

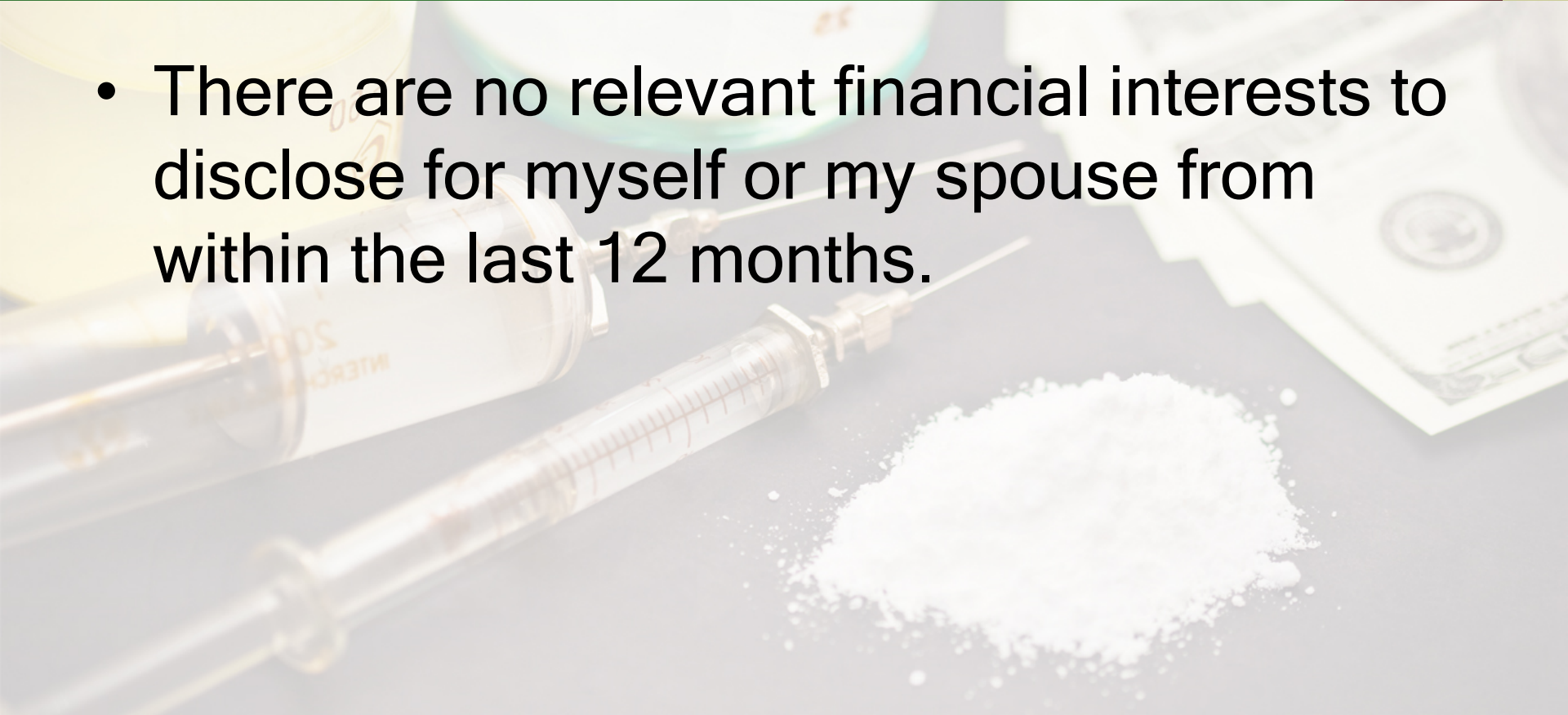
Update on the Opioid Epidemic: Perspective from a Women's Addiction Treatment Facility

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The Next Door Addiction Treatment Facility

