

TUBERCULOSIS SERVICE PROVISION IN WEST KENT

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EXECUTIVE SUMMARY

Since the late 1980s the prevalence of TB, previously thought to be a conquered disease, has increased in the UK. In 2004 the Chief Medical Officer outlined his action plan for England in response to the growing threat. Since then further guidance has emerged regarding the prevention and management of tuberculosis as well as the commissioning of services to respond to local need.

West Kent presently remains a low incidence area with approximately 40 cases occurring in West Kent residents per annum. However with the proximity of Kent to London which has the highest rates of TB in the UK, and the coastal ports of entry located in East Kent, it is likely that this situation will change in the future.

Currently TB services are not formally commissioned in West Kent, and to an extent comprise historical arrangements which have not always evolved to support the needs. There is limited coordination across locality boundaries and inequity in provision of support. Presently TB patients in Southwest Kent and Maidstone localities do not have access to community specialist nursing provision. This deficit has significant implications in terms of supporting individuals in managing their treatment and also in terms of tracing contacts and outbreak management.

It is the recommendation of this report that a TB service is commissioned for West Kent which is responsive to local need, and provides equitable access to all aspects of TB prevention and management.

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Appendix A

TUBERCULOSIS SERVICE PROVISION IN WEST KENT

1. PURPOSE

1.1 The purpose of this report is to provide an outline of the current Tuberculosis (TB) service provision in West Kent. Presently TB services are not uniformly commissioned in West Kent and there are apparent gaps in recommended service provision. Therefore this report aims to provide information enabling the commissioning of a more coherent TB services in West Kent.

2. BACKGROUND

2.1 In West Kent, around 40 cases of TB per year for the last 3 years, this equates to a rate of around 6.0 per 100,000 population. Unsurprisingly, unlike high incidence areas, TB has not been a high priority on the health agenda in West Kent. However with the publication of NICE guidance in 2006 and the Department of Health, TB commissioning toolkit in 2007, coupled with changing vaccination policies and modification of community nursing services, the need to assess the status of TB services has become essential.

3. WHAT IS TUBERCULOSIS

3.1 Pathogenesis

3.1.1 Tuberculosis (TB) is a preventable and treatable infection caused by a bacterium, *Mycobacterium tuberculosis*. It can affect any part of the body but is only infectious when it affects the lungs. Infection is spread when infected droplets are coughed into the air. Not all people with respiratory TB are infectious and it requires prolonged close contact to catch the disease. Cases are usually rendered non-infectious after two weeks of effective treatment.

3.1.2 Symptoms may include cough, fatigue, night sweats and weight loss but can vary depending on the part of the body infected and can take months to develop. However not everyone who is infected with the bacteria immediately develops the disease. Symptoms may start around 6 weeks after initial exposure resulting in symptomatic or **active** TB; or the immune system may suppress the infection for many months or even years, this is known as **latent** TB, before reactivation at a later date when symptoms develop possibly in response to suppression of the immune system.

3.1.3 People with familial links to high incidence populations are at higher risk of exposure to an active case of TB. Certain subgroups are more susceptible to TB. Those with suppressed immune systems, for example those undergoing cancer treatment or those with HIV infection are particularly vulnerable, as are those living in overcrowded accommodation, the homeless population and those with alcohol misuse problems.

3.2 Diagnosis

3.2.1 Diagnosis of an active case will be based on clinical suspicion supported by appropriate radiological and microbiological investigations. However the diagnosis of latent TB is more complex in that the individual will not be symptomatic. The diagnosis of latent TB is important in many contexts such as in those who are close contacts of an active case, or those arriving from countries of high incidence who are intending a prolonged stay in the UK. This is so that they can be offered appropriate treatment or advice in order to either prevent them from developing active TB in the future or to recognise symptoms suggestive of TB so that they can seek prompt medical care.

3.3 Treatment

3.3.1 The treatment of TB is prolonged and complex. Averagely those with active TB are treated with a combination of drugs for a period of 6 to 12 months depending on the site of infection. Latent TB is usually treated for 3 to 6 months depending on the chosen regime. The drugs used carry a risk of unpleasant or in rare cases life threatening side effects

3.3.2 Maintaining compliance with the prescribed course of treatment is essential both for ensuring that the individual receives optimum management of their infection but also to prevent the emergence of multi drug resistant TB (MDR TB). MDR TB is difficult and costly to manage. Presently there is an outbreak of isoniazid resistant TB in London which has been ongoing for 7 years and has affected approximately 300 people.

Drug resistant TB

It is estimated that the cost of treating a case of active TB is approximately £5000, whereas the cost of managing a case of MDR TB could be around £50- 70,000.

4. CURRENT POLICY

4.1 Background

4.1.1 In the 1990s, after decades of improved detection, treatment and control, TB began to re-emerge in England as a public health problem. However rather than being an infection which affected the whole population as had previously been the case, TB now predominantly affects specific risk groups. This was in part a result of migration of people from high prevalence areas such as the Indian subcontinent and sub-Saharan Africa, but TB also affects other risk groups such as the homeless or those with lowered immunity such as people living with HIV.

4.2 Stop TB

4.2.1 The World Health Organisation (WHO) declared TB a global emergency in 1993. It is estimated that there are 2 billion people worldwide infected with the tuberculosis bacterium and that each year 8 million people become infected with 2-3 million dying from the disease. WHO is working through the Stop TB strategy to halve the number of deaths and prevalence of TB by 2015.

4.3 CMOs Action Plan

4.3.1 In October 2004 the Chief Medical Officer of England (CMO) produced the *Stopping Tuberculosis in England Action Plan*, in response to the increasing threat posed by TB, a disease previously considered conquered in the UK.

4.3.2 The immediate aims of the programme were to:

- Reduce the risk of people being newly infected with TB in England
- Provide high quality treatment and care for all people with TB
- Maintain low levels of drug resistance, particularly multidrug resistant TB

4.3.3 The plan comprised of 10 recommended actions which addressed all aspects of TB control. However there was no additional funding allocated to implement the action plan.

Stopping tuberculosis in England – The CMOs Action Plan

Action 1	Maintain high awareness of TB
Action 2	Strong commitment and leadership
Action 3	High quality surveillance
Action 4	Excellence in care
Action 5	Well organised and coordinated patient services
Action 6	First class laboratory services
Action 7	Highly effective disease control at population level
Action 8	An expert workforce
Action 9	Leading edge research
Action 10	International partnership

4.4 NICE Guideline

4.4.1 In 2006, the National Collaborating Centre for Chronic Conditions produced guidelines for the diagnosis, management, and prevention and control of tuberculosis, updating the British Thoracic Society Guidelines of 2000. Again, there was no additional funding for the implementation of the guidelines.

4.5 TB Commissioning Toolkit

4.5.1 The DH produced *Tuberculosis prevention and treatment: a toolkit for planning, commissioning and delivering high-quality services in England*, in

June 2007, as a framework for implementation of the CMOs action plan. The toolkit acknowledges that there is no funding available for service improvement to meet criteria however makes the case that TB treatment and appropriately organised services are very cost effective interventions. Poor management of TB, resulting in drug resistance can be very problematic and expensive to control, and is ultimately avoidable.

4.6 Kent TB policy

4.6.1 Kent health protection unit (Kent HPU) have developed a policy regarding TB prevention, management and control for the Kent area. The policy reflects the NICE guideline.

5. EPIDEMIOLOGY

5.1 Background

5.1.1 In 2006, in the UK over 8000 cases of TB were reported to the Health Protection Agency through the enhanced surveillance system. This represents an overall rate of 14 per 100,000 population. However there is marked geographic variation, with higher rates seen in urban areas particularly those with high ethnic minority populations. London has the highest rate of TB (44.8/100,000) and accounts for approximately 40% of all UK cases. The majority of cases occur in the 15 – 44 age group and 72% of cases were non UK born.

