



CEO Dr. Robert Pakter's address to the Burrill Digital Health Meeting 2012

Ladies and Gentlemen, we have a problem—a problem taking our medicines correctly. Less than half of us do and that leads to \$100 billion in preventable hospitalizations and \$290 billion in related health care costs, every year. Pharmaceutical companies lose \$30 billion revenue each year due to poor adherence. So, along with the payors and retail pharmacies, everyone is looking for a solution. Of course, the most important stakeholder of all is the patient. So let's put a face on the problem.

It's teenagers with asthma or diabetes. Busy with school and social life, they don't do well managing chronic conditions. But without their medicine, they can get very sick, even die. Close to 100,000 Americans lose their lives every year due to poor adherence.

It's the Tb or HIV patient, on so many meds, it's easy to get confused.

It's the transplant patient. Missing even a day's medication could lead to rejection in some cases. For renal failure patients, that means back on dialysis. For other transplants, it's almost certain death.

Ladies and gentlemen, adherence is not just a problem for grandma in the ICU because she didn't take her water pills. Non-adherence is a problem for all of us. Half of the folks in this room are on at least one medication; over the age of sixty, three or more. So I'll ask, if we had a tool to help you to remember to take your meds, would you use it?

Up until now, there weren't any decent solutions. But a couple things have changed.

First, the HITECH act of 2009, part of the stimulus bill, mandated e-prescribing. It pumped \$25 billion into health information technology. Digital health. Why we're here today.

Second, smartphones. By the end of 2011, market penetration neared fifty percent. Within a couple of years, it will be in the ninety percent range. Even for the seniors, usage doubled in the last year. So now we have a tool that can reach nearly everyone. For us to be effective, we need to use the "smart" in smartphones. Let me show you how it we do it.

PillJogger DEMO

As you see, our virtual pillbox is illuminated and is telling me it's time to take my pills. I tap here, out come the meds so I can see exactly what they are. As I remove each pill from the dose-pack on the back of the device (more on that later), I take each one and tap here to get my rewards. Because B.F. Skinner showed back in the 1950s that when you reward desired behavior, it gets reinforced. And it gets repeated.





Now, we don't reward every time. There has to be an element of uncertainty, randomness if you will. Suspense is just one trick we use to keep your attention.

Let's find out what we've won on our virtual scratch-off game. It might be points (worth items at participating vendors); it might be an mCoupon for something you've bought in the past. It might even be a "deal of the moment" for that flat-screen TV you've been shopping for.



Games and Rewards

Users *want* this functionality. This past holiday season, consumers embraced mobile for shopping. Since we interact with our users daily, we gain a unique perspective, and we can target content relevant to their interests. Most apps are downloaded and opened a handful of times. We *have* to make sure our users come back. So we made it fun and it pays.

I just want to take my last few moments to show you something really cool. We call it PillWheel and it's a critical component of the Pilljogger solution.

We found during our alpha trials that it isn't good enough to just remind you to take your meds. They need to be *handy*- right there while you're thinking about it. So we came up with this idea for a cartridge that contains your daily meds. Convenience is key. It also avoids medication errors. It's all here, in a daily packet. Let me show you.



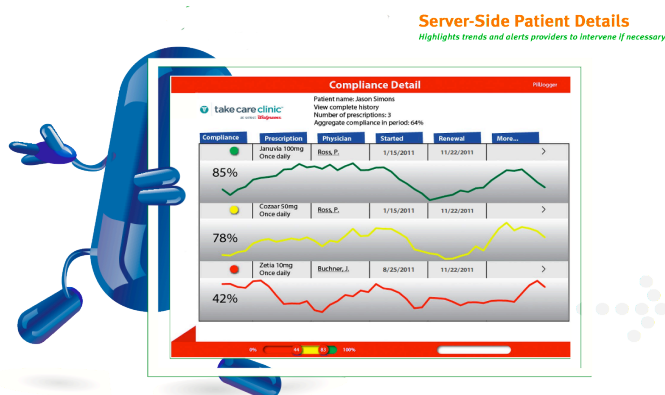
PillWheel animation DEMO

You see, one inserts the cartridge and turn the wheel to the time of day as shown on the mobile screen. Peel back the foil and take the meds. The only way it fails is if someone throws them out. We can't help those folks. But everyone else is going to benefit.



There are all kinds of regulations about packaging medicine I won't get into. They're surmountable and this is very doable. We've even designed a microcircuit so the act of peeling back the foil gets registered in the mobile device.

I'll end with this image, which is what the caregiver sees (these could be any authorized parties, including family). It's intuitive and efficient. One can see daily usage patterns and issues of adherence that need to be addressed.



That's Pilljogger. Thanks very much for your attention.