Multimedia Appendix 4: Outcomes of smartphone app interventions

Author/year (Condition)	Main Results
Hammonds et al, 2015 (Depression) [42]	**Adherence:** • Participants in intervention group were 3.5 times more likely to adhere to medication regimen than control group (p=0.057) • Adherence by pill count was not significantly different between groups • Overall adherence: 45% adherent (>=80%), 40% under-users (<80%), and 6% over-users (>100%), all in controls **Clinical:** • Depression was not significantly different between groups • Medication under-users of were 3.4 more likely to endorse illicit drug use
Cafazzo et al, 2012 (Diabetes Mellitus) [35]	**Self-management/Adherence:** • Self-care inventory showed no significant changes in all dimensions, including adherence • The frequency of daily average blood glucose measurements increased by 50% from 2.4 to 3.6 per day (p=0.006) • Glycosylated hemoglobin (HbA1c) values did not significantly change over pilot period (p=0.11) **Usability/Acceptability:** • Study satisfaction was high, 88% stated that they would continue to use the system, and 50% of patients had more than 10 awards **Clinical:** • Diabetes HRQOL dimensions and parent–adolescent patient interactions showed no change over study-period
Creary et al, 2014 (Sickle Cell Disease) [36]	**Adherence:** • Morisky Medication Adherence Scale (MMAS-4) scores (<2): 9/14 participants at 2–4 months and 10/14 participants at 6 months (p=0.004) • Medication possession ratio adherence (median, IQR): pre-study 0.75 (0.59–0.82) vs. post-study 0.91 (0.85–1.00) (p=0.02) • Observed HU adherence rate: median of 93.3% for each month, 10/14 had ≥90% adherence, and 12/14 had ≥80% adherence • Mean corpuscular volume (median, IQR): pre-study 96 (91–107.9) vs. post-study 107.2 (96.3–113.3) (p=0.009) • HbF (median, IQR): pre-study 10.5 (6–17) and post-study 11.4 (9.3–18.9) (p=0.03) • Treatment Satisfaction Questionnaire for Medication (TSQM-9) in patients with MMAS-4 (<2) (mean, standard deviation): pre-study 82.8% ± 16.7% vs.ost-study 95.6% ± 5.1% (p=0.03) • TSQM-9 in patients with medication possession ratio (≥90): pre-study 74.7% ± 16.6% vs. post-study 96.0% ± 5.3% (p=0.008) **Usability/Acceptability:** • Less than 20 minutes daily to complete study observations, record adherence, and provide feedback to the enrolled participants • Mobile-DOT Trial period: 13/14 completed in <14 days and 1/14 completed in 30-days • Text messages didn't disrupt participants' daily activities • Mobile DOT was not intrusive • 13/14 participants completed Mobile-DOT in <3 minutes daily • All participants continued to submit videos and receive alerts, feedback, and incentives as part of extension study