# Racial and Ethnic Differences in the Use and Discontinuation of Long-Acting Injectable Antipsychotics

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# Conflicts of Interests

- **The authors report no significant conflicts of interests related to this presentation**
- **All pictures not referenced are owned by the presenter**

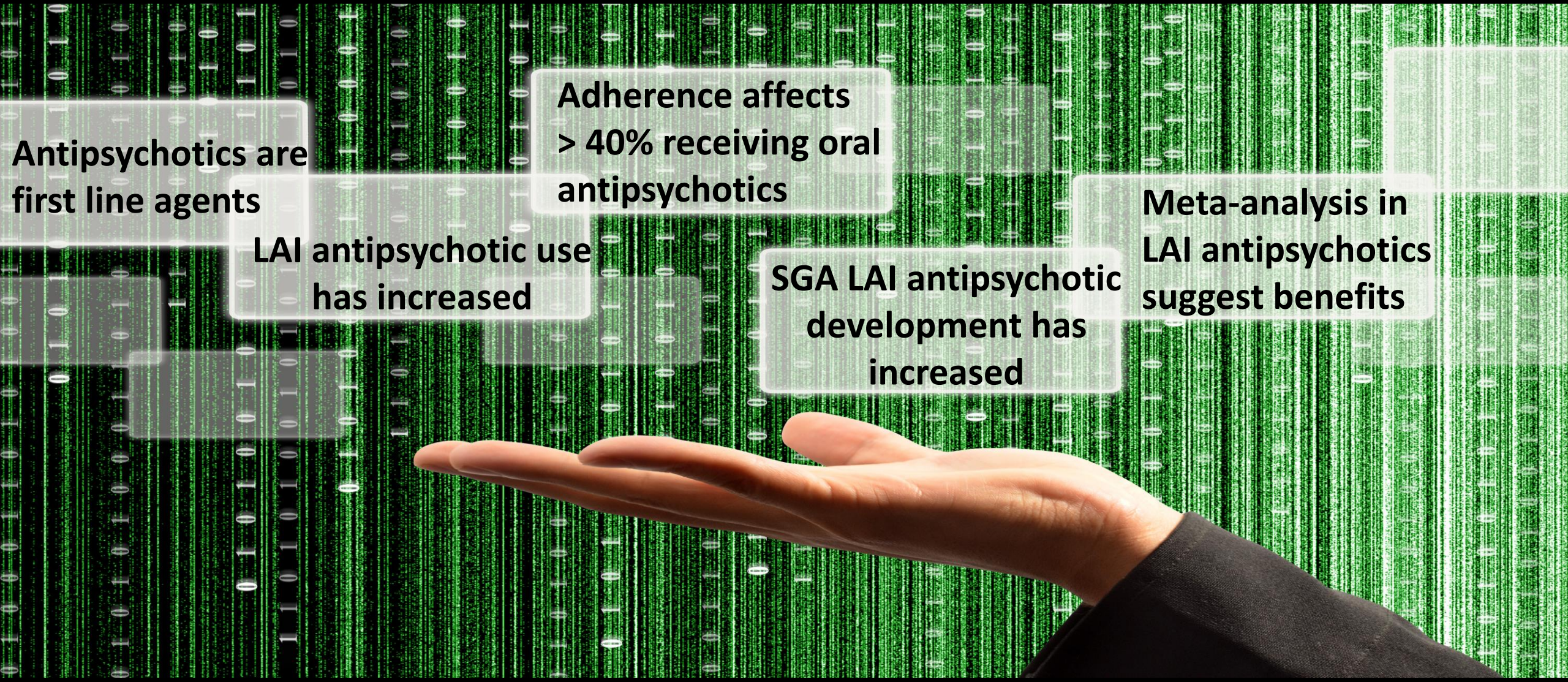
# Introduction

- Prevalence of schizophrenia in the United States about 0.5%
- Diagnosis occurring more likely among Blacks and Hispanics compared to Whites



