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Abstract

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- Tom Corbeil: Methodology, Validation, Formal analysis, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization

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Objectives: People with severe mental illness (SMI) are ten times more likely to have HIV/AIDS than the general population, yet little is known about the characteristics and frequency of recognition of pre-existing HIV/AIDS diagnoses among inpatients with SMI. This study examines documentation rates of pre-existing HIV/AIDS among inpatients within psychiatric hospitals in New York State.

Design: Retrospective cohort study to examine recognition of pre-existing HIV/AIDS among psychiatric inpatients.

Methods: Patient-level Medicaid claims records were linked with hospital and regional data for people admitted to psychiatric inpatient units in New York State. Presence of HIV/AIDS diagnoses prior to psychiatric hospitalization was coded for each inpatient (n=14,602). Adjusted odds ratios (aORs) of undocumented HIV/AIDS diagnoses at the time of discharge were calculated using logistic regression analyses.

Results: 5.1% (741/14,602) of unique psychiatric inpatients had pre-existing HIV/AIDS diagnoses. Of these inpatients, 58.3% (432/741) were not coded as having HIV/AIDS upon discharge. Higher rates of missed detection were associated with younger age, non-Hispanic white race/ethnicity, shorter length of stay, more distal coding of an HIV/AIDS diagnosis, and fewer HIV/AIDS-related Medicaid claims in the past year. Hospitals with higher re-admission rates also had higher rates of undetected HIV/AIDS diagnoses.

Conclusion: Over half of inpatients previously diagnosed with HIV/AIDS did not have their HIV-positive status noted upon discharge from psychiatric hospitalization. This finding underscores how frequently clinically significant medical comorbidities fail to be incorporated into psychiatric treatment and treatment planning. Inpatient clinicians are missing important opportunities to optimize HIV/AIDS treatment and reduce morbidity and mortality.

INTRODUCTION

Although overall prevalence of HIV in the United States is 0.4%, the infection rate among people with severe mental illness (SMI) is over ten times higher (6%).[1, 2] Considering the high prevalence of HIV among people with SMI, psychiatric inpatient units offer practical settings for enhancing care coordination.[3] Little is known about HIV/AIDS detection among individuals receiving inpatient psychiatric treatment, a knowledge gap with potentially significant adverse consequences. A previous study using these data reported that 74.9% of NYS Medicaid beneficiaries in psychiatric inpatient settings had at least one medical comorbidity, and 5.1% had been diagnosed with HIV/AIDS.[4] It is not known how frequently pre-existing HIV/AIDS diagnoses are recognized during inpatient psychiatric hospitalizations—an opportune time to ensure engagement in care.[4] Because psychiatric hospitalizations often result from behavioral and cognitive disturbances, treatment planning may entail extensive care coordination.

By merging patient-level data from Medicaid claims with hospital and regional level data, this study examined documentation of pre-existing HIV/AIDS diagnoses during psychiatric inpatient treatment. Failure to document is missed opportunity to ensure that people living with HIV (PLWH) have adequate treatment, including appropriate discharge planning.

METHODS

Data Sources and Sample Selection

The data sources and sample have been described previously.[4] Briefly, the sample included adults age 18–64 years, admitted to hospital inpatient psychiatric units in New York State (January 1, 2012 through December 31, 2013). For people with multiple hospitalizations, the first was used as the index admission, hence admissions represent unique individuals.

The sample included patients with claims containing ICD-9-CM codes for HIV and/or AIDS in the 12 months prior to the index psychiatric admission. Additional study criteria been previously described.[4]

Measures

Primary outcome variable: Absence of HIV/AIDS diagnosis (ICD-9-CM: 0.42–0.44) at psychiatric hospital discharge.

Patient-level predictor variables: Patient-level variables included demographics, length of index inpatient stay, homelessness status at admission, primary psychiatric diagnosis at discharge, and co-occurring discharge substance use diagnoses. HIV/AIDS diagnosis was defined as either within 30 days of psychiatric admission (recent) or within 30 to 366 days (distant). Other patient-level variables included modified Elixhauser Comorbidity Index (ECI) score excluding HIV/AIDS,[4] number HIV/AIDS diagnosis claims during 12-months prior to psychiatric admission, and whether the person had a medical inpatient unit stay within one day of the index hospitalization.

