Measuring First Episode Psychosis (FEP) Incidence in Vermont in 2023

Fiscal Year 2025

Vermont Child Health Improvement Program (VCHIP),
Department of Pediatrics, Larner College of Medicine,
University of Vermont

In partnership with Vermont Department of Mental Health

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DISCLAIMER: The Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) data are under the stewardship of the Green Mountain Care Board (GMCB). The analyses, conclusions, and recommendations from the VHCURES data are solely those of the study authors and are not necessarily those of the GMCB. The GMCB had no input into the study design, implementation, or interpretation of the findings.

FEP Incidence = *# new psychosis diagnoses*

$$\textbf{FEP Incidence Rate} = \frac{\#\ new\ psychosis\ diagnoses}{total\ population/100{,}000}\ each\ year$$

Time Period: Calendar year 2023, with 12 year (2010-2022) lookback for prior diagnoses

Data Source: Vermont's all-payer claims database 2010-2023

Vermont Health Care Uniform Reporting and Evaluation System (VHCURES)

~75% of insured Vermonters (60% commercially insured and 100% Medicaid/Medicare)

First Episode Psychosis Definition (Psychosis Diagnoses)

- **Department of Mental Health definition 1 includes all psychosis categories**
- **Department of Mental Health definition 2 excludes affective psychoses (bottom row)**

Psychosis Category	ICD-10-Codes	Example Mental Disorders
Schizophrenia Spectrum Disorders	F20.0-F20.9	Paranoid schizophrenia Schizophrenia, unspecified
Other Psychotic Disorders	F21-F25 F28, F29	Schizoaffective disorder, unspecified Unspecified psychosis not due to substance use
Affective Psychoses	F30.2, F31.2, F31.5, F31.64, F32.3, F33.3	Major depressive disorder, with psychotic features

EXCLUDED: Substance-induced psychoses, psychoses due to physiologic condition.

REFERENCE: Radigan M, Gu G, Frimpong EY, et al. A new method for estimating incidence of first psychotic diagnosis in a Medicaid population. Psychiatric Services, 2019;70(8): 665-673. doi:10.1176/appi.ps.201900033

Incidence of First Episode Psychosis (FEP), by Various Age Ranges

Vermont Department of Mental Health Definitions 1 and 2

Age Groups	Total in VHCURES (~75% of Vermont population)	DMH Definition 1[1] N	DMH Definition 1[1] %	DMH Definition 1[1] Rate (per 100,000/yr)	DMH Definition 2[2] N	DMH Definition 2[2] %	DMH Definition 2[2] Rate (per 100,000/yr)
Unique eligible* people in VHCURES aged 14-55	239,099	734	0.31%	307	597	0.25%	250
Unique eligible* people in VHCURES aged 14-45	184,997	621	0.34%	336	508	0.27%	275
Unique eligible* people in VHCURES aged 14-35	125,902	423	0.34%	336	344	0.27%	273
Unique eligible* people in VHCURES aged 14-25	67,850	216	0.32%	318	158	0.23%	233

Notes: VHCURES=Vermont Health Care Uniform Reporting and Evaluation System.

*Eligible patients are those that had health insurance in 2023 in the VHCURES database and had consistent age and at least one Vermont ZIP Code for the year.

Incident diagnoses in 2023 were identified by ensuring no previous diagnoses were made within twelve years (2010-2022) leading up to 2023.

1. DMH (Department of Mental Health) definition 1 includes affective psychoses (Manic, Bipolar, and Major Depression with psychotic features diagnoses) but removes psychosis due to known physiological condition diagnoses.
2. DMH definition 2 removes affective psychoses (Manic, Bipolar, Major Depression with psychotic features diagnoses) and psychosis due to known physiological condition diagnoses.

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Incidence of First Episode Psychosis (FEP), by 10 Year Age Groupings
Vermont Department of Mental Health Definitions 1 and 2

Age Groups	Total in VHCURES (~75% of Vermont population)	DMH Definition 1[1] N	DMH Definition 1[1] %	DMH Definition 1[1] Rate (per 100,000/yr)	DMH Definition 2[2] N	DMH Definition 2[2] %	DMH Definition 2[2] Rate (per 100,000/yr)
Unique eligible* people in VHCURES aged 14-24	61,689	195	0.32%	316	141	0.23%	229
Unique eligible* people in VHCURES aged 25-34	58,021	213	0.37%	367	189	0.33%	326
Unique eligible* people in VHCURES aged 35-44	59,866	197	0.33%	329	165	0.28%	276
Unique eligible* people in VHCURES aged 45-55	59,523	129	0.22%	217	102	0.17%	171
Total	239,099	734	0.31%	307	597	0.25%	250

Notes: VHCURES=Vermont Health Care Uniform Reporting and Evaluation System.

*Eligible patients are those that had health insurance in 2023 in the VHCURES database and had consistent age and at least one Vermont ZIP Code for the year.

Incident diagnoses in 2023 were identified by ensuring no previous diagnoses were made within twelve years (2010-2022) leading up to 2023.

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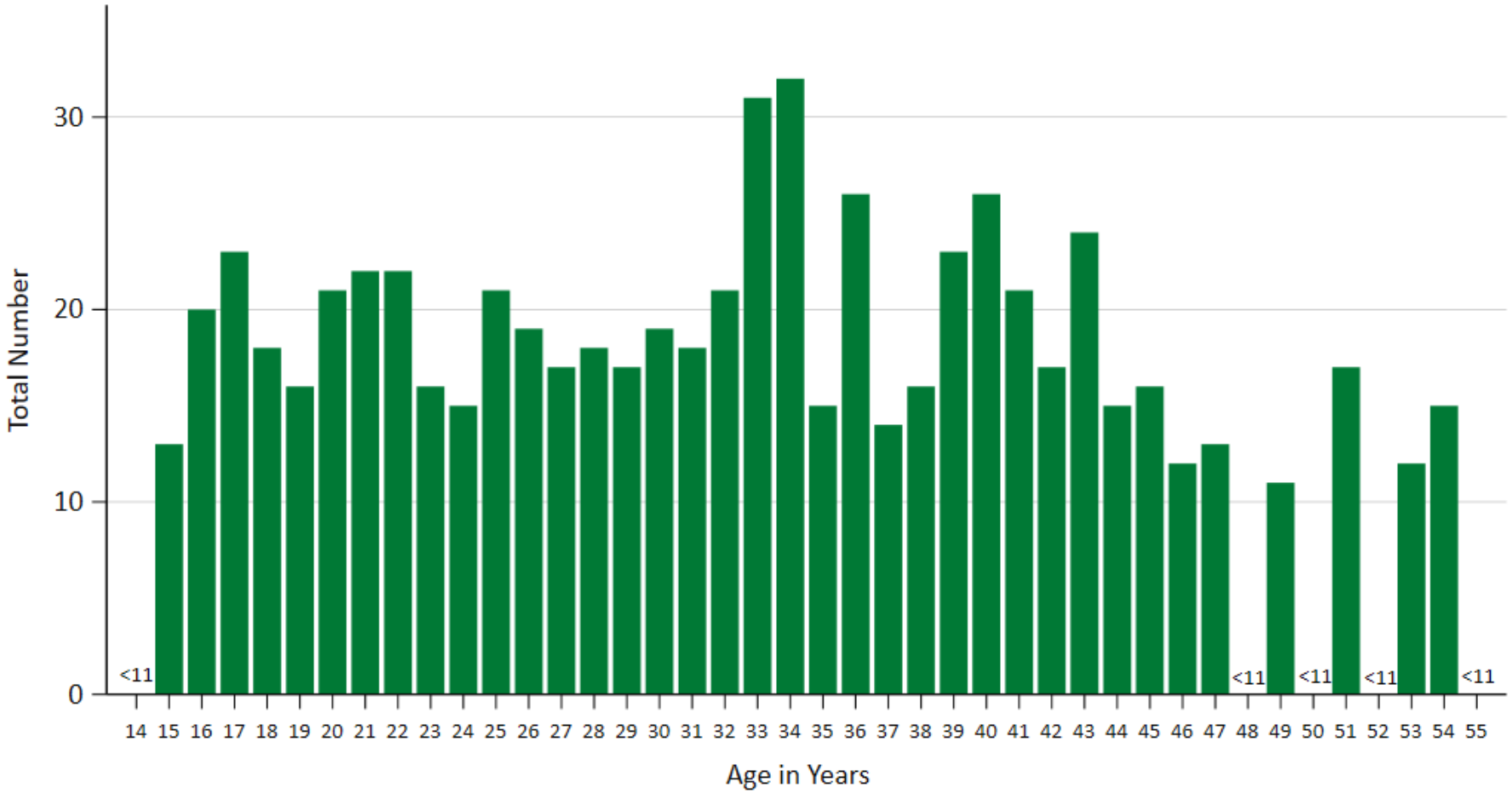
2. DMH definition 2 removes affective psychoses (Manic, Bipolar, Major Depression with psychotic features diagnoses) and psychosis due to known physiological condition diagnoses.

