Communicable diseases: Influenza

Why is this important to Bradford District?

Influenza is an acute viral infection which affects the respiratory tract (nose, mouth, throat airways and lungs) and is characterised by fever, chills, headache, muscles and joint pain and fatigue. It is generally self-limiting and is easily transmitted from person to person. The illness can range from mild to severe and can be life threatening in children, older people, and those with underlying medical conditions.

The virus can be circulating at any time of year but the majority of cases are seen in the period from December to March; it is for this reason that influenza can be a major contributing factor to pressure on the health service during the winter period, with increased admissions to hospital and increased demand on community services.

Bradford District has a higher incidence of mortality from respiratory diseases than the national average, including from preventable respiratory diseases.

Strategic context

National context: The best way to prevent influenza is through vaccination. Each year the flu vaccination is offered free of charge through GP practices and pharmacies to those over 65 years old, people with underlying medical conditions between the ages of 18 and 64, pregnant women, carers, those in long stay residential care homes, children with underlying medical conditions, and all children aged 2 to 8 years of age (ages 4-8 through the school immunisation and vaccination programme). There is a national target of 75% uptake for those over the age of 65; no target is in place for the other eligible groups at present. Vaccination is also recommended for frontline health and care workers.

Local context: Every year partners across Bradford District come together to develop a plan to improve uptake of the flu vaccine.

What do we know?

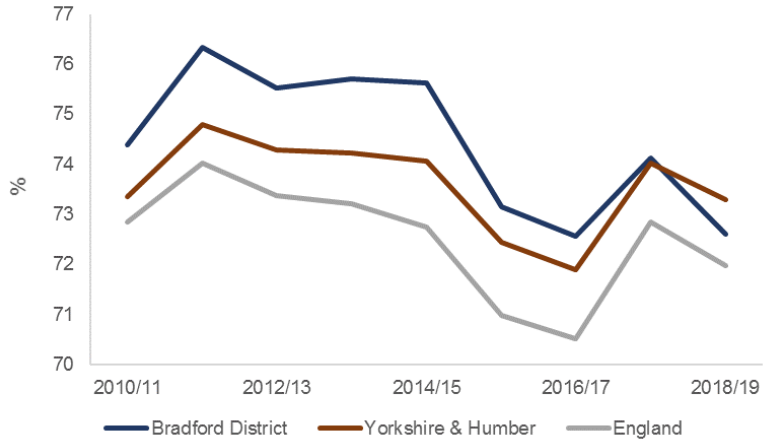
Uptake of the flu vaccination in Bradford District is **around the national average** in most of the eligibility groups, with the exception of children aged 2-3 years, where Bradford District has one of the lowest uptakes in the country. Uptake has improved in recent years in people aged 65 and over, and has remained above the average for England. When looking at all at risk individuals, uptake has followed national trends. However, in the last couple of years **uptake has begun to fall**, and is the currently the lowest recorded.

Uptake of the flu vaccination varies across different risk groups. Uptake is similar across all 3 CCGs for people aged **65 and over**, with about **3 in every 4 people vaccinated**. Uptake for people with long term conditions (LTCs) averages at about 1 in every 2 people, which is a similar picture for pregnant women also. **Uptake in young children is the lowest** of the 'at risk groups', with only 1 in 3 children aged 2 to 3 years being vaccinated.

Across the 3 CCGs that cover Bradford District there is also wide variation in uptake. For people aged 65 and over, uptake at GP practice level varies between 50.0% and 86.5%. Flu uptake in pregnant women varies between 25.8% and 81.1%. Uptake of the flu vaccination in 2 to 3 year

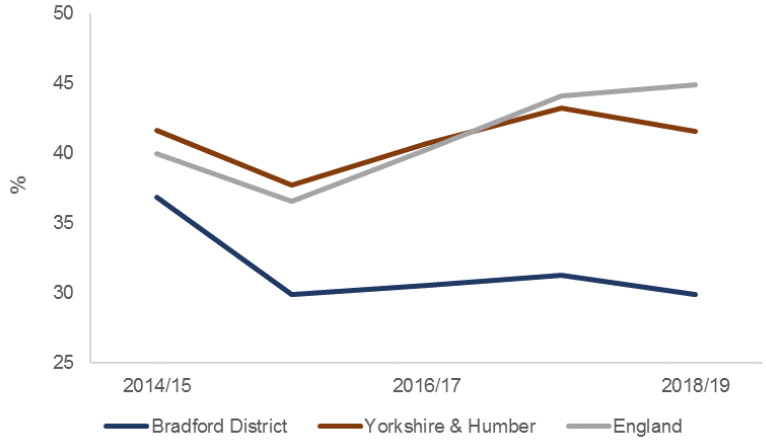
olds varies between 3.8% and 79.0%, and in people with LTCs the uptake varies between 38.5% and 75.9%. More detailed information regarding flu vaccination uptake can be found here.

