



# Critical Factors that Influence Nurses Knowledge, Perceptions and Attitudes of Medical Cannabis Usage by Patients

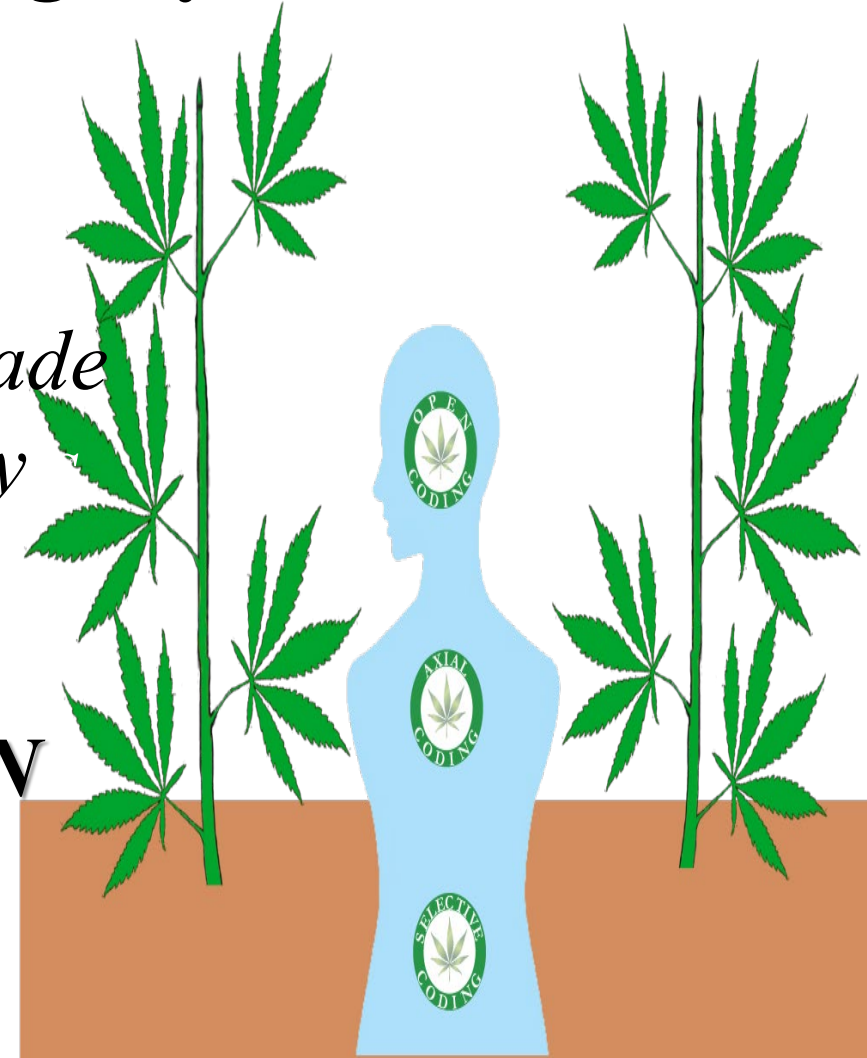
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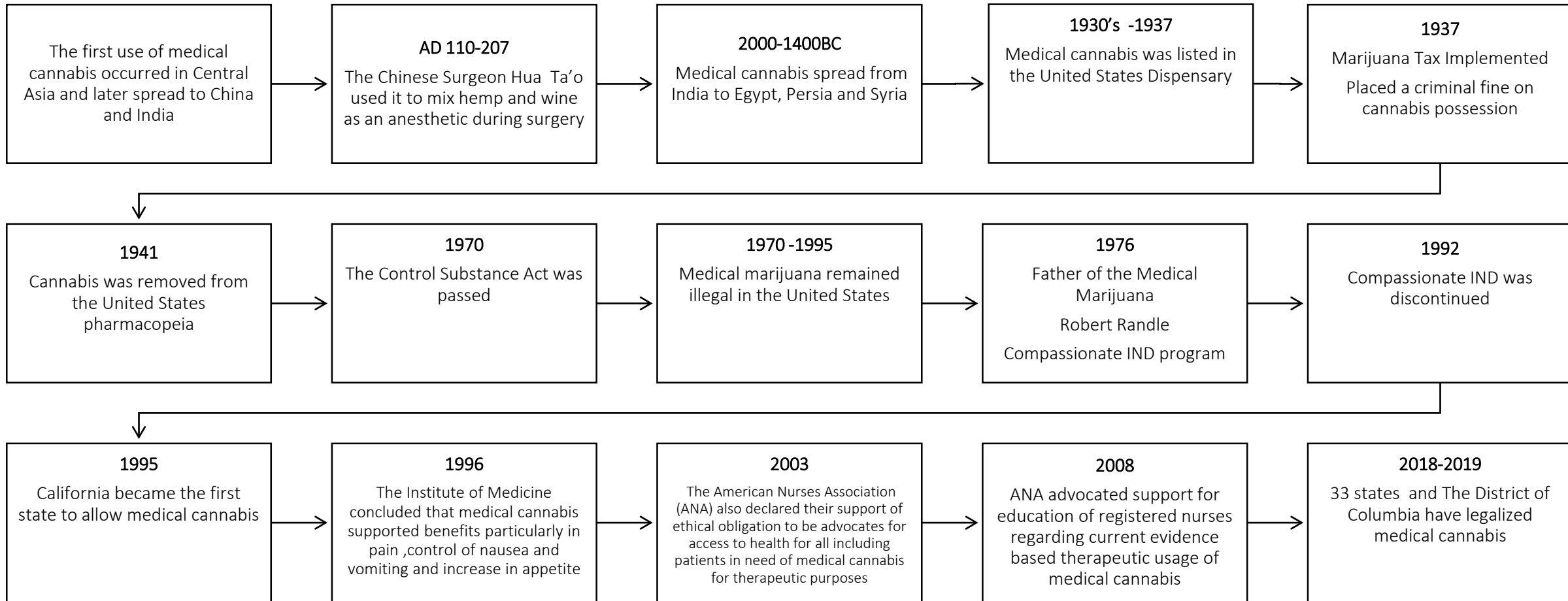
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# Problem Area of Inquiry

- Increase use of Medical Cannabis; more states allowing Medical Cannabis
- American Nurses Association (ANA)'s mandate safe care for patients using Medical Cannabis
- Review of Literature identify lack of education about Medical Cannabis
- Nurses' knowledge, perceptions, and attitudes of this vulnerable population is under investigation
- Theoretical framework is warranted to address this phenomenon
- Legal Medical Cannabis patients in 33 states as of 2019 with Florida being the highest of the 33 states since medical cannabis became legal in 2017.

