October 31, 2016

The App Concept

Our existing telephone network provides universal service to urban and rural communities alike; hence, it makes sense for our opioid overdose prevention solution to leverage the use of the phone network as in a 911 call. Access to the Internet, if available, could further enhance the communication of vital information and effective sharing of resources (e.g. Naloxone) among those who can help (e.g. potential first responders.)
By achieving a first point for connection and sharing of resources among the first responders, this cell phone app solution can make a difference in saving the lives of many near death opioid users. Further, the FDA and Naloxone can focus their efforts specifically on this app community for results. Without this focus, promoting the use of Naloxone and encouraging first responders to share in the distribution of the antidote will remain a challenge for Naloxone and the FDA.

Background

The danger of taking opioid medication for pain control and other medical reasons has been discussed[1]. While taking less than 50 mg a day is not considered a concern, a person taking a higher dosage could become addicted to the drug and expose him or her to drug overdose and other risks causing death. An opioid drug user may not be fully aware of the danger. This is an education issue. However, even when they do, they may fail to administer the antidote themselves or are unable to locate the antidote nearby for treatment. Naloxone is cited as an effective antidote for opioid overdose treatment[2]. It helps if the first responder is also a Naloxone carrier, but most of the time they are not. If we can identify the potential first responders through the opioid user they support, and provide them with the antidote or ways to access the antidote quickly, we can expect a better outcome. This is what this app is about.

How it works

Basically, the app will make sure the opioid drug user is responsive to a scheduled telephone call (monitoring call) and let one or more predetermined back-up person (most likely the first responder) know when help is needed. The app can also include a location tracker to help locate the opioid user in trouble for the first responder to reach out to.

The scheduled telephone call is an automated service. While it is possible to make calls based on a fixed schedule, the app also allows the opioid drug user to conveniently initiate the monitoring call at a time of their choosing, such as when they are using the opioid drug. After that, when the effect of the opioid drug is no longer posing a threat, the person can use the app to disable the scheduled call. Thus, there is no need for him or her to forewarn anyone or wait until the monitor call occurs to respond to the call. Not responding to the call signals danger. Only when that happens, is a call to the first responder initiated. Other ways to communicate to the first responder include email and text messages. If asking

[1] Addiction, UCLA Health Vital Signs Fall 2016, Volume 72
[2] Opioid overdose: preventing and reducing opioid overdose mortality, DISCUSSION PAPER, UNODC/WHO 2013

someone to watch out for an opioid user is a problem, this app certainly makes it easier for everyone involved.

Technical Design

The CareRinger system has already been developed for telephone reassurance and to keep people safe based on a recent invention[3]. This app is to be used with smart phones to provide a friendlier graphical interface for the existing functions. Among them are:

1) Scheduling a check-up call at some future time and
2) Disabling a scheduled call when it is no longer needed

To call or text anyone using an automated system requires their consent. The app will facilitate that by allowing the opioid users and their first responders to complete the necessary registration forms on-line when they sign up for the service.

In addition, we will use email to convey the opioid user location. The app will send this email to a predetermined email address when the opioid drug user requests for the check-up call. The person signed up as the first responder is allowed to share this email address to obtain the latest location information if needed.

Thus, the design not only provides a single, first point of contact for all opioid drug users, it also streamlines the steps their loved ones, the first responder, can follow to get connected to the opioid victim and to administer the Naloxone treatment.

Attempting to implement all the functions on a cell phone hardware platform and its limited operating system is a challenge to many programmers, not to mention the maintenance effort involved afterward. Leveraging an existing telephone application as discussed is more manageable and cost effective for a timely solution that is much needed to address the opioid overdose crisis.

Youtube Video URL

https://www.youtube.com/watch?v=8vRoE71fQpk

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[3] Telephone Reassurance, Monitoring and Reminder System, USPTO Patent document US9123232. Henry Chan.