Schwartz RC, Blankenship DM. World J Psychiatry. 2014;4(4):133-40. doi:10.5498/wjp.v4.i4.133

# Introduction






Lacro JP, et al. J Clin Psychiatry. 2002;63(10):892-909. doi:10.4088/jcp.v63n1007
Lin D, et al. CNS Drugs. 2021;35(5):469-481. doi:10.1007/s40263-021-00815-y

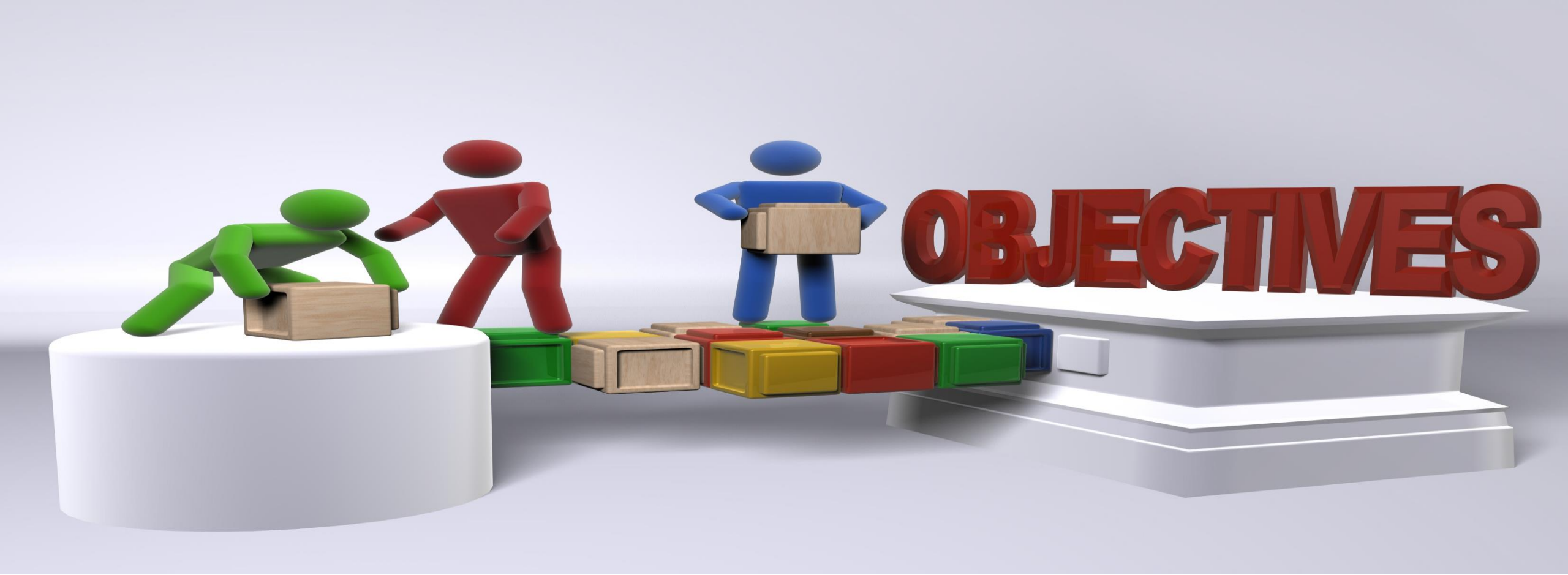
LAI: long-acting injectable
SGA: second-generation antipsychotic

# Introduction

- **In general, rates of medication adherence and persistence are often low in underserved minority populations**
- **While results using LAI antipsychotics seem promising, discontinuation rates between race/ethnicity for these medications have not been elucidated**