Hospital-level variables: Hospital size, hospital patient race mix, hospital ownership, geographic region, and population characteristics.[4]

Analysis Plan

To compare people with pre-existing diagnoses of HIV/AIDS with the entire inpatient cohort, we first compared these two groups for all study variables using chi-square tests. Then, for PLWH, we tested associations between each study variable and presence of an undocumented diagnosis for HIV/AIDS during the index admission, using logistic regression. First, we calculated the unadjusted associations. Second, we adjusted for demographic variables and modified ECI score. Third, we mutually adjusted for all study variables. As a sensitivity analysis, we repeated these steps after removing individuals who had medical inpatient admissions immediately before or after the index hospitalization (n=666).

We used generalized estimating equations (GEE) for all models, accounting for clustering of individuals within hospital. Significant results are presented at p<0.05 and 95% confidence intervals for unadjusted and adjusted odds ratios (aOR).

Data analysis was performed using SAS 9.4 (Cary, NC, 2013). The study was reviewed and determined exempt from human subject review by the New York State Psychiatric Institute Institutional Review Board.

RESULTS

Among psychiatric inpatients (n=14,602), prevalence of PLWH was 5.1% (95%CI: 4.7% −5.4%). People with and without previous documentation of HIV/AIDS diagnoses differed on multiple demographic characteristics (Table 1).

Among people with pre-existing diagnoses of HIV/AIDS, 58.3% were not diagnosed with HIV/AIDS at the time of hospital discharge. Younger age, white race/ethnicity, shorter length of stay, more distal time since another HIV/AIDS care documentation, and fewer HIV and/or AIDS claims in the past year were associated with undocumented HIV/AIDS diagnosis at discharge for the index psychiatric hospitalization (Table 2). People aged 18–24 years, compared to older adults aged 55–64 years, had over twice the odds of having their HIV/AIDS undocumented in the adjusted models (aOR 2.37; 95%CI: 1.05–5.33; p=0.04), as did those aged 25–34 years (aOR 2.17; 95%CI: 1.31–3.59; p=0.003). Non-Hispanic Blacks were more likely to have existing HIV/AIDS diagnosis detected when compared to non-Hispanic whites in unadjusted (OR 0.64; 95%CI: 0.43–0.96; p=0.03) and adjusted (aOR 0.65; 95%CI: 0.43–0.98; p=0.04) models.

Compared to people with shorter inpatient lengths of stay (0–3 days), those with longer lengths of stay raised the likelihood of HIV/AIDS detection and documentation during the stay. People with pre-existing diagnoses of HIV/AIDS who stayed 15–30 days were more likely to have their HIV/AIDS diagnosis documented, both in unadjusted (OR 0.52; 95% CI: 0.29–0.93; p=0.03) and adjusted models (aOR 0.47; 95% CI: 0.26–0.86; p=0.01). Similar patterns were seen for patients with longer lengths of stay (31–60 days) (Table 2).

Compared to people with pre-existing diagnoses of HIV/AIDS with more recent documentation of HIV/AIDS diagnoses, those with only more distant documentation had lower odds of documented HIV/AIDS diagnoses at time of discharge in unadjusted (OR 3.41; 95% CI: 2.40–4.85; p<0.001) and adjusted (aOR 3.25; 95% CI: 2.28–4.63; p<0.001) models. In addition, having more claims for HIV/AIDS services increased the odds of documenting HIV/AIDS infection, compared to fewer claims (Table 2). Hospitals with more annual readmissions were less likely to document HIV/AIDS diagnoses upon discharge compared to hospitals with fewer readmissions in unadjusted (OR 2.67; 95% CI: 1.13–6.31; p=0.02) and adjusted (aOR 3.73; 95% CI: 1.66–8.39; p=0.001) models. In adjusted models, hospitals serving medium or high level of Medicaid patients were also less likely to document HIV/AIDS diagnoses for people with pre-existing diagnoses of HIV/AIDS when compared to hospitals with low Medicaid patients (Medium: aOR 1.69, 95% CI 1.13–2.53; p=0.01; High: aOR 1.71, 95%CI 1.06–2.77; p=0.03).

