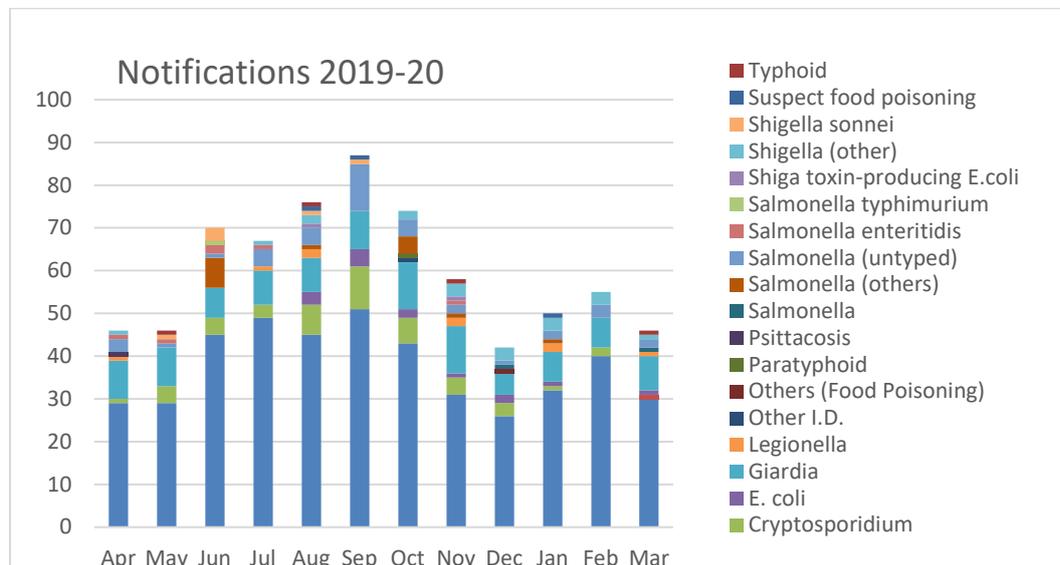
a local level and will work with the CCG to ensure partner notification can take place for infections detected in primary care.

6. Foodborne illness

Foodborne illness (more commonly referred to as food poisoning) is any illness that results from eating contaminated food. Foodborne illness can originate from a variety of different foods and be caused by many different pathogenic organisms at some point in the food chain, between farm and fork. Although the majority of cases in the UK are mild they are unpleasant, result in absences from education or the workplace and place a significant demand on healthcare services. Occasionally foodborne illness can lead to complications or even death.

Access to safe food and water is one of the most fundamental human needs. Figures from the Food Standards Agency state that there are over 500,000 cases of food poisoning per year across the UK from identified causes and if the unidentified causes were to be included this figure would more than double. In Bristol, there were 715 confirmed cases of gastrointestinal infection between April 2019 and March 2020 (see Fig 8).

Fig 8: Confirmed cases of gastrointestinal infection notified to Bristol City Council Environmental Health of residents of Bristol local authority, April 2019 to March 2020



Source: PHE Notifications recorded on Civica.

6.1 Food Safety Inspections

All food businesses based in the UK are subject to food hygiene laws enforced by local authorities. Businesses can be inspected at any point, and authorised environmental health officers (EHOs) have the right to enter and inspect any

premises without appointment or approval to ensure that businesses meet the requirements of the Food Standards Agency (FSA).

Inspections utilise the FSA's 'Food Hygiene Rating Scheme', awarding businesses a 'star' rating upon completion of the examination. These ratings run from 0-5 stars, with a score of '0' indicating that serious action must be taken immediately to avoid penalties or the closure of your premises.

The Food Standards Agency requires Bristol City Council to achieve 100% of food safety inspections annually. During 2019/20, the Environmental Health team completed 78% of inspections against a corporately set target of 80% required by the Statutory food programme 2019-2020 focussing on high-risk premises.

