

# HARM REDUCTION

by design

**NOAH LITVIN + QUENTIN NORTHCROSS**

The background is a dark, grainy photograph. On the left, a clear plastic syringe with markings is visible. In the center, there's a roll of US dollar bills. On the right, a handgun is partially visible, its barrel pointing towards the bottom right corner. The lighting is low-key, creating deep shadows and highlights on the metallic surfaces of the gun and the edges of the bills.

AS OF 2016,

**DRUG OVERDOSE IS THE  
#1 CAUSE OF ACCIDENTAL  
DEATH IN AMERICA**

SURPASSING CAR ACCIDENTS AND FIREARMS.



“It’s time to change how we view addiction... The way we address this crisis is a test for America.”

—**DR. VIVEK H. MURTHY**  
SURGEON GENERAL

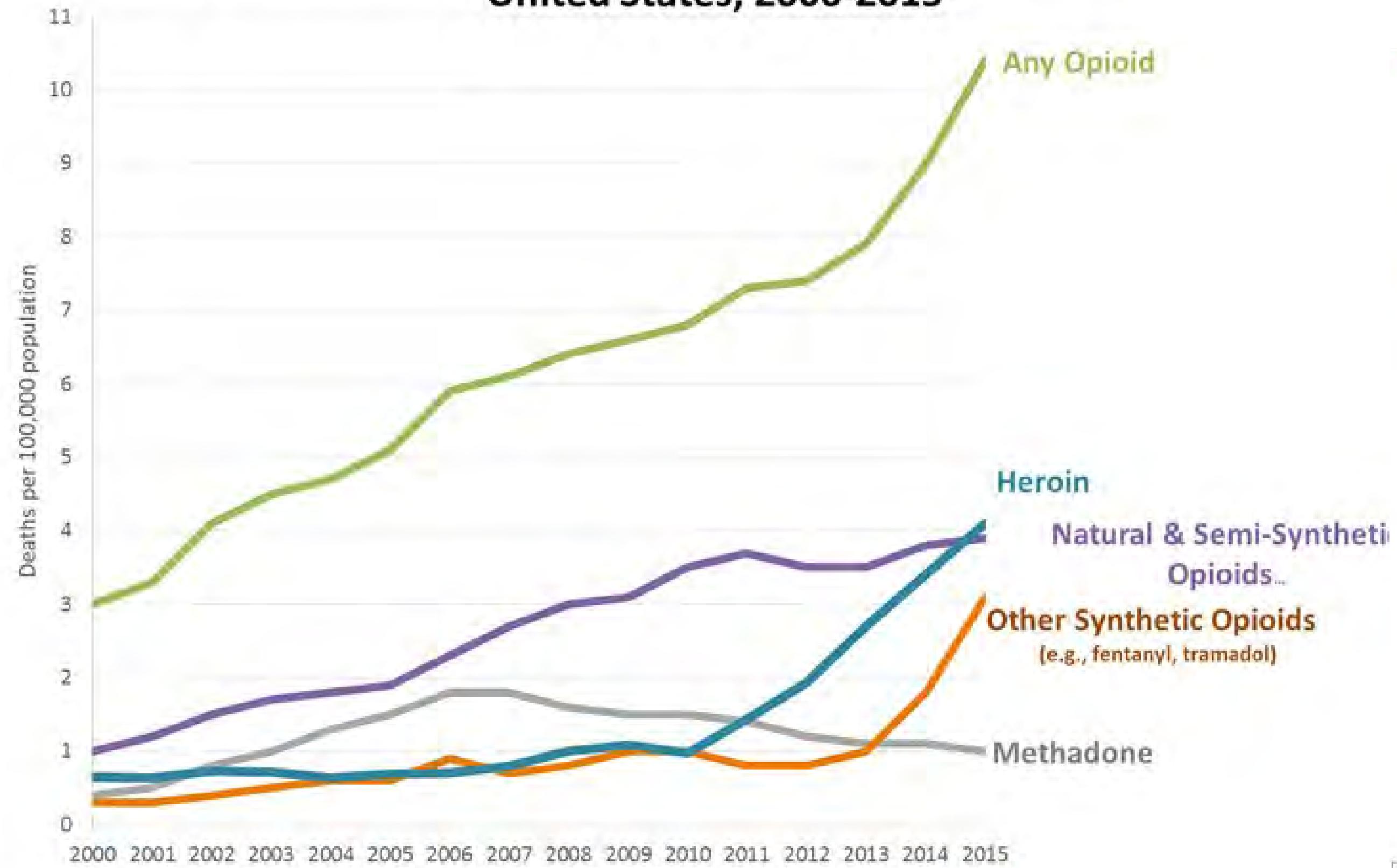


“The deaths caused by prescription drug, heroin and fentanyl overdoses are growing exponentially every year, yet this report fails to provide any detailed road map for how best to curb opioid addiction.”

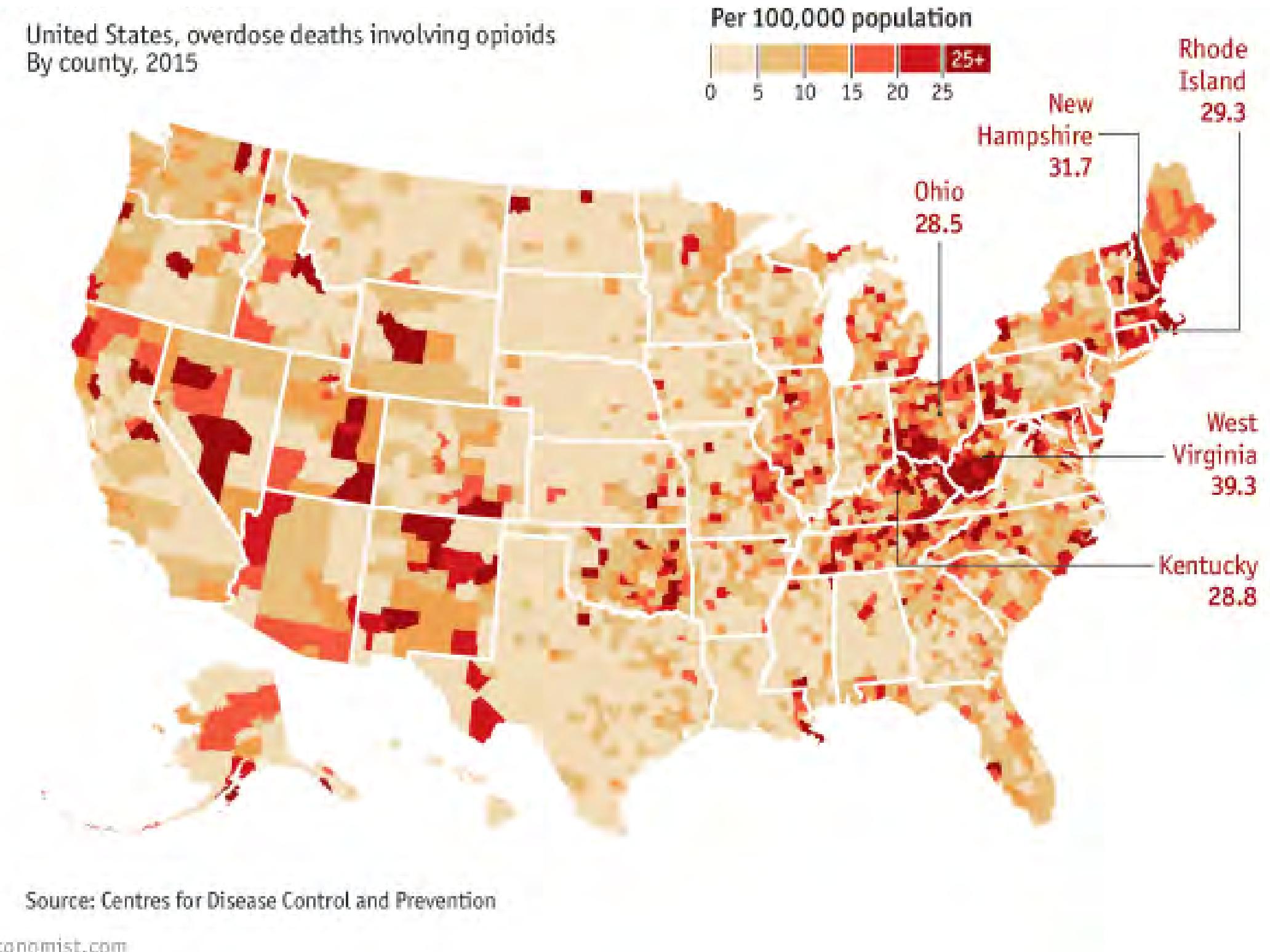
—**EDWARD J. MARKEY**  
SENATOR, MASSACHUSETTS (D)

# IT'S GETTING WORSE

Overdose Deaths Involving Opioids, by Type of Opioid,  
United States, 2000-2015



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2016. <https://wonder.cdc.gov/>.



