British Thoracic Society
Impact of COVID-19 on Tuberculosis Services in the UK - Survey Report April 2022

Data Collection Period: August 2021-November 2021

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Summary

During the COVID-19 pandemic NHS England and NHS Improvement (NHSE&I) circulated guidance stating that TB services should be maintained. This was unlike most other respiratory or infectious conditions and provided the British Thoracic Society (BTS) with the opportunity to understand how COVID-19 had affected services that were continuing to operate during the pandemic. BTS carried out a survey over summer 2021 looking at the effects of the COVID-19 pandemic. 72 UK sites responded, with responses received from all English regions and the devolved nations, representing both high and low TB incidence areas.

94% of respondents had received advice from the NHS to continue TB services during the pandemic. 83% of the respondent's services were adversely affected by the COVID-19 pandemic. 85% said that face-to-face activities and latent TB screening of non-contacts were the areas most impacted. However, almost all aspects of TB service delivery were reported to be affected.

Support for remote working was cited as the most important assistance offered to services by employing organisations. At the time of the survey in August 2021 only 48% of TB services had returned to pre-pandemic levels of working, and 16% of services felt that although they had partially restored services, they were unlikely to return to pre-COVID-19 levels of activity. 32% of services felt the pandemic had had a detrimental effect on their TB service, such as loss of face-to-face appointments, loss of clinic space, loss of clinical capacity to see patients, and loss of staff in general.

Services noted the benefit of telephone consultations, and in many cases wanted to continue this. The survey highlighted the need to keep up to date contact lists of TB service leads to facilitate communication and dissemination of information, and to support high quality NHS-delivered care.

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Key Findings

TB services provide a crucial public health role, but were not always considered in local system resilience planning during the pandemic
Communications from national health bodies to local TB services across the UK were inconsistent during the pandemic and should be better co-ordinated
The development of remote consultations and monitoring of treatment were a positive outcome of this pandemic, but are not being implemented consistently and may not be sustainable in the longer term
There were disparities across the UK in the availability of TB drugs during this period, which need to be addressed

Introduction

Since March 2020, the healthcare system has managed waves of COVID-19 whilst attempting to maintain services for other urgent conditions wherever possible. Services have needed to cope with disruption caused by staff redeployment and sickness, self-isolation (of both staff, as well as patients too frightened to attend clinics), and changes to working patterns such as remote working. Disruption to tuberculosis (TB) services has been of particular concern – TB remains a public health priority, with an increased risk of infection transmission and active disease if the usual TB detection, control and management services are interrupted. Furthermore, TB services are run by infectious disease and respiratory specialists who were often also a key part of the local response to COVID-19.

Modelling studies of the effect of COVID-19 on TB care in a variety of other settings early in the pandemic suggested that there would be increases in TB incidence from COVID-19 related disruption (1). The WHO estimated that globally half a million more people would die from TB in 2020 alone (2), and modelling by the Stop TB Partnership suggested 1.4 million excess TB deaths globally would arise during 2020-2025 (3). This appears to be borne out: with a rapid reported decline in the number of new TB cases detected during the COVID-19 pandemic, though an increase in TB-related deaths (4).

NHS England and NHS Improvement (NHSE&I) circulated guidance stating that TB services should be maintained during the COVID-19 pandemic and that resilience of services must be included in emergency planning processes (5). Although similar information was not provided to other devolved nations, anecdotally, TB services across the UK were aware of the need to fulfil their public health obligation to keep TB services running. Given the NHSE&I directive, yet the significant challenges to patients trying to access services and staff delivering care, the British Thoracic Society sought to explore the experience of TB services following disruption caused by the first waves of COVID-19. This was important as the results were likely to represent a “best case scenario” for other respiratory and infection services that did not have a similar mandate to continue to provide NHS care. A national survey was developed for distribution to TB services, asking how services were affected by COVID-19. Its aim was to document the extent and distribution of any disruption caused, to share experiences, inform service recovery and allow planning to ensure future resilience.

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Methods

The survey questions were devised by the BTS TB Specialist Advisory Group (SAG) and launched in August 2021, after the second significant wave of COVID-19. Data collection closed in November 2021. The BTS TB SAG is a multi-professional and multi-disciplinary group with membership drawn from those working in TB from across the UK. The design of the questions was an iterative process among all TB SAG members with input from the BTS Quality Improvement Committee.

The on-line survey included 14 questions that asked about place of work (Questions 1-3) as well as specific questions on how the respondent's TB services were affected by COVID-19.

Survey questions:

- Q4. Did you receive guidance centrally from your devolved NHS/Public Health teams on continuing TB services during COVID-19?
- Q5. Were your TB services affected by COVID-19?
- Q6. If no, tell us why your services were unaffected by COVID-19?
- Q7. How did/has COVID-19 affected your TB service?
- Q8. Did your employing organisation provide the support you required to continue delivering TB services?
- Q9. If your employing organisation provided support not listed, please give details of the support you received
- Q10. Please describe the status of your TB services as of August 2021
- Q11. Please give further detail on when your TB services were restored / plan to be restored
- Q12. Are there changes as a result of COVID-19 that have been detrimental long term to your TB service?
- Q13. If you answered yes, please provide further details
- Q14. Thinking about modifying services, are there changes as a result of COVID-19 that you plan to maintain as part of your service. Please check all boxes that apply

The survey was sent by BTS to all TB service leads in the UK. The survey was also supported by the British Infection Association who sent it to TB service leads among their members, including the devolved countries' TB leads. In total 274 surveys were distributed by email.