Currently, there is a backlog of approx. 800 inspections. The service is regularly audited by the Food Standards Agency and work on clearing the backlog of inspections during 2020/21 will continue, although it is expected that COVID restrictions will have an impact on this. Inspections are likely to be postponed with EHO resource being diverted towards important Covid enforcement work to ensure that businesses in Bristol are compliant with any safety measures to protect our population.

7. Immunisations

Immunisations are acknowledged as one of the most significant public health developments in the prevention of infectious disease.

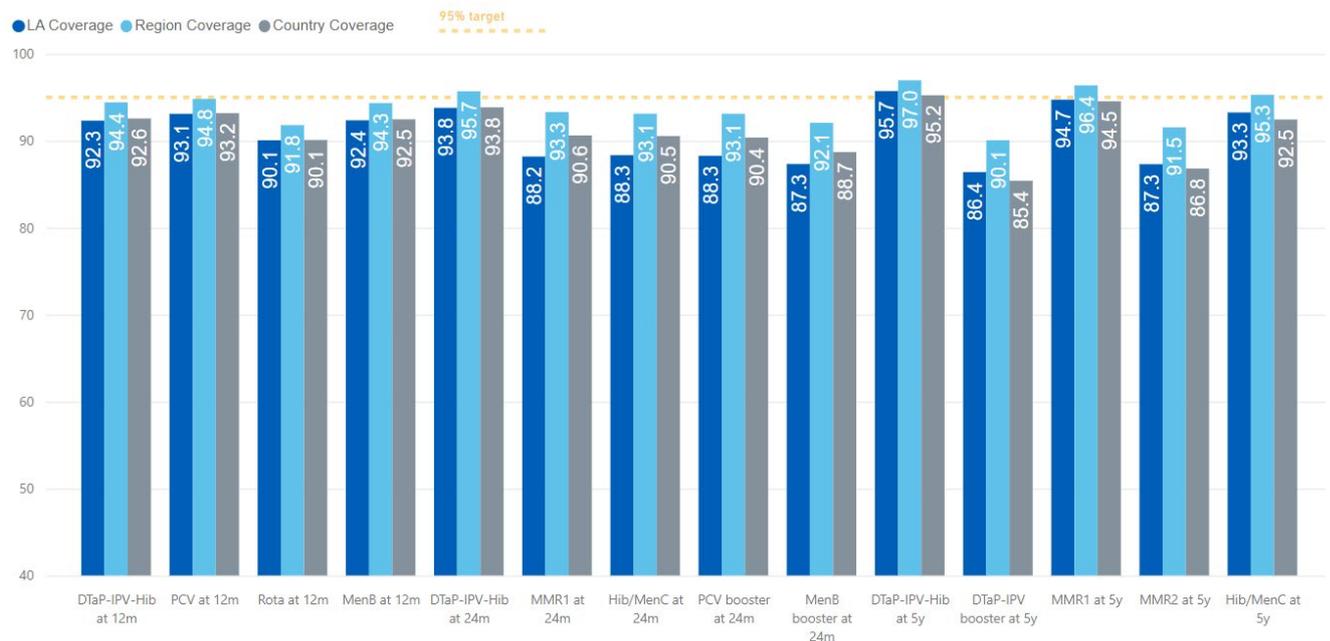
7.1 Childhood immunisations

Childhood immunisation uptakes in Bristol are similar to England average, although **it should be noted that we remain below the national clinical standard required to control disease and ensure patient safety and 95% population coverage is required** to protect. MMR and DTap-IPV 2nd vaccines at age 5 are of particular concern with neither reaching 90%, although both have seen small increases compared to 2018/19.