# A DESIGN-LED APPROACH TO AMERICA'S OPIATE OVERDOSE CRISIS

DESIGN RESEARCH:

**SECONDARY RESEARCH**

**INTERVIEWS**

**ONLINE ETHNOGRAPHY**

**SURVEY**

**WORKSHOP**

PROTOTYPES:

**SYRINGE EXCHANGE MEMBERSHIP**  
FOR THE GENERAL PUBLIC

**THE GOOD SAMARITAN KIT**  
TO PREVENT OVERDOSE DEATH

**BLUEGUARD**  
PRODUCT-SERVICE SYSTEM

DISCOVER

DEFINE

DEVELOP

DELIVER



THE WAR ON DRUGS  
IS A FAILURE.

**THE OPIOID CRISIS  
SHOULD BE TREATED AS  
A HEALTHCARE ISSUE,  
NOT A CRIMINAL  
JUSTICE ISSUE.**

# OPIATE OVERDOSES CAN BE...

## REVERSED

Naloxone (Narcan) is an intramuscular injection or nasal spray that will reverse an overdose. It effectively sends the user into instant withdrawl. The reversal must happen shortly after the overdose.

## UNEXPECTED

Opiates can be mixed with other opiates of significantly higher potency (such as fentanyl) but appear no different prior to use.

## DIFFICULT TO DETECT

An overdose is physiologically similar to a strong high so it is not always clear when a situation becomes life threatening. Most overdoses occur from prescription pills, meaning paraphenalia may not be present to indicate the cause.

# FENTANYL LACING

$\pm 50$  TIMES

MORE POTENT THAN HEROIN

Indistinguishable from heroin  
based on appearance.

## RISK FACTORS

### USING ALONE

IF A USER IS ALONE, HIS/HER  
overdose cannot be reversed.

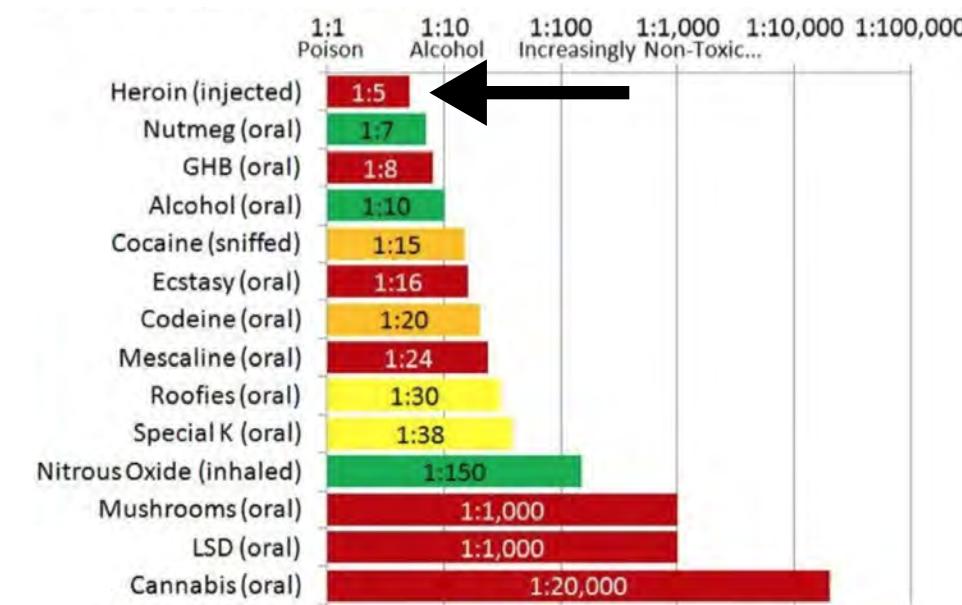
EMTS CANNOT BE CONTACTED.

NALOXONE CANNOT BE ADMINISTRATED.

# SMALL SAFETY MARGIN

THE RATIO OF THE DOSE TO GET HIGH AND  
THE DOSE CAUSING OVERDOSE IS

ONLY 1:5



### MINDSET & SETTING

USERS ARE MORE LIKELY TO OVERDOSE  
using in a new environment.

USERS ARE MORE LIKELY TO OVERDOSE  
after drug-free rehabilitation.

**Harm reduction** is an approach which attempts to reduce the negative consequences associated with drug use.

**Harm reduction** is about caring for opiate users, even if they do not cease use.

# **GOALS OF HARM REDUCTION INCLUDE...**

- Reducing the amount and frequency of use
- Reducing the spread of disease
- Preventing and reversing overdoses
- Encouraging safer methods of use
- Increasing access to counseling services
- Encouraging proper vein care
- Reducing the stigma surrounding opioids

# MIND MAP

# SECONDARY RESEARCH



and 100+ articles/videos on the topic

# PROCESS

# INTERVIEWS

# **Sharon Stancliff, MD**

## **MEDICAL DIRECTOR, NATIONAL HARM REDUCTION COALITION**

# **Underground Syringe Exchange Volunteer**

## **NEW ORLEANS, LOUISIANA**

# WORKSHOP



# ONLINE ETHNOGRAPHY

## ANECDOTES

**HOLY FUCK. Some guy just overdosed in my fucking room. Jesus fucking christ**

I am shocked. Wow. This dude from AA i used to chill with called me up and say he relapsed and i too him i was partying it up. He decided to come by....

**OD'd for the first time today. Wow. Scary. Shit.**

Needless to say, 0/10 would not recommend. And I'm not really trying to make light of the situation that I'll be honest really quite scared me...

## FENTANYL WARNINGS

### North Philadelphia Fentanyl Warning

Hey guys, quick warning about fent cut dope. Got a bag up in the Badlands today, with the stamp being Don King...