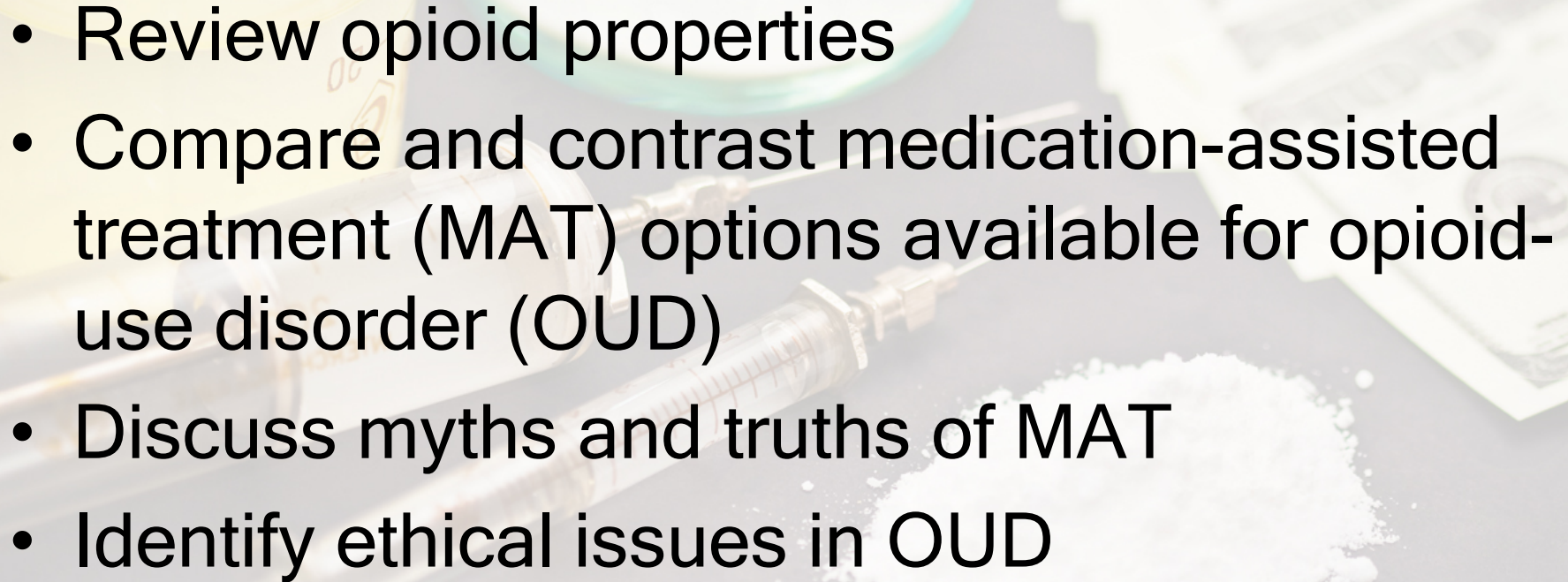


Disclosures

- There are no relevant financial interests to disclose for myself or my spouse from within the last 12 months.

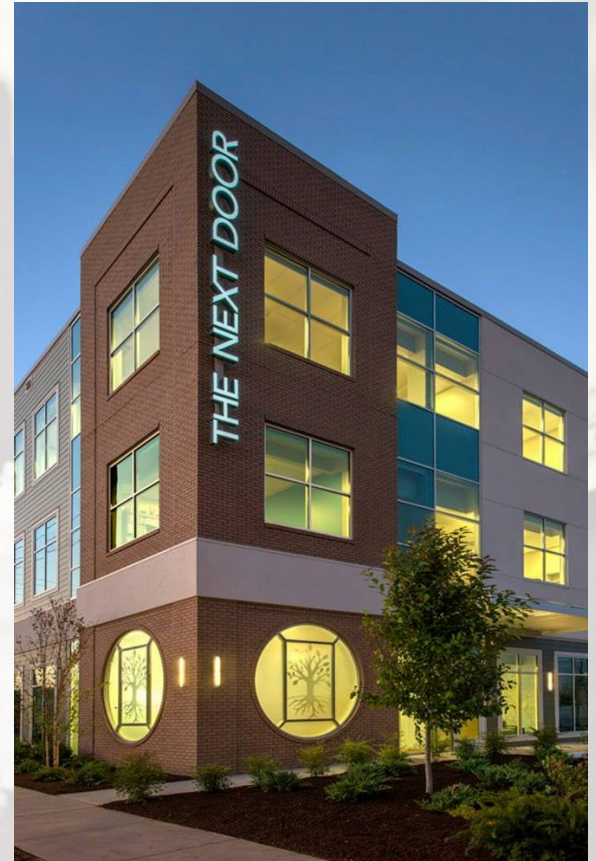


Objectives

- Review opioid properties
 - Compare and contrast medication-assisted treatment (MAT) options available for opioid-use disorder (OUD)
 - Discuss myths and truths of MAT
 - Identify ethical issues in OUD
- 



**WE EXIST TO
EMPOWER
WOMEN FOR
LIFETIME
RECOVERY.**



THE OPIOID EPIDEMIC BY THE NUMBERS



130+

People died every day from
opioid-related drug overdoses³
(estimated)



10.3 m

People misused
prescription opioids in 2018¹



47,600

People died from
overdosing on opioids²



2.0 million

People had an opioid use
disorder in 2018¹



808,000

People used heroin
in 2018¹



81,000

People used heroin
for the first time¹



2 million

People misused
prescription opioids
for the first time¹



15,349

Deaths attributed to
overdosing on heroin
(in 12-month period
ending February 2019)²



32,656

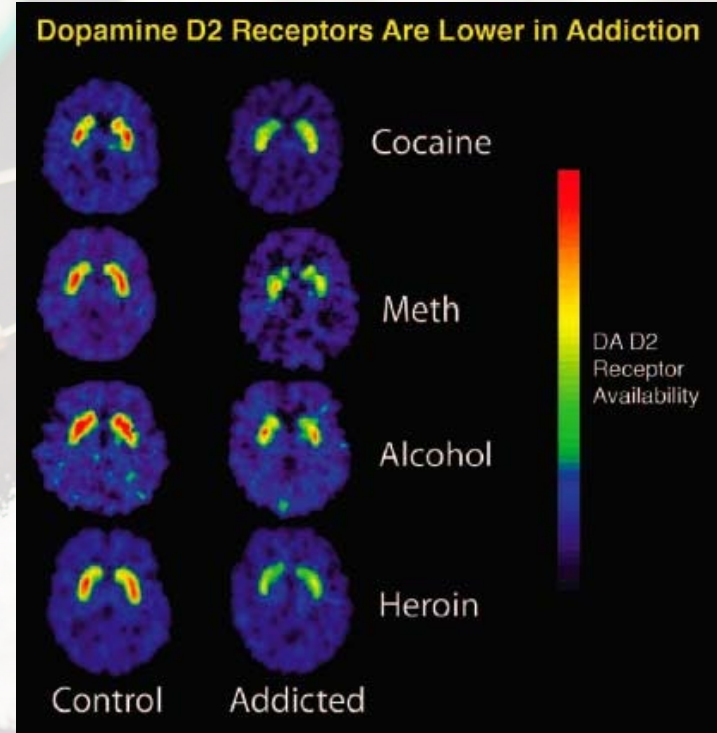
Deaths attributed to overdosing
on synthetic opioids other than
methadone (in 12-month period
ending February 2019)²

SOURCES

1. 2019 National Survey on Drug Use and Health. Mortality in the United States, 2018
2. NCHS Data Brief No. 329, November 2018
3. NCHS, National Vital Statistics System. Estimates for 2018 and 2019 are based on provisional data.