The UK wide Measles and Rubella Elimination strategy was released in 2019 and a South West wide action plan was developed to support implementation of the plan following a regional conference on measles held in February 2020. The Bristol contribution to the plan was developed via the BNSSG immunisation group led by Public Health England. Projects included practice visits and uptake plans to GP practices with lower MMR uptake and comms and media activity to promote the MMR vaccine. Detailed work was undertaken from December 2019 to March 2020 by BCC and PHE to gather insight into current behavioural barriers and enablers of childhood vaccination uptake in Bristol, from the perspective of parents and professionals. There was a particular focus on the MMR vaccine, and the Somali

community in Bristol because this is a group identified, locally and nationally, as being at risk of under-immunisation, especially for MMR.

Fig 9: Childhood Vaccination Coverage Statistics



Source NHS Digital

7.2 Shingles

The shingles vaccine is offered to people aged 70 or 78 years old³. In addition, anyone who was previously eligible (born on or after 2 September 1942) but missed out on their shingles vaccination remains eligible until their 80th birthday. The shingles vaccine is not available on the NHS to anyone aged 80 or over because it seems to be less effective in this age group.

Shingles vaccination uptake in those turning 70 or 78 in Bristol was 44.7% in 2019/20 slightly above the England at 44.4%. Work is ongoing to understand the vaccine coverage across eligible ages and all from age 70-80 will be eligible in 2020/21.

7.3 PPV

The pneumococcal vaccine protects against serious and potentially fatal pneumococcal infections. It's also known as the pneumonia vaccine. Pneumococcal infections are caused by the bacterium *Streptococcus pneumoniae* and can lead to pneumonia, blood poisoning (sepsis) and meningitis. The vaccine is offered to adults aged 65 or over plus those with long-term health conditions such as serious heart or kidney conditions. Uptake of the PPV vaccine in 2019/20 was 69.4%. This compares

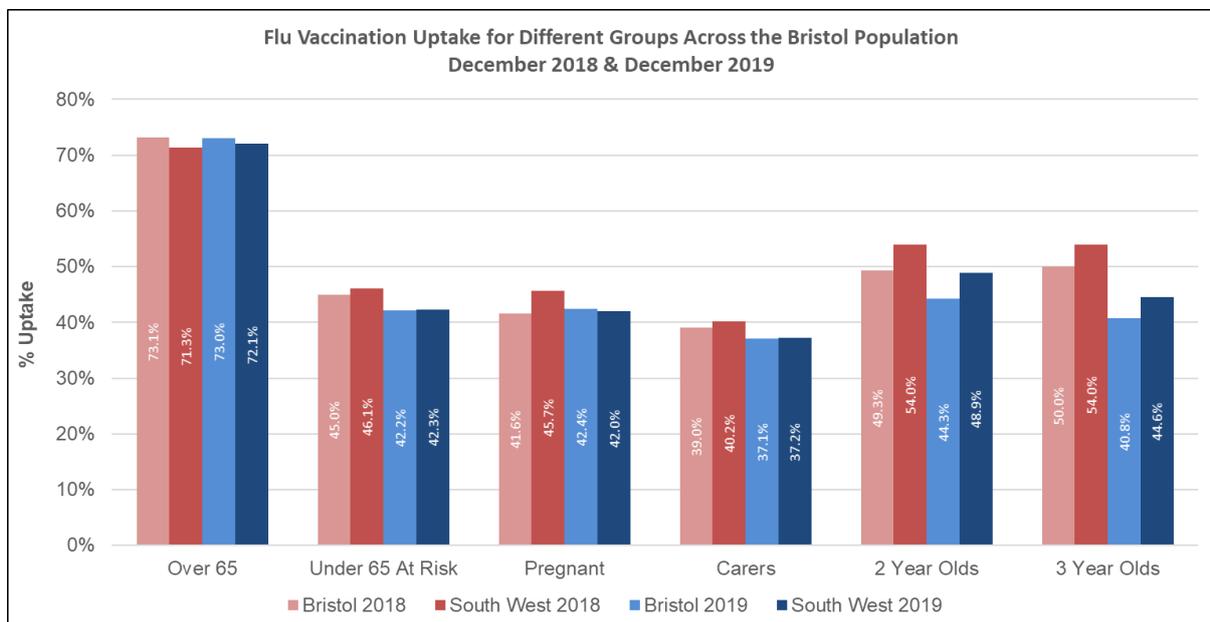
³ Eligibility correct as per data frame of this report. All aged 70-80 are now eligible.

to the England rate of 69.2%. Vaccine shortages of PPV remain an issue nationally particularly during winter.