Figure 1: Percentage of eligible adults aged 65+ who have received the flu vaccine



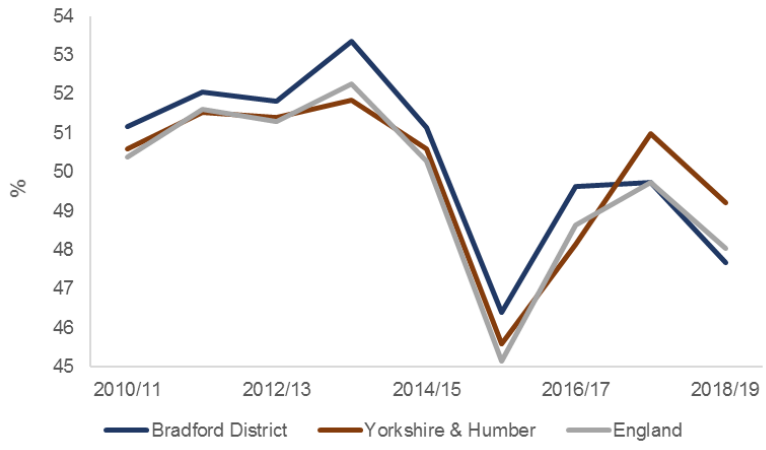
Source: PHE fingertips

Figure 2: Percentage of 2-3 year olds who have received the flu vaccine



Source: PHE fingertips

Figure 3: Percentage of at risk individual's age 6 months to 64 years who have received the flu vaccine



Source: PHE fingertips

What Assets do we have?

The influenza immunisation programme is commissioned by NHS England. Locally there is an influenza vaccination group which consists of stakeholders from various organisations across the Bradford District, including the CCGs, Local Authority, Bradford District Care Foundation Trust Immunisation service, Midwifery services and pharmacies. The group works collaboratively to promote the influenza vaccination programme and look at ways to improve uptake.

The Self Care and Prevention Programme (now Living Well) has commissioned the Voluntary and Community Sector Alliance to deliver a programme of **awareness raising** across Bradford District and Craven to promote winter wellness/respiratory health, including the importance of the flu vaccine.

The focus of the programme is to deliver targeted health messaging to communities over the winter months using the 'Choose Well' and '**Is my Child Unwell**' campaign resources, as well as promoting 'keep warm, keep well', flu vaccinations, management of respiratory conditions, and supporting parents/guardians of 2-to-3 year olds.

The Self Care and Prevention Programme is also working in partnership with the School of Pharmacy and Medical Sciences at Bradford University; pharmacy students will engaged with the public during Self Care Week in November to promote the 'Staying Well in Winter' campaign resources, provided information on respiratory health, and signposted members of the public to appropriate support services.

Gaps / challenges / opportunities

Uptake of influenza vaccination in Bradford District is generally around the national average in most of the eligible populations with good uptake, particularly in those over 65. District wide data, however, masks local trends, and in some parts of the District uptake is high, whilst in others it is very low. Accordingly, there is **room for improvement in all areas**, especially those aged under 65 with underlying health conditions, pregnant women, and in children.

What are we doing about it and what does the information presented mean for commissioners?

The introduction of free influenza vaccinations in pharmacies for those in eligible groups was aimed at improving uptake, particularly in the under 65 population who were on repeat prescriptions or where too busy to attend their GP practice. This has had limited success so far. In relation to pregnant women, acute hospital based maternity services have begun a midwife led vaccination service for those considered at risk which has had good uptake to date.

The **biggest area of concern** for the District is the **poor uptake of the vaccine amongst children**, where uptake is amongst the lowest in the country (29.3% in 2018/19). One reason for the low uptake is thought to be due to the porcine content of the children's nasal spray which is not acceptable to some people. Accordingly, further work is needed, working with local communities, to better understand the challenges and opportunities.

Communicable Diseases: Healthcare associated infections

Why is this important to Bradford District?

Healthcare associated infections (HCAI) are infections which occur as a consequence of interventions or treatment in a healthcare setting such as a hospital or GP surgery. They can cause significant harm and are a major financial burden for the NHS. The most well-known HCAIs are MRSA, Clostridium difficile, MSSA and E.coli. Numbers of MRSA and Clostridium difficile infections have fallen in recent years, however, there are still particular challenges in relation to MSSA and E coli infections.