# Background of the Problem



# The Endocannabinoid System

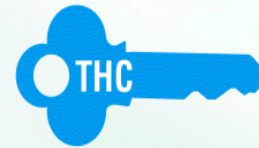
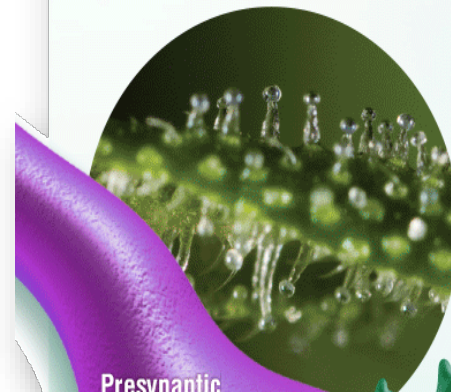
- Antioxidants found in the cannabis plants is a natural supplement that can prevent free radicals in humans and maintain a functional cannabinoid system essential for hemostasis in the body.
- Cannabis plant can signal the body to make more endocannabinoids in order to build more cannabinoid receptors which assist the human body to maintain balance.

## The Human Endocannabinoid System

CBD, CBN and THC fit like a lock and key into existing human receptors. These receptors are part of the endocannabinoid system which impact physiological processes affecting pain modulation, memory, and appetite plus anti-inflammatory effects and other immune system responses. The endocannabinoid system comprises two types of receptors, CB1 and CB2, which serve distinct functions in human health and well-being.

CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.

Receptors are found on cell surfaces



Tetrahydrocannabinol



Cannabidiol



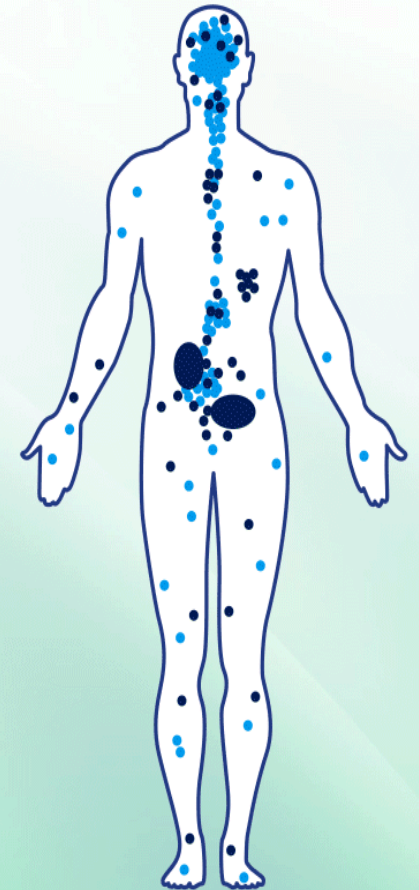
Cannabinol

CB1

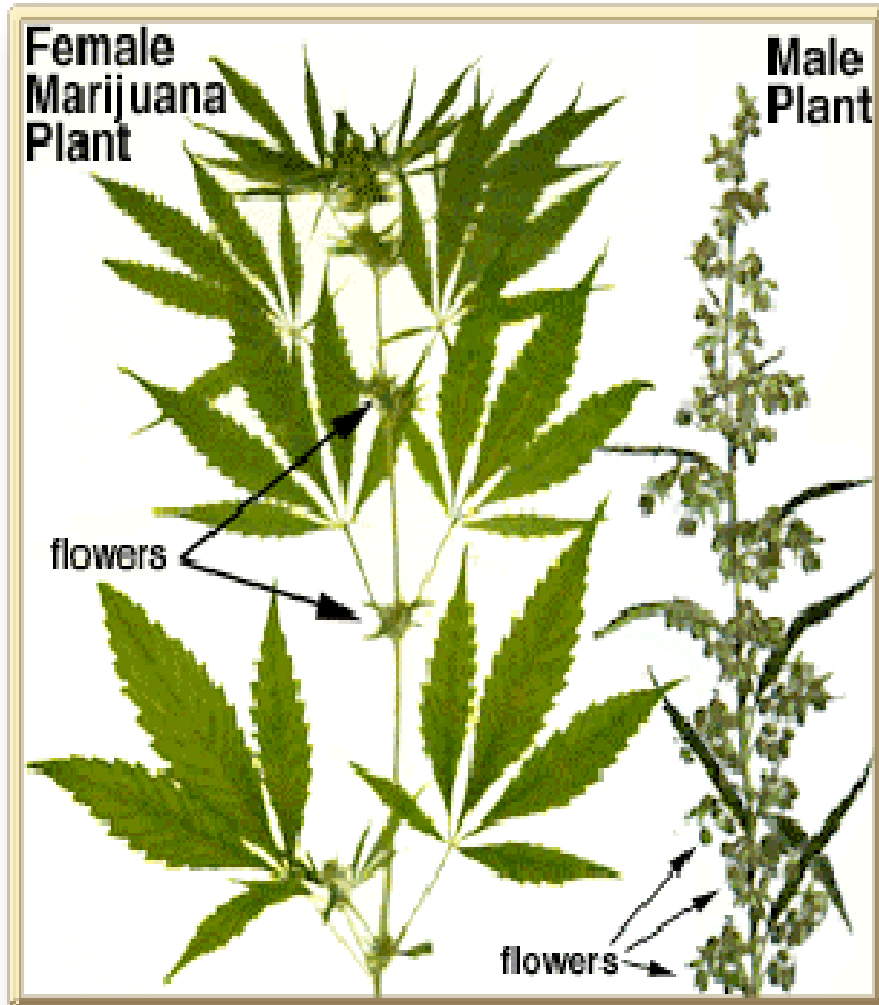
CBD does not directly "fit" CB1 or CB2 receptors but has powerful indirect effects still being studied.