Substance Use Disorder

- **Addiction is a Disease**
 - Preventable
 - Treatable
- **Factors Increasing Risk**
 - Biological, Environmental, Others
- **Brain changes**



A composite image featuring medical supplies and cash. In the foreground, a syringe with a needle is positioned diagonally. To its left is a vial with a yellow cap and a '20' marking. In the background, a stack of US dollar bills is visible. A pile of white powder is scattered on the surface in the lower right. The top of the image has a green and maroon gradient bar.

Review of Opioids

Review of Opioids: Receptors

- 4 types of opioid receptors:
 - Delta (OP1), kappa (OP2), mu (OP3) and opioid-receptor-like-1 (ORL-1) which work in:
 - Brain, Brainstem, Spinal cord, Peripheral neurons, Intestine, Skin, Pituitary, Immune cells

	Mu	Delta	Kappa	ORL-1
Clinical effects	Analgesia Depression Euphoria Physical dependence Respiratory Sedation	Analgesia Inhibit dopamine release Modulation of mu receptor	Analgesia Diuresis Dysphoria	Analgesia Sedation

Review of Opioids: Opioid Affinity

- Affinity- how tightly it binds to the receptor
 - Dependent on opioid

Table 5. Mu Receptor Affinities of Various Opioids¹⁹

Opioids	Range of Ki Value
Levorphanol	0.19 to .23 ³²
Buprenorphine	0.21 to 1.5
Naltrexone	0.4 to 0.6 (antagonist effects) ²⁰
Fentanyl	0.7 to 1.9
Methadone	0.72 to 5.6
Naloxone	1 to 3 (antagonist effects) ²⁰
Morphine	1.02 to 4
Pentazocine	3.9 to 6.9
Codeine	65 to 135

Review of Opioids: Opioid Binding

- Agonist
 - Most opioids
 - Activate opioid receptors and cause the physiological and psychological effects we see with opioids
 - Effects increase until the receptor is fully activated and a maximum effect is reached, providing:
 - Pain relief
 - Euphoria, pinpoint pupils, constipation, nausea, sedation, mental clouding, impaired judgement, slurred speech, decreased anxiety, drop in blood pressure, respiratory depression

Review of Opioids: Opioid Binding

- Partial Agonist
 - Also activate opioid receptors
 - At low doses, partial and full agonists have similar effects
 - At high doses, partial agonists do not produce as great an effect as full (“ceiling effect”)
- Antagonist
 - Opioid antagonists bind to opioid receptors, but do not activate them
 - Do not cause any psychoactive effects, such as euphoria, but block the effects of competing agonists
- Mixed agonist/antagonists
 - Based on receptor and dose

