

Case Study: Lessons Learnt From Early Implementation of Latent Tuberculosis Infection (LTBI) Programme in Sheffield

Kristin Bash, Public Health Specialty Registrar, Sheffield City Council

Ruth Granger, Health Protection Manager, Sheffield City Council

Karen Harrison, Health Improvement Principal, Sheffield City Council

Michelle Varney, Practice Manager, Student Health Services Sheffield Hallam University

Background and Context

The Collaborative Tuberculosis (TB) Strategy for England was developed with an aim to reduce TB levels in England over the next five years.

Within Sheffield 128,000 people – nearly one quarter of the city's residents – live in neighbourhoods where the TB incidence is greater than 20 per 100,000. Due to these high incidence levels, Sheffield was chosen to participate in the first round of national LTBI test and training programme (LTBI TTP).

Sheffield adopted a GP-based methodology for LTBI testing, making it unique in the Yorkshire and the Humber region. The initial intention was for patients' eligibility to be assessed at a 'new patient' registration appointment, which were understood to be common practice for newly arrived patients. The LTBI test would then be offered at this initial appointment, with the intention of increasing uptake and reducing number of appointments. HIV and Hepatitis B tests would also be offered at this appointment.

Patients with positive results would be referred to secondary care for further assessment and treatment as needed.

Aim and Methods

Aim - The aim of this paper is to present an informal case study of one pilot site in order to describe the process of implementation, review the initial outcomes of this service, and to provide reflections and lessons learned from this early implementation within the primary care setting. Specifically the aim is to answer three questions:

- What were initial outcomes?
- Which aspects of implementation were challenging?
- Which aspects proved beneficial to the programme?

Methods - All research and writing was carried out by individuals involved in implementation of the programme. The following methods were employed:

- informal interviews and discussions were held to collect views and perspectives of the implementation and its results;
- synthesis of collected feedback was made and grouped into key themes and questions to reflect lessons learnt;
- data were collected from Sheffield Hallam University (SHU). Secondary care data were not available by deadline.

Pilot Site – Characteristics

Sheffield Hallam University Medical Practice (SHU) was chosen as one of the two pilot sites due to its high number of registered patients who are eligible for testing.

Factors specific to SHU with potential to affect LTBI TTP implementation:

- affiliation with university
- high numbers of international students (LTBI TTP eligible)
- location within Sheffield City's centre
- established history of testing for LTBI prior to involvement with LTBI TTP
- Practice manager and staff engaged with process from beginning

LTBI TTP – General Practice Based Delivery

The Sheffield LTBI TTP was designed to be delivered within general practice, with the expectation that this would support maximum uptake. It was expected that students would be tested at the time of their new patient appointment.

Due to logistical delays, this was not possible for the intake of new students in September 2015. Eligible patients were identified at time of registration, and their details were maintained on a spreadsheet.

In January 2016 the LTBI TTP programme started and all eligible patients were invited for testing. Patients who registered throughout the remainder of the year were tested at new patient appointment as initially intended.

Results – Key points (Jan to Aug 2016)

- ❖ **SHU achieved uptake rate of 83.5%.** This was achieved without the benefit of testing all patients at the time of new patient registration which is expected to improve uptake rates in future
- ❖ 21.5% of patients in this cohort tested positive for LTBI
- ❖ 2 patients tested positive for HIV (1.2% of those tested)
- ❖ 6 patients tested positive for Hepatitis B (3.5%) of those tested
- ❖ Treatment uptake and completion data not yet available

Results – Tables (Jan to Aug 2016)

UPTAKE	Number	Percent	RESULTS	Number	Percent
Attended	173	84.0%	LTBI+	37	21.5%
Not attended	33	16.0%	LTBI-	134	77.9%
Refused test	1	0.5%	LTBI indeterminate	1	0.6%
Total tested	172	83.5%	HIV+	2	1.2%
Total eligible	206	100%	Hep B*+	6	3.5%

*Note: 1 person refused Hep B test

Lessons Learned

Aspects of pilot site and process shown to be beneficial to implementation

- Strong engagement from practice manager and GP practice staff, including enthusiasm for LTBI testing
- History of testing for LTBI in patient cohort
- Early development of tracking system, including internal failsafe policies to ensure accurate movement of all patients through pathway
- Regular communication with commissioners to address issues as they occurred which helped to bring about solutions in timely manner
- Staff member at practice with strong IT skills to support PHE template implementation and reporting of results

Challenging aspects to implementation:

- Administrative challenges with maintaining spreadsheet of all eligible patients, tracking invitations and attendance. This was outside the normal daily activity of the practice and required a new process and resources to maintain;
- LTBI TTP introduced different ways of working than were previously in place for LTBI testing. These required new standard operating procedures to be introduced, and included:
 - different lab arrangements, including blood test, tubes required, delivery arrangements to lab, results notification
 - notification of test results to patients, where previously patients were asked to phone in to get results but now all positive results must be given to patients directly to ensure clear understanding of result and importance of attending at secondary care appointment
- Communication links with secondary care.
- University students don't have NHS number at time of registration and a workaround had to be developed with the lab
- Practice had some difficulty fully explaining positive test results to patients and required support from secondary care

Summary

- ❖ **Uptake of 83.5% has been achieved at pilot site. It is not known whether this is due to methodology (i.e., testing situated within primary care), or to unique nature of patient cohort (i.e., international university students). Further research is required.**
- ❖ **Strong skills in administration and IT, and a history of LTBI testing have been a benefit to the programme.**
- ❖ **Additional demand on administration and IT staff, particularly when introducing new standard operating procedures has been a challenge.**
- ❖ **While test uptake is encouraging, commissioners are awaiting treatment data to determine success of SHU LTBI programme across the entire pathway.**