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## Changing the Culture of Opioid-Related Messaging in Florida: A Formative Research Approach

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## Changing the Culture of Opioid-Related Messaging in Florida: A Formative Research Approach

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# CHANGING THE CULTURE OF OPIOID-RELATED MESSAGING IN FLORIDA: A FORMATIVE RESEARCH APPROACH

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*Though expanding in negative impact for decades, the opioid epidemic, including heroin use, has reached public health emergency status in the United States. Heroin is not used only by the most intense drug users, but becoming more common place.<sup>4</sup> It is essential to better understand how young adults perceive heroin prevention, intervention, and treatment so the most effective campaign messages can be constructed to assist them. This paper presents data from four focus groups (N=24) in Orlando, Florida to better gauge young adult knowledge regarding heroin and obtain specific recommendations to successfully inform future messaging. Results suggest social media platforms are preferred channels for information dissemination, and both sources and formats of information vary based on message intention (i.e., prevention, intervention, treatment). Individuals with heroin-related experiences (e.g., family members) and physicians are preferred sources, and participants indicated statistical information, immersive testimonial stories, and brief videos are their preferred formats. Overall, results indicate social media platforms may represent a fruitful pathway for heroin-related messaging to young adults.*

**Introduction** | Though emerging as a public health crisis for years, the heroin use epidemic is now a nationwide public health emergency<sup>1</sup>. In the mid-2000s, Florida became one of the areas the most affected by the opioid epidemic<sup>2</sup>. The rate of deaths caused by heroin overdoses had a five-fold increased from 2010 to 2018 and a 4% increase from 2017 to 2018<sup>3</sup>. Due to its accessibility, low cost (approximately \$10 per dose), and highly addictive nature, heroin use and abuse have grown exponentially and now impact broad audiences unfamiliar with it in the past<sup>4</sup>. Additionally, in 2018, approximately 808,000 individuals consumed heroin within the last 12 months<sup>5</sup>. The rate of heroin used as a first opioid increased over the last decade which implies that an increasing number of individuals are at higher risk for a fatal overdose when using heroin for the first time<sup>6</sup>.

As awareness of this epidemic climbs, so does the need for effective anti-drug campaigns. Young adults who are away from their family, for college or work, were found to be at a high-risk for drug use<sup>7</sup>. Therefore,

there is an urgent need for high quality messages targeted toward young adults who are not only users, but also those affected by heroin use, such as family members, friends, or spouses, who may play a major role in helping heroin users by offering informational support or intervening in case of overdose. Indeed, if individuals can identify signs of heroin abuse and overdose, their intervention could save lives. Formative research is crucial in discovering how to optimally communicate the risks associated with, and ways to help fight heroin addiction.

*Heroin use among young adults.* Heroin use among young adults was stable until 1995 when the United States saw a sharp increase<sup>8</sup>. Additionally, the U.S. has seen a shocking 286% increase in heroin overdose related deaths between 2002 and 2013<sup>9</sup>. Although heroin use remains relatively uncommon (about 1% of the population over the age of 12 uses), heroin use is at an all-time high<sup>5</sup>. Overdose deaths involving heroin increased five-fold from 2010 to 2017 in the United States<sup>10</sup>, and young adults have also demonstrated a

steady increase of heroin use<sup>8</sup>. These increases may be attributed to the decrease in access to pain killers as well as the relatively inexpensive cost of heroin<sup>4,11</sup>. Importantly, young adults who did not attend college used heroin twice as much as their peers who were enrolled in college<sup>8</sup>.

*Anti-drug abuse campaigns.* Drug-related campaign messages have been pervasive in the United States since the 1970s. Unfortunately, systematic reviews suggest anti-drug abuse campaigns have proven to be only marginally persuasive<sup>12</sup>. While these messages may have limited impact on behavioral intention and are more effective among specific target populations, some drug-related public health campaigns have cultivated an environment that encourages, not discourages, illicit drug use<sup>12</sup>. In their analysis of 30 PSAs, Fishbein and colleagues (2002)<sup>13</sup> found about half of those messages were significantly more effective than the control and several were significantly less effective than the control message. The United States Government Accountability Office recommends anti-drug PSAs only be implemented when there is substantive scientific evidence indicating their effectiveness<sup>14</sup>. Thus, it is essential to conduct formative research about anti-drug campaigns and not just implement ideas developed by marketing teams with no empirical support.

