

IMPLEMENTING MOBILE HEALTH FOR TUBERCULOSIS CARE IN SYDNEY: EXPERIENCE WITH VIDEO DIRECTLY OBSERVED THERAPY

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Introduction: Tuberculosis (TB) remains a disease of public health interest in Australia, with over 1,300 cases annually. Directly observed therapy (DOT) remains the standard of care in New South Wales, but is logistically challenging and resource intensive for patients and providers. Video-based DOT represents a promising potential alternative methodology to ensure high rates of treatment adherence and completion. We evaluated an asynchronous video-DOT application, miDOT, that allows patients to securely record and transmit videos of themselves taking medication to a secure website, where providers can view and verify adherence at their convenience.

Methods: We conducted a prospective implementation study of video-DOT at the Parramatta Chest Clinic in Western Sydney. All TB patients were eligible, and were enrolled at the discretion of the TB clinic providers. Upon enrollment, participants utilized the video-DOT system to document adherence to treatment. The primary outcome was percentage of total doses that were verified by observation (i.e. DOT), comparing the time period before (i.e. in-person DOT) and after enrollment (i.e. miDOT).

Results: 19 participants uploaded 1389 videos documenting treatment (mean 73 videos/person, most frequently with daily dosing schedule). The proportion of observed (i.e. verified in-person, or uploaded video) treatment doses increased from a median of 66% (IQR 56%-73%) prior to enrollment (pre-miDOT period) to a median of 95% using miDOT (IQR 90%-98%, $p=0.0003$).

Conclusion: Asynchronous video-DOT is an effective tool for expanding capacity to perform DOT in TB clinics, with high adherence. Additional research is needed to evaluate generalizability of findings in Australia.

Disclosure of Interest Statement: Maunank Shah is the inventor of the miDOT system, which is licensed to emocha Mobile Health Inc. Katrina Rios is an employee of emocha mobile health Inc. emocha Mobile Health provided the miDOT system without charge to the Paramatta Chest Clinic for the duration of the study and had no role in the study design, data collection or analysis. Scott Chapman (PI) has no conflicts and provided oversight of the study and data abstraction. Samuel Holzman has no conflicts to disclose and led data analysis.