CB2

CB2 receptors are mostly in the peripheral organs especially cells associated with the immune system.



# Cannabis Plant



- Cannabis plant is called many different names:
  - “ganja”-Jamaica, “kief”-Morocco, “dagga” South Africa
  - “Mary Jane”, “420 friendly” “grass” in the US
- Grows in tropical and temperate areas of the world
- Various grades of cannabis exists
- Leaves and buds have therapeutic properties
- Hemp fiber comes from its stem, oil from the seeds and psychoactive properties from its flowers
- Tetrahydrocannabinol (THC) is the primary psychoactive ingredient in female plants
- Cannabidiol (CBD) located-hemp fiber of female plant
- Male plants have no pharmacological use
- Cannabis Indica Short and Bushier (best for nighttime use)
- Cannabis Sativa Taller and thinner (best for daytime use)

# SATIVA



TALLER  
& SLIMMER

LEAVES ARE

LONGER  
& THINNER



# INDICA



SHORTER  
& BUSHIER

LEAVES ARE

SHORTER  
& WIDER



HEAD HIGH

ALERTNESS



UPLIFTING  
& EUPHORIC

CREATIVITY



INCREASED  
ENERGY

BEST FOR  
DAYTIME USE



BODY HIGH



RELAXATION

APPETITE  
STIMULATOR



SLEEP AID

PAIN RELIEF



BEST FOR  
NIGHTTIME USE

# Global Impact of Medical Cannabis Usage



## CANADA

The production of sale for medical cannabis is controlled under **The Access to Cannabis For Medical Purpose Regulation**. Distribution is done directly by a licensed supplier not a dispensaries which are illegal in Canada (Osler, 2017)

## EUROPE

### Norway

Medical Cannabis has acquired little success  
Patients are treated with the synthetic form of medical cannabis (Marinol and Sativex)

### Sweden

Medical cannabis is prohibited

### Germany

Medical cannabis legalization (March 2017)

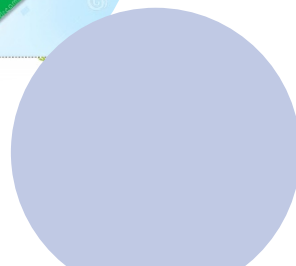
## ASIA

### China

Well positioned to dominate the global market  
Leading exporter of hemp fiber and seeds of the cannabis plant  
Small consumption is legal

### North Korea

No laws against the sale and consumption of cannabis



# Global Impact of Medical Cannabis Usage



## INDIA

Medical Cannabis is legal in some states in India  
Cannabis Sativa is an annual herb of the family, used for religious purposes especially by the Hindus



## SOUTH AMERICA

Possession of Recreational Cannabis has been legalized since 1974 in Uruguay  
Chile has the largest Medicinal Cannabis farms  
Medicinal Cannabis farm helps over 4,000 patients across Chile with chronic pain, cancer and epilepsy



## AFRICA

Africans have been smoking cannabis for over six centuries  
Cannabis plant is used for snakebites, malaria, fevers and asthma  
South Africa is indecisive about Medical Cannabis, still need further empirical evidence



