



**iRescU: Bridging the Crowd and the Cloud for AED Geolocation Mapping**

A crowdsourcing mapping project to help **SAVE LIVES**

Harnessing  
Crowd Sourcing, Geolocation and Big Data for Social Good

Nadine Levick MD, MPH EMS Safety Foundation, New York, USA  
And The iRescU Research Team



**What IS this? – in 6 bullets**

- Social good
- Crowdsourcing/Engagement
- Mapping
- Augmented Open Government Data
- Public Health/Safety
- Saving lives




**>1000**  
deaths  
**every day \* ...**

**before ever reaching the hospital**

\*Heart Disease and Stroke Statistics—2017 Update: A Report From the American Heart Association, Circulation. 2017; January 25, Out of Hospital Cardiac Arrests





**SO...  
What is  
10 times worse  
than USA annual road deaths  
or annual gun deaths???**



**380,000**  
men women and children  
**dying every year**  
in the streets, workplaces,  
playgrounds and homes of our  
communities



**Would you be  
OK about  
3 Jumbo Jets crashing  
every day???**

7 and a ½ full Yankee Stadiums of deaths every year



dying from  
**Sudden Cardiac Arrest**



### What is a cardiac arrest?

- It is a sudden electrical problem
- Heart stops pumping effectively and if nothing is done you are dead in minutes

the ambulance just can't be there in time...



USA out of hospital sudden cardiac arrest  
**DEATH rates are HIGH**

**92 % die** - its not like on TV

- Only ~8% survive, basically unchanged in 30 years
- In some places survival is better - 15%
- New York and Detroit's survival the worst < 5%



The tools to address this effectively

**exist**

**BUT**

but they are seldom used



To save a life.....

immediate bystander action with  
CPR and Defibrillator (AED) use  
is required  
as brain death begins  
in 3 minutes



Three simple things for you to do...

- Call 911
- Do CPR
- Find and use the AED...  
*and therein lies the challenge*



What is an **AED** ?  
Automated External Defibrillator

**IS DESIGNED  
FOR LAY PEOPLE TO USE**  
turn it on  
it talks to you,  
and it knows what to do



and...

**WHERE IS IT ?**



**AED**  
Automated External Defibrillator

**Yes!**  
**IS DESIGNED FOR  
LAY PEOPLE**

**TO USE**



**AEDs**  
could save **80%** of victims  
but  
only used in **<2%**




**ALL YOU NEED TO DO IS:**

- GRAB ONE (usually off a wall)
- TURN IT ON
- IT TELLS YOU WHAT TO DO

**So... do YOU know  
where the nearest  
AED  
is  
???**

What do you do when there is a database that you need to save lives and you don't have it and you are told it is too expensive to build and maintain




**NO comprehensive geolocated AED database**

- So not only do you not know where the nearest AED is –

**911 doesn't know either**

- fewer than 1 in 10 AEDs in the 911 database
- Is no system in place to capture all AEDs & info: validate battery and pad status or importantly - location and accessibility

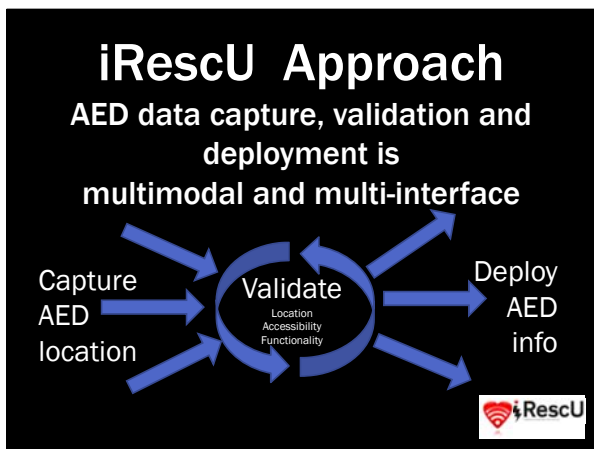


.....Because the systems engineering linking all the parts needs **immediate** focus and attention



**How do you find where that AED is..?**



**Data capture**  
**3 Tools**  
to make it happen

- An App – Android and Apple
- A web form – Waiting for you online
- A tweetbot - to be released this week

## iRescU App

v1.1

add an AED location you have found  
android and ios App stores

## iRescUapp



Android/ios App




**ADD an AED!**  
you find  
Google Play Store and Apple App Store

## Web form

- no App required

You want the AED upload web form  
- NOW -  
*no App needed*  
scan this QR, you might just save a life