Likelihood of documenting an existing HIV/AIDS diagnosis also varied across the five geographic regions where people received treatment, with people with pre-existing diagnoses of HIV/AIDS treated in Long Island and Central New York being more likely to have their HIV/AIDS diagnosis documented compared to New York City, in adjusted models (Table 2).

Table, SDC 1 shows additional models adjusting for all variables; and Table, SDC 2 shows sensitivity analyses excluding patients with medical hospitalization immediately before or after the index hospitalization. These analyses changed direction or significance of impact of two variables upon HIV/AIDS diagnosis documentation. Non-Hispanic Blacks no longer had significantly higher odds of HIV/AIDS diagnosis documentation after exclusion of people with recent admission/discharge from medical facilities, and fully adjusted models failed to find significant differences in undocumented HIV/AIDS diagnoses between Central New York and New York City (Table 2 and Table, SDC 2).

DISCUSSION

Over 50% of people with pre-existing diagnoses of HIV/AIDS who were hospitalized for psychiatric care did not have an HIV/AIDS diagnosis documented at discharge. This finding raises quality of care concerns given the relatively high prevalence (5.1%) of HIV/AIDS among psychiatric inpatients.[1, 5] Under-recognition compromises HIV/AIDS care, missing opportunities to lessen disease progression and reduce the spread of HIV. This is particularly concerning because (1) a population-based cohort study in Denmark found mortality rates were 25 times higher in people with comorbid HIV and schizophrenia than in those without either diagnoses,[6] and (2) the present study included New York City, an HIV/AIDS epicenter historically providing quality health services for PLWH.[7]

Other findings warrant further exploration. First, younger people with pre-existing diagnoses of HIV/AIDS —as well as people with white race/ethnicity—were more likely to have an undocumented HIV/AIDS diagnosis. Future studies should examine age and racial/ethnic differences—and potential biases—in recognition of pre-existing HIV/AIDS diagnoses.

Notably, patients with shorter lengths of stay or fewer HIV/AIDS claims in the past year were less likely to have pre-existing HIV/AIDS diagnoses documented. This is problematic because inpatient admissions represent opportunities to optimize HIV/AIDS care for these patients who access the system infrequently. Patients with brief, compared to longer, hospitalizations are less likely to engage in HIV/AIDS care given the limited time to receive laboratory tests and HIV/AIDS consultation services.[8]

Hospital-level variables also predicted documentation of pre-existing HIV/AIDS diagnoses. Hospitals with high rates of readmission or larger safety-net patient populations were less likely to have document pre-existing HIV/AIDS diagnoses upon discharge. In addition, there appeared to be variability by individual hospital, even after adjusting for all other variables, which warrants further examination as hospitals might be able to create shared learning communities to share best practices in capturing HIV/AIDS, and acting on, such diagnoses.

People with schizophrenia in the US face multiple barriers to receiving appropriate HIV/AIDS treatment, including siloed mental health and physical health services.[9, 10] The presence of these structural challenges suggests that people with schizophrenia and other serious mental illnesses should be categorized as an HIV/AIDS high-risk population, especially because receiving treatment for HIV/AIDS reduces psychiatric morbidity, [11] and HIV-related psychiatric and neurocognitive complications impact psychiatric presentation. [12] Such categorization could encourage routine testing and early detection of HIV. This is important given since only 9.4% of US general hospital psychiatry/mental health departments regularly offer HIV/AIDS testing, suggesting great need for improvement.[13]