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Age at First Episode of Psychosis in 2023

Department of Mental Health Definition 1: Includes affective psychoses.

Figure 1: Age at First Episode of Psychosis, 2023

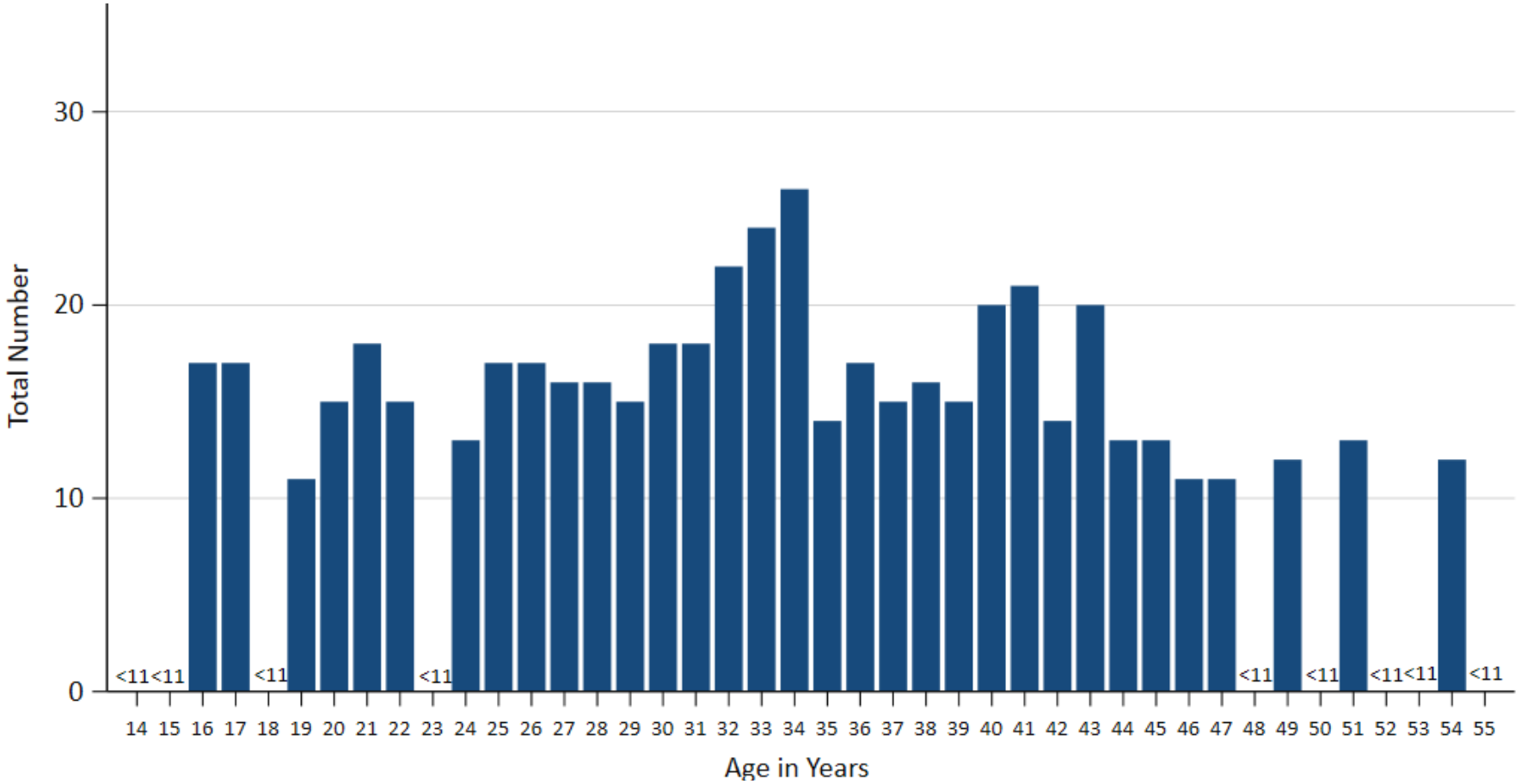


Patient age determined by maximum age in eligibility records in 2023.
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SOURCE: VHCURES Extract #3011

Age at First Episode of Psychosis in 2023

Department of Mental Health Definition 2: Excludes affective psychoses.

