

# Comparison of readmission data between different categories of antipsychotic drugs at a state psychiatric hospital in Oregon

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## Abstract

**Introduction:** This chart review utilizes readmission rates and mean time to readmission as markers of drug efficacy to compare different categories of long-acting injectable antipsychotics (LAJAs), antipsychotic polypharmacy, and clozapine to oral antipsychotic monotherapy (OM) at a state psychiatric hospital in Oregon (Oregon State Hospital).

**Methods:** Charts were reviewed for patients discharged between October 20, 2011, and September 23, 2015, with a diagnosis of schizophrenia spectrum or mood disorder. Admission dates, discharge dates, and discharge antipsychotics were reviewed for each patient dating back to 1991. Discharge antipsychotics were categorized into groupings of LAJAs, antipsychotic polypharmacy, and clozapine and compared with OM to assess readmission data within 1, 3, and 5 years of discharge. The primary end point was readmission rate, measured as a percentage, and the secondary end point was mean time to readmission (MTR), measured in days.

**Results:** Of 1088 patients reviewed, there were 2031 patient discharges associated with antipsychotic agents and 1258 readmissions. Patients discharged on LAJA monotherapy or clozapine generally had a lower readmission rate, and patients discharged on antipsychotic polypharmacy generally had a higher readmission rate. Statistical significance for these findings varied over time frames and subgroup analyses. The most notable finding for the secondary end point was a significantly shorter MTR for patients discharged on clozapine for all diagnoses and the subgroup analysis of schizoaffective disorder.

**Discussion:** These results are only a reflection of the patient population at this hospital, and additional reviews at other facilities with different patient characteristics could clarify applicability to other patient populations.

**Keywords:** psychiatric recidivism, psychiatric readmission, antipsychotic drug, antipsychotic polypharmacy, long-acting injectable antipsychotic, clozapine

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## Introduction

Psychiatric readmission and time between discharge and relapse are commonly used clinical markers of how well antipsychotic drugs are managing a patient's psychiatric symptoms. Antipsychotic drugs are most commonly used in schizophrenia spectrum disorders and mood disorders. Review of the literature revealed several studies that compared individual antipsychotic types but none that compared all the categories that this review addresses. In one meta-analysis, fluphenazine long-acting injectable

**TABLE 1: Antipsychotic drug categories and abbreviations**

Abbreviation	Drug Category
OM	Oral antipsychotic monotherapy, excluding clozapine
POL	Oral antipsychotic polypharmacy, excluding clozapine regimens
POL ± CZP	Any oral antipsychotic polypharmacy, (includes clozapine regimens)
LAI	LAIA monotherapy
L + O	LAIA plus same drug oral therapy
L + P	LAIA with antipsychotic polypharmacy, excluding clozapine regimens
L + P ± CZP	LAIA with any antipsychotic polypharmacy (includes clozapine regimens)
CZP MON	Clozapine monotherapy
ANY POL	Any regimen involving antipsychotic polypharmacy (POL ± CZP plus L + P ± CZP)
ANY LAI	Any regimen involving LAIA (LAI plus L + O plus L + P ± CZP)
ANY CZP	Any regimen involving CZP (CZP MON plus oral antipsychotic polypharmacy involving clozapine plus LAIA polypharmacy involving clozapine)

LAIA = long-acting injectable antipsychotic.

antipsychotic (LAIA) showed significant superiority over oral antipsychotics (OAPs) for end points of relapse rate ( $P=.02$ ), discontinuation due to inefficacy ( $P=.002$ ), and prevention of hospitalization ( $P=.04$ ), but pooled LAIAs did not significantly separate from OAPs.<sup>1</sup> Lafeuille et al<sup>2</sup> found that atypical LAIAs resulted in significantly lower rates of all cause hospitalizations ( $P < .0001$ ), emergency department visits ( $P=.0158$ ), and days in the hospital ( $P=.0081$ ) as compared to OAPs. Conley et al<sup>3</sup> found the mean time to readmission was longer for oral risperidone than clozapine, but a higher percentage of patients discharged on clozapine remained in the community at 2 years. Werneck et al<sup>4</sup> found clozapine favorable over other second-generation antipsychotics (SGAs) for time to rehospitalization ( $P=.0125$ ). The PROACTIVE study<sup>5</sup> found no significant differences between risperidone LAIA and oral SGAs for relapse or hospitalization. The purpose of this chart review was to compare readmission rates and mean time to readmission for different categories of antipsychotic drugs in order to assess drug therapy used for the patient population served at a state psychiatric hospital in Oregon (Oregon State Hospital).

