



Social Determinants of Health & Disruptive Life Events

Focus on Patients with Bipolar Disorder or Schizophrenia

This program is paid for by Otsuka
Pharmaceutical Development &
Commercialization, Inc. (OPDC) and
Lundbeck, LLC.

Speakers are paid consultants for Otsuka
Pharmaceutical Development &
Commercialization, Inc.

Our Featured Speakers



Heidi Waters, PhD

Senior Director, Policy Research Health Outcomes
Otsuka Pharmaceutical Development & Commercialization, Inc



Simon Kim, PharmD (Moderator)

Clinical & Scientific Liaison
Otsuka Pharmaceutical Development & Commercialization, Inc.

Objectives

Objective 1

Assess differences in incidence of disruptive life events for members with schizophrenia (SZ) or bipolar I disorder (BP-I) compared to those with major depressive disorder (MDD) or the general population using TransUnion data

Objective 2

Assess the impact of social determinants of health on disruptive life events in members with SZ or BP-I using TransUnion data

This presentation is a review of the data presented as

Poster at Psych Congress,
October 29 - November 01, 2021, San
Antonio, TX

Oral Presentation at ISPOR,
May 15 – 18, 2022, National Harbor, MD

Beyond Clinical Outcomes: Tracing
Disruptive Life Events Among
Patients with Schizophrenia or
Bipolar I Disorder Through Public
Use of TransUnion Data¹

Social Determinants of Health and
Disruptive Life Events Among Patients
with Schizophrenia or Bipolar
Disorder²

1. Claudia L. Nau, et al. (2021). Beyond Clinical Outcomes: Tracing Disruptive Life Events Among Patients with Schizophrenia or Bipolar I Disorder Through Public Use of TransUnion Data. Poster presented at Psych Congress 2021, San Antonio, TX, USA.
2. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Disruptive Life Events in Patients with SZ or BP-I vs. MDD & General Health Population

Background

- Individuals diagnosed with SZ or BP-I are at higher risk for disruptive life events (DLEs) such as disability, premature mortality, justice system involvement, homelessness and unemployment
- Existing studies on the occurrence of DLEs in U.S. patients with SZ and BP-I have been limited by:
 - Short observation periods
 - Use of self-report
 - Studying high-risk populations (e.g., homeless, incarcerated)
- These approaches do not allow for understanding when, in the course of disease, the risk for experiencing a DLE is highest, and how frequently these events occur over the mid- to long-term course of the disease

1. Claudia L. Nau, et al. (2021). Beyond Clinical Outcomes: Tracing Disruptive Life Events Among Patients with Schizophrenia or Bipolar I Disorder Through Public Use of TransUnion Data. Poster presented at Psych Congress 2021, San Antonio, TX, USA.