HCAI can affect anyone, but those most at risk are older people, babies and young children, and those who have compromised immune systems.

In 2017 the Director of Public Health published their annual report focused on communicable diseases. This section of the JSNA should be read in conjunction with this report. The report can be found here.

Strategic context

National Context: Initiatives to reduce the number of HCAIs were introduced nationally in 2004. Following a period of mandatory surveillance of MRSA blood stream infections, hospitals were given targets to reduce the number of MRSA bloodstream infections by 50% by 2008. This was followed by a further target in 2007 to reduce the number of Clostridium difficile infections by 30% by 2010.

In 2016 MRSA bloodstream infections reduced nationally by 57% and Clostridium difficile infections by 45%. Initiatives were also introduced at this time to reduce the number of MSSA infections, and in 2017 the government introduced a further target to reduce E coli infections by 50% by 2021.

The success of the reduction target nationally led the Department of Health and Care to introduce a **zero tolerance to all MRSA bloodstream infections** across England; financial penalties were introduced for organisations that breached this target.

What do we know?

There has been some progress in Bradford District in reducing the number of MRSA and Clostridium difficile infections. In 2009/10 across the 3 CCGs within Bradford District there were 16 MRSA bloodstream infections, this reduced to 10 in 2018/19

In comparison progress against the Clostridium difficile target has been more pronounced, with the number of cases reducing from over 300 in 2009/10 to 94 in 2018/19. Much of the progress in tackling both of these HCAIs has been made through **improved cleanliness** and **infection control** in healthcare settings as well as a focus on improving **antibiotic prescribing**.

The number of **E coli** blood stream infections is much higher. In 2016/17 417 bloodstream infections were reported; this **increased to 451** in 2018/19. E coli is an organism which is carried harmlessly in the gut by many people but can cause life threatening infections out of that

environment, and whilst MRSA, MSSA and Clostridium difficile were initially seen as hospital associated infections, E coli is much more prevalent in the community.

What Assets do we have?

The management of healthcare associated infections requires a **whole community response** across all health and social care providers. Leadership is essential; the support and backing of provider trust boards and senior management teams is seen as key to reducing the number of infections. There also needs to be collaboration between healthcare providers and commissioners. In Bradford District these working relationships are well established across healthcare providers, the local authority and CCG, and social care and domiciliary care providers.

Gaps / challenges / opportunities

Reducing E coli infections by 50% will be challenging for all healthcare providers. Some progress has been made in understanding the causes of these bloodstream infections through post infection reviews (PIR) into previous cases; this gives providers some insight into where to target interventions and what collaborative work can be done. To date post infection reviews undertaken both in the hospital and community settings have shown that **urinary tract infections are one source of E coli bloodstream infection**, therefore a joint project to improve hydration and the management of urinary tract infections has been agreed across providers, including social and domiciliary care.

What are we doing about it and what does the information presented mean for commissioners?

Reducing HCAIs requires a joined up approach between commissioners and providers of both health and social care. Bradford District Council's Infection Prevention and Control Team has led on the development of a multi-agency **HCAI Reduction Plan** for the District. This work has been undertaken in partnership with the three CCGs.

Communicable diseases: HIV

Why is this important to Bradford District?

HIV is a preventable infection which left untreated leads to high levels of morbidity and early death. HIV is a virus that infects and destroys a person's immune system, leaving the body susceptible to diseases it would otherwise normally be able to fight. Overtime HIV can progress into autoimmune immunodeficiency disease, commonly known as AIDs. Once, this progression was inevitable, with early death the outcome, however, as a result of advances in treatment, an ever increasing number of people are living for many years beyond them acquiring HIV, so much so that many consider HIV to be a **long term condition.**

HIV is mainly transmitted through vaginal or anal intercourse, or by sharing a syringe with someone who is has HIV. Without treatment, the immune system is eventually compromised enabling rare infections or cancers to develop.

HIV is not evenly distributed across England or within communities. Rates of infection are highest in men who have sex with men and people from Black African ethnic groups.

Nationally there has been a recent decline in the number of new diagnoses of HIV in both heterosexual men and women, and in men who have sex with men. There has also been a decline in late diagnoses, AIDS and deaths. Despite this challenges remain.

There are three main considerations that the JSNA will explore: the increasing number of people living with HIV, the number of people who have HIV but are not aware of their HIV status, and late diagnosis of HIV infection. These are important issues because they mean that the support needs of **people living with HIV into old age** need to be considered; people with undiagnosed infection are at risk of transmitting the infection; and late diagnosis is associated with poorer outcomes.