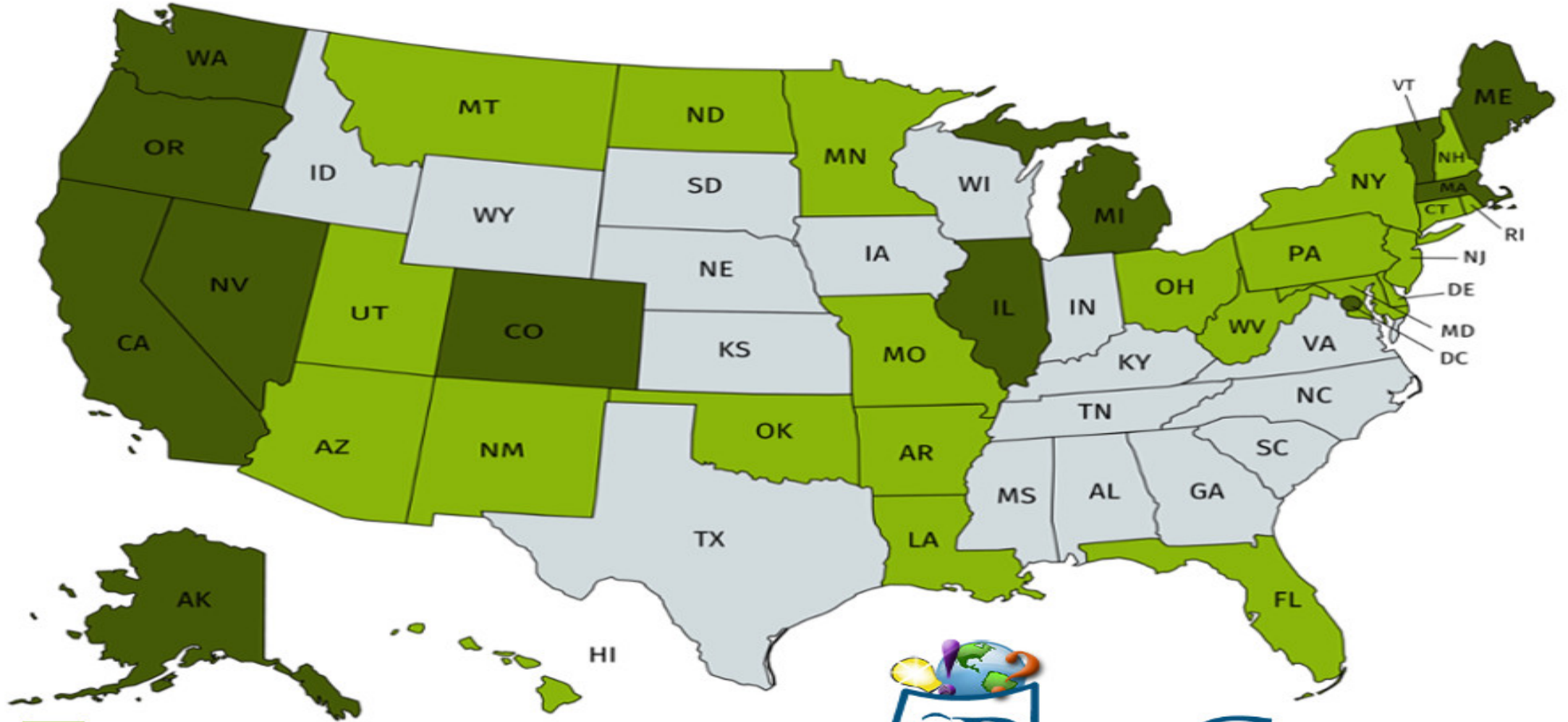
## CARIBBEAN



In Jamaica cannabis is known as “ganja” which, is used as folk medicine, brewed as tea, used as tonic, ointment, for cooking, baking, leaves are soaked in rum to relieve joint aches, toothache and asthma  
Jamaica launched the opening of Medicanja, a company which will focus on research of CBD and provide revenue for Jamaica  
Puerto Rico has legalized Medical Cannabis  
In Tobago, Trinidad and Haiti, Medical Cannabis continues to be illegal



# 33 Legal Medical Marijuana States & DC

## 11 Legal Recreational Marijuana States & DC



-  States with Legal Medical Marijuana
-  States with Legal Medical & Recreational Marijuana



# Why is this Phenomenon Significant to Nursing?



- State approval of Medical Cannabis has increased
- Usage of Medical Cannabis to treat chronic illnesses has increased
- Gap exist in the literature concerning Nursing and Medical Cannabis usage
- Institute of Medicare (IOM)-Medical Cannabis supports therapeutic benefits including pain relief, nausea, vomiting and appetite stimulation (Philipsen et al , 2014)
- American Nurses Association (ANA)- Support safe access to therapeutic marijuana and related cannabinoids for over 20 years
- ANA (2003, 2016) “Ethical obligation to be advocates for access to health care for all”

# Purpose of the Study

To explore the critical factors influencing nurse's knowledge, perceptions and attitudes toward patients using Medical Cannabis



lawmakers  
smoking  
purchase  
caregiver  
buds  
recreational  
illegal  
doctor  
effects  
anxiety  
therapy  
nausea  
support  
right  
states  
consumption  
sell

# Research Questions

What are the critical factors influencing the knowledge, perceptions, and attitudes of nurses toward medical cannabis usage in patients?

What are the barriers affecting the current regulations in the United States regarding medical cannabis usage in patients?

# Philosophical Underpinnings

- Constructivist Paradigm
  - Scientific Philosophical Underpinnings :
    - Ontological
    - Epistemological
    - Axiological
    - Methodological
    - Rhetorical
- Qualitative Paradigm
  - Grounded Theory : Strauss and Corbin
    - Symbolic Interactionism
    - Pragmatism

# Review of the Literature

- Literature review (1980-2019) explored the gaps that exist on the subject of nurses and patient usage of Medical Cannabis
- Databases: EBSCO host, ProQuest, PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Medline, and Google

## ▪ **FOUR CATEGORIES**

- Historical Context
- Therapeutic Usage of Medical Cannabis
- Effects of Medical Cannabis Usage
- Regulations Associated with Medical Cannabis

# Historical Context

- Cannabis has existed for five millennia
- Medical Cannabis- Part of medical practice in China, India and Egypt since B.C. for chronic pain, fever, inflammation and labor pains
- Cannabis received its name during the 18<sup>th</sup> century from a Swedish naturalist *Lannaeu*
- *Lannaeu* classified the plant as *Cannabis Sativa*
- *Cannabis Indica*
  - Short stature, great quantities of resin (India)
- *William O'Shaughnessy* (1833)-Animal studies using Medical Cannabis [Medical College of Calcutta]
  - Cannabis-effective analgesic and anticonvulsant

# Sample and Setting

- **Phase I**

- 20 participants

- Registered Nurses from across the United States

- Purposive/Snowball

- **Phase II**

- 7 participants

- Registered Nurses from The American Cannabis Nurses Association

- Theoretical Sampling



# Inclusion Criteria

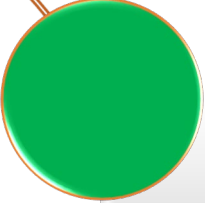
## PHASE I (Individual Interviews)

- **RNs with an active license in the United States**
- **RNs who have access to a telephone, email and Internet (Skype)**
- **RNs who are willing to be interviewed and audiotaped**
- **RNs who are fluent in English**

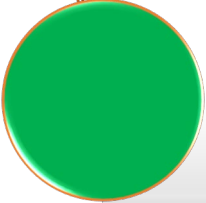
## PHASE II (Focus Group Interview)

- **RNs who did not participate in individual interview**
- **RNs with an active RN license in the United States**
- **RNs who are active members of The American Cannabis Nurses Association or who have published scholarly work on Medical Cannabis**
- **RNs who have access to a telephone, or email and Internet (Skype)**
- **RNs who are fluent in English**

# Ethical Considerations



Demographic questionnaire and data kept in the researchers home in separate secure locked safes separately from the consent for a minimum of 5 years then indefinitely  
Researcher is the only person that had access



Participants were advised of potential risks and benefits of the study  
Maintained confidentiality