## Methods

A chart review was performed for patients discharged between October 20, 2011, and September 23, 2015, with a diagnosis of schizophrenia, schizoaffective disorder,

schizophreniform disorder, psychotic disorder not otherwise specified (NOS), delusional disorder, bipolar disorder, or mood disorder NOS. Any patient with a qualifying discharge diagnosis who was discharged on any antipsychotic was included in the review. The database had access to admission records for more than 30 surrounding hospitals. Each patient's record was reviewed for admission dates to accessible facilities, discharge dates from Oregon State Hospital, and discharge antipsychotics from Oregon State Hospital dating back to 1991. Regimens at discharge were categorized to reflect how readmission data for LAIAs, antipsychotic polypharmacy, and clozapine regimens compared with oral antipsychotic monotherapy (OM). These 3 categories were analyzed alone and in combination to assess how they affected one another when used in combination, which is commonly seen in clinical practice. The readmission data for OM was compared to the following antipsychotic drug categories, which are described in Table 1: oral antipsychotic polypharmacy, excluding clozapine regimens (POL); any oral antipsychotic polypharmacy (POL ± CZP); LAIA monotherapy (LAI); LAIA with same drug oral therapy (L + O); LAIA with antipsychotic polypharmacy, excluding clozapine regimens (L + P); LAIA with any antipsychotic polypharmacy (L + P ± CZP); and clozapine monotherapy (CZP MON). Using the same data set, a simplified scheme compared any regimen involving antipsychotic polypharmacy (ANY POL), any regimen involving a LAIA (ANY LAI), and any regimen involving clozapine (ANY CZP) to OM for each time point. Antipsychotic polypharmacy was defined as 2 or more antipsychotics, which could include any combination of oral and LAIA formulations. ANY POL included POL ± CZP and L + P ± CZP. ANY LAI included LAI, L + O, and L + P ± CZP. ANY CZP included CZP MON, oral antipsychotic polypharmacy involving clozapine, and LAIA with antipsychotic polypharmacy involving clozapine. The primary end point was readmission rate, measured as a percentage, within 1, 3, and 5 years of discharge. The readmission rate was determined by comparing the number of patients readmitted within 1, 3, or 5 years to the sum of patients readmitted and not readmitted within each time frame. The relative risk of readmission and number needed to treat or harm was calculated for each antipsychotic drug category versus OM. Many patients were readmitted more than 1 time, so each readmission was counted as an event that was not specific to each individual patient. For patients who were readmitted, the secondary end point was mean time to readmission (MTR), measured in days, for each antipsychotic drug category versus OM for 0 to 1 year, >1 to 3 years, and >3 to 5 years of discharge. A 2-sample *t* test assuming unequal variances with a 2-tailed *P* value was used to test for statistical significance. If there were less than 20 data points to analyze in a category, the results were considered statistically unacceptable. Data analysis revealed schizophrenia and schizoaffective disorder to be