It is estimated by Public Health England that 103,800 people are living with HIV in the UK (2018). HIV prevalence among those aged 15-74 years was estimated to be 2.2 per 1,000 population.. Within the same year there were 4,453 people diagnosed with HIV infection (PHE 2018).

Figure 4: Graph showing HIV diagnoses, AIDS and deaths: UK 1997 to 2018

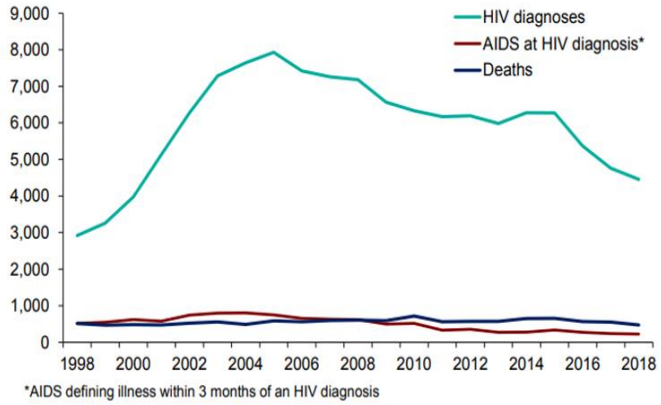
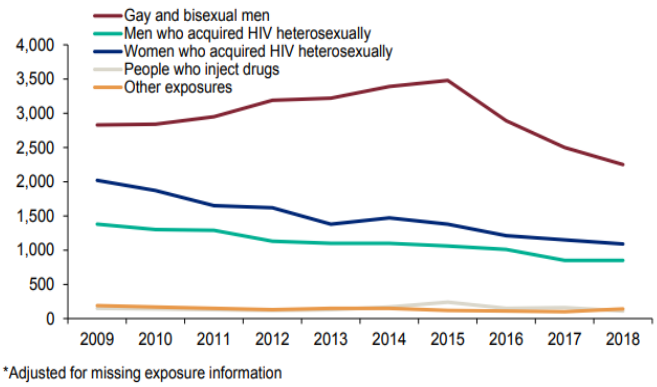


Figure 5: Graph showing HIV diagnoses by exposure group: UK, 2007-2018



Source: Public Health England

Of those newly diagnosed with HIV in 2015, 51% reported their sexuality as being gay, bisexual or identified themselves as men who have sex with men; 25% reported their sexuality as heterosexual. Of those people who were heterosexual, 44% were men and women with a Black African heritage (PHE 2018).

This section of the JSNA should be read in conjunction with the Director of Public Health Annual Report 2017 on health protection and Public Health England's Sexual and Reproductive Health Profile.

Strategic context

HIV remains an important public health problem. This is recognised in the UNAIDS 90 90 90 Strategy which aims to diagnose **90**% of all HIV-positive persons, provide antiretroviral therapy (ART) for **90**% of those diagnosed, and achieve viral suppression for **90**% of those treated by 2020.

Increasing HIV testing is a key strategy in controlling the HIV epidemic in the UK and will address the prevailing issues of rising prevalence, onward transmission and late diagnosis. Being

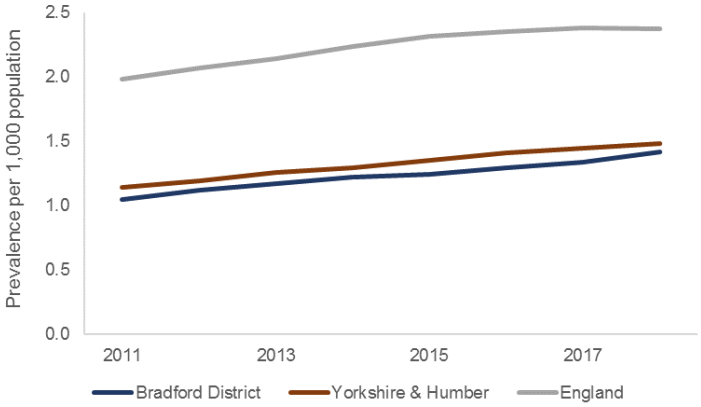
diagnosed with HIV earlier is associated with improved health outcomes. In late 2016 NICE published their guidance on increasing uptake of HIV testing among people who may have undiagnosed HIV.

What do we know?

As of 2018 an estimated **438** people aged 15 to 59 were living with diagnosed HIV in the District; this is equivalent to 1.41 people per 1,000 population.

This is **significantly lower** than the prevalence in England and also other large cities in the country. Over the past 5 years the number of people living with HIV has increased; this is in part due to efforts to diagnose people, as well as the fact that people with HIV are **living longer** due to advances in antiretroviral treatment.