ADD an AED!  
[www.iRescU.info/AEDupload.htm](http://www.iRescU.info/AEDupload.htm)

## Clothing becomes a data entry tool



ADD an AED!  
[www.iRescU.info/AEDupload.htm](http://www.iRescU.info/AEDupload.htm)






## Twitterbot

tweet or DM to  
**@AEDfound**  
so you can tweet the location of an  
AED you have found

( no need for an App or even a web form)

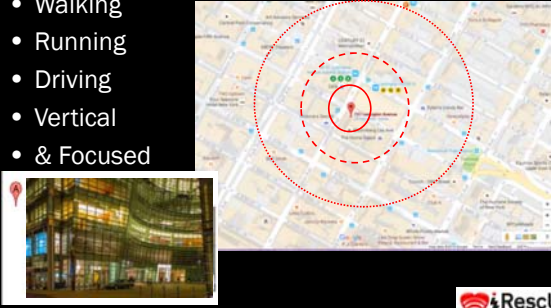

## Accuracy is very important

- Location – a number of feet
- Peripherals- good batteries and pads
- Accessibility – locked buildings/doors



## Data Granularity

- Walking
- Running
- Driving
- Vertical
- & Focused

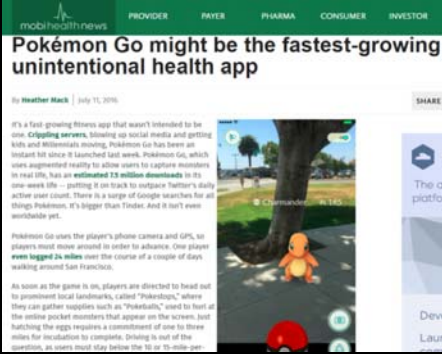
## People like finding things

- High tech and low
  - Geocaching
  - Scavenger hunts
  - 4 square/Pinterest
  - Google places
  - Pokemon go





## Sort of like Pokemon Go for the AED



## Crowd and Cloud

<http://crowdandcloud.org/>




## Data Dissemination 3 Pathways

- API feed to 911
- Big data mapping
- Local data to Apps

36

## iRescu Key elements

- Scalable
- Translatable
- Sustainable



## Yes..., Add "AED"

Google places  
ATMs ?  
Bars?  
Coffee?

Yes..., please





By just taking a photo of an AED with a phone or camera you could potentially be saving a life.

Because that AED could be found and used in an emergency and be the reason someone is still alive today.




**The Solution.** Functioning defibrillators are easily accessed.  
Lives saved.



## Recognition

February 2018  
iRescu is selected to be in the Civic Hall EIR Program

June 2016  
iRescu is selected to be in the NYEDC SBIR Impact Program

March 2014  
American Heart Association  
iRescu INNOVATION AWARD



March 2014  
Invited to The White House  
by the Chief Technology Officer, Todd Park, based on merit of iRescu





## Conclusion

- This IS a systems engineering issue
- Established approaches have failed
- Solutions lie in disruptively addressing the gaps in effectiveness
- Its not so hard
- It is a MAPPING project
- We have new tech tools
- The cloud and Big Data are core
- Embracing innovation is key

## Questions?

Talmud Sanhedrin 4:5:

וכל המקיים נפש אחת - מעלה עליו הכתוב כאילו קיים עולם מלא

“to save a single life,  
is as if to save a whole world”



www.iRescu.info

The screenshot shows the iRescu website homepage. At the top is the iRescu logo, which consists of a red heart with a white Wi-Fi symbol inside, followed by the text 'iRescu'. Below the logo is a navigation menu. The main content area features a central image of a smartphone displaying the iRescu app interface. To the left of the phone, there is text that reads 'CREATING INNOVATION THAT LEVERAGES SOCIAL MEDIA TO... POWER & SAVE LIVES'. To the right, there is a list of 'FEATURES OF iRescu' including: Cloud-based, Global Emergency Network, CPD/MSD Management, Integrated with EMS, Apple/Android/Windows Data, Real Time Location 24/7, Free Android App, Open Data Path, Multi-media Publications, and AED geo-location Capable. Below the features list are logos for Google Play and the App Store. At the bottom of the page, there is a photo of a woman wearing glasses and a white lab coat, and a QR code.

[www.iRescu.info](http://www.iRescu.info)

Your handout from today's  
presentation

<http://www.iRescu.info/CivicHall2018HO.pdf>