5.2 The Health Protection Agency

5.2.1 The Health Protection Agency is responsible for the surveillance of tuberculosis and provides information regarding disease rates, as well as advising on the prevention and control of TB including leading on outbreak investigation, however it does not have clinical responsibility for the management of individual cases.

5.3 Notification

5.3.1 TB has been statutorily notifiable since 1913. This means that all suspected cases of TB are to be notified to the local Consultant in Communicable Disease (CCDC). In 1999 the system of enhanced surveillance was born, whereby the clinician responsible for the management of a case of TB reports to the CCDC using a standardised form which includes demographic as well as clinical details of the case, this has enabled more detailed surveillance of TB. There are additional, complementary surveillance systems such as the voluntary laboratory reporting of mycobacterial specimens however these will not be covered in detail here.

5.3.2 However the surveillance systems only reflect the number of cases of active TB, i.e. those who are symptomatic. From a public health perspective, asymptomatic TB is not a problem in that it is non infectious, however the fact that there is a cohort of people with the potential to become infectious is an important factor in prevention of the disease.

5.4 Morbidity

5.4.1 In 1998, the UK saw the lowest number of new cases at 4659, however, the rate has been increasing since then and in 2006 there were over 8000 cases recorded through enhanced surveillance. The epidemiology of TB has changed from a disease affecting all parts of the population to one which affects specific population subgroups, specifically ethnic minority groups from high incidence areas, although the prevalence of factors such as homelessness and alcohol misuse in certain areas may affect local epidemiology.

5.4.2 In 2007 there were 39 cases of TB reported in West Kent (a rate of 5.9 per 100,000). This has remained relatively static since 2005 (see Table 1) with no signs of decreasing. The significantly lower rate in previous years is thought to be due to under reporting and surveillance issues rather than reflecting a sudden doubling of cases.

5.4.3 Although the rate in West Kent is lower than that of Kent or the UK, due to the low number of cases per annum caution should be exercised in interpreting this difference.

Table 1 TB cases reported to the enhanced TB surveillance system (ETBS) by PCT of residence, 2003 - 2007

PCT of residence	Year									
	2003		2004		2005		2006		2007	
	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000
Eastern and Coastal Kent PCT	42	6.0	32	4.5	28	3.9	48	6.7	51	7.1
Medway PCT	19	7.2	7	2.7	15	6.0	16	6.4	15	6.0
West Kent PCT	23	3.6	22	3.4	40	6.1	41	6.2	39	5.9
Unknown PCT	7	-	14	-	0	-	0	-	11	-
KENT TOTAL	91	5.7	76	4.7	83	5.1	105	6.4	116	7.1

Note: PCT of residence is derived from postcode, or from PCT field where postcode not recorded. Cases with 'Unknown PCT' were reported without postcode or PCT information.

5.5 Geographic variation

5.5.1 Even within West Kent there is variation between localities with more active cases being referred to Darent Valley Hospital then to either Maidstone Hospital or Kent and Sussex Hospital (table 2).

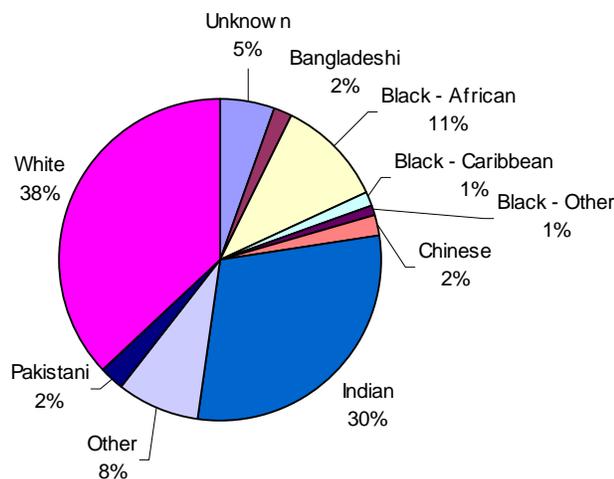
Table 2 TB cases resident in West Kent PCT, 2003 - 2007, by reporting hospital

Hospital	2003	2004	2005	2006	2007
Maidstone Hospital (Incl Preston Hall)	4	3	11	9	11
Kent and Sussex Hospital	0	4	4	7	5
Darent Valley Hospital	12	7	15	17	15
Medway Maritime Hospital	3	2	1	0	2
Benenden Hospital	3	0	0	0	0
Nuffield hospital Tunbridge wells	0	0	1	0	0
BUPA Tunbridge Wells	0	0	0	1	0
William Harvey Hospital Ashford	0	0	1	0	1
Outside West Kent (excluding WHH)	1	6	8	6	8
Total West Kent PCT	23	22	40	41	42

5.6 Ethnicity

5.6.1 With such small numbers it is difficult to draw definite conclusions, however the variation between localities may be a reflection of their ethnic composition. Figure 1 shows the breakdown by ethnic group for the period 2003 – 2007. As can be seen the majority of active cases are seen within black and minority ethnic groups (62%). The limitations to recording of ethnicity need to be acknowledged as the white population may for instance include people from Eastern European countries where the incidence of TB is high, rather than reflecting the incidence within the indigenous white population.

Figure 1 Cases notified from West Kent PCT by ethnicity for the period 2003-2007



5.7 Age distribution

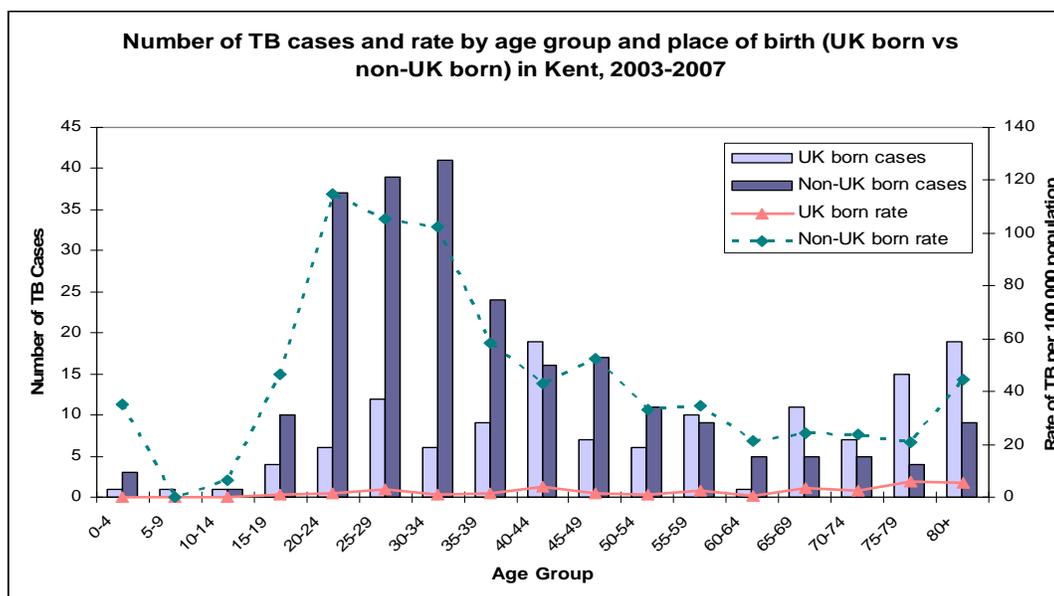
5.7.1 The age distribution of cases seen in Kent is similar to that of the UK. In the non UK born population there is a bimodal distribution whereby the rate of TB is highest in those aged between 20 and 50 with a further rise in cases of those over 80 years. The trend in the UK born cases is less pronounced with a slight increased rate in the over 75s.

