

### Health Protection Assurance Report to the Health and Wellbeing Board January 2020

The scope of health protection work for the population of Cumbria includes the protection of individuals, groups and populations from infectious diseases and environmental hazards, responding to outbreaks of communicable disease, health surveillance, screening and immunisation programmes and preparing for and responding to emergencies. Health protection work is reliant on strong local partnerships with a range of agencies at the local level.

The Cumbria Health Protection Oversight Group meets bimonthly and is chaired by the Director of Public Health. The role of the group is to provide a framework for health protection assurance across Cumbria through the collation and assessment of health protection information in order that appropriate action can be taken where necessary.

The group comprises senior level representatives from the following organisations:

- NHS England/ NHS Improvement
- Public Health England
- North Cumbria CCG
- Morecambe Bay CCG
- NCIC
- UHMBFT
- Environmental Health Leads from District Local Authority
- CCC

The Public Health England Infectious Disease Strategy 2020-25 identifies the elimination of Hepatitis B and C, TB and HIV and the halting of the rise in sexually transmitted infections in the population as strategic priorities.

This report outlines the situation in Cumbria in relation to a number of communicable diseases, those of tuberculosis (TB), Human Immunodeficiency Virus (HIV), sexually transmitted infections (STI) and blood borne viruses (BBV).

#### **Tuberculosis.**

Tuberculosis (TB) is a bacterial infection which usually affects the lungs but may affect other organs. The disease has a long incubation period, can produce chronic infection with the risk of reactivation, and without treatment is often fatal.

Historically Cumbria has low levels of TB infection and rates have been declining over the past five years. The three year average incidence rate for TB in Cumbria is 1.7 per 100,000 compared to 9.2 for England. The numbers counted refer to active TB infection. Latent TB is where the individual has no symptoms but the bacteria remain in the body and may be reactivated at a later date leading to active TB infection. Latent TB cases are not counted.

TB infection is treated with a combination of drugs taken over several months. The developing issue of drug resistant TB is a concern. In the first three quarters of 2019, 40 people in England were notified with TB infection which was resistant to one or more of the first-line antimicrobials used to treat TB. This compares to 30 in the same period for the previous year.

Cases in Cumbria differ from the national picture in that the disease usually presents in older adults with the average age at presentation being 61, where in the North West the average age range is 15-55

There is an issue in North Cumbria CCG with late diagnosis of TB. Only 28.6% of patients commence treatment within two months of onset of the disease. This compares to 40.6% in England and 57.1% in Morecambe Bay CCG.

Under the new structure of NHS England/ NHS Improvement it is proposed that regional NHS Directors of Public Health employed by Public Health England will be appointed. One aspect of this role will be to support the development of TB clinical networks across the Integrated Care Systems (ICS) footprint.

For Lancashire and South Cumbria, East Lancashire CCG is leading a TB service review for the ICS.

Historically in Cumbria TB services have linked to the North West through the Cumbria and Lancashire TB cohort review. However, multi drug resistant TB and Paediatric TB treatment centres for Cumbria patients are in the North East.

There is currently one Specialist TB Nurse for the county. She was previously employed by CPFT but following the Trust merger is now employed by NCIC.

It is unclear how this function will be managed going forward in relation to the service in the south of Cumbria. Currently the TB nurse engages with diagnostic and treatment providers based on the location of the patient, i.e. UHMBFT for patients in South Cumbria and NCIC for those in the north and specialist providers in Newcastle when required. Furthermore the need for succession planning for the future is recognised as being essential given the acknowledged limitations in capacity in this highly specialised area.

PHE are proposing the following two options for future TB services in Cumbria:

Option One: Engage with the North East to ensure that Cumbria TB services are linked into any planned network development.

Option Two: Engage with Lancashire and South Cumbria network development workstream to bring the TB Nurse Service into the proposed nurse hub.

### **Sexually Transmitted Infections. (STIs)**

There has been an increase in the number of STIs in England over the past decade. A total of 2,656 new STIs were diagnosed in residents of Cumbria in 2018 giving a rate of 533 per 100,000 compared to the England rate of 784 per 100,000.

#### **Chlamydia.**

Chlamydia is the commonest bacterial STI in the UK. It is caused by the bacteria *Chlamydia trachomatis*.

If left untreated, the infection can lead to long-term health problems, such as pelvic inflammatory disease (PID), epididymo-orchitis (inflammation of the testicles) and infertility.

The National Chlamydia Screening Programme recommends that all sexually active men and women under the age of 25 should be tested annually.

