

**Tuberculosis in Kent and Medway**

Health Needs Assessment – 2024

Executive summary

 

**Contents**

[**Acknowledgements** 4](#_Toc193192957)

[**Key stakeholders** 4](#_Toc193192958)

[**Authors** 4](#_Toc193192959)

[**Glossary of abbreviations** 5](#_Toc193192960)

[**Executive Summary** 7](#_Toc193192961)

# **Acknowledgements**

Many thanks to all stakeholders who participated in the development of this health needs assessment (HNA).

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# **Glossary of abbreviations**

|  |  |
| --- | --- |
| A&E | Accident & Emergency |
| BCG | Bacillus Calmette-Guérin |
| BTS | British Thoracic Society |
| CCG | Clinical Commissioning Group |
| CIMS | Case and Incident Management System |
| CIPFA | Chartered Institute of Public Finance & Accounting |
| CNS | Central Nervous System |
| DGS | Dartford and Gravesham NHS Trust |
| DNA | Did not attend |
| DOT | Directly Observed Therapy |
| DVH | Darent Valley Hospital |
| ECM | Enhanced Case Management |
| EKHUFT | East Kent Hospitals NHS Foundation Trust |
| GRT | Gypsy, Roma and Traveller |
| HNA | Health Needs Assessment |
| HPT | Health Protection Team |
| GIRFT | Getting It Right First Time |
| H-CLIC | Homelessness Case Level Information Collection |
| HIV | Human Immunodeficiency Virus |
| HMP | His Majesty’s Prison |
| ICB | Integrated Care Board |
| IGRA | Interferon Gamma Release Assay |
| IHA | Initial Health Assessment |
| IHG | Inclusion Health Group |
| IMD | Index of Multiple Deprivation |
| K&M | Kent and Medway (ICB-level area) |
| KCHFT | Kent Community Health Foundation trust |
| KPHO | Kent Public Health Observatory |
| LA | Local Authority |
| LSOA | Lower Super Output Area |
| LTBI | Latent TB Infection |
| LTLA | Lower Tier Local Authority |
| MDRTB | Multi-Drug Resistant TB |
| MDT | Multi-Disciplinary Team |
| Medway | Medway NHS Foundation Trust |
| MOA | Memorandum Of Understanding |
| MTW | Maidstone and Tunbridge Wells NHS Trust |
| NHSE | NHS England |
| NICE | National Institute For Health and Care Excellence |
| NRPF | No Recourse to Public Funds |
| NTBS | National TB Surveillance System |
| OHID | Office for Health Improvement and Disparities |
| ONS | Office for National Statistics |
| PCR | Polymerase Chain Reaction |
| QEQM | Queen Elizabeth the Queen Mother Hospital |
| RCN | Royal College of Nursing |
| SE-TBCB | South East TB Control Board |
| SOP | Standard Operating Procedure |
| SRF | Social Risk Factor |
| TB | Tuberculosis |
| UASC | Unaccompanied Asylum Seeking Children |
| UCLH | University College London Hospitals NHS Foundation Trust |
| UKHSA | UK Health Security Agency |
| VOT | Video Observed Therapy |
| WGS | Whole-Genome Sequencing |
| WHH | William Harvey Hospital |
| WHO | World Health Organization |
| WTE | Whole Time Equivalent |

# **Executive Summary**

Worldwide, TB is the second leading cause of death from a single infectious agent, after COVID-19. England is a low-incidence country with incidence falling since 2011. However, the COVID-19 pandemic had a significant impact on the detection and control of TB, leading to missed or delayed diagnosis and delayed initiation of treatment. In England in 2023, TB notification rates increased by 11.0% compared with 2022, the largest year-on-year increase in the current reporting period (2000 to 2023), although rates are still below the peak of 2011. England is currently not on track to achieve the targets set in 2015 by WHO’s End TB Strategy.

NHSE and UKHSA’s TB Action Plan for England aims to improve the prevention, detection and control of TB in England, with a focus on inclusion health groups and use of system-wide approaches to address health inequalities. The South East region has four TB networks, one of which is Kent and Medway. This network provides a forum for all stakeholders responsible for the management and reduction of TB incidence in their populations. The aim is for a HNA to be produced for each ICS-level area, to support development of a local strategic action plan and achievement of the aims of the national action plan.

When compared to England overall, K&M is a low incidence area for TB, however the complexity of the cases is high.