Figure 2: Age at First Episode of Psychosis, 2023



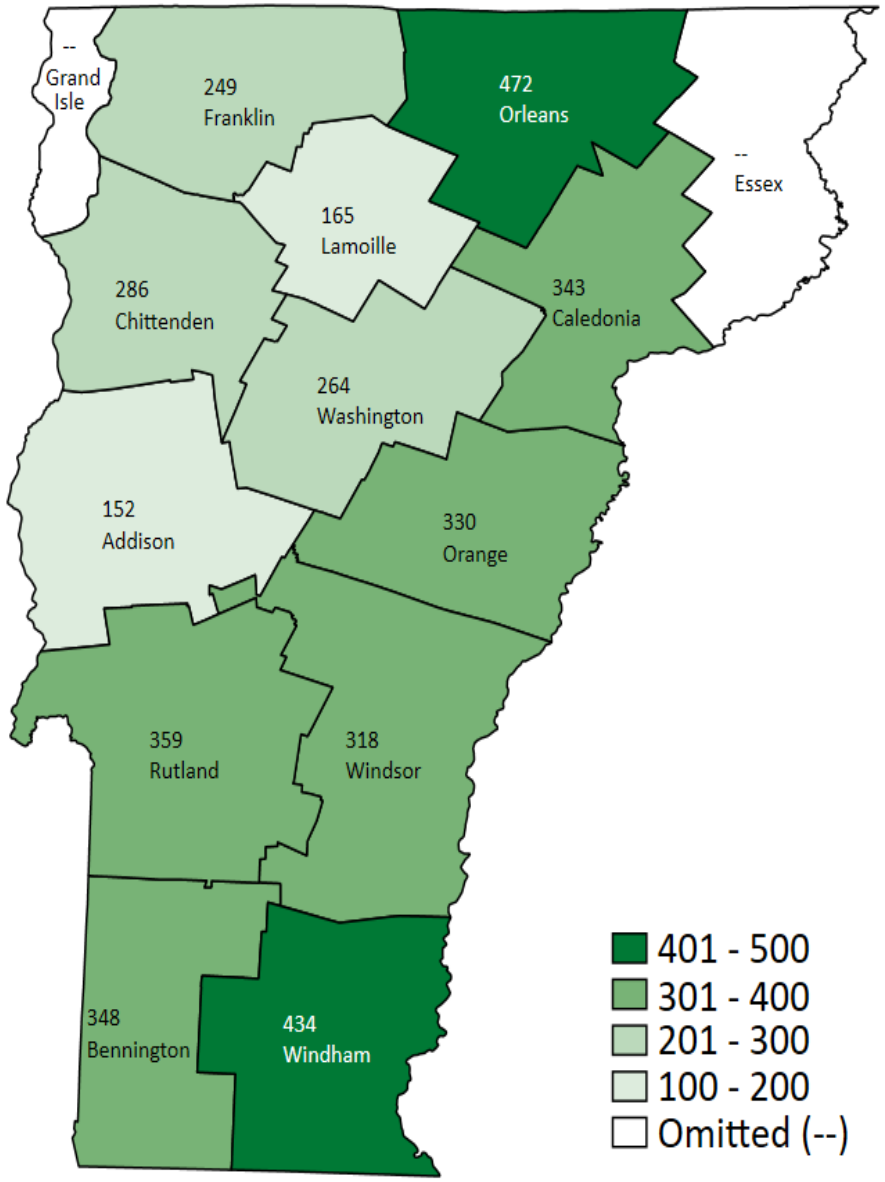
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First Episode Psychosis (FEP) by County

Rate per 100,000 people

Department of Mental Health Definition 1 includes affective psychoses

Figure 3: First Episode Psychosis Rate per 100,000 People, 2023
Ages 14 to 55



Patient county determined by the first VT ZIP Code in the patient eligibility record in 2023.
DMH 1 definition of Psychosis includes Manic, Bipolar, and Major Depression with psychotic features diagnoses, but removes psychosis due to known physiological condition diagnoses.
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SOURCE: VHCURES Extract #3011

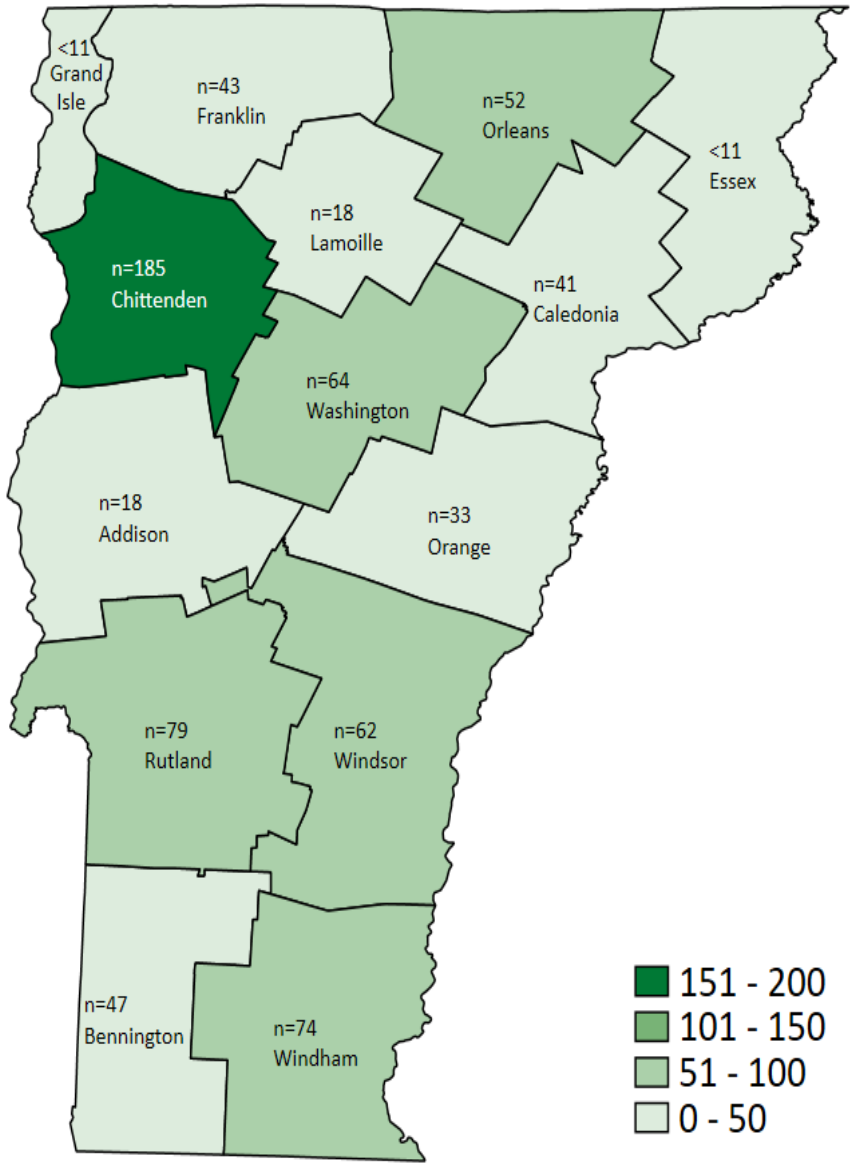
Key Findings

- In Vermont overall, the First Episode Psychosis rate was 307 per 100,000 people.
- The rate in Addison county (152 per 100,000 people) was significantly **lower** than the overall Vermont rate ($p<0.05$).
- The rate in Orleans county (472 per 100,000 people) was significantly **higher** rate than the overall Vermont rate ($p<0.05$).