Further, Roy and colleagues<sup>15</sup> indicate anti-drug campaigns are most effective when they are highly targeted, engaging, dynamic, and use bold and unique messaging strategies<sup>16</sup>. Noar<sup>17</sup> additionally suggests formative research can enable campaign designers to better understand their target demographic and the most effective channels for reaching them. To better gauge effectiveness before a public launch, meaningful formative research has demonstrated a positive influence on the quality and impact of PSAs<sup>13</sup>. Prior heroin-related campaign analysis suggests most participants did not find messages personally relevant or useful<sup>18</sup>.

Social media may be an effective platform for campaigns targeting young adults as the majority of this target population is regularly engaged with social media, for personal, informational, and even specifically health related purposes<sup>19-21</sup>. Additionally, the innately interactive nature of digital campaigns encourages more feedback along a dynamic two-way exchange than more conventionally one-way communication channels<sup>22</sup>. Several campaigns including the “Truth” campaign and The National Youth Anti-Drug Media Campaign “Above the Influence” have engaged young adults via social media messages including video and demonstrated varied levels of success<sup>23,24</sup>. Campaign messages can be spread very quickly through social media<sup>25</sup>;

therefore, social media could be a promising channel to disseminate heroin prevention messages and change the culture of opioid-related messaging.

*Research Questions.* The present study explores preferred strategies among young adults (i.e., 18-25 years old) to disseminate heroin prevention, intervention, and treatment messages, particularly through social media platforms.

*RQ1: What levels of heroin-related knowledge do young adults report?*

*RQ2: What are the most preferred a) sources, b) channels, c) formats, and d) social media platforms for **prevention** focused heroin-related messages?*

*RQ3: What are the most preferred a) sources, b) channels, c) formats, and d) social media platforms for **intervention** focused heroin-related messages?*

*RQ4: What are the most preferred a) sources, b) channels, c) formats, and d) social media platforms for **treatment** focused heroin-related messages?*

*RQ5: What are the most effective ways to share heroin-related information on social media?*

**Methods** | In the present study, four focus groups were conducted with students attending a large state university in Florida. Participants were recruited through email and social media posts on group pages affiliated with the university. Focus groups respondents also completed a brief survey to obtain their demographic information.

*Participants.* A total of 24 participants participated in four focus groups. Among the participants, 83.3% were female, and the average age was 19.67 (1.17). Additionally, 41.7 % of participants identified as Hispanic or Latinx, 12.5% as Asian or Pacific Islander, 8.3% as Black (non-Hispanic), 25% as White (non-Hispanic), and 12.6% selected multiple categories, indicating a very diverse sample. The majority of participants were sophomores (58.3%), 12.5% juniors, and 29.2% seniors. Most participants were full-time (91.7%), with 8.3% enrolled part-time. Additionally, 8.3% reported being a member of a fraternity or sorority and 25% lived on campus, 37.5% off-campus in unaffiliated housing, and 37% in off-campus affiliated housing.

*Procedure.* This project was conducted in partnership with the local county Drug-Free Office. The focus group moderator guide shared with that office for feedback and approval. Once approved, the revised version of the moderator guide, study protocol, demographic information survey, and materials prepared to be shown to participants were submitted to the relevant Institutional Review Board (IRB) and received approval. Participants read an explanation of research before completing a demographic survey and participating in the focus groups. Audio recordings

were then transcribed for analysis. Participants received a \$10 Target gift card.

*Moderator Guide.* The moderator guide was divided into three main sections. The first section assessed whether participants were knowledgeable about opioids, of the signs of heroin overdose, how to intervene to save someone who is overdosing, and the prevalence of heroin overdose deaths in the U.S. The second section identified participants' preferred sources, channels, message formats, and social media platforms to receive heroin prevention, intervention, and treatment messages. The third section assessed what social media tool would be effective to disseminate heroin prevention, intervention, and treatment messages.

*Data Analysis Approach.* Basic thematic analysis was used by researchers to qualitatively analyze the transcripts employing Owen's steps of thematic analysis<sup>26</sup> and identify emergent themes as well as the frequency and intensity of their presence. Exemplar quotes were also selected by researchers. Quantitative measures were analyzed using basic frequencies and descriptive statistics.

**Results | Knowledge.** Overall, participants had low levels of knowledge about opioids and heroin. None of the participants knew what naloxone was. Participants also possessed limited knowledge of the signs of a heroin overdose. One participant indicated these signs were probably seizure, convulsions, and/or chills. "Passing out" was another identified sign of overdose. One participant perceived opioids as strong and addictive drugs affecting individuals both physically and mentally, and another person noted opioids are used for stress relief purposes. Another participant had a more specific idea of opioid, said opioids can be prescribed after surgery, and cited oxycodone as an example. Participants identified some similarities between opioids and heroin, indicating they were both addictive and "very high-class drugs".

