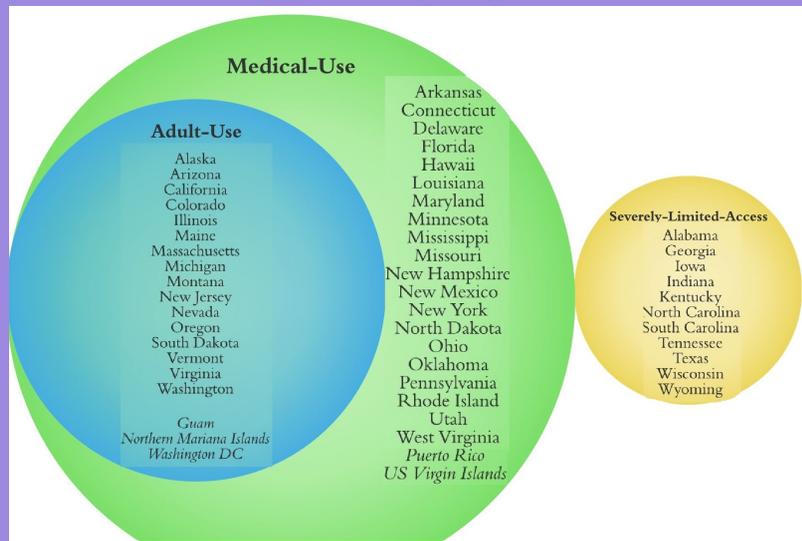# Instructional Design Plan: Educating Providers

By: Stephen Zimberg, Cameron Howe, Zach Riney and Les Matthews

Medical-Use

Adult-Use
Alaska
Arizona
California
Colorado
Illinois
Maine
Massachusetts
Michigan
Montana
New Jersey
Nevada
Oregon
South Dakota
Vermont
Virginia
Washington

Guam
Northern Mariana Islands
Washington DC

Arkansas
Connecticut
Delaware
Florida
Hawaii
Louisiana
Maryland
Minnesota
Mississippi
Missouri
New Hampshire
New Mexico
New York
North Dakota
Ohio
Oklahoma
Pennsylvania
Rhode Island
Utah
West Virginia
Puerto Rico
US Virgin Islands

Severely-Limited-Access
Alabama
Georgia
Iowa
Indiana
Kentucky
North Carolina
South Carolina
Tennessee
Texas
Wisconsin
Wyoming

Werner-Simon JA. Cannabis as an Emerging Business. https://mjbizdaily.com/the-three-degrees-of-marijuana-legalization-in-the-united-states/. Accessed 3/18/21.
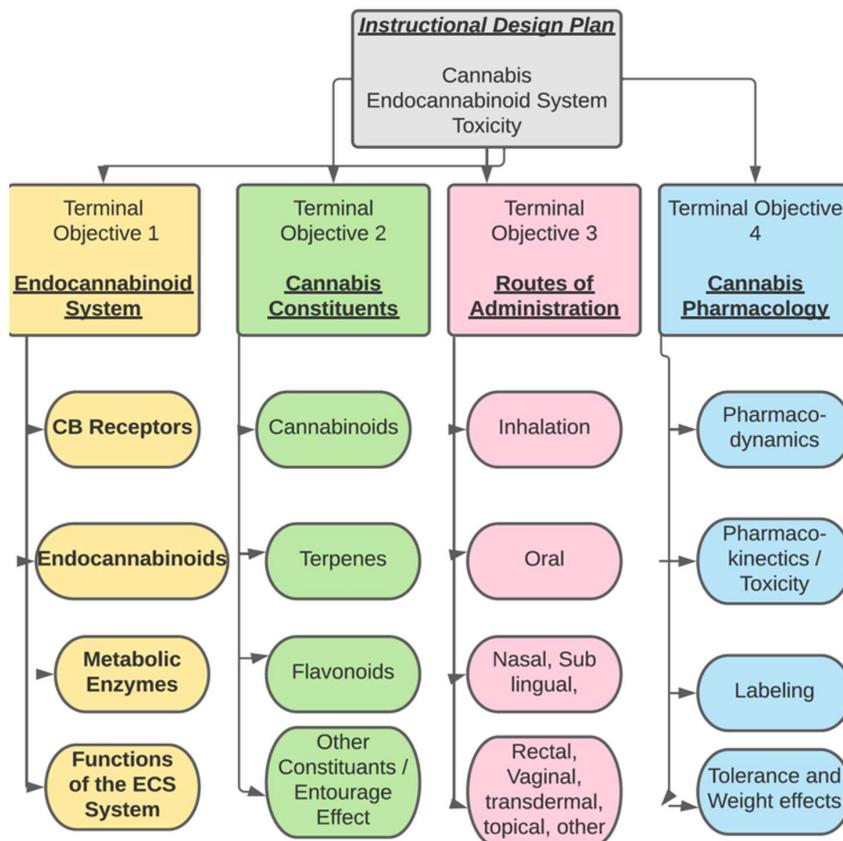
1 Rationale

This project is a resource that will be useful for individuals who treat or assist others with cannabis. The knowledge gap we address is the lack of a standardized medical cannabis education program for individuals who treat others with cannabis. The knowledge gap not only affects physicians and nurses who recommend cannabis in medically legal states, but also dispensary employees who lack the basic knowledge about cannabis to properly educate patients.