Methods

Data

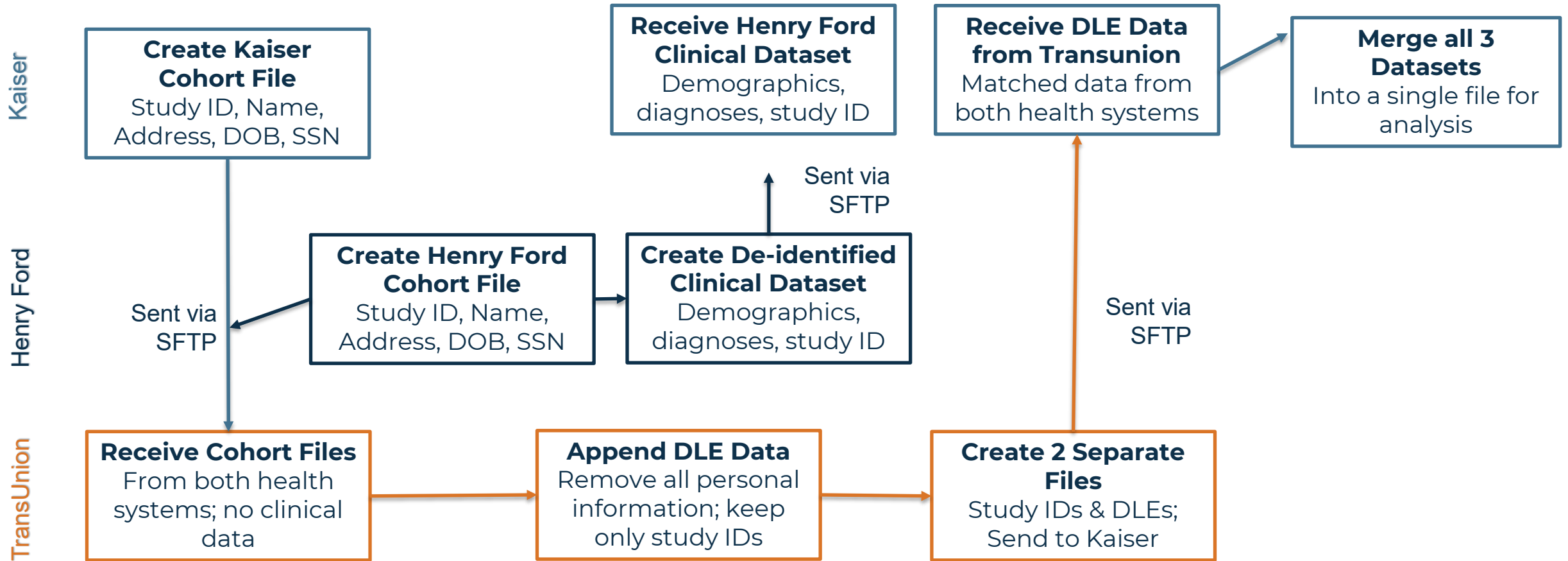
- Multi-site retrospective, cohort study
- **Electronic medical record data** (2007- 2019) - Kaiser Permanente Southern California and Henry Ford Health
- **Data on DLEs from TransUnion**
 - Number of moves, liens, judgement filings, bankruptcy and arrests

Sample

- **Member populations:** Adults with schizophrenia or bipolar I disorder
- **Control populations:** (1) Adults with MDD; (2) General health (GH) population (those not having diagnosis of SZ, BP-I or MDD)
- **Exclusions:** First diagnosis of schizophrenia or bipolar I disorder at age 60 or older, and those who had dementia or neurodegenerative disorders

1. Claudia L. Nau, et al. (2021). Beyond Clinical Outcomes: Tracing Disruptive Life Events Among Patients with Schizophrenia or Bipolar I Disorder Through Public Use of TransUnion Data. Poster presented at Psych Congress 2021, San Antonio, TX, USA.

Data Matching



DOB: date of birth; **ID,** identification; **SFTP,** secure file transfer protocol; **SSN,** social security number

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Matched Cohorts - Demographics

>98% Matched to TransUnion Data

SZ Cohort (n=12,562)

- 95% Kaiser vs. Henry Ford
- 12% Medicaid
- 70% Prevalent diagnosis
- 60% Male
- Mean age = 31 at diagnosis
- Mean age = 38 at study start
- Race/Ethnicity
 - 55% White
 - 20% Black
 - 8% Asian
 - 16% Other/Unknown

BP-I Cohort (n=23,148)

- 93% Kaiser vs. Henry Ford
- ~90% non-Medicaid
- 77% Prevalent diagnosis
- 60% Female
- Mean age = 33 at diagnosis
- Mean age = 40 at study start
- Race/Ethnicity
 - 70% White
 - 11% Black
 - 4% Asian
 - 12% Other/Unknown

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Disruptive Life Events in Patients with SZ or BP-I vs. MDD & General Population

Schizophrenia

Lower odds in terms of DLEs in comparison to MDD and GH cohorts, except for arrests

- **Address Changes:**
 - Lower incidence vs. MDD or GH cohorts
- **Lien Filings:**
 - Lower odds vs. MDD or GH cohorts
- **Judgement Filings:**
 - Lower odds vs. MDD or GH cohorts
- **Bankruptcy:**
 - Lower odds vs. MDD, but equivalent to GH cohort
- **Arrests:**
 - Higher odds vs. MDD or GH cohorts

Bipolar I Disorder

Higher odds of experiencing ALL DLEs compared to both comparator groups

- **Address Changes:**
 - Higher incidence vs. MDD or GH cohorts
- **Lien Filings:**
 - Higher odds vs. MDD or GH cohorts
- **Judgement Filings:**
 - Higher odds vs. MDD or GH cohorts
- **Bankruptcy:**
 - Higher odds vs. MDD or GH cohorts
- **Arrests:**
 - Higher odds vs. MDD or GH cohorts