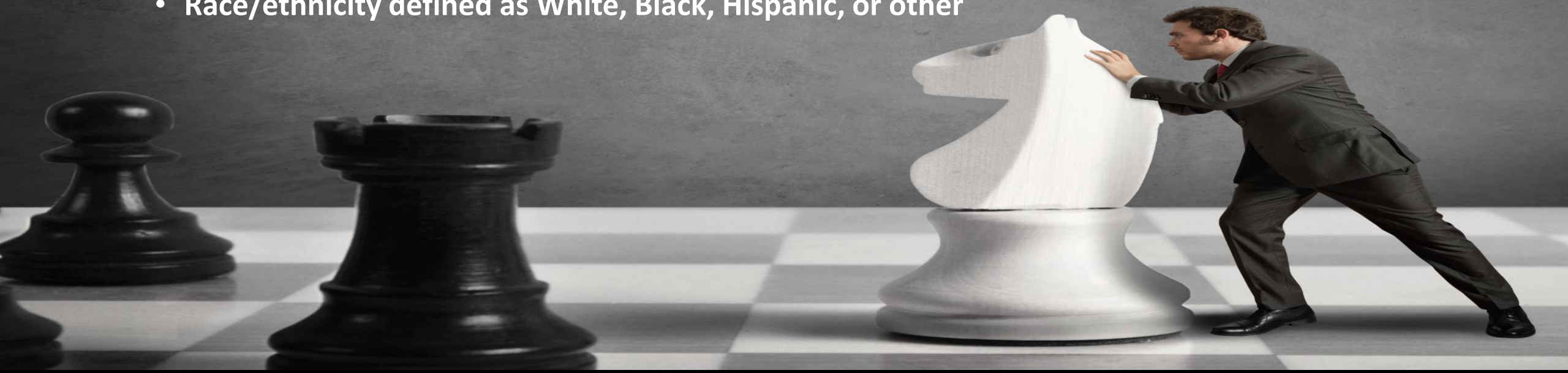
LAI: long-acting injectable




- **Primary: Determine differences in long-acting injectable antipsychotic use among racial and ethnic populations**
- **Secondary: Assess if discontinuation rates differed between agents and race/ethnicity**

# Methods

- Merative MarketScan® Multi-State Medicaid Databases between Jan 2016 - Dec 2020
- ICD-10-CM diagnosis codes, and health plan (EPO, HMO, PPO) identified
- Data from pharmacy claims included NDC for dispensed medications
- Patient demographics (i.e., age, gender, race/ethnicity), and health plan obtained at index date (i.e., first fill for an LAI antipsychotic)
  - Age (i.e., 18-24, 25-34, 35-44, 45-54, 55-64) and gender (i.e., male, female)
  - Race/ethnicity defined as White, Black, Hispanic, or other