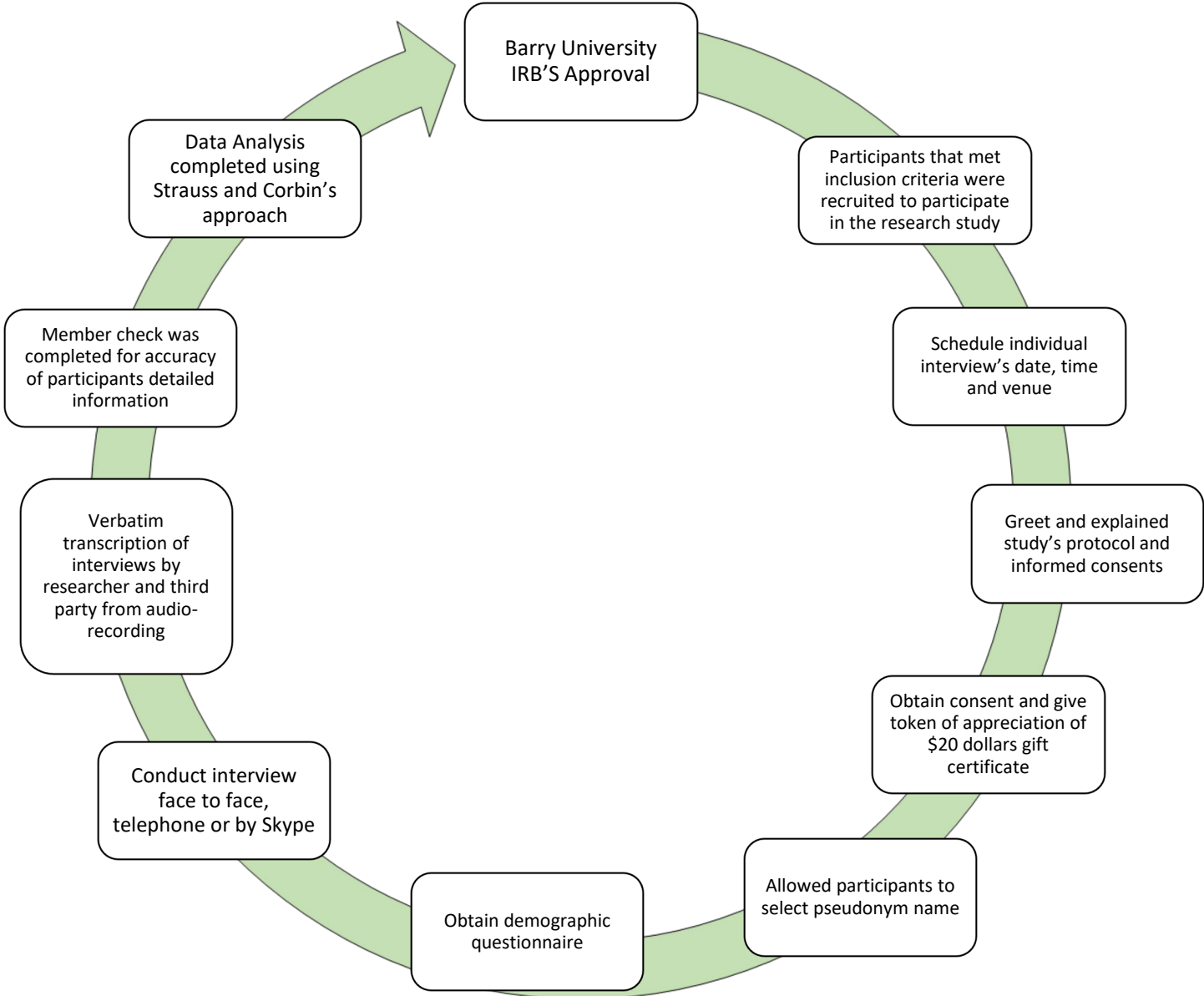
Participants in Phase I and Phase II were identified by their pseudonym name of choice in all the documentations of the research study



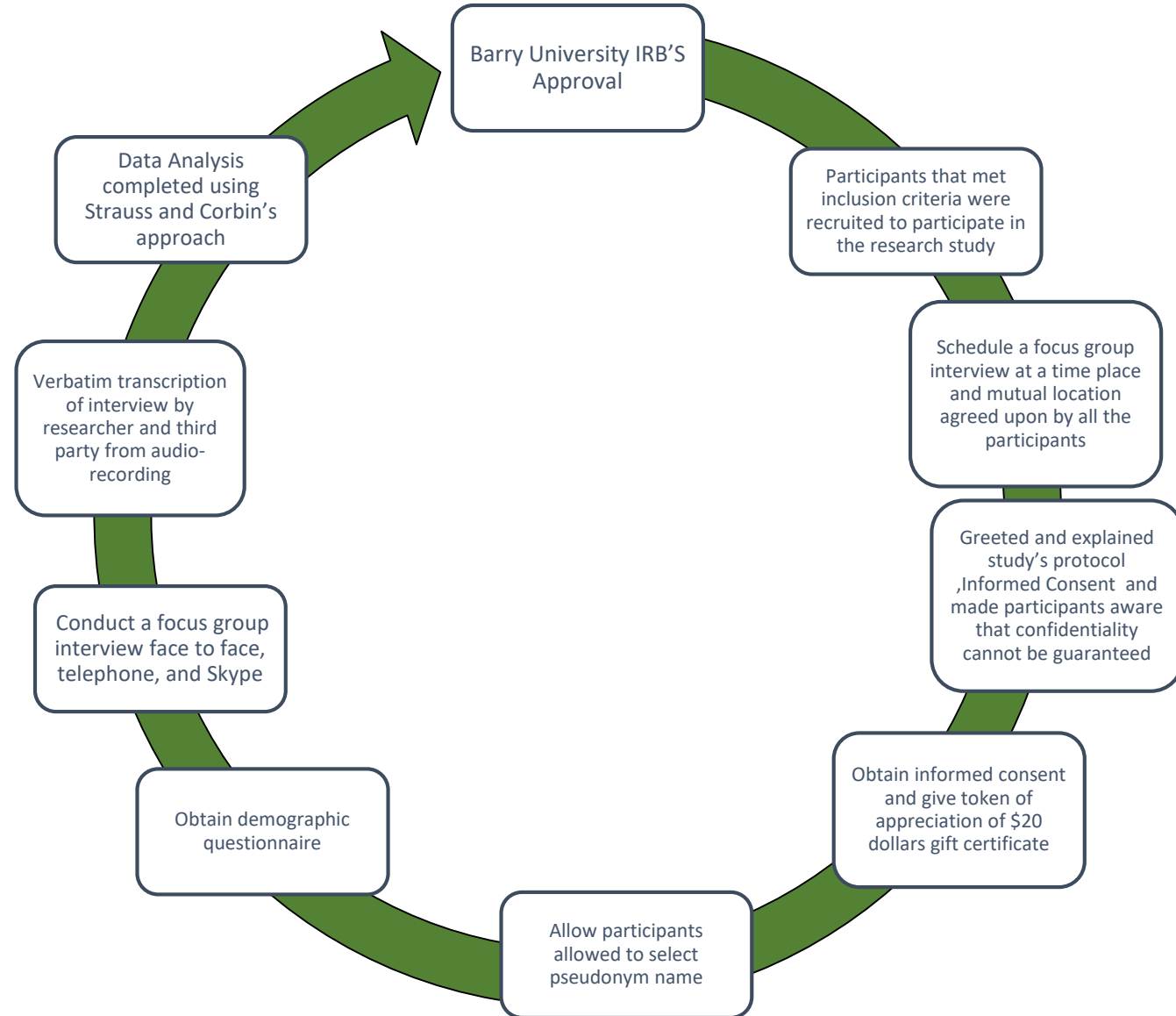
Computer stored data is password protected and DocuSign consents were authenticated, encrypted and oaccessible only to the researcher