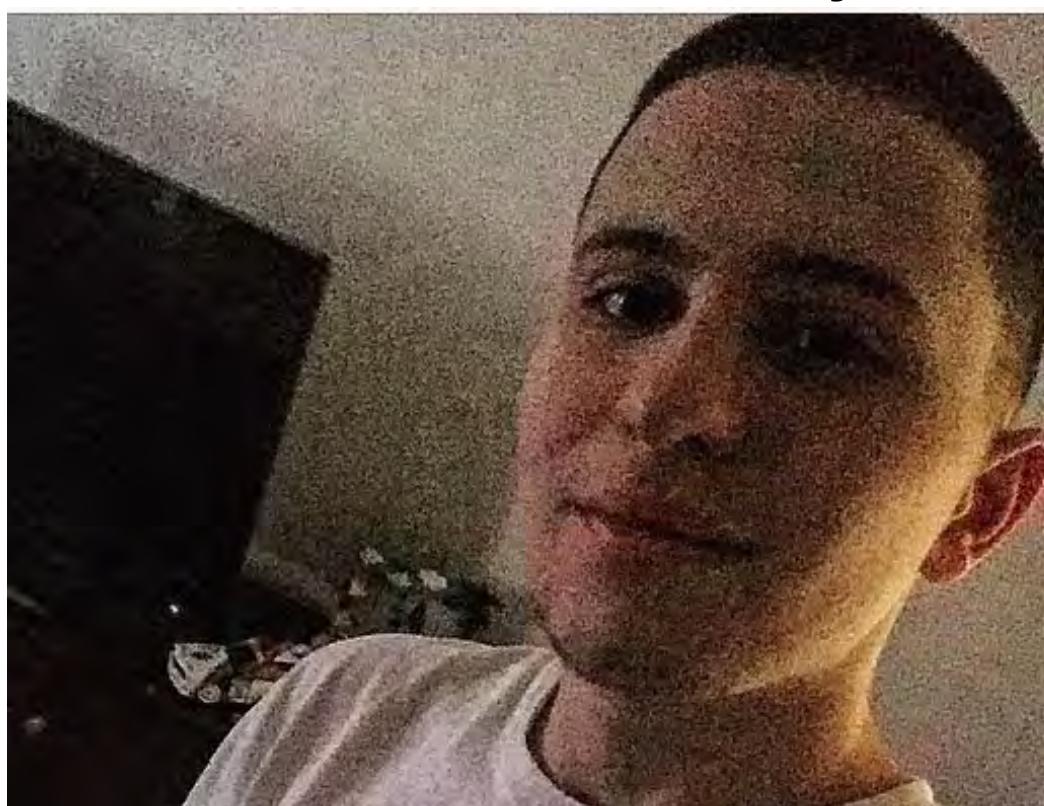
## MEMES

when your parents ask why you're wearing long sleeves and pants in the summer



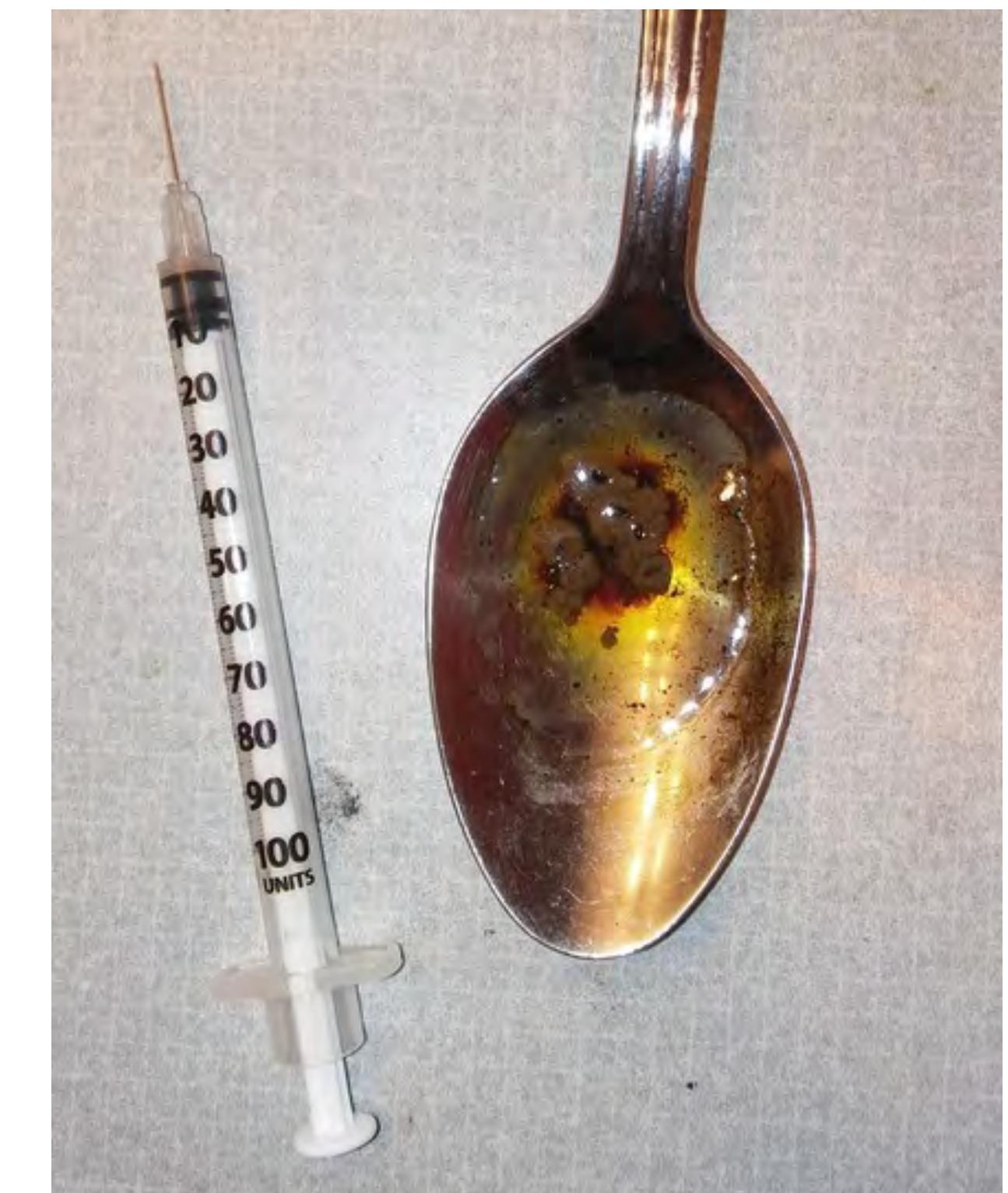
## ABSTINENCE PROGRESS

4 Months Clean Today!



## SUBSTANCE PORN

Well its 8:06am and it is that tine again. My gfrien got 8 xanny bars(2mg) and i have another .2 of dope for later! Happy nods my fellow users



# DESIGNFORHARMREDUCTION.COM

125+  
RESPONDENTS

1686  
RATINGS ACROSS 12 DESIGN CONCEPTS,  
SOME WITH COMMENTS

17  
SURVEYS

DESIGN FOR HARM REDUCTION

What do you think of these ideas to help opiate users be safer?



## Purity Testing Device

This device could indicate the potency of the opiate added, so that less might be used to prevent an overdose.

What do you think of this idea?



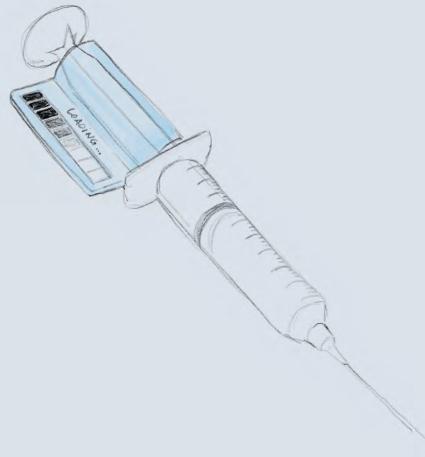
Good idea? Bad idea? Why?

SEE THE NEXT IDEA »

If you are seeking support, [find local resources here](#).

This is part of a graduate student design research project. [Contact Us](#).

# DESIGN CONCEPTS



## Syringe Timer

This syringe attachment could encourage users to pause before injection, helping to highlight their self-control.

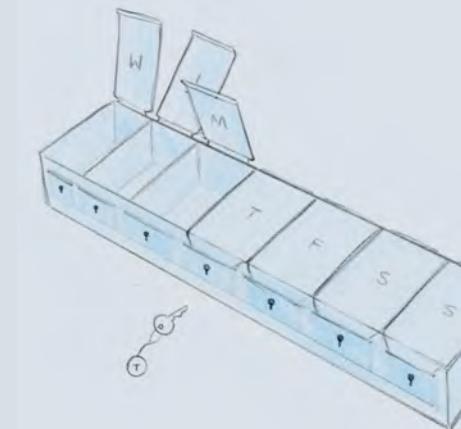
**39/100**



## Harm Reduction Hotline

A hotline could provide substance use and mental health counseling, legal advice, and direction to other resources.

**70/100**



## Stash Box

This stash box could have individually filled compartments that unlock daily. This would keep substances hidden while also encouraging use reduction.

**53/100**



## Usage Tracker

This device or app could allow users to keep track of how much they are using and help set realistic use reduction goals.

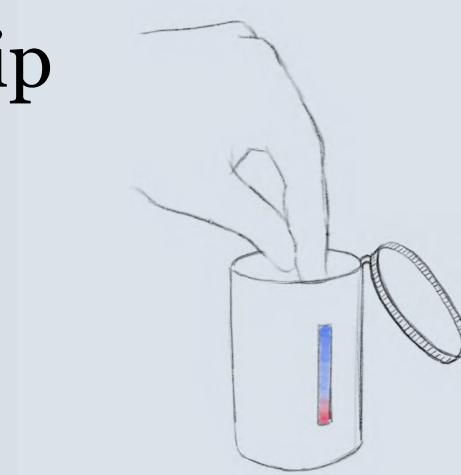
**58/100**



## Syringe Exchange Membership for the General Public

The general public could become a member of a syringe exchange. This group could also petition lawmakers.

**72/100**



## Purity Testing Device

This device could indicate the potency of the opiate added, so that less might be used to prevent an overdose.

**78/100**



## Vein Detector

This device could illuminate users' veins, helping them ensure veins aren't missed during injection.