7.4 Flu

Uptake of flu immunisation fell in 2019/20 compared to the previous season, the starkest reduction was in uptake of 3-year olds which reduced by 10% but there were some delays in vaccine supply. When comparing at a regional level Adult flu immunisation uptake was similar but childhood flu immunisation at ages 2 and 3 were lower.

Fig 10: Flu Vaccination uptake for different groups across the Bristol population



Source: NHS Immunisation and Screening Team

8. Screening

8.1 Cancer

The UK National Screening Committee defines screening as “The process of identifying apparently healthy people who may be at increased risk of a disease or a condition so that they can be offered information, further tests and appropriate treatment to reduce their risk and/or complications arising from the disease or condition.” There are currently three national cancer screening programmes: breast, bowel and cervical; and eight non-cancer screening programmes: six antenatal and new-born (Fetal Anomaly, Infectious Diseases in Pregnancy, Sickle Cell and Thalassaemia, New-born and Infant Physical Examination, New-born Blood Spot and New-born Hearing) and two young person and adult (Abdominal Aortic Aneurysm and Diabetic Eye).

8.2 Cervical Screening

Cervical screening data is broken down into 2 specific age groups, 25-29 and 50-64 years. For the 25-49 age group there has been no significant change in coverage with just under 70% of women accepting a cervical screen. For the last 4 years our screening rates to this group have been similar to the England rate but remains lower than the South west rate. Based on 2019/20 data there were over 30,000 eligible women age 25-49 in Bristol who did not receive their cervical screen.

Table 1: Cervical cancer screening coverage - women aged 25-49 years

Period		Bristol				South West	England
		Count	Value	95% Lower CI	95% Upper CI		
2010	●	59,754	70.6%	70.3%	70.9%	76.9%*	74.1%*
2011	●	61,293	71.1%	70.8%	71.4%	76.3%*	73.7%*
2012	●	62,051	70.6%	70.3%	70.9%	75.9%*	73.4%*
2013	●	61,502	68.4%	68.1%	68.7%	74.0%*	71.5%*
2014	●	63,164	68.7%	68.4%	69.0%	74.2%*	71.8%*
2015	●	64,112	69.3%	69.0%	69.6%	74.0%*	71.2%*
2016	●	65,045	69.5%	69.2%	69.8%	73.5%*	70.2%*
2017	●	66,135	69.4%	69.1%	69.7%	73.1%*	69.6%*
2018	●	67,462	68.9%	68.7%	69.2%	73.0%*	69.1%*
2019	●	69,813	69.3%	69.0%	69.6%	74.2%*	69.8%*
2020	●	72,116	69.7%	69.4%	69.9%	74.9%*	70.2%*

Source; NHS Digital (Open Exeter) / PHE

In the older age group 50-64 uptake is higher at 73.8%, again a stable position over the last 3 years but a downward trend over the last 10 years. This is lower than both South West Region (77.2%) and England (76.1%). Just under 9000 eligible women were not screened in 2019/20.