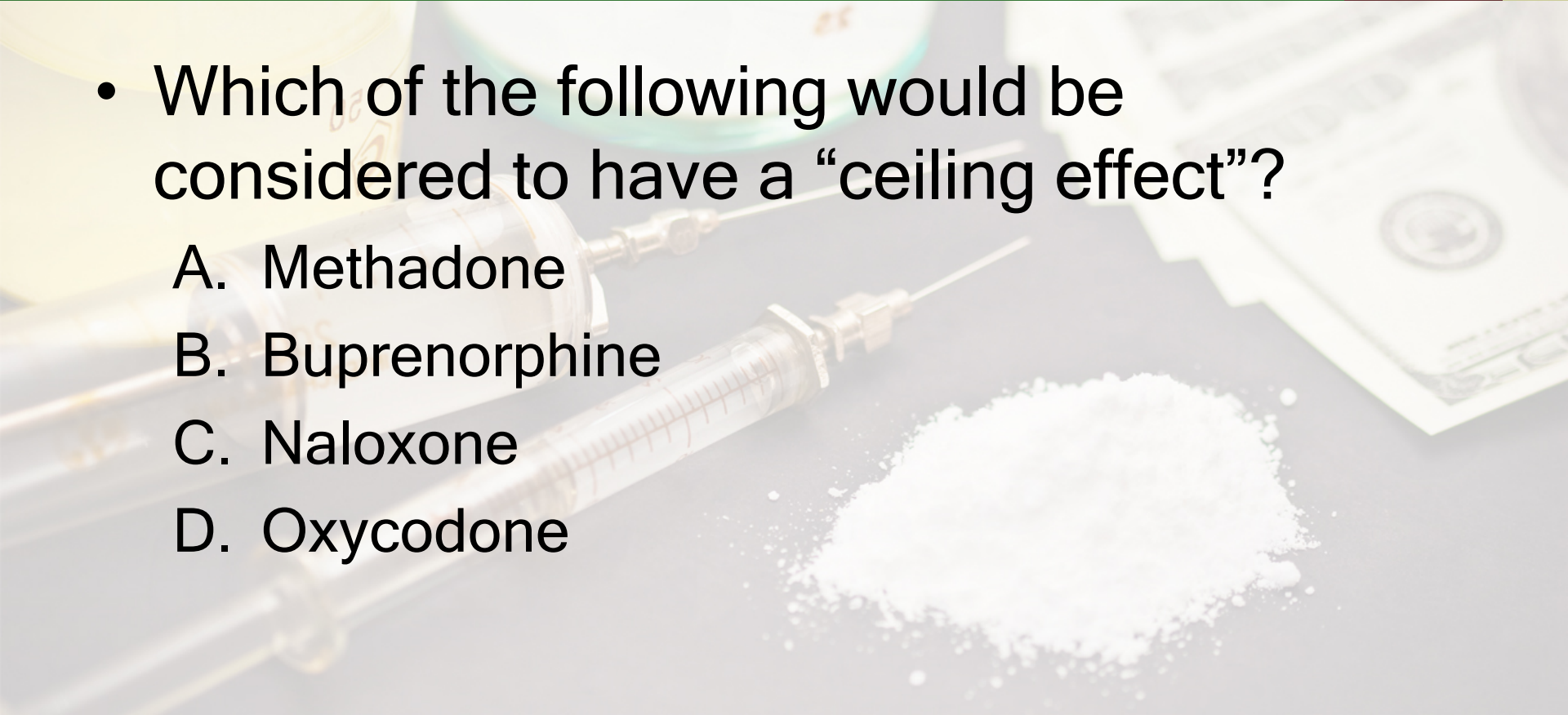
Review of Opioids: Opioid Binding

Table 3. Examples of Opioid by Receptor Binding

Full Agonist	Partial Agonist	Mixed Agonist	Antagonist
Codeine Fentanyl Heroin Hydrocodone Hydromorphone Levorphanol Meperidine Methadone Morphine Oxycodone Oxymorphone	Buprenorphine Butorphanol Pentazocine Tramadol	Buprenorphine Butorphanol Nalbuphine Pentazocine	Naloxone Naltrexone

Opioid Review Question

- Which of the following would be considered to have a “ceiling effect”?
 - A. Methadone
 - B. Buprenorphine
 - C. Naloxone
 - D. Oxycodone





Medication-Assisted Treatment

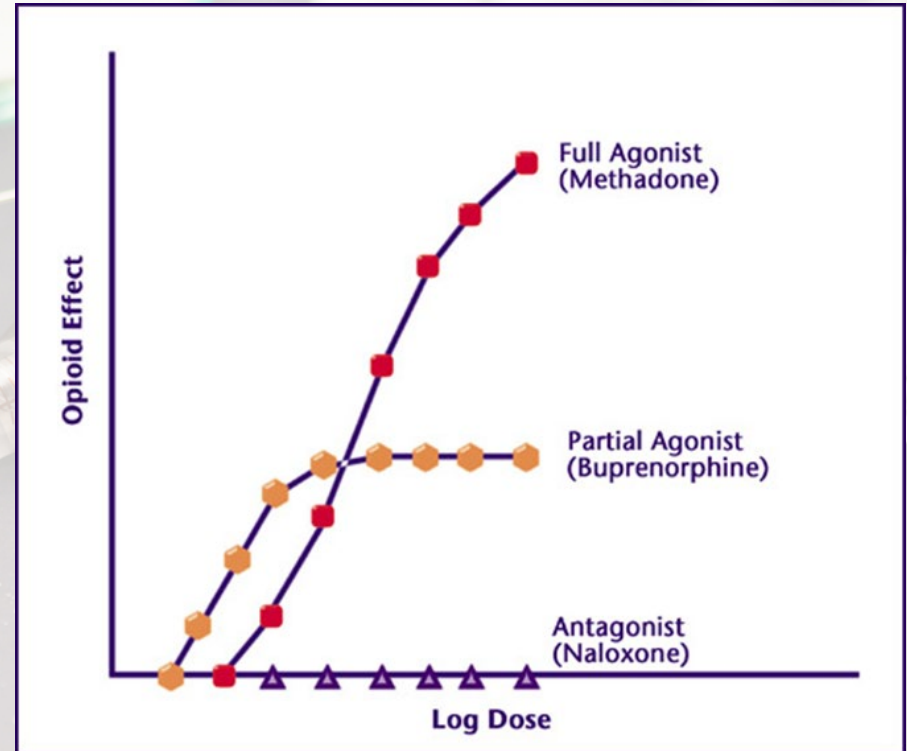
Medication-Assisted Treatment

- What is Medication-Assisted Treatment (MAT)?
 - Use of medications *along with counseling and behavioral therapies* to treat substance use disorders and prevent overdose
 - TIP 63



MAT Medications

- Mechanism of action at mu-opioid receptor:
 - Agonist
 - Methadone
 - Partial Agonist
 - Buprenorphine
 - Antagonist
 - Naltrexone



Methadone

- Schedule II controlled substance
- Long-acting, full mu-opioid agonist
- Oral dosage form
- Medically supervised withdrawal and maintenance (OTP)
 - Controls cravings
 - Blunts or block euphoria from illicit opioids
- Can be addictive and cause overdose

- Wide individual variability in half-life (8 to 59 hours)
- No ceiling effect, reaches steady state in about 5 days
- Individualized dosing → begin low dose and gradually increase with daily monitoring over days to weeks

Methadone

- Drug-drug interactions
 - CYP450 3A4 primarily metabolizes methadone
 - Monitor for interactions
- Adverse effects and Cautions:
 - Opioid side effects
 - QTc prolongation
 - Respiratory depression
 - Overdose- taking more than prescribed, as tolerance builds

Buprenorphine

- Subutex®
 - Buprenorphine sublingual
- Bunavail®
 - Buprenorphine *with* naloxone buccal film
- Suboxone®
 - Buprenorphine *with* naloxone sublingual film
- Zubsolv®
 - Buprenorphine *with* naloxone sublingual tablets
- Probuphine®
 - 6 month implant
- Sublocade®
 - Monthly injection

Buprenorphine

- Schedule III controlled substance
- High affinity, partial agonist at mu-opioid receptor, antagonist at kappa receptor
- Medically supervised withdrawal and maintenance
- Given with naloxone in maintenance
- Effective/maintenance dose is the dose that prevents withdrawal symptoms and cravings
- Physical dependence

