



## **Technology for Managing Medications**

*By Andrew Leibs*

For many aging Americans, prescription drugs play an increasingly crucial role in managing pain and maintaining health and wellness – especially among those wishing to maintain independence.

Each year, prescription errors and adverse reactions cause nearly two million injuries. Most incidents affect seniors who often struggle to read what’s printed on a pill bottle, to remember which medications they take or need to refill, and to take the right dose at the right time. Managing prescriptions can be a matter of life or death.

Fortunately, knowing what’s in and on the pill bottle, how much and how often you need to take it, and getting daily medication and refill reminders are the types of tasks assistive technology is very good at. There are many tools and mobile apps that can automate processes to bolster the memory and alleviate fears. Here are three examples:

### **ScripTalk Station Prescription Reader**

The ScripTalk Prescription Reader from En-Vision America is a small, tabletop device that uses radio-frequency identification (RFID) and text-to-speech to read aloud what’s printed on a pill bottle and all information relating to that prescription.

The machine is small and rounded with a straight back and has three navigation buttons at the bottom. The label data is stored on a chip (which feels like a small, rounded sticker with a tiny antenna protruding from it) affixed to the bottom of the bottle.

To use ScripTalk, simply point the sticker at the machine and push the round “Read” button. The device scans the chip and reads everything printed on the label, including dose instructions, refills remaining, and the pharmacy phone number. You can also navigate among label sections using the “Next” (down) and “Prev” (up) arrows flanking the “Read” button. ScripTalk can retrieve label data from any type of prescription container.

ScripTalk Station is free for seniors and those with print disabilities such as a visual impairment. Your pharmacy must be equipped with ScripTalk in order to transfer data onto the infrared labels, so using the service might necessitate changing drugstores.

En-Vision America has steadily gained installations over the past two years. It currently has 30 Walmart locations, (including Walmart Mail Order), as well as CVS.com, Big Y (two locations and mail order) and several smaller pharmacies. A complete list is available on its website. Customers who need accessible labels should alert their pharmacy about the new FDA/Access Boards guidelines for accessible prescriptions.

With wider availability, the ScripTalk Station Reader will save lives by eliminating medication errors among seniors and persons with vision and mobility impairments. It alleviates fears of misreading or forgetting instructions. The privacy afforded also promotes independence among users.

## **RxMindMe iOS App**

Since smart phones enable communication, facilitate data searches, track activity, and have built-in clocks and the ability to schedule audible alerts, the right app can make them a powerful medication management tool.

There are many such apps, including RxMindMe, which is free and enables users to send audio reminders to their iOS device to take medication or refill prescriptions. For persons who are blind or visually impaired, RxMindMe is compatible with Apple's VoiceOver screen reader.

The app provides a secure place for storing one's medication information, tracking use history, and digitizing data that can be sent via email or imported to a spreadsheet. RxMindMe features include:

- Ability to set reminders to sound hourly, daily, or on specified dates – regardless of what application is currently in use

- Access to the FDA Database for medication searches and autofill that speeds data entry
- Passcode protection that restricts access to your prescription information, which is never sent to outside servers
- Ability to store past prescriptions, including when medication was taken

RxMindMe comes with a six-screen tutorial that walks users through its basic functions. Its main screen has five tabs at the bottom: Today's, Reminders, Medications, Contact Us, and More.

The Today's tab lists daily reminders with color codes indicating status: medications taken (gray), missed (red), and ones coming up (black).

The Reminders and Medications tabs are the heart of the app. You must add medications before you can set reminders.

To add a prescription, tap the Medication tab and then the + sign. Enter the information manually using the keypad or find prescriptions by typing the first few letters in the FDA database. To add a time, tap the + sign on the Add Time row on the Daily Reminder tab and flick the number wheels to set the time.

To add a reminder, tap the Reminder tab and then the + button. Select the frequency; e.g., hourly, daily, weekly, monthly, or a specific date. Tap on any reminder to view its details. When you take a medication, check the box beside its name to subtract that day's dose from your supply. The number of pills remaining is displayed on the right corner of the row.

Tap "More" to change notification sounds (there are five options), export data to an HTML or CSV file, or set a passcode. There's also a function enabling users to simultaneously reschedule all reminders in the app. Tap the Options button to delete a reminder or to add a note.

To create a four-digit passcode, tap Passcode Setup > Turn On Passcode. Enter numbers on the number pad. Users must enter their code to open RxMindMe and reinstall the app if the code is forgotten.

## **Visual Search Apps**

Sometimes, simply being able to read the fine print or get details on the product you're holding is all the help you need to manage medications. There are apps that can find essential information and speak it aloud to you.

oMoby is a visual search app that provides product information – including pricing and purchase links – based on photos snapped on an iOS or Android device's camera or a scanned bar code.

The app uses IQ Engine's VisionIQ, an image recognition platform that powers similar apps for the blind and visually impaired, including VizWiz.

To use oMoby, snap a full-screen photo of a product or scan a bar code by holding the camera over it (be sure the entire code is in the frame) and waiting till you hear a beep.

oMoby will search the web and return options for product information using a combination of computer vision and crowdsourcing (a pool of real people on the Internet). It displays multiple results in order by strength of match.

The app also has a real-time learning engine that becomes more comprehensive as it's used and saves your search history for future reference.

In a similar manner, VizWiz enables iOS users to snap a picture on their iPhone and ask question aloud. Answers from various online resources are returned, usually in less than a minute.

## **Resources**

ScripTalk Station Reads Prescription Information Aloud

<http://assistivetechology.about.com/od/ATCAT7/gr/En-Vision-Americas-Scriptalk-Reads-Prescription-Information-Aloud.htm>

En-Vision America Profile

<http://assistivetechology.about.com/od/ATCAT1/p/En-Vision-America-Products-Help-Blind-People-Scan-Barcodes-Read-Prescriptions.htm>

RxMindMe Pill Reminder App for iOS Devices

<http://assistivetechology.about.com/od/AccessibleApps/a/Rxmindme-Pill-Reminder-App-For-Ios-Devices.htm>

oMoby Sends Product Information to Mobile Devices Based on Photos and Bar Codes

<http://assistivetechology.about.com/od/GoogleAndroidAccessibility/a/Omoby-Sends-Product-Information-To-Mobile-Devices-Based-On-Photos-And-Bar-Codes.htm>

VizWiz App Answers Blind iPhone Users' Spoken Questions on What's Around Them

<http://assistivetechology.about.com/od/ATCAT1/qt/Use-Vizwiz-Iphone-App-For-Fast-Answers-About-Whats-Around-You.htm>

United States Access Board Guidelines on Prescription Drug Container Labels

<http://www.access-board.gov/guidelines-and-standards/health-care/about-prescription-drug-container-labels/working-group-recommendations>