First Episode Psychosis (FEP) by County

Department of Mental Health Definition 1 includes affective psychoses

Figure 4: Number of People with First Episode Psychosis, 2023
Ages 14 to 55



Patient county determined by the first VT ZIP Code in the patient eligibility record in 2023.
DMH 1 definition of Psychosis includes Manic, Bipolar, and Major Depression with psychotic features diagnoses, but removes psychosis due to known physiological condition diagnoses.
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SOURCE: VHCURES Extract #3011

Key Findings

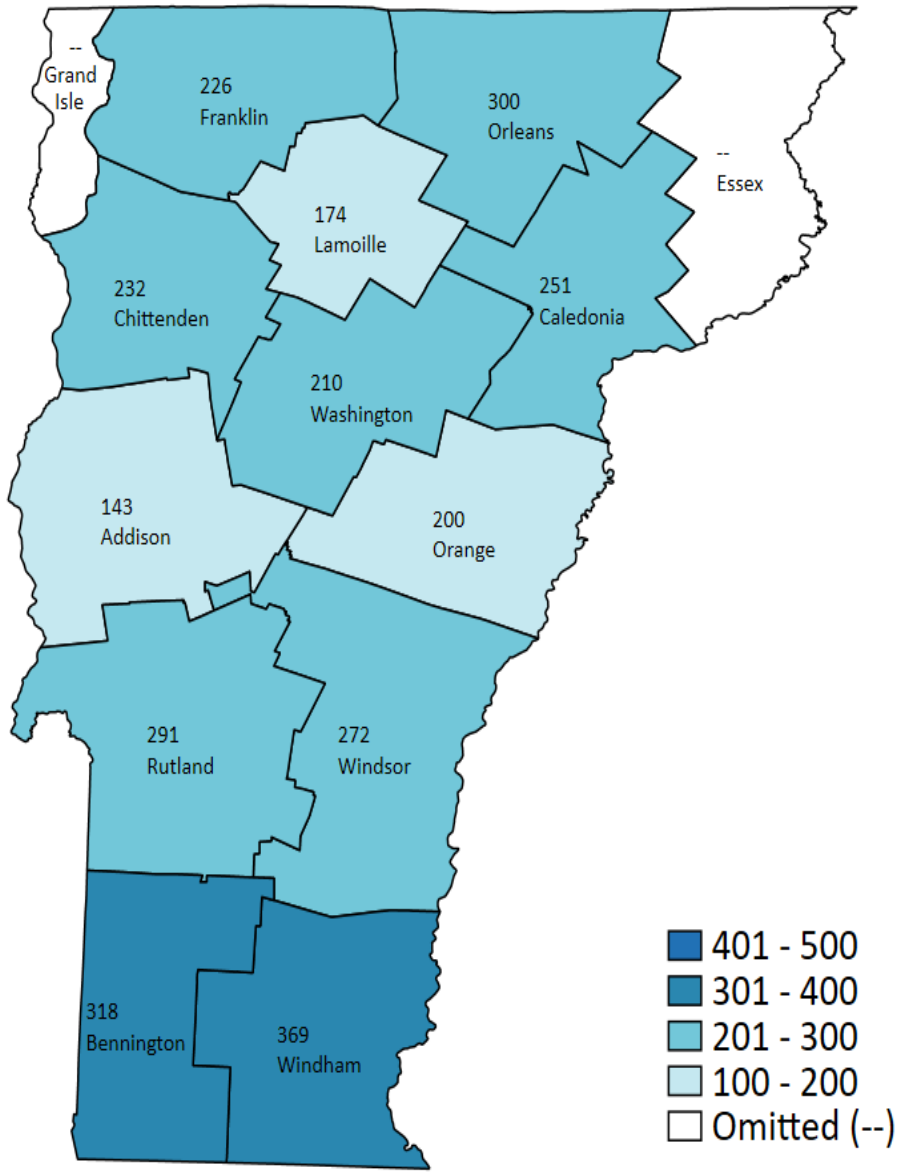
- Overall, 734 people had an FEP diagnosis in 2023.
- Chittenden county had the highest number of people with FEP diagnoses in 2023 (185 people).
- 8 out of 14 counties had fewer than 50 people, aged 14-55 years, with FEP.

First Episode Psychosis (FEP) by County

Rate per 100,000 people

Department of Mental Health Definition 2 excludes affective psychoses

Figure 5: First Episode Psychosis Rate per 100,000 People, 2023 Ages 14 to 55



Patient county determined by the first VT ZIP Code in the patient eligibility record in 2023.
DMH 2 definition of Psychosis removes Manic, Bipolar, Major Depression with psychotic features diagnoses, and psychosis due to known physiological condition diagnoses.
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SOURCE: VHCURES Extract #3011