**74/100**



## Harm Reduction Kit

This kit could include opiate purity testing kits (to prevent overdoses) and naloxone (to reverse them).

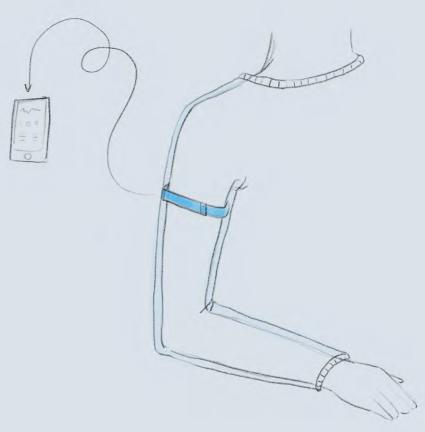
**85/100**



## Travelling Nurse

A registered nurse practitioner could be summoned by phone or app to provide healthcare and counseling services, as well as provide equipment for safer use.

**54/100**



## Wearable Overdose Monitor

This device could notify 911, trusted friends, and/or family members of a users' location in the event of an overdose.

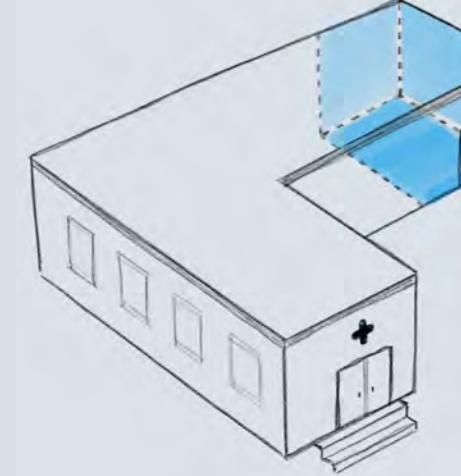
**58/100**



## Digital Connector

It's safer to use drugs in a group than alone. This device or app would bring users together online.

**50/100**

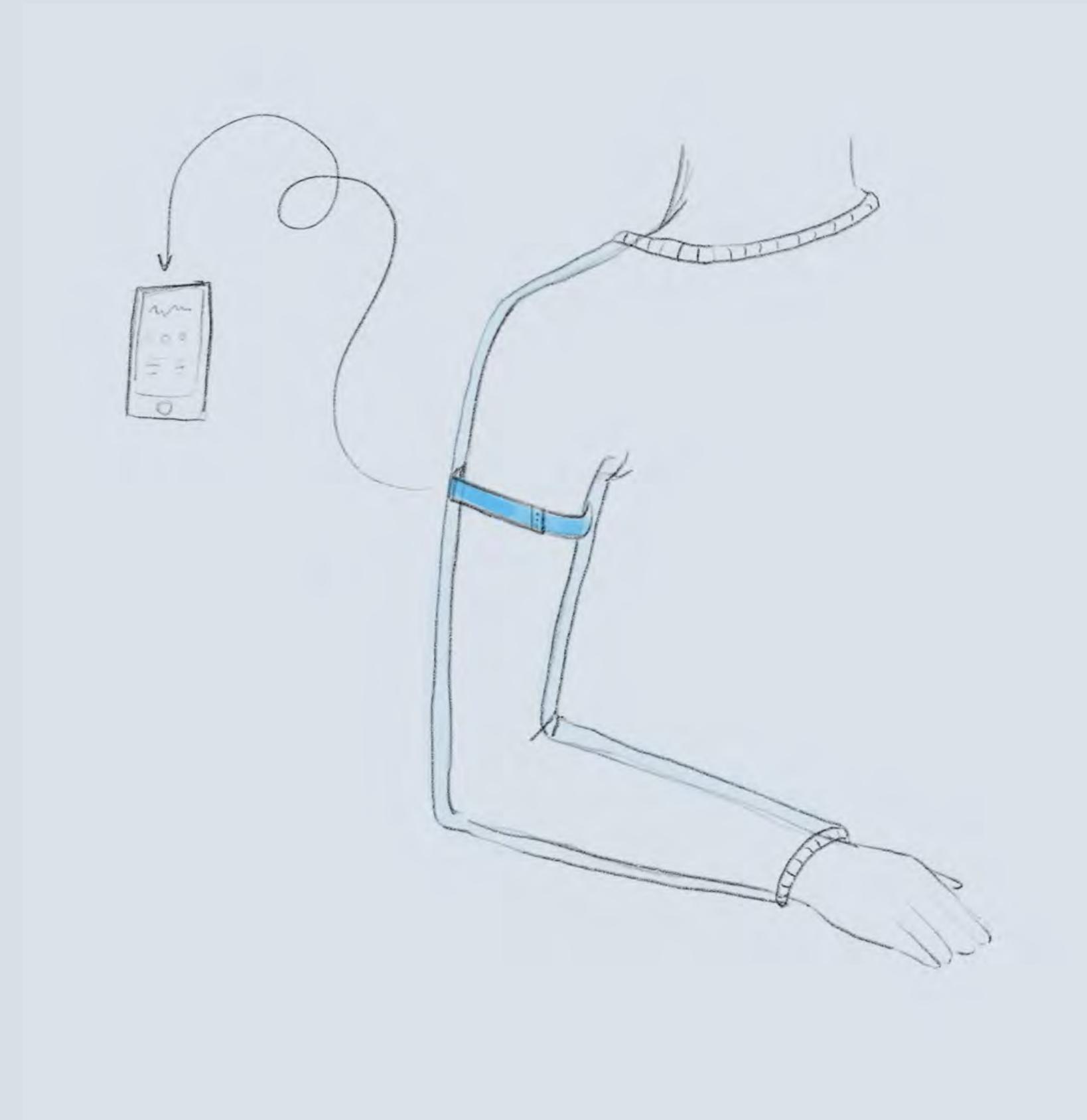


## Hospital Safe Injection Space

A space in hospitals could be designated for IV drug users to injection under the supervision of nurses.

