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Considerations for Bridging SMI from Primary Care to Specialty Care

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SPEAKER DISCLOSURES

✓ Nothing to disclose

PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose; other disclosures have been mitigated.

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LEARNING OBJECTIVES

1. Review SMI definition, prevalence, and barriers to engaging in mental health and other health care
2. Summarize medication treatments for common SMI diagnoses including antipsychotics and mood stabilizers
3. Illustrate current care plan models that work to improve mental and primary health care for SMI populations

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1. Definitions, Prevalence, Health Care Engagement, & Treatment Barriers

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What is Serious Mental Illness (SMI)?

- **Any** mental health diagnosis(es) resulting in **severe functional impairment** in one or more domains (ex work, relationships, activities)

- **Most common diagnoses:** Schizophrenia, bipolar disorder, major depressive disorder (esp. with psychotic features or treatment-resistant)
  - High rates of comorbid substance use disorders

- **Sequelae of functional impairment:** inability to maintain employment, poor social support, repeated psychiatric hospitalizations, homelessness, incarceration, coexisting substance use disorders

Evans TS, Berkman N, Brown C, et al. Disparities Within Serious Mental Illness [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2016 May. (Technical Briefs, No. 25.) Background. Available from: https://www.ncbi.nlm.nih.gov/books/NBK368430/

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SMI and Comorbid Substance Use

- **48%** of adults with SMI in 2022 (vs 17% of general population)
- **30%** of these dual diagnosis patients without MH treatment
- SMI patients **2x** more likely to smoke than general population
  - Cigarettes also affect antipsychotic metabolism (increase) and absorption
  - **SMI patients want to quit at same rates as general population**
- Treatment recommendations for substance use cessation same as general population

Abrams, Z. (2024, June 1). *Psychologists help patients with serious mental illness kick nicotine and other addictions*. American Psychological Association. Retrieved March 31, 2025, from https://www.apa.org/monitor/2024/06/substance-use-disorders-serious-mental-illness

Substance Abuse and Mental Health Services Administration. (n.d.). Implementing Tobacco Cessation Treatment for Individuals with Serious Mental Illness: Quick Guide for Program Directors and Clinicians. In *ADVISORY*. https://store.samhsa.gov/sites/default/files/pep19-02-00-001_0.pdf

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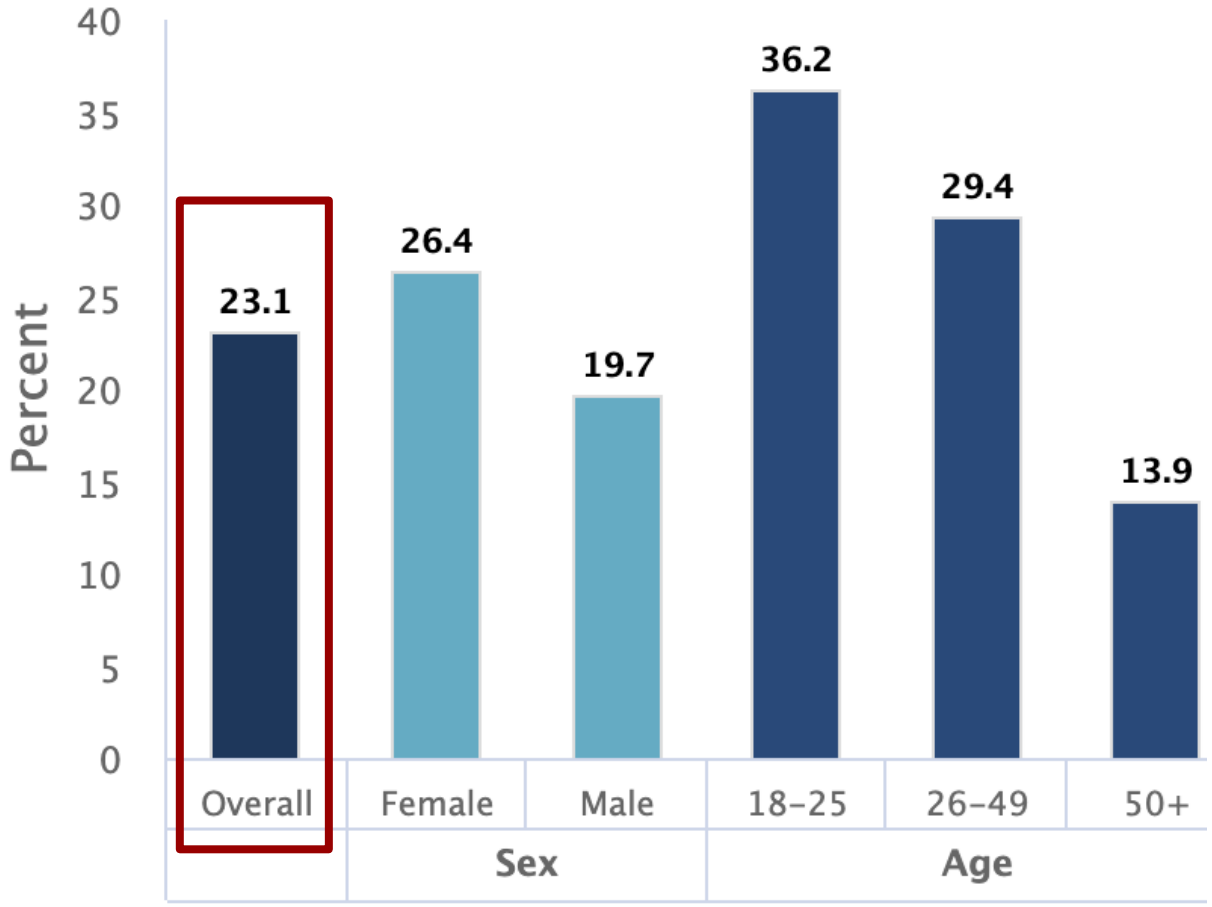
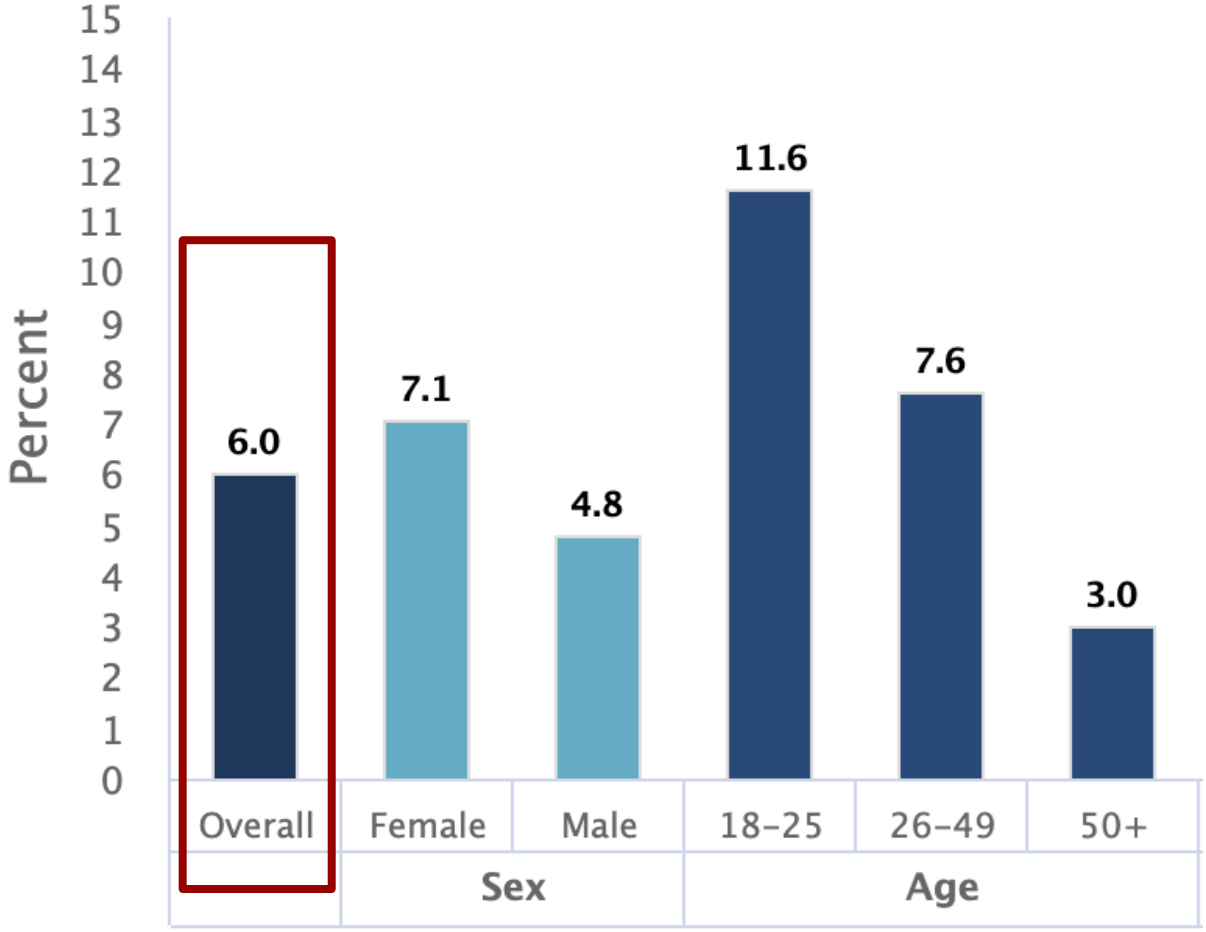
Annual Prevalence (2022)

