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VITALITY



Helping people stay healthy and independent

Description of solution

Vitality addresses the billion-dollar adherence problem for pharmaceutical brands, retail pharmacies and healthcare providers with a simple solution — a pharmacy-connected pill bottle cap. Vitality GlowCaps™ illuminate, play a melody and even ring a home phone so users don't forget to take their medication. They can also send weekly emails to remote caregivers, create accountability with doctors through an adherence report and automatically refill prescriptions.

Installing the GlowCap equipment is easy. The user simply plugs the communication hub into a standard electrical outlet in the home, within 30 feet of where they will keep their GlowCap medications. The hub looks like a nightlight and will play a start-up melody when first plugged in. The hub will display a series of lights across the front while it searches for connection to the AT&T cellular network. Once connected, the user is ready to go. The hub can support communications with multiple caps for the management of multiple medications.

Each GlowCap has a number that uniquely identifies it. During set-up, the user or pharmacy logs into the Vitality web portal to associate their specific GlowCap ID to the specific medication in that vial and assigns the appropriate reminder time for that medication alert.

When the user opens their medication bottle to take their medication, the cap automatically records that the medication has been taken. If a user forgets, the GlowCap uses a combination of gentle escalating alerts to remind the user to take their medication. Users can sign up for weekly history reports through their online portal. This allows them to view their GlowCap bottle 'opens' for



the previous week, or designate a care provider/family member to receive their compliance report to assist them with compliance management.

Benefits of the solution

Vitality is the only company with a product designed to tackle the combination of factors that contribute to why people don't take their medications. Leveraging deep expertise in customer



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research, wireless consumer electronics, web services and behavioral psychology, Vitality's patent-pending products offer each patient the optimal mix of intervention, feedback, reminders, accountability, education and incentives to improve their ongoing medication adherence.

GlowCaps are a cost-effective and scalable solution to increase adherence, especially for chronic asymptomatic diseases like diabetes, high blood pressure and high cholesterol. While key benefits include improving patient compliance and reducing overall healthcare costs, GlowCaps can provide pharmaceutical companies with a compelling opportunity to improve sales and patient outcomes.

Timescales

The original GlowCap was launched in 2008 using a router with a dial-up phone connection and has evolved to the most recent generation of GlowCaps, launched in 2010, which uses embedded cellular technology. The company is expanding its technology platform to other drug delivery forms such as blister packs and injectables.

Core technologies and standards

Vitality uses a proprietary wireless protocol to send data from each GlowCap to a communication hub. The communication hub plugs into a

standard electrical outlet in the home and communicates data via AT&T's cellular network, using a secure VPN.

Interoperability and scalability

The Vitality data infrastructure is designed to scale to tens of millions of customers, each with multiple GlowCaps -- a small percentage of the 3.5 billion prescriptions written yearly in the United States.

The Vitality web portal can provide secure, real-time data feeds to personal health records and electronic medical records.

Success to date

Randomized clinical studies have demonstrated that Vitality GlowCaps™ can improve adherence from 70 percent to more than 95 percent.

Vitality is working with the world's top pharmaceutical companies on programs that will cost-effectively improve adherence and realize the potential of a particular brand. Vitality is also working with forward-thinking employers who distribute GlowCaps, to improve wellness among employees and significantly reduce health care costs.

Overview of companies

Mass General Hospital/Harvard's Center for Connected Health (CCH) conducted a two-part study of GlowCaps. In 2008, CCH administered a field test to learn about the usability and customer reactions to the product. The Harvard team led a randomized control trial of GlowCaps over the next year to measure



its efficacy for people taking a once-a-day hypertension medication. The results from the study were extremely promising, indicating GlowCaps sustained adherence rates of at least 98 percent, representing a 27 percent increase over the control group over the course of six months.

Additionally, Vitality is supporting a study by behavioral economics Professor Dan Ariely of Duke University. Ariely's research team is conducting a series of experiments to evaluate what financial and social incentives motivate people to take a daily pill or vitamin.

In early 2010, Vitality was acquired by healthcare visionary Patrick Soon-Shiong, M.D., as part of his vision to promote healthier consumer behavior.



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