5.8 Treatment Outcomes

The CMOs action plan states that all patients with TB should have their outcome recorded and at least 85% should have successfully completed their treatment.

5.7.2 Completion of a full course of treatment is a key component to effective management of TB, as it ensures that the individual receives optimal treatment, it prevents the development of drug resistant TB and provides data regarding the effectiveness of management regimes.

Figure 2 TB cases in Kent by age and place of birth, 2003- 2007



5.7.3 As can be seen in table 3, in 2005 only 64.1% of cases completed their treatment and the outcome for 7.7% of cases was unknown. Again small changes in absolute figures can have a marked impact on overall percentages however there are opportunities to address this shortfall by not only making sure that outcome data is collected but also by ensuring that those more likely to default, are identified early and provided with adequate support and supervision.

Table 3. Outcome of TB treatment for Kent residents notified in 2005, by PCT of residence

Outcome of Treatment	Eastern and Coastal Kent PCT		Medway PCT		West Kent PCT		Kent TOTAL	
	No.	%	No.	%	No.	%	No.	%
Completed	14	50.0	10	66.7	25	64.1	49	59.8
Stopped	2	7.1	1	6.7	4	10.3	7	8.5
Died	4	14.3	3	20.0	5	12.8	12	14.6
Still on treatment	0	0.0	1	6.7	1	2.6	2	2.4
Lost to follow up	4	14.3	0	0.0	1	2.6	5	6.1
Unknown	4	14.3	0	0.0	3	7.7	7	8.5
Total Outcomes Reported	28	100.0	15	100.0	39	100.0	82	100.0

Note: PCT of residence is derived from postcode, or from PCT field where postcode not recorded. Cases with 'Unknown PCT' were reported without postcode or PCT information.

5.9 Mortality

In England and Wales there are approximately 350 – 400 deaths per year attributable to TB. The rate for 2006 was 0.67/ 100,000. In 2005, 12.8% of cases died in West Kent (table 3), although a lower percentage than East Kent or Medway, it only equates to 5 deaths, one extra death can distort the

figures significantly and therefore it should not be assumed that this represents better management.

SUMMARY

- TB is a treatable and preventable disease.
- TB is high on the national and international agendas
- NICE produced guidelines on prevention and management of TB in 2006
- Treatment of TB is lengthy and complex
- Effective management prevents relapse and drug resistance
- West Kent is an area of low TB incidence. Approximately 40 cases occur per year with around half of cases being seen in the Dartford, Gravesham and Swanley locality.
- Most cases are seen in BME groups
- In 2005 only 64.1% of cases in West Kent completed their treatment which is below the 85% standard outlined in the CMOs action plan.

6. TB SERVICES IN WEST KENT

6.1 Background

6.1.1 The aim of this document is to describe current TB service provision in West Kent, identify gaps in provision and make recommendations for commissioning of future services.

6.1.2 In 2006 the TB forum, a group chaired by the HPU which meets quarterly and comprises health professionals involved in TB services in Kent with representation from the PCTs, proposed that TB services should be provided on a Kent wide basis. The service would comprise of a team of specialist nurses based within the community but with direct liaison with secondary care who would provide all aspects of TB prevention and control in support of the respiratory consultants in Kent. This proposal was not accepted at the time possibly in part due to the PCT changes occurring.

6.1.3 This report covers West Kent in isolation, however consideration should be given to the potential amalgamation of services across the county.

6.2 Report structure

6.2.1 For the purposes of this report, TB services will be considered as four key areas.

- Leadership
- Management of active cases
- BCG vaccination
- Screening

6.2.3 Each of the above elements are not mutually exclusive and will overlap for instance management of active cases includes contact tracing and screening programmes will identify active cases. However for ease of reference these distinctions are made.

6.2.4 In West Kent each locality – Dartford, Gravesham and Swanley (DGS), Maidstone Weald (MW) and Southwest Kent (SWK) - provides its own TB service. There are no shared resources across locality boundaries. However each locality provides a different model for most of the service elements.

6.3 Data collection

6.3.1 Although surveillance data is routinely collected for active cases, data collection regarding many of the other aspects of TB control and prevention is not readily available, this reflects the limited scope of hospital coding systems which do not specify the reasons for clinic attendance, and the administrative support available within the Trusts to collect auditable data. Where possible due to local recording, activity data will be included however appropriate caveats to its provenance will be made explicit.

7. LEADERSHIP

7.1 Background

7.1.1 In order to coordinate the provision of TB services that are responsive to local epidemiology there need to be clear lines of communication between commissioners and providers.

7.1.2 It is recommended in the commissioning toolkit that every PCT appoint a TB lead responsible:

- Coordinating development of the local plan for TB prevention and control
- Evaluating which elements of TB services need to be in place
- Developing partnerships key to addressing present or future TB issues
- Maintaining vigilance regarding potential outbreaks or rises in prevalence

7.1.3 NICE recommends the nomination of a clinical lead for TB who will be a point of contact for the PCT and will also assist in identification of leads for the other aspects of TB prevention and control such as pathology and radiology services.

7.2 West Kent

7.2.1 Presently West Kent PCT does not have an identified TB lead responsible for commissioning TB services, and there are no service level agreements (SLAs) in place for the provision of TB services.

7.2.2 It has yet to be determined who will be the clinical lead and whether there should be a clinical lead per locality or for West Kent in total, it is likely that this will become apparent once the structure of future TB services is determined.

7.2.3 Without appropriately nominated leadership, commissioning and coordination of a multiagency service will be very challenging.

Recommendations

A TB commissioning lead is identified for the PCT.

A clinical lead is identified for the TB service with overall responsibility for the diagnosis and management of TB and is the point of contact for commissioners.

A service level agreement is devised for the provision of TB services between the PCT and Acute Trusts.

8. MANAGEMENT OF ACTIVE TB CASES

Active TB is symptomatic TB infection, this form may be infectious.

Latent TB is TB infection which is not currently symptomatic, but may be reactivated to active TB in the future.

8.1 Pathway

8.1.1 Management of cases is undertaken by respiratory physicians from the acute Trusts located in each of the 3 localities, usually on an outpatient basis. It is recommended that patients should be treated by a Consultant with a case load approximating 10 cases per year in order to maintain competence. In 2007 between 5 and 15 cases were seen per hospital.