Table 2: Cervical cancer screening coverage – Women aged 50 to 64 years

Period		Bristol				South West	England
		Count	Value	95% Lower CI	95% Upper CI		
2010	●	21,266	77.4%	76.9%	77.9%	81.9%*	78.7%*
2011	●	21,722	77.4%	77.0%	77.9%	81.5%*	80.1%*
2012	●	22,029	77.1%	76.6%	77.6%	81.2%*	79.9%*
2013	●	22,463	77.0%	76.5%	77.5%	80.8%*	79.5%*
2014	●	22,852	76.4%	75.9%	76.9%	80.1%*	79.4%*
2015	●	23,124	75.6%	75.1%	76.1%	79.4%*	78.4%*
2016	●	23,696	75.5%	75.0%	76.0%	79.0%*	78.0%*
2017	●	24,004	74.5%	74.1%	75.0%	78.1%*	77.2%*
2018	●	24,006	73.4%	72.9%	73.8%	77.1%*	76.2%*
2019	●	24,674	73.6%	73.2%	74.1%	77.0%*	76.2%*
2020	●	25,217	73.8%	73.3%	74.2%	77.2%*	76.1%*

Source: NHS Digital (Open Exeter) / PHE

The cervical innovation fund offered funding of approx. £147k to practices across the SWAG alliance to develop innovative approaches to increasing uptake of cervical screening. Projects were hampered by Covid-19 in March 2020 but an evaluation report is being produced to assess the impacts of these interventions and share learning.

8.3 Bowel Screening

Bristol's bowel screening rates have increased over the last 3 years with over 4000 more people accepting a screen in 2019/20 compared to 2017/18. This is good news. Bristol does however remain lower than both the South West and England.

Table 3: Bristol Bowel screening coverage

Period		Bristol				South West	England
		Count	Value	95% Lower CI	95% Upper CI		
2015	●	24,773	50.7%	50.3%	51.2%	60.3%	57.1%
2016	●	26,323	52.9%	52.5%	53.4%	61.5%	57.9%
2017	●	27,253	54.5%	54.0%	54.9%	62.6%*	58.8%*
2018	●	27,631	54.2%	53.7%	54.6%	62.3%*	59.0%*
2019	●	28,731	55.7%	55.2%	56.1%	63.4%*	60.1%*
2020	●	31,652	60.5%	60.1%	60.9%	67.2%*	63.8%*

Source: NHS Digital (NHA&IS) / PHE

8.4 Breast screening

Bristol's breast screening rates have remained static over the last 3 years with 2019/20 reporting only 71% of eligible women being screened. This is below both the South West (76.4%) and National levels (74.1). Due to Covid-19 we do not have granular detail on the demographics of who is being missed for this year.

Table 4: Breast Screening Coverage

Period	Bristol					South West	England
		Count	Value	95% Lower CI	95% Upper CI		
2010	●	24,425	73.5%	73.0%	74.0%	79.5%	76.9%
2011	●	25,356	73.6%	73.2%	74.1%	79.5%	77.1%
2012	●	25,919	73.8%	73.3%	74.2%	79.1%	76.9%
2013	●	26,137	72.8%	72.4%	73.3%	78.9%	76.3%
2014	●	26,856	73.6%	73.1%	74.0%	78.9%	75.9%
2015	●	27,086	73.2%	72.7%	73.6%	78.6%	75.4%
2016	●	27,597	73.5%	73.0%	73.9%	78.3%	75.5%
2017	●	27,901	73.0%	72.5%	73.4%	78.1%*	75.4%*
2018	●	27,544	71.1%	70.7%	71.6%	77.6%*	74.9%*
2019	●	27,893	70.9%	70.5%	71.4%	77.0%*	74.5%*
2020	●	28,274	71.0%	70.5%	71.4%	76.9%*	74.1%*

Source NHS Digital (Open Exeter) / PHE

South West wide stakeholder event was held in October 2019 to identify priorities arising from national reviews of cancer screening and the evidence base. A project database developed of previous initiatives to improve uptake and the SW CSU commissioned to provide mapping software to target areas of lowest uptake. This work was presented nationally in October/November 2019 at the cancer alliance's early diagnosis workshop and the PHE screening inequalities conference as an example of working across partners on improving cancer screening uptake. Work is ongoing with the cancer alliance to support primary care networks to embed screening uptake in practice, as part of the cancer early diagnosis enhanced service specification arising from the NHS long term plan.