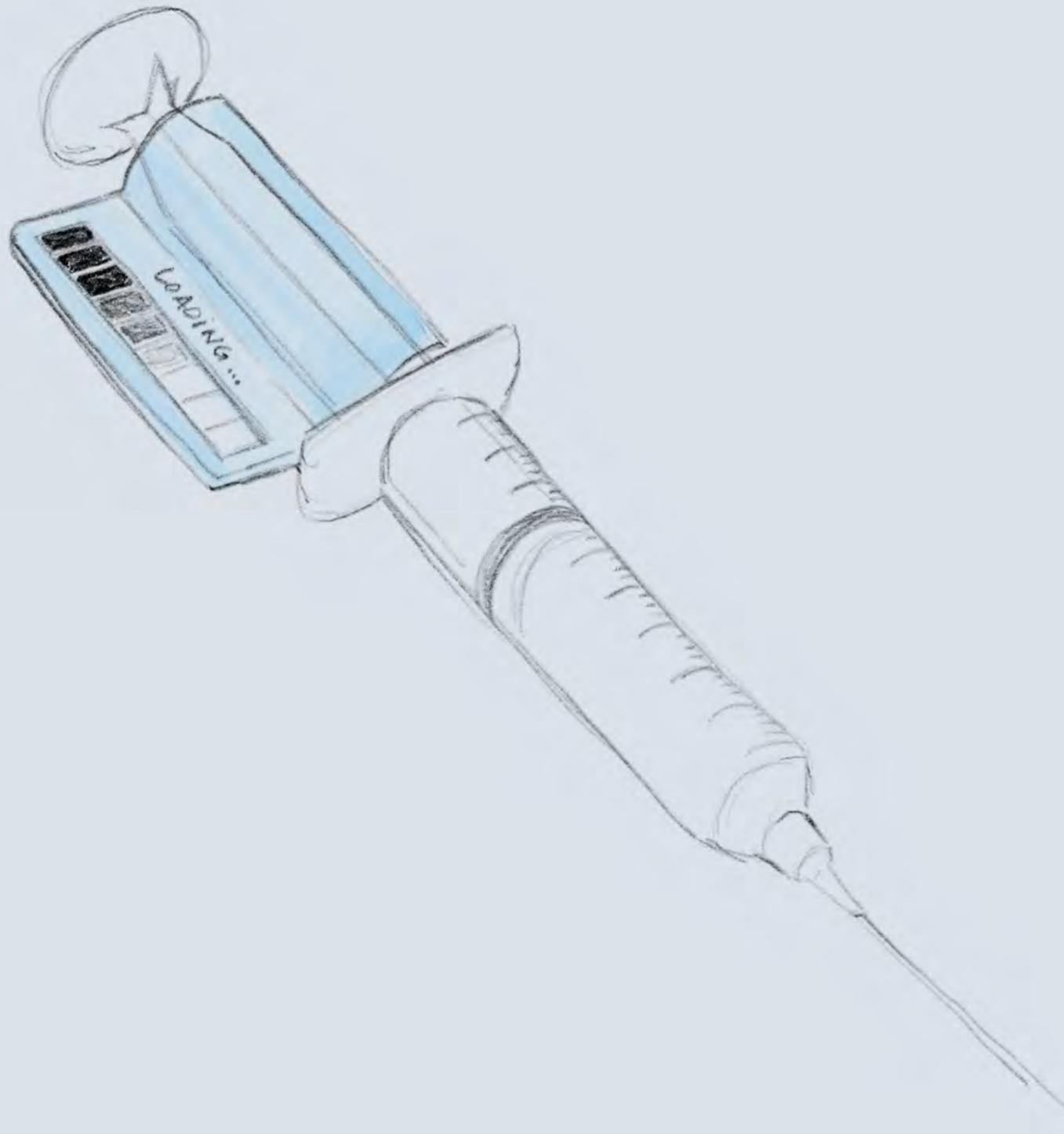
**77/100**

# RESPONSE TO WEARABLE OVERDOSE MONITOR



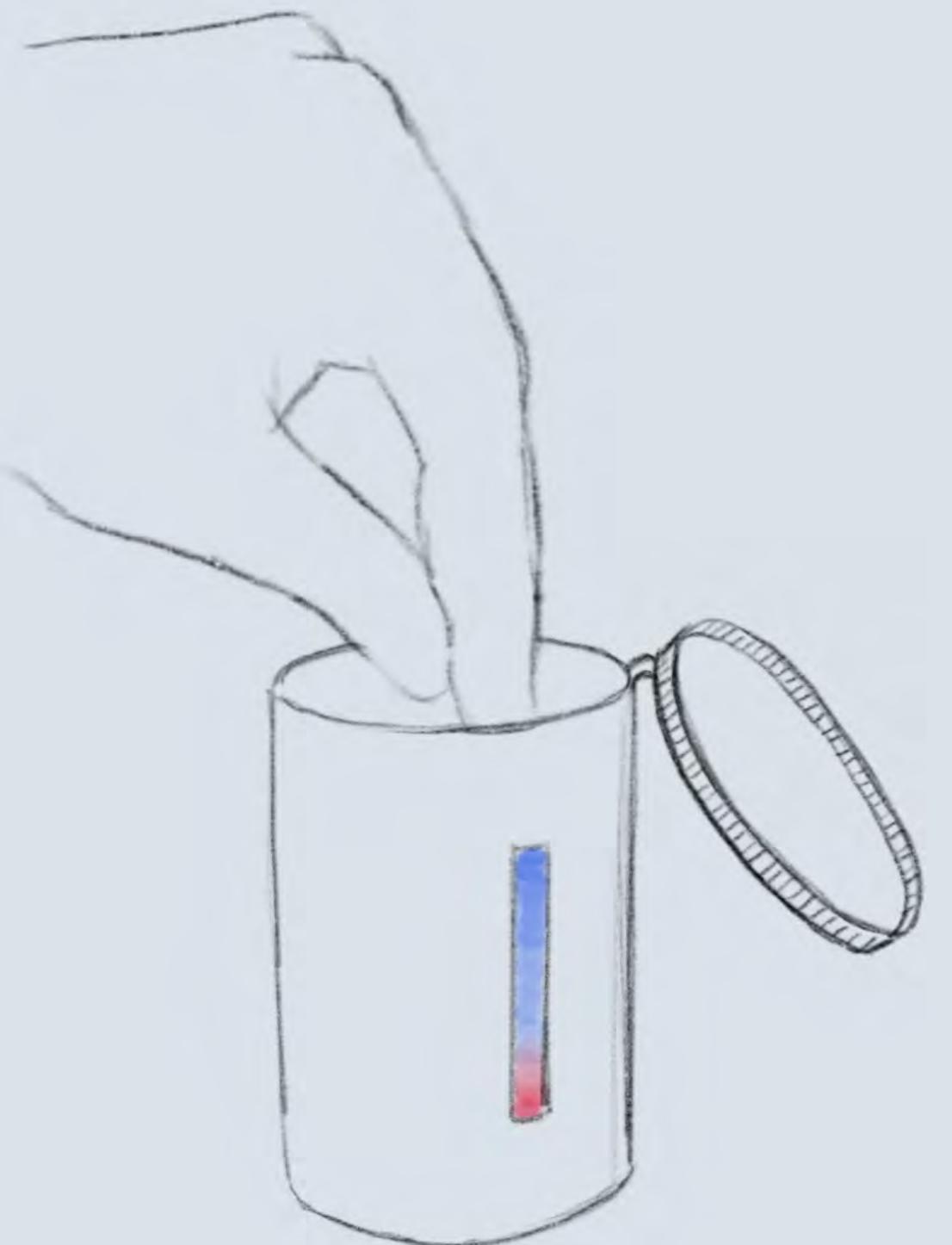
“A ton of users use alone and even if you're with someone, a lot of people have stories of good, trusted friends that ended up leaving them to die. This would be awesome.”

# RESPONSE TO SYRINGE TIMER



“Self control means fuck-all when someone is prepping to use. Really don't think this would be useful for enough people to make it worth the investment.”

# RESPONSE TO PURITY TESTING DEVICE



“What about tar? I'd bet it'd be difficult to test to that. There'd be hot spots and then filler spots.”

THE  
**PROTOTYPES**

# Syringe Exchange Membership for the General Public

## END THE WAR ON DRUGS

- I believe drug use should be treated as a public health issue rather than a criminal justice issue.
- I support syringe exchanges, safe injection sites, and decriminalization.
- I respect the dignity of people struggling with drug addiction.
- I support harm reduction.

NYS AUTHORIZED SYRINGE EXCHANGE PROGRAM  
PARTICIPANT IDENTIFICATION CARD

Member ID  
VN201016

END THE WAR ON DRUGS

JOIN A SYRINGE EXCHANGE

click to learn more about syringe exchanges

WHAT IS HARM REDUCTION?

Harm reduction is a set of practical strategies and ideas aimed at reducing negative consequences associated with drug use. Harm Reduction is also a movement for social justice built on a belief in, and respect for, the rights of people who use drugs.

DRUG ADDICTION SHOULD BE A PUBLIC HEALTH ISSUE

## MEMBERSHIP CARD DESIGN

JOIN TODAY

BUILD A MOVEMENT & CHANGE THE LAWS

ACCESS TO CLEAN SYRINGES & NEEDLES

SUBSTANCE & MENTAL HEALTH COUNSELING

EXEMPTION FROM DRUG PARAPHERNALIA LAWS\*

JOINING THE SYRINGE EXCHANGE IS COMPLETELY FREE

THE MEMBERSHIP CARD

Your membership card shows your support for harm reduction policies in the United States and cites the laws and regulations which exempt you, as a syringe exchange member, from drug paraphernalia charges in New York State when in possession of syringes being taken to or from an exchange.

TO BECOME A MEMBER, JUST FILL OUT THIS FORM!