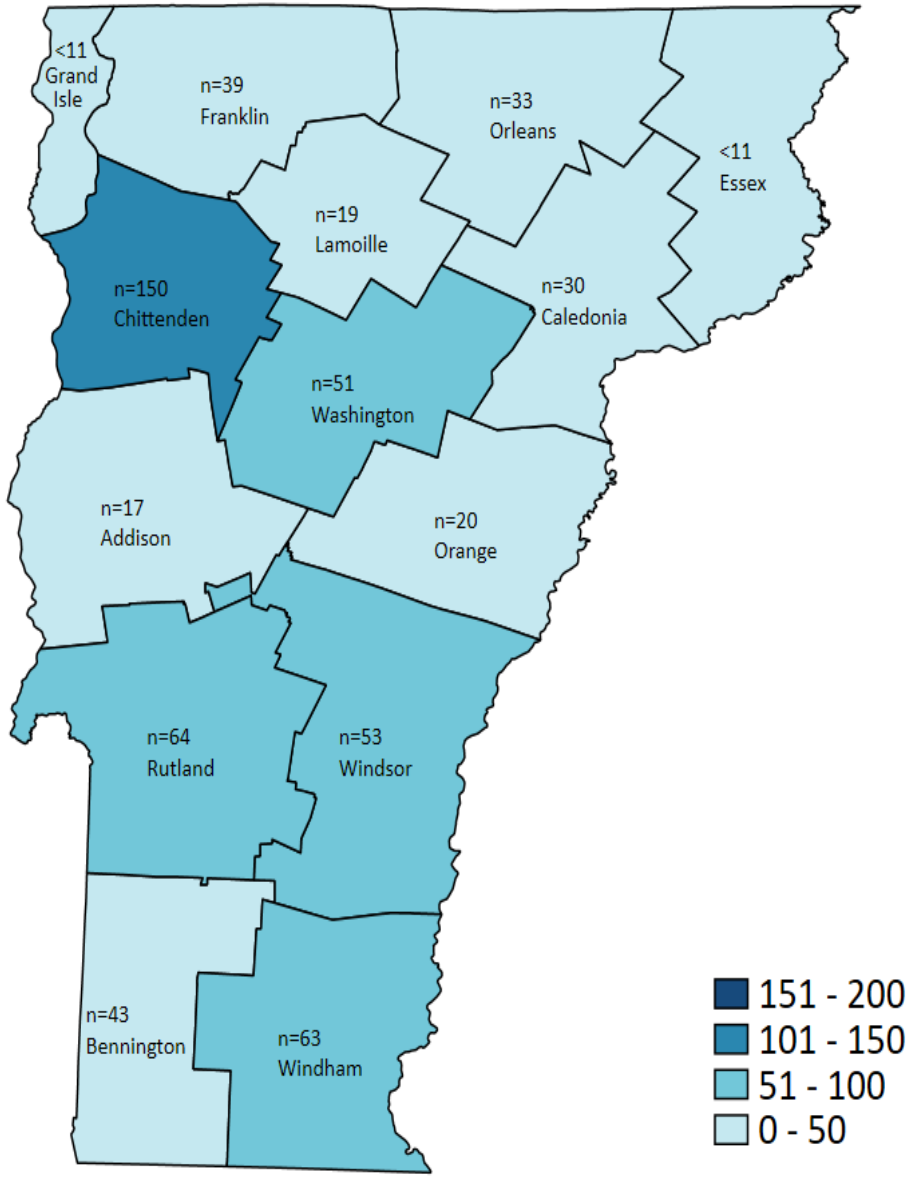
Key Findings

- In Vermont, the First Episode Psychosis rate was 250 per 100,000 people.
- The rate in Windham county (369 per 100,000 people) was significantly **higher** than the overall Vermont rate ($p<0.05$).

First Episode Psychosis (FEP) by County

Department of Mental Health Definition 2 excludes affective psychoses

Figure 6: Number of People with First Episode Psychosis, 2023
Ages 14 to 55



Patient county determined by the first VT ZIP Code in the patient eligibility record in 2023.
DMH 2 definition of Psychosis removes Manic, Bipolar, Major Depression with psychotic features diagnoses, and psychosis due to known physiological condition diagnoses.
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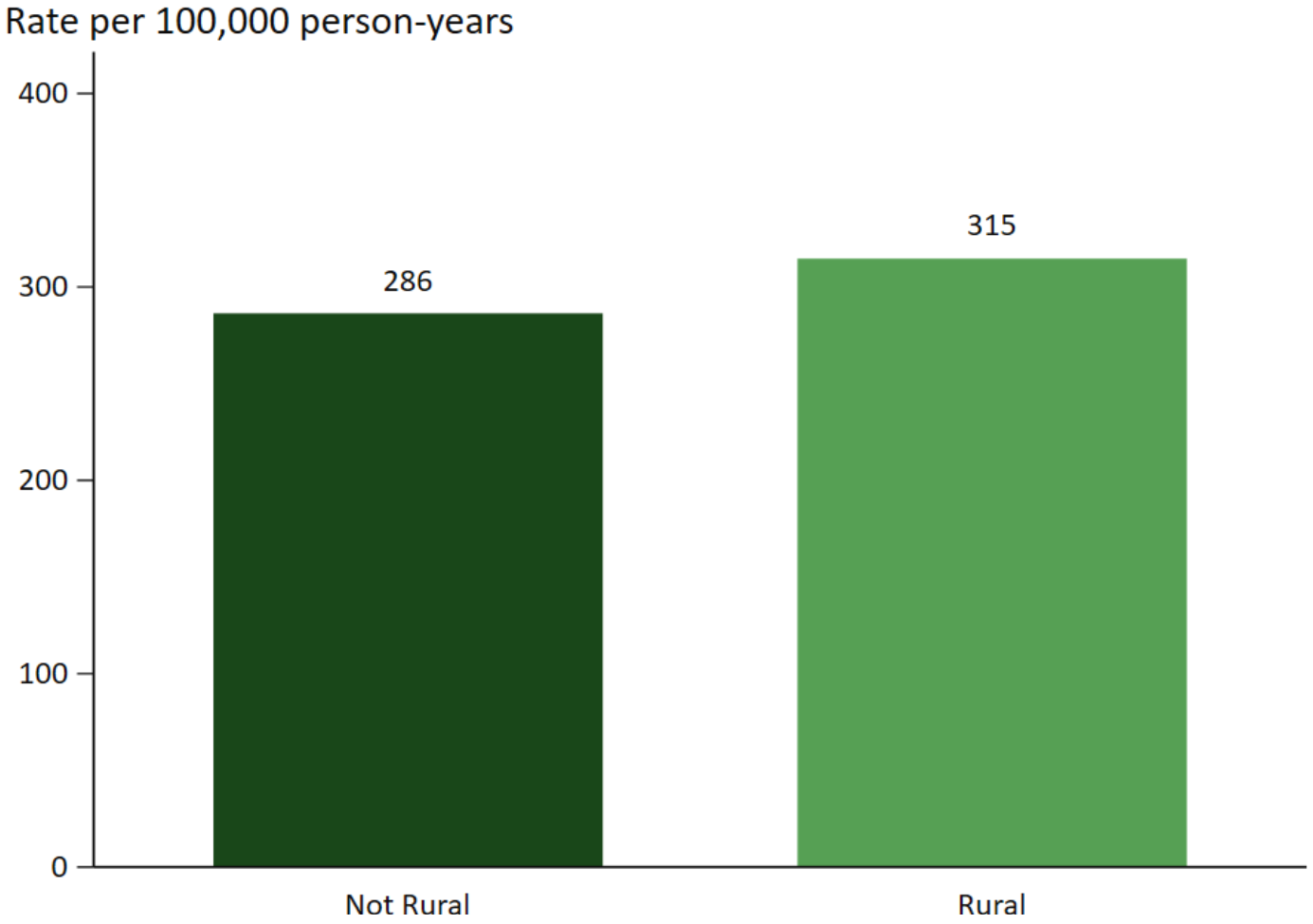
Key Findings

- Overall, 597 people had an FEP diagnosis in 2023.
- Chittenden county had the highest number of people with FEP diagnoses in 2023 (150 people)
- 9 out of 14 counties had fewer than 50 people with FEP.

Rate of First Episode Psychosis by Rurality

Department of Mental Health Definition 1: Includes affective psychoses.

Figure 7: Rate of First Episode Psychosis Diagnosis by Rurality, 2023



Rurality definition from the Federal Office of Rural Health Policy
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Key Findings

- The rate of FEP in rural areas is not significantly different than the rate in non-rural areas.