Any Mental Illness



Serious Mental Illness



Mental illness. (n.d.). National Institute of Mental Health (NIMH). https://www.nimh.nih.gov/health/statistics/mental-illness

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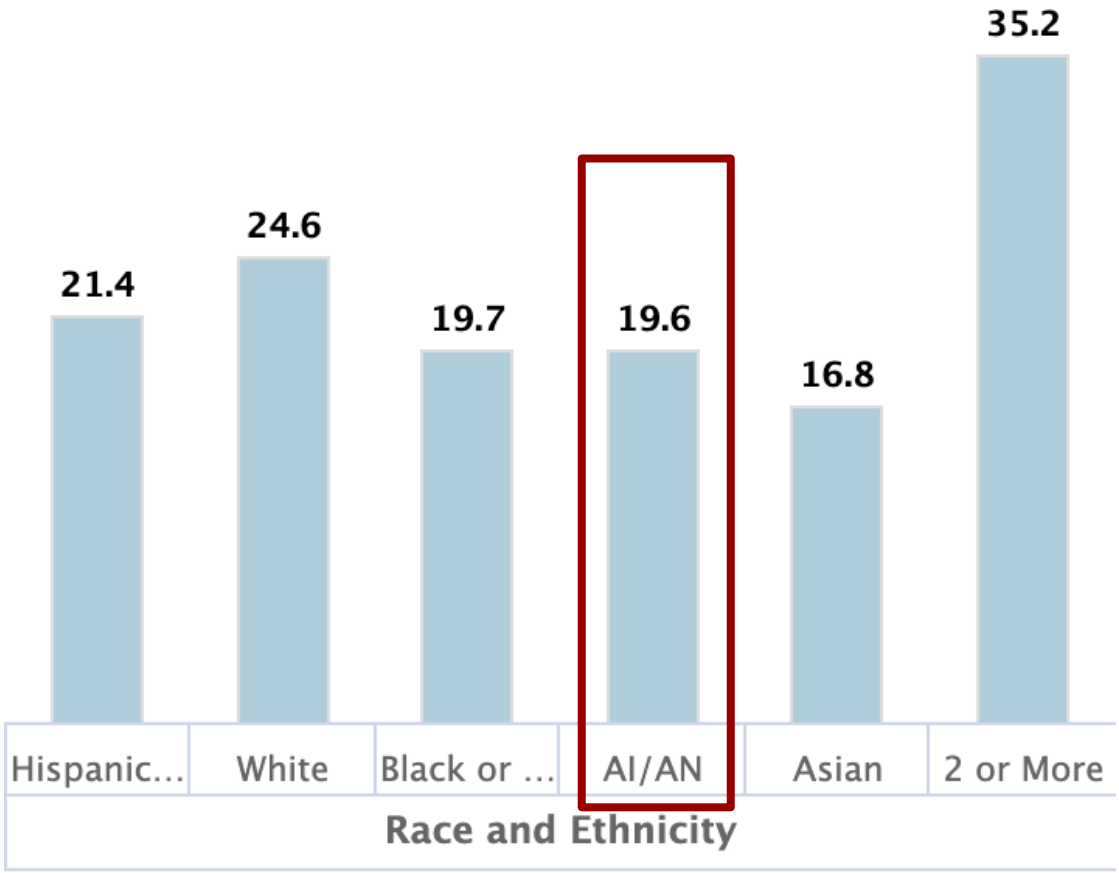
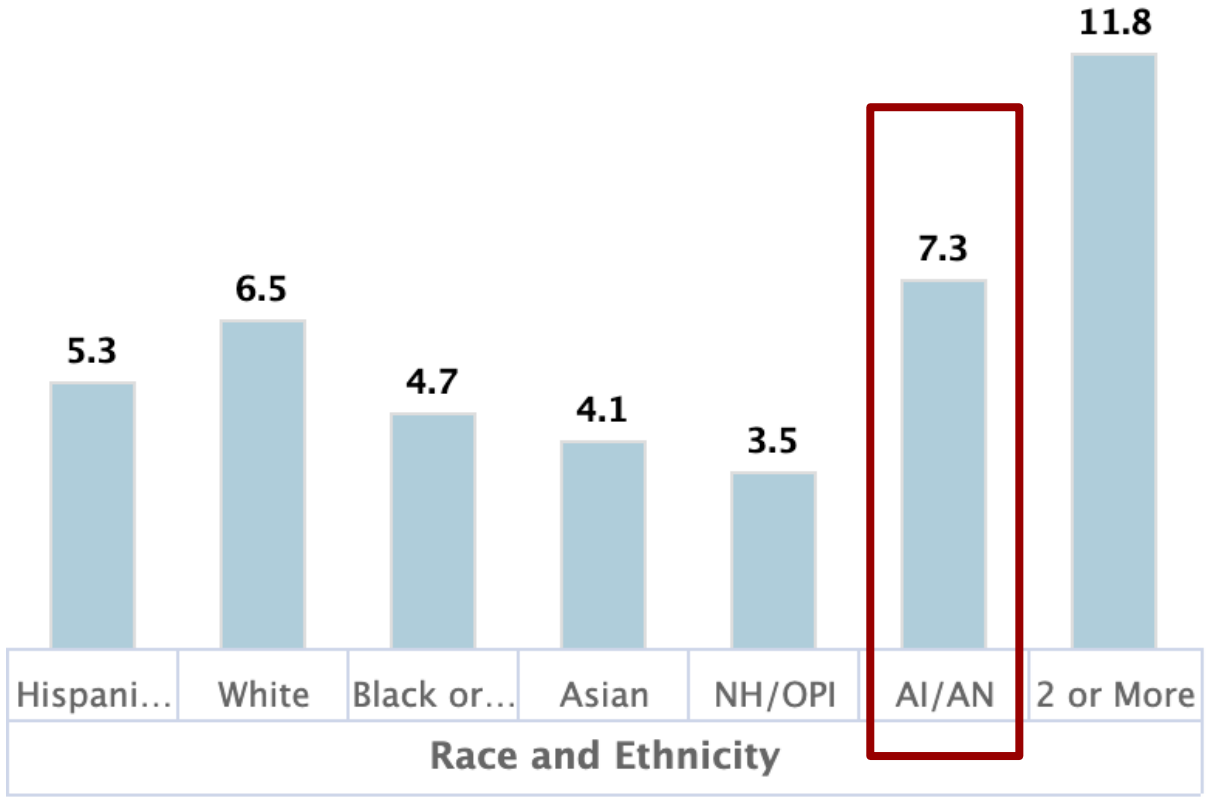
Annual Prevalence (2022)

Any Mental Illness



Serious Mental Illness



AI/AN = American Indian or Alaskan Native, NH/OPI = Native Hawaiian or Other Pacific Islander

Mental illness. (n.d.). National Institute of Mental Health (NIMH). https://www.nimh.nih.gov/health/statistics/mental-illness

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SMI and Native American Population

- SMI: Second highest rate among all racial/ethnic groups
- **Alcohol Use Disorder: 13%** of 18-25 year-olds
  - Increased rates of alcohol poisoning, liver disease, and FASD
- **Other illicit substance use:** Highest rate among all racial/ethnic groups
- **PTSD:** 2x higher rate compared to general population
- **Depression and SI:** Suicide rate among native women has increased **139%** since 1999

Tribal Health. (2023, April 10). *4 Barriers to behavioral health in native communities*. https://tribalhealth.com/the-behavioral-health-crisis-in-indigenous-communities/

SMI and Native American Population

Treatment Barriers:

- **Lack of culturally informed care**
  - Discrimination from providers (often non-native)
- **Stigma and lack of privacy**
  - Small, tight-knit tribal communities with own stigma
  - Leads to difficulty seeking care confidentially, worsened by provider shortage in rural areas
- **Lack of follow-up care/support**
  - Difficult discharge planning from higher levels of care
  - Provider waitlists may be weeks to months if available at all
- **Disjointed clinical pathways**
  - 60% utilize PCP only for mental health care

Tribal Health. (2023, April 10). *4 Barriers to behavioral health in native communities*. https://tribalhealth.com/the-behavioral-health-crisis-in-indigenous-communities/

“Racial Implicit Associations in Psychiatric Diagnosis, Treatment, and Compliance Expectations” (2022)

Methods: Participants completed online demographic questions and 3 race Implicit Association Tests (IATs) related to psychiatric diagnosis (psychosis vs. mood disorders), patient compliance (compliance vs. non-compliance), and psychiatric medications (antipsychotics vs. antidepressants). Linear and logistic regression models were used to identify demographic predictors of racial implicit associations.

Results: The authors analyzed data from 294 medical students and psychiatric physicians.

Participants were more likely to pair faces of Black individuals with words related to psychotic disorders (as opposed to mood disorders), non-compliance (as opposed to compliance), and antipsychotic medications (as opposed to antidepressant medications).

