What is geofencing?

-A geofence is a virtual fence around a physical location. Geofencing uses GPS signals to identify where an individual is located.

For example, if a person with a smartphone enters the geofence area and uses their device, an advertisement can be programmed to pop up once the consumer is in the designated location. Stores may use this as in-store advertising for promoting certain items. It could also be used to target potential customers nearby and draw them in to a store with a deal.

Types of Geofencing

Geo-conquesting

-Mobile advertising that uses location-based mobile advertising (primarily through social media channels) that directs consumers toward a specific business when they are physically in a competitor's location. It is essentially "competition-based" geofencing. Instead of drawing consumers to a location, geo-conquesting draws consumers away from another business.

Geo-framing or Footprint

-Using previously collected data to reach users who had been to a location in the past.

For example, someone who had once been in store can be targeted with ads to have them return for a sale or promotional item.

This could be a way to reach parents, or family members, in addition to students if the location targeted was a school.

Network-based geofencing has a broader reach and can target any mobile user connected to a cellular network (not just smartphone users). Users do not have to open an app, or have it running. The messages are sent through SMS (text messages) when an individual enters the geofence. Users do have to opt-in to receive the text message alert and can opt-out at any point.

It also does not impact a customer's battery life, data bill or data space.

It uses "carrier-grade" location data (which is not as accurate) to determine where SMS subscribers are located rather than GPS location.

How is geo-fencing used?

There are many uses to geo-fencing. Some of the most recognizable ways are through targeted advertisements on social media, activity monitoring, including people entering or leaving an area, text message alerts, or mobile push notifications.

Benefits of Geo-fencing:

Target audiences

Geofencing can be programmed to target specific groups for messages including locations, age, gender, etc.

High Reach

Geofencing has become popular because it is a way to reach people through technology they are already using. Since many people already have smart phones, the amount of people that can be reached is high.

Timely Results

Geofencing can reach and engage audiences in large groups all at the same time to receive a message or direct a large amount of people to information.

Concerns about Geo-fencing:

Invasion of Privacy

It may potentially receive criticism as an invasion of privacy, or cause security concerns.

Sustainability

Users have to "opt-in" to receive messages by enabling location services on their device for app-based or text messages to work. Even if users do opt-in, they are also able to opt-out at any time.

Cost

Geofencing can be expensive with costs up to $50-$150,000. Some costs could be eliminated by building your own app or doing social-media-based geofencing (using apps that already exist such as Facebook, Instagram, or Snapchat.)

High Upkeep

App-based geofencing requires maintenance and upkeep, which take up a lot of time and money as well.

How can geofencing be used in substance abuse prevention?

There are many possibilities depending on budget, target audience, messaging, etc.

Examples of geo-fencing has been used in SUD prevention:

Specific opioid videos were created by Southwest Regional Behavioral Health (SWMBH) that were released on coalition Facebook pages region-wide on the same days and times to targeted age groups and locations with a set budget per day. Data was collected on amount of people the message reached.

The Barry County Substance Abuse Task Force boosted certain posts to specific audiences to increase engagement in a community survey. Facebook/Instagram provides analytics of post reach and the audience that saw or engaged in the post.

A youth coalition in Detroit utilized geo-conquesting so when an individual entered a marijuana dispensary, they received a prevention message about marijuana.

This technique could also be applied to be used in liquor stores or vape shops.

Other Uses of Technology and Prevention:

Geo-listening for Mental Health Concerns on Student Social Media: https://journals.sagepub.com/doi/pdf/10.1177/2056305116680005