

# Outbreak of tuberculosis linked to a source case imprisoned during treatment. Should the courts tell GPs about prison sentences and should GPs tell prison doctors about medical diagnoses?

Arun Mukerjee and Christopher C Butler

## Introduction

**O**PTIMAL management of tuberculosis (TB) relies on effective co-ordination of care.<sup>1</sup> We describe a community outbreak of TB which might have been easier to control had a system of communication been in place between courts, general practitioners (GPs), and prison medical officers.

## Sequence of events

Eleven people, all born in the UK aged between two and 40 years, were diagnosed with pulmonary TB within a period of just under a year from a single deprived ward with a population of 3300. Isolates from all seven culture-positive cases were indistinguishable by restriction fragment length polymorphism typing. The sequence of events was as follows:

1. In December 1996, a 25-year-old remand prisoner had haemoptysis. Police contacted the communicable disease doctor on call who arranged for him to be seen at a hospital chest clinic where open pulmonary tuberculosis was diagnosed by radiography and sputum culture. He was notified and commenced on anti-TB therapy, prescribed and supervised by the chest clinic (Case 1). He was soon released from remand custody and, despite numerous attempts, was not contactable at his stated address by TB fieldworkers associated with the chest clinic. He was a regular user of heroin and amphetamines and had previously been imprisoned for violence and alcohol-related offences. He rarely visited his GP and when he did, there had often been conflict resulting in re-allocation to various GPs in the area. After about three months of erratic adherence with medication in the community and while still sputum AFB positive, he was sentenced to a two-month prison term which he served in a different town. Neither the chest

clinic nor his GP were informed about his sentence, and he did not inform the prison medical service about his illness. There is no record of him having taken anti-TB treatment while in jail or of communication between prison officials and his GP. The TB outreach workers were able to make contact with him shortly after release and he was found still to be sputum positive. He took TB treatment irregularly and so was eventually placed on directly observed anti-TB therapy. He self-discharged from hospital and was brought back by the police on several occasions. He was reluctant to identify close contacts. He tested negative for HIV infection. We believe he was the source case in this outbreak.

2. About two months after the diagnosis of Case 1 (but before his latest imprisonment), a 14-year-old school girl from the same area was diagnosed as having smear-positive pulmonary TB while being investigated in hospital for problems related to a congenital heart defect (Case 2). Her boyfriend, who screened negative for TB, was the brother of Case 1. Her mother refused screening for several months but was eventually found to be smear-positive for TB, at which time she identified Case 1 as a longstanding close contact.
3. In the months following the release of Case 1 from prison, a 20-year-old pregnant woman (Case 3) presented to her GP with haemoptysis and was referred to the chest clinic where open pulmonary TB was diagnosed. She was a regular cannabis user and experimented with 'acid' and 'speed' and had had close contact with Case 1, although he had not named her as a contact. Among her close contacts was a 20-year-old man (Case 4), a user of cannabis and excessive alcohol. Although a longstanding friend of Case 1, he was screened as a contact of Case 3 and found to be smear-positive for TB. Interestingly, after four months on TB treatment, Case 4 spent 12 days on a drugs charge in a young offenders unit. He also did not report his illness to the prison medical service and there is no record of him taking TB treatment while in prison or of communication between the prison and the GP.
4. After repeated attempts and persuasion, 85 community contacts of the four cases were screened. Among them, seven (8%) were diagnosed with TB (three microbiolog-

A Mukerjee, FFPHM, consultant in public health medicine, Bro Taf Health Authority, Cardiff. C C Butler, MD, senior lecturer, Department of General Practice, Llanedeyrn Health Centre, Cardiff.

### Address for correspondence

Christopher C Butler, Department of General Practice, Llanedeyrn Health Centre, Cardiff CF23 9PN. E-mail: butlercc@cf.ac.uk

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ically confirmed). Nine (10%) were strong tuberculin reactors with clear chest radiographs, so received prophylactic chemotherapy. The remainder screened negative.

## Discussion

Tuberculosis remains one of the world's leading causes of death from infectious disease.<sup>2</sup> Although there are only about 6000 new cases reported each year in the United Kingdom,<sup>3</sup> the incidence has risen recently and this 'disease of poverty' is likely to remain an important area for concern for some time.<sup>4</sup> Clinicians in the United Kingdom are likely to have a high index of suspicion among immigrants, the homeless, debilitated elderly, and people who are HIV positive. This report highlights the association between addictions, drug-related crime, and incarceration with TB.<sup>5-9</sup> Among people aged 40 years or under, born in the UK, and HIV negative, an outbreak such as we describe is unusual in the absence of these additional risk factors. Although TB is still rare in UK prisons,<sup>1</sup> serious outbreaks in US prisons have been reported.<sup>9-11</sup>

This report also raises a policy issue. The Baku Declaration recognises the growing international problem of inadequate TB treatment in prisons, multi-drug resistance, and the spread of TB between prisoners and community contacts after release.<sup>12</sup> The community outbreak we describe was traced to a man imprisoned after a period of irregular adherence to TB treatment and while producing AFB-positive sputum. He did not report his illness to prison medical officers and there is no record of him taking TB treatment while in prison or of communication between the prison and the GP. A second man who was part of this outbreak did not report his TB during a brief period of imprisonment. An opportunity may have been missed for directly observed treatment while the source case was in prison, and others put at risk because prison medical officers were not informed about his diagnosis. Erratic adherence associated with periods in prison increases the risk of emerging resistance. Relevant GPs did not know about the sentence and so could not have alerted prison officials about the risk of spread or the need for chemotherapy. Such communication could only become routine if courts always notify GPs about prison orders and invite them to tell prison medical officers about TB infection. Even better would be to screen all new prisoners for TB, develop a prison TB registry and improve prison health services in line with the recent recommendations made by the Joint Prison Service and NHS Executive Working Group, which has proposed that health care in prisons be delivered through a formal partnership between the NHS and the Prison Service.<sup>13</sup>

Some might object to details of prison sentences routinely becoming part of the medical record and view GPs informing prison medical officers without first obtaining consent from patients as breaching patient confidentiality.<sup>14</sup> However, GPs already have responsibility to breach patient confidentiality where the health of others may be jeopardised. If a structure is established for free communication between courts, GPs, and prison health workers about TB, how would information about infections such as hepatitis B and HIV be managed, and what effect would this structure

have on clinician-patient relationships, and disclosure in particular? Debate will no doubt attempt to balance considerations of individual autonomy with the rights of those both within and outside of prisons to live in an environment as free as possible from the risk of acquiring TB and other serious communicable diseases.<sup>12,14</sup>

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