For the past decade, the vast majority of efforts to integrate mental health care and primary care for people with serious mental illness have focused almost exclusively on metabolic screening.[14] We believe screening of this historically marginalized population should not only include metabolic screening, but also HIV and other infectious diseases, such as Hepatitis C and Hepatitis B, with high prevalence in this population.[15]

The findings must be understood in light of several limitations. First, these data are nearly 10 years old and may not reflect contemporary structural changes for improving HIV detection on inpatient psychiatric units. Additionally, we may have underestimated the presence of HIV/AIDS because we examined only a subset of PLWH—those with a pre-existing diagnosis of HIV/AIDS in the prior 12-months, as well as possible failure to document recognized HIV/AIDS on discharge because of stigma and discrimination associated with HIV/AIDS diagnosis. Also, this study includes only people in New York, covered by Medicaid, and age 18–64, thereby limiting generalizability. Finally, there is no comparison group without a psychiatric inpatient admissions.

In conclusion, we found that over half of Medicaid psychiatric inpatients with pre-existing diagnoses of HIV/AIDS did not have their HIV/AIDS diagnosis documented at the time of inpatient discharge. This represents a missed opportunity to ensure people are meeting key outcomes on the HIV/AIDS care continuum, specifically retention in treatment and viral suppression. Failure to adequately identify PLWH can reduce the likelihood that inpatients receive HIV treatment early in the course of illness, increase risk of disease progression to AIDS, and risk increasing the spread of HIV. Mental health and HIV/AIDS policymakers should collaborate to improve HIV/AIDS care for this vulnerable population by encouraging CDC recommended HIV/AIDS testing as a routine part of inpatient psychiatric workups, incorporating HIV/AIDS care into treatment plans, and enhancing coordination between inpatient psychiatry clinicians with outpatient medical providers.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGEMENTS:

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Table 1.

Characteristics of psychiatric inpatients, with and without previously documented HIV/AIDS diagnosis prior to psychiatric hospitalization (N=14,602)

Variable	No HIV/AIDS N = 13,861 (col %)	HIV/AIDS N=741 (col %)	Chi Sq[*]	p value
Patient-Level Variables				
Age			39.03	**<.001**
18–24	2279 (16.44)	28 (3.78)		
25–34	3062 (22.09)	99 (13.36)		
35–44	2685 (19.37)	189 (25.51)		
45–54	3595 (25.94)	298 (40.22)		
55–64	2240 (16.16)	127 (17.14)		
Gender			0.63	0.428
Male	7320 (52.81)	404 (54.52)		
Female	6541 (47.19)	337 (45.48)		
Race/ethnicity			28.93	**<.001**
Non-Hispanic White	5976 (43.11)	185 (24.97)		
Non-Hispanic Black	4470 (32.25)	376 (50.74)		
Puerto Rican/Hispanic	1516 (10.94)	101 (13.63)		
Other	1206 (8.7)	63 (8.50)		
Unknown	693 (5)	16 (2.16)		
Length of stay			13.48	**0.004**
0–3 days	1716 (12.38)	72 (9.72)		
4–14 days	8042 (58.02)	465 (62.75)		
15–30 days	3063 (22.1)	171 (23.08)		
31–60 days	1040 (7.5)	33 (4.45)		
Homeless at admission			12.97	**0.002**
No	11920 (86)	583 (78.68)		
Yes	1210 (8.73)	106 (14.30)		
Unknown	731 (5.27)	52 (7.02)		
Primary diagnosis at discharge			13.33	**0.010**
Schizophrenia disorders	4842 (34.93)	252 (34.01)		
Schizoaffective disorders	1823 (13.15)	72 (9.72)		
Bipolar disorders	3471 (25.04)	207 (27.94)		
Depressive disorders	2813 (20.29)	178 (24.02)		
Other MH disorders	912 (6.58)	32 (4.32)		
Co-occurring substance use diagnosis at discharge			23.53	**<.001**
No	7537 (54.38)	245 (33.06)		
Yes	6324 (45.62)	496 (66.94)		
Elixhauser Comorbidity Index (excluding HIV/AIDS)			28.35	**<.001**