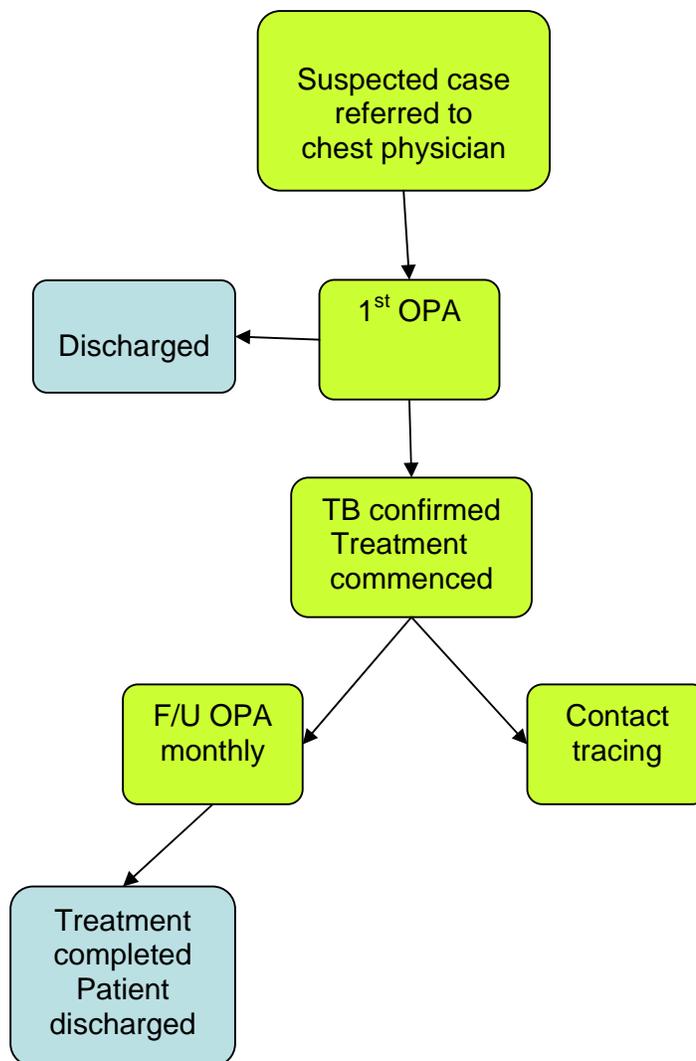


Figure 3 Management of active TB

8.1.2 Suspected cases are referred to the chest physician for diagnosis, treatment and to initiate contact tracing. The length of treatment for an active case ranges from 6 to 12 months dependant on site of infection, and an individual identified with latent TB may either undergo a period of treatment lasting either 3 or 6 months or require follow up investigations.

8.1.3 Due to the low incidence of TB in West Kent, there are no specific consultant led TB clinics, cases are seen in general respiratory outpatients. Although there are no audit figures to support the claims, each of the three hospitals which provide consultant services stated that patients with suspected TB were considered urgent referrals and accommodated quickly within outpatients for assessment.

8.2 Staffing

8.2.1 Management of active cases however involves specialist nursing expertise, community led support as well as experienced consultant staff in order to provide the public health action necessary in managing TB. Ensuring compliance with treatment, following up close contacts to ensure they are screened for TB and providing education and health promotion to the wider community are all important aspects of an effective and safe TB service.

Table 4 TB service staffing by locality

	Maidstone Weald	Southwest Kent	DGS
Consultants All are respiratory consultants employed by the acute trust, who also see TB patients	1	2	2 + 1 assoc spec
TB specialist nurse (wte)	0	0.2 Employed by acute trust as full time general respiratory nurse with responsibility for TB, has no remit to provide community care	1 Employed by the PCT and based in the community but with direct liaison with secondary care
Able to provide named key worker	No	Yes – TB nurse, but can only provide support by phone or in outpatients, no cover when on leave	Yes – TB nurse, provides community or hospital based support, however no cover when on leave
Administrative support	1 respiratory secretary provides TB admin support as part of her role.	1 respiratory secretary provides support for the consultant clinics. The specialist nurse has no admin support	Full time TB administrator employed by the PCT to support the TB service. <i>Currently vacant.</i>

8.3 TB nursing provision

8.3.1 TB nurses provide a range of functions including:

- contact tracing
- support for patients on TB medication including DOT
- New entrant screening
- BCG vaccination
- Health promotion

8.3.2 Access to TB specialist nursing with adequate administrative support which can operate in the community is a vital part of a TB service

8.4 Dartford Gravesham and Swanley

8.4.1 As can be seen from the above summary, only DGS has TB specialist nurse provision which operates within the community and has full time administrative support. The TB nurse is able to undertake home visits, acts as the key worker¹ for every patient on TB medication and provides the necessary support to the consultant and patients. However with working in isolation there is no capacity to provide these services when the nurse is on leave.

8.5 Southwest Kent

8.5.1 The TB nurse located at the Kent and Sussex hospital is a respiratory nurse who provides TB specialist nurse expertise as approximately 20% of her job and is not employed to provide any community assessment or support. The nurse also acts as the key worker for patients however this function is limited and there is no cover during periods of leave.

8.6 Maidstone Weald

8.6.1 The situation in Maidstone is grave. Until July last year there was a TB health visitor based in the community with responsibility for contact tracing and support of individuals on treatment. A review of the HV role resulted in this facility being lost. Since then there has been no specialist TB nurse support.

8.6.2 Currently all contacts are identified by the consultant in outpatients and contacted by his secretary. Contacts are offered an outpatient appointment for screening which is undertaken by the consultant physician, however there is no facility to chase those who do not attend their appointments. The current system is running beyond capacity and relies on the professionalism and good will of the consultant, outpatient nurse manager and secretary, who are not able to provide a full service.

¹ Nomination of a key worker for every patient on TB treatment is a recommendation by NICE and the commissioning toolkit. This function provides a point of contact for patients who have concerns or need assistance during their period of treatment.

This situation in Maidstone is an area of potential **high risk** as there is no facility for supporting compliance or undertaking effective contact tracing. There is very limited capability to respond to an outbreak.

This has already been highlighted by the consultant physician at Maidstone hospital and the Director of Kent Health Protection unit as a matter of great concern.

8.7 Diagnostics

8.7.1 Diagnosis of TB infection comprises clinical examination, radiology and microbiology services. All respiratory outpatient clinics have access to immediate radiology enabling rapid assessment of suspected TB cases.

8.8 Interferon gamma testing

8.8.1 Microbiology services in West Kent are able to provide only a partial service pertinent to TB. At present there is no facility to provide interferon gamma testing. This is a relatively new technology which assists in the diagnosis of TB. It is more accurate than mantoux² testing and is recommended by NICE as a second line investigation in those with positive Mantoux in order discriminate between those with infection from those with previous vaccination or exposure to non pathogenic mycobacteria.

8.8.2 Currently interferon gamma testing is undertaken by labs outside Kent at a cost of approximately £160 per test. Therefore the test is used sparingly potentially resulting in a number of patients being inappropriately treated for latent TB, which could be avoided if the test was used more liberally in accordance with NICE guidance. Providing the test in house could result in significant savings both in financial terms and in preventing patients being prescribed unnecessary lengthy treatment.

8.8.3 A subgroup of the TB forum has been reviewed this issue and recommends that interferon gamma testing is provided in one or two laboratories for the whole of Kent.

8.9 Contact Tracing

8.9.1 The response to a case of active TB consists of clinical management of the individual and identification and investigation of close contacts³.

² Mantoux tests identify individuals who have been exposed to TB. Tuberculin proteins are injected under the skin and the local immune reaction is measured 3 days later. A positive result can be due to previous BCG vaccination or exposure to non pathogenic mycobacteria and therefore false positives are not uncommon.

³ A close contact is defined as those who share a bedroom, kitchen, bathroom or sitting room with the index case.

8.9.2 The rationale for contact tracing is

- to identify and treat infected individuals
- to offer BCG vaccination to those not infected but eligible for vaccination.

8.9.3 Both of these activities require a coordinated approach between secondary and community care. NICE recommends that the TB service should include specialised nurses and health visitors, and that each patient should have a named key worker responsible for supporting the individual in complying with treatment. These mechanisms help to ensure a patient centred approach to treatment, which leads to improved compliance and effective public health management.

8.9.4 The figures for the number of active cases per hospital have already been described. However figures regarding the numbers of contacts screened is more difficult to estimate. In 2007 the TB nurse in DGS saw 133 contacts in outpatients, this figure does not include those identified but not seen. However the number of contacts to be seen is very much dependant on the risk factors associated with the active case, for instance a case of TB in a healthcare worker could result in a very large number of contacts requiring screening, therefore this figure should be treated with caution. Nevertheless it provides an indication of activity attached to this role. It should be noted that each contact will require a varying level of input from initial screening through to treatment of those diagnosed with active or latent TB.

