Mobile (cell) phone communication has been suggested as a method to improve delivery of health services. However, data on the effects of mobile health technology on patient outcomes in resource-limited settings are limited. We aimed to assess whether mobile phone communication between health-care workers and patients starting antiretroviral therapy in Kenya improved drug adherence and suppression of plasma HIV-1 RNA load. WelTel Kenya1 was a multisite randomised clinical trial of HIV-infected adults initiating antiretroviral therapy (ART) in three clinics in Kenya. Patients were randomised (1:1) by simple randomisation with a random number generating program to a mobile phone short message service (SMS) intervention or standard care. Patients in the intervention group received weekly SMS messages from a clinic nurse and were required to respond within 48 h. Randomisation, laboratory assays, and analyses were done by investigators masked to treatment allocation; however, study participants and clinic staff were not masked to treatment. Primary outcomes were self-reported ART adherence (>95 of prescribed doses in the past 30 days at both 6 and 12 month follow-up visits) and plasma HIV-1 viral RNA load suppression (