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Results

Seventy-two (26%) of 274 TB services responded. These were from across the UK and represented both large and small TB services (Figure 1 and Tables 1 & 2).

Figure 1: Map showing the location of UK TB services responding to survey

Table 1: Number of responses by region

Region	Number of responses
England	55
Scotland	8
Wales	8
Northern Ireland	1

Table 2: Number of responses by Health Protection Team (HPT) region

HPT Region	Number of responses
East Midlands	2
East of England	1
London	7
NE	2
NW	12
SE	11
SW	11
W Midlands	7
Yorks + Humber	2
Scotland	8
Wales	8
Northern Ireland	1

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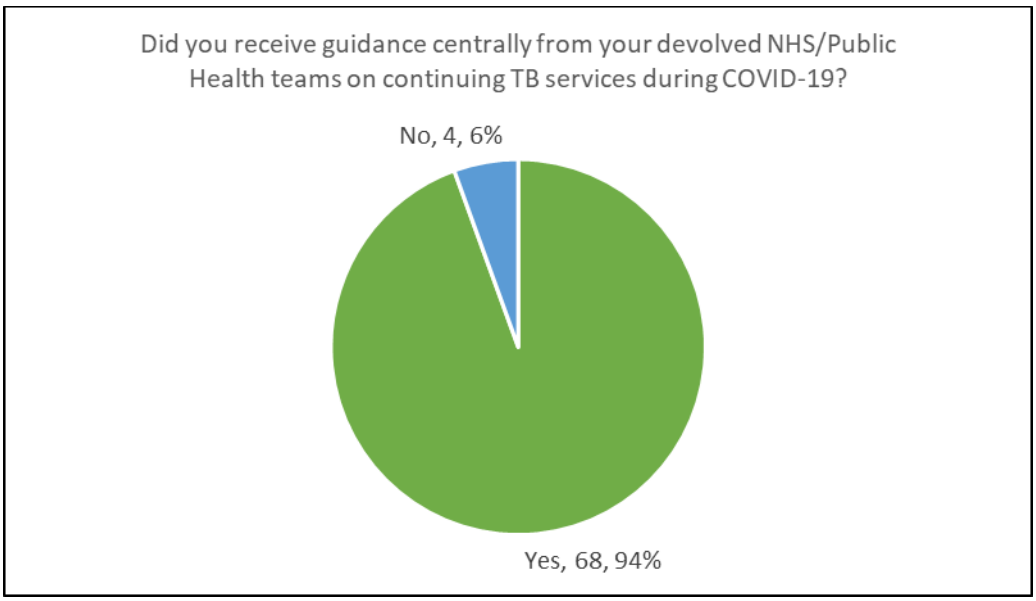
Q4. Did you receive guidance centrally from your devolved NHS/Public Health teams on continuing TB services during COVID-19?



94% of respondents reported receiving guidance from their devolved NHS/Public Health team. There were 4 services who responded 'no', they did not receive guidance, and of these, 3 were based in England and 1 in Scotland.

Q5. Were your TB services affected by COVID-19?

Were your TB services affected by COVID-19?	N	%
No	12	17%
Yes	60	83%
Total	**72**	**100%**

83% of responders felt their TB service was affected by COVID-19. Of the 12 responders who said their TB service was not affected, 9 were from England, 2 from Wales and 1 from Scotland.

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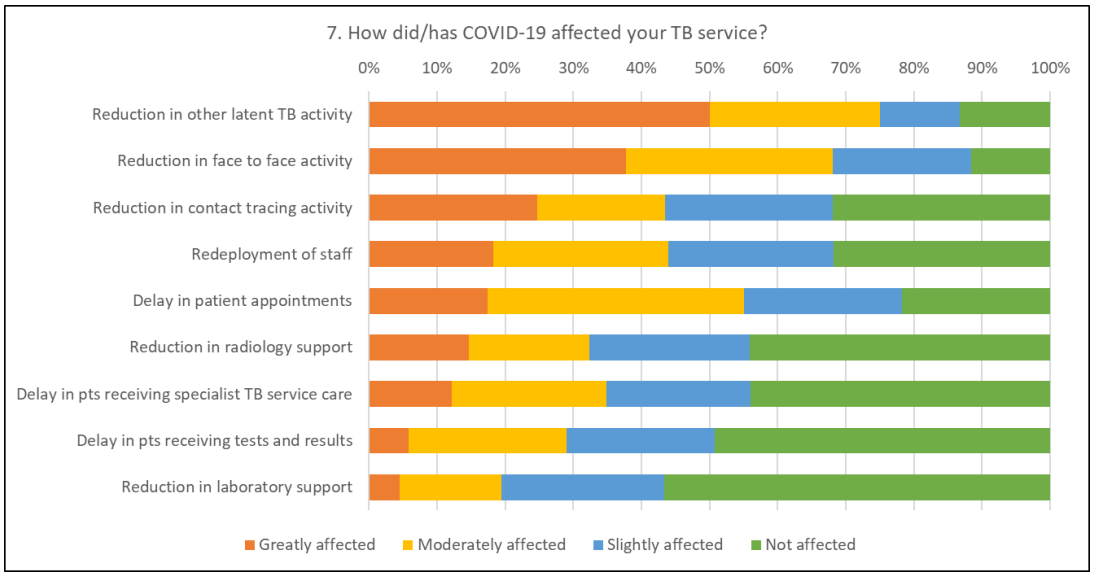
Q6. If your TB services were not affected by COVID-19, tell us why your services were unaffected by COVID-19?