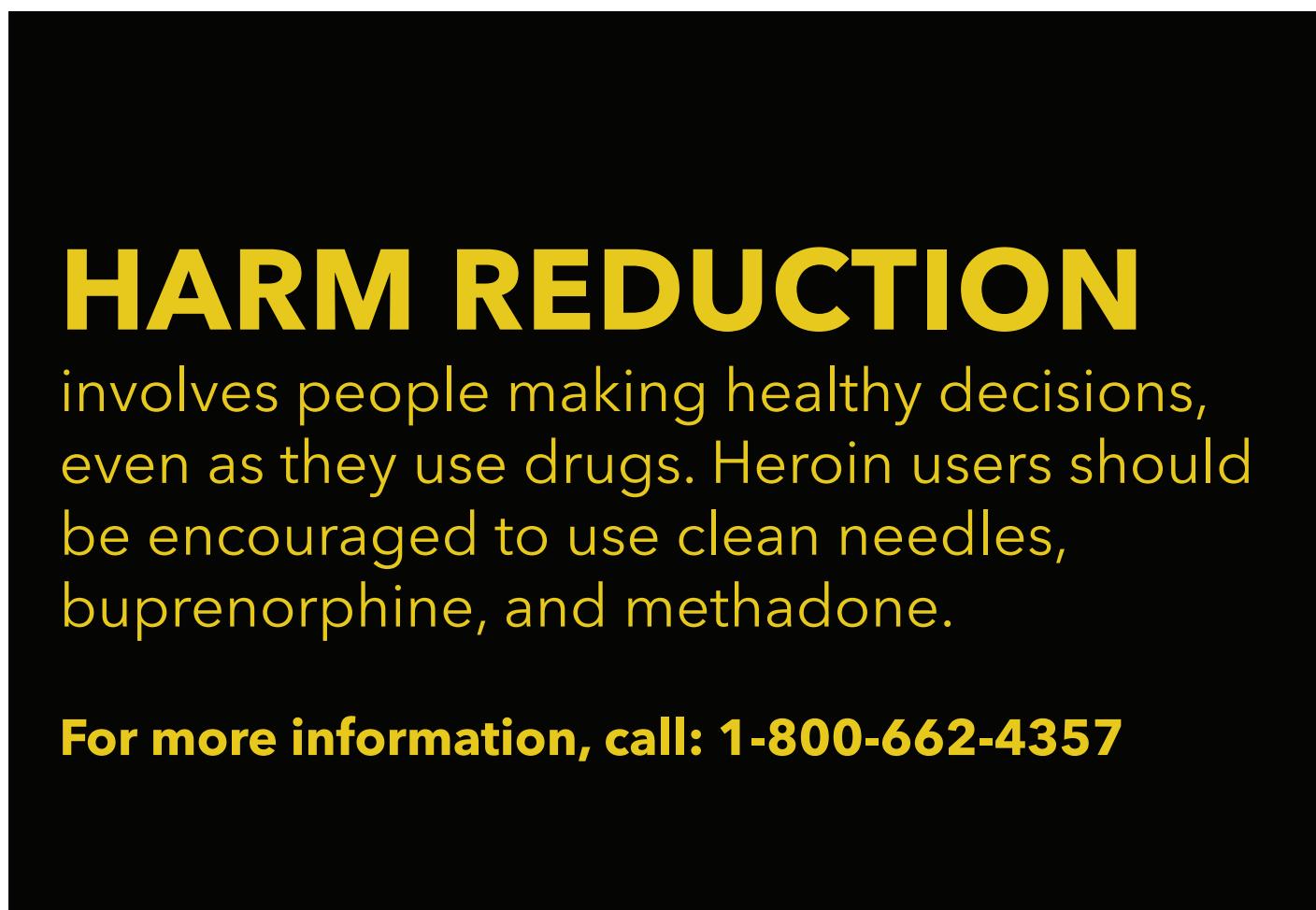
FIRST NAME  LAST NAME  EMAIL ADDRESS  PHONE   
STREET ADDRESS  CITY  STATE   
 I HAVE TAKEN THE HARM REDUCTION PLEDGE  I'M INTERESTED IN VOLUNTEERING  
 I'D LIKE TO SPEAK WITH A NON-JUDGEMENTAL SUBSTANCE & MENTAL HEALTH COUNSELOR  I'M INTERESTED IN DONATING

SUBMIT

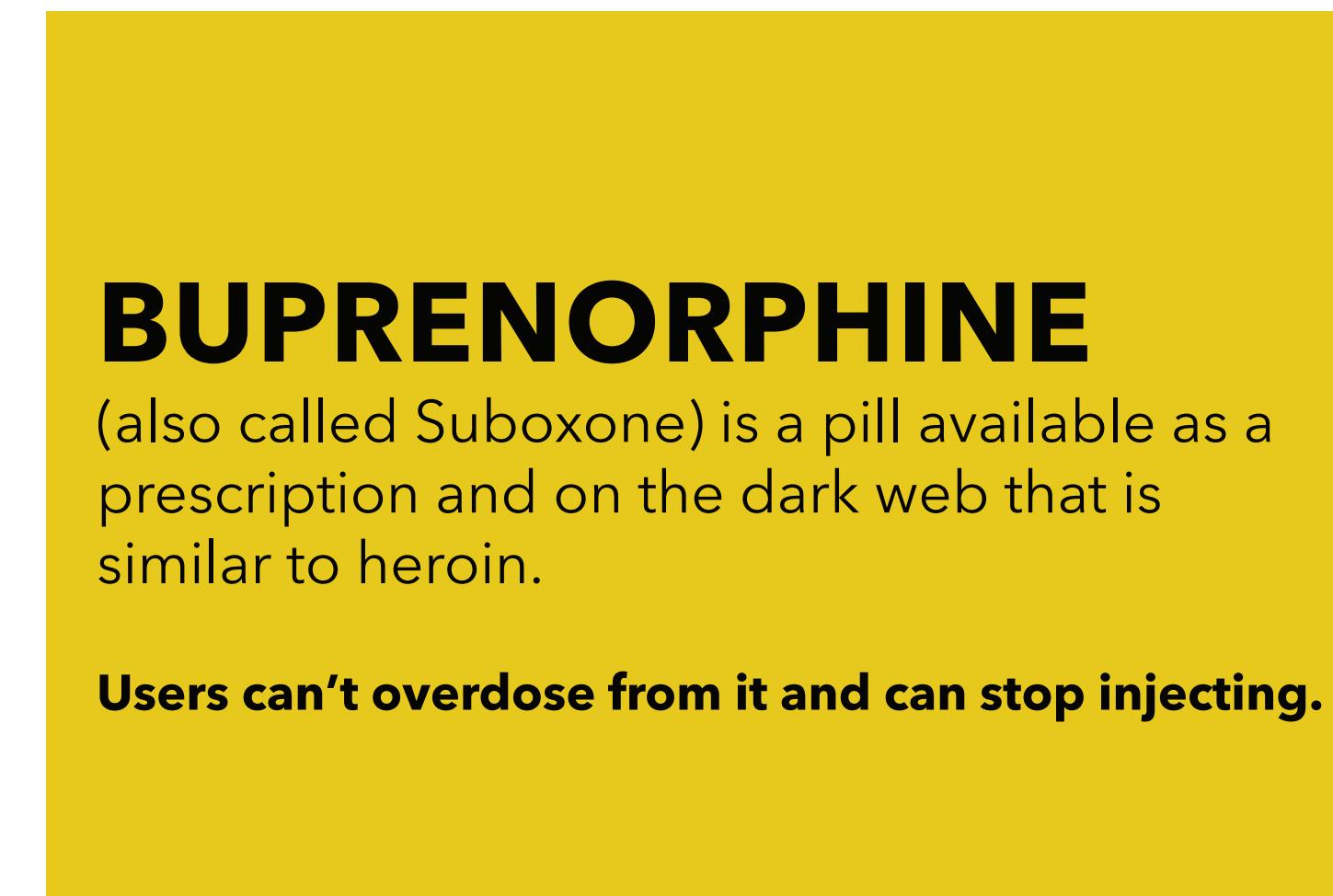
## WEBSITE DESIGN

# THE GOOD SAMARITAN KIT

- HEROIN PURITY TESTS TO PREVENT OVERDOSES
- NALOXONE TO REVERSE OVERDOSES
- INFO CARD TO INCREASE ACCESS TO COUNSELING



FRONT



BACK

INFO CARD DESIGN



CASE DESIGN

INTRODUCING...