Funding agreed (£180K) across the Somerset, Wiltshire, Avon and Gloucestershire cancer alliance for a suite of interventions to be rolled out to increase cancer screening uptake. Projects range from cervical screening drop in clinics to investment in social media resources. These will be overseen and led by the screening and immunisation team in 2020/2021.

8.4 Antenatal and new born Screening

The antenatal and new born screening services covering the Bristol locality area delivered by NBT and UHBW have been delivered to national standards in 2019/20.

Performance and quality indicators are monitored by the Screening and Immunisation team in PHE and assurance provided to the Bristol Health Protection Committee.

Somenational changes to the prenatal screening programme are expected, but have not yet been implemented. It is expected that this will be progressed during 2020/21.

9. Environmental hazards to health, safety and pollution control

9.1 Air Quality

Poor air quality can have an impact on health at all stages of life, from being associated with low birth weight, impacts on lung function development in children, an increased risk of chronic disease and acute respiratory exacerbations, to acute and chronic premature death. Latest evidence is linking air pollution with impacts on cognitive function. All these health impacts can impact upon a person's quality of life. The most vulnerable are the young and old.

Air quality in Bristol is sufficiently poor in many locations for the health impacts described in the previous paragraph to be experienced by citizens in Bristol. Monitoring data shows continued exceedances of the annual mean nitrogen dioxide (NO₂) air quality objective close to roadside locations in the city centre and along the main arterial routes. Concentrations of NO₂ do, however, appear to be declining but further urgent action is needed to comply with legal limits.

A report commissioned by BCC⁴ calculated that approximately 300 deaths of Bristol residents can be attributed to air pollution (particulate matter - PM_{2.5} and nitrogen dioxide – NO₂) in 2013. This equates to 8.5% of all deaths in Bristol annually. These deaths attributed to air pollution compare, on average, to 9 people killed in road traffic collisions in Bristol each year.

Air Quality Management Area

Road transport is a major source of particulate matter and nitrogen oxides (NO_x) accounting for 34% of nitrogen oxides and 12% of primary particulate matter (PM_{2.5}) emissions in the UK⁵. At busy roadside locations the contribution of traffic to nitrogen oxides can be greater than 80%.

Through monitoring of the city's air quality, a geographical area has been identified where health standards (known as objectives) are not achieved and an Air Quality

⁴ Air Quality Consultants (2017). Health Impacts of Air Pollution in Bristol.: Air Quality Consultants Ltd

⁵ Department for Environment, Food and Rural Affairs (2018). Clean Air Strategy 2018.