Among the services reporting themselves to be 'not affected', particular themes could be identified:

- Many were TB services based in low TB incidence parts of the UK
- In some centres, the TB service was not affected because TB clinics were prioritised in a similar manner to cancer clinics.
- In one centre the TB service was not impacted because they opposed the local Executive plans to cancel clinics
- Different teams covered the TB service including locum cover or general respiratory nurses
- Several continued to deliver a service but not in the usual way; in particular they ran the service with a reduced team. Doctors were frequently covering COVID-19 and saw patients ad hoc or less frequently; nursing staff increased their skill set and activity, running clinics independently. In some cases, patients receiving DOTs were changed to VOT
- Despite saying "no affect", 2 sites had reduced new entrant screening

Q7. How did/has COVID-19 affected your TB service?



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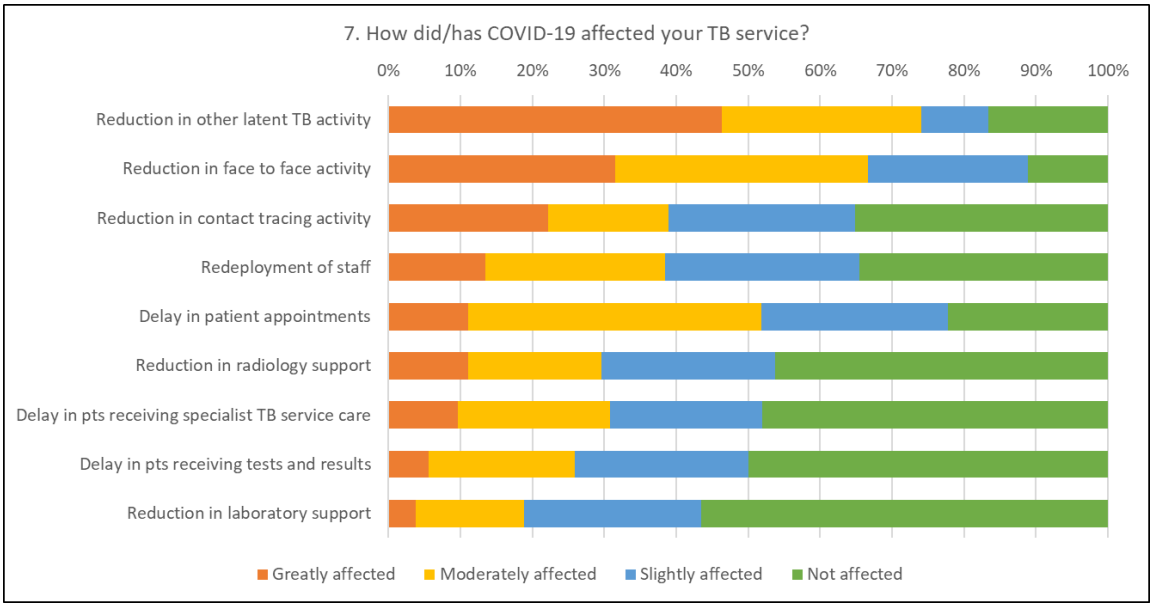
Key Points

- >85% of services reported the areas of TB service activity most affected by COVID-19 were 'other latent TB activity' (separate from 'contact tracing activity') and face to face activity, with 75% of responses describing reduction in 'other latent TB activity' as greatly or moderately affected, and 68% of responses describing reduction in face-to-face activity as greatly or moderately affected. Over 50% of services reported there being a moderate or great effect on future patient appointments.
- The least affected services were 'laboratory support' (57% not affected) and 'delay in patients receiving tests and results' (49% not affected).
- Although the numbers of responses from Wales and Scotland were significantly less than from England, 'other latent TB activity' was greatly affected for 66% and 57% of services in Scotland and Wales respectively, compared with 46% in England. Face to face activity was greatly affected for 71% and 57% of services in Scotland and Wales respectively compared with 32% in England. This is shown in more detail in Figure 2.
- Redeployment of staff and delay in patients' appointments were greatly or moderately affected in >80% of services in Scotland.

