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# Schizophrenia Treatment: Progress and Promise.

# Faculty Disclosure

We do not have any relevant financial relationships with any commercial interests.

# Educational Objectives:

- ▶ Outline current treatment strategies for patients with schizophrenia
- ▶ Discuss the future directions in schizophrenia treatment and the symptoms targeted
- ▶ Explore the impact of targeted pharmacotherapy on recidivism and integration into community treatment

# Schizophrenia: DSM 5 Statistics

- ▶ According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM 5), the lifetime prevalence of schizophrenia is approximately 0.3%-0.7%.
- ▶ The psychotic features of the disorder typically emerge between the mid-teens and mid-thirties, with the peak age of onset of the first psychotic episode in the early to mid-twenties for males and late twenties for females.

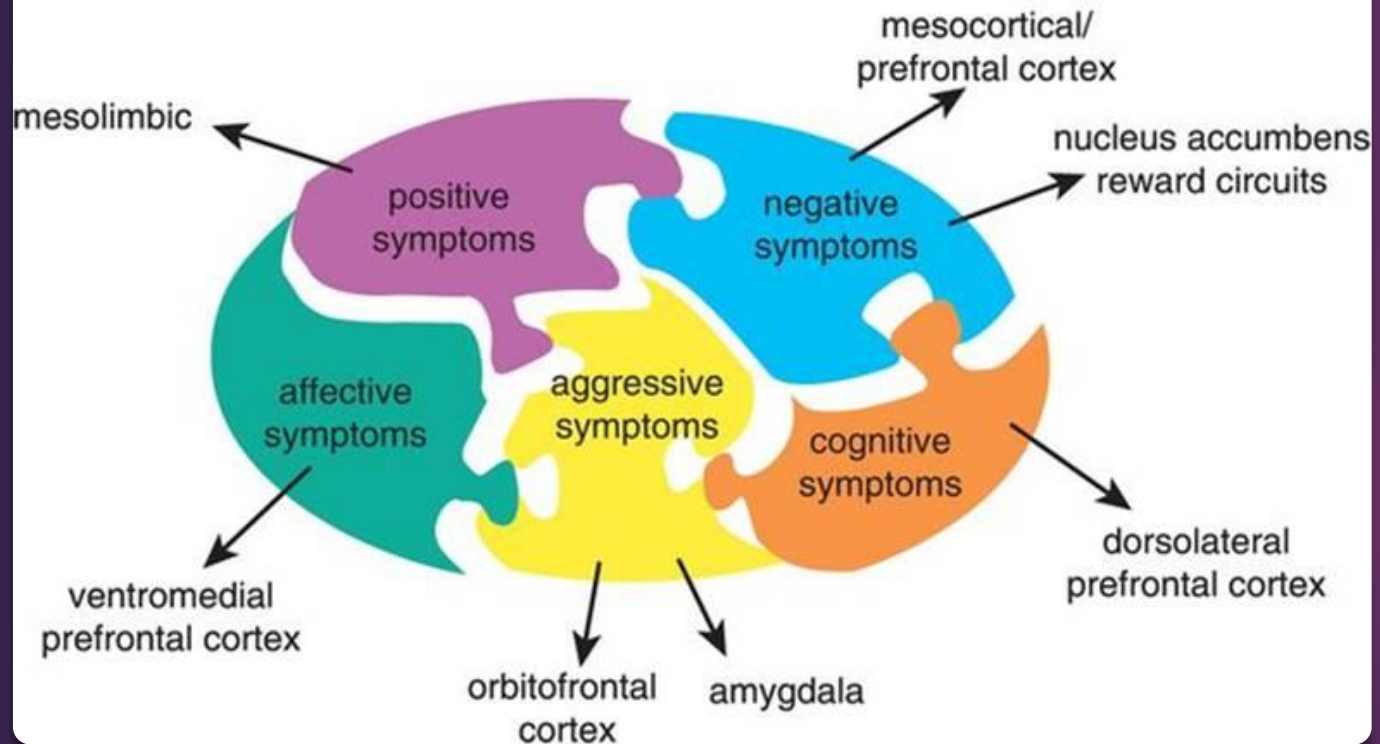
# DSM 5 Diagnostic Criteria: Active Phase Symptoms

- ▶ Two or more of the following for at least a one-month (or longer) period of time, and at least one of them must be 1, 2, or 3:
  1. Delusions
  2. Hallucinations
  3. Disorganized speech
  4. Grossly disorganized or catatonic behavior
  5. Negative symptoms, such as diminished emotional expression