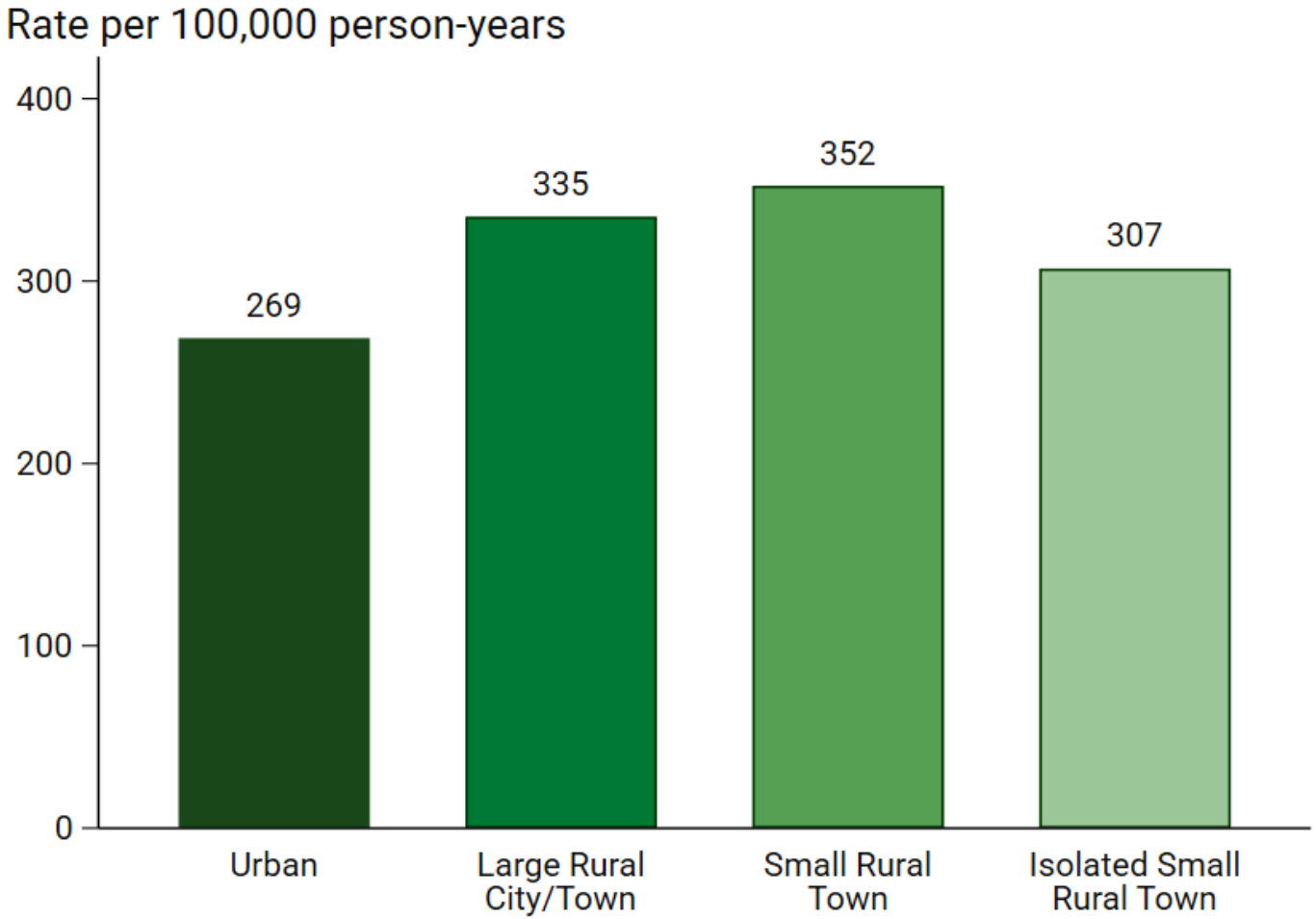
Note: Vermont counties were designated as Rural or Not Rural based on a designation by the Office of Management and Budget definition of metropolitan areas. Chittenden county is the only not rural county in Vermont.

U.S. Census Bureau, 2020. Metropolitan and Micropolitan Statistical Area Reference Files. Accessed: March 24, 2021. https://www.census.gov/programs-surveys/metro-micro/geographies/geographic-reference-files.2020.html

Rate of First Episode Psychosis by Rurality (Rural-Urban Commuting Area)

Department of Mental Health Definition 1: Includes affective psychoses.

Figure 8: Rate of First Episode Psychosis Diagnosis by Rurality, 2023



Key Findings

- The difference in rates between Urban and Small Rural Town was significant (p=.009).
- Although there was a significant difference in the rate by rurality using the Rural-Urban Commuting Area definition, correction for multiple comparisons (Bonferroni reduced p-value of .008) may suggest the difference was by chance alone.

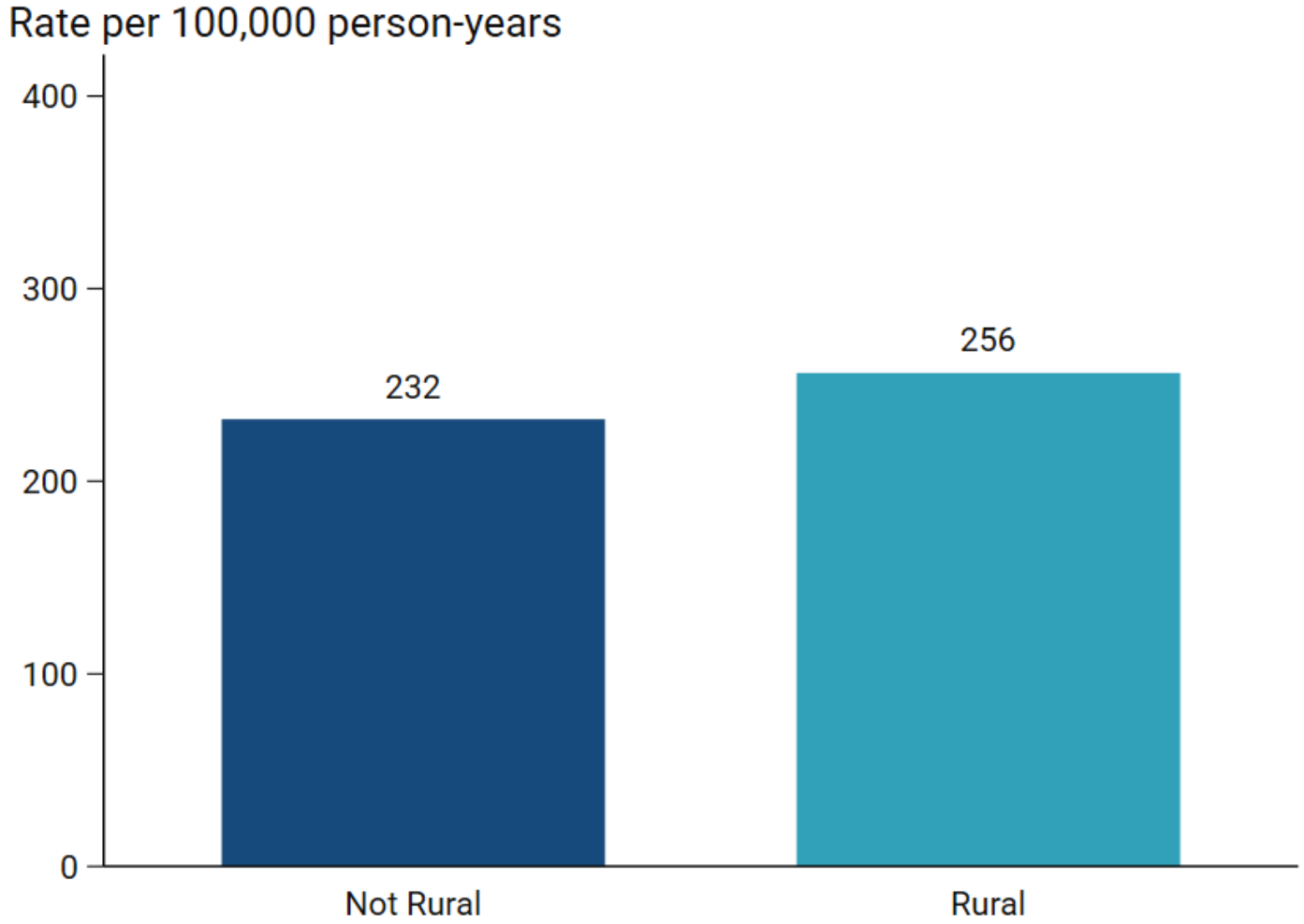
Find more information about RUCA here: https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes

Rurality-RUCA: USDA Economic Research Service classification system based on both population density and daily commuting within or to urbanized areas into 10 categories.
We use a four-tier consolidation (urban, large rural city/town, small rural town, isolated small rural town) of the original RUCA classification to aid interpretability.
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Rate of First Episode Psychosis by Rurality (HRSA)

Department of Mental Health Definition 2: Excludes affective psychoses.