Figure 2: How COVID-19 affected TB services by region

England: n=55



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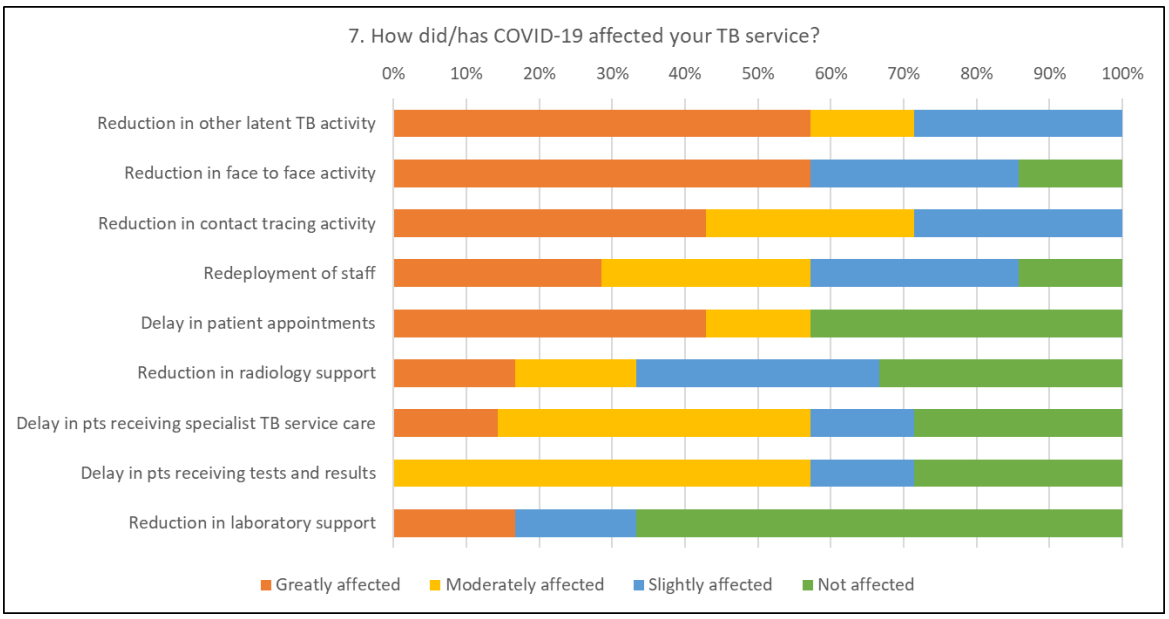
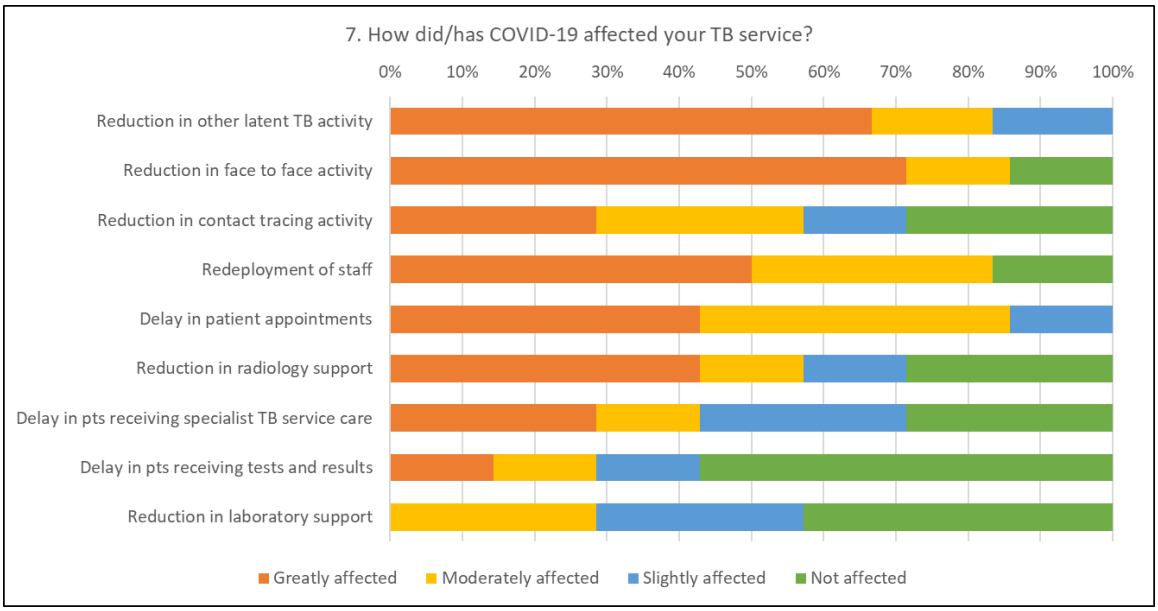
Wales: n=8



Scotland: n=8



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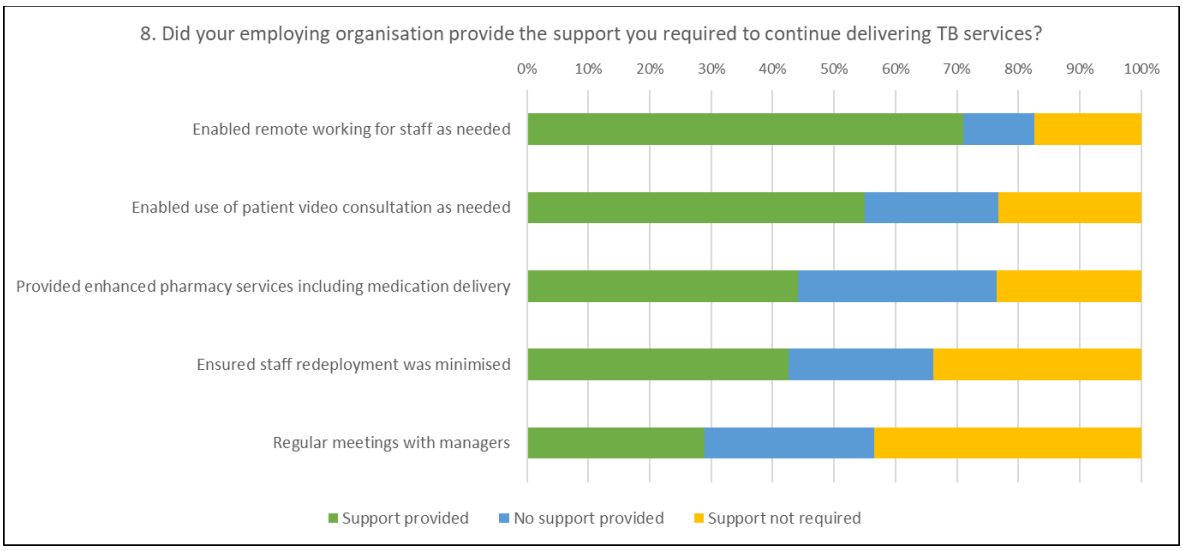
Q8. Did your employing organisation provide the support you required to continue delivering TB services?