**TABLE 2: Readmission rate, all diagnoses**

	OM	POL	POL ± CZP	LAI	L + O	L + P	L + P ± CZP	CZP MON	ANY POL	ANY LAI	ANY CZP
Percentage of patients readmitted: all diagnoses											
0-1 y	67.5	88.2	83.7	52.2	66.7	78.6	80.4	59.2	82.9	62.8	60.8
0-3 y	62.1	73.4	69.3	54.1	60.3	64.6	68.1	49.0	69.0	59.0	51.8
0-5 y	62.0	72.6	68.8	54.4	58.7	67.1	70.5	51.5	69.2	59.5	53.6
Percentage of patients readmitted: schizophrenia											
0-1 y	64.3	88.2	86.2	50.0	81.8	84.2	84.2	54.6	85.7	62.8	57.5
0-3 y	61.3	76.0	72.0	52.1	57.9	74.1	75.9	45.7	73.0	58.7	48.4
0-5 y	61.4	78.2	73.5	51.3	56.5	76.7	78.1	47.9	74.6	58.8	49.2
Percentage of patients readmitted: schizoaffective disorder											
0-1 y	81.4	87.0	79.7	63.0	70.6	75.0	78.3	60.6	79.4	70.2	60.8
0-3 y	74.8	72.3	67.9	60.0	65.2	63.3	67.7	50.0	67.8	63.6	54.1
0-5 y	74.2	71.3	67.2	61.1	65.2	65.6	69.4	53.2	67.7	64.6	55.7
Relative risk of readmission: all diagnoses											
0-1 y	1.00	1.31 <sup>a</sup>	1.24 <sup>a</sup>	0.77 <sup>b</sup>	0.99	1.16	1.19 <sup>a</sup>	0.88	1.23 <sup>a</sup>	0.93	0.90
95% CI		1.21-1.41 <sup>a</sup>	1.14-1.35 <sup>a</sup>	0.63-0.94 <sup>b</sup>	0.79-1.23	0.99-1.37	1.03-1.38 <sup>a</sup>	0.72-1.07	1.14-1.33 <sup>a</sup>	0.82-1.05	0.76-1.06
0-3 y	1.00	1.18 <sup>a</sup>	1.12 <sup>a</sup>	0.87	0.97	1.04	1.10	0.79 <sup>b</sup>	1.11 <sup>a</sup>	0.95	0.83 <sup>b</sup>
95% CI		1.07-1.30 <sup>a</sup>	1.01-1.23 <sup>a</sup>	0.75-1.02	0.78-1.20	0.86-1.25	0.93-1.29	0.64-0.97 <sup>b</sup>	1.02-1.21 <sup>a</sup>	0.85-1.06	0.71-0.98 <sup>b</sup>
0-5 y	1.00	1.17 <sup>a</sup>	1.11 <sup>a</sup>	0.88	0.95	1.08	1.14	0.83	1.12 <sup>a</sup>	0.96	0.86
95% CI		1.07-1.28 <sup>a</sup>	1.01-1.22 <sup>a</sup>	0.76-1.02	0.77-1.17	0.92-1.28	0.98-1.32	0.68-1.01	1.03-1.21 <sup>a</sup>	0.87-1.06	0.74-1.01
Relative risk of readmission: schizophrenia											
0-1 y	1.00	1.37 <sup>a</sup>	1.34 <sup>a</sup>	0.78	1.27	1.31 <sup>a</sup>	1.31 <sup>a</sup>	0.85	1.33 <sup>a</sup>	0.98	0.89
95% CI		1.23-1.53 <sup>a</sup>	1.20-1.50 <sup>a</sup>	0.58-1.03	0.96-1.69	1.07-1.60 <sup>a</sup>	1.07-1.60 <sup>a</sup>	0.62-1.16	1.20-1.47 <sup>a</sup>	0.82-1.16	0.68-1.17
0-3 y	1.00	1.24 <sup>a</sup>	1.17 <sup>a</sup>	0.85	0.94	1.21	1.24	0.74	1.19 <sup>a</sup>	0.96	0.79
95% CI		1.07-1.43 <sup>a</sup>	1.02-1.36 <sup>a</sup>	0.67-1.07	0.64-1.39	0.96-1.53	0.99-1.54	0.54-1.03	1.05-1.35 <sup>a</sup>	0.81-1.13	0.60-1.03
0-5 y	1.00	1.27 <sup>a</sup>	1.20 <sup>a</sup>	0.84	0.92	1.25 <sup>a</sup>	1.27 <sup>a</sup>	0.78	1.21 <sup>a</sup>	0.96	0.80
95% CI		1.12-1.45 <sup>a</sup>	1.05-1.37 <sup>a</sup>	0.66-1.05	0.64-1.33	1.01-1.54 <sup>a</sup>	1.05-1.55 <sup>a</sup>	0.58-1.06	1.08-1.37 <sup>a</sup>	0.82-1.12	0.62-1.04
Relative risk of readmission: schizoaffective disorder											
0-1 y	1.00	1.07	0.98	0.77	0.87	0.92	0.96	0.75 <sup>b</sup>	0.98	0.86	0.75 <sup>b</sup>
95% CI		0.96-1.20	0.86-1.11	0.58-1.04	0.64-1.18	0.71-1.19	0.77-1.20	0.56-0.98 <sup>b</sup>	0.87-1.09	0.73-1.01	0.60-0.94 <sup>b</sup>
0-3 y	1.00	0.97	0.91	0.80	0.87	0.85	0.91	0.67 <sup>b</sup>	0.91	0.85 <sup>b</sup>	0.72 <sup>b</sup>
95% CI		0.84-1.12	0.79-1.05	0.64-1.01	0.64-1.18	0.64-1.12	0.71-1.15	0.50-0.90 <sup>b</sup>	0.80-1.03	0.73-0.99 <sup>b</sup>	0.58-0.90 <sup>b</sup>
0-5 y	1.00	0.96	0.91	0.82	0.88	0.89	0.94	0.72 <sup>b</sup>	0.91	0.87	0.75 <sup>b</sup>
95% CI		0.84-1.11	0.80-1.04	0.66-1.03	0.65-1.19	0.68-1.15	0.75-1.17	0.55-0.94 <sup>b</sup>	0.81-1.03	0.75-1.01	0.61-0.92 <sup>b</sup>
Absolute risk reduction: all diagnoses											
0-1 y	0.0	-20.8	-16.2	15.3	0.81	-11.1	-13.0	8.3	-15.4	4.7	6.7
0-3 y	0.0	-11.3	-7.2	8.1	1.8	-2.5	-6.0	13.2	-6.9	3.1	10.4
0-5 y	0.0	-10.7	-6.8	7.5	3.2	-5.2	-8.6	10.5	-7.2	2.4	8.3
Absolute risk reduction: schizophrenia											
0-1 y	0.0	-23.9	-21.9	14.3	-17.5	-19.9	-19.9	9.8	-21.4	1.5	6.8
0-3 y	0.0	-14.6	-10.7	9.3	3.4	-12.7	-14.5	15.7	-11.6	2.7	12.9
0-5 y	0.0	-16.7	-12.1	10.1	4.9	-15.2	-16.7	13.5	-13.2	2.7	12.2
Absolute risk reduction: schizoaffective disorder											
0-1 y	0.0	-5.7	1.6	18.4	10.7	6.3	3.1	20.7	2.0	11.2	20.5
0-3 y	0.0	2.5	6.9	14.7	9.5	11.4	7.1	24.7	6.9	11.2	20.7
0-5 y	0.0	2.9	6.9	13.0	8.9	8.5	4.7	20.9	6.4	9.5	18.4