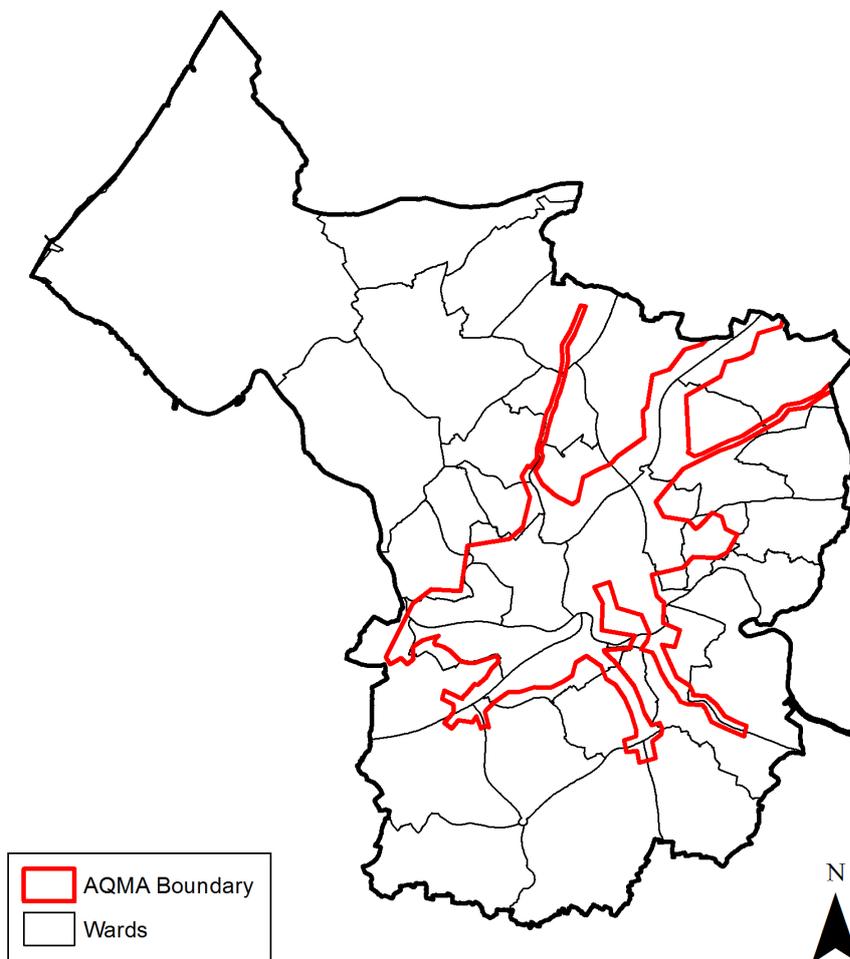
Management Area (AQMA) has been established in line with DEFRA (Department for Environment and Rural Affairs) recommendations (See **Figure 1**).

Figure 10 indicates the boundary of the Air Quality Management Area (AQMA) for Bristol, inside which air quality is at risk of exceeding government objectives.

The AQMA is based around busy road junctions and arterial roads where nitrogen dioxide from the exhausts of vehicles does not get readily dispersed because of the surrounding buildings.

Domestic solid fuel burning is a re-emerging area of concern. Recent evidence shows that this source contributes to 38% of all PM^{2.5} emissions nationally.

Figure 10 Map of Bristol's Air Quality Management Area (AQMA)



Air pollution generated from human sources such as the combustion of fuels for heat, electricity and transport is having an adverse effect on the health of Bristol's communities. In 2016, 5.3% of "all-cause adult mortality" in Bristol was considered

attributable to “anthropogenic particulate air pollution”⁶, which is the same as the national proportion (5.3%) and is mid-ranking for English Core Cities.

The proportions of deaths attributable to air pollution vary across the city in relation to pollutant concentrations, from around 7% in some wards to around 10% in others. Concentrations are highest in the centre of the city and therefore so are deaths attributable to air pollution.

A Clean Air Zone (CAZ) is in development with plan to implement from October 2021. [Clean Air for Bristol | Clean air for everyone | Bristol Clean Air Zone](#)

9.2 Avonmouth

A community oversight group has been established in the Avonmouth ward, working alongside the MP and local Councillors to look into complaints of fly pollution in the area. A fly expert has been commissioned to independently produce a report to be shared with all parties.

A number of historical complaints pertaining to flies were alleged to be linked with a local waste plant that has recently closed down. This has reduced the number of complaints significantly.

Moving forward we are continuing to monitor the local situation and work with the MP Cllrs and community.

10. Emergency Preparedness, Resilience and Response (EPRR)

10.1 Local Resilience Forum, March 19 – Jan 20

Prior to Covid, Avon and Somerset Local Resilience Forum (ASLRF) work had been focussed on Brexit, the risks identified in the ASLRF Community Risk Register and the agency capabilities needed to respond.

Brexit preparations centred on impacts of supply chain disruption and on ports of entry; the sea ports of Avonmouth and the Royal Portbury Dock and Bristol International Airport. Other risk work addressed excess death planning – noting the lack of local body storage capacity, contextualising the terrorism threat and a range of environmental risks, including flooding, snow and severe winter weather and heatwave.