# Data Collection

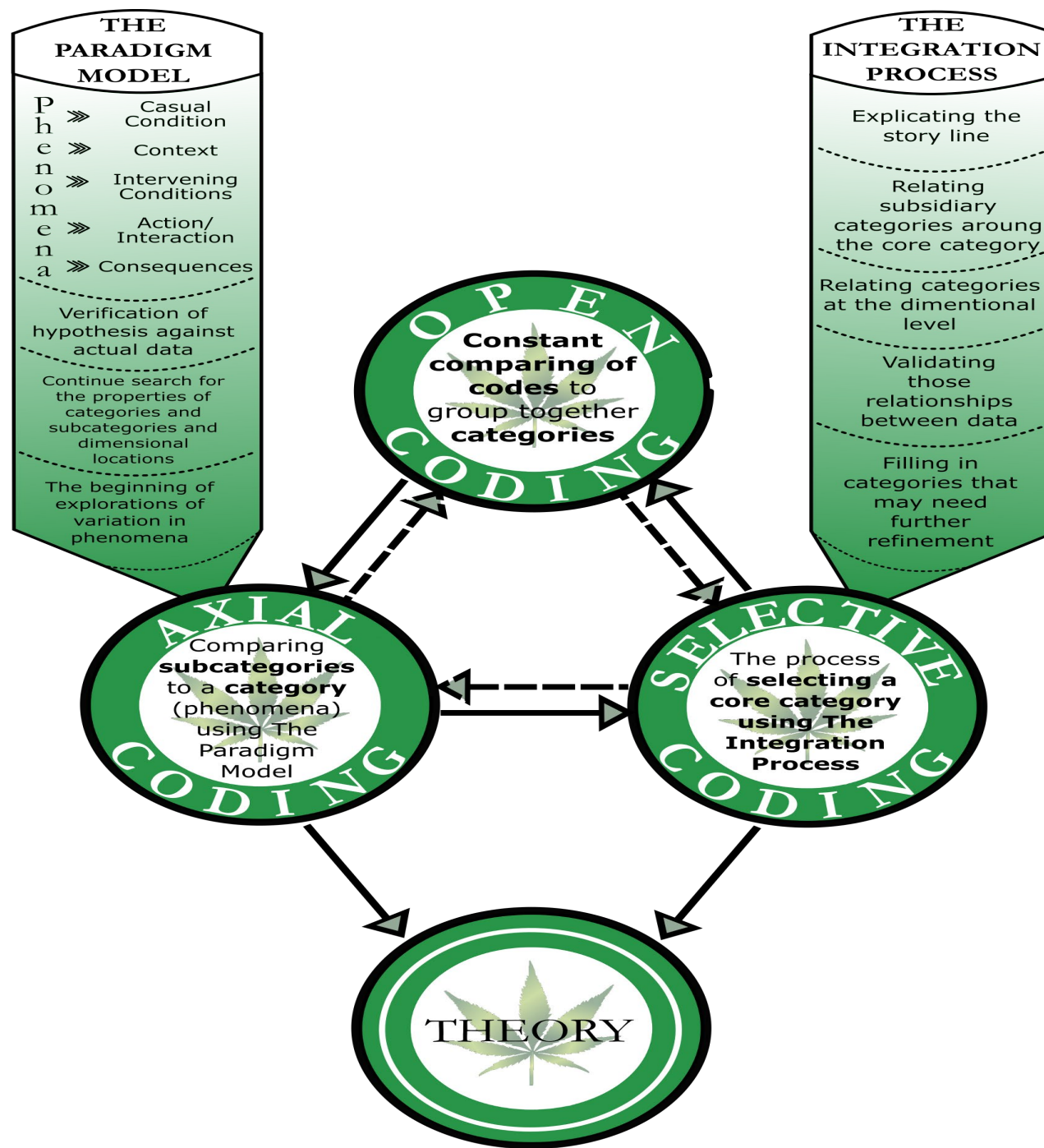
## Phase I



# Data Collection Phase II



# Data Analysis



# Demographics of Participants (N-20) Phase I

Gender	Number	Percentage
Male Female	2 18	10% 95%
Age		
18-25	1	5%
26-30	0	0%
31-40	1	5%
41-50	3	15%
51-60	11	55%
61-70	4	15%
Ethnic Group		
American Indian or Alaska Native	0	0%
Native Hawaiian or other Pacific Islander	0	0%
Black or African American	3	15%
Hispanic or Latino	9	45%
Asian	0	0%
Caucasian	7	35%
Two or more races	1	5%
Other	0	0%