Figure 6: Graph showing HIV diagnoses over time



Source: Public Health England

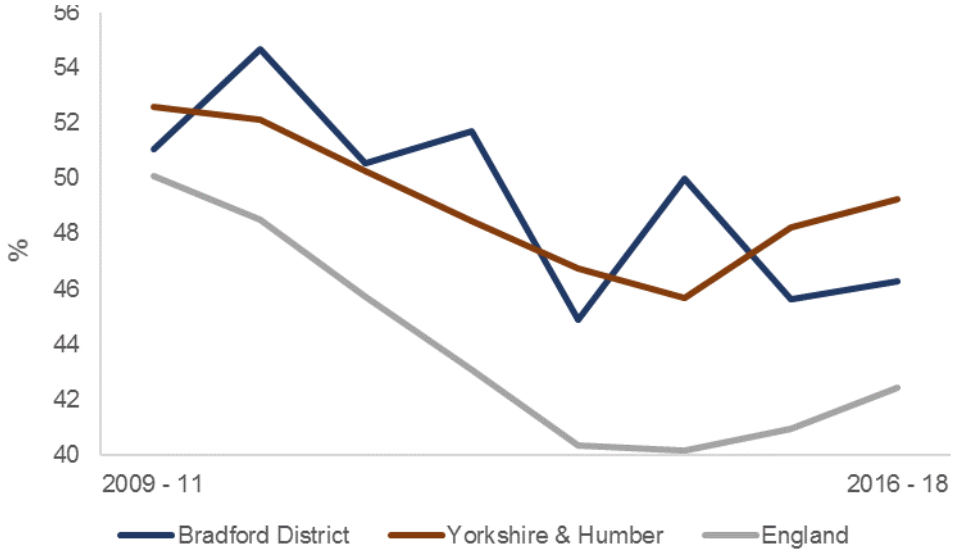
HIV testing is an essential part of the treatment and management of HIV. Being diagnosed at as early a stage as possible, and knowing your HIV status, increases survival, improves a person's quality of life, and reduces the risk of transmission of HIV. Several organisations combine to provide an HIV testing treatment and support service in the District; this includes GUM services, Locala, Mesmac and Bevan House.

GUM Clinic at Trinity centre	Provide testing and treatment services for HIV and STI's
Locala	Provide testing and treatment services for HIV and STI's
Mesmac	Provide services for men who have sex with men (MSM) & people who identify as lesbian, gay, bisexual and transgender (LGBT)
Bevan House	Provide GP services for refugees and asylum seekers and for those who are unable to access GP's.

Public Health England estimated that in 2016 12% of people living with HIV were unaware of their infection and at risk of unknowingly passing on HIV if having sex without a condom. In 2018, 65.9% of new people attending specialist sexual health services underwent an HIV test; this is higher than many other areas in Yorkshire and Humber, and represents a significant improvement over the last five years.

Early diagnosis of HIV is important; those diagnosed late have a tenfold risk of death compared to those diagnosed at an early stage in their infection. Late diagnosis is defined as having a CD4 count of less than 350 cells per mm^3. In persons diagnosed with HIV in Bradford District between 2016 and 2018 31 people had a **late diagnosis**. Whilst this doesn't seem like a large number, it is equivalent to **46.3% of diagnoses**. This is higher than the rate in England (42.5%) but lower than the rate in Yorkshire and Humber (49.3%).

Figure 7: Graph showing percentage of diagnosed HIV at late stage of infection, 2009-11 – 2016-18



Source: PHE Fingertips

Whilst the proportions of diagnoses that are made at a late stage are high, progress is being made, with the proportion of late diagnoses reducing from 51.0% in 2009-11.

Communicable diseases: Tuberculosis

Why is this important to Bradford District?

Tuberculosis (TB) is a serious infectious disease caused by bacteria that are spread from person to person through the air. TB usually affects the lungs, but can also affect other parts of the body, such as the brain, kidney or spine. It is usually treatable and curable, but persons infected with TB can die if they do not receive appropriate treatment. Not everyone who comes into contact with TB develops 'active' disease.

In some cases the body's immune system suppresses the infection for many months or years, often decades. This is the 'silent' latent TB phase, and during this form the individual is not infectious and does not feel unwell. Evidence suggests that the majority of TB cases in the UK are the result of 'reactivation' of latent TB infection (LTBI), an asymptomatic phase of TB, which can last for years.

The rate of TB is high in Bradford District when compared with most other areas in England, although recent data suggests a decline in numbers, both nationally and locally. Partners within the health and social care economy are working collaboratively to ensure that the recent reduction in TB cases is maintained. This is being driven by local implementation of the National TB Strategy.