# Residual Phase Symptoms in Schizophrenia

- ▶ While the DSM 5 eliminated the 5 subtypes of Schizophrenia and moved toward a rating of severity as a spectrum disorder, many clinicians still find the understanding of the residual symptoms of Schizophrenia helpful in making treatment decisions.
- ▶ These symptoms may include:
  - Odd beliefs
  - Unusual perceptual experiences
  - Distorted thinking
  - Flat affect or diminished emotional expression
  - Lack of motivation to engage in purposeful activities (avolition)
  - Decreased pleasure from positive stimuli (anhedonia)
  - Diminished speech (alogia)
  - Lack of interest in social interaction (asociality)

## Match Each Symptom to Hypothetically Malfunctioning Brain Circuits



Another way to break it down...

# Not So “Fun Facts” about SMI in Corrections

- ▶ Approximately 20 percent of inmates in jails and 15 percent of inmates in state prisons have a serious mental illness (SMI).
- ▶ Schizophrenia is generally diagnosed in approximately 1% of the general population, where it is diagnosed in between 2-6.5% of inmates in correctional facilities.
- ▶ There are now 10 times more individuals with serious mental illness in jails and state prisons than there are in state mental hospitals.
- ▶ The average stay for mentally ill inmates in jail is longer than for non-mentally ill inmates. Mentally ill inmates often stay longer because they are held for months awaiting the availability of a bed in a psychiatric hospital.
- ▶ Mentally ill inmates cost more than non-mentally ill inmates for a variety of reasons, including increased staffing needs, psychotropic medication costs, and lawsuits.
- ▶ Between 55 percent and 76 percent of inmates in segregation [isolation] are mentally ill
- ▶ Multiple studies have shown that approximately half of all inmate suicides are committed by inmates who are seriously mentally ill



# Barriers to Treatment: Covid-19

- ▶ Inmates entering correctional facilities are generally required to complete an initial quarantine period, limiting their access to behavior health services and units during this time period.
- ▶ Medical Isolation and Quarantine can be a confusing and high-risk time for inmates with SMI and increase existing symptoms.
- ▶ The court systems have experienced significant delays due to the pandemic and these delays are often difficult to explain to individuals with cognitive deficits or SMI.
- ▶ While telehealth is a widely accepted practice in behavioral health, it can be confusing and create a separation between the clinician and patient during the presence of acute symptoms.

# Barriers to Treatment: Environment

- ▶ The incarceration experience itself poses a challenge to mental health treatment. Untreated mental health (and physical health) conditions are known to result in poor adjustment to life in correctional institutions.
- ▶ Crowded living quarters, lack of privacy, increased risk of victimization, and placement into restrictive housing within the institution have been identified as strong correlates for self-harm and adaptation challenges for those with mental health conditions in correctional settings.

# Barriers to Treatment: Limited Resources

- ▶ First, clinicians and psychiatrists who may properly diagnose disorders are in short supply, and the screening tools that are typically used in prison settings are not diagnostic tests. Instead, the purpose of these tools is to gauge the security risk of a new inmate at the facility.
- ▶ Second, limited correctional budgets may decrease treatment access to those with only the most serious mental health conditions.

# Barriers to treatment: Co-Occurring medical conditions

- ▶ Patients with Schizophrenia have a reduction in life expectancy between 15 and 20 years. A major contributor of the increased mortality is due to CVD (Cardiovascular Disease), with CVD mortality ranging from 40 to 50% in most studies. Important causal factors are related to lifestyle, including poor diet, lack of physical activity, smoking, and substance abuse.
- ▶ Recent findings suggest that there are overlapping pathophysiology and genetics between schizophrenia and CVD-risk factors, further increasing the liability to CVD in schizophrenia. Many pharmacological agents used for treating psychotic disorders have side effects augmenting CVD risk.
- ▶ Schizophrenia is associated with impaired lung function and increased risk for pneumonia, COPD and chronic bronchitis
- ▶ Metabolic Syndrome is linked with sedentary lifestyle, lack of regular physical activity, poor food intake, substance use and high rates of smoking. Additionally, use of second generation antipsychotics may increase risk.

# Barriers to Treatment: Medication Side Effects

Antipsychotics have many side effects (or adverse events) and risks. The FDA lists the following side effects of antipsychotic medicines:

- Drowsiness
- Dizziness
- Restlessness
- Weight gain (the risk is higher with some atypical antipsychotic medicines)
- Dry mouth
- Constipation
- Nausea
- Vomiting
- Blurred vision
- Low blood pressure
- Uncontrollable movements, such as tics and tremors (the risk is higher with typical antipsychotic medicines)
- Seizures
- A low number of white blood cells, which fight infections

► Typical antipsychotic medications can also cause additional side effects related to physical movement, such as:

- Rigidity
- Persistent muscle spasms
- Tremors
- Restlessness

A person taking an atypical antipsychotic medication should have his or her weight, glucose levels, and lipid levels monitored regularly by a doctor.