Buprenorphine

- Safer than methadone- less sedation and risk for respiratory depression
- Can also help with pain
- Initiate around 12-24 hours after last opioid or can precipitate withdrawal
- Long elimination half-life (24 to 69 hours)
- Drug-drug interactions due to CYP450 3A4 enzymes
- Adverse effects and Cautions:
 - Euphoria
 - Opioid like effects
 - Peripheral edema
 - Sedative effects (confusion, vomiting, extreme sleepiness, breathing problems)
 - Especially in combination with benzodiazepines or other CNS depressants

Naltrexone

- ReVia® (50 mg oral tablets)
- Vivitrol® (380 mg extended-release injection)
- Opioid antagonist
 - Reduces opioid cravings
 - No euphoria or sedative effects of opioids if patient were to take some
- Prevention of relapse following medically supervised withdrawal
- Not a control substance and not addictive

Naltrexone

- Patients need to be opioid free for at least 3-14 days before starting (depending on opioid used) or precipitate withdrawal
- Minimal drug-drug interactions
- Adverse Effects and Cautions:
 - Nausea, anxiety, insomnia, suicidality, anorexia, dizziness, fatigue
 - Intramuscular: pain, swelling, cellulitis, abscess, necrosis (surgical intervention)
 - Risk of overdose, injection site reactions, hepatotoxicity

MAT Review Question

- Which of the following MAT options would be easiest to transition a patient onto following opioid use?
 - A. Methadone
 - B. Buprenorphine
 - C. Naltrexone



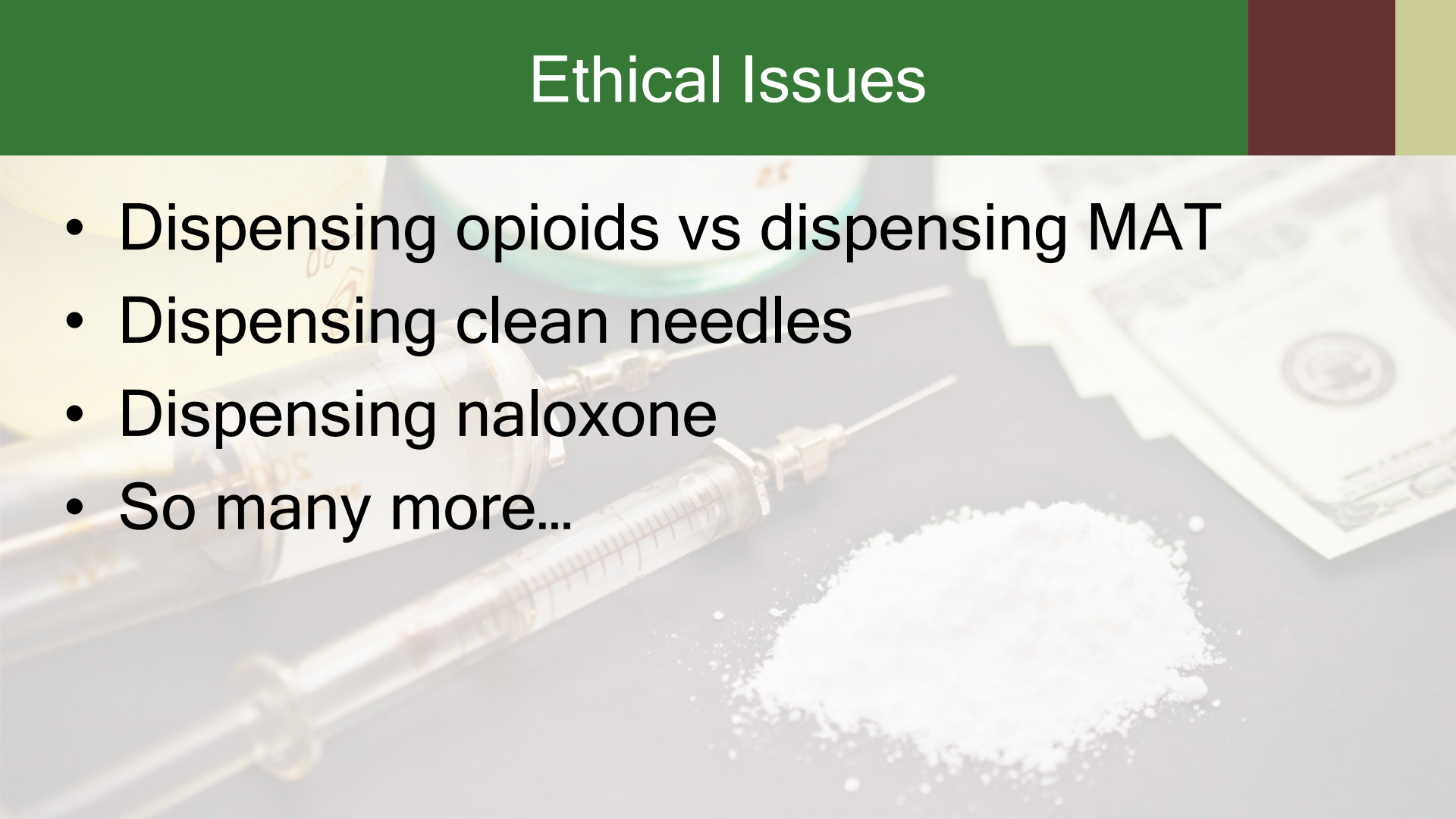
Myths about MAT

- “They are just substituting one drug for another”
- “MAT is a moral failure or a matter of not having enough willpower—the person should pray more”
- “MAT is only for the weak who can’t do it without medications”
- “MAT is only for the short term”
- “MAT increases the risk for overdose”
- “My patient’s condition is not severe enough for MAT”
- “MAT is a crutch on their road to recovery, abstinence is the only way that works”

