

Project Deliverable B: Need Identification and Problem Statement
 GNG 1103 - Engineering Design

Introduction

During our client meeting that occurred on January 21st, we were informed into more detail of what is expected from the device that we will be creating for our group project. During the meeting, we collected information through Tali Cahill, a nurse that assists opioid users at the Sandy Hill Community Centre. With the information that was recorded during her presentation, we were able to form a list of needs, some more important than others, that will need to be considered during our design process.

Customer Statement (exact words)	Interpreted Need (express specifically what the raw data implies)	Importance (1-5)
“You need both your hands to take drugs... No one wants to keep something on their finger”	The device cannot get in the way during common tasks	4
“Biggest use is in people who are using alone”	The device doesn’t depend on another person being there	5
“For people working in the trades, It can’t be too expensive”	Relatively cheap cost	4
“Has to do something where it saves them or calls someone in 3 minutes”	The device should react quick enough to get medical attention in time	5
“Should be fairly resistant to water and day to day wear”	Durable enough to wear in everyday activities	4
“Should be discrete... Not totally easily identifiable to other people”	Appears like daily wear	3
“I would love it to measure respiratory rate”	Measures respiratory rate	2
“There should be a way to say ‘this is a false alarm’ and if they were really	The user should be able to overwrite a false alarm if it	4

overdosing they wouldn't be able to override it"	occurs	
"Something people can customize"	Different designs and settings depending on certain lung diseases, etc.	2
"Naloxone gives them an immediate overdose (like a flu x100)... No one wants to have a naloxone"	Should administer naloxone if the person is overdosing	2
"More than a days battery life"	The device should be able to last throughout the day	5
"The easiest way is through pulse oximetry"	Use a pulse oximeter to measure blood-oxygen-level	5
"GPS may be a barrier"	Users may not want authorities to know their location	1

PROBLEM STATEMENT

The Sandy Hill Community Center wants a discreet and durable device for opioid users, that can detect an overdose and quickly alert medical professionals.