The chlamydia detection rate among under 25 year olds is the measure used to monitor the progress towards the control of chlamydia and the delivery of accessible, high volume chlamydia screening. Public Health England recommends that local authorities should be working towards achieving a detection rate of at least 2,300 per 100,000 population in this age group. During 2018 in Cumbria we achieved a rate of 1,525 screens per 100,000 population aged under 25. This is considerably lower than the rate for the rest of the North West region and for England as a whole. Table 1 illustrates that our rates of uptake are going down rather than increasing.

**Table1: Chlamydia Detection Rate / 100,000 aged 15-24**

Benchmarking against goal:

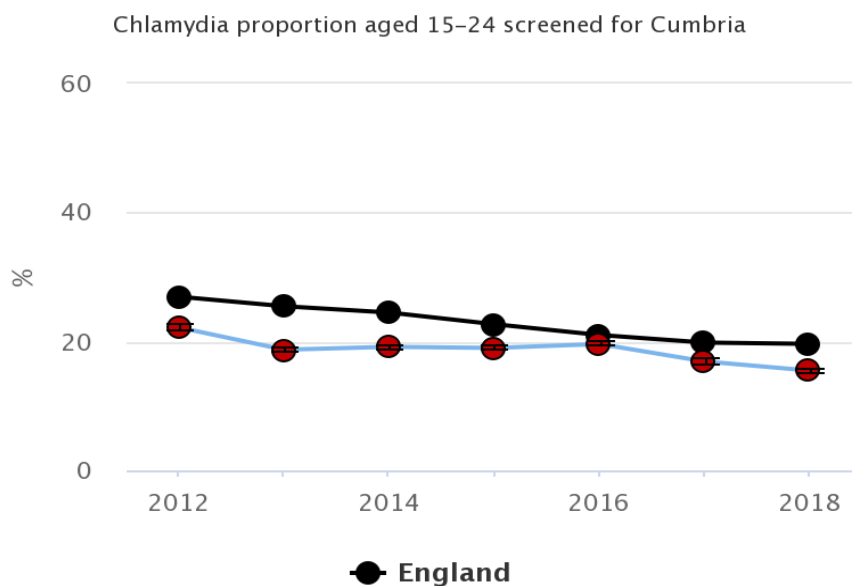
<1900 1900 to <2300 ≥2300

Period		Cumbria				North West region	England
		Count	Value	Lower CI	Upper CI		
2012	●	974	1,753	1,644	1,866	2,361	2,095
2013	●	845	1,538	1,436	1,645	2,236	2,088
2014	●	942	1,738	1,629	1,852	2,354	2,035
2015	●	840	1,575	1,470	1,685	2,361	1,914
2016	●	960	1,847	1,732	1,968	2,277	1,917
2017	●	869	1,726	1,613	1,845	2,168	1,929
2018	●	768	1,525	1,419	1,637	2,148	1,975

Source: Public Health England

Figure 1 shows the proportion of 15-24 year olds in Cumbria who have been screened for Chlamydia compared to the England figure. In 2018 15.5% of this population in Cumbria were screened compared to 19.6% in England.

**Figure 1**



It is recognised locally that more needs to be done to increase screening coverage for the national chlamydia screening programme (NCSP). This has been highlighted as a priority with the sexual health service by Cumbria County Council commissioners and will be raised again at the next contract review meeting in February.

However it is accepted that reducing budgets and capacity are having an impact on service delivery and priorities across the service.

There is a further issue relating to transfer of data. A considerable proportion of local chlamydia screening records are currently being excluded from reporting by PHE due to missing postcode of residence when submitted. It is believed that this is due to a technical issue and the service is working with PHE to resolve it.

## **Syphilis**

Syphilis is a sexually transmitted bacterial infection caused by the spirochaete *Treponema pallidum*. The disease has three stages, primary, secondary and tertiary syphilis. It is highly infectious in the first and second stages if left untreated.

About 15% to 30% of people infected with syphilis who don't get treatment will develop complications known as tertiary syphilis. In the late stage, the disease may damage the brain, nerves, eyes, heart, blood vessels, liver, bones and joints. These problems may occur many years after the original, untreated infection and are potentially life threatening.

The annual average number of cases of syphilis in Cumbria is 16.

In November 2017 there was a sharp increase in the number of cases of infectious syphilis in North Cumbria. The disease most commonly presents in men who have sex with men but in this outbreak a higher proportion of women and heterosexual men were affected than expected. An outbreak control team was convened by Public Health England. A number of agencies which included Cumbria County Council Public Health team worked together in order to understand the reasons for the outbreak and implement appropriate control measures. Enhanced surveillance of cases was undertaken. A total of 60 cases were identified in this cluster before the outbreak was deemed to be over.

