

Medication adherence: There's an app for that

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Technology forum

In January 2013, 129.4 million people in the United States owned smartphones, with Apple's iOS and Google's Android the most popular platforms, according to research by comScore. Mobile applications have caught the public's interest and may provide cost-effective answers to many challenges. Patient engagement and medication adherence are two areas where mobile apps may serve as effective health care tools.

Nonadherence to prescribed dosing regimens can have negative effects on patient health. It's also expensive, leading to an estimated \$100 billion in annual health care costs, according to research published in the August 4, 2005, *New England Journal of Medicine*.

Researchers have identified multiple factors as barriers to adherence, including patient-provider communication and patient interaction with the health care system as a whole. Technology remains a missing piece of the puzzle, however. Identifying ways for patients to utilize tools such as smartphones may help improve adherence and integrate medications into their lives.

Recent interest in this area has sparked the creation of various smartphone apps for improving adherence (see Table 1.) Most provide reminders that may help stimulate dialogue regarding adherence. They may fail to consider lifestyle factors that affect conditions like diabetes, however. Users also generally enter their own information, which can be a barrier among those already unlikely to follow a schedule.

Early adopters of these apps may be among the most motivated patients, but pharmacists can encourage patients to adopt such tools, engage more fully in their care, and improve adherence.

Table 1. Smartphone apps for medication adherence on the Google Android and Apple iOS platforms

Application	Compatibility	Cost	Features
Dosecast	Android	Free	<ul style="list-style-type: none">• Offers customizable dose amounts and instructions for multiple patients• Allows reminder postponing and "Smart Silencing" feature• Tracks dose history and adherence, provides refill alerts, shares information with provider and pharmacy
Mango Health	iOS	Free	<ul style="list-style-type: none">• Records timing and dosing for medications and supplements with personal health journal• Offers reminder alerts, including notifications of potential interactions with medications, food, or drink• Allows users to earn points for real-world rewards (e.g., from Target)
MedCoach	Both	Free	<ul style="list-style-type: none">• Shares medication history and refill times with pharmacist and primary provider• Presents visual reminders (alerts are triggered one time only, not continuously)• Offers immediate access to customer service agents and ability to call 911

Application	Compatibility	Cost	Features
MediSafe	Both	Free	<ul style="list-style-type: none"> • Synchronizes information to a “family pillbox” • Shares information with caretakers who can be notified if patient has not checked into the app • Shows daily medication list that can be checked off throughout the day
Medi-Prompt	iOS	\$1.99	<ul style="list-style-type: none"> • Offers dynamic scheduling with maximum or minimum daily doses • Works with multiple patients and multiple medications; includes password protection • Offers scheduled or ad-hoc doses, calculated doses, regular intervals, or combinations
MedMory	iOS	Free	<ul style="list-style-type: none"> • Sets visual and audio reminders for individual medications, including as-needed or unscheduled • Tracks medication quantities, refill reminders, and adherence history • Alarm may continue after taking medications; alerts may sound at wrong times
MyMedSchedule	Both	Free	<ul style="list-style-type: none"> • Records pictures and notes for medications with daily reminders
MyMeds	Both	Free	<ul style="list-style-type: none"> • Tracks medication history, allergies, and immunizations for entire family with customizable reminders • Shares information with pharmacist and primary provider and locates nearby pharmacies • Requires registration at www.my-meds.com for use
PillMonitor	iOS	Free	<ul style="list-style-type: none"> • Schedules reminder time, repeat date, and dosage with photos, notes, and history for each medication • Shares medication list and history to primary care provider via e-mail
RxCase Minder	Android	Free	<ul style="list-style-type: none"> • Stores information about multiple patients, caregivers, pharmacists, and primary care providers • Available in Spanish
RxmindMe	iOS	Free	<ul style="list-style-type: none"> • Nine types of alerts that recur until dismissed • Tracks remaining quantity, time to refill, and adherence history with password protection • Exports data and history, saves medication pictures, and accesses FDA medication database

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