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Impact of Social Determinants of Health on DLEs in Members with Schizophrenia or Bipolar I Disorder

Effect of Social Determinants of Health: Race

Across all comparator groups:

- Asian members experienced **lower odds of all DLEs** than white members
- African American members experienced **higher odds of all DLEs** than white members

Most striking difference = Arrests

- Asian members were half as likely to be arrested than white members for all 4 comparisons
- African American members were twice as likely to be arrested as white members across all comparators

Findings congruent with prior literature:

- African Americans and Latinos with mental illness receive poorer care, have worse clinical, social, work outcomes while Asian Americans may benefit from treatment¹
- African Americans over-represented and receive harsher punishment while Asian Americans are treated similarly to whites or even more leniently in the criminal justice system

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Effect of Social Determinants of Health: Age

Schizophrenia vs. MDD/GH

Younger members (under age 65) had more moves and higher odds of judgement filings, arrests, and bankruptcy than those 65 years or older

- Members 18-44 years at study start:
 - 2x incidence of address changes
 - 3x as likely to have judgments against them or have been arrested
- Members 45-64 years at study start:
 - 3x as likely to have judgments against them or have been arrested

Bipolar I Disorder vs. MDD/GH

Younger members (under age 65) had more moves and higher odds of judgement filings, arrests, and bankruptcy than those 65 years or older

- Members 18-44 years at study start:
 - 2x incidence of address changes
 - 3x as likely to have judgments
 - Odds of arrest were ~50% greater
- Members 45-64 years at study start:
 - 3x as likely to have judgments against them or have been arrested

Reference group = Members age >65 years

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Effect of Social Determinants of Health: Gender

For members with SZ or BP-I compared to both MDD and GH, males had lower incidence of address changes and lower odds of bankruptcy, but higher odds of being arrested and having judgement and lien filings than females



SZ

- Higher odds lien filing
 - 63% MDD / 76% GH
- Higher odds of judgements
 - 74% MDD / 96% GH
- Higher odds of arrest
 - ~200% higher vs. both MDD/GH

BP-I

- Higher odds of lien filing
 - 57% MDD / 71% GH
- Higher odds of judgements
 - 82% MDD / 89% GH
- Higher odds of arrest
 - 67% MDD / 80% GH



SZ

- Higher incidence of address changes
 - 12% MDD / 16% GH
- Higher odds of bankruptcy
 - 9% MDD / 5% GH

BP-I

- Higher incidence of address changes
 - 11% GH / 14% MDD
- Higher odds of bankruptcy
 - 7% MDD / 11% GH

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Limitations

- Member populations were drawn from two large integrated healthcare systems:
 - Located in southern California and Michigan; Results may not be generalizable to other areas of the US
 - Treatment patterns and care coordination of members with mental health conditions may be different in integrated delivery networks than in other care settings
 - The proportion of members with Medicaid coverage was lower than expected, especially for member with schizophrenia, and therefore may not be generalizable
- TransUnion data also has limitations:
 - Crime data does not currently include reliable indicators for the seriousness of a person's offense leading to an arrest
 - Public records data were deemed complete by TransUnion but we could not confirm completeness (although it demonstrated concordant/discordant validity)
 - Address changes were used as a proxy for residential instability but may not be negative

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.

Summary

- Members with a diagnosis of BP-I were more likely to experience a financial DLEs and to move addresses while members with SZ were generally less likely to have address changes/ financial DLEs compared to the two comparison cohorts
- Members with a diagnosis of SZ or BP-I had higher odds of being arrested compared to the MDD cohort and were more than 2X as likely to be arrested vs. the GH cohort
- Social determinants of health, including race, age and gender, affected outcomes between cohorts
 - Racial differences were most pronounced and consistent across comparison groups
- These findings are important in development of policies and clinical pathways to help improve equitable access to care for persons with serious mental illness
 - The role of social determinants of health should be considered in these policies and pathways

1. Claudia N. Nau, et al. (2022). Social Determinants of Health and Disruptive Life Events Among Patients with Schizophrenia or bipolar disorder. Oral Presentation presented at The Professional Society for Health Economics and Outcomes Research – ISPOR 2022, National Harbor, MD, USA.



Social Determinants of Health & Disruptive Life Events

Focus on Patients with Bipolar Disorder or Schizophrenia