

Abstract: 0289

**Title:** Assess and Remind (ARemind): a Personalized Cell Phone Reminder System is Superior to a Beeper to Enhance Adherence to Antiretroviral Therapy

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**Background:** Adherence to antiretroviral therapy (ART) represents one of the strongest predictor of progression to AIDS, yet innovative technologies are needed to sustain adherence over time. The purpose of this study was to compare the efficacy of a personalized cell phone reminder system called Aremind in enhancing adherence to ART versus a beeper.

**Methods:** Twenty-three HIV-infected subjects on ART with self-reported adherence <85% were randomized to a cellular phone (CP) or beeper (BP). CP subjects received personalized text messages and had to respond with a text message when taking ART. BP subjects received a reminder beep at the time of dosing. Interviews were schedule every 3 weeks over 6 weeks. Adherence to ART was measured by self-report (SR, 7-day recall), pill count (PC, past 30 days at baseline, then past 3 weeks), MEMS (cumulatively at 3 and 6 weeks), and via a composite adherence score calibrated to MEMS. A mixed effects model adjusting for baseline adherence was used to compare adherence rates between the intervention groups at 3 and 6 weeks.

**Results:** Twelve males and 11 females were enrolled; 19 completed all visits. Mean baseline viral load and CD4 count were 21,309 copies/mL and 295 cells/mm<sup>3</sup>. Most subjects were on a boosted PI (52.6%) or an NNRTI (21.05%). Patients' identified barriers to adherence included: lack of daily routine (50% CP, 89% BP), forgetfulness (80% CP, 100% BP), Too busy (30% CP, 44% BP) and fear of side effects (20% CP, 44% BP). Adjusting for baseline pill count adherence mean adherence rates ranged from 76.5% to 92.6 % (CP arm) and 56.2% -78.9 % (BP arm). Significant differences in mean adherence between the 2 intervention groups were observed overtime between CP and BP arm when adherence was measured via CAS, MEMS or self report (see table below). The difference between the two groups did not differ significantly at 3 and 6 weeks.

Comparison	Group	Difference in Mean Adherence	SD	P-Value
Self Report				
Cell Phone-Beeper	Overall	16.2045	7.524	0.0469
MEMS				
Cell Phone-Beeper	Overall	30.7264	7.4421	0.0008
CAS				
Cell Phone-Beeper	Overall	25.9683	6.8926	0.0017

**Conclusions:** Aremind was more successful than a beeper in enhancing adherence to ART in this population. A larger prospective study is necessary to confirm these findings.