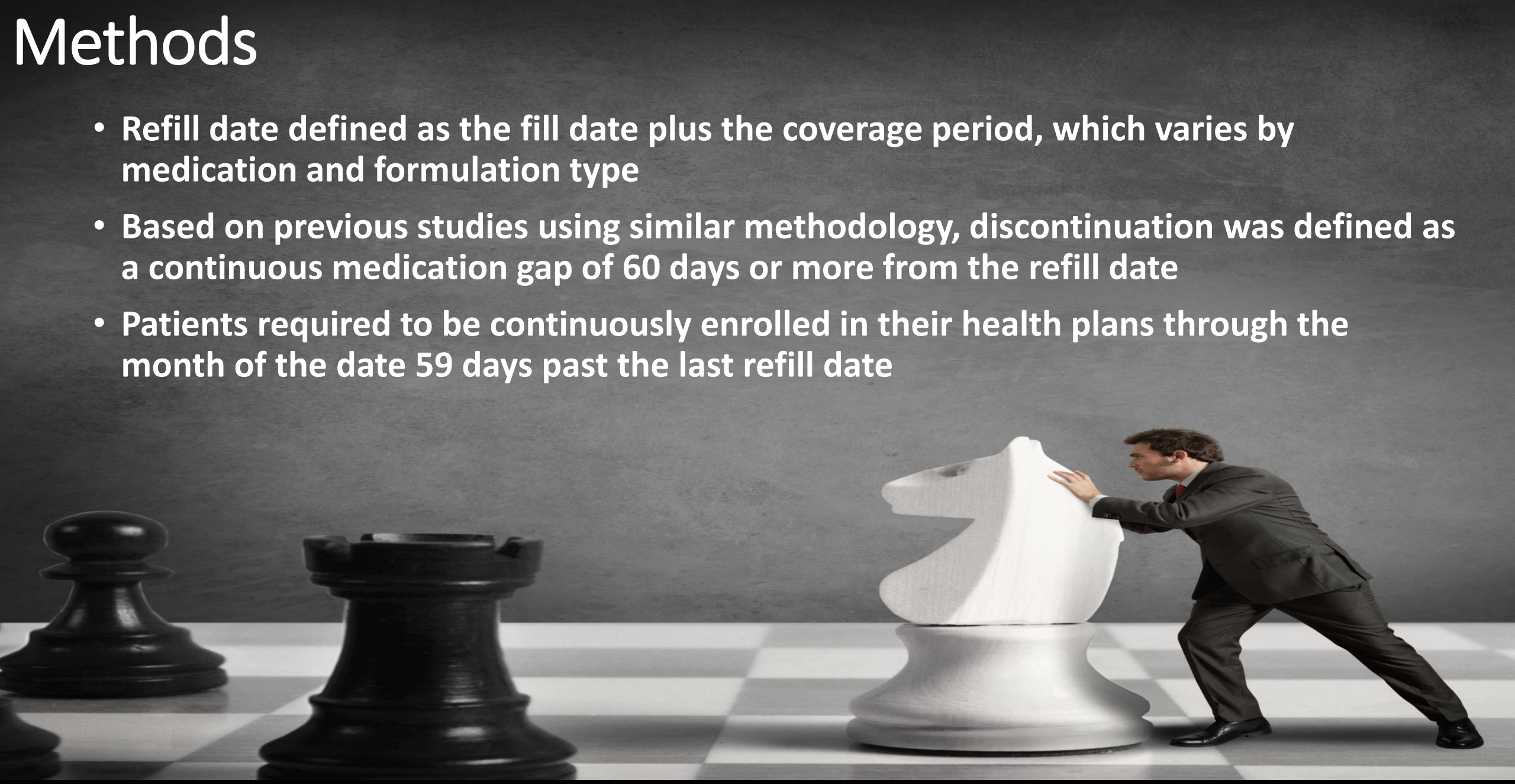




EPO: exclusive provider organization; HMO: health maintenance organization; ICD-10-CM: International Classification of Diseases, Tenth Revision, Clinical Modification; LAI: long-acting injectable; NDC: national drug code; PPO: preferred provider organization

# Methods

- Refill date defined as the fill date plus the coverage period, which varies by medication and formulation type
- Based on previous studies using similar methodology, discontinuation was defined as a continuous medication gap of 60 days or more from the refill date
- Patients required to be continuously enrolled in their health plans through the month of the date 59 days past the last refill date





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Marcus SC, et al. J Manag Care Spec Pharm. 2015;21(9):754-68. doi:10.18553/jmcp.2015.21.9.754

# Methods

- Cochran-Mantel-Haenszel tests and odds ratio estimators used to investigate conditional association between race/ethnicity (i.e., White, Black, Hispanic, other) and medication (i.e., individual, generation) while controlling for age, gender, health plan, and year LAI antipsychotic was first prescribed
- Kaplan-Meier survival curves were examined, and stratified log-rank tests were conducted to compare the time until discontinuation distributions across race/ethnicity