Without access to community healthcare support, there is limited scope for ensuring that all contacts are followed up particularly those who default on outpatient appointments and that assistance is given to those undergoing treatment whose life circumstances may compromise their compliance with treatment.

8.10 Directly observed treatment

8.10.1 Directly observed treatment (DOT) is a WHO initiative designed to improve compliance with TB treatment programmes. Individuals are supervised in taking their medication to ensure the correct dosage and frequency of medication. In the UK, DOT is usually reserved for those who are assessed to be at risk of poor compliance, this may be due to erratic or difficult personal circumstances for example. In order to determine whether DOT is appropriate a risk assessment is undertaken, this may be simply through out patients or may require a home visit.

8.10.2 At present there is not a formalised risk assessment process in any locality although consultants will take a view during the outpatient appointment. The TB nurse in DGS is able to visit the individual and gain an holistic view of their circumstances. This facility is not available in the other localities.

Table 5 Compliance risk assessment and DOT provision by locality

	Risk assessment	DOT
Maidstone Weald	Undertaken by consultant in outpatients	Last patient requiring DOT was admitted for 14 weeks for this purpose
Dartford, Gravesham and Swanley	Undertaken by consultant in outpatients plus TB nurse in community	TB nurse in community
Southwest Kent	Undertaken by consultant in outpatients	District nurses are able to provide if necessary

8.10.3 As can be seen within West Kent there is limited capability to fully assess and where necessary provide DOT. This has led to unnecessary admissions and is an area of potential risk due to poor compliance which may lead to relapse or drug resistance.

8.11 Care pathways

8.11.1 Presently there are no formalised agreed care pathways for the management of TB infection or contact tracing in West Kent. However there are a number of resources available to inform the development of pathways. NICE guidance outlines recommended pathways and the Map of medicine TB pilot⁴ scheme makes available evidence based pathways for the management of TB cases.

8.12 Isolation facilities

Patients with suspected or known multidrug resistant TB who are admitted to hospital require admission to a negative pressure room for infection control purposes. Presently this facility is provided at Darent Valley Hospital where there are two negative pressure beds. There has been limited requirement for this facility, lack of negative pressure beds in all three localities raises questions regarding the infection control aspects of transporting patients between hospitals.

⁴ Map of medicine is an internet based resource for clinicians intended to provide access to evidence based clinical pathways. It is currently being piloted in Kent.

8.13 TB drugs

From 1st September 2007 medication for the treatment of tuberculosis is provided free of charge via TB clinics or Patient Group Direction (PGD) following amendment of the NHS (Charges for drugs and appliances) Regulations 2000 (the Charges Regulations). This was introduced as it was felt that the prescription charges attached to a prolonged course of treatment would act as a barrier to completion resulting in an increased risk of drug resistance, a situation which would be far more costly to the NHS. As FP10 prescriptions cannot be used under this directive only applies to prescriptions supplied by Trusts or PGD.

TB services therefore must ensure that medicines management is included in the commissioning process and that where necessary services can supply medicines under PGD.

8.14 Summary

- **TB nursing provision varies markedly between localities**
- **Maidstone has no access to TB nursing service support**
- **TB services work in isolation and there are no arrangements for cover during leave**
- **There are no community based TB services to support case management in Southwest Kent or Maidstone localities**
- **Interferon gamma testing is provided by laboratories outside Kent which is expensive and prevents its usage in accordance with NICE guidance**
- **There are no formalised care pathways for case management**

Recommendation

TB specialist nursing is commissioned to cover all three localities providing a community based service

Care pathways are developed for the management of active TB and contact tracing

Appropriate administrative support is provided to TB services.

Interferon gamma testing is provided in Kent.

Commissioned services include medicines management

9. TB PREVENTION

9.1 BCG Vaccination

9.1.1 Primary prevention of tuberculosis in the UK is achieved in terms of a risk based BCG (Bacille-Calmette-Guerin) vaccination programme. The vaccination was introduced in 1953 and the programme has been adapted over time to reflect the changing epidemiology of the disease in the UK.

9.1.2 Until 2005 BCG vaccination was offered to all school children aged between 10 and 14 years which was enhanced by neonatal vaccination of babies born to parents from high prevalence countries. However in 2005 the universal school programme was stopped and current vaccination policy is a risk based programme of vaccination.

BCG should be offered to:

- All infants (aged 0 to 12 months) living in the UK where the annual incidence is 40/100,000 or greater
- All infants (aged 0 to 12 months) with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater
- Previously unvaccinated children aged 1 to 16 years with a parent or grandparent born in a country where the annual incidence of TB is 40/100,000 or greater. These children should be identified at suitable opportunities
- Previously unvaccinated tuberculin negative contacts of cases of respiratory TB (NICE guidelines offer comprehensive management guidance for this scenario)
- Previously unvaccinated tuberculin negative new entrants, under the age of 16 years who were born in or have lived for a prolonged period (at least 3 months) in a country with an annual TB incidence of 40/100,000 or greater
- Individuals at occupational risk should be assessed as to their likely exposure to TB and if under 35 years and tuberculin negative should be offered the vaccine. Groups include healthcare workers, laboratory staff, veterinary and other animal husbandry staff who work with animals susceptible to TB, prison staff, those working in elderly care homes and staff in hostels for the homeless or asylum seekers and refugees.

Immunisation against infectious disease – The Green Book 2006¹

9.1.3 In practical terms vaccination is provided via:

- Selective neonatal vaccination programme
- Opportunistic identification of children at risk aged between 1-16 years
- Occupational vaccination
- Travel vaccination
- Vaccination of new entrants from high incidence countries

9.1.4 Effective vaccination programmes should have:

1. Systematic identification of at risk population

2. Agreed referral pathways
3. Dedicated provision of vaccination service
4. Systematic recording of vaccinations given
5. Recall system for non-attenders

9.2 Neonates and children under 16 years

9.2.1 As a low incidence area Kent provides a risk based neonatal vaccination programme. Ideally babies should be identified in the antenatal period in order that they can be vaccinated soon after birth. Although measures are being taken to ensure a systematic identification of at risk babies there are no figures available to indicate how successful the current programme is.

9.2.3 Previously unvaccinated older children with specific risk factors for TB who would formerly have been offered BCG through the schools programme, should be identified at suitable opportunities and vaccinated if appropriate. Appendix A describes a framework for opportunities to identify, test and vaccinate people eligible for BCG vaccination. However it should be noted that with the new health visitor model, HVs no longer carry out immunisations and are unlikely to see all children at immunisation points.

9.3 Neonatal BCG vaccination services in West Kent.

9.3.1 In West Kent each locality has a different system for provision of neonatal BCG. Although work is underway to improve the identification of eligible neonates in the antenatal period, the current situation is ad hoc and reliant on individual practitioner's awareness of the need and the eligibility criteria for vaccination. Failing to identify and vaccinate at risk children potentially leaves them exposed to TB infection.

9.3.2 It is not possible to determine the effectiveness of the current programme. Estimating the level of need for neonatal vaccination is problematic. Although certain ethnic groups may have a higher proportion of eligible children, the eligibility criteria are determined by place of birth of parents or grandparents, not ethnicity. The number of births in high risk ethnic groups may give an indication of the level of need but the figures should be treated with caution. Likewise the numbers of referrals for BCG vaccination identify the current level of demand but in part that is determined by health care professionals recognising the need for BCG vaccination in an individual.