Variable	No HIV/AIDS N = 13,861 (col %)	HIV/AIDS N=741 (col %)	Chi Sq*	p value
0	3624 (26.42)	91 (12.28)		
1	2968 (21.64)	130 (17.54)		
2–3	3946 (28.77)	227 (30.63)		
4+	3179 (23.18)	293 (39.54)		
Recency of HIV/AIDS dx			N/A	N/A
Recent (past 30 days)	N/A	499 (67.34)		
Distant (greater than 30 days)	N/A	242 (32.66)		
Number of HIV/AIDS claims			N/A	N/A
1 to 2 (Q1)	N/A	169 (22.81)		
3 to 9 (Q2)	N/A	208 (28.07)		
10 to 29 (Q3)	N/A	184 (24.83)		
30 or more (Q4)	N/A	180 (24.29)		
Pre-psych medical admission			2.02	0.155
No	13018 (93.92)	686 (92.58)		
Yes	843 (6.08)	55 (7.42)		
Post-psych medical admission			6.74	**0.009**
No	13641 (98.41)	716 (96.63)		
Yes	220 (1.59)	25 (3.37)		

*Chi square statistics were computed using the Score test with unadjusted GEE, allowing for correlation within hospital.

Table 2.

Individual- and hospital-level predictors of undocumented pre-existing HIV/AIDS during inpatient psychiatric hospitalization (N=741)

Variable	Undocumented HIV/AIDS diagnosis during Psychiatric Inpatient Stay (N=432) (row %)	Unadjusted OR of undocumented HIV/AIDS Dx (95% CI)	p value	Adjusted[1] OR of undocumented HIV/AIDS Dx (95% CI)	p value
Patient-Level Variables					
Age					
18–24	21 (75.00)	2.68 (1.19 – 6.05)	**0.017**	2.37 (1.05 – 5.33)	**0.038**
25–34	71 (71.72)	2.27 (1.43 – 3.58)	**<.001**	2.17 (1.31 – 3.59)	**0.003**
35–44	104 (55.03)	1.09 (0.75 – 1.59)	0.633	1.04 (0.7 – 1.53)	0.854
45–54	169 (56.71)	1.17 (0.76 – 1.80)	0.467	1.17 (0.75 – 1.84)	0.488
55–64 (REF)	67 (52.76)	**Reference**		**Reference**	
Gender					
Male	234 (57.92)	Reference		**Reference**	
Female	198 (58.75)	1.03 (0.75 – 1.40)	0.828	1.12 (0.82 – 1.53)	0.483
Race/ethnicity					
Non-Hispanic White	121(65.41)	**Reference**		**Reference**	
Non-Hispanic Black	207 (55.05)	0.64 (0.43 – 0.96)	**0.031**	0.65 (0.43 – 0.98)	**0.040**
Puerto Rican/Hispanic	60 (59.41)	0.77 (0.48 – 1.23)	0.283	0.78 (0.48 – 1.27)	0.320
Other	38 (60.32)	0.8 (0.43 – 1.49)	0.489	0.79 (0.42 – 1.5)	0.473
Unknown	6 (37.50)	0.31 (0.11 – 0.85)	**0.024**	0.3 (0.11 – 0.83)	**0.020**
Length of stay					
0–3 days	47 (65.28)	**Reference**		**Reference**	
4–14 days	287 (61.72)	0.85 (0.53 – 1.36)	0.517	0.81 (0.49 – 1.34)	0.414
15–30 days	85 (49.71)	0.52 (0.29 – 0.93)	**0.028**	0.47 (0.26 – 0.86)	**0.013**
31–60 days	13 (39.39)	0.34 (0.16 – 0.72)	**0.005**	0.34 (0.16 – 0.75)	**0.007**
Homeless at admission					
No	331 (56.78)	**Reference**		**Reference**	
Yes	68 (64.15)	1.36 (0.85 – 2.16)	0.189	1.42 (0.88 – 2.29)	0.149
Unknown	33 (63.46)	1.32 (0.82 – 2.11)	0.246	1.35 (0.84 – 2.17)	0.209
Primary psychiatric diagnosis at discharge					
Schizophrenia disorders	150 (59.52)	**Reference**		**Reference**	
Schizoaffective disorders	37 (51.39)	0.71 (0.39 – 1.32)	0.288	0.75 (0.4 – 1.38)	0.353
Bipolar disorders	125 (60.39)	1.03 (0.70 – 1.52)	0.856	0.96 (0.64 – 1.44)	0.851
Depressive disorders	100 (56.18)	0.87 (0.55 – 1.35)	0.545	0.88 (0.55 – 1.41)	0.602
Other MH disorders	20 (62.50)	1.13 (0.54 – 2.36)	0.739	0.93 (0.44 – 1.97)	0.849
Co-occurring substance use diagnosis at discharge					