# Demographics of Participants (N-20) Phase I

Nursing Practice	Number	Percentage
Medical Surgical Specialty	4	20%
Emergency Room	2	10%
Obstetrics	2	10%
Pediatrics	3	15%
Operating Room	0	0%
Intensive Care	1	5%
Psychiatric	1	5%
Nurse Educator	6	30%
Nursing Administration	0	0%
Public/Community Health	1	5%
Clinic/Outpatient	0	0%
Long-term care	0	0%
School Nursing	0	0%
Other	0	0%
<b>Years of Experience as a Nurse</b>		
<1year	0	0%
1-5 years	1	5%
6-10 years	0	0%
11-15 years	1	5%
16-20 years	1	5%
21-25 years	0	0%
26-30 years	4	20%
31-35 years	8	40%
36 or more years	5	25%e

# Demographics of Participants (N-20) Phase I

<b>Highest Degree Completed</b>  Diploma Nurse Associate's Degree –Nursing Bachelor's Degree Nursing Master's Degree Nursing DNP PhD-Nursing	<b>Number</b>  0 0 5 5 4 6	<b>Percentage</b>   0% 0% 25% 25% 20% 30%
<b>Experience with patients using Medical Cannabis</b>  YES NO	<b>Number</b>  9 11	<b>Percentage</b>  45% 55%
<b>Are you practicing nursing in a state that legalized Medical Cannabis</b>  YES NO	  19 1	  95% 5%



# Demographics of Participants (N=7) Phase II

<b>Gender</b>	<b>Number</b>	<b>Percentage</b>
Male	3	43%
Female	4	57%
<b>Age</b>		
18-25	0	0
26-30	0	0
31-40	0	0
41-50	57%	57%
51-60	43%	43%
61-70		
<b>Ethnic Group</b>		
American Indian or Alaska Native	0	0
Native Hawaiian or other Pacific Islander	0	0
Black or African American	0	0
Hispanic or Latino	0	0
Asian	7	0
Caucasian	0	100%
Two or more races	0	0
Other	0	0

# Demographics of Participants (N=7) Phase II

<b>Nursing Practice</b>	<b>Number</b>	<b>Percentage</b>
Medical Surgical Specialty	0	0%
Emergency Room	0	0%
Obstetrics	0	0%
Pediatrics	0	0%
Operating Room	0	0%
Intensive Care	0	29%
Psychiatric	2	43%
Nurse Educator	3	14%
Nursing Administration	1	0%
Public/Community Health Clinic/Outpatient	0	0%
Long-term care	0	0%
School of Nursing	0	0%
Other Utilization Manager	1	14%
<b>Highest Degree Completed</b>		
Associate's Degree –Nursing	2	29%
Bachelor's Degree Nursing	0	0%
Master's Degree Nursing	4	57%
PhD-Nursing	1	14%
DNP	0	0%

# Demographics of Participants (N=7) Phase II

<b>Years of Practice</b>	<b>Number</b>	<b>P2percentage</b>
<1year	0	0
1-5 years	0	0
6-10 years	0	0
11-15 years	0	0
16-20 years	2	29%
21-25 years	1	14%
26-30 years	1	14%
31-35 years	1	14%
36 or more years	3	43%
<b>Do you practice nursing in a state that legalized Medical Cannabis?</b>		
YES	5	71%
NO	2	39%

# Emerging Categories and Subcategory



# Quotes: Personal Knowing

- **Organic Girl** remarked “So, I had a patient who was pregnant, and she was epileptic with uncontrolled seizures and the doctor still decided to put her on medical cannabis and she was doing well. Her seizures were under control. I actually took care of her after she had the baby, so we monitor the baby for signs and symptoms of withdrawal, so the baby was doing very well.”
- **Girl Scout** described, “My personal experience was with my father who also was a veteran and had received it for pain control for his cancer. With that personal experience, it definitely helped him, and I was happy about that.”
- **Gladys** divulged, “My mother died 21 years ago, and my mother was on Marinol and it was very useful for her in her end of life, so I do see a place for it and I have firsthand, I have seen it used not in the form of inhaling but in the form of Marinol tablets. I think that there is a place definitely.”
- **Mary Jane** discussed, “Suicide among veterans, among others but especially among veterans. They’re begging to use cannabis and to be told they’re not able to use a plant it’s criminal.”

# Quotes: Lacking Education

- **Abike** expressed, “I don’t think we are prepared at all because I’ll tell you I’ve been a nurse for 28 years, maybe 29 and 21 of those years in the United States and I haven’t had much or any education. I would say on the use of medical marijuana here. I think it is one of the biggest problem we have in nursing. To prepare for patient’s using it I think we need a lot of education.”
- **Oscar** discussed, “Education Validation of that education and then competencies in addressing how and who and what? How is it going to be controlled? What types of patient populations should best benefit from this ? How can nurses be more educated and aware.”
- **Dennison** declared, "We need education, we need experts on medical cannabis. We need to be thinking outside of the state of Ohio, because here we do not have medical cannabis. We need to find out how other states monitor it, support it, how do they cope. We need to learn from expert leaders.”

# Quotes: Advocating

- **Bonnie Bear** explained, "I support it 100%" trying to repeal the bill. I support it 100%. Anything that takes the patient out of pain or takes away their nausea or make them feel better especially since the majority of our patients are dying. We're an oncology floor. We're the only educational oncology floor but also our patients come back to die and that's a problem that they can't smoke it in the hospital."
- **Sally** expressed, "Oh I am all for it." She also articulated, "You have to be compassionate, but I don't think a lot of people think like me."
- **Dennison** declared, "I can speak for my colleagues." My colleagues will be supporting medical cannabis, it will be seen as a positive step of recovery or healing. We will be 100% supportive of it."
- **F Marie** expressed, "Right, so we need to be *advocates*. That's our number one role, is being a nursing *advocate*. That's where we need to start."

