

ECE 196: Mental Health, Drug Delivery, and Pollution
Final Project Team Problem Proposal
Fall 2024
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Problem #1 Definition:

Mental Health: Students struggle with time management, sleeping enough hours every night, consistency/sticking with routine, and avoiding relapse to bad states.

How do we incorporate exercise, stretching, hydration, and eating to have better mental health?

Problem #1 School/Department/Division/Office:

CAPS (Counseling and Psychological Services)

Problem #1 Evidence:

[Caring for Your Mental Health - National Institute of Mental Health \(NIMH\)](#)

[About Mental Health CDC](#)

Problem #1 Representation:



Problem #1 Existing Solutions:

The existing solutions include ways to overcome the way that mental illness interferes with everyday activities and tasks. Some examples are therapy, medication, and self-help apps.

Problem #2 Definition:

Medical Devices (Harder topic for the group)

Medication is error-prone when trying to take it consistently.

Problem #2 School/Department/Division/Office:

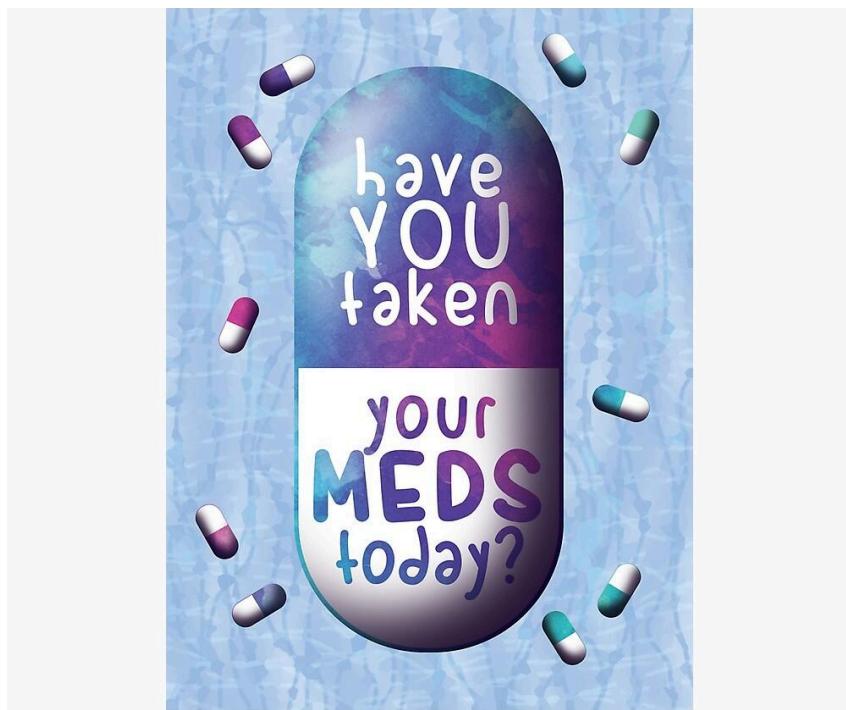
CAPS/SHS

Problem #2 Evidence:

<https://www.ncbi.nlm.nih.gov/science-education/science-topics/drug-delivery-systems-getting-drugs-their-targets-controlled-manner>

<https://www.ncbi.nlm.nih.gov/books/NBK519065/>

Problem #2 Representation:



Problem #2 Existing Solutions:

Weekly pill containers and digital calendar reminders.

Problem #3 Definition [Optional]:

Marine Pollution: This is one of the problems that causes harm not only to wildlife but also to us.

Problem #3 School/Department/Division/Office [Optional]:

Scripps Institution of Oceanography

Problem #3 Evidence [Optional]:

One example that shows this is a real issue is oil spills into the ocean that cause and worsen marine pollution.

<https://www.noaa.gov/education/resource-collections/ocean-coasts/oil-spills>

Problem #3 Representation [Optional]:**Problem #3 Existing Solutions [Optional]:**

Some solutions to ocean pollution include different policies to protect our oceans and monitor how companies and others discard their waste.

Skills:

- Time management
- PCB Design
- Microcontroller programming
- Soldering
- CAD
- UI Design