Key Points

- Employing organisations most commonly provided support to enable remote working for staff as needed.
- In Wales and Scotland no support was provided for regular meetings with managers, and there was no support provided in ensuring staff redeployment was minimised. The difference between the support provided by the employing organisation varied between nation and is shown in more detail in Figure 3.

Q9. If your employing organisation provided support not listed, please give details of the support you received

Other support provided by employing organisations not listed in the pre-populated answers included:

- Well-being support
- Other respiratory consultants covering TB service activity where TB consultants were redeployed
- The Southeast England area provided the most support in enhancing pharmacy services including medication delivery (data/ detail not shown).

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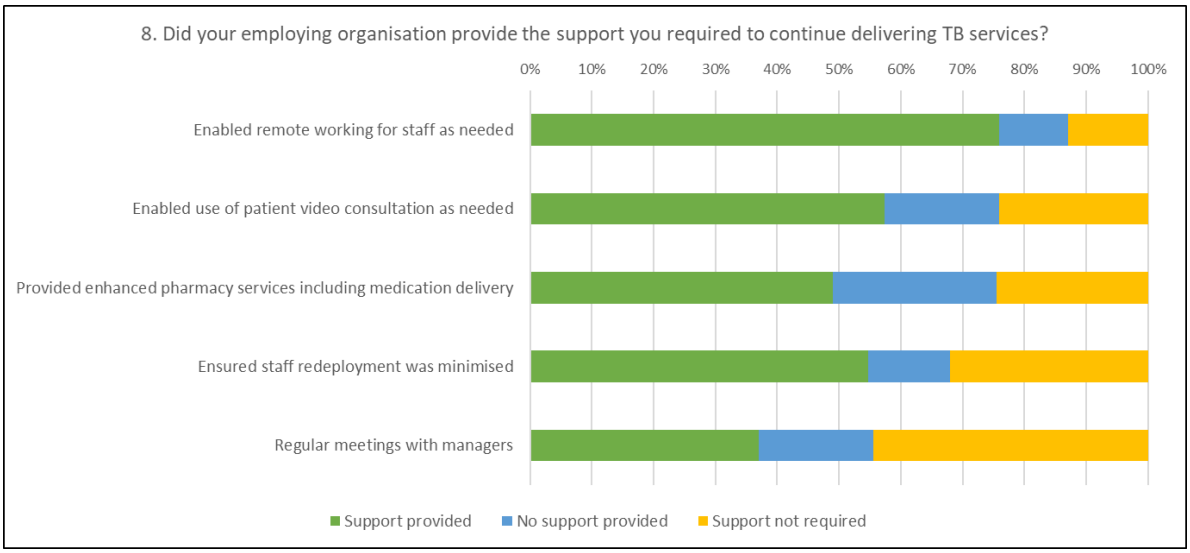
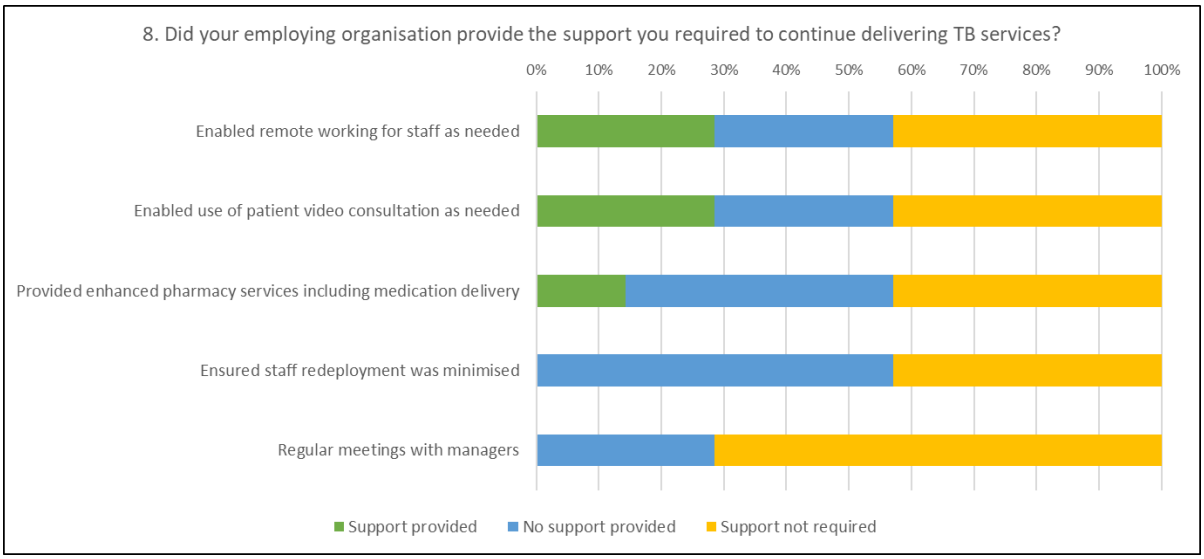
Figure 3: How employing organisation provided support to continue delivering TB services by regions