Among participants, self-reported White race and higher level of training were the strongest predictors of associating faces of Black individuals with psychotic disorders, even after adjusting for participant age.

“Racial Implicit Associations in Psychiatric Diagnosis, Treatment, and Compliance Expectations” (2022)

Londono Tobon A, Flores JM, Taylor JH, et al. Racial Implicit Associations in Psychiatric Diagnosis, Treatment, and Compliance Expectations [published correction appears in Acad Psychiatry. 2021 Aug;45(4):533-534. doi: 10.1007/s40596-021-01435-w.]. *Acad Psychiatry*. 2021;45(1):23-33. doi:10.1007/s40596-020-01370-2

“Race bias and gender bias in the diagnosis of psychological disorders” (2021)

Racial bias: conduct, antisocial, **substance+mood comorbidity**, eating disorders, PTSD, differential diagnosis of **schizophrenia** and **psychotic affective disorders**

Gender bias: ASD, ADHD, conduct, antisocial, histrionic personality disorder

Garb HN. Race bias and gender bias in the diagnosis of psychological disorders. *Clin Psychol Rev*. 2021;90:102087. doi:10.1016/j.cpr.2021.102087

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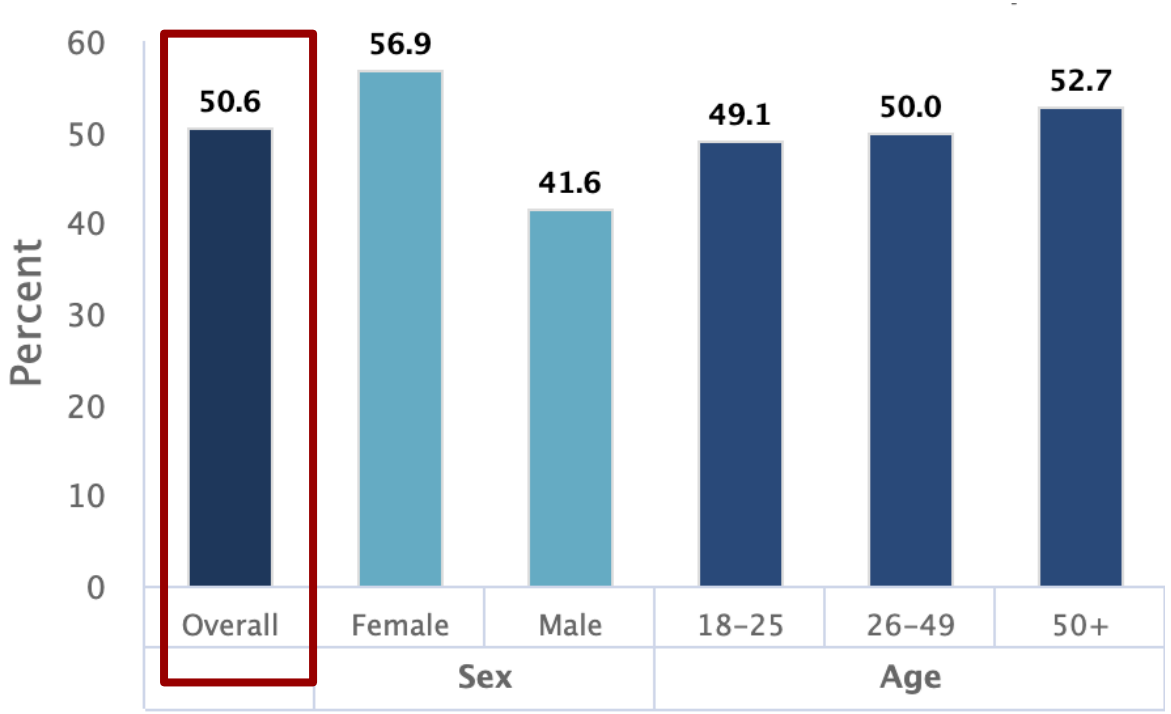
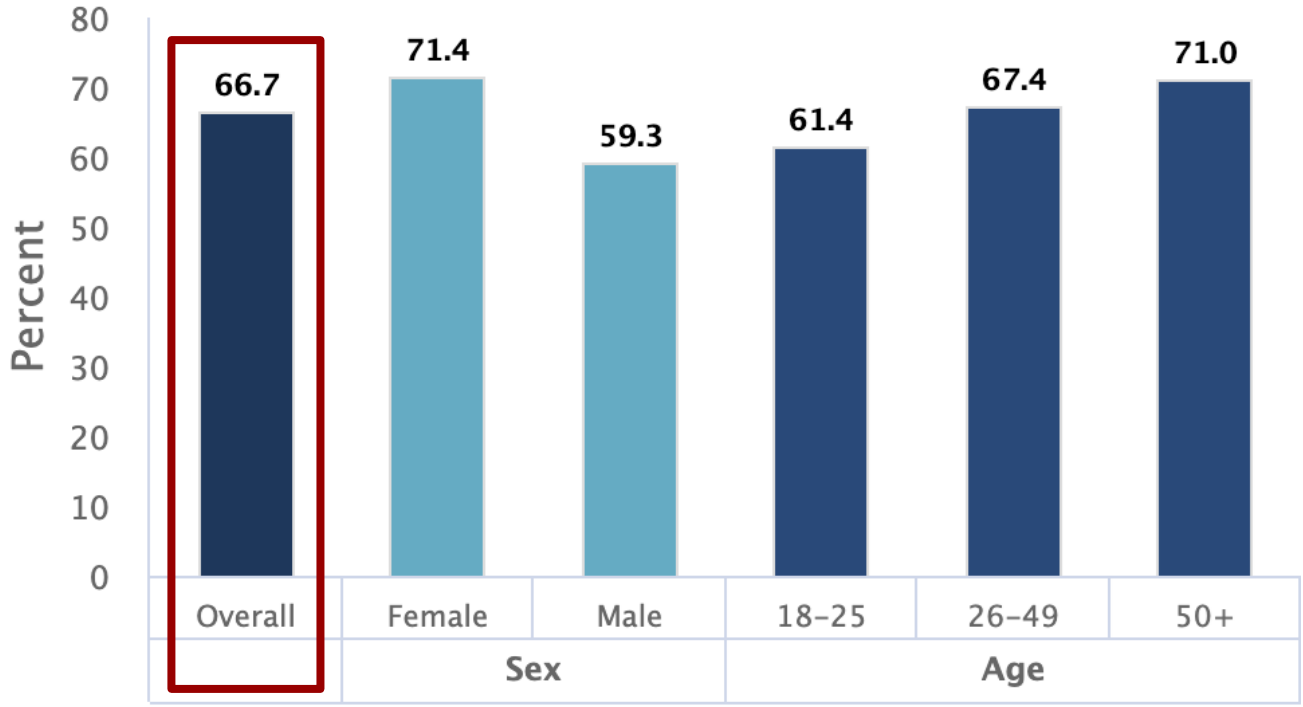
Treatment* Received (2022)

*Definition: Inpatient OR outpatient treatment/counseling OR prescription medication to help with mental health

Any Mental Illness



Serious Mental Illness



Mental illness. (n.d.). National Institute of Mental Health (NIMH). https://www.nimh.nih.gov/health/statistics/mental-illness

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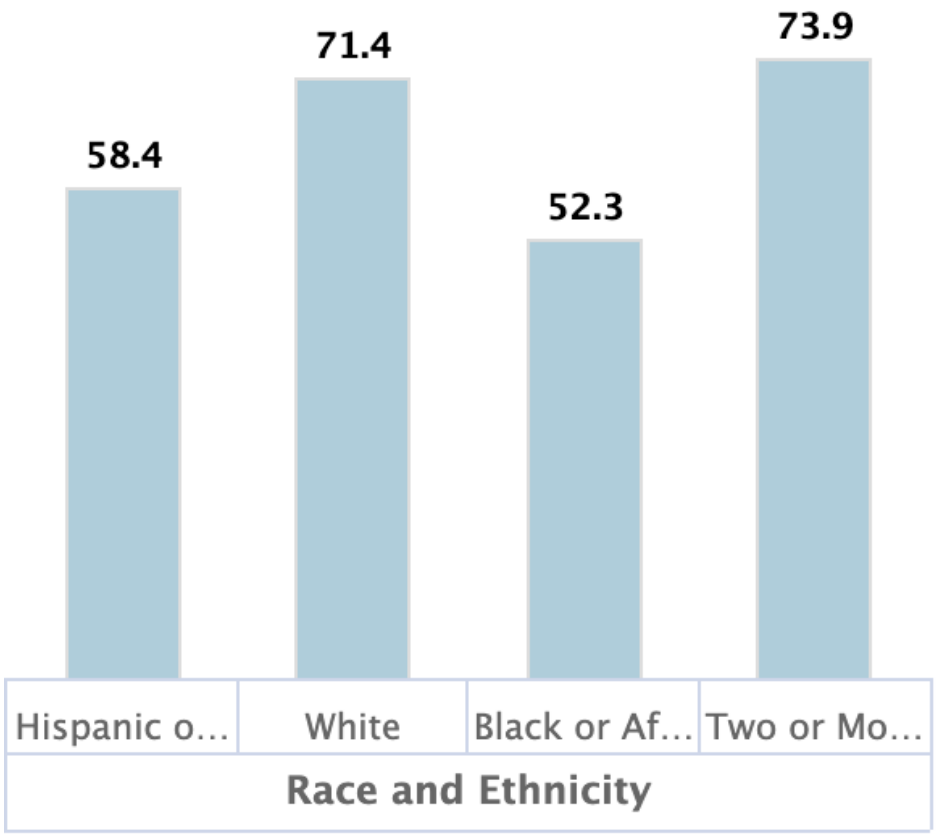
Treatment Received (2022)