**TABLE 2: Readmission rate, all diagnoses (continued)**

	OM	POL	POL ± CZP	LAI	L + O	L + P	L + P ± CZP	CZP MON	ANY POL	ANY LAI	ANY CZP
Number needed to treat/harm: all diagnoses											
0–1 y		–4.8	–6.2	6.5	123.3	–9.0	–7.7	12.0	–6.5	21.3	15.0
0–3 y		–8.9	–13.9	12.4	56.5	–40.0	16.8	7.6	–14.5	32.0	9.7
0–5 y		–9.4	–14.7	13.2	30.9	–19.3	–11.7	9.5	–13.9	41.1	12.0
Number needed to treat/harm: schizophrenia											
0–1 y		–4.2	–4.6	7.0	–5.7	–5.0	–5.0	10.2	–4.7	66.4	14.7
0–3 y		–6.8	–9.3	10.8	29.1	–7.9	–6.9	6.4	–8.6	37.7	7.7
0–5 y		–6.0	–8.3	9.9	20.4	–6.6	–6.0	7.4	–7.6	37.7	8.2
Number needed to treat/harm: schizoaffective disorder											
0–1 y		–17.5	62.0	5.5	9.3	15.8	32.7	4.8	50.6	9.0	4.9
0–3 y		40.9	14.6	6.8	10.5	8.8	14.1	4.0	14.5	9.0	4.8
0–5 y		35.1	14.5	7.7	11.2	11.8	21.4	4.8	15.6	10.5	5.4

