

THE ILLUSIVE SOLUTION FOR MEDICATION ADHERENCE

Keep a watch...on the faults of the patients, which often make them lie about the taking of things prescribed. For through not taking disagreeable drinks, purgative or other, they sometimes die. Hippocrates, Decorum

Medication adherence is complex, multidimensional and has long been one of the most vexing problems in American healthcare. It is also one of the causes of America's skyrocketing health costs. Studies indicate that in spite of grave concern on the part of our leaders, and many efforts to find solutions, nearly 50% of patient populations do not adhere to their medications and that non-adherence is estimated to cost the healthcare system \$100 billion annually.

Dr. C. Everett Koop MD Former US Surgeon General from 1982-1989 under Ronald Regan wrote: "***Drugs don't work in people who don't take them!***" That pretty much sums up the problem.

Various interventions, from providing coaches to mentor patients and help them establish good habits regarding management and monitoring of health conditions and medication, to providing patients with various tools such as pillboxes, physical and virtual, that include bells, whistles and other intrusive noises that pop up, has not made a significant difference. Over the short period of time that smartphones have become ubiquitous, there have been thousands of apps developed to track and send reminders to patients, or their family members and caretakers, that it is time to take their medication. Short term these reminders often work for many patients. Over the long term none have proven to be the magic bullet.

Just this week, the FDA announced approval of a digital pill that lets the doctor know when a patient has taken their medication. Abilify MyCite (aripiprazole with sensor) has an embedded sensor that sends

a message to a wearable patch that medication has been taken. This allows the patient and doctor to track the medication use via smartphone. First introduced in 2012, this pill is now approved by the FDA for treatment of schizophrenia, manic depression and bipolar disorder. However, it is a stretch to think that any doctor will have the time to monitor each of their patients every day for every pill taken, and that patient, in fact, will take their medication.

A national survey of 1,020 adults (age 40 or older) with chronic conditions, reported the top barriers to compliance as “Forgot” (42%) “Ran Out” (34%). “Trying to Save Money” (22%)”. Other barriers: “Didn’t like taking It:” “Wasn’t working;” “Had side effects;” “Didn’t think it was needed,” make up the rest.

Drug manufacturers, too, have been working to improve medication adherence by developing pills that only need to be taken once-a-day and by packing medications in user-friendly dosage forms.

In a recent report, the IQVIA Institute for Human Data Science recognized Medisafe®, a personalized mobile health platform for medication management with four million patient and caregiver registered users globally, as the “Top Free & Publicly Available App for Medication Management.” The report, is entitled “The Growing Value of Digital Health, Evidence and Impact on Human Health and the Healthcare System,”. The IQVIA was formally known as the IMS Institute for Healthcare Informatics.

Medisafe is a personalized cloud-synched medication reminder app designed to help patients adhere. One would think that this could change the adherence rate, and for many patients it does just that for a period of time. However, as good as the app is, according to an executive from Medisafe® after seven months many patients stop using it – some because they have finished with the medication, but others because they, like all patients, tend to ignore the need for their

medications over time. The company recently announced that they have developed the first mobile health wearable medication app loaded on an Apple Watch.

Knowing that we live in an era when efficacious drug therapies exist and new ones are being developed at a rapid rate; an era when effective intuitive and smart apps are being developed and refined to help keep patients and caregivers on track with medication adherence, it is discouraging that we cannot yet seem to move the medication adherence needle beyond the 50% mark.

Do the new digital pills and Medisafe® type apps make a difference? Somewhat, but they will not resolve the problem, because this is not a technology issue, it is a people issue. It is an issue for clinicians who must be more collaborative and diligent in explaining and ensuring that their patients understand why they need a medication and how to take it properly. It is an issue for patients and their caretakers who must commit to a treatment and follow through. It is an issue for the healthcare system that must find better ways to help those patients who do not have the health literacy to understand the importance of their treatment protocols, or who cannot afford their medications and thus do not fill their prescriptions. Until we can solve the “people” issues, all the apps, bells and whistles in the world are not going to resolve this problem.