## **Gonorrhoea**

Gonorrhoea is a sexually transmitted infection caused by the bacteria *Neisseria gonorrhoeae*. It is the second most prevalent bacterial STI in the UK.

Infectivity can persist for months in untreated cases, but treated cases are non-infectious within days. However, the effectiveness of treatment for gonorrhoea is threatened by the development of antimicrobial resistance.

Between 2017 and 2018 there was a reduction in susceptibility to the first-line treatment for this infection.

Over recent years in Cumbria we have seen an increase in diagnoses of gonorrhoea. This is true across the North West region and in England as a whole. Table 2 shows the number of diagnoses by year since 2012.

During 2018 there were 178 cases diagnosed in Cumbria giving a rate of 35.7 per 100,000 population. This is lower than the rate for the North West (81.2) and for England (98.5)

**Table 2: Gonorrhoea Diagnostic Rate/100.000 in Cumbria**

Period		Cumbria				North West region	England
		Count	Value	Lower CI	Upper CI		
2012	●	104	20.8	17.0	25.2	44.5	48.6
2013	●	98	19.7	16.0	24.0	42.7	56.2
2014	●	127	25.5	21.2	30.3	44.6	66.5
2015	●	94	18.9	15.2	23.1	44.7	73.2
2016	●	97	19.4	15.8	23.7	50.1	64.8
2017	●	112	22.5	18.5	27.0	63.6	78.5
2018	●	178	35.7	30.7	41.4	81.2	98.5

## Blood Borne Viruses

### Hepatitis B

Hepatitis B is a viral infection of the liver caused by the hepatitis B virus (HBV). It is spread through contact with an infected person's blood or certain body fluids. It's a highly infectious virus and is the most infectious of the three blood borne viruses (BBVs) discussed in this paper. It is around 100 times more infectious than HIV.

In acute infection the body usually clears the virus in 2-3 months. However with chronic infection long term treatment is required to contain the virus using a combination of drugs.

Hepatitis B is a vaccine preventable disease. Since August 2017 all babies born in the UK are offered a course of Hepatitis B vaccine.

This year Cumbria County Council has introduced an in-house programme of Hepatitis B vaccination for staff who are deemed as being at risk of exposure to the virus.

People who inject drugs are at a higher risk of contracting hepatitis B infection. All individuals beginning a new treatment journey in structured drug treatment should be assessed in relation to their HBV immunity status and offered a course of vaccine if they do not already have immunity to the virus. In Cumbria during 2016-17 13.1% of people who were assessed as eligible completed a course of vaccine. This amounted to 30 people. While this is a small number of individuals, the rate is higher than for the North West region (9.5%) and for England (8.1%).

### Hepatitis C

Hepatitis C (HCV) is a viral infection caused by the hepatitis C virus. If left untreated it can cause serious and potentially life-threatening damage to the liver over many years. There is no vaccine existing but effective treatment is available to clear the infection in most people.

In 2016 the UK government signed up to the WHO Global Health Sector Strategy on Viral Hepatitis which commits participating countries to the elimination of Hepatitis C as a major public health threat by 2030.

PHE prevalence estimates are calculated on Operational Delivery Networks (ODN) footprints. These are used by NHSE to calculate treatment targets for the ODN. These are known as run rates.

In Cumbria there are two treatment providers. NCIC which is attached to the North East and Cumbria ODN and UHMBFT which is attached to the Lancashire and South Cumbria ODN. The run rate for NCIC is currently 100 cases per year. From April 2019, 37 patients have either completed or are in treatment. For UHMBFT the run rate is 108 cases per year. From April 2019, 40 patients have completed treatment and eight are currently in treatment.

The previous PHE prevalence template for hepatitis C provided an estimate of 2992 HCV infected individuals in Cumbria. 2065 of these with active infection. 91.4% of cases are associated with current or previous injecting drug use.

In Cumbria 95% of people in drug misuse treatment who inject drugs have received a HCV test. However there is a need to devise ways to increase detection in harder to reach groups. CCC Public Health team are working with NCIC hepatology colleagues to introduce a pilot study to provide HCV testing in seven community pharmacies across North Cumbria. This pilot is expected to launch in February 2020.

### Human Immunodeficiency Virus (HIV)









HIV is a blood borne virus which can be treated with anti-retroviral drugs. The treatment does not cure HIV but contains it and people with HIV will need treatment for the rest of their lives. Without treatment, over time a person's immune system may become compromised and less able to fight infections and disease. The person may then go on to develop Acquired Immune Deficiency Syndrome (AIDS).