ANY CZP = clozapine monotherapy, oral antipsychotic polypharmacy involving clozapine, and long-acting injectable antipsychotic (LAIA) with antipsychotic polypharmacy involving clozapine; ANY LAI = LAI, LAIA with same drug oral therapy, and LAIA with any antipsychotic polypharmacy; ANY POL = any oral antipsychotic polypharmacy and LAIA with any antipsychotic polypharmacy; CI = confidence interval; CZP MON = clozapine monotherapy; LAI = LAIA monotherapy; L + O = LAIA with same drug oral therapy; L + P = LAIA with antipsychotic polypharmacy, excluding clozapine regimens; L + P ± CZP = LAIA with any antipsychotic polypharmacy; OM = oral antipsychotic monotherapy; POL = oral antipsychotic polypharmacy, excluding clozapine regimens; POL ± CZP = any oral antipsychotic polypharmacy.

<sup>a</sup>Statistically significant disadvantage.

<sup>b</sup>Statistically significant advantage.

the most common diagnoses, so a subgroup analysis of those diagnoses was performed.

## Results

### Patient Characteristics

A total of 1088 patient charts were reviewed, resulting in 2031 patient discharges associated with antipsychotic drugs. Of these, 1258 patient discharges resulted in readmission, and 773 were not readmitted within 1, 3, or 5 years of discharge, providing an overall readmission rate of 62%. Discharge diagnoses included 797 patients with schizophrenia, 685 with schizoaffective disorder, 329 with bipolar disorder, 180 with psychotic disorder NOS, 29 with mood disorder NOS, 10 with delusional disorder, and 1 with schizophreniform disorder.

### Readmission Rate

#### All Diagnoses

Percentage readmitted, relative risk of readmission, absolute risk reduction, and number needed to treat for each time point are outlined in Table 2. Within 1 year of discharge, patients discharged on LAI demonstrated significantly lower readmission rates than patients discharged on OM. Patients discharged on POL, POL ± CZP, L + P ± CZP, or ANY POL exhibited significantly higher readmission rates than patients discharged on OM.

Although not statistically significant, CZP MON and ANY CZP demonstrated lower readmissions, and L + P exhibited higher readmissions versus OM.

Within 3 years of discharge, patients discharged on CZP MON or ANY CZP demonstrated significantly lower readmission rates than patients discharged on OM. Patients discharged on POL, POL ± CZP, or ANY POL exhibited significantly higher readmission rates than patients discharged on OM. LAI demonstrated a nonsignificant advantage versus OM.

Within 5 years of discharge, patients discharged on POL, POL ± CZP, or ANY POL demonstrated significantly higher readmission rates than patients discharged on OM. Although not statistically significant, LAI, CZP, and ANY CZP demonstrated an advantage and L + P ± CZP exhibited a disadvantage versus OM.

In terms of readmission rate, LAI and clozapine generally appeared to have an advantage over OM, and polypharmacy regimens appeared to be at a disadvantage to OM.

#### Schizophrenia

The subgroup analysis of schizophrenia revealed patients discharged on POL, POL ± CZP, or ANY POL exhibited significantly higher readmission rates versus patients discharged on OM for all time points. Patients discharged on L + P or L + P ± CZP exhibited significantly higher readmission rates within 1 year and 5 years of discharge and a nonsignificant disadvantage within 3 years of discharge. LAI, CZP MON, and ANY CZP demonstrated nonsignificant advantages versus OM (Table 2).