Any Mental Illness

Serious Mental Illness



Mental illness. (n.d.). National Institute of Mental Health (NIMH). https://www.nimh.nih.gov/health/statistics/mental-illness

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Health Disparities and SMI

- **2-3x higher overall mortality rate** compared to general population
- SMI shortens life expectancy by **10-28.5 years**
- Common medical diagnoses: hypertension, hyperlipidemia, diabetes, cardiovascular disease
- Compounding factors affecting health disparities:
  - Increased rates of smoking
  - Poor physical activity
  - Poor nutrition
  - Social determinants

Cunningham, C., & Dixon, L. B. (2020). Health Disparities Among People With Serious Mental Illness. Psychiatric Services, 71(4), 412–413. https://doi.org/10.1176/appi.ps.71406

Other Factors Affecting Health Disparities and SMI

- Fragmented/separately located care for mental and physical health
- Patient factors: delays in seeking medical care and routine screening, medication side effects (antipsychotics), poor treatment compliance (various reasons)
- Provider factors: “diagnostic overshadowing” due to discrimination, stigma, criminalization, exclusion
- Proposal to recognize SMI as a disparities category (2018)

Goldman, M. L., Spaeth-Rublee, B., & Pincus, H. A. (2018). The Case for Severe Mental Illness as a Disparities Category. Psychiatric Services, 69(6), 726–728. https://doi.org/10.1176/appi.ps.201700138

Health Disparities and SMI

Why don’t patients with SMI seek out mental health treatment?

- **55%**: cannot afford cost
- **39%**: unaware of where to get services
- **36%**: do not believe treatment is necessary

Substance Use and Mental Health Indicators in the United States: Results from the 2021 National Health Survey on Drug Use and Health. (n.d.). Substance Abuse and Mental Health Services Administration (SAMHSA). https://www.samhsa.gov/data/sites/default/files/reports/rpt39443/2021NSDUHFFRRev010323.pdf

SMI and Mental Health Care Provision

National Survey 2018: 18-64 year olds with “serious psychological distress”

78% accessed outpatient MH treatment in past year

22% *attempted* to access outpatient MH treatment but ultimately did not

- more common amongst younger patients OR those without already established health care provider
- Of this 22%, **53%** received MH care by PCP (medication, counseling, and/or care management)

Kyanko, K. A., A Curry, L., E Keene, D., Sutherland, R., Naik, K., & Busch, S. H. (2022). Does Primary Care Fill the Gap in Access to Specialty Mental Health Care? A Mixed Methods Study. *Journal of general internal medicine*, *37*(7), 1641–1647. https://doi.org/10.1007/s11606-021-07260-z

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SMI and Mental Health Care Provision

National Survey 2018: 18-64 year olds with “serious psychological distress”

Mental Health Care rated as **high quality**:

- **48%** of those receiving care from **specialist and PCP**
- **21%** of those receiving care from **PCP only**

Only medication:

- **14%** specialist and PCP
- **73%** PCP only

Medication and counseling:

- **73%** specialist and PCP
- **11%** PCP only

Only **8-9%** with access to care coordination in both groups

Kyanko, K. A., A Curry, L., E Keene, D., Sutherland, R., Naik, K., & Busch, S. H. (2022). Does Primary Care Fill the Gap in Access to Specialty Mental Health Care? A Mixed Methods Study. *Journal of general internal medicine*, *37*(7), 1641–1647. https://doi.org/10.1007/s11606-021-07260-z

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SMI and Primary Care

2019 PCP Survey Results

Responsibility for treating patients with SMI[3]

Who should have primary responsibility for treating physical health conditions among people with SMI?

Primary care physicians	22.6% (18.4–27.5)
Specialty mental health providers	6.6% (4.3–9.8)
Joint responsibility	70.8% (65.6–75.5)

McGinty, E. E., Stone, E. M., & Daumit, G. L. (2021). Serious Mental Illness in Primary Care: a National Physician Survey. *Journal of general internal medicine*, *36*(3), 833–835. https://doi.org/10.1007/s11606-020-05950-8

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SMI and Primary Care

2019 PCP Survey Results: What resources would help you best provide primary care services to patients with SMI?

Health Educator to assist with behavioral counseling for chronic medical conditions: **68.6%**

Nursing care coordinator (ex for labs, follow-up appts, etc): **63.2%**

43-47%: higher reimbursement rates for SMI, effective communication training, caregivers attending appointments

30.8%: nurse accompanying patients to PCP appointments

8.2%: none

McGinty, E. E., Stone, E. M., & Daumit, G. L. (2021). Serious Mental Illness in Primary Care: a National Physician Survey. *Journal of general internal medicine*, *36*(3), 833–835. https://doi.org/10.1007/s11606-020-05950-8

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2. Prescribing Antipsychotic and Mood Stabilizing Medications

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Antipsychotic Dose Ranges

Table 5

Oral dosages of second-generation antipsychotics for adult patients with schizophrenia

Drug	Target dosage (mg/d)	Maximum dosage (mg/d)
Aripiprazole	10 to 15	30
Asenapine	10	20
Clozapine	300 to 600	900
Iloperidone	6 to 12	24
Lurasidone	40 to 120	160
Olanzapine	10 to 20	20
Paliperidone	6 to 12	12
Quetiapine	300 to 800	800
Risperidone	4 to 8	16
Ziprasidone	80 to 160	160

Source: References 13,40

TABLE 29–4 Dose relationships of antipsychotics.

	Minimum Effective Therapeutic Dose (mg)	Usual Range of Daily Doses (mg)
Chlorpromazine	100	100–1000
Thioridazine	100	100–800
Trifluoperazine	5	5–60
Perphenazine	10	8–64
Fluphenazine	2	2–60
Thiothixene	2	2–120
Haloperidol	2	2–60
Loxapine	10	20–160
Molindone	10	20–200
Clozapine	50	300–600
Olanzapine	5	10–30
Quetiapine	150	150–800
Risperidone	4	4–16
Ziprasidone	40	80–160
Aripiprazole	10	10–30

Clinical pharmacology of antipsychotic agents. (n.d.). BrainKart. https://www.brainkart.com/article/Clinical-Pharmacology-of-Antipsychotic-Agents_24777/

Jackson, E. A., PharmD, BCPS, BCPP, Spiegel, A. J., PharmD, BCPP, Graham, R. L., PharmD, BCPP, Veterans Affairs San Diego Healthcare System, & Veterans Affairs Central Texas Healthcare System. (2016). When and why to initiate antipsychotic polypharmacy, and with which agents. *Current Psychiatry*. https://cdn-uat.mdedge.com/files/s3fs-public/issues/articles/0416CP_SavvyPsych.pdf

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Comparing Antipsychotic Side Effects

	Extrapyramidal	Sedation	Weight gain	Hyperglycaemia	Anticholinergic	Orthostatic hypotension
Atypical antipsychotics						
Risperidone	●●	●● initially	●●	●●	●	●● initially
Quetiapine	●*	●●●	●●	●●●	●●	●●
Olanzapine	●	●●●	●●●	●●●	●●●	●
Clozapine	●	●●●	●●●	●●●	●●●	●●
Amisulpride	●●*	●	●	●	●	●
Aripiprazole	●	●	●	●	●	●
Ziprasidone	●	●●	●	●	●	●●
Typical antipsychotics						
Haloperidol	●●●	●	●●	●●	●	●
Chlorpromazine	●●	●●●	●●●	●●●	●●●	●●●

Approximate frequency of adverse effects: ● (<2%) = negligible or absent; ● (>2%) = infrequent; ●● (>10%) = moderately frequent; ●●● (>30%) = frequent. * rarely a problem at usual therapeutic doses

Lurasidone:

EPS/TD: ++

Dyslipidemia: +/-

Weight gain: +/-

↑Prolactin: +/-

AntiCh: -

Hypotension: +

↑QTc: +/-

Psychotropic Expert Group. Therapeutic guidelines: psychotropic. Version 6. Melbourne: Therapeutic Guidelines Limited; 2008.