**Kent & Medway Population**

Kent and Medway (K&M) covers a large geographical area in the South East, with around 1.9 million people. It borders London, has a diverse population, and has large coastal and rural areas. The mean age of residents in Kent is 41.7 years, there are a higher proportion of over 65-year-olds, and a smaller proportion of young adults, compared to the South East and England. The most common ethnicity is white, making up 88.7% of K&M’s population, however there is wide variation in ethnicity between districts.

Deprivation varies across K&M, with the highest levels seen in some of the East Kent coastal regions and some urban areas, particularly Swale, Medway, Dartford and Gravesham. The number of people living in K&M is about 1.9million, which is expected to grow by 23% to 2.1 million in 2031, faster than the England average.

Between 2021 and 2022, 7,100 people migrated into K&M from outside of the UK, the highest net international migration for a decade. As of 30th September 2023, there were 971 supported asylum seekers (those receiving Section 95 Support from the government) in K&M, with the most common nationalities in accommodation settings being Afghanistan, Iran and Eritrea. The prison population in 2023/24 was 20,875 people (1.11% of the population), the majority of whom were male between 30 and 49 years of age. Over a quarter (26.8%) of the prison population were foreign nationals (compared to 11.2% in England), a higher proportion, likely due to Maidstone prison being primarily for foreign nationals. In 2019/20, K&M had the highest rate of hospital admissions for homeless people in the South East, and admission numbers have remained relatively static in subsequent years. Between January to March 2024, there was a rise of 11.4% in the number of households assessed as homeless in England, compared to the same period in 2023.

**TB Epidemiology**

TB incidence in England has declined over the past ten years. During the COVID-19 pandemic there was a drop in incidence, and a subsequent rise since. K&M is a low-incidence area, however there is variation with higher rates in the districts of Gravesham, Dartford, Medway and Ashford and a higher number of TB cases in deprived areas within districts.

TB cases are more commonly males aged 30-39 years and most cases are in people not born in the UK. For those not born in the UK, most cases were in those who have been in the UK for >10 years. In 2023, the proportion of cases in those in the UK for <2 years was at its highest for the past decade, which could represent active TB in migrants who did not have pre-entry screening.

Just under 18% of adult cases in K&M worked in healthcare (including community care) or education or were students, representing a risk of transmission to vulnerable people in these settings.

K&M has a high proportion of TB cases with at least one social risk factor (17.83% vs. 10.90% in the South East), and this proportion has increased in the last decade. The most common social risk factors were drug misuse, homelessness, prison incarceration and alcohol misuse, and almost 40% of those with social risk factors had more than one, highlighting the complexity of cases. Cases with social risk factors were more likely to be male, of white ethnicity and UK-born compared to the overall cases. KCHFT (East Kent) and MTW TB services saw a higher proportion of cases with social risk factors.

A small proportion of TB cases are in children (4.48%); however, the majority were UK-born, indicating transmission within K&M.

**Clusters and Outbreaks**

For cases in a setting of concern, such as a school, workplace, prison or healthcare setting, the UKHSA health protection team will work with TB services and other stakeholders to manage the public health risk. A TB incident may be declared if additional screening or provision of inform and advice letters are required. The number of TB incidents in the South East increased in every HPT between 2022 and 2023, although the smallest increase was seen in Kent (9%).

TB whole-genome sequencing (WGS) is used for TB diagnosis and investigation of TB clusters, which are groups of strains with closely related genomes. WGS clusters can then be explored to understand if the cases have an epidemiological link. Identifying clusters gives an opportunity to find transmission chains whereby public health control measures can be targeted, to reduce further transmission. Several clusters of public health importance have been detected in the last ten years in K&M. Whilst cases were linked by geography, it was not always possible to identify exact sources or places of transmission. Some of the identified places of transmission and population groups involved have been in a hospital, amongst people using cannabis, in the homeless population and amongst migrants from the same country. Two clusters of significance have been described in Section 3.3.2 to understand the public health challenges in investigation and management of TB.

**Cohort Review**

The clinical features of TB cases in K&M were similar to the South East overall with pulmonary TB making up 57.7% of cases and co-morbidities present in 17.4% of cases, with diabetes being the most common. The vast majority of cases with unknown HIV status were offered a HIV test. Nearly all cases were caused by Mycobacterium tuberculosis.

Culture confirmation was achieved in 80% of pulmonary TB cases in 2023, meeting the TB action plan target. However, in non-pulmonary cases culture confirmation proportions were lower than both the South East and England, and have decreased since 2021. Of those with a culture confirmation, 96.5% had drug susceptibility testing for all four first-line agents. There have only been 7 MDR-TB cases in K&M since 2014.