Strategic context

National Context: The 'Collaborative Tuberculosis Strategy for England 2015-2020' developed by Public Health England (PHE) in partnership with NHS England, outlines how PHE and NHS England intend to organise and resource services to tackle TB. It focuses on building on the assets already in the NHS and public health system, to support and strengthen local services in tackling TB (particularly in areas of high incidence), to ensure clear lines of accountability and responsibility, and to provide national support for local action.

National priorities are as follows:

- Implement a collaborative tuberculosis strategy, in partnership with NHS England;
- Work with local partners, including local authorities and NHS, to set up local TB control boards (with footprints that cross local authority NHS trust areas – focusing on areas of high incidence);
- Development of 'local' TB plans;
- Support the implementation of LTBI screening programmes;
- Support NHS England to introduce active case finding in underserved populations and the systematic implementation of new entrant latent tuberculosis testing and treatment.

Local Context: Partners across the Bradford District health economy continue to work collaboratively in order to implement those elements of the strategy with the primary aim of seeing a sustained reduction in the levels of TB.

Roles and responsibilities in relation to TB control and delivering the strategy are complex (**Figure 8**). This highlights the system wide approach needed to deliver the strategy.

Figure 8: Organisational roles in local TB control

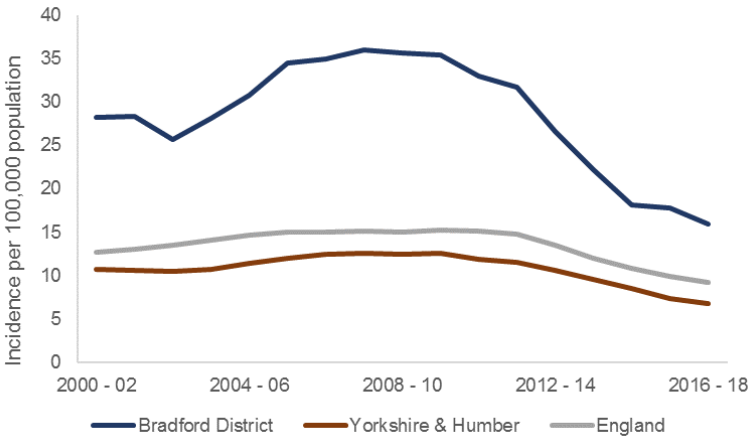
Organisation	Role
Public Health England	Develop national strategy and lead implementation in collaboration with NHS England; Lead, programme manage and Chair TB Control Board; Co-ordinate TB cohort review; Provision of epidemiological and scientific support to local areas
Clinical Commissioning Groups	Commissioner of TB services, including hospital based identification and treatment services as well as community TB nursing service; Commissioner of new arrivals LTBI screening in the community; Work with lead CCG to agree commissioning actions required to support implementation of the national TB strategy, local TB control plan and LTBI screening programme.
NHS England	Commissioner of specialised services relating to multi-drug resistant TB cases; Develop national strategy and lead implementation in collaboration with PHE; Report to the Health and Social Care Overview & Scrutiny.
NHS provider(s)	Deliver acute and community TB services in accordance with NICE guidance and service specification
GPs	Identification and referral of active/suspected TB cases; Support LTBI screening in primary care where appropriate.
CBMDC	Drive improvements through overview and scrutiny committees and Health and Wellbeing Boards; Ensure a joined up approach by involving other statutory agencies and council departments, such as social care, housing, benefits; Lead local TB Network in order to bring together representatives from across the health and social care economy to help ensure effective commissioning and development of services locally; Support TB cohort review and other methods to collect data to inform local needs.

What do we know?

Bradford District continues to have a TB incidence rate higher than both the national and regional average. In 2016-18 Bradford District's **three year average TB incidence rate was 15.9 per 100,000 population.** This is an overall **decrease since 2000/02** and a slight decrease since 2015-17. Despite the reduction, Bradford District has the highest TB incidence in Yorkshire & Humber and a significantly higher TB incidence rate than England.

Within Bradford District TB incidence is highest in the 25-34 year and 45-64 year age groups. There are fewer cases in young people (under 15 years), however there were 76 cases of TB in this age group between 2010-2017.