England: n=55



Wales: n=8



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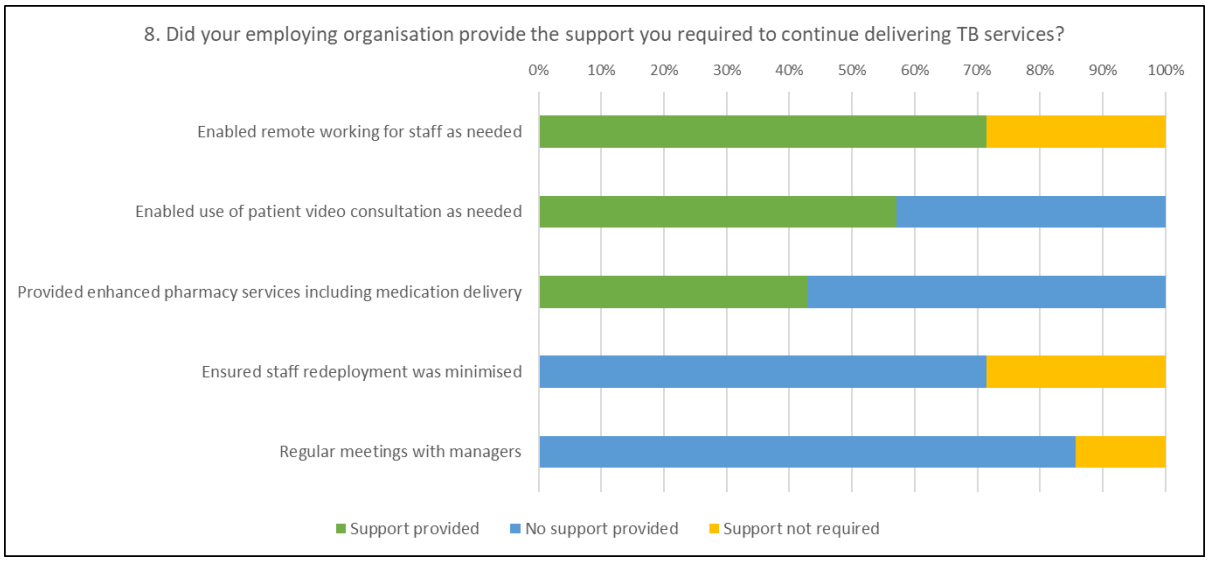
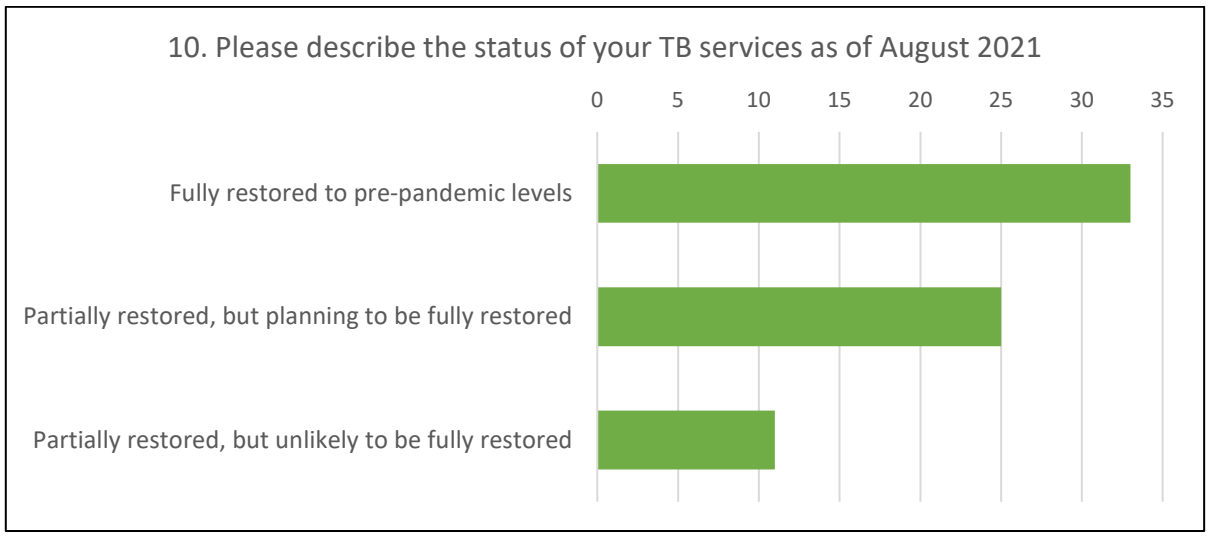
Scotland: n=8