K&M TB services identify close contacts in a high proportion of pulmonary TB cases, compared to the South East average, although this remains below the TB action plan target. In 2023, 89% of cases had at least 1 contact identified, and 40% of cases had 5 or more contacts identified.

A high proportion of cases in K&M (71.6% in 2022) require enhanced case management and this proportion has risen since 2018. In comparison, in 2022 this was 41.6% in the South East and 43.2% in England. A higher proportion of cases were also offered DOT/VOT in K&M compared to the South East. This places a large burden on TB services, particularly for specialist TB nurses who provide the case management.

The proportion of drug-sensitive TB cases in K&M completing treatment has increased since 2022 and is now higher than the South East average. K&M met the TB action plan target of 90% treatment completion in 2021 and 2022. In 2022, the highest treatment completion proportions were seen in cases managed by KCHFT (East and North Kent). Medway’s treatment completion has improved since a low in 2016. Treatment completion was lowest in men, over 65-year-olds, UK-born cases, cases with white ethnicity and cases with at least 1 social risk factor.

Delays in both diagnosis and treatment are often seen in K&M, with less than one third of cases treated within 2 months of onset of symptoms, as recommended. A higher proportion of cases were treated >4 months after onset of symptoms in K&M compared to both the South East and England. Cases managed by MTW had the longest median duration from onset of symptoms to treatment, at 119 days. Longer durations were seen for cases over 65 years, UK-born cases and those of white ethnicity.

The median time between symptom onset and first presentation to a health service was 25 days, and the time between first presentation and the referral being received by a TB service was 32 days, indicating opportunities for raising awareness of TB symptoms and early diagnosis in both the population and healthcare professionals.

**Commissioning**

Active TB treatment services are commissioned by the ICB. In Medway and West Kent, TB services are provided as part of the acute trust’s respiratory departments, with no specific commissioning from the ICB for TB in place. In North and East Kent, there is a community TB nurse-led service, commissioned through KCHFT. Patients also see consultants in the respiratory departments of acute trusts in North and East Kent. When incidents occur with the requirement for mass screening, this is usually carried out by the TB nursing teams. When this is not possible, for example due to high numbers requiring screening, an external agency may be commissioned by the ICB, but there is no set policy for this currently. Even when an external agency is commissioned, a considerable amount of support is required from the TB nursing teams working alongside the external agency.

For LTBI screening and treatment, there is limited capacity within pathology and long waits for treatment in some areas. KCHFT are also not commissioned to manage LTBI cases and support them with completion of treatment. There is no commissioning in place for LTBI screening of migrants from high-incidence countries.

For complex TB cases, there is a lack of pathways and funding agreements to support incentive payments, hardship funds and support those with no recourse to public funds (NRPF). Historically, these have been agreed on a case-by-case basis. There is no specifically commissioned outreach service for groups at a higher risk of TB, with outreach activity only carried out by the TB services in each area.

For TB services in acute trusts, funding pathways are unclear. Providers have also raised concern about insufficient funding to deliver TB services in line with the national TB action plan. Given the concern about the cohesiveness of the system for TB in K&M and inequality in provision of TB services across the ICB area, system workshops have taken place to review this. Work is underway to ensure services are aligned with the national TB action plan and national service specification. A local service specification will be developed, with the aim of addressing the gaps outlined above. A local TB action plan for K&M will also be developed.

**Acute and community TB services**

Hospitals are broadly located in geographical areas of high TB incidence, but the two hospital sites in East Kent cover a large area which may introduce accessibility issues for TB cases. There are high DNA rates (28% in KCHFT) for cases attending clinics.

Referral pathways to TB services vary between areas. Formal pathways directly to TB services from primary care, A&E, radiology and histopathology are not in place in several areas. This can contribute to delays in diagnosis and treatment, along with delays caused by cases being referred initially to other specialties. KCHFT has a website which provides information on how to refer to the service.

There was a recognition amongst all TB services of a lack of awareness of TB signs and symptoms in both the population of K&M and healthcare professionals. All services provide teaching or training to healthcare professionals in K&M; however, this is often ad-hoc and not as part of a regular programme.

Diagnostic delays are introduced due to tests being couriered and processed in neighbouring trusts. As tests cannot be done rapidly in-house in Medway and East Kent, smears can take up to 5 days and PCR tests up to 7 days to receive results in these trusts.