Figure 9: TB incidence rates, 2000-02 – 2016-18



Source: PHE fingertips

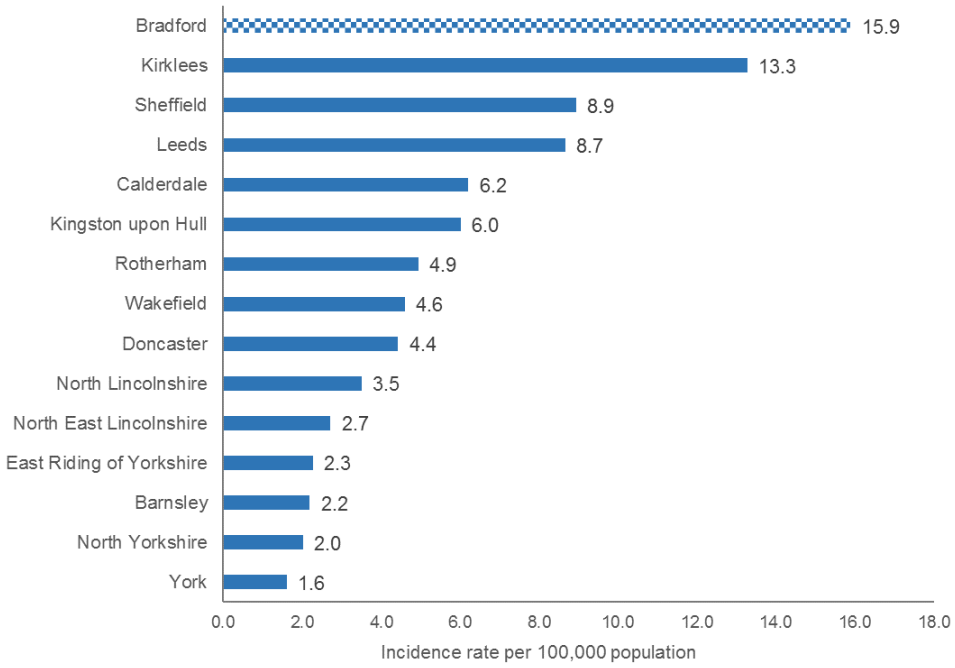
The majority of TB cases in Bradford District occur among Bradford District's Indian Sub-Continent (ISC) cohort, typically years after they have settled in Britain. This equated to 78 cases in the ISC cohort (of a total of 96 cases) during 2014. This reflects the national statistics which indicate that nearly three quarters of all TB cases occur in those born abroad, mainly in high TB burden countries, and the vast majority of these cases (85%) occur among settled migrants who have been in the country for more than two years, rather than in new entrants.

Wider determinants and social risk factors

Whilst the majority of TB cases seen in Bradford District are as a result of reactivation of latent TB, a number of factors are known to contribute to high TB rates. These include high levels of **deprivation, social exclusion, poor housing, overcrowded living conditions and poor nutrition**. Lifestyle factors are also important risk factors for TB; over the last few years Bradford District has seen a number of TB cases in people who are homeless, people who misuse alcohol, and intravenous drug users). These, often highly mobile population groups, have a higher incidence of TB and are often infectious as they present later to services, and have a greater risk of becoming drug resistant due to poor adherence to treatment and difficulty in terms of follow-up.

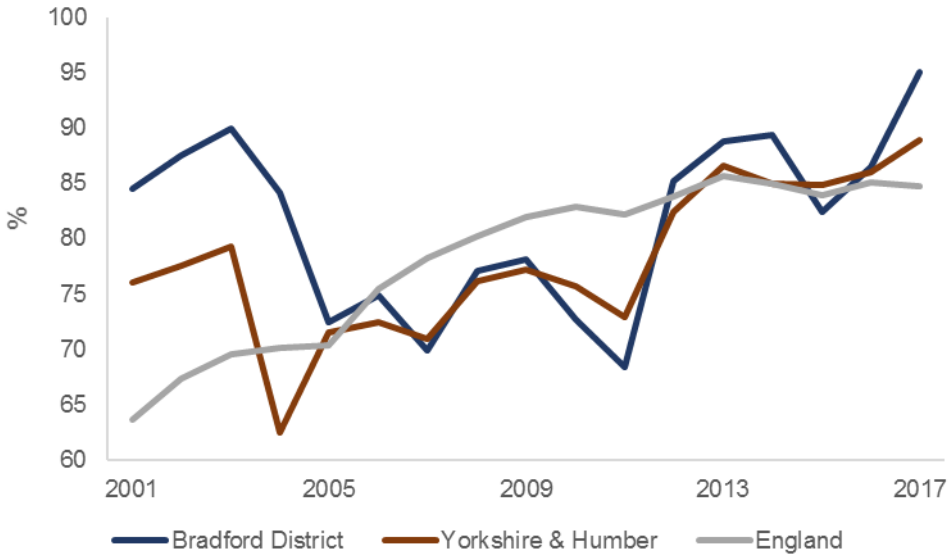
TB patients can be susceptible to **non-compliance** with treatment because the standard treatment regimen is lengthy (6 months) and requires support, sometimes through direct observed therapy (DOT). In multi-drug resistant TB cases (MDR-TB) the treatment can last up to two years. The proportion of TB cases in Bradford District completing treatment within 12 months of notification has fluctuated in recent years.