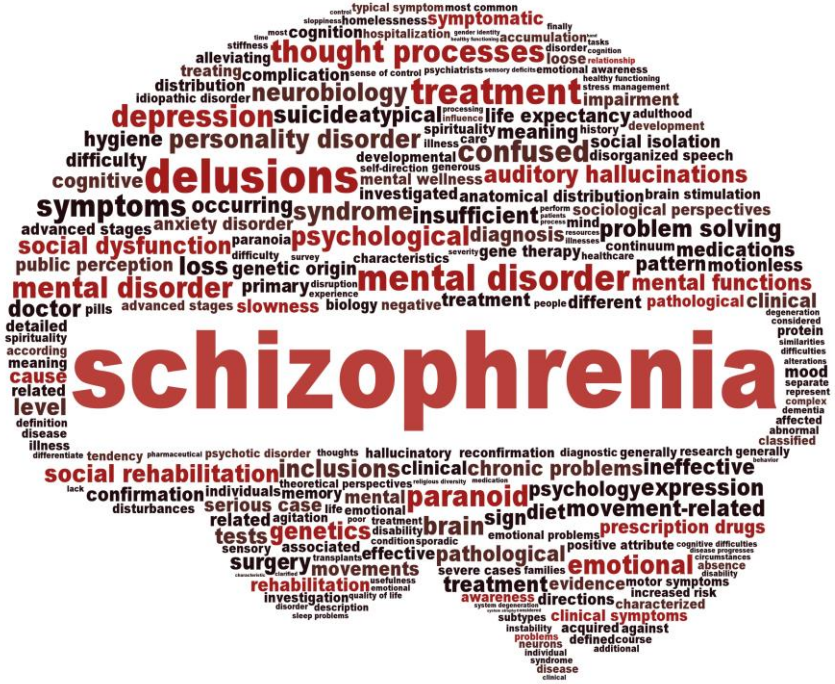
LAI: long-acting injectable

# Methods

## LAI antipsychotics included:

### First Generation

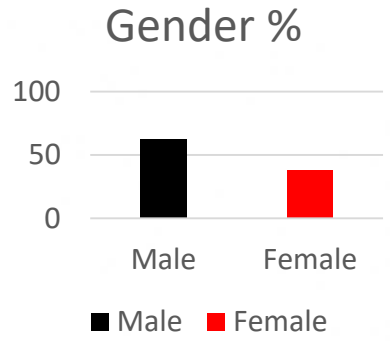
- Fluphenazine decanoate
- Haloperidol decanoate




### Second Generation

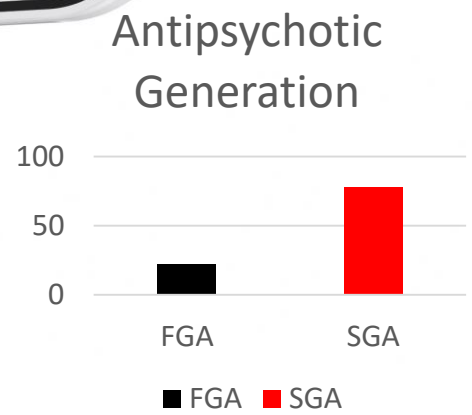
- Aripiprazole lauroxil
- Aripiprazole monohydrate
- Olanzapine pamoate
- Paliperidone palmitate
  - 4- and 12- week formulations
- Risperidone microsphere
- Risperidone subcutaneous

# Results




**37,712 patients (mean age: 39± 12.7; 62% male) with LAI antipsychotic use included in the final analysis**

**Approximately 22% of patients received LAI FGA and 78% of patients received LAI SGA**




**The race/ethnicity distribution included: ~47% White (n=17,782), ~48% Black (n=18,197), ~2% Hispanic (n=860), and ~2% other (n=873)**