# Quotes: Stigmatizing

- **Organic Girl** explained, “Right, so one of them might be the fact that they might actually be judged by friends or you know far relatives or who knows even close relatives who are not aware of the benefits of it, so they might be judged on that. To the point that you know it can have a psychological impact on them depending how they’re being treated by you know, or if they’re in school their peers you know so.”
- **Tene** affirmed, “There’s a certain *stigma* that goes along with that. I mean everyone has heard something the, “*Weed Head*” or something of that nature. So, I think that the biggest social concern would be any *stigma* that people using it might be associated with. Many of the nurses have concerns of the patient on medical cannabis being judged and given labels such as “*Pot Head*”, “*Weed Head*”, *Substance Abuser*, and *Drug Seeker*.”
- **Lola** declared, “I think they are ready, but they need education because there’s still that *stigma* about it from the 60’s.”



# Quotes: Regulating

## • Phase I

- **Dennision** expounded, “One of the problems is that medical cannabis is not being dispensed by pharmacies. I believe that medicinal cannabis should be *regulated* by the federal government and dispense in a pharmacy. It would be much safer.”
- **Melissa Modelo** explained, “I don’t understand why medicinal cannabis ...needs to be federally *regulated* and it also needs to be dispensed in a pharmacy like all other medications.”

## ▪ Phase II

- **Brother Maynard**, “The prohibition of cannabis is causing so much harm to society and you know again this is a place for nurses to really stand up for the benefit of patients that ethically, morally we have to protect our patients and the prohibition is highly dangerous to them all.”
- **Santa** discussed how the current regulation is affecting New Jersey. The Supreme Court ruled that states have the right to determine the practice of medicine within each state. That’s why doctors and nurses that are licensed by the various states so in a way it’s understandable that different states have different laws and different regulations to enact those laws. Of course, the federal government is the main problem as far as transportation across state lines but within each state...the problem in New Jersey is over regulated programs. Treatment centers that sell the marijuana here are more strictly regulated than full service pharmacies that have much more dangerous drugs in them. It also results in a very overpriced product for patients in New Jersey. We have the most expensive medical marijuana in the country according to Department of Health. Of course, no insurance company covers any of this medical marijuana, a real hardship for patients. Only 12,000 patients have access to medical marijuana in NJ, a state with 9 million.

# Quotes: Lacking Uniformity

- **Abike** echoed, “I think a barrier is the laws. Every state has their own laws making it complicated to understand all the laws in every state. There are no standards of practice.”
- **Roxanna** exclaimed, "We need a national law. The barriers are going to be, the state-by-state laws are going to be the barriers. If I live in Pennsylvania and I could take this certain amount of medical marijuana, but I work in New Jersey how will that affect my lab results?"
- **Roxanna** continued to mention, “They need congruency. If they don't have a national law of how much, this is how much you can get nationally...if they don't have protocols in place the nurse will cause medication errors. The nurses will need to know the laws state by state rather than nationally. How do you even test the nurse's knowledge based on the national level like NCLEX? You can't.

## ▪ Focus Group

- **Mary Jane** also explained, “One other big issue for people with regards to states, obviously it's transporting across state lines during vacations but even more prominent are families having to move to other states just, so they can get the medicine for their children or for family members. That to me is just an atrocity that needs to stop.”

# Theory of Restructuring (Gestalt theory)

**GESTALT THEORISTS**

Max Wertheimer   Wolfgang Köhler   Kurt Koffka



The image contains three black and white portraits of Gestalt theorists. From left to right: Max Wertheimer, Wolfgang Köhler, and Kurt Koffka. The portraits are arranged horizontally below their names. The background of the slide is blue with a white wave-like pattern at the top.

- Basis of *problem solving is restructuring*
- *Restructuring*, a type of process in what the problem solver comes to see the requirement of the problem situation in a new way
- *Restructuring*, bridges the gap between what one has and what one wants (Ohlsson, 1984)
- Essential *process of thinking*
- Occurs in perceptual field; *neither subjective nor objective*
- Propositions explain and provide insight, can be applied to every category

# Theory of Restructuring

- Restructuring:
  - ✓ Increase knowledge of nurses on the subject of medical cannabis.
  - ✓ Educating patients, family and the public.
  - ✓ Advocating for patients.
  - ✓ Decrease stigma of patient using medical cannabis .
  
- *Theory of restructuring* of the current regulations can assist in creating policies that are more uniformed and consistent across state lines to decrease confusing.

# Significance of the Study to Nursing

- Increase nurses knowledge on medical cannabis usage
- Improve understanding of current regulations
- Theory of Restructuring
  - education, practice, research, health and public policies

# Implications of the Study

- **Nursing Practice**

- Allow nurses to become knowledgeable on the regulations of medical cannabis
- Fulfill the standards of the Nursing Practice Act

- **Nursing Education**

- Framework that could be incorporated into nursing's schools curriculum

- **Nursing Research**

- Gateway for other nurses to engage in research on medical cannabis
- Identify other issues that impact nurses and medical cannabis

- **Health/Public Policy**

- Create health policy on the usage of medical cannabis for hospitals, clinics, nursing curriculums, nursing homes and assisting living facilities

# Strengths and Limitations of the Study

## Strengths

- Data saturation
- Finding verified by an expert focus group from the American Cannabis Nurses Association (credibility, dependability)
- Member checking of the transcripts with Phase I (credibility)
- Utilization of field notes, reflexive journaling, memoing (dependability, confirmability)
- Thick rich description of the data was used in phase I/II of the study (transferability)

## Limitations

- Limitation of male participants
- Lack of diversity of participants in Phase II

# Recommendations for Future Study

- Qualitative studies on the current regulations.
- Quantitative studies to evaluate the categories, subcategory and the *Theory of Restructuring*
- Study sample inclusive of more male registered nurses caring for patients on medical cannabis and the regulations.



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