Variable	Undocumented HIV/AIDS diagnosis during Psychiatric Inpatient Stay (N=432) (row %)	Unadjusted OR of undocumented HIV/AIDS Dx (95% CI)	p value	Adjusted[1] OR of undocumented HIV/AIDS Dx (95% CI)	p value
No	145 (59.18)	Reference		Reference	
Yes	287 (57.86)	0.94 (0.73 – 1.21)	0.673	0.99 (0.76 – 1.27)	0.911
Elixhauser Comorbidity Index (excluding HIV/AIDS)					
0	58 (63.74)	Reference		Reference	
1	81 (62.31)	0.94 (0.59 – 1.49)	0.795	0.93 (0.57 – 1.52)	0.766
2–3	134 (59.03)	0.81 (0.46 – 1.45)	0.497	0.91 (0.51 – 1.63)	0.755
4+	159 (54.27)	0.67 (0.41 – 1.11)	0.122	0.8 (0.45 – 1.41)	0.443
Recency of HIV/AIDS dx					
Recent (past 30 days)	246 (49.30)	Reference		Reference	
Distant (greater than 30 days)	186 (76.86)	3.41 (2.40 – 4.85)	**<.001**	3.25 (2.28 – 4.63)	**<.001**
Number of HIV/AIDS claims					
1 to 2 (Q1)	144 (85.21)	Reference		Reference	
3 to 9 (Q2)	138 (66.35)	0.34 (0.19 – 0.61)	**<.001**	0.35 (0.2 – 0.64)	**<.001**
10 to 29 (Q3)	86 (46.74)	0.15 (0.08 – 0.28)	**<.001**	0.16 (0.08 – 0.3)	**<.001**
30 or more (Q4)	64 (35.56)	0.09 (0.04 – 0.19)	**<.001**	0.1 (0.05 – 0.2)	**<.001**
Pre-psych medical admission					
No	400 (58.31)	Reference		Reference	
Yes	32 (58.18)	0.99 (0.59 – 1.65)	0.984	1.05 (0.61 – 1.82)	0.861
Post-psych medical admission					
No	420 (58.66)	Reference		Reference	
Yes	12 (48.00)	0.65 (0.24 – 1.72)	0.387	0.7 (0.27 – 1.84)	0.471
Hospital-Level Variables					
Number of hospital beds					
Small/Medium	191 (60.83)	Reference		Reference	
Large:	241 (56.44)	0.83 (0.58 – 1.18)	0.307	0.84 (0.59 – 1.18)	0.315
Hospital ownership					
Public	145 (60.42)	Reference		Reference	
Private	287(57.29)	0.87 (0.61 – 1.25)	0.473	0.85 (0.59 – 1.23)	0.394
Hospital patient race mix					
Predominately white	40 (59.70)	Reference		Reference	
Mixed, more white	94 (52.81)	0.75 (0.39 – 1.43)	0.391	0.89 (0.45 – 1.77)	0.747
Mixed, more Black	298 (60.08)	1.01 (0.55 – 1.84)	0.959	1.25 (0.66 – 2.4)	0.494
Psychiatric discharges that were Medicaid, %					
Low: less than 49% (Q1