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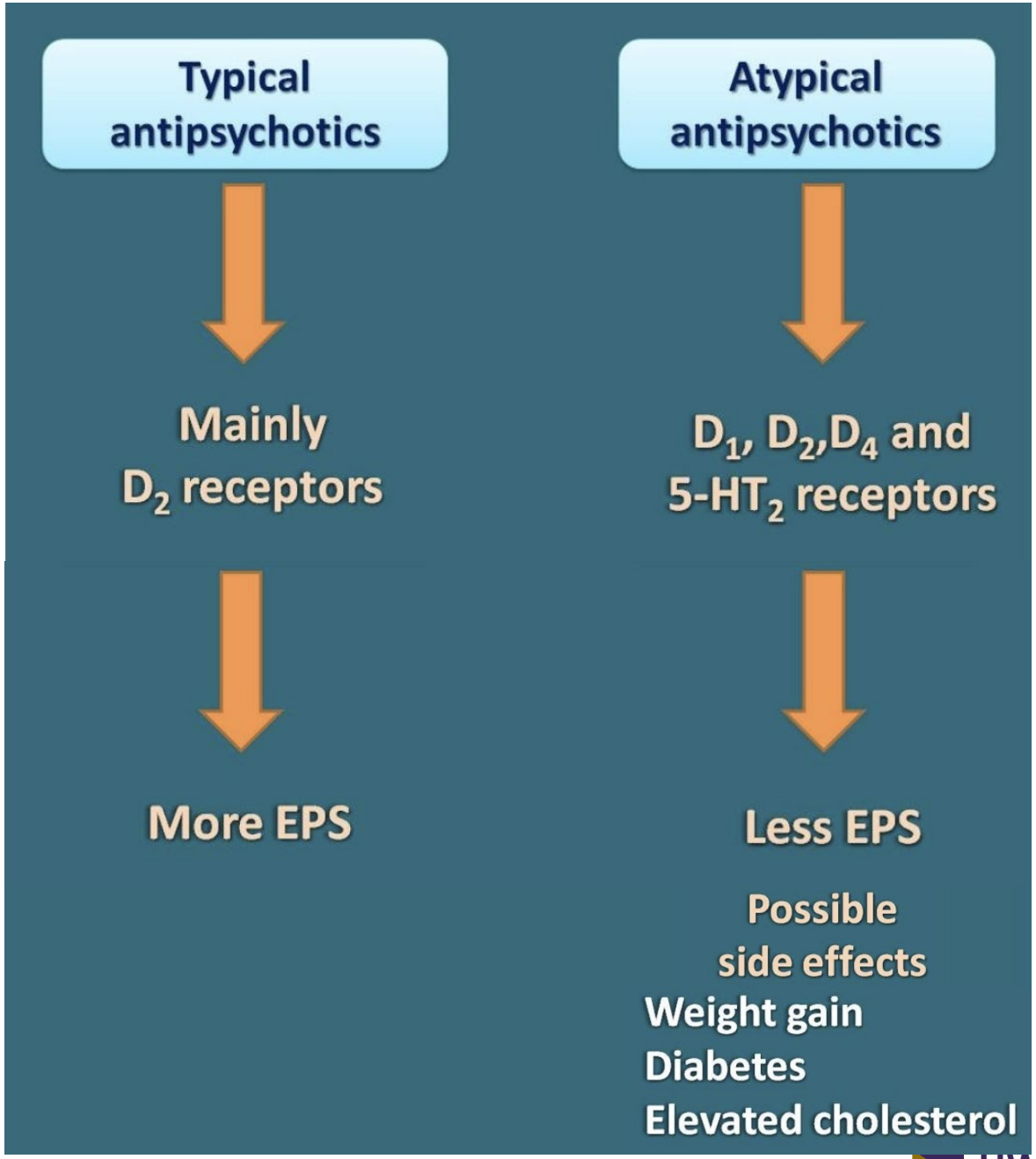
Antipsychotic Mechanisms of Action



Atypical antipsychotics vs typical antipsychotics. (n.d.). https://www.egpat.com/blog/atypical-antipsychotics-vs-typical-antipsychotics

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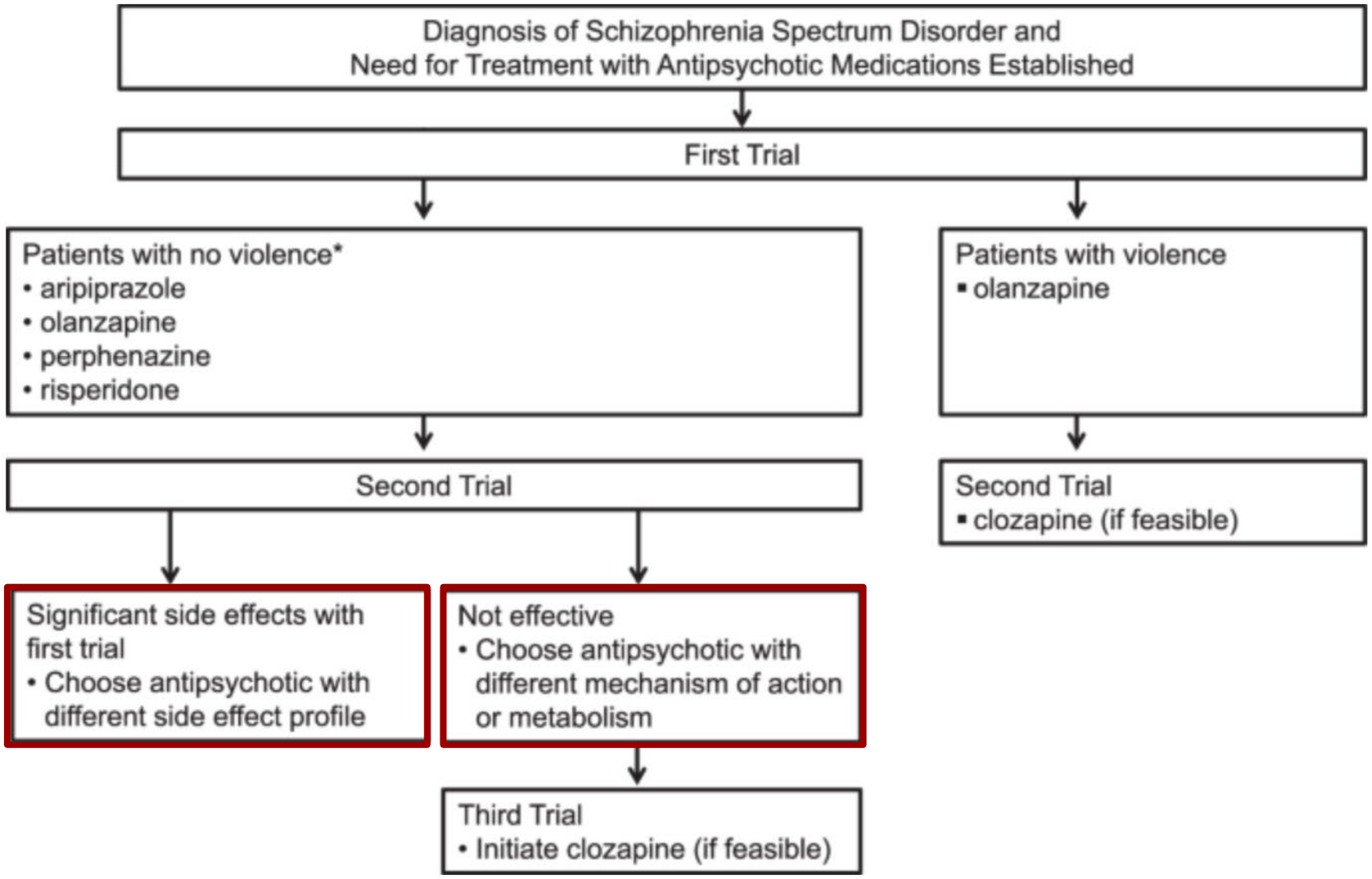
Fig. 1: Selection of antipsychotics in the treatment of patients with schizophrenia spectrum disorders.



The figure summarizes the guiding factors and sequential options involved in the decision-making process for selecting antipsychotic medications. *In alphabetical order.

Choosing an Antipsychotic

Violence = moderate-severe hostility, HI, etc.

Think of acute safety concerns.

Markota, M., Morgan, R.J. & Leung, J.G. Updated rationale for the initial antipsychotic selection for patients with schizophrenia. *Schizophr* 10, 74 (2024). https://doi.org/10.1038/s41537-024-00492-y

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Antipsychotic Monitoring

Risk factor	Baseline	Initial monitoring			Long-term monitoring	
		4 weeks	8 weeks	12 weeks	Quarterly	Annually
Personal or family history (diabetes, hypertension, or cardiovascular disease)	X					X
Weight (body mass index)	X	X	X	X	X	
Waist circumference	X			X		X
Blood pressure	X			X	X	
Fasting glucose or HbA1c*	X			X		X
Fasting lipid profile	X	¶		X		X

Also **AIMS every 3-6 months** (based on pt and specific medication)