In Summer 2019 the National Security Risk Assessment (NSRA) was published, updating the National Risk Assessment and, for the first time, capturing both national

⁶ Via Public Health Outcomes Framework (PHOF), 2017

risks and threats, as identified by all central government departments. The document is intended by the Cabinet Office to be the primary driver of LRF work across the country and required a re-assessment of the ASLRF Community Risk Register. The NSRA identified 125 risks and threats, of which 14 were judged 'very high', including 6 terrorism associated risks, flooding, pandemic flu and failure of the electricity transmission system. Notably, cyber threats made it onto the assessment for the first time, the most significant being a cyber-attack on the health and social care system, judged to be a 'medium' risk.

10.2 The Covid Response, Jan 20 onwards

ASLRF, like all LRFs, played a key role in the governments command and control structure in responding to Covid. ASLRF declared Covid a 'major incident' in March and a full command structure comprising of a Strategic Co-ordinating Group, a Tactical Coordinating Group and numerous operational cells were stood up. Cells included the Multi-agency Intelligence Cell, which completed central government data returns and produced dashboards across key activities and workstreams to understand the covid response; the Logistics Cell, which received and distributed centrally provided PPE across the region, and the Excess Death Cell.

Excess death management was based on the initial fatality modelling and supported the placement of both locally sourced and government provided body storage facilities in hospitals and mortuaries across the region. The work, led by Bristol City Council, worked with coroners, funeral directors, cemetery and crematoria facilities, public mortuaries, registrars and community groups to clarify procedures and find capacity in the 'death management process'. This work supported local 'After Death Working Groups' formed in each Local Authority area.

Working across three Clinical Commissioning Group areas; Bristol, North Somerset and South Gloucestershire (BNSSG), BANES, Swindon and Wiltshire (BSW) and Somerset and five Upper Tier Local Authorities presented a significant test of ASLRF capacity in the early stages of Covid. Response systems primarily designed for high impact, geographically specific and 'short lived' incidents had to adjust to this all-encompassing, chronic, public health emergency.

11. Covid 19

11.1 Timeline

On 31st December 2019 Wuhan Municipal Health Commission, in Hubei Province, China reported a cluster of cases of pneumonia. A novel coronavirus was eventually identified.

On 10th January 2020 the World Health Organisation issued a comprehensive package of technical guidance online with advice to all countries on how to detect, test and manage potential cases, based on what was known about the virus at the time.

On 22nd January 2020 China announced that there was clear evidence of person to person transmission.

The first 2 cases were reported in the UK on the 31st of January 2020.

The Pandemic was declared by the World Health Organisation on 11th March 2020.

On the 23rd of March the Prime Minister announced the national UK lockdown which came legally into force on the 26th of March.

11.2 Bristol specific

Towards the end of January 2020 local systems were requested to have dedicated screening areas for patients with symptoms, suspected of having contracted COVID-19. In February 2020, weekly telephone conferences began with system partners to review the frequently updated guidance and ensure local processes were being put in place to respond and adapt.

The first national guidance for COVID 19 was published on 3rd March 2020.

During March many services that deliver health protection, for instance sexual health services, worked swiftly to radically remodel their service delivery to adapt to a COVID pandemic, provide business continuity, protect staff and service users. Council ASC commissioners ran a large conference event to brief providers and distribute resources to assist with infection prevention and control.

During March 2020, there was a dramatic increase in activity to work through a range of issues including, screening processes, cleaning and decontamination, use and access of Personal Protective Equipment (PPE guidance was issued in April 2020). All of this was in an environment of escalating pace and level of concern Staff were redeployed to focus on Covid and much non-critical work was put on hold.

Bristol had its first reported case of Covid-19 on the 6th of March, by the 15th of March Bristol had 5 confirmed cases. Bristol Royal Infirmary reported its first Covid death on the 15th of March and its first death in a care home in the week ending the 27th of March.

The next Health Protection report for Bristol will focus in detail on the Covid 19 response.