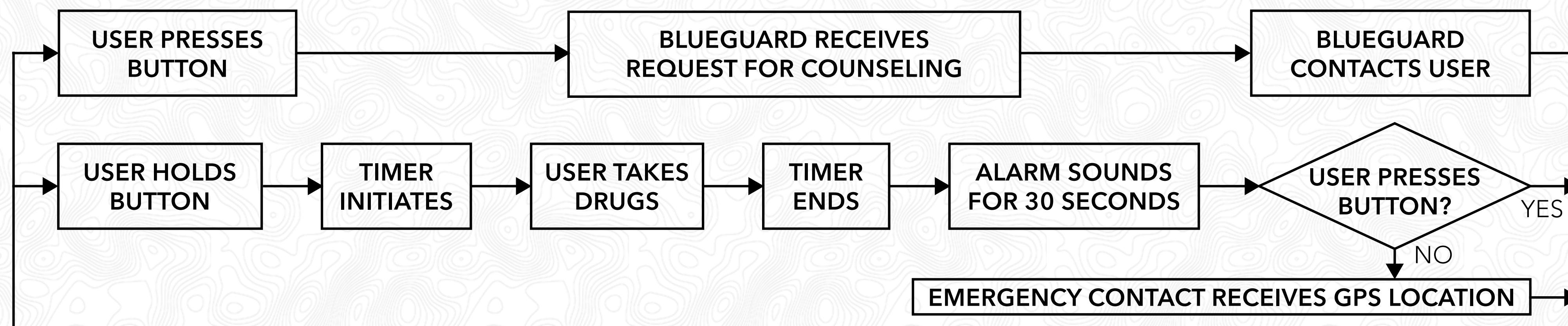
# BLUE GUARD

a product-service system to protect drug users  
from overdose and connect them to counseling

# THE BLUEGUARD CONNECTOR

**Press** to request a call from a BlueGuard for counseling.

**Hold** to engage overdose monitoring mode.



CONNECTOR SLEEPS (LOW BATTERY CONSUMPTION)

# **THE BLUEGUARD CONNECTOR**

A desire for a similar overdose monitor functionality has been expressed repeatedly by users online.

Users tend to be aware that resources exist, but many don't seek them out or engage with them.

**BY PAIRING A LOW-COMMITMENT OPTION FOR COUNSELING WITH AN OVERDOSE MONITOR, we believe that participation in counseling would substantially increase.**

# ABOUT BLUEGUARDS

BlueGuards are counselors trained in harm reduction, but intentionally not referred to as *counselors*.

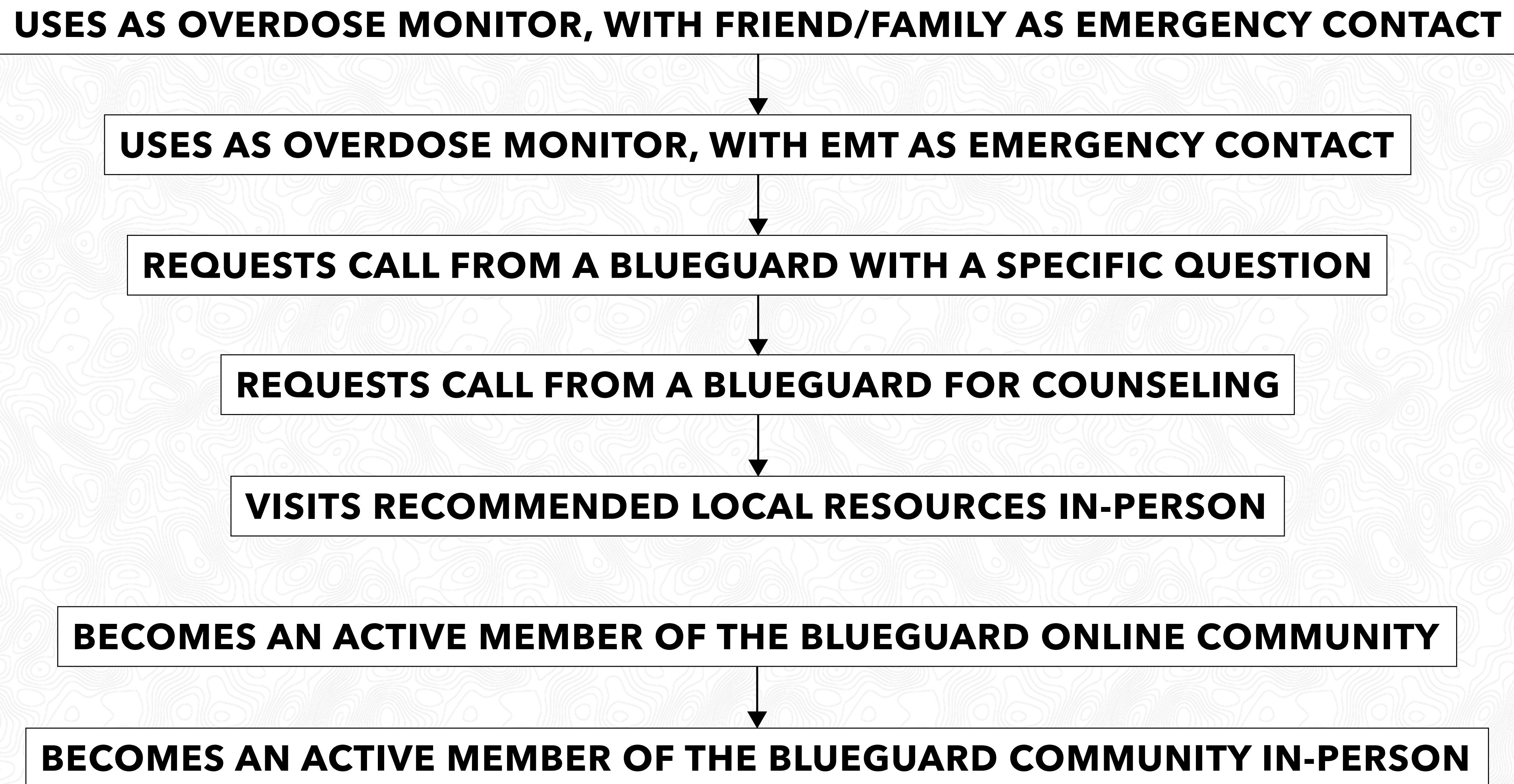
A dashboard provides BlueGuards with information relevant to the caller's specific history and location.

BlueGuards' provide callers with counseling, offer information about safer use, and ultimately connect callers to local resources.

