‘Whole person’ approach used in complex TB case

A multidisciplinary health team successfully managed the complex care of a patient with drug-resistant tuberculosis, and other significant physical and mental problems.

By Andrea Vause and Clare Aspinall

This case study explores the importance of a multidisciplinary team (MDT) approach when dealing with a patient with drug-resistant tuberculosis (TB) and complex mental and physical health issues.

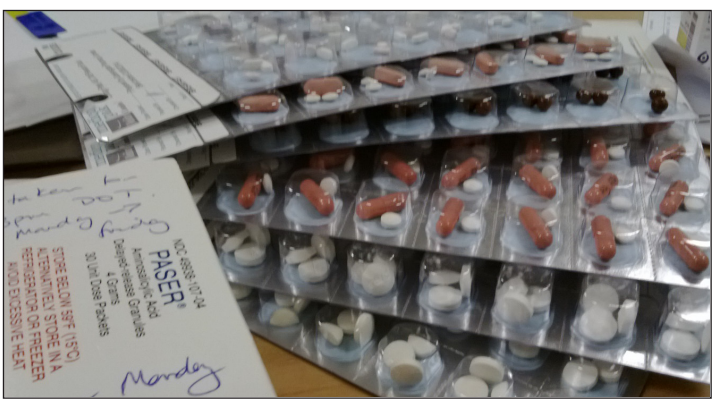
A 32-year-old man, Mr P, presented at hospital with pain in his thighs, and was diagnosed with bilateral deep vein thrombosis (DVT). On admission for treatment of the DVTs, he was also investigated for a cough, malnutrition, resulting in low body weight, and severe hyponatraemia. The investigation initially resulted in a diagnosis of pre extra multi-drug-resistant TB (ie TB resistant to key first-line drugs and some second-line drugs), and it was decided Mr P would require more intensive hospitalisation. He was managed in negative pressure respiratory isolation for three months, then discharged to community follow-up care for a further 16 months.

Notifiable disease

TB is a notifiable disease under the 1948 Tuberculosis Act and requires intensive public health follow-up to ensure the patient successfully completes the treatment and that all at-risk contacts are identified and followed up appropriately.

An initial interview with a public health nurse (PHN) explores the patient’s lifestyle, including their work and social contacts, to establish a contact-tracing plan. The nurse found Mr P was becoming increasingly socially isolated and was demonstrating a number of unusual behaviours. He had experienced a recent significant relationship breakdown and, due to the deterioration in his mental and physical health, had lost his job and was unable to work.

The nurse was also concerned about his undernourished state and his compulsion to drink 12 litres of water each day, which was causing hyponatraemia. She felt a psychiatric assessment would be helpful and made this recommendation to the respiratory team.



Mr P was prescribed a large number of medications for his complex physical and mental health problems. The potential for significant drug interactions between his psychiatric medication and TB drugs was a prime reason for using a multidisciplinary team approach to his care.

A subsequent visit to his home by Mr P and the PHN, to gather some of his personal items for the prolonged hospital admission, reinforced the need for an urgent psychiatric assessment. The visit revealed his housing situation was inadequate. The flat was mouldy and damp, with inadequate heating, and there was clear evidence of hoarding. Mr P had been sleeping on a mattress on the floor, which was also damp and mouldy.

The psychiatric assessment resulted in a diagnosis of classic paranoid schizophrenia. The psychiatrist felt Mr P had been able to hide this condition over a period of four years, which had contributed to his poor health. His GP had previously diagnosed mild depression, which had not been treated. He had been suffering from low mood, reduced appetite and lethargy – his body movements were slowed and he had difficulty initiating activity. These issues were being driven by paranoid delusions that were controlling his appetite and fluid intake, and were giving him a heightened sense of spiritual power. He was expressing feelings of hopelessness, but denied any suicidal ideation. At the time of the assessment, he was largely confined to his home, with limited contact with his family overseas.

The management of Mr P’s mental health was critical for the successful completion of his TB treatment, as he needed to be able to understand and actively participate in the treatment.

Treatment for drug-resistant TB carries a high risk of increased resistance and treatment failure, if the course is not completed. It also has significant potential side-effects that require regular audiology and ophthalmology checkups, blood tests, ECGs and MRI scans. It involves up to two years of twice-daily drug treatment which nurses administer by directly observed therapy (DOT) in the home. DOT ensures the nurse sees the patient take the drugs, monitors for side-effects and documents the visit. The first six months of morning treatment is administered intravenously by the district nursing service.