Truths about MAT

- Reduces or blocks cravings
- Reduces the chance of relapse
- Decreases or stop illicit opiate use
- Increases retention in treatment
- Improves quality of life
- Improves health and functioning
- In many cases, without MAT, abstinence-based treatment alone for opioid use disorder can have fatal consequences

Ethical Issues

- Dispensing opioids vs dispensing MAT
 - Dispensing clean needles
 - Dispensing naloxone
 - So many more...
- 



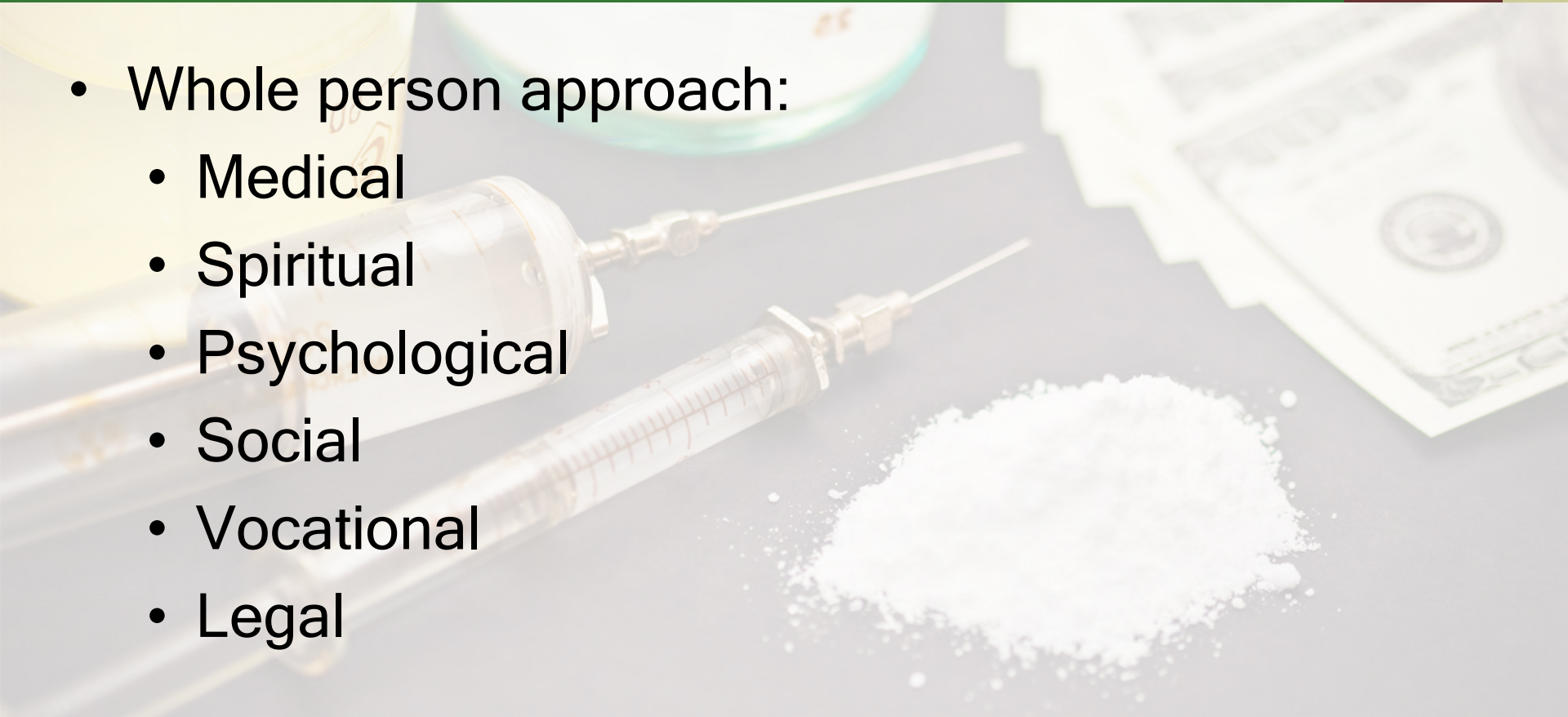
**As a Christ-Following Pharmacist,
Addiction Treatment Is...**