# Barriers to Treatment: Suicide Risk

- ▶ 5%-6% of people with schizophrenia die by suicide, about 20% make suicide attempts on more than one occasion, and many more have significant suicidal thoughts. Suicidal behavior can be in response to hallucinations and suicide risk remains high over the lifespan of individuals with schizophrenia.
- ▶ There is almost total agreement that the schizophrenic patient who is more likely to commit suicide is young, male, white, and never married, with good premorbid function, post-psychotic depression and a history of substance abuse and suicide attempts.
- ▶ Hopelessness, social isolation, hospitalization, deteriorating health with a high level of premorbid functioning, recent loss or rejection, limited external support, and family stress or instability are important risk factors in schizophrenic individuals who commit suicide.
- ▶ These patients usually fear further mental deterioration, and they show either excessive treatment dependence or loss of faith in treatment.

# Barriers to Treatment: Violence

**Myth: Violence is common among individuals with schizophrenia.**

**Reality:** It's actually rare for someone with schizophrenia to be violent. An individual with schizophrenia is much more likely to be the *victim* of violence rather than the perpetrator.

However, there is increased risk. People with schizophrenia have a 13% chance of being violent compared to 2% chance in people with no mental health diagnosis. Patients with schizophrenia who abuse substances are 17 times more likely to be violent than the general population.

The limited treatment options in many jail and prison settings are directly reflected in the greater number of disciplinary problems, rule violations, and physical assaults among those who have mental health disorders, often compounded by the resulting placement into restrictive housing as punishment for these behaviors.

# Restrictive Housing: Barrier or Therapeutic Tool?

- ▶ It is well known that restrictive housing can potentially increase psychiatric symptoms in any inmate population, and therefore inmates in restrictive housing setting require continuous monitoring by mental health teams. However, some research has shown initial improvements in psychological well-being for all of the inmates placed into restrictive settings, followed by relative stability in their well-being for the remainder of placement in restrictive housing.
- ▶ As expected, segregated inmates were elevated on multiple psychological and cognitive measures; however, elevations were also present for the comparison groups, which suggests that psychological disturbances were not unique to a segregated environment. Inmates with mental illness, regardless of their setting, had higher scores for a number of psychological symptoms, such as depression and anxiety. However, inmates with mental illness in restrictive housing did not show faster or more extreme psychological changes than inmates without mental illness.



# Barriers to Treatment: Refusal of Care

- ▶ In both the jails and prisons, inmate patients have the right to refuse care if they are not an imminent danger to themselves, others, or property due to mental illness.
- ▶ While most facilities have the ability to administer emergency psychotropic medications when imminent danger exists, the ability for jails to engage in the assessment and administration of non-emergent involuntary medications is limited by the lack of resources needed to complete this process.
- ▶ These inmate patients can be challenging to manage safely due to the presence of acute symptoms, which often leads to placement into restrictive housing to eliminate contact with inmate peers.

# Benefits of Corrections Environment

- ▶ “Captive Audience”
- ▶ Ability to observe symptoms over an extended period to make an accurate diagnosis
- ▶ Increased medication adherence due to “pill pass” and availability of medical staff to administer and monitor patients for compliance and side effects.
- ▶ Some patients respond well to the supervised structured setting of the corrections environment and flourish in the stability and routine.
- ▶ There is increased ability to intervene quickly when patients decompensate due to direct access to the patient.

# The NEW Science of Schizophrenia

- ▶ While most past research and medications developed to target Schizophrenia have focused on the “positive symptoms” of hallucinations or delusions, more recent research is targeting the areas of Schizophrenia that effect the “negative symptoms” like diminished social functioning and cognitive deficits.
- ▶ Schizophrenia is believed to occur when a region of the brain called the prefrontal cortex becomes abnormally active because interneurons become dysfunctional and stop regulating neuronal activity.
- ▶ Recent research and development of antipsychotic medications has focused on ways to decrease this abnormal activity and enhance the activity of specific inhibitory interneurons.