The potential for significant drug interactions between the psychiatric medication and the TB treatment highlighted the need for clear communication and coordination between the services – therefore a multidisciplinary team (MDT) approach was established. This team involved Regional Public Health, a respiratory physician, an infectious disease consultant, the needs assessment and coordination services (Pathways), community mental health, a psychiatrist, hospital and community social workers, district nurses, dietitians and hospital and

200,000 a year die of drug-resistant TB

DRUG-RESISTANT tuberculosis is a major world public health problem, prevalent in countries with weak TB control programmes. It arises mainly from improper use of antibiotic treatment – either the wrong treatment is used or the treatment is not completed. Worldwide, an estimated 480,000 people developed multi-drug-resistant TB in 2013 and 210,000 people died. These forms of TB can take up to two years or more to treat with drugs that are less potent, more toxic and much more expensive.[1,2,3]

community pharmacists. Led by Regional Public Health, the MDT met regularly throughout the 18 months of treatment, constantly reviewing Mr P's personal goals and the psychiatric and TB treatment.

The MDT carefully planned a package of care for Mr P before his discharge. It was agreed by all that his housing situation needed to be improved before he left hospital. This was tackled by the hospital social worker and Regional Public Health's housing assessment and advice service (HAAS) team. HAAS is a free programme aimed at improving the health and well-being of families/whânau by promoting healthy housing, and linking families/whânau with health, social and housing interventions. This service worked with the social worker to provide Mr P with a heater and a new bed. His landlord was asked to fix the outside of the house to make it weather-tight. Also, the stairs down to the property were cleaned of slippery moss, to help prevent falls.

Members of the multidisciplinary team caring for Mr P included (from left): Capital and Coast District Health Board respiratory physician Amanda McNaughton, public health nurse Janine Dugdale from Wellington Regional Public Health, Regional Public Health clinical nurse specialist Andrea Vause, and DHB community mental health nurse Kim Dobchuk.

Pathways assigned a "navigator" to work closely with Mr P and began to identify achievable goals for him – which were discussed with the MDT. These included improving his nutrition and his ability to organise his living space, helping him with household shopping and encouraging him to be less socially isolated. To achieve this, a Pathways community worker visited twice a day – morning and mid-afternoon, seven days a week.

The management of Mr P's mental health was critical for the successful completion of his TB treatment, as he needed to be able to understand and actively participate in the treatment.

A partnership was established between the district nursing service and Regional Public Health to manage administering the TB and psychiatric medication, which also required morning and afternoon visits, seven days a week. Regular visits were planned by the community mental health service, including regular reviews by a psychiatrist. Mr P was reviewed by the respiratory team monthly, in outpatients, and also by audiology and ophthalmology to monitor for potential harmful side-effects from the complex treatment regime. The hospital infectious diseases pharmacist was consulted whenever there was a change to his treatment, to minimise the risk of drug interactions.

By using a coordinated MDT approach, a number of potential problems were reduced, particularly in the management of his complex medication regimen. The regular meetings to review his care enabled a whole-team approach, with clear communication allowing each service to contribute to any planned changes in his care.

Without this MDT approach, the risk of Mr P being admitted to psychiatric inpatient services would have been significant. Similarly, the improvements in the condition of his housing achieved by the hospital social worker and HAAS team will protect his respiratory health and reduce the risk of future hospitalisation for a housing-related illness.

With intensive support, Mr P successfully completed 18 months of treatment for multidrug-resistant TB. There have been major improvements in his physical and mental health, and social situation, including his housing environment. He has recovered from TB, gained weight and achieved adequate nutrition. Diagnosis and treatment of his mental health issues have helped manage and reduce the distressing symptoms he was experiencing.

He has developed a strong relationship with community mental health staff and with a Work and Income manager, who has helped organise an increase in financial support, a community services card, and a transport card to help fund travel to his frequent outpatients' appointments. He is now socialising more, has an improved connection with family overseas and has a goal to return to professional employment.

This case also had positive outcomes for the health services involved – providing the lengthy treatment and support to Mr P improved the relationships between members of the MDT involved in his care.

The success of this case highlights the benefits of using the MDT approach when managing these complex cases. Along with the already-noted benefits to both patient and staff, this approach to managing complex care can save costs for district health boards by avoiding costly readmissions that can result when a patient's care is not as well managed. •

The authors acknowledge public health nurse Janine Dugdale, who was lead nurse for this case and instrumental in pulling this case study together, and the hard work of the multidisciplinary team in completing Mr P's TB treatment and helping improve his mental health.

Andrea Vause, RN, is a clinical nurse specialist with the healthy environment and disease control team at Wellington Regional Public Health.
Clare Aspinall, RN, MPubHlth, is a public health adviser with Wellington Regional Public Health and has worked as a TB nurse specialist in the UK.

References

1) World Health Organization. (2015) *Multidrug-resistant tuberculosis (MDR-TB)*. www.who.int/tb/challenges/mdr/en/. Retrieved 25/08/15.
2) World Health Organization. (2014) *Multidrug-resistant tuberculosis (MDR-TB) 2014 update.* www.who.int/tb/challenges/mdr/mdr_tb_factsheet.pdf?ua=1. Retrieved 25/08/15.
3) World Health Organization. (2010) *Drug-resistant tuberculosis now at record levels.* News release, March 18. www.who.int/mediacentre/news/releases/2010/drug_resistant_tb_20100318/en/. Retrieved 18/07/15.