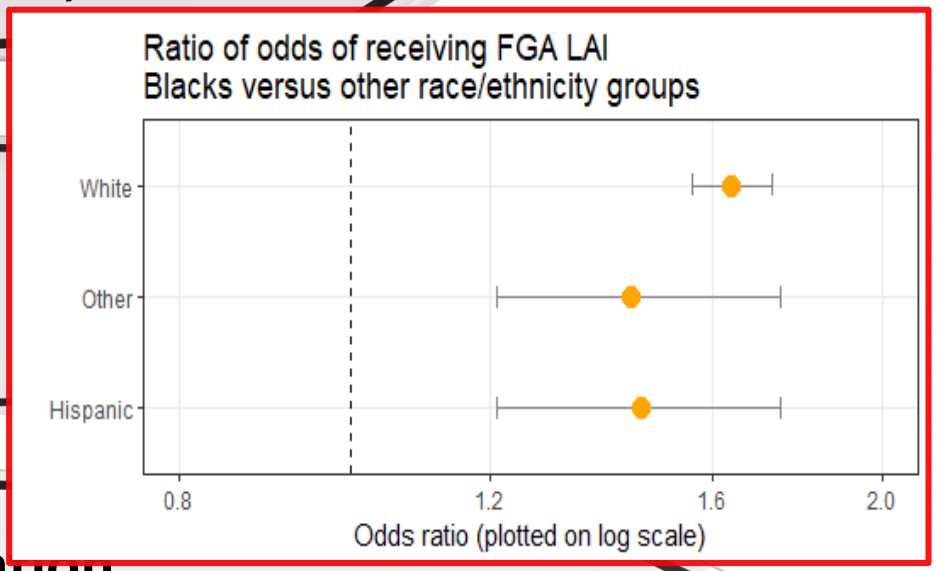
LAI: long-acting injectable
FGA: first generation antipsychotic
SGA: second-generation antipsychotic

# Results

**Blacks received a LAI FGA more often than Whites (OR: 1.64 95% [1.56, 1.73], Hispanics (OR: 1.46 95% [1.21, 1.75]) and others (OR: 1.44, 95% [1.20, 1.73])**

**Whites discontinued fluphenazine decanoate, a FGA LAI earlier in comparison to Blacks (p=0.02)**

**No other significant differences in discontinuation rates across race/ethnicity were found**






LAI: long-acting injectable
FGA: first generation antipsychotic

# Discussion

- **Older studies (before most LAI SGA came to market) suggest Blacks were more likely to receive LAI antipsychotics compared to Whites**
- **Despite no significant differences in LAI SGA discontinuation rates between Blacks and other race/ethnicity groups, Blacks received an LAI SGA significantly less often than any other group**

