

CATEGORY: Treatment

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Intro

Directly observed therapy (DOT) is commonly used for tuberculosis (TB) treatment support and adherence monitoring in the US. Video-DOT was proposed to increase flexibility and meet patient-specific needs. Alameda, California introduced video-DOT in a pilot program (2017) and for routine use (2018). We report on the reach and effectiveness of video-DOT implementation (2018-2020) during routine conditions.

Methods

We prospectively evaluated video-DOT implementation at Alameda's TB program. We abstracted routinely-collected data to estimate 1) Reach (proportion of patients initiated on video-DOT versus in-person DOT) and 2) Effectiveness (proportion of prescribed doses with verified administration by video-DOT versus in-person DOT). Patients were guided to intake non-observed, self-administered medications on weekends. Decisions on usage of video-DOT were made by clinic staff and patients according to locally established protocols. During the implementation period, standard of care was to instruct patients to take weekend doses self-administered.

Results

Among 163 TB patients, 94 (58%) utilized video-DOT during treatment, of whom 54 (57%) received exclusively video-DOT. Individuals receiving video-DOT were, on average, younger (46 years) than those receiving in-person therapy (61; $p < 0.001$). Among individuals receiving video-DOT, median time from treatment start to video-DOT initiation was 2.2 weeks (IQR 1.1-10.0); patients were monitored for a median of 27.6 (IQR 24.6-31.9) weeks. Video-DOT led to higher proportions of prescribed doses verified by observation (68%) than in-person DOT (54%; $p < 0.001$). Unobserved self-administration commonly occurred for all patients on weekends (including video-DOT, based on clinic instructions), but a larger proportion of prescribed doses were self-administered using in-person DOT (45%) than video-DOT (24%; $p < 0.001$).



58% of patients
(n=94) utilized
video-DOT

Patients on video-DOT
were, on average,
younger than those on
in-person DOT



**Significantly more prescribed
doses were verified by video-DOT
(68%) than by in-person DOT (54%).**



Time to video-DOT
initiation = 2.2 weeks;
Median monitoring
time = 27.6 weeks

More doses were self-
administered using in-
person DOT than
video-DOT



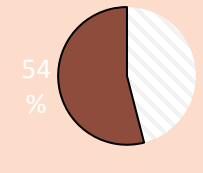
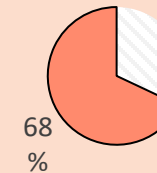
Characteristics with video-DOT vs. In-Person

Average Patient Age (years)

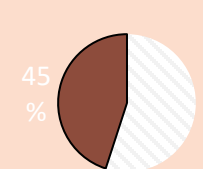
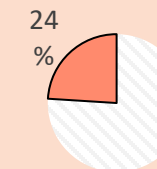
46

61

% of Prescribed Doses Verified



% of Prescribed Doses Self-Administered



Video-DOT

In-person DOT

Discussion

A busy TB program successfully implemented and maintained video-DOT over two years under routine conditions, independent of research activities, reaching the majority of patients and achieving greater medication verification than in-person DOT. Future directions include consideration for using video-DOT to verify weekend doses to increase verification of prescribed doses even further.