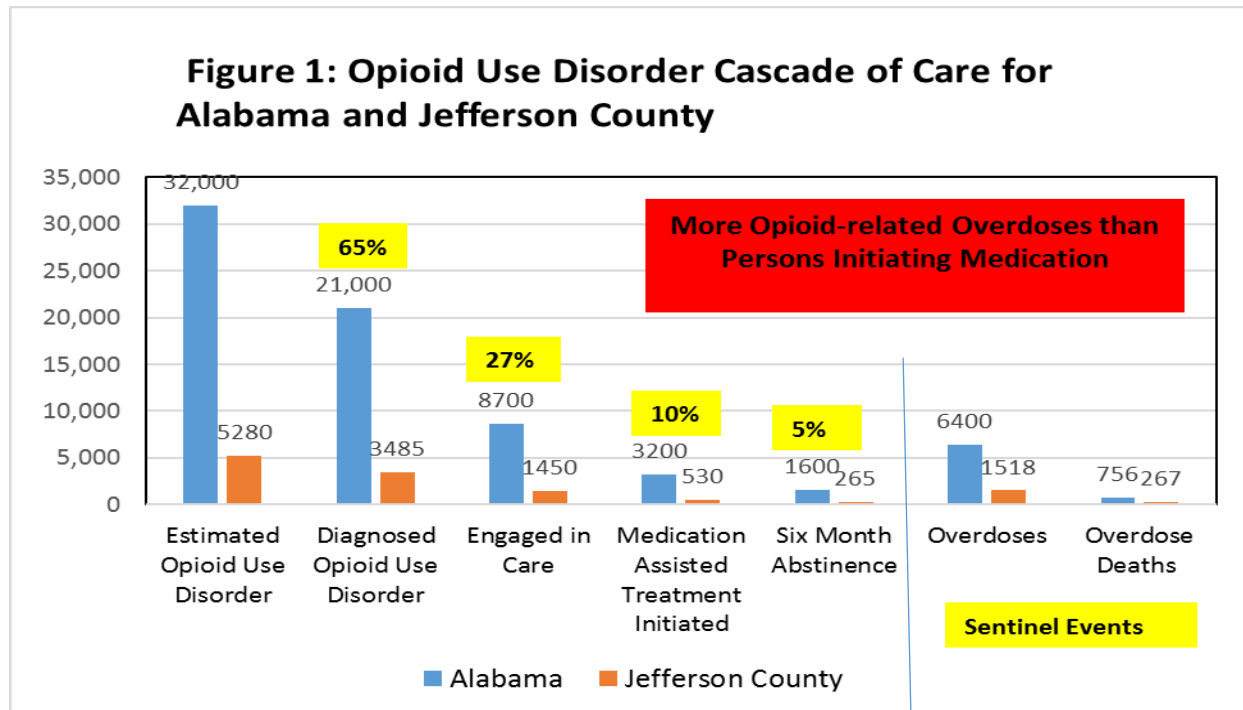


UAB Grand Challenge: Opioid Overdose Prevention and Treatment

Description of the Problem: Unintentional injury, primarily from opioid overdoses, is the fourth leading cause of death in the US¹. Death from drug overdoses now tops 63,632 annual deaths (42,249 opioid deaths)^{2,3}, more than AIDS (even at the height of the epidemic), suicides, or firearm deaths¹. Death due to opioid overdose results in 2½ months of lower life expectancy and has been the primary factor in life expectancy decreasing in the US for the past consecutive two years^{2,3}. About 80% of individual who use heroin first used a prescription opioid medication⁴. Since 2014, Alabama has led the nation in opioid prescriptions per capita⁵. From 2013 to 2014, Alabama was one of fourteen US states with a statistically significant (19.7%) rise in overdose deaths⁶. While opioid prescribing and prescription opioid-involved deaths in Alabama have declined since 2014, a significant increase in deaths attributed to illicit opioids, such as heroin and illicitly-made fentanyl, has been documented and is predicted to continue in the coming years, consistent with national trends⁸. Alabama experienced a 60% increase in Hepatitis C Virus (HCV) infections from 2006 to 2014 while at the same time substance use disorder treatment admissions for people who report injecting heroin and prescription opioids increased 213% and 146%, respectively, further demonstrating the link between Alabama’s opioid epidemic and statewide increases in Injection Drug Use (IDU) and HCV infection. Alabama faces many challenges to combatting the opioid epidemic and blood- borne infections (BBI). Our state’s lack of Medicaid expansion under the Affordable Care Act has left many of Alabama’s vulnerable populations with no healthcare coverage, including addiction treatment. The addiction treatments that are available are under-resourced, fragmented, and often do not provide evidenced-based treatment. A comprehensive and effective response to this crisis is desperately needed in the Birmingham metro area and the state. Such a comprehensive program could serve as a model for the US. Figure 1 below demonstrates the scope of epidemic in both Alabama and Jefferson County. It is estimated that only 10% of the estimated number of people who need treatment actually receive evidenced-based medication assisted therapy and only about 5% achieve 6 month abstinence in the state.