Figure 9: Rate of First Episode Psychosis Diagnosis by Rurality, 2023



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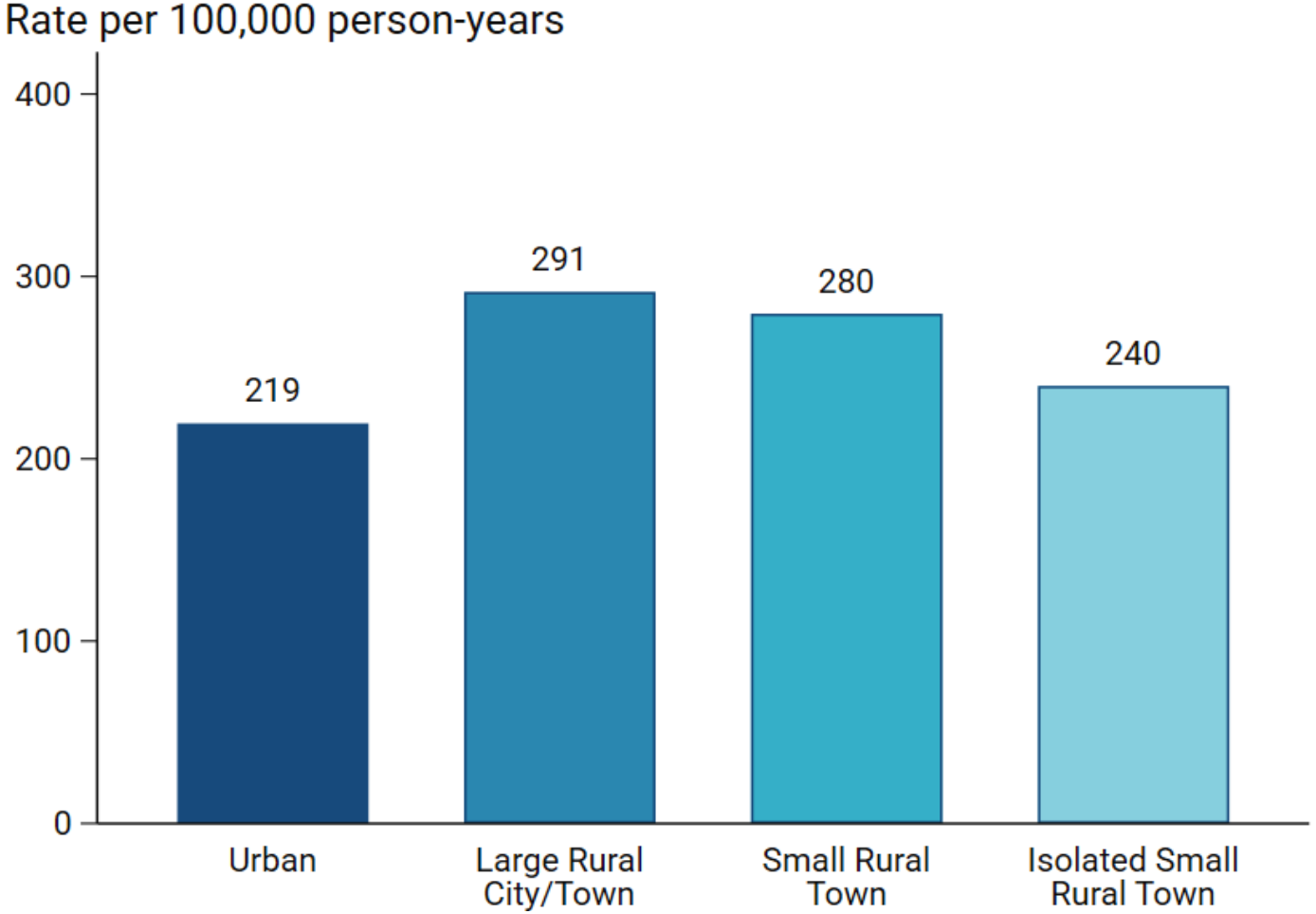
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U.S. Census Bureau, 2020. Metropolitan and Micropolitan Statistical Area Reference Files. Accessed: March 24, 2021. https://www.census.gov/programs-surveys/metro-micro/geographies/geographic-reference-files.2020.html

Rate of First Episode Psychosis by Rurality (Rural-Urban Commuting Area)

Department of Mental Health Definition 2: Excludes affective psychoses.

Figure 10: Rate of First Episode Psychosis Diagnosis by Rurality, 2023



Key Findings

- The difference in rates between Urban and Large Rural City/Town was significant (p=.012).
- Although there was a significant difference in the rate by rurality using the Rural-Urban Commuting Area definition, correction for multiple comparisons (Bonferroni reduced p-value of .008) may suggest the difference was by chance alone.