Addiction Treatment is Loving like Jesus

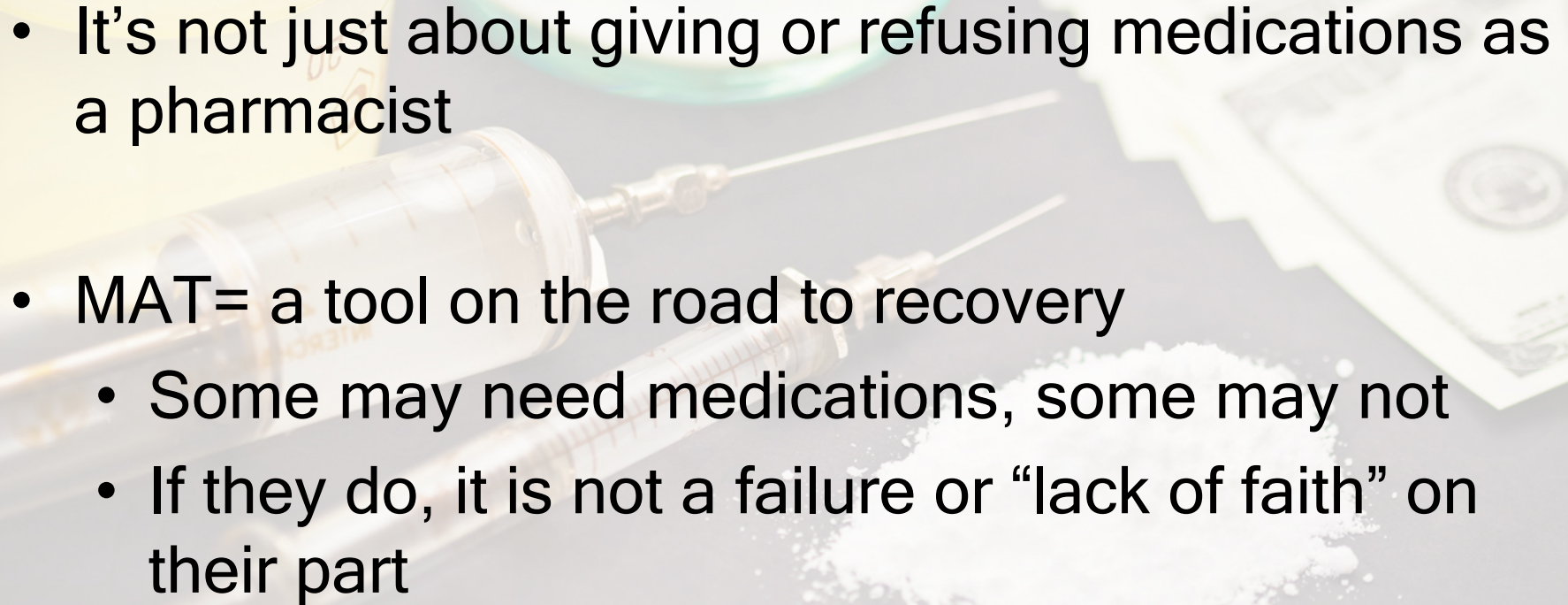
- Requires person-centered care...a relationship with the patient!
- Meet the patient where they are— just as Jesus did!
 - Mark 2:17- On hearing this, Jesus said to them, "It is not the healthy who need a doctor, but the sick. I have not come to call the righteous, but sinners."

Addiction Treatment is a Whole Person Approach

- Whole person approach:
 - Medical
 - Spiritual
 - Psychological
 - Social
 - Vocational
 - Legal