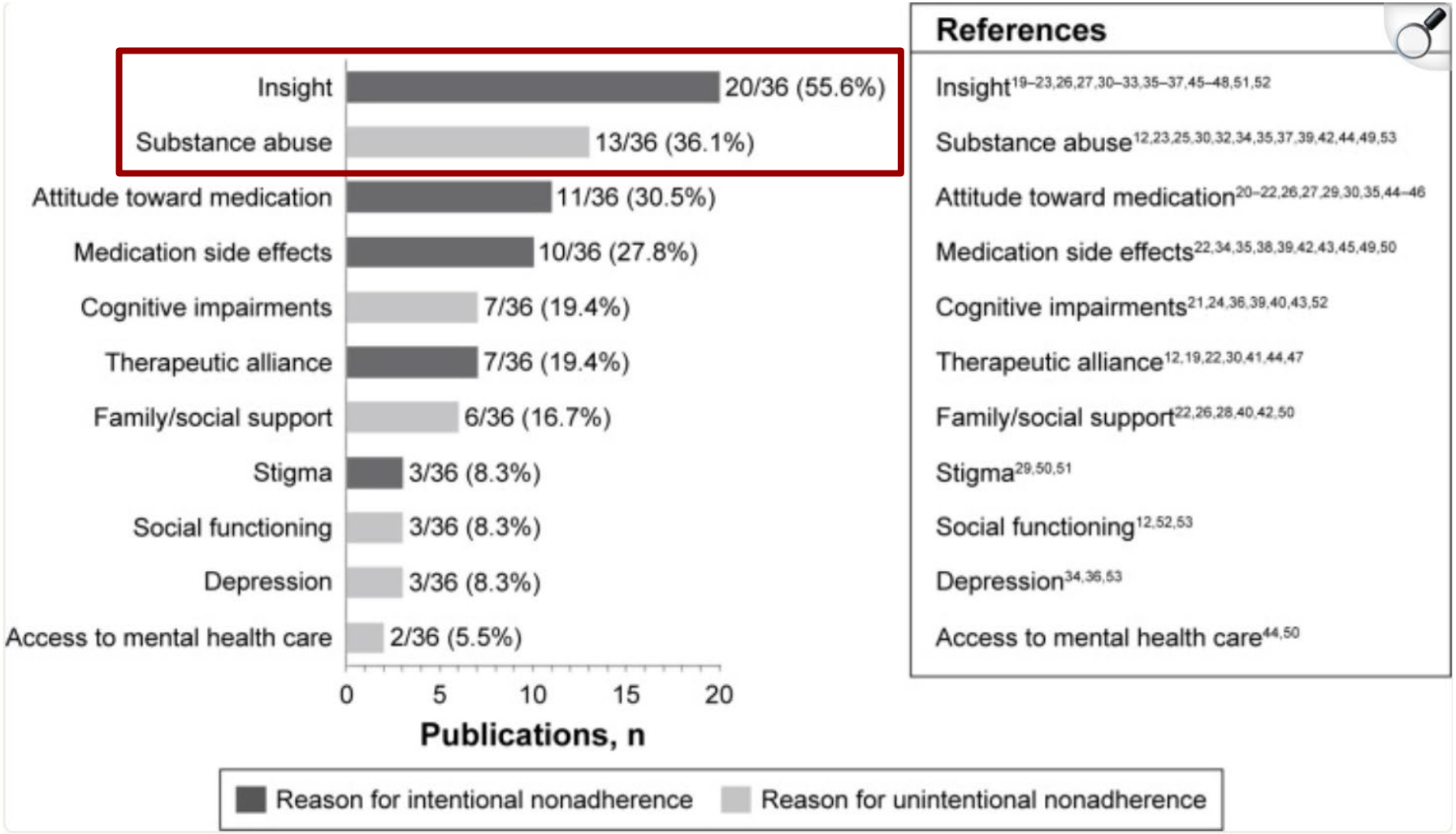
* HbA1c is usually more practical to obtain than fasting glucose, but either can be used.

¶ For patients taking olanzapine, quetiapine, clozapine.

Why do psychiatric patients stop taking antipsychotic medication?

- 2017 Systemic Review (Search range 2005-2015)
- **36** total articles (545 screened)

- **Intentional** = conscious decision
- **Unintentional** = impairment(s) interferes with compliance



Velligan, D. I., Sajatovic, M., Hatch, A., Kramata, P., & Docherty, J. P. (2017). Why do psychiatric patients stop antipsychotic medication? A systematic review of reasons for nonadherence to medication in patients with serious mental illness. *Patient preference and adherence*, *11*, 449–468. https://doi.org/10.2147/PPA.S124658

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Long Acting Injectables

Advantages and Disadvantages of LAI Antipsychotics

Advantages	Disadvantages
• Eliminates the need for daily oral medication	• Cost
• Easier to measure and confirm adherence	• Limited flexibility for dose adjustments
• Reduced risk of overdose	• Delayed time to reach steady state
• Reduced risk of rebound symptoms and abrupt relapse	• Prolonged duration of adverse effects, should they occur
• Less variation in peak and trough serum concentrations	• Pain and burden of injections
• Regular contact with healthcare provider for monitoring	• Travel and logistics for injection appointments

LAI: long-acting injectable. Source: References 1, 2, 29.

LAIs vs oral antipsychotics (2021 systemic review):

- Decreased hospitalizations and relapse
- Superior in 18% of 328 total secondary efficacy and safety outcomes
- 97% similar adverse event rates
- 33% decreased mortality

Anna Hu, PharmD, BCPS Drug Information Specialist Memorial Hermann Health System Houston, Texas. (2024, May 14). A Practical Review of Long-Acting Injectable Antipsychotics. *US Pharmacist*. https://www.uspharmacist.com/article/a-practical-review-of-longacting-injectable-antipsychotics

Kishimoto T, Hagi K, Kurokawa S, et al. Long-acting injectable versus oral antipsychotics for the maintenance treatment of schizophrenia: a systematic review and comparative meta-analysis of randomised, cohort, and pre-post studies. *Lancet Psychiatry.* 2021;8(5):387-404
.

Taipale H, Mittendorfer-Rutz E, Alexanderson K, et al. Antipsychotics and mortality in a nationwide cohort of 29,823 patients with schizophrenia. *Schizophr Res.* 2018;197:274-280.

Misawa F, Kishimoto T, Hagi K, et al. Safety and tolerability of long-acting injectable versus oral antipsychotics: a meta-analysis of randomized controlled studies comparing the same antipsychotics. *Schizophr Res.* 2016;176(2-3):220-230.

Long Acting Injectable Formulations

Medication	Dosing	Frequency	Notes
Aripiprazole monohydrate	300 mg, 400 mg	Every 4 weeks	14 consecutive days of concurrent oral aripiprazole is recommended.
Aripiprazole lauroxil	441 mg, 662 mg, 882 mg, 1064mg	Every 4–8 weeks	21 consecutive days of concurrent oral aripiprazole or 1 day of oral aripiprazole overlap with Aristada Initio® (aripiprazole lauroxil) is recommended.
Haloperidol decanoate	10-20x daily oral dose	Every 4 weeks	Oral overlap recommended for the first 2 to 3 injections if not using loading dose.
Paliperidone palmitate	39 mg, 78 mg, 117 mg, 156mg, 234 mg	Every 4 weeks	Oral overlap not required but loading doses must be given on days 1 and 8.
Paliperidone palmitate	273 mg, 410 mg, 546 mg, 819 mg	Every 12 weeks	Oral overlap not required but use of once monthly paliperidone palmitate for 4 months is required.
Risperidone (SQ injection)	90 mg, 120 mg	Every 4 weeks	Oral overlap not required.
Fluphenazine decanoate	12.5 mg, 25 mg	Every 2–6 weeks	Oral overlap recommended.
Risperidone (IM injection)	12.5 mg, 25 mg, 37.5 mg, 50 mg	Every 2 weeks	Oral overlap for 3 weeks required.
Olanzapine pamoate	150 mg, 210 mg, 300 mg, 405 mg	Every 2–4 weeks	Monitoring required for 3 hrs post injection due to post-injection delirium/sedation syndrome.

Tchobaniouk, Lesia & McAllister, Erin & Bishop, Danielle & Carpentier, Rachel & Heins, Katharine & Haight, Robert & Bishop, Jeffrey. (2019). Once-Monthly Subcutaneously Administered Risperidone in the Treatment of Schizophrenia: Patient Considerations. Patient Preference and Adherence. 13. 2233-2241. 10.2147/PPA.S192418.

LAI Clinic Requirements:

- Private clinic space
- Storage space + materials (including refrigeration)
- LAI Administrator(s)
  - Some variation by state: physicians, psychiatric nurses, pharmacists
- Legal specifications (by state)
- Post-injection monitoring time
- Frequency of injections
  - No shows? Case management support?

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Mood Stabilizer Medication Profiles

Category	Lithium	Carbamazepine/ Oxcarbazepine	Valproate	Lamotrigine
Mania				
FDA approval	+	+/-	+	-
Euphoric	+	+	+	?
Irritable/mixed	?	+?	+	?
Rapid cycling	+/-	+?	+	+
Use in hepatic disease	+	-/+	?	+
Use in renal disease	-	+	+	+
Use in rash patients	+	-/+	+	?
Medical-induced mania		+	+	?
Violence/rapid stabilization		+?	+	-
Substance comorbidity		+	+	?
Long-term depression	+	?	?	+

Category	Lithium	Carbamazepine/ Oxcarbazepine	Valproate	Lamotrigine
Short-term side effects	Cognition, polydipsia, tremor, arrhythmia	Sedation, anemia, LFT elevation	Sedation, weight gain, LFT elevation	Rash, headache
Long-term side effects	Thyroid, renal	Anemia	Pancreatitus, PCO?	
Dose Range	900-1800mg	400-1200mg	1500-2500mg	100-400mg

Hilty, Donald & Leamon, Martin & Lim, Russell & Kelly, Rosemary & Hales, Robert. (2006). Diagnosis and treatment of bipolar disorder in the primary care setting: A concise review. Primary Psychiatry. 13.