### *Schizoaffective Disorder*

The subgroup analysis of schizoaffective disorder revealed patients discharged on CZP MON or ANY CZP demonstrated significantly lower readmission rates versus patients discharged on OM for all time points. Patients discharged on ANY LAI demonstrated significantly lower readmission rates within 3 years of discharge and a nonsignificant advantage within 1- and 5-year time frames. Although not statistically significant, LAI and L+O demonstrated an advantage (Table 2).

## **For Patients Who Were Readmitted: MTR**

### *All Diagnoses*

The data for MTR is outlined in Table 3. For patients readmitted within 1 year of discharge, patients discharged on L+P or L+P ± CZP had a significantly longer MTR than patients discharged on OM ( $P=.047$ ,  $P=.036$ ). Patients discharged on CZP MON or ANY CZP had a significantly shorter MTR than patients discharged on OM ( $P=.0025$ ,  $P=.032$ ). There were no statistically significant differences in MTR for time frames of >1 to 3 or >3 to 5 years, which is likely attributed to smaller sample sizes.

### *Schizophrenia*

There were no statistically significant differences in MTR for the subgroup analysis of schizophrenia (Table 3).

### *Schizoaffective Disorder*

Patients discharged on CZP MON or ANY CZP had a significantly shorter MTR than patients discharged on OM within 1 year of discharge ( $P < .01$ ,  $P=.02$ ). There were no statistically significant differences in MTR for time frames of >1 to 3 or >3 to 5 years, which is likely attributed to smaller sample sizes (Table 3).

## **Discussion**

Long-acting injectable monotherapy generally demonstrated lower readmission rates than OM, but statistical significance was only achieved for all diagnoses within 1 year of discharge. The MTR for patients discharged on LAI was similar to the MTR for patients discharged on OM. Overall, it appears that patients discharged on LAI are less likely to be readmitted, and if they are readmitted, the MTR is generally similar to patients discharged on OM. One potential explanation for the benefit seen could be the simplicity of the medication regimen leading to increased adherence.

CZP MON and ANY CZP generally demonstrated an advantage over OM, and statistical significance was achieved for all diagnoses within the 3-year time point and for every time point in the subgroup analysis of schizoaffective disorder. However, MTR for patients discharged on CZP MON or ANY CZP was similar to or shorter than the MTR for patients discharged on OM. It appears that patients discharged on clozapine are less

likely to be readmitted, but if they are readmitted, it is generally sooner than if they were discharged on OM. The lower readmission rate could reflect clozapine's efficacy in treatment-resistant schizophrenia.<sup>6</sup> The shorter MTR could be related to a number of factors, such as disease severity, insufficient discharge planning with respect to clozapine services in the community, difficulty in keeping lab appointments, or a drop in clozapine levels secondary to resumption of smoking upon discharge.

Antipsychotic polypharmacy regimens generally exhibited a disadvantage to OM. Statistical significance was achieved for several of the polypharmacy categories in all diagnoses and the subgroup analysis of schizophrenia but not in the subgroup analysis of schizoaffective disorder. The MTR for patients discharged on antipsychotic polypharmacy was similar to the MTR for patients discharged on OM, except for L+P or L+P ± CZP within 1 year of discharge. It appears that patients discharged on polypharmacy are more likely to be readmitted, and if they are readmitted, the MTR tends to be similar to patients discharged on OM. Possible explanations for these results could be difficulty adhering to complicated medication regimens, increased incidence of adverse effects, or greater severity of illness.

## **Strengths**

One of the strengths of this retrospective chart review was the large data pool, which provided the ability to compare a variety of antipsychotic drug categories across several time frames, permitted assessment of long-term outcomes, and allowed for subgroup analysis of the most common disease states. Additionally, admission records were available for Oregon State Hospital and several surrounding hospitals, which allowed for greater ability to capture rehospitalizations.

