Digital Intervention for the Opioid Crisis

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The opioid epidemic was declared a public health emergency in BC, Canada, in 2016 – much before the pandemic occurred in 2020.

In 2019, there were 984 deaths in one province (BC, Canada) only from substance misuse (aka. illicit opioid drug overdoses).

In 2020, there were 1716 deaths or 4.7 deaths per day, (a 74% increase from 2019)

Considering car crashes, suicides, homicides, and prescription opioid overdose deaths combined -- the deaths by illicit drug overdoses were higher.
2020 - The Twin Crisis in BC, Canada

![Graph comparing Opioid Crisis vs COVID-19 for 2020](image-url)

- **Opioid Crisis vs COVID-19 Comparison 2020**

  - **Total Deaths**
    - Opioid Crisis: Approximately 1,800
    - COVID-19: Approximately 1,600
  - **Deaths Per Day**
    - Opioid Crisis: Approximately 4.0
    - COVID-19: Approximately 3.5
The Lifeguard App – A digital health tool for Substance Users

• The Lifeguard App is a mobile smartphone application, to connect solo drug users with emergency services, should the need arise.
• The app resides on the phone of a user after a one-time registration process.
• Prior to consuming drugs, a user would have entered the drug they’re about to take, and then starts a timer.
• If the user is unable to respond when the timer is up, the app sends a text-to-voice message to emergency services informing them of a potential overdose.
In March 2020, BC saw a significant spike in opioid related deaths.

The British Columbia Ministry of Health mandated the Lifeguard App to be provincially activated for public use in the province, by May 2020.
Relevance

• Emergency response within the first ten minutes of overdose is critical to the survival of people who use drugs contaminated with Fentanyl (or illicit drugs)
• The COVID-19 pandemic has elevated awareness and concerns around the opioid crisis and the people who are taking substances and overdosing alone.
• Layered in with many safe injection sites being closed or are operating with limited hours, there is an increase in overdoses.
The Application

• If it is first time using the app, the user will first be prompted to complete their name and contact number, and then enter a verification code that is sent to their phone. The user is then prompted to click the “I accept” button after reading the warning message.

• Once completed, or if this is not the first time using the app, the user selects “Start Lifeguard Timer” from the home screen.
How does it work?

• On the timer page, the user chooses their drug from the drop-down menu.
  - The chosen drug does not change the function of the timer, but it is important information provided to first responders if they’re later required.

• The user selects “Start Timer” and is prompted to confirm their location. The app will use geolocation technology to automatically populate the user’s location.
  - The user confirms their location and can add additional details such as the floor/level number, apartment/suite number, and area description.
How does it work?

• The user then selects “Confirm” and the one-minute timer begins.
• Once the timer has started, the user has the option to extend, pause, and reset the timer.
• When the user feels comfortable, they can stop the timer and end the session.
How does it work?

• If the user becomes unresponsive while the timer is active, an alarm will start to sound with ten seconds remaining on the timer.

• The purpose of this alarm is to rouse the user if they start nodding off - even the ability to stay awake can reduce the risk of an overdose. The alarm is programmed to start gradually until it is fully activated on maximum volume, and it will override the phone’s settings if it is set to silent or vibrate.
How does it work?

• At the end of the timer, the alarm will be on maximum volume, and the screen will change to the emergency screen, which displays the drug of choice and the user’s name.
  • The phone will remain fixated on this screen and the alarm will continue to ring until the user, or a first responder, cancels the alarm.
Once the timer expires and the alarm is triggered, the following actions are triggered to activate an emergency response:

- A text-to-voice phone call is placed to the BC Emergency Health Services (BCEHS) dispatch centre. The phone call is placed to a dedicated Lifeguard phone number in the BCEHS dispatch centre, and it is automatically placed to the top of the queue, bypassing lower acuity calls.
- Why a TTV? – the current emergency system of 911 works only on voice.
- A BCEHS call taker receives the call and enters the information into the dispatch system, as they do for all 911 emergency events. Inputting this information also triggers an alert to other first responder partners (i.e. firefighters) who can quickly respond and administer naloxone if needed.
Emergency Activation

• A BCEHS dispatcher then coordinates a paramedic response to the provided location.
• The BCEHS call taker will attempt to call the phone number provided in the initial message.
  • If the phone call is answered, the call taker can provide guidance to anyone already on scene (such as a friend or family member), and this phone call also acts as a way to identify false alarms.
• Paramedics will arrive and attend to the person
  • From the alarm and additional information entered by the user such as apartment number, or area, paramedics will accurately locate the patient, and provide care in a situation where every minute counts!
Privacy and Security

- The app is configured so that no personal data is collected or retained. Any information collected is anonymized for tracking location, with no personal identifiable information being collected.
  - The anonymized data is not available or sold to any other person, entity, government, or services.
  - If an emergency response is triggered, the app will send user information directly to BCEHS for a response. Only emergency services will have access to this data, which is anonymized and used only for informing regional public health prevention responses.
Impact

• From May 2020, any person with an active Lifeguard App has not lost their life to an overdose.
• Within the first 9 months of deployment, the Lifeguard App saved 14 lives.
  • Most drug users are habitual with their drug consumption and it’s not uncommon for a user to use five times per day, at the same time, in the same place, everyday.
  • With the toxic drug supply circulating in BC and North America, every time drugs are consumed, the user is entering a game of Russian roulette with their life.
• In these 14 instances, Lifeguard has shielded people from death.
• As of April 2022, the app has saved 45 lives.
Support Systems

CPR Guide
The latest version includes a step-by-step guide on how to administer CPR if someone you are with becomes unresponsive or stops breathing.

Naloxone Guide
Proven to save the lives of those experiencing an opioid overdose, we've included an easy to follow guide on how to properly administer Naloxone.

How-To Guide
In moments where every second counts, we want to make sure that people are able to use Lifeguard App as quickly and easily as possible.
The Roadmap – to Mental Health Support

Crisis Line
Lifeguard App v3 is able to directly-dial your local Crisis line in times of need – both from the main menu, as well as the active timer screen.

811 Nurses Line
The latest version of Lifeguard App lets users connect with their local nurses line, to help them answer any of their health-related questions.

Suicide Prevention
We believe that the desire to live is the most powerful human instinct. Users can connect with their local suicide prevention line in times of need.
“This app saved my life this week. Without it I would be dead. I think that’s a pretty solid reason to download an app. I don’t have another one that’s been able to pull that off.”

- A person who was saved twice:
  - “Because it was late at night and early in the morning, if I didn’t have the app, I’m pretty much positive I wouldn’t have survived.”
  - After being saved a second time by the Lifeguard App, the user sought out treatment.

- Anyone using Lifeguard app has not overdosed.
Summary

• It is a unique digital application (patented solution)
• Proven to save lives as a virtual intervention that empowers substance users
• The roadmap to mental health support systems integrating AI
• Enhanced security with distributed ledger technology and blockchain for end-to-end communication security
• Questions: Chandana@lifeguarddh.com