# SERVICE BLUEPRINT

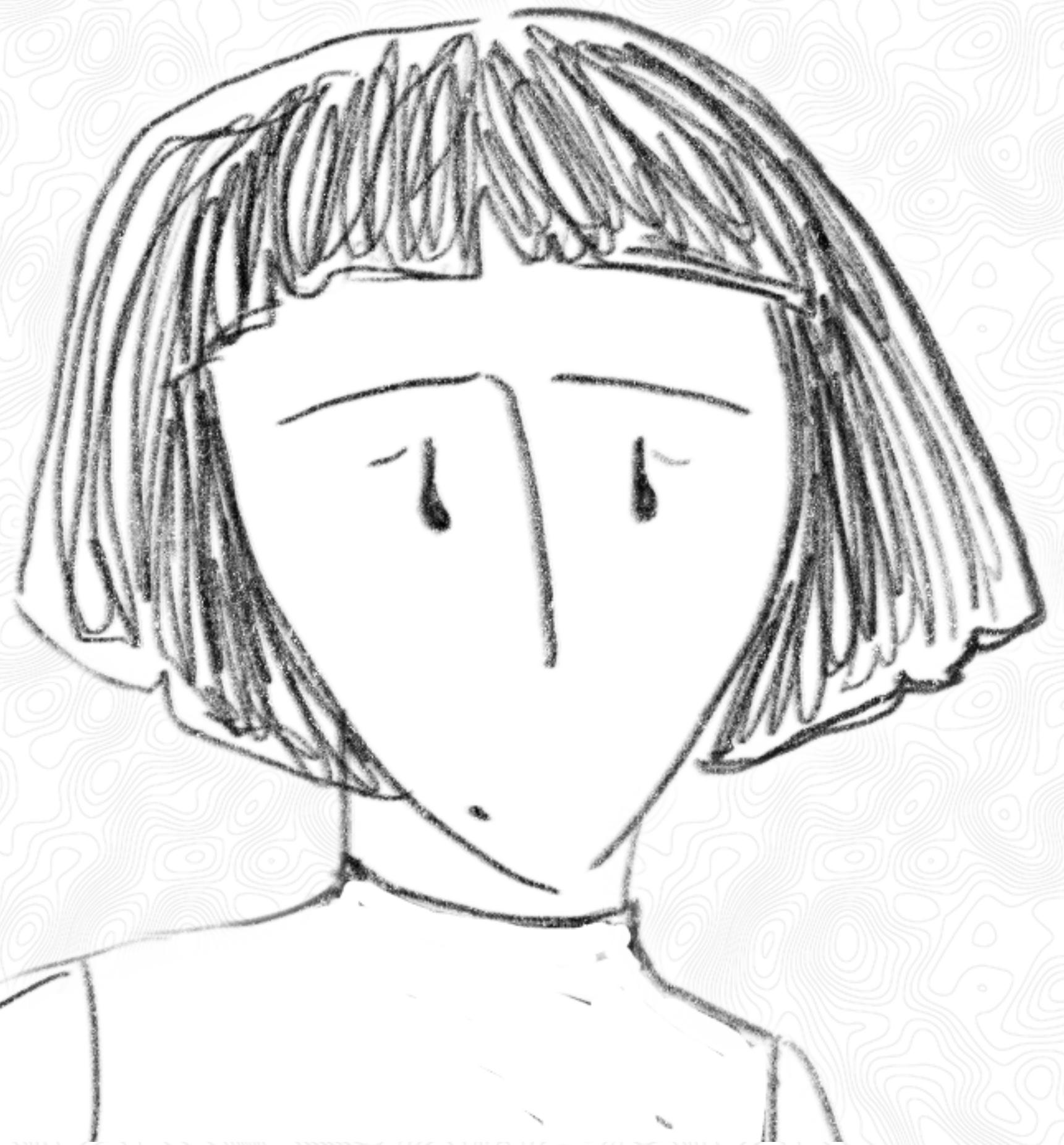
FUNDING	MARKETING	DISTRIBUTION	SETUP	COUNSELING	OVERDOSE	COMMUNITY
Provided as gift Purchased by user	Word of Mouth Internet Print TV & Radio Outdoor Advertising	Counseling Centers E-commerce Syringe Exchanges Social Workers Clinicians <small>DURING DISCHARGE FROM HOSPITAL AFTER OVERDOSE</small>	<p><b>1</b> Language Selection  <b>2</b> Set Contact Information  <small>OPTIONALLY, ADD PERSONAL INFORMATION FOR COUNSELING TO REFERENCE</small></p> <p><b>3</b> Set Emergency Contact  <small>INTERFACE SUGGESTS EMT TO BE CONTACTED WITH PLAIN LANGUAGE OR TRUSTED FRIEND WITH AGREED UPON CODEWORD</small></p> <p><b>CHANNELS FOR SETUP</b>          PHONE CALL, SMS, WEBSITE, AND WIZARD ON USB CONNECTION</p>	Requests counseling call from device	Device calls for help if needed	Online Community Local Chapters <b>"THE NARCOTICS ANONYMOUS OF HARM REDUCTION"</b>
USER EXPERIENCE		OPERATIONAL				
Philanthropy Government Health Insurers ?	Targeted outreach to experts and "Thought Leaders"	Partnership Coordination E-commerce Platform and Fulfillment System	Hire and train BlueGuards to staff call center  <p><b>ABOUT BLUEGUARDS</b>          SUBSTANCE USE COUNSELING EXPERIENCE IS A PREREQUISITE          TRAINING IN HARM REDUCTION STRATEGIES IS PROVIDED          THE ULTIMATE GOAL FOR BLUEGUARDS IS TO CREATE SUSTAINED CONNECTIONS BETWEEN USERS AND LOCAL RESOURCES</p>	BlueGuard responds using the dashboard  <p><b>DASHBOARD FEATURES</b>          CALLER INFORMATION AND HISTORY          LOCALIZED RESOURCES          ABILITY TO RECORD "TIPS" FROM CALLERS          MACHINE LEARNING-POWERED SUGGESTIONS</p>	Call to user one day after overdose alert  Predictive algorithm to warn users of increased chance of overdose	Community organizing

# INCREASING LEVELS OF ENGAGEMENT



# BLUEGUARD

## HYPOTHETICAL SCENARIO #1



**Samantha**, an only child in an upper-middle class family, developed a heroin addiction at age seventeen.

Abstinence-focused counseling and rehabilitation services have proven unsuccessful for her.

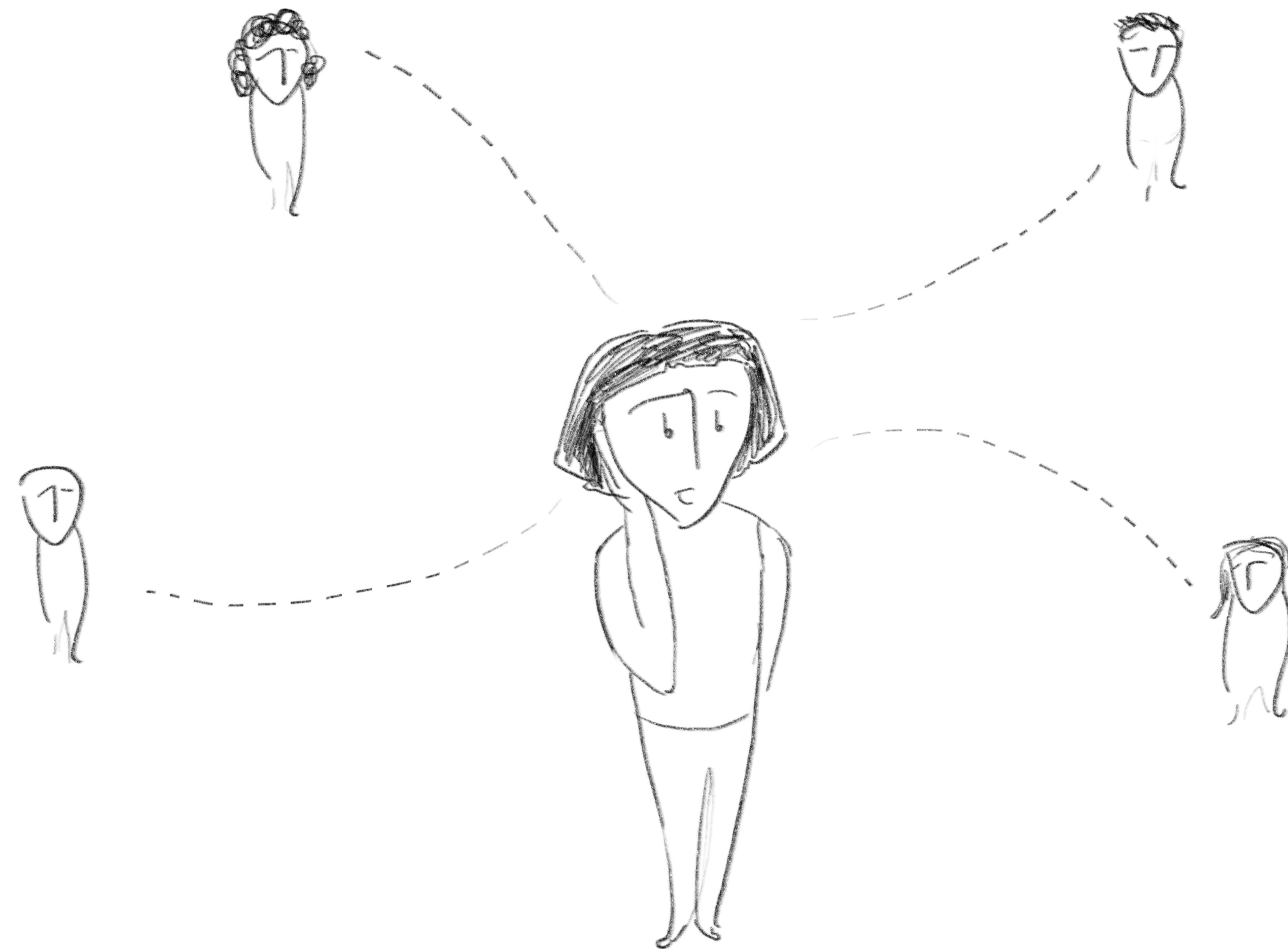












# BLUEGUARD

## HYPOTHETICAL SCENARIO #2



**Paul** is a sanitation worker who was prescribed OxyContin after a work-related injury.

He developed a dependency on opiates. This created a financial strain that ultimately led to his eviction.













THE  
**THESIS**

**DESIGNERS MUST  
BECOME INVOLVED IN  
HARM REDUCTION.**

**THERE ARE MANY  
OPPORTUNITIES TO  
INTERVENE.**

**DESIGN CAN CREATE  
NEW SYSTEMS FOR  
THOSE NEGLECTED BY  
EXISTING PROVIDERS  
OF CARE.**

THE  
**END**