9.3.3 The following table summarises the arrangements for neonatal BCG. Neonatal BCG requires a single appointment, i.e. there is no requirement for prior Mantoux testing. Figures provided are from data collected by the TB services, these are not necessarily formally recorded.

Table 6 Neonatal BCG vaccination services and activity for 2007

Locality	Provider	Referral source	Clinics provided	No of referrals Per annum	No BCGs given
DGS	TB nurse at GCH	Maternity IT manager	Weekly dedicated clinic.	Approx 900 in 2007	404 in 2007
Maidstone Weald	Paediatric team at MH	Midwives, health visitors, GPs	Weekly dedicated clinic	unknown	Unknown but present capacity for 4 per week with no waiting list
Southwest Kent	TB nurse at K&S	Midwives, HVs and GPs	2 clinics per month for all paediatric TB services	unknown	78 neonatal BCGs given in 2007

9.4 Dartford, Gravesham and Swanley

9.4.1 Neonatal vaccination is provided by the TB nurse in the neonatal BCG clinic held at Gravesham Community Hospital on Monday mornings. The clinic has capacity to see 20 babies. In 2007, 900 babies were referred for BCG vaccination, 404 vaccines were given. Approximately 300 (30%) infants did not attend for their appointment. Presently there are 226 infants on the waiting list and insufficient capacity within the current arrangements to address this resulting in the waiting list increasing month on month. Few babies are vaccinated within the neonatal period (0- 28 days) with many not receiving the vaccination until they are over 4 months of age. A bank nurse is currently employed to address this bringing the wait down to around 5 weeks however this is only a short term solution.

9.4.2 The reasons for such high non attendance rates have not been thoroughly investigated however verbal comments to staff have included the availability of only one clinic site, and the long waiting list.

9.5 Maidstone Weald

9.5.1 Neonatal vaccination is provided by the paediatric service at Maidstone Hospital. Previously babies were seen on an ad hoc basis on the postnatal ward, however there is now a clinic based on Romney Ward where a

maximum of 4 babies are seen per session. There is currently no waiting list and reportedly very few non attenders.

9.6 Southwest Kent

9.6.1 Neonatal BCG is provided by the TB nurse based in the Kent and Sussex hospital. Infants are referred from midwifery, health visitors and GPs and are accommodated within a clinic held twice a month for paediatric screening and vaccination. There is a minimal wait for an appointment however the clinic is held in adult respiratory outpatients which may not be the ideal environment in which to bring a neonate.

Table 7 Options for provision of the selective neonatal vaccination programme

Option	Pros	Cons
No change	No additional investment	Difficult to ascertain effectiveness Supply is not meeting demand Uptake varies across localities
TB service provides neonatal programme	Provided by skilled nursing staff trained in BCG vaccination who perform the procedure regularly Clinics could be provided in the community	Current capacity is insufficient Requires additional investment in staff Potential waiting time pending referral
Midwifery/ Paediatrics provide neonatal BCG prior to discharge following delivery	BCG provided immediately Identification of at risk babies and provision of vaccination undertaken by same provider	Requires training of staff May be difficult to maintain skills if too few babies seen by individual staff Follow up of home births may be problematic

9.7 Options for selective neonatal BCG provision

9.7.1 The above table outlines options for provision of the neonatal vaccination service. A review of the literature only highlights midwifery led programmes, these have been shown to be effective in increasing neonatal BCG uptake rates^{5 6 7}, however this would require buy-in from maternity staff

⁵ Wroe A, McKeever C, Thackray S et al. Improving the selective neonatal BCG programme. *Public Health Nursing*. 2006;**24**:60-65

and in areas where few babies require BCG maintaining skill sets could be problematic. An appropriately staffed TB service could also provide a good service. Certainly the present situation in DGS is failing to meet current need and requires review.

9.8 Year 9 BCG vaccination programme

9.8.1 In Kent following the neonatal programme the next systematic childhood BCG programme occurs among children in Year 9. It should be noted that for all 3 localities children identified as at risk and therefore eligible for BCG are referred to the TB service rather than to paediatrics.

9.8.2 The Year 9 programme is in its second year and is a programme coordinated by the school nurse service. All children within Year 9 are sent a letter for their parents to complete which outlines the programme and determines their risk based on where they were born and where their parents or grandparents originate from. The forms are returned and those identified as at risk are given an appointment in a community clinic with the school nurse for Mantoux testing and BCG vaccination as required.

9.8.3 At present the child health information system does not contain data advising the number of BCG vaccinations offered or given. However this is being rectified. Anecdotally the clinics are well attended with low DNA rates. This may in part reflect the choice of clinic and appointment which the school nurses are able to offer. Those who do not attend are offered a further appointment.

Table 8 Year 9 BCG programme for West Kent by locality

Locality	Clinics provided	Total Year 9 population	No offered vaccination (2007)	Total given vaccination (2007)
DGS	Swanley Gravesend	Tbc	75 in Gravesend and Swanley however this is likely to be an underestimate as some were previously carried out in the TB clinic ?Dartford	tbc
Maidstone Weald	Cranbrook Maidstone Aylesford Molehill Copse	Approx 3500	99 identified as high risk	53
Southwest Kent	Tbc	Approx 2800	200	175

⁶ Gill J, Scott J. Improving the uptake of selective neonatal BCG immunisation. *Commun Dis Public Health*. 1998;**1**:281-2

⁷ Athavale D, McCullough S, Mactier H. Implementing the new BCG vaccination guidelines – a maternity hospital-based clinic approach. *J Public Health*. 2006;**28**:133-136

9.9 Limitations of current programmes

9.9.1 In West Kent there are 2 childhood BCG programmes. The Year 9 catch up programme despite some minor teething problems appears well coordinated and well attended. However the neonatal programme is highly dependant on the identification of at risk babies, provision is variable as is demand for the service. The service in DGS presently has insufficient capacity evident in the length of the waiting list, the service is inefficient with a high DNA rate and on the service does not appear to be responding to the needs of the patients.

9.9.2 The identification of children who have not received the BCG during their first year but are too young for the year 9 programme is ad hoc. Although referrals are received from primary and community care it is unclear how successful this system is and without having an identified denominator population it is not possible to gauge how many children in this age band at risk of exposure to TB have not been vaccinated.

9.10 Occupational screening and vaccination

9.10.1 The Green Book recommends that BCG vaccination is considered for those working in areas where their risk of exposure to TB is high.

9.11 Healthcare workers

9.11.1 This includes healthcare workers. All new healthcare workers are to be screened for TB, this includes determining whether they have had exposure to TB, and whether they have had a tuberculin skin test and/ or BCG vaccination. The provision of OH services for healthcare workers in West Kent is summarised below.

Table 9 Occupational health provision for healthcare services in West Kent

	OH provider
Acute Trusts	OH Dept in the Acute Trust
PCT employees	Darent Valley Hospital OH dept, or Trust HQ, Kingshill, West Malling
GPs and Dentists	Heales Medical Ltd – private OH provider contracted by PCT
Locum GPs	Dependant on agency used

9.11.2 As highlighted by a recent case of TB in a healthcare worker in East Kent ensuring adequate screening mechanisms are in place is vital.

9.12 Prison staff

9.12.1 Prison staff are also eligible for BCG vaccination. PCTs are now responsible for commissioning prison health services. Occupational health is currently provided by the Prison services, however it may be pertinent to ensure that this aspect is incorporated into commissioning agreements to protect not only prison staff but also offenders.