*Development of Heroin Related Campaign Messages.* Participants provided diverse suggestions concerning strategies to develop an effective campaign including most influential message sources, best channels to effectively reach a young adult audience, ideal social media platforms, and the most effective message format.

*Prevention messages.* Participants largely indicated it would be most appealing to have young adults who have experienced heroin addiction, recovered, and expressed regretting having used heroin to deliver information in prevention messages. Former addicts were viewed as "the best source" by some participants. However, selecting a more mature source who was a

former heroin user could demonstrate detrimental long-term consequences of using heroin, and may be "scarier". Participants also indicated using physicians or authority figures could be counterproductive for this message type because this strategy may result in reactance, except one respondent who indicated that seeing doctors in prevention messages would be beneficial because "they're some of the most trusted people in society, so if they give you their professional opinion, you're more likely to listen to them".

Regarding channels to disseminate prevention messages, social media channels, specifically Facebook, YouTube, and Snapchat, were repeatedly cited as the most effective choices to convey prevention messages because participants thought these channels would reach individuals their age. Participants indicated they would be likely to pay more attention to messages they saw on social media than other channels (e.g., billboards). However, one participant noted, "I just keep scrolling and scrolling until I see something that pops".

Many participants indicated testimonials would be very "impactful". Several participants mentioned the CDC's "Tips from Former Smokers" campaign as an example of the significant impact of testimonials and thought the use of fear appeal was effective in that context and may be for heroin as well. They also indicated it would be impactful to see a picture of a person before they started using heroin, and another picture taken after they became a heroin user in order to show how heroin negatively affected their physical health. Another suggestion consisted in showing how someone's heroin use had negatively impacted their family by adding testimonials from family members. However, several participants thought statistics would be more effective and trustworthy than testimonials as they were perceived as strong pieces of evidence, whereas testimonial and emotional appeals can be perceived as more manipulative. Some respondents explained emotional appeals may be seen as manipulative because they thought "they're just trying to scare me". One participant noted "statistics in a visual form" would be particularly useful. Despite the variance in preference of narrative and statistical information, most participants indicated short videos would be a very effective message format.

*Intervention messages.* For intervention messages, physicians, family members or friends of individuals struggling with drug use, and formerly addicted young adults were largely cited as effective sources to deliver the information. Young adults who were formerly addicted to heroin were cited as an effective source by a few participants because they were viewed as "more relatable". It was also noted that hearing from young adults who had faced the issue of heroin use would be

a more persuasive. A participant said “A doctor could tell you a million times not to do it but people still do it ... You can see more of an effect by someone who actually suffered from it”. Other participants perceived physicians were seen as credible and trustworthy, while loved ones could make heroin users realize how their addiction affects family and friends as well as reduce stigma for other individuals with drug issues in their families. Further, participants repeatedly mentioned social media as the best channel to disseminate intervention information. Many participants believed Facebook would be the best outlet, but others thought Snapchat, including public or location based SnapStories, would be best.

Participants suggested it would be effective to have more fear appeals in intervention than in prevention messages. They also indicated using statistics for intervention messages would be ineffective, whereas they viewed testimonials as “powerful”. Personal stories were noted as the format that resonated strongest and were the most memorable in the long term. One participant noted “testimonials would work too because you can tie in with those facts with a real-life example of seeing what happened to someone”. Similar to prevention messages, several participants cited videos as another effective way to reach young adults.

*Treatment messages.* Participants agreed healthcare providers would be the best source to deliver treatment-related information. One participant noted “I think also a doctor would be best cause you know they studied that, they have more insight on that, probably dealt with people who overdose and stuff”. Additionally, another participant indicated “you trust the white coat, most people do at least”. This comment implies that seeing the “white coat” is a sign of expertise and trustworthiness. Additionally, seeing a doctor’s credentials in a message appeared to be important, and “TV doctors” were cited as untrustworthy sources. Another discussed aspect was that the CDC was perceived as less trustworthy message source than a doctor. Participants indicated “CDC is reputable but I think most people find doctors are more relatable” and “CDC is just a government agency a lot of people can write that off”. Another respondent added “a lot of people don’t trust government”. Health care providers were appreciated as message sources especially because of their professional experience they can share.

In terms of channels, a participant noted social media platforms were again identified as the most effective channels to convey treatment messages. Some participants indicated messages would be more likely to go viral if disseminated through Facebook because of the reach and frequency of use. Although some

participants mentioned Twitter, others suggested avoiding using this platform because they use it to find humorous content and do not pay much attention to serious topics. One participant noted “a lot of people use that (Twitter) too, but it’s like too comical on there...cause like people will turn things into a meme or something”.