2 Audience

The audience for this educational product is quite varied and includes practicing physicians, physicians in training, nurses, nurse practitioners, pharmacists, physician assistants, dispensary personnel, patient counselors, and advocates.

Scan to view

Presentation

3 Objectives

1. Articulate the function of the endocannabinoid system from its overall regulatory function to the function of the endocannabinoids and their modulation in the body as well as components of the system.

2. Articulate an overview of the cannabis plant from its cannabinoids, terpenes, flavonoids, and other constituents, as well as discuss their collective effort in creating the entourage effect.

Instructional Design Plan
Cannabis
Endocannabinoid System
Toxicity

Terminal Objective 1 — **Endocannabinoid System**
- CB Receptors
- Endocannabinoids
- Metabolic Enzymes
- Functions of the ECS System

Terminal Objective 2 — **Cannabis Constituents**
- Cannabinoids
- Terpenes
- Flavonoids
- Other Constituents / Entourage Effect

Terminal Objective 3 — **Routes of Administration**
- Inhalation
- Oral
- Nasal, Sub lingual,
- Rectal, Vaginal, transdermal, topical, other

Terminal Objective 4 — **Cannabis Pharmacology**
- Pharmaco-dynamics
- Pharmaco-kinetics / Toxicity
- Labeling
- Tolerance and Weight effects

3. Articulate a clear understanding and be able to determine appropriate doses and routes of administration based on the desired outcomes as well as considerations for particular doses.

4. Articulate an overview of cannabis pharmacodynamics, pharmacokinetics, causes of toxicity as well as diagnosis, treatment, and prevention thereof.

4 Description of Design Materials and Evaluation Plan

1. Baseline - Before our participants start the training we ask them to read a case study and answer several cannabis related questions to gauge their knowledge level. This pre-test will help the learner and the instructor evaluate how effective the training tool is teaching.

2. Progressive Learning - Our training is divided into four main chapters and each chapter has multiple subsections divided by topic in power point format. At the end of each subsection is an interactive quiz that self checks to ensure participants answer the right question before moving on to the next question and/or subsection.

3. Post-test Evaluation - At the end of the training, there is a final examination. Participants must receive an 80% or above on the posttest to gain a credit of completion. The posttest will be utilized to determine the knowledge and understanding levels of participants after they have completed the learning material.

4. Participant's reaction and long term follow up - Following the completion of the training tool, participants will complete a survey that evaluated the training tool and request feedback of their learning experience. Long term, participants will be asked to complete a survey regarding their utilization and implementation of the material that they learned.

5 Lessons Learned

An understanding about the endocannabinoid system, medical cannabis and product recommendations, cannabis pharmacology, and the safety and toxicity concerns regarding cannabis, implemented into clinical recommendations to better serve our communities.

April 8, 2021

University of Maryland, Baltimore
School of Pharmacy
2 N Pine Street
Baltimore, MD 21201
Program: Master of Science in Medical Cannabis Science and Therapeutics

The following individuals have collaborated and jointly created the work described below. ***By signing their name and listing their contributions to the work they are authorizing one another to use the co-created work in their professional portfolios.*** This authorization is limited to the terms herein and does not prevent or authorize additional terms or limitations regarding the agreed upon work.

Description of Co-Created Work

Work Product: Instructional Design Group Project
MCST Course: 612 - Expert Seminars and Case Studies

Project Design: The group's project was designed to provide an online training tool that enables learners' to gain an understanding about the endocannabinoid system and toxicity concerns regarding cannabis. Prerequisite knowledge and skills required are the equivalent of a 2nd year medical school student. This includes a fundamental foundation in biology, physiology, chemistry, pharmacology, pharmacokinetics, anatomy, ethics, law and professionalism.

Description of Authorization of Materials: This authorization allows the use of any part of the co-created work. This includes, but is not limited to, the powerpoint presentation and all relevant training materials, infographic describing the training, the design plan, etc.
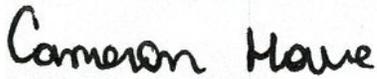
Creators

Name:

> **Contributions**: Co-participation in creating the necessary work requirements for the design i.e. section two information, infographics, quizzes, and testing materials; survey material; evaluation write up; collaborative effort with all work building up to the final production of the learner's tool.

Signature: **Date**: 04/08/2021

Name: Stephen E. Zimberg

Contributions: Co-participation in creating the necessary work requirements for the design i.e. section one information, infographics, quizzes, and testing materials; survey material; evaluation write up; collaborative effort with all work building up to the final production of the learner's tool.

Signature: *Stephen Zimberg*　　　　　　　　**Date**:04/08/2021

Name: Cameron Howe

Contributions: Co-participation in creating the necessary work requirements for the design i.e. section one information, infographics, quizzes, and testing materials; survey material; evaluation write up; collaborative effort with all work building up to the final production of the learner's tool.

Signature: *Cameron Howe*　　　　　　　　**Date**: 4/9/2021

Name: Leslie Matthews

Contributions: Co-participation in creating the necessary work requirements for the design i.e. section one information, infographics, quizzes, and testing materials; survey material; evaluation write up; collaborative effort with all work building up to the final production of the learner's tool.

Signature: *Leslie S. Matthews, MD MBA*　　　　　　　**Date**: 4/9/2021