## **Limitations**

This chart review also has several limitations. An in-depth analysis of baseline patient characteristics was not performed, and there was not an equal representation of each discharge diagnosis in the data set. There was no way to ensure the antipsychotic was not changed after the patient was discharged. A number of variables that are not addressed by this review could have an impact on readmission data, including comorbid psychiatric disorders, the use of mood stabilizers, quality of discharge planning, and availability of mental health providers and services in the community. This review was performed at a single hospital in Oregon with civil and forensic patient populations, so there is limited confidence in extrapolation to other populations.

**TABLE 3: Mean time to readmission in days**

	OM	POL	POL ± CZP	LAI	L + O	L + P	L + P ± CZP	CZP MON	ANY POL	ANY LAI	ANY CZP
Mean time to readmission in days: all diagnoses											
0–1 y											
MTR	137	139	140	132	127	172 <sup>a</sup>	172 <sup>a</sup>	91 <sup>b</sup>	148	144	108 <sup>b</sup>
n	610	105	118	48	28	33	37	42	155	113	59
1–3 y											
MTR	614	634	639	630	631	694	705	616	654	648	662
n	195	33	40	32	7	9	12	5	52	51	15
3–5 y											
MTR	1394	1399	1421	1326	1332	1566	1572	1581	1459	1432	1588
n	47	16	18	6	2	5	6	5	24	14	8
Mean time to readmission in days: schizophrenia											
0–1 y											
MTR	140	138	140	160	108	155	155	100	143	149	111
n	229	45	50	24	9	16	16	18	66	49	23
1–3 y											
MTR	614	592	590	584	683	691	725	616	627	631	665
n	66	15	16	14	2	4	6	3	22	22	6
3–5 y											
MTR	1397	1436	1446	1471	1332	1584	1584	1662	1481	1481	1617
n	22	8	9	1	2	3	3	2	12	6	3
Mean time to readmission in days: schizoaffective disorder											
0–1 y											
MTR	136	141	142	117	149	178	176	66 <sup>b</sup>	150	148	95 <sup>b</sup>
n	210	47	55	17	12	15	18	20	73	47	31
1–3 y											
MTR	623	671	674	640	664	670	660	616	671	649	660
n	75	13	19	13	3	4	5	2	24	21	9
3–5 y											
MTR	1363	1343	1384	1274	0	1539	1539	1527	1415	1380	1563
n	14	7	8	3	0	2	2	3	10	5	4

ANY CZP = clozapine monotherapy, oral antipsychotic polypharmacy involving clozapine, and long-acting injectable antipsychotic (LAIA) with antipsychotic polypharmacy involving clozapine; ANY LAI = LAI, LAIA with same drug oral therapy, and LAIA with any antipsychotic polypharmacy; ANY POL = any oral antipsychotic polypharmacy and LAIA with any antipsychotic polypharmacy; CZP MON = clozapine monotherapy; LAI = LAIA monotherapy; L + O = LAIA with same drug oral therapy; L + P = LAIA with antipsychotic polypharmacy, excluding clozapine regimens; L + P ± CZP = LAIA with any antipsychotic polypharmacy; MTR = mean time to readmission in days; n = number of patients readmitted in each time period; OM = oral antipsychotic monotherapy; POL = oral antipsychotic polypharmacy, excluding clozapine regimens; POL ± CZP = any oral antipsychotic polypharmacy.

<sup>a</sup>Statistically significant advantage.

<sup>b</sup>Statistically significant disadvantage.

## Conclusion

At Oregon State Hospital, patients discharged on LAI or clozapine were less likely to be readmitted, but statistical significance for this finding varied across time frames and subgroup analyses. Patients discharged on antipsychotic polypharmacy regimens were more likely to be readmitted, and statistical significance of this finding was fairly consistent for all diagnoses and the subgroup analysis of schizophrenia but not for the subgroup analysis of schizoaffective disorder. For mean time to readmission, the most notable finding was a significantly shorter MTR

for clozapine versus oral monotherapy. These results are only a reflection of the patient population at this hospital, and additional reviews at other facilities with different patient characteristics could clarify the applicability to other populations.

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