Participants again suggested testimonials using fear-appeals with former users or family members to make individuals aware of families' suffering when a family member is addicted to heroin. They thought showing individuals this side of the issue would make them react and try to seek treatment. Participants repeatedly indicated it would be impactful to present treatment-related information with statistics (e.g., recovery or death rates). Most participants proposed very short videos and images to convey information. Several participants also mentioned using humorous content in videos to attract young individuals' attention with the subsequent adoption of a serious tone to deliver heroin treatment-related information.

*Most Effective Strategies to Disseminate Messages on Social Media.* Participants were asked about the most effective strategies to give them heroin-related information via social media. They repeatedly suggested using social media to disseminate short videos made to be shared. They indicated again that humorous content should be used at the beginning of the video to attract individuals' attention before addressing the topic of heroin use, abuse, and overdose. Videos would be highly relatable to them if created by a college student. They also suggested polls or trivia questions on Facebook, where they could learn heroin-related facts in an interactive manner. Furthermore, they would be attracted by visually appealing infographics on social media platforms. One participant also noted “I think, like, if you can get, like, a social media influencer involved, because I know a lot of them will be open about it and talk about what they went through and how they experienced their addiction and how they got over it – I think that would be really helpful”. Participants also noted the power of social media to share details about events and recruit participation or engagement. That is, participants liked that social media channels allowed them to view events, add them to their calendars, and keep them on the radar. Facebook was frequently indicated as the most an effective channel to inform them about the upcoming events to attend.

**Discussion** | Understanding what specific message components combine to make the most effective public health campaign messages is essential, especially in contexts that pose a dramatic public health risk like heroin use. Formative research with priority populations is the only way researchers can ensure messaging will resonate with the intended

audience. This study revealed young adults have low levels of knowledge on this specific topic and clear preferences regarding source, channel, and format for different message types.

Disseminating very short and visually appealing videos through Facebook or Snapchat is likely to reach many young adults. However, videos should be striking and memorable, as many of them seem to watch a massive number of videos on social media on a daily basis. Messages are likely to reach more effectively young adults if that demographic is actively involved in the production process (i.e., videos creation). In addition, using humorous content at the beginning of videos would aid attracting attention. However, importantly, humorous content should not address heroin-related issues, as young adults consider this topic should be discussed with a serious tone to avoid inappropriateness. Therefore, heroin-related information should be presented in a serious tone in the remainder of the video.

Findings of the present study suggest messages delivered by young adults would most effectively resonate with this audience. Messages should include testimonials of individuals who struggled with heroin use, as well as statistics (e.g., death rate).

Relatives of heroin users and physicians would be influential sources for intervention messages. However, data obtained in this study indicate statistics may be ineffective for intervention messages. In personal stories of family members, it is recommended to emphasize that heroin addiction has a tremendously negative impact on families. Testimonials of physicians should highlight their experiences with addicted patients and their families, especially physical and emotional pain and suffering.

Similar to intervention messages, treatment messages could be more effective if delivered by physicians and family members of heroin users, but also former heroin user. Medical expertise of physicians should be emphasized to increase message persuasiveness. Additionally, testimonials and factual information are promising formats. Specifically, factual information and statistics should be provided in the form of colorful and visually appealing infographics.

Participants were recruited from one site and were largely female, limiting the generalizability of findings. Additionally, focus groups were used to elicit rich data from participants, and completed until the point of saturation, though this study only had 24 participants. Those participants were also largely recruited via social media, so those recruitment methods may have either primed students toward particular answers or predisposed them to prefer social media as a channel to receive messages. Further,

although the purpose of prevention, intervention, and treatment messages were explained to participants, a potential lack of understanding regarding the function fulfilled by each message may have impacted their responses. A final limitation is that individuals who have information or experience with heroin use, whether personally or know someone who does, might have been hesitant to get involved as they might have felt stigmatized or publicly exposed. Despite these limitations, the current study provides a valuable glimpse into the needs and desires of this young adult audience and can be useful for individuals seeking to develop and disseminate heroin related campaign messages.

**Implications** | Future research should confirm findings outlined here, and advance to the production phase of formative research by developing and pre-testing messages. Then, both process and summative evaluation would be needed to assess campaign success after implementation and its impact in the long term (e.g., examine metrics on social media to assess engagement). Additionally, knowledge of heroin-related information should be assessed to examine whether students gained knowledge after exposure to the campaign messages, or over time as the issue emerges even more as a public health emergency. Overall, the current study provides a firm starting point for heroin related messaging strategies, but as this crisis grows in magnitude, more research will be required to ensure campaign success in addressing this public health crisis.

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