Q10. Please describe the status of your TB services as of August 2021



Key Points

- As of August 2021, 48% of TB services were fully restored to pre-pandemic levels; 36% were partially restored, but planning to be fully restored
- 16% of services were partially restored but unlikely to be fully restored
- The status of services varied by regions and may in part reflect the different phases of the COVID-19 epidemic as it spread across the UK plus the different times that restoration of services was able to occur. Nevertheless 100% of Scottish TB services were only partially restored, with 43% unlikely to be fully restored

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Table 3: Status of TB service as of August 2021 by region

Status of TB services as of August 2021	England	Wales	Scotland
Fully restored to pre-pandemic levels	52%	71%	0%
Partially restored, but planning to be fully restored	35%	14 %	57%
Partially restored, but unlikely to be fully restored	13%	14%	43%
Service still suspended but plans to restore	0%	0%	0%

Q11. Please give further detail on when your TB services were restored / plan to be restored

Fully restored to pre-pandemic levels (35 services)	**Partially restored, but planning to be fully restored (25 services)**
Key Points/Comments: • Services that were not affected during the pandemic and kept going as normal • Mostly services that were restored to normal, including running latent TB and contact tracing services, new entrant screening and BCG clinics, were running again by Summer 2020	Key Points/Comments: • Services experienced difficulties in securing clinic space, as outpatient capacity reduced as a result of social distancing • Services using more remote ways of working with telephone and virtual clinics and fewer face to face consultations • Loss of TB nurses as a result of redeployment then resigned • The time doctors were able to give to TB service was affected by their commitment to COVID work • Fluctuating situation depending on demands of the acute Trust • Community TB screening suspended during both waves and not fully picked up • Back log created by stopping latent TB screening compounded by reduced capacity to see these patients making it slower to catch up • Reduced access to same day CXR facilities • New patients presenting with more advanced disease as a result of delays in seeing GP, referral to CXR • Delays with patients receiving medication

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Partially restored but unlikely to be fully restored (12 services)	**Service still suspended but plans to restore (No services)**
Key Points/Comments • Longstanding staff shortages: key business case shelved • Clinic capacity reduced as a result of lost clinic space and reduced face to face consultation resulting in longer waits to be seen • Lab services unable to provide TB PCR/Hain • TB service restored for Community Trust, but medical input remained virtual with inadequate IT support/interpreters	**N/A**

Individual comments

The greatest impact on the TB service has come from the prolonged and continued medicine supply issues which has put a stop to treatment of latent TB!

One full time CNS is currently on secondment in community with PHE. We have seconded another member of the wider respiratory team to learn specialist TB skills

Our TB nurse was redeployed in the first wave of the pandemic. At that time, we were treating only active TB and all latent TB treatment was delayed. TB services have otherwise continued since June 2020, however there are staffing issues locally which have been escalated. One impact of the pandemic is that patients have not been confident in accessing medical care and we are now dealing with a community outbreak. This has led to enhanced contact tracing, and we have once again delayed treating LTBI which impacts on treatment for healthcare workers and also those awaiting anti-TNF (to be put on our risk register)

Staff numbers restored but waiting list to catch-up BCG, new entrant screening

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Q12. Are there changes as a result of COVID-19 that have been detrimental long term to your TB service?

Are there changes as a result of COVID-19 that have been detrimental long term to your TB service?	N	%
No	47	68%
Yes	22	32%
Grand Total	**69**	**100%**

32% of TB services thought that changes as a result of COVID-19 had been detrimental long term to their TB service.

Q13. If you answered yes there are changes as a result of COVID-19 that have been detrimental long term to your TB service, please provide further details

The key points across all areas of the UK were

- A loss of clinical space that was difficult to regain, or alternatives could not be found
- Clinic capacity for face-to-face consultations was reduced as a result of social distancing rules
- Reduction in staff numbers especially nurses

Other comments included the following

- Increased workload especially for the nurses who covered for others including the doctors who were seconded to COVID-19 work, with resulting staff fatigue
- Delay in clinical presentation and onward referral
- Later presentations of TB resulting in more contact tracing
- Planned targeted screening exercises not taken place
- Altered clinic space that is less convenient and centralised booking resulting in more DNAs
- Loss in investigation capacity, including no same day CXR facilities, laboratory GeneXpert testing, one stop appointments to include phlebotomy