Timely appointments in acute trusts are generally achieved for active TB cases, often by providing ad-hoc appointments outside of clinic times. However, this can be affected by a lack of cover during times of annual leave, and result in consultants attending TB clinics during their leave. MTW have a weekly MDT allowing cases to be discussed and investigations actioned whilst waiting for an initial consultant appointment. There are long delays for LTBI cases, particularly in North and East Kent. Capacity within the workforce and lack of resources to address delays were acknowledged as barriers.

Whilst the cohort review data shows that TB services in K&M are achieving better identification of contacts than the South East, there is a lack of data on the proportion of contacts eligible for screening who attend for testing. Lack of support (particularly for new-entrant migrants) and transport issues were identified as barriers. All services conduct home visits for active TB cases (KCHFT routinely, and Medway and MTW when required) which does allow contact screening at home to take place. There is no SOP or formal pathway for funding available for incidents requiring mass contact screening.

Some outreach work is done by TB services, however there is no service in place for finding and treating inclusion health group patients who may be at a higher risk of TB and less likely to present to services. Referral and treatment pathways are in place for prisons in K&M, but not for other high-risk populations. KCHFT have good links with services to support high-risk populations, given they are a community-based trust. A lack of social care support for K&M’s high number of complex cases was identified by all services. None of the services have funding for incentives to support enhanced case management and help cases complete their treatment. Sometimes nurses will self-fund small support items, such as food, coffee and toiletries.

LTBI cases are managed by the TB service in MTW and Maidstone. In North and East Kent, the TB specialist nurses work in a separate NHS trust to the consultants. Here, cases are started on treatment by consultants in the acute trust, but KCHFT TB specialist nurses are not commissioned to manage LTBI cases and do not have the capacity currently to do so. This means cases are not supported to complete their treatment. There is a lack of data around completion rates, and it is unclear if cases are formally reviewed at the end of their treatment across all services in K&M.

Good clinical management and working relationships between TB nurses and consultants are in place and contribute to the excellent treatment outcomes for active TB in K&M. A lack of capacity in the workforce was identified, along with no cross-cover arrangements between services to cover both incidents and staff sickness or annual leave. All services did not think clinical staffing was sufficient, especially considering the increasing complexity of cases in K&M, and the lack of LTBI case management. Issues with funding and time available for training, along with a lack of opportunity and progression for TB specialist nurses was raised. Consultants and administrative staff in the acute trusts often support general respiratory work and the BCG vaccination, meaning there can be issues finding dedicated time for TB work.

In terms of resources, there is insufficient clinic room space for TB clinics in MTW and EKHUFT. DOT is used by Medway and MTW, but cases eligible cannot always access it due to staffing issues. VOT allows all cases who require enhanced case management to receive it in KCHFT and MTW. VOT is not currently commissioned in Medway, although this is planned.

BCG vaccination for infants is delivered by the TB service in KCHFT and Medway with established SOPs available. In MTW the service is delivered by paediatrics. Vaccinations for over 1 year-olds tend to be opportunistic and KCHFT are not commissioned to provide this, although they can usually support with vaccinations. In 2022/23, both Kent and Medway local authority areas achieved a slightly higher coverage than for the South East overall and Medway had a higher coverage than for England overall.

**Getting It Right First Time**

GIRFT is a national programme in England designed to improve patient care by reducing unwarranted variations in clinical practice. TB services completed questionnaires in 2023 and were subsequently provided with a data pack showing how their questionnaire answers compare with the overall national response.

K&M cases had a similar age/sex profile to England overall, but were more likely to be of white ethnicity (39% vs. 21% in England) and UK-born (32% vs. 21% in England).

K&M ICB was the 2nd highest ICB for percentage of cases offered ECM (75%). Of those with ECM, 42% received the highest level (level 3), compared to 16% in England overall. K&M was also the 2nd highest ICB for proportion of cases offered and receiving DOT. For social risk factors, K&M ranked highly for proportions of cases with a history of alcohol misuse (2nd highest ICB), drug misuse (6th highest) and imprisonment (6th highest). KCHFT East Kent ranked highest of the K&M TB services for drug misuse (13% of cases), MTW and Maidstone for alcohol misuse (28% and 24%) and KCHFT North Kent for imprisonment (14%).

All notified TB cases had a test performed (includes culture, PCR, microscopy, histology or chest X-ray) in every TB service, however there were fewer PCR results available for K&M cases compared to England (84% vs. 67%). Smears are available 24/7 in Medway and KCHFT North Kent. Compared to other TB services in England, 40% had 24/7 availability.

There are high treatment completion rates for K&M, with 88% completion at 12 months compared to 68% in England. Services generally had good access to information in other languages. There are good links in place for connecting socially complex cases to other services supporting with issues such as housing and access to benefits in KCHFT North and East Kent, but not in MTW and Medway.