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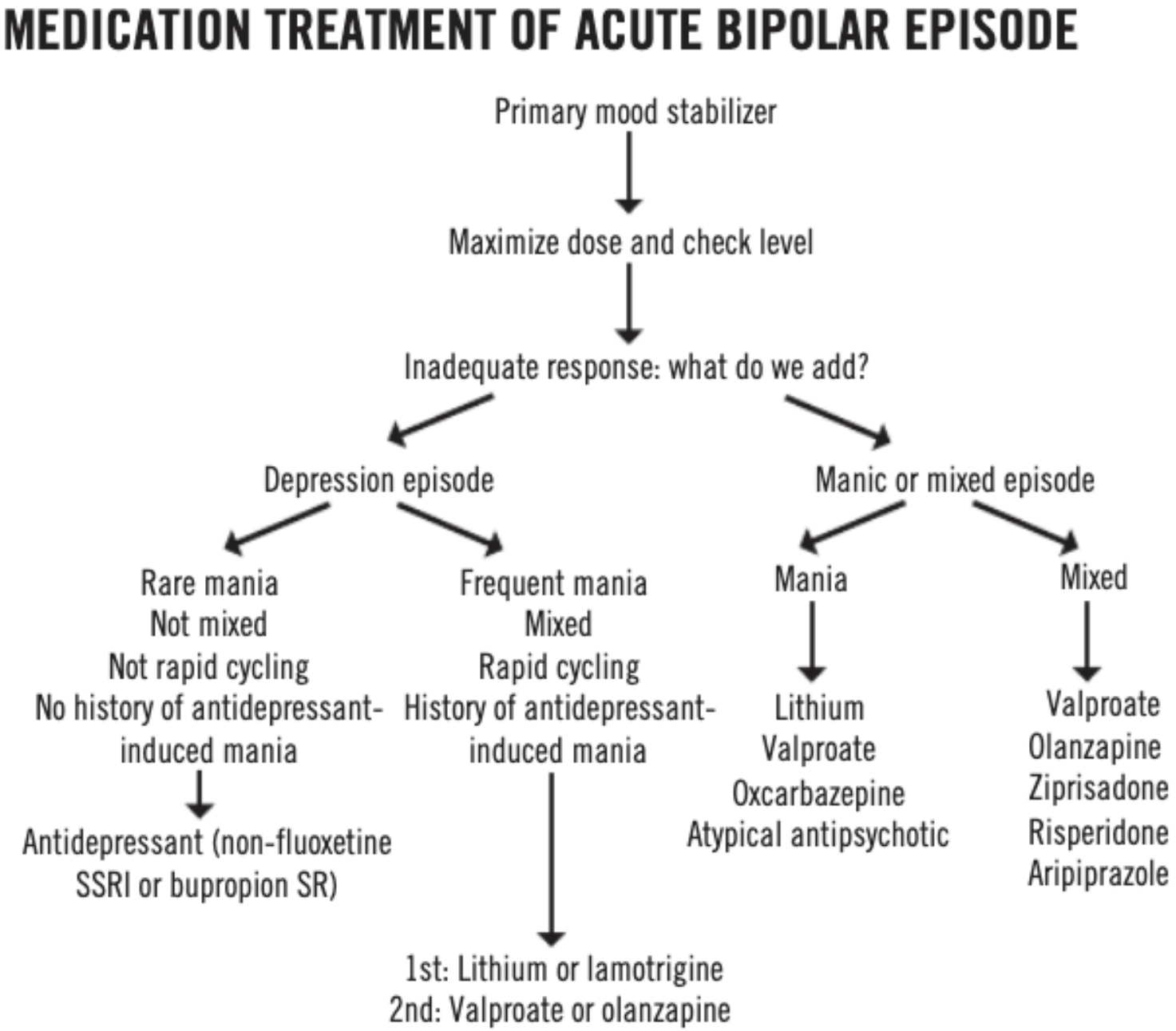
Choosing Medication for Bipolar Disorder

	Acute Mania	Acute Bipolar Depression	Maintenance
First Line	Lithium Valproic Acid Aripiprazole Risperidone Quetiapine Asenapine	Lithium* Lamotrigine* Quetiapine Lurasidone	Lithium Lamotrigine Aripiprazole
Second Line	Carbamazepine ER Olanzapine Ziprasidone	Cariprazine	Olanzapine Risperidone LAI Cariprazine

*= not FDA approved but guideline based

Brieler, J. A., & Keegan-Garrett, E. (2022). Diagnosis and Treatment of Bipolar Illness in the Primary Care Office. *Missouri medicine*, *119*(3), 213–218.

Medication Workflow (BPAD):



Hilty, Donald & Leamon, Martin & Lim, Russell & Kelly, Rosemary & Hales, Robert. (2006). Diagnosis and treatment of bipolar disorder in the primary care setting: A concise review. Primary Psychiatry. 13.

Mood Stabilizer Monitoring- Lithium

TABLE 2: LITHIUM MONITORING PARAMETERS

Monitoring parameter	Frequency
Serum level	After each change in dose then at least once per year or sooner if clinically indicated
Pregnancy test (in females of childbearing age)	Baseline and if suspicion for pregnancy
Electrocardiogram (ECG)	Baseline and annually, if over 40 years old or with cardiac concerns
Renal function	Baseline, every 3 months for 6 months, then annually
Serum electrolytes, TSH, CBC with differential	Baseline and yearly

Target serum level: **0.6-1.0 mEq/L**

(may consider 0.8-1.2 for acute mania per some sources)

Time to steady state: ~5 days

Timing of lab draw: 12 hours after last dose

Lithium Toxicity:

Mild: 1.5-2.0 mEq/L

Moderate: 2.0-2.5 mEq/L

Severe: >2.5 mEq/L

London N. Breed. (2024). *SAFER PRESCRIBING OF MOOD STABILIZER MEDICATIONS GUIDELINE*. https://media.api.sf.gov/documents/MUIC_Safer_Use_of_Mood_Stabilizers_Guideline_2024-04-04.pdf

Mood Stabilizer Monitoring- Valproic Acid

TABLE 6: VPA MONITORING PARAMETERS

Monitoring parameter	Frequency
Serum level	After initiation and each change in dose, then at least once per year or sooner if clinically indicated. Consider obtaining free serum concentration when altered protein binding might be expected (e.g., in elderly, malnourished, or medically ill individuals, or when clinically significant drug interactions are present).
CBC with differential, Hepatic function	At baseline, 2 weeks after initiation or dose change, then at semiannual to annual intervals
Monitoring parameter	**Frequency**
Renal function	At baseline
Pregnancy test (in women of childbearing age)	At baseline, and if pregnancy is suspected

Target serum level: **50-125 mcg/mL**

Time to steady state: 3-5 days

London N. Breed. (2024). *SAFER PRESCRIBING OF MOOD STABILIZER MEDICATIONS GUIDELINE*. https://media.api.sf.gov/documents/MUIC_Safer_Use_of_Mood_Stabilizers_Guideline_2024-04-04.pdf

Mood Stabilizer Monitoring- Carbamazepine

TABLE 10: CARBAMAZEPINE MONITORING PARAMETERS

Monitoring parameter	Frequency
Serum level	1-2 weeks after initiation, change in dose or change in overall medication regimen
Pregnancy test (in women of childbearing age)	At baseline and if pregnancy is suspected
CBC with differential	At baseline and annually
Hepatic and renal function	At baseline and annually
Serum electrolytes	At baseline and annually
HLA-B*1502	At baseline in at-risk populations
HLA-A*3101	At baseline in at-risk populations

Target serum level: **4-12 mcg/mL**

Time to steady state: 1-2 weeks after initiation due to autoinduction of carbamazepine metabolism

London N. Breed. (2024). *SAFER PRESCRIBING OF MOOD STABILIZER MEDICATIONS GUIDELINE*. https://media.api.sf.gov/documents/MUIC_Safer_Use_of_Mood_Stabilizers_Guideline_2024-04-04.pdf

Screening and Non-Medication Interventions:

- Screening tools for bipolar disorder:
  - MDQ
  - CIDI (used in primary care at UW clinics)
- Screening tools for psychosis not routinely used in clinical practice

- Psychosocial Interventions (overview)
  - CBT
  - Social Skills Training
  - Family Interventions
  - ACT teams
  - Contingency management (substance use)

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Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

3. Care Models for Treating SMI in Primary Care

UW Medicine
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Integrated Care Training Program
UW Psychiatry & Behavioral Sciences

project ECHO

Integrated Care Models for SMI

- **Behavioral health home (BHH) model:**
  - Integrates primary care services within behavioral health clinics
  - Improves preventative screening, access to primary care, and reduces ED visits
  - **Does NOT consistently reduce inpatient care use or improve clinical outcomes per current studies**
  - Note: most studies compare BHH to no primary care (vs other models)
- **Patient-centered medical home (PCMH) model:**
  - Optimized organization and delivery of primary care
  - Improves preventative screening and service use outcomes for the general population
  - **These improvements do not apply to patient populations with SMI**

Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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2021: Enhanced Primary Care Model

- Based in Wake County, North Carolina
- PCMH (Wakebrook Clinic) with specific focus on SMI population
- **Provides care coordination, peer support, and self-management programs for patients**
- **Modified primary care delivery:** smaller patient panels, specific SMI training for providers, regular communication between behavioral health and primary care providers, proactive planning for complex care needs
- Note: many clinic patients receive behavioral health care elsewhere

Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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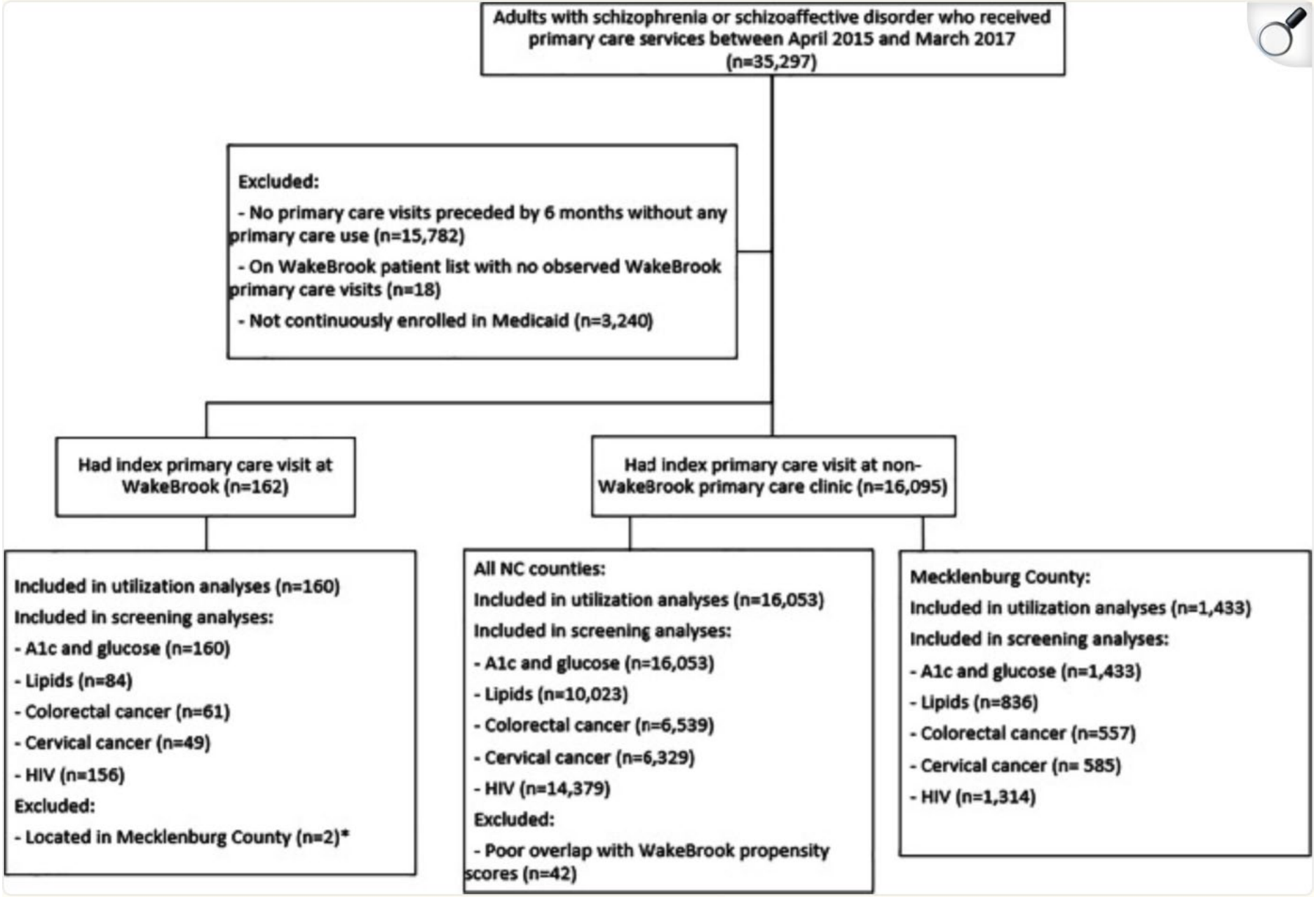
Does enhanced primary care improve service use and screening?

Tracked outcomes 12 months before and 18 months after enrollment in enhanced PC



Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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2021: Enhanced Primary Care Model

- Common comorbidities in all groups: substance use, hypertension, diabetes, hyperlipidemia
- At baseline, enhanced PC group with increased number of inpatient psychiatry days and more months with ACT team involvement

- Results (Enhanced model vs standard care):
  - Increase in some preventative care screening (ex HIV and glucose)
  - For every **10** enrolled patients: **3** less non-psychiatric hospital stays, **12** additional PCP visits (over 18 months)
  - Effect on psychiatric inpatient stays and/or ED visits was **not statistically significant**

2022: Specialized Primary Care for SMI

- Difficulty coordinating primary care, mental health, and substance use care when needs are complex and treatments may overlap
- **VA initiative: Patient Aligned Care Team (PACTs) for SMI patients**
- Treatment team: PCP, consulting psychiatrist, nurse care manager
- Patient panel: 150

Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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2022: Specialized Primary Care for SMI

- PACT and usual care patients evaluated at baseline and at 12 months
- Primary outcomes:
  - preventative screenings
  - perceived chronic illness care/care experience
  - health-related quality of life
- Secondary outcomes:
  - psychiatric symptoms
  - patient activation

Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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2022: Specialized Primary Care for SMI

- PACT patients at 12 months:
  - **Improvements in:**
    - Care experience (doctor-patient interaction, shared decision-making, care coordination, access, staff)
    - All chronic illness care domains (activation, decision support, goal-setting, counseling, and coordination)
  - **ALMOST significant (p=0.05):**
    - BASIS-R subscale score for psychosis symptoms
    - Mental health-related quality of life
  - **NO improvement:**
    - Patient activation
    - Physical health-related quality of life
    - All other psychiatric symptoms (per BASIS-R subscales)

Grove, L. R., Gertner, A. K., Swietek, K. E., Lin, C. C., Ray, N., Malone, T. L., Rosen, D. L., Zarzar, T. R., Domino, M. E., Sheitman, B., & Steiner, B. D. (2021). Effect of Enhanced Primary Care for People with Serious Mental Illness on Service Use and Screening. *Journal of general internal medicine*, *36*(4), 970–977. https://doi.org/10.1007/s11606-020-06429-2

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2013 Study: Care Management in CMH

- Portion of CMH patients in Atlanta, GA given nursing care manager with focus on primary care needs (PCARE)
- No difference between intervention and control groups at baseline
- **At 12-month follow-up (intervention vs control):**
  - Increased proportion of indicated preventive care services (58.7% vs 21.8%)
  - 2x physical exam activities (70.5% vs 35.6%)
  - 2x screening tests (50.4% vs 21.6%)
  - 4x educational interventions (80.0% vs 18.9%)
  - 6x indicated vaccines (24.7% vs 3.8%)
  - More likely to have usual source of care (71.2% vs 51.9%)
  - More primary care visits

Druss, B. G., von Esenwein, S. A., Compton, M. T., Rask, K. J., Zhao, L., & Parker, R. M. (2010). A randomized trial of medical care management for community mental health settings: the Primary Care Access, Referral, and Evaluation (PCARE) study. *The American journal of psychiatry*, *167*(2), 151–159. https://doi.org/10.1176/appi.ajp.2009.09050691

Other Ideas for Improving Care:

- Shared care with PCP and mental providers (possible use of care managers to liaison)
- Additional PCP support/education regarding SMI populations
- “Super clinics”/”One stop shops” for primary care, mental health, and other health care needs
- Healthcare skills training for patients
- Peer supports
- Reduce stigma and discrimination of SMI patients within the healthcare system

Lawrence, D., & Kisely, S. (2010). Inequalities in healthcare provision for people with severe mental illness. *Journal of psychopharmacology (Oxford, England)*, *24*(4 Suppl), 61–68. https://doi.org/10.1177/1359786810382058

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Collaborative Care Case Example

- 60 y.o. female diagnosed with schizoaffective d/o, bipolar type
- Current hypomanic and depressive symptoms
- Reports side effects from multiple antipsychotic medications
- **For various reasons, unwilling to engage with community mental health or see psychiatric consultant through CoCM model**
- Was agreeable to seeing BH care manager every-other-week
- Ultimately, care managed through reports from BHCM and PCP with psychiatric consultant making ongoing recommendations
- Example of complex situation managed through collaboration despite treatment limitations
- **Relationship between care team members is key in any collaborative care model**

Howland, M., Chang, D., Ratzliff, A., & Palm-Cruz, K. (2022). C-L Case Conference: Chronic Psychosis Managed in Collaborative Care. *Journal of the Academy of Consultation-Liaison Psychiatry*, *63*(3), 189–197. https://doi.org/10.1016/j.jaclp.2021.12.002

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Takeaways & Discussion

1. SMI patients suffer from increased health and substance use comorbidities but do not always engage in needed care
2. Limiting factors occur on individual, provider, healthcare system, and societal levels
3. PCPs should be empowered and educated in the treatment of SMI (medications and other interventions) though joint care and/or care management support is preferred
4. Some newer patient care models show improvements in care delivery for SMI patients though results remain varied
5. A trusting relationship between care team members is important in caring for SMI (and all other) patients

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