9.12.2 There are 3 adult prisons in West Kent. Maidstone prison which is a category C closed prison, East Sutton Park which is a women's open prison and Blantyre House which is a category C/D resettlement prison. None of the prisons take individuals directly from police custody and therefore undertake only an abridged health screening on entry. A full questionnaire based screening process should be undertaken at their initial prison which may or may not have covered questions specific for TB. Blantyre House and East Sutton park offer in depth well man/ well woman assessments but again there is no specific mention of TB. Individuals have been referred for BCG at the local chest clinic if it is felt they fulfil the criteria however there is no routine practice to identify such individuals.

9.13 Travel Vaccination

With the removal of the universal school BCG programme and the increasing foreign travel, it is likely that there is increased demand for travel related BCG. Current advise is that only those under 16 years travelling to a high incidence area for 3 months or more are eligible. It is not possible to get good data regarding the demand for travel related BCGs in West Kent, however this element of TB prevention should not be overlooked on commissioning of services.

9.14 Health promotion

9.13.1 Although part of the TB nurse job description, current capacity demands that clinical care takes precedence over health promotion. Raising awareness of TB particularly amongst health and social care workers and risk groups is an important aspect of its public health management. At present there is limited and geographically specific resource for this element of prevention and effective management.

Recommendations

A uniform care pathway is developed for the neonatal BCG vaccination across West Kent

Raise awareness among midwives, GPs and health visitors regarding the risk criteria for BCG

Evaluation of the Year 9 programme

GP practices ensure locum staff have received appropriate occupational screening before employment

Prison staff are assessed for BCG eligibility

Offenders receive appropriate screening for TB on detention

Travel vaccination provision is considered part of the TB service

10. NEW ENTRANT SCREENING

10.1 Background

10.1.1 New entrants are defined as those recently arrived in or returned to the UK from high incidence countries⁸.

10.1.2 The aim of screening new entrants is to:

- identify individuals with active TB and start treatment
- identify individuals with latent TB and start treatment
- provide BCG vaccination to those in high risk groups who are not infected and who are previously unvaccinated
- provide relevant information to all new entrants

10.1.3 NICE recommends that new entrants should be identified for screening from a variety of sources and should be incorporated into wider health screening programmes for new entrants linked to local services.

- port of arrival reports
- new registrations with primary care
- entry to education
- links with statutory and voluntary groups working with new entrants

10.2 Port health review

10.2.1 In 2006 a review of Port Health was undertaken following the creation of the Health Protection Agency, the changes to the International Health Regulations and in response to the increasing international travel and the burden this placed on port health.

10.2.2 A review of the effectiveness of screening for TB at ports found that of around 270,000 people entering the UK for more than 6 months from high incidence countries only 68% were referred by the immigration services for medical examination. Of these 73,000 were x-rayed and only 90-100 cases of active TB were diagnosed. The review found marked inconsistencies in Port Health provision, however given the above figures even if all new entrants were screened it is likely that only around 150 cases would be picked up which is relatively small compared to an annual incidence of around 8000 cases. The evidence presented by the review and supported by economic modelling by NICE suggested that one off entry screening is not cost effective and had little public health benefit.

10.2.3 As detailed above, NICE guidance incorporates the identification of new entrants who could benefit from BCG vaccination⁹. This requires

⁸ High incidence countries are those with more than 40/100 000 cases per year. See 'WHO country data TB' at www.hpa.org.uk.

mantoux skin testing with subsequent follow up, a facility that is not practicably based within a port of entry.

10.3 Port health referrals

10.3.1 At present, the Immigration Service identifies those from high incidence countries and sends their details to the relevant local health protection unit depending on the address given by the entrant. Dependant on local arrangements, the HPU refers these individuals to the appropriate service for clinical assessment.

10.3.2 In 2007 the HPU received 1033 referrals from Port health. It should be noted that referrals were only received from Gatwick or Heathrow, therefore these figures do not reflect new entrants who arrive in Kent from other parts of the UK or via other ports of entry located in Kent. Each locality received approximately equal numbers of referrals.

Table 10 Port health referrals received by Kent HPU for West Kent 2007

Locality	Total no. of port health referrals to KHPU for 2007	No of new entrants seen by TB service
Maidstone Weald	381	unknown
South West Kent	299	Approx 25 seen. Number referred unknown
DGS	353	353 offered appointments 52 attended clinic

Source: Kent Health Protection Unit and TB services

10.4 New entrant screening in West Kent

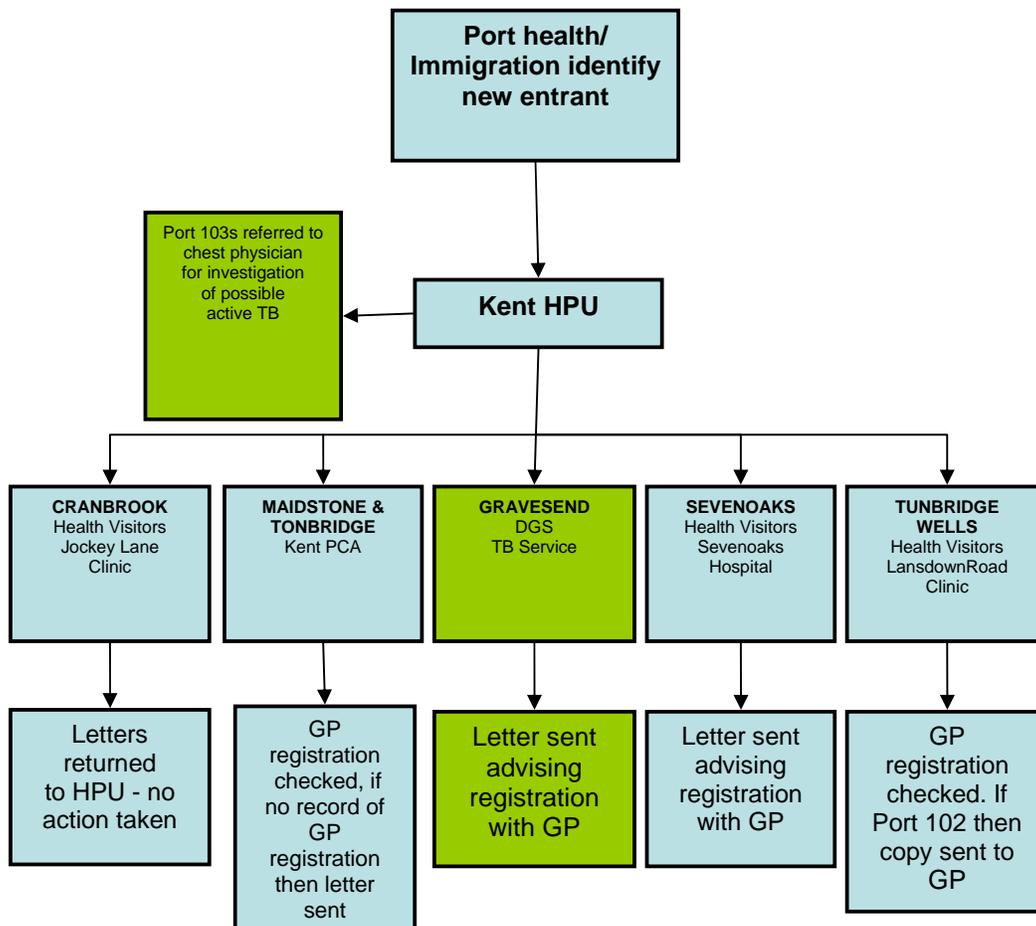
10.4.1 In Kent there is no coordinated new entrant screening programme. Referrals received by the HPU are sorted into those who require immediate medical assessment for suspected TB and those from high incidence countries who should be screened. Those with suspected TB on entry are referred by the HPU to the chest physician, the rest are referred to a variety of services who then write to the individual advising that they register with a GP.