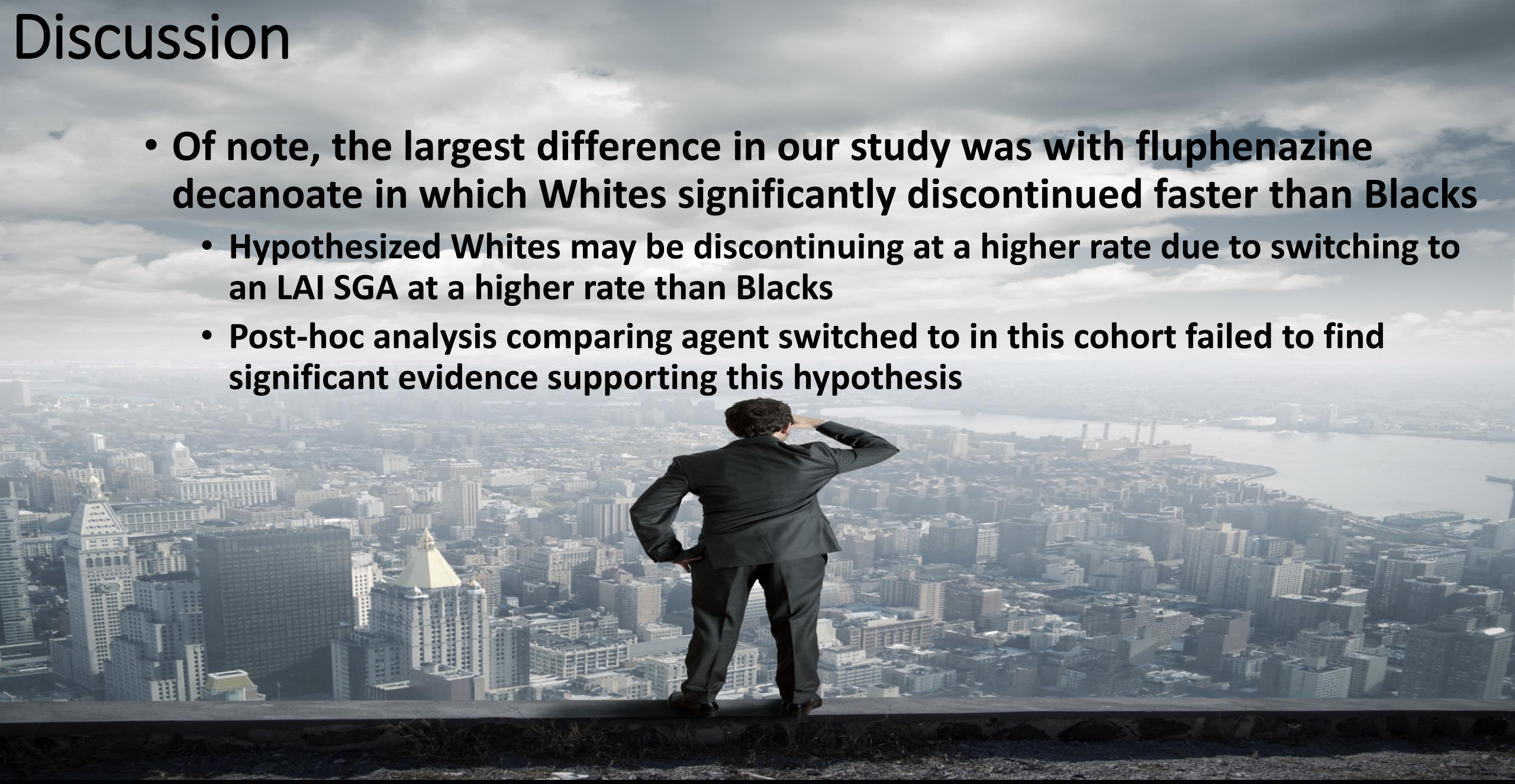


Valenstein M, et al. J Clin Psychiatry. 2001;62(7):545-51. doi:10.4088/jcp.v62n07a08
Kuno E, et al. Am J Psychiatry. 2002;159(4):567-72. doi:10.1176/appi.ajp.159.4.567
Glazer WM. J Clin Psychiatry. 2000;61 Suppl 4:15-20.

LAI: long-acting injectable
SGA: second-generation antipsychotic

# Discussion

- **Of note, the largest difference in our study was with fluphenazine decanoate in which Whites significantly discontinued faster than Blacks**
  - **Hypothesized Whites may be discontinuing at a higher rate due to switching to an LAI SGA at a higher rate than Blacks**
  - **Post-hoc analysis comparing agent switched to in this cohort failed to find significant evidence supporting this hypothesis**





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# Discussion


- **Clinicians report using LAI antipsychotics in < 10% of their patients and have not discussed use with ~ 66%**
- **Data show 33% of LAI antipsychotic recommendations accepted by patients, but increased > 95% after a post-visit interview with tailored approach to patient concerns**
- **Education may be warranted to providers on bridging the gap in prescribing rates especially with LAI SGA in Blacks**



Lindenmayer JP, et al. J Clin Psychopharmacol. 2020;40(4):346-349. doi:10.1097/JCP.0000000000001225
Weiden PJ, et al. J Clin Psychiatry. 2015;76(6):684-90. doi:10.4088/JCP.13m08946

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# Limitations


Any Questions/Comments?