

iPill Dispenser Pro EXECUTIVE SUMMARY

MISSION STATEMENT: To develop medical devices for opioid dispensing to guarantee compliance and protect patients.

OPPORTUNITY: In 2000, the government body JCAHO declared that pain was the 5th vital sign and that no patient should suffer in pain. By 2014, opioids were so easily obtained from doctors that 259 million opioid prescriptions were written for a US population of 318 million people. Predictably, a problem was soon developed. From 2004 to 2014, the prescription opioid overdose rate quadrupled and 165,000 people lost their lives. Last year alone 20,104 patients died. In 2014 the CDC declared prescription overdoses an epidemic and theorized that doctors were at fault for creating the epidemic by excessively prescribing opioids. The DEA and FDA created REMS and CURES programs to curb the number of written opioids prescriptions by doctors. Studies and reality do not support this approach as the answer. Not only did the death rate continue to climb but because addicts could not get prescription opioids, the Heroin addiction and overdose death rate quadrupled. Addressing doctor prescription practices without addressing patient compliance is half an effort. Doctors prescribe opioids and pharmacists fill prescriptions. Patients however received a bottle full of pills. What prevents patients from taking one pill or 20 pills. Absolutely nothing! Abuse Deterrent Formulations (ADFs) do not address overconsumption by oral ingestion of doses higher than prescribed, which is the most common form of prescription opioid abuse. iPill Dispenser Pro patented smart technology in a medical device to ensure patient compliance and thus prevent opioid abuse and opioid induced respiratory depression leading to death.

Technology: Opioid abuse or noncompliance has lead to 20,104 deaths in 2015. iPill Dispenser Pro has built a patented prototype that uses fingerprint biometrics in addition to a physical password protected barrier on a smart app platform to bidirectionally control function of a smart pill dispenser. Only the number of pills prescribed at only the interval prescribed will be dispensed. This prevents sharing of opioids and potential opioid abuse. The smart design is tamperproof, reusable, and ensures compliance so that the risk of death is minimized. Because the device possesses connectivity to the cloud the physician's office can remotely adjust the prescription and securely record with blockchain technology the action in the office EMR.

Market: 90% of patients who overdose on opioids are placed back on opioids after their overdose event. Last year, 261 million opioid prescriptions were written for 115 million people with chronic or cancer pain, 24 million patients who abuse opioids and 33,091 people who died from opioid overdoses. Abuse costs the country \$78.5 billion a year. From a patient safety and healthcare economic perspective, the targeted clients will be insurance companies, physicians, and the government who could mandate that all opioids prescribed will require use with the iPill dispenser.

Competition: There are many pill dispensers on the market. Abuse deterrence formulations and pill dispensers do not address overconsumption by oral ingestion of doses higher than prescribed, which is the most common form of prescription opioid abuse. None so far has promoted portable patient use by combining a biometric controller with a physical password to prevent sharing, to allow remote physician access and adjust drug dosages, to allow physician EMR connectivity combined in a single device and to prevent sharing. iPill dispenser has combined all technologies in a small portable tamperproof design.