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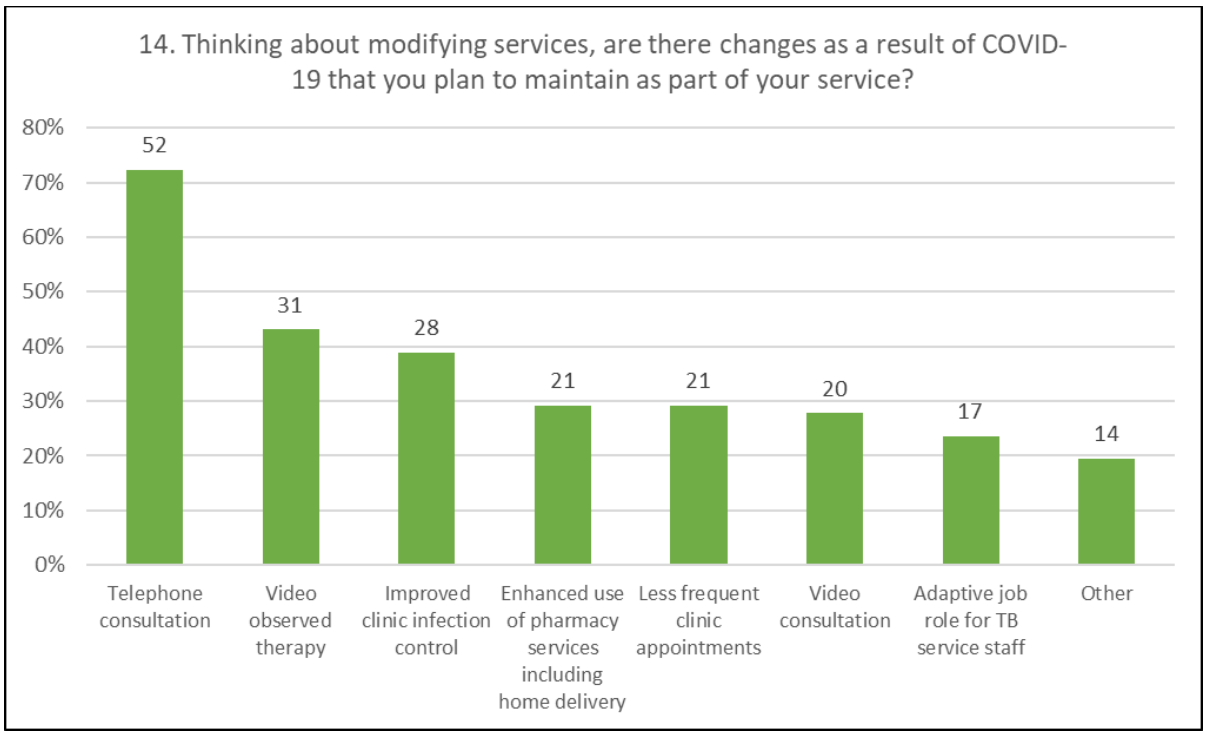
Q14. Thinking about modifying services, are there changes as a result of COVID-19 that you plan to maintain as part of your service?



Key Points

- The commonest change that services planned to maintain were telephone consultation, video observed therapy and improved clinic infection control
- The 'other' services responders planned to maintain were
  - Better use of IT for virtual MDT and recording, as well as remote decision making and communication
  - Different and more effective ways of delivering drugs or ensuring patients were supported to take their drugs in the community including electronic prescribing, TB specialist nurses making more home visits to support drug delivery; VOT; DOTS established in the community
  - Use of HEPA filters in TB clinics
  - As a by-product, closer working with hepatitis screening services

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Discussion

This report highlights the substantial and on-going impact of the COVID-19 pandemic on UK TB services in all devolved nations. The majority of respondents reported significant disruption, with only 48% stating that services had been fully restored by the summer of 2021, and nearly a third anticipating long-term detrimental changes to TB services as a consequence of COVID-19. This was particularly due to reductions in staff and clinic space. Preventative activities such as contact screening and latent TB treatment were also badly affected. Most respondents reported that their employing organisation provided the support needed to continue services. This included changes to enable remote staff working and consultation with patients, as well as an enhancement of pharmacy services to maintain patient access to care. Although the majority of changes associated with COVID-19 appeared detrimental, some positives were identified, with new ways of working and a greater use of remote consultations and treatment monitoring being reported. Many services felt that these would be maintained in the future as they enhanced pre-existing practice.

Our results align with English data on TB control published by UKHSA in 2021 (6) which reported a significant reduction in latent TB testing in 2020, with the new migrant LTBI programme being paused between April and October 2020. Overall, in 2020-21 LTBI test activity was only 31% of that in 2019-20. 2020 also saw a fall in TB case numbers in England, with 4,125 cases reported compared to 4,725 in the previous year; although TB incidence has been declining in the UK, the UKHSA has noted that this abrupt fall is “unlikely to reflect a true reduction in the burden of disease” (6). This could lead to issues in future as a delayed presentation of individuals with active TB disease risks them being diagnosed when more unwell, plus provides the opportunity for more TB transmission to others from those with pulmonary TB.

This report highlights the dedication, adaptability and resilience of staff working within UK TB services, who were committed to delivering clinical care. despite the personal and structural challenges posed by COVID-19. Treatment of active TB disease was prioritised, and services ensured that patients continued to be able to access essential TB care. Inevitably, the extent of social and healthcare disruption experienced since early 2020 has impacted on service delivery, particularly in TB prevention; and the recovery of services is the first priority of the TB Action Plan for 2021-26 (7). Ensuring the resilience of services such as TB care, prevention and control in future emergency plans is essential. The NHSE&I guidance was of considerable value in maintaining local services, and it may be helpful in future for there to be rapid communication between devolved nation health executives to ensure that a consistent, supportive message is delivered to all UK TB services. BTS maintains a list of TB service leads and contacts and this survey was circulated through that channel and others, including the British Infection Association, although it is uncertain if all TB services were reached.

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Conclusion

This survey has shown that TB services, and the staff within them, have shown great resilience and adaptability during these challenging times. Although most services were able to continue in some form during this period, it is clear that there were variations in approach and in the support offered to them locally. Despite the key role they play in public health, TB services were not always considered in local healthcare resilience planning, which was disappointing and also ironic, given that we were in the midst of a public health emergency. It is important, therefore, that TB services across the UK are given appropriate and timely support so that their patients continue to receive high quality care now and in the future.

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