

March 18, 2024

To Whom it May Concern,

I am writing to support ZEM Life Device Company's proposal to be submitted to the NIH's SBIR program.

I am an anesthesiologist and intensivist at the University of Minnesota Medical Center with a background in Biomedical Engineering. I serve as the Assistant Director for Professional Education and Outreach at our university's Institute for Engineering in Medicine. I facilitate connection between clinicians who have good ideas for new and innovative medical devices with engineers who can turn these ideas into reality. I have mentored many groups of engineers who are designing medical devices to fill a clinical need. I have extensive experience treating drug overdose in the intensive care unit, and I am an expert in respiratory failure diagnosis and management.

The proposed medical device would be revolutionary in the treatment of opioid overdose. Currently, if an individual suffers an opioid overdose, that person may have a respiratory arrest which is fatal unless naloxone is administered. Someone suffering a respiratory arrest is obviously not in a position to give themselves an emergency antidote. Therefore, if this event is unwitnessed or if there is a delay in access to care, most of these individuals are passing away despite the fact that there is an easy to administer antidote readily available. A wearable device that could detect a respiratory arrest and administer naloxone would be lifesaving to the huge population of individuals affected by opioid addiction and overdose.

I am confident ZEM Life Device Company can produce this product which is a modification of existing wearable technology to add the ability to deliver a medication. This product would have broad applicability. According to the CDC, there are over 100,000 deaths every month from drug overdose.

I fully support ZEM Life Device Company and their endeavors to provide a novel therapeutic device to save the lives of opioid overdose patients. I look forward to being kept apprised of your developments.

Sincerely,



Anna M Budde, M.D.  
Assistant Professor of Anesthesiology  
University of Minnesota Medical School