# Benefits of Corrections: Medications

- ▶ Range of medication options on formulary-not limited by constrictions of health insurance.
  - ▶ On re-entry to the community, generic medications are available at a low cost for uninsured and underinsured individuals, including a wide range of LAI's covered by Medicaid plans (there are few available LAI's through charity care)
- ▶ Be mindful of the unique challenges medications pose in the corrections environment:
  - ▶ Increased appetite (consider snacks at medication passes)
  - ▶ Photosensitivity and heat stroke (consider sunscreen, handouts, education groups, encourage increased hydration for recreation movements)

# Benefits of Corrections and Beyond: LAI's

- ▶ Long-Acting Injectable (LAI) Medications
  - ▶ Increased adherence/ Prevention of relapse
  - ▶ Decreased risk of “cheeking” or “hoarding” medication
  - ▶ Studies show a reduction in inpatient psychiatric admissions with adherence
  - ▶ Recent research indicates a significant improvement in social functioning
  - ▶ Simplified medication regimen/ Reduced patient medication-taking burden
  - ▶ Reduced side-effects
  - ▶ Allow for more accurate assessment of dosing and regularity of treatment
  - ▶ Potential to strengthen the therapeutic alliance

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4212490/>

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# Consider LAI's With...

- ▶ Patients who experience high utilization of emergency departments, unstable living conditions, co-occurring substance use, cognitive challenges, Anosognosia or limited insight.
- ▶ Patients involved in transitions of care. Patients being discharged from psychiatric hospitals, residential programs or leaving jail or prison.
- ▶ Patients demonstrating challenges with adherence or are at high risk for non-adherence: Past history of non-adherence to oral medications, challenges remembering to take medications as prescribed, or mis-placing medications.
- ▶ Patients seeking to relieve the burden of medication-taking. Patients who experience frustration or challenges with regimens associated with taking pills, sometimes 2 to 3 times a day as well as the associated frequency of visits to the physician and pharmacy.
- ▶ Patients experiencing first episode psychosis. This is an optimal time to educate patients and families about LAIs as they have the potential to reduce the rate of relapse thereby mitigating further impact on the brain and functioning.
- ▶ Patients who indicate using a LAI as their personal preference. This requires access to education by multiple staff, including Peer Coaches and availability of informational brochures and videos.

# Focus on the Symptoms...

- ▶ While the primary focus of treatment is generally on reducing hallucinations and/or delusional thoughts, we can't ignore the additional symptoms that are either secondary to the patient's environmental stressors or were pre-existing symptoms to arrest and require adjunct therapy
  - ▶ Depression
  - ▶ Anxiety
  - ▶ Insomnia
  - ▶ Impulsivity/Mood Lability
- ▶ Combining pharmacology with psychotherapy has proven to be the most successful approach to reducing negative outcomes. Even in patients with serious and persistent mental illness, such as schizophrenia, the addition of psychotherapy to a medication regimen often reduces the need for subsequent inpatient admission and is highly cost-effective.

# Benefits of Corrections: Psychotherapy

- ▶ Many facilities offer therapeutic options to their SMI populations to maintain stabilization and prevent decompensation during the course of incarceration. These programs generally include but are not limited to:
  - ▶ Individual counseling
  - ▶ Group counseling
  - ▶ Addiction services
  - ▶ Re-entry programming
  - ▶ Activities (art therapy, puzzles, music, recreation)
  - ▶ Specialized housing



# Barriers to Re-Entry: Impairments in Social Functioning

- ▶ Schizophrenia is associated with social and occupational dysfunction.
- ▶ Completing education and maintaining employment are negatively impacted by symptoms of the illness, and most individuals diagnosed with schizophrenia are employed at a lower level than their peers.
- ▶ Many have few or limited social relationships outside of their immediate family.

# Barriers to Re-Entry: Co-Occurring Substance Use Disorders (SUD)

- ▶ Common substances abused by people with schizophrenia include alcohol, nicotine, cocaine, and cannabis.
- ▶ Substance abuse studies vary widely with claims ranging from 10% of 70% of people with schizophrenia having a problem.<sup>1</sup> Researchers have found that over half of all people with schizophrenia abused at least one substance prior to the onset of the mental illness.
- ▶ People with schizophrenia also are 4.6 times more likely to be diagnosed with a substance use disorder than the general population.

# Barriers to Re-Entry: Co-Occurring SUD

## **Alcohol Abuse**

- ▶ Because alcohol is so readily available, it can become easier for people with schizophrenia to develop a dependence on it compared to illegal drugs. Roughly one-third of people with schizophrenia will develop alcohol use disorder at some point in their lives. Often the alcohol abuse will precede the development of schizophrenia, which suggests that the self-medication theory is not always correct.