Figure 10: TB Incidence within Yorkshire & Humber, 2016-18



Source: PHE fingertips

Figure 11: TB Treatment completion, 2001-2018



Source: PHE fingertips

Public Health England routinely publishes data on a number of indicators for monitoring the impact of the TB Strategy. These can be accessed here: https://fingertips.phe.org.uk/profile/tb-monitoring/data#page/0/gid/1938132814/pat/104/par/E45000010/ati/102/are/E08000016

What Assets do we have?

Progress is being made and recent figures confirm that the rate of TB has dropped significantly in Bradford District over the past 12 months. There are a number of factors which may have influenced this decline. This includes national policy implemented in 2014 which requires individuals applying for a long term (>6 months) UK visa from high incidence TB countries to undergo pre-entry screening, and treatment where appropriate, for active pulmonary TB before travelling to the UK. The decline in cases, however, has been seen since 2012 and is also likely to reflect local action.

Gaps/Challenges/Opportunities

The national strategy and associated infrastructure, including TB Control Boards, ensures that TB remains a Public Health priority. In Bradford District we have established partnerships, helping to work both strategically and in response to the identification of individual cases.

Although the incidence of TB is reducing, it is still high in the District and this remains a key challenge. Completion of treatment is also important, however, given the nature and length of treatment this can be challenging. There has been a significant improvement in the number of people completing treatment over the last five years, and this needs to continue.

Other challenges include:

1) Continuing to utilise the local TB Network to co-ordinate a multi-agency approach to, both address the high levels of TB seen locally, and implement new architecture as recommended in the Collaborative TB Strategy for England 2015-2020.
2) CCGs, as the main commissioner of TB services, must continue to work with commissioned TB providers to ensure that they are able to meet the standards of national NICE guidance and services are fit for purpose for the needs of Bradford and Airedale.
3) Identifying the extent to which TB is present in local, highly mobile populations, and ensuring that service pathways are fit for purpose in order that identified cases receive appropriate treatment and care.
4) Improving the number of confirmed TB cases that complete recognised treatment programmes.
5) Developing a specialised service or pathway for the management of the social aspects of TB care, which should consider the provision of housing and associated support for those with no recourse to public funds or complex cases.

What are we doing about it and what does the information presented mean for commissioners?

As a health and care system we are developing collaborative working across the health and social care economy to implement the TB strategy, including the establishment of a TB Control Board and a local TB plan.

The local authority leads the Bradford TB Network. The network brings together partner organisations, services and stakeholders locally, and sets a clear direction for improving services. Progress is being made, as demonstrated, in the falling rates of TB. Collaborative working has enabled development in the following areas:

- **Promptly recognising and treating cases** – Empowering those at risk of TB and health professionals to recognise signs and symptoms of TB and improve awareness of referral pathways – through working and training across local authority, TB service and substance misuse services.

- **Improving contact tracing and treatment outcomes** – Contact tracing of family members, close friends and sometimes wider groups of those who are diagnosed with active TB. Key to this intervention is improving TB treatment completion rates through delivery of a community TB nursing service, including outreach service for hard to reach groups. In recent years investment has been made in additional nursing capacity and the TB nursing service has been at full capacity since March 2015. This is important in preventing a recurrence, but also vital in preventing the emergence of drug-resistant strains of TB.

- **Identification of service gaps through cohort review** – A TB cohort review mechanism has been established across the Bradford District and Leeds areas. This supports the improvement of case management and service delivery. It aims to enhance prevention and control of TB.

- **Identifying latent TB infection** – Latent infection can be diagnosed by a single blood test and treated with antibiotics; preventing active TB, and any potential for the spread of infection, in the future. There have been a number of schemes established including screening people new to the country, screening high risk groups in primary care and the local implementation of the national screening programme began in 2015/16.

- **BCG vaccination** – Preventing TB through vaccination of children at greater risk of contracting TB. Bradford Council continues to work with NHS England to ensure that all eligible new born babies receive the BCG.

- **Yorkshire and Humber and North East TB Control Board**- The board serves the Bradford District and covers both the Yorkshire & Humber and North East regions. Its purpose is to ensure a collaborative approach to tackling the issue of TB in our local communities

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