⁹ NICE recommends BCG vaccination in those aged under 16 years from high incidence countries who are tuberculin skin test negative OR aged 16-35 years from sub-Saharan Africa or a country with incidence >500/ 100 000

10.4.2 Figure 4 outlines the current system for dealing with port health referrals in West Kent. In DGS all new entrants referred from the HPU are sent an appointment with the TB nurse for assessment. In the other 2 localities the current mechanism is to simply advise the individual to register with a GP, in fact the Cranbrook service simply returns the forms directly to the HPU, the reasoning for this remains elusive, but means that there is no mechanism for advising new entrants in this area.

10.4.5 Neither system appears to address the issue of ensuring that the individual is engaged with primary care and screened/ monitored. The current system in DGS is highly inefficient, of the 353 port health referrals in 2007 only 52 attended for screening which amounts to a huge waste of clinic time. The reasons are likely to be multiple in that addresses may be incorrect, the individual may not understand the letter received from the clinic or indeed may not appreciate an unsolicited invitation for screening. However the current alternative of simply sending a letter to the individual advising they register with a GP does not ensure that on registration the individual is identified as a new entrant and requires further assessment.

Figure 4 Referral pathway for new entrants identified to Kent HPU.



10.4.6 New entrants requiring screening are referred to the TB service in each locality. It is not possible to determine the level of referrals to either Southwest Kent or Maidstone Weald TB services, as there is no system to record this data. Anecdotally the DNA rate is relatively high for each locality.

10.5 Asylum seekers

10.5.1 Asylum seekers and refugees may arrive in the UK from high incidence countries. Some enter via legitimate means however others may not declare themselves and therefore not make contact with healthcare services fearing deportation. Anecdotally they may also find registration with GPs problematic. Ensuring that these individuals have access to primary care is important for all aspects of healthcare not just TB.

10.5.2 In West Kent there are 2 centres for unaccompanied juvenile asylum seekers and refugees. These are located in Cranbrook and Gravesend under the Appledore project. Children are received at the Cranbrook Centre which has capacity for 23 juveniles. The centre is a temporary assessment facility for those awaiting social services assessment and placement. Extra demand led to the opening of the Gravesend centre however all juveniles are channelled through Cranbrook. Primary care is provided by a local GP, who has a weekly clinic but is available for urgent primary healthcare, however there is no facility for TB screening despite the need being recognised by the centre staff.

10.6 Summary

10.6.1 West Kent does not at present have a robust system of ensuring new entrants including asylum seekers and refugees, are identified and screened. There are various options for provision of screening however it is vital that all areas of healthcare which may come into contact with new entrants are made aware of how to provide or commission screening.

10.6.2 Table 11 outlines options for provision of TB screening services. However these should also be considered in the context of the other health care needs of new entrants. Also consideration should be given to the language and cultural needs of this heterogeneous community.

Table 11 Options for new entrant screening

Option	Pros	Cons
<p>Port health referrals sent to TB service in secondary care</p>	<ul style="list-style-type: none"> • Expert resource • All identified new entrants referred For screening 	<ul style="list-style-type: none"> • Potential high DNA rate • Expensive as charged at tariff • No engagement with primary care • Only those identified by port health referred
<p>New GP registrations screened in primary care</p>	<ul style="list-style-type: none"> • Enhances awareness of TB in primary care • Captive audience • Opportunity for addressing other aspects of migrant health 	<ul style="list-style-type: none"> • Expensive as relies on additional payments to GPs • Reliant on opt in of GPs • Reliant on new entrants registering with GP • Potentially small numbers per practice unless referred to central screening centre
<p>PCT based screening programme</p>	<ul style="list-style-type: none"> • Could be direct referral from port health or through primary care • Expert resource • Service can be placed in areas of greatest need 	<ul style="list-style-type: none"> • Requires additional investment in TB service • Need to ensure links with primary care

Recommendation

A new entrant screening care pathway is developed.

New entrant screening service is commissioned.

11 SUMMARY OF TB SERVICE PROVISION IN WEST KENT

11.1 West Kent is an area of low TB incidence with approximately 40 cases per year occurring in West Kent residents. However with changing population structure this picture can change rapidly.

11.2 TB services in West Kent are based on historic arrangements and are inconsistent and inequitable across localities. Presently there are significant gaps in service provision, particularly in the Maidstone area where there is a complete absence of TB specialist nursing support.

11.3 Current TB service arrangements are working beyond capacity and have limited sustainability.

11.4 Despite being an area of low incidence, the populations at risk of TB are entitled to an effective service which should incorporate preventive services and treatment programmes working across the primary, community and secondary care interfaces.

11.5 Increased awareness of TB risk amongst healthcare workers particularly in primary and community care is essential in order that the needs of the population are recognised and addressed.

11.6 TB services are not currently commissioned by the PCT. Therefore there is opportunity to reappraise the structure of current services, in order to commission a service which is responsive to need and meets current standards outlined by NICE and the Department of Health.

Recommendations

A TB commissioning lead is identified for the PCT.

A clinical lead is identified for the TB service with overall responsibility for the diagnosis and management of TB and is the point of contact for commissioners.

A service level agreement is devised for the provision of TB services between the PCT and Acute Trusts.

TB specialist nursing is commissioned to cover all three localities providing a community based service

Care pathways are developed for the management of TB cases and contact tracing

Appropriate administrative support is provided to TB services

Interferon gamma testing is provided in Kent

Commissioned services include medicines management

A care pathway is developed for the neonatal BCG vaccination across West Kent

Raise awareness of TB among health care workers and at risk groups

Raise awareness among midwives, GPs and health visitors regarding the risk criteria for BCG

Evaluation of the Year 9 programme

Healthcare providers ensure locum staff have received appropriate screening before employment

Prison staff are assessed for BCG eligibility

Offenders receive appropriate screening for TB on detention

A new entrant screening pathway is developed

New entrant screening service is commissioned

APPENDIX A

Opportunities to identify, test and vaccinate people eligible for BCG vaccination

Department of Health August 2005 – Operational notes to profession Changes to BCG Vaccination Programme in England

Hall 4¹⁰ provides a framework around which local BCG services can be structures to ensure that all eligible infants not vaccinated in delivery units at birth can be identified and referred for BCG vaccination at the earliest opportunity and before they reach the age of one year.

For children aged 0 to 12 months

Antenatal check – Midwives – identification of future need for BCG; notes marked, information sheet given to mother

At birth – Midwives – notes marked appropriately

10 days – Midwives/ Health visitors – refer to community BCG clinic or BCG given by primary care immunisation team

6-8 weeks – postnatal check – Health Visitor/ General Practitioner – refer to community BCG clinic or BCG given by primary care immunisation team

8 weeks – primary immunisations – Practice Nurse/ Health Visitor - refer to community BCG clinic or BCG given by primary care immunisation team

12 weeks – routine immunisations – Practice Nurse/ Health Visitor - refer to community BCG clinic or BCG given by primary care immunisation team

16 weeks – routine immunisations – Practice Nurse/ Health Visitor - refer to community BCG clinic or BCG given by primary care immunisation team

12 months – routine MMR – Practice Nurse/ Health Visitor – refer to community BCG clinic or BCG given by primary care immunisation team (Note – BCG can be given at the same time as other live vaccines, otherwise they must be given at least 4 weeks apart

For children aged over 12 months

2,3 or 4 years – Health reviews – Health Visitor/ GP – refer to community BCG clinic or primary care immunisation team

School checks (if done) – School Nurse

Any time – new entrant screening; contact screening and overseas travel advice

¹⁰ Hal D, Elliman D. Health for All Children 4th Ed. Oxford University Press, December 2002