With appropriate treatment an HIV positive person can expect to live a normal functioning life.

In Cumbria, during 2018 there were 21 new diagnoses of HIV. This is a rate of 5 per 100,000 compared to the England average of 8.7. However, Table 3 shows that this is the highest number of new case since 2011.

**Table 3: Cumbria: New HIV Diagnosis Rate**

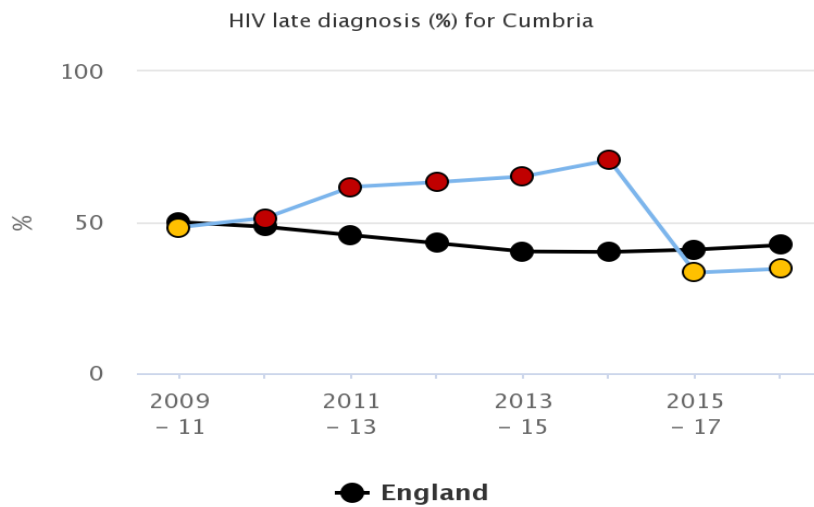
Recent trend: 

Period		Cumbria				North West region	England
		Count	Value	Lower CI	Upper CI		
2011		11	2.6	1.3	4.7	9.1	12.8
2012		16	3.8	2.2	6.2	8.4	12.8
2013		16	3.8	2.2	6.2	9.1	12.3
2014		9	2.1	1.0	4.0	10.2	12.8
2015		10	2.4	1.1	4.4	8.9	12.6
2016		8	1.9	0.8	3.7	8.7	10.8
2017		15	3.6	2.0	5.9	8.3	9.4
2018		21	5.0	3.1	7.6	7.9	8.7

Reducing the late diagnosis of HIV is one of the indicators in the Public Health Outcomes Framework. Late diagnosis of HIV increases mortality tenfold within a year of diagnosis compared to those who are diagnosed and commence treatment promptly.

Late diagnosis of HIV has been an issue in Cumbria. However over recent years this has improved. During 2016-2018, 34.6% of patients with HIV in Cumbria were diagnosed late compared to 42.5% for England. Figure 2 shows the trend in late diagnosis of HIV for Cumbria patients

**Figure 2**



In relation to the diagnosed prevalence of HIV within the Cumbria Population aged 15 - 59, there are currently 160 people diagnosed with the condition. This is a rate of 0.6 per 1,000 population and is the lowest in the North West. The overall rate for England is 2.37.

**Discussion.**

Preventing the transmission of communicable diseases will always be challenging.

In relation to TB, whilst we currently see low numbers of people with the disease, we have an issue with late diagnosis, and subsequently a delay in the onset of treatment. A further concern is the emerging issue of antimicrobial resistance to drugs used to treat the infection. Furthermore, the TB Specialist Nurse Service is reduced to just one nurse covering Cumbria. As well as succession planning, there needs to be a review of the capacity within the service.

For sexually transmitted infections overall our rate is lower than the England average. However there are some issues that will need to be addressed. We are not meeting our chlamydia detection targets. Whilst it is acknowledged that there has been some issues with the transfer of data which may have impacted on this, the exact impact this has had on the overall uptake figures is unclear and needs clarified.

In relation to gonorrhoea, whilst our rates are low compared to the North West region and to England as a whole, we have seen a sharp increase in cases over the previous three years. There is also the issue of the development of antimicrobial resistance to treatment for this infection.

With regard to blood borne viruses. With Hepatitis C in Cumbria there is a need to increase our detection rates. Whilst the north Cumbria dry blood spot testing pilot in community pharmacies will enable us to widen access to testing, we need to broaden the accessibility in both our rural communities and in those hard to reach groups that traditionally are less likely to access services. We need to continue to work together with our partners and consider other opportunities.