Conceptualization of the Plan of Work and Desired Outcomes: Through both research and service initiatives made available through the 3.3 billion dollars of additional federal funding⁹, we will create a comprehensive response to the Alabama opioid crisis, to reduce the number of opioid related deaths by 50% in Birmingham by 2025, Alabama by 2035, and the United States by 2050. We will target systematic changes in the following areas through research grants and program initiatives to realize these goals:

1. **Research:** Effective opioid alternatives need to be identified for pain management as well as treatment of addiction. Future therapeutics will take the form of novel physical and psychological interventions, alternative pharmacological agents and the development of protocols that lead to the prevention of pain rather than the development of addiction. Examination of the effects of neuromodulation, behavioral approaches to pain management, non-opioid pharmacological therapies and biomarkers for the presence of pain will be developed. In addition to alternative strategies for pain and novel pharmacotherapy development, additional addiction treatments will include novel virtual reality paradigms and other behavioral interventions for opioid misuse.
2. **Education & Prevention:** We will educate and train communities and healthcare professionals to prevent, identify and respond to those struggling with addiction. Specific interventions will include novel curriculum development and implementation for health professionals and novel education modalities for high school and college students.
3. **Linkage to Care:** We will coordinate addiction treatment through a continuum of evidence-based and patient-centered approaches utilizing existing and expanded treatment resources. Using community partnerships, including the Department of Health and the Crisis Center, a resource line will be developed to guide patients and families to needed treatment resources. Additional innovations that will be further developed include an app to locate treatment/recovery support services and the comprehensive deployment of peer navigation services throughout the health care and treatment systems.
4. **Harm Reduction:** Reduce the unnecessary human suffering and financial loss associated with addiction and improve quality of life. Specifically, piloting novel interventions such as a syringe service program, supervised injection facilities, widespread naloxone distribution, and free testing of illicit opioids for potency/safety.
5. **Economics and Policy:** Advocate for state-wide policy changes regarding addiction education, prevention, and treatment, particularly around harm reduction strategies and decriminalization of drug use.
6. **Community Outreach:** Ensure individuals suffering with addiction or recovering from addiction have access to appropriate community resources including medical treatment, infectious disease testing, and support services such as employment training, housing, child care assistance, and transportation.



Team Members:

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- Peter Lane: Psychiatry
- Li Li: Psychiatry
- Suzanne Muir: Psychiatry
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- Zina Trost: Psychology
- Samuel Cartner: Admin, Research
- Ken Saag: Rheumatology
- Jasvinder Singh: Rheumatology
- James Bibb: Surgery
- Aurelio Galli: Surgery
- Anisa Xhaja: UAB Care

Public Community Partners:

- Alabama Department of Public Health (ADPH)
- Centers for Disease Control and Prevention (CDC)
- Alabama Medicaid
- Department of Justice (DOJ)
- Quest Diagnostics
- LabCorp
- AIDs Alabama
- FQHCs
- Addiction Prevention Coalition
- Legislative contacts

Potential Funding Contributing Partners- Coordinated with Tom Brannan, VP Development⁹:

- Protective Life
- Goodrich Foundation
- National Institutes of Health
- Patient-Centered Outcomes Research Institute
- Department of Justice grant program
- Centers for Disease Control and Prevention
- Community Foundation
- Blue Cross Blue Shield
- Substance Abuse and Mental Health Services Administration

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