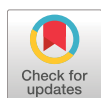# Combining digital adherence technology and therapeutic drug monitoring for personalised tuberculosis care

Samiksha Ghimire[1], Deni Iskandar[2], Roelina van der Borg-Boekhout[3], Marina Zenina[3], Mathieu S. Bolhuis[1], Huib A.M. Kerstjens [iD][4], Marieke van Rossum[3], Daan J. Touw[1,5,6], Tanja R. Zijp[1], Job F.M. van Boven[1,5] and Onno W. Akkerman [iD][3,4]

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Digital adherence technology in combination with therapeutic drug monitoring could aid in supporting adherence and personalising dosing while at the same time supporting patients to carry out TB medication related tasks independently https://bit.ly/3gh1A1c

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To the Editor:

Tuberculosis (TB) is the world's leading cause of infectious disease-related mortality, apart from COVID-19 presently [1]. Standard TB treatment for drug-susceptible (DS) TB takes 6–9 months and requires daily intake of multiple medications [1]. Notably, proper treatment adherence is essential for successful treatment outcome [1, 2]. To improve adherence, counselling and education are important. For specific patient groups, such as those with drug-resistant TB, HIV co-infection and those on intermittent treatment regimens, the World Health Organization (WHO) advises to use the Directly Observed Treatment (DOT) strategy. However, even with DOT, treatment completion is still challenging and cure rates and outcomes remain suboptimal [3]. Therefore, exploring novel options to monitor treatment adherence and optimise TB drug dosing are required [2, 3]. Digital adherence technology (DAT) and therapeutic drug monitoring (TDM) have been applied as stand-alone options [4–8], yet combining both could further personalise TB care while supporting patients' self-management and autonomy, and improve outcomes [2, 9]. Therefore, this study aimed to investigate if DAT is feasible as a novel tool to monitor medication adherence and guide TDM in TB patients.