K&M had long delays in treatment compared to other ICBs. For days between symptom onset and treatment, K&M was 6th highest for pulmonary cases (86 days) and 4th highest for non-pulmonary cases (98 days) between 2019 and 2022. Delays following diagnosis were not as significant, being 13th highest for proportion of cases with over 2 weeks from diagnosis to treatment (9%), indicating the need for improvements in recognition of TB symptoms in both the population and healthcare professionals to promote earlier diagnosis.

K&M were amongst the best ICBs for the number of contacts identified per case, being the 4th highest for proportions of cases with more than 5 contacts identified (26.09% of cases) and 4th highest for more than 10 contacts (9%). Of the ICBs where information was available (38/42), K&M was 4th lowest for the proportion of contacts starting treatment for LTBI (42%). To put this into perspective, 16% of adult contacts screened had LTBI in 2022. K&M has no LTBI screening programme in place, in line with 35.4% of ICBs. Of the ICBs where information was available (38/42), K&M was the lowest for the proportion of adults with LTBI completing treatment (42%), although there were variations between services.

A lack of service specification in MTW and no regular meetings with management in Medway and MTW were identified. Three of the four TB services did not agree there was sufficient funding in place to deliver NICE guidance, the TB action plan or the local service specification. There were mixed views on whether support was provided to manage outbreaks and if external funding was provided, highlighting inconsistencies and unclear pathways. SOPs that are compliant with national guidelines were not in place for LTBI or for screening healthcare workers (except in Medway).

**Inclusion health groups**

People in IHG populations have disproportionately poorer health outcomes with the highest TB rates in England in 2021 for asylum seekers, people experiencing homelessness and prisoners.

People born in a high TB incidence country are at highest risk of developing active TB in the UK and this risk continues many years after arrival to the UK. Migrants arriving by unofficial routes and by government supported humanitarian pathways and resettlement schemes do not have access to pre-entry screening for active pulmonary TB. This should be done on registration with primary care services during an initial health check, however it is unclear how often this happens and if TB is prioritised during these health checks. There is no commissioned outreach service working across K&M with asylum seekers to screen for active TB in adults, aside from at Napier Barracks where there is an outreach clinic run by a nurse practitioner. Unaccompanied asylum seeking children have an initial health assessment by a community paediatrician and are referred to TB services for active TB screening, however this is not formally commissioned in North and East Kent.

There is no LTBI testing programme available for migrants from high incidence countries in K&M. Modelling based on the NHSE LTBI testing and treatment programme (available in some areas of the country) gave estimated figures of 6,414 migrants per year who would be identified for LTBI testing, an uptake of 404 migrants, resulting in 83 positive LTBI cases per year. However, there was considerable uncertainty in the modelling, especially for the number of migrants who would be identified each year, and the uptake, given it was based on very low rates seen in 2021 (6.29% in five nearest neighbour CCGs vs. the target of 25%). For asylum seekers who do test positive for LTBI, they often move out of the area before treatment can commence. Completion of treatment is likely to be an issue given the lack of commissioning for TB services to support cases, and long waits to start treatment for LTBI in North and East Kent.

Asylum seekers face additional barriers and issues relating to TB identification and treatment including barriers registering with a GP and keeping an appointment, language barriers, frequent relocation, difficulty travelling to hospital appointments, lack of TB awareness in asylum accommodation staff, a lack of social support required for compliance with testing and treatment, stigma amongst the cohort and a lack of sharing of information between agencies within the system.

People in contact with the criminal justice system face a number of health challenges including issues with transfer of health information between services, difficulty maintaining continuity of care due to transfers between settings, high levels of homelessness and financial hardship on release from prison, high levels of stigma and a lack of trust in institutions and officials. All new prisoners should be screened for symptoms of active TB, with cases referred to the health protection team and managed with directly observed therapy. In K&M, HMP Maidstone has a commissioned screen and treat service in place for LTBI.

For people experiencing homelessness, poor living conditions, an increased risk of co-morbidities and malnutrition and other social risk factors such as alcohol and drug dependence are more likely, increasing the risk of TB infection. They may face multiple barriers accessing healthcare due to a lack of a fixed address and problems attending appointments and adhering to TB treatment, including inability to store medications. Clear pathways should be in place for people experiencing homelessness with active TB to receive state-funded accommodation during their treatment. For those with NRPF, lack of housing presents a significant challenge, which should be addressed between TB teams, commissioners and the local authority.