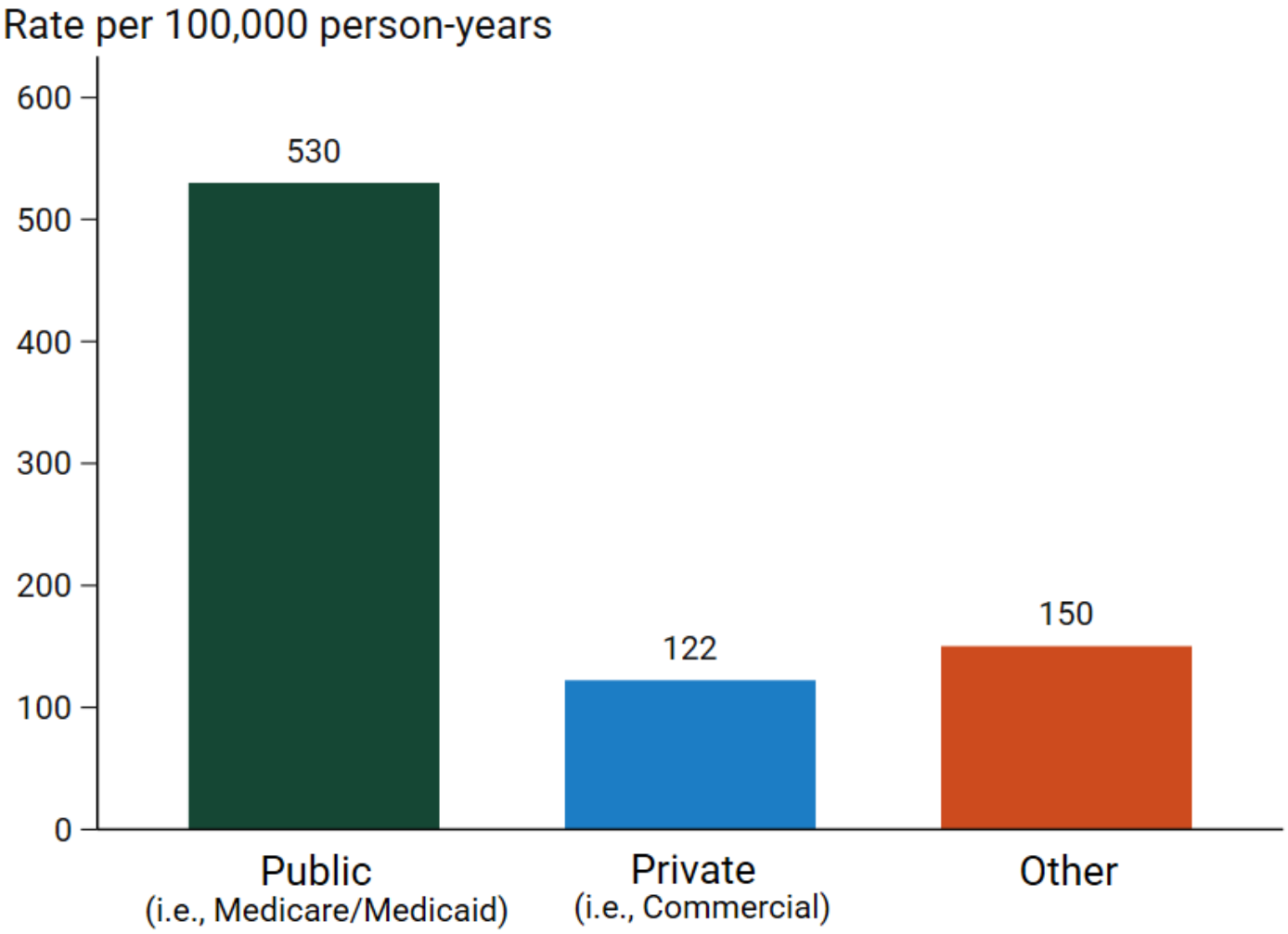
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First Episode Psychosis (FEP) Diagnosis by Insurance

Department of Mental Health Definition 1: Includes affective psychoses.

Figure 11: Rate of First Episode Psychosis Diagnosis by Insurance, 2023



Other includes indemnity insurance, Liability insurance, supplemental policies, and self-pay.
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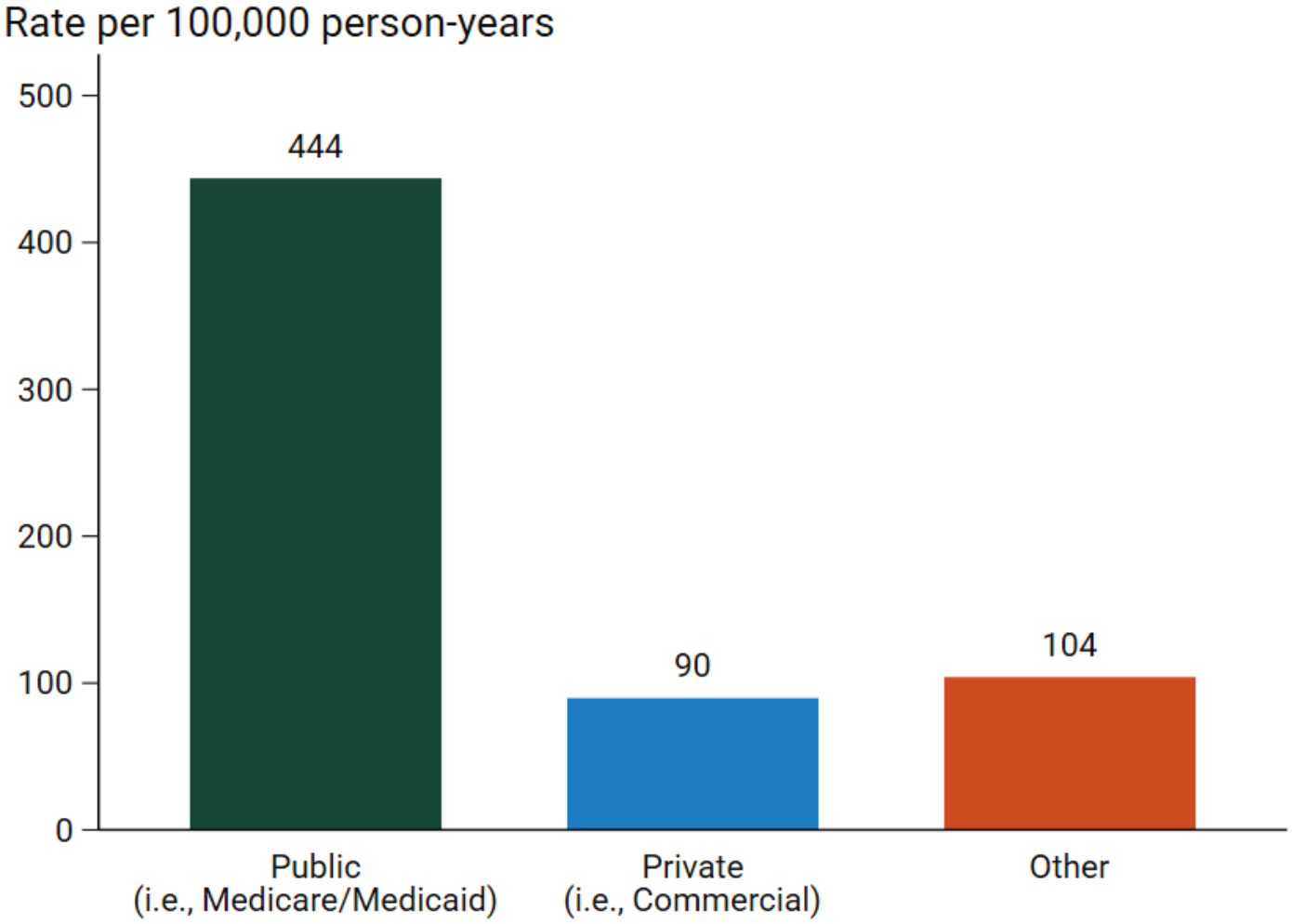
Key Findings

- FEP rate varied by patient insurance coverage.
- The FEP rate was **higher** for those with public insurance than for private or other types of insurance.
- The rates for private and other insurance types did not differ.

First Episode Psychosis (FEP) Diagnosis by Insurance

Department of Mental Health Definition 2: Excludes affective psychoses.

Figure 12: Rate of First Episode Psychosis Diagnosis by Insurance, 2023



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Prepared by VCHIP Health Services Research Team

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