## **Nicotine Abuse**

- ▶ Forty-four percent of cigarettes sold in the United States are bought by people with a psychiatric disorder. Seventy percent of people with schizophrenia have nicotine-dependence, which can make them more likely to experience a relapse of symptoms. People with schizophrenia who smoke are more likely to have hallucinations, delusions, and disorganized speech and require higher dosages of antipsychotic medications.

# Barriers to Re-Entry: Co-Occurring SUD

## **Cannabis Abuse**

- ▶ Cannabis use has also been shown to potentially worsen or accelerate the development of psychotic symptoms in certain groups. One study found that 53% of people experiencing their first psychotic episode also qualified for cannabis use disorder.

## **Cocaine Abuse**

- ▶ Schizophrenic patients with cocaine use disorder are at increased risk of suicide, low-treatment compliance, and hospitalization. They are also more likely to come from low-income communities and have had trauma earlier in life. People may use cocaine to cope with the negative symptoms of schizophrenia and feelings of dysphoria.

# Other Barriers to Successful Re-entry

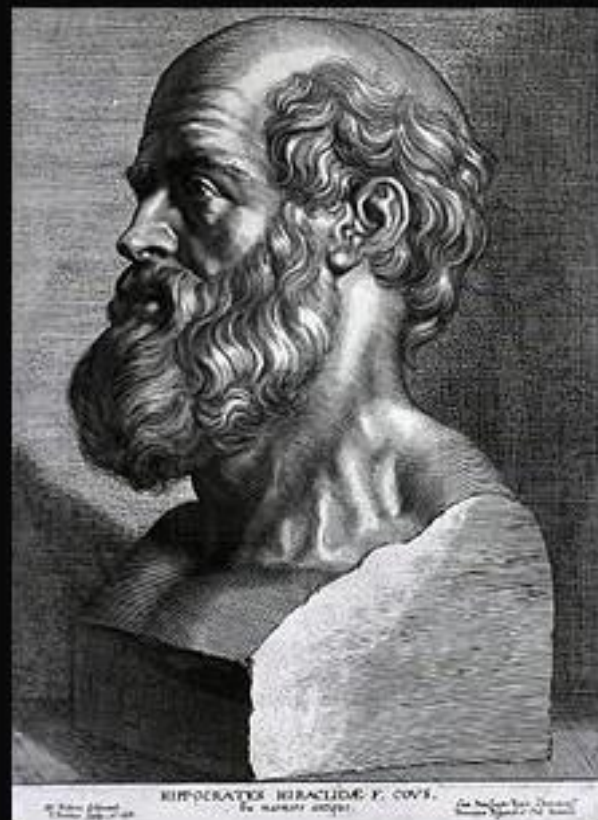
- ▶ Lack of stable housing
- ▶ Lack of identification
- ▶ Lack of health insurance (terminated or suspended due to incarceration)
- ▶ Lack of “warm handoff” to discharge program
- ▶ “burned bridges” at previous program due to incarceration

# The silver lining...

- ▶ Many facilities are receiving funding through grants or services through community partnerships with a focus on re-entry programming.
- ▶ While the focus on most re-entry programming is on SUD, inmate patients with SMI are often eligible for services once they achieve medication adherence and can demonstrate some motivation for aftercare services.
- ▶ Discharge medications are now the norm and not the exception, providing some continuity of care until insurance can be re-instated. LAI medications improve the likelihood of continued adherence in the community and allow for time to transition to community providers and access health insurance coverage and benefits.
- ▶ Programs like Justice Involved Services provide case management specific to offender populations with SMI to reduce recidivism.
- ▶ CIT is widely available across the country to local police and correctional departments, increasing awareness and teaching crisis de-escalation techniques that significantly impact the safety of the SMI population.

# Top 5 Take Home Messages

- ▶ The length of stay for inmate patients with a SMI, particularly Schizophrenia, is significantly longer on average and requires stronger case management.
- ▶ You will need to take a truly integrated approach to care. Environmental challenges can be modified with advocacy. Don't be afraid to look for creative ways to modify housing, programming and discipline for this population.
- ▶ Remember the strong connections between illicit drugs and Dopamine and complete a thorough substance abuse needs assessment.
- ▶ Paranoia is by far the most dangerous symptom to manage.
- ▶ Take your time to diagnose, observe, gain collateral, allow for SAW (Substance Abuse Withdrawal) and PAWS (Post Acute Withdrawal Syndrome), rule out secondary gain, and individualize medications and treatment plans.



Cure sometimes, treat often, comfort always.  
(Hippocrates)



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