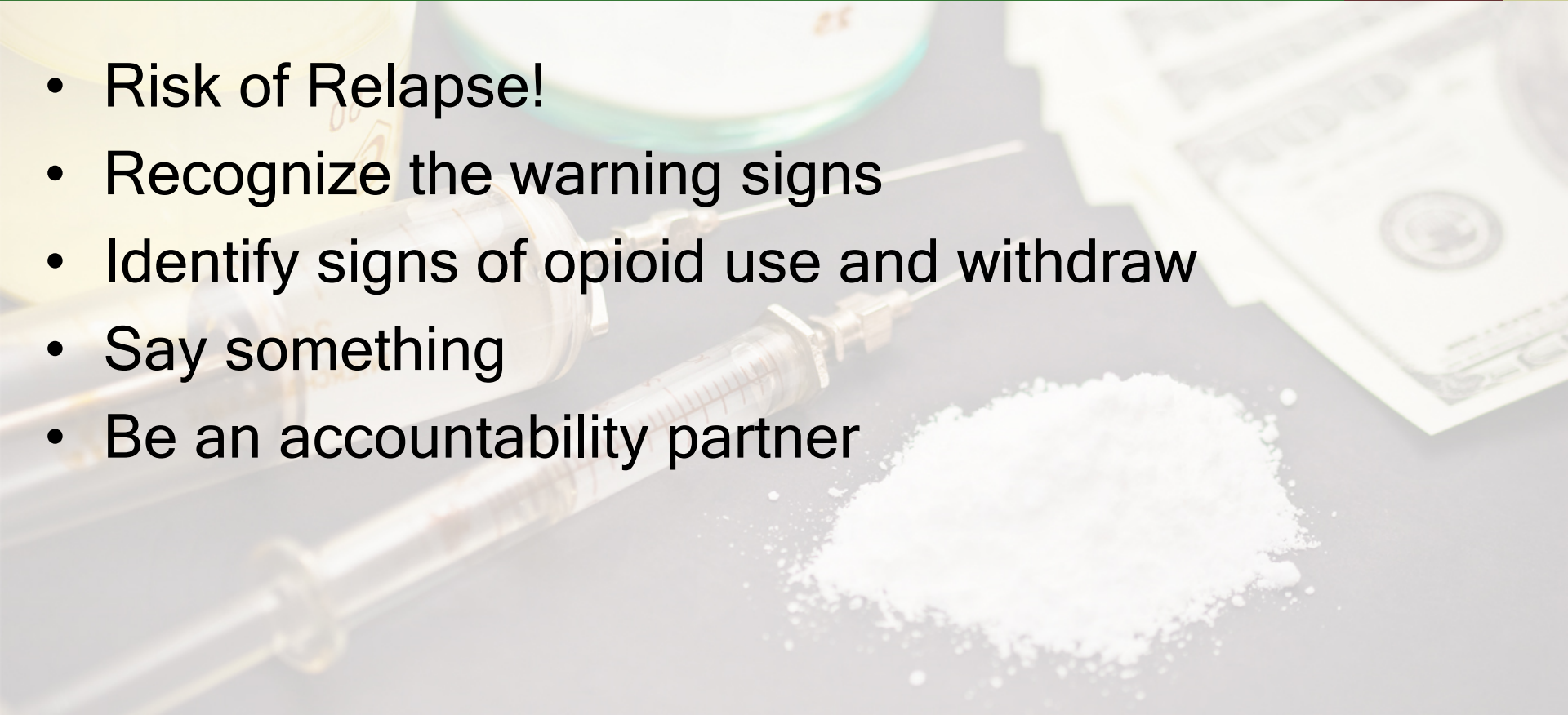


Addiction Treatment is Not One Size Fits All

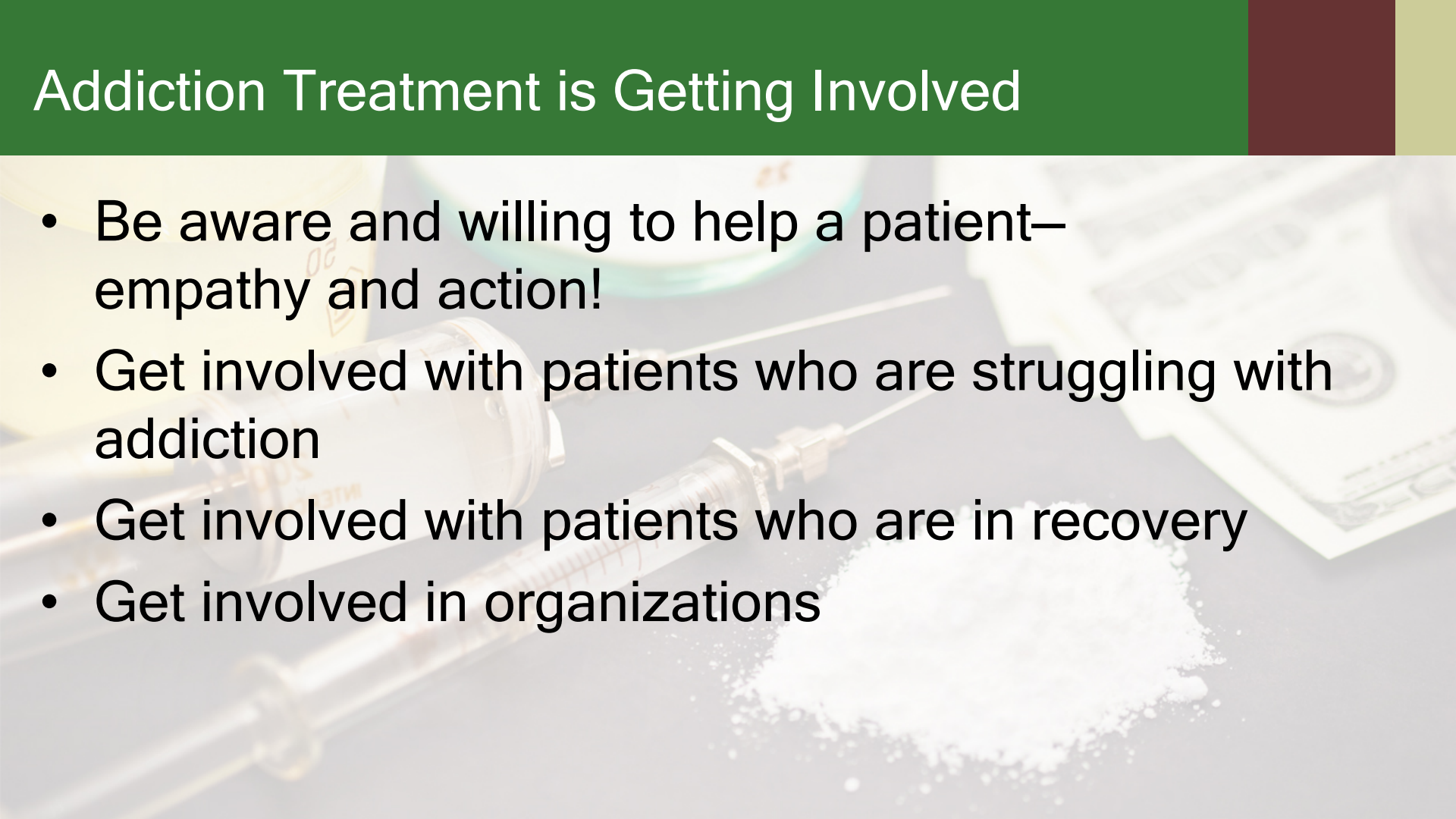
- It's not just about giving or refusing medications as a pharmacist
 - MAT= a tool on the road to recovery
 - Some may need medications, some may not
 - If they do, it is not a failure or “lack of faith” on their part
- 

Addiction Treatment is Realizing it is a Chronic Disease

- Risk of Relapse!
- Recognize the warning signs
- Identify signs of opioid use and withdraw
- Say something
- Be an accountability partner



Addiction Treatment is Getting Involved

- Be aware and willing to help a patient—empathy and action!
 - Get involved with patients who are struggling with addiction
 - Get involved with patients who are in recovery
 - Get involved in organizations
- 
- The background of the slide is a composite image. It features several medical syringes, some with needles inserted, scattered across the scene. In the lower right quadrant, there is a small pile of fine white powder. To the right, a stack of US dollar bills is visible, with the top bill being a \$100 bill. The overall image is slightly blurred and has a soft, desaturated color palette, serving as a visual backdrop for the text.

Addiction Treatment is Praying

- Praying for:
 - Our patients
 - Our minds to fully self-reflect in identifying our own biases and stereotypes
 - Our ability to recognize when a patient needs help
 - Our heart to serve each patient as we would if it were Jesus

Application: Making It Real

- Think of a patient who has come to your pharmacy. Looking back at your interactions with him or her, is there something you would have changed or done better when helping them in their recovery?
- Develop a list for yourself of what else helping patients with addiction treatment might look like for you.

Final Thoughts

- People are dying every single day.
- Gave a commitment to our profession, but most importantly to Jesus. To serve both our patients and Him well.



A collage of medical and financial items. In the foreground, there are two syringes, one with a needle attached. To the right, there is a pile of white powder. In the background, there are several US dollar bills, including a \$100 bill. The image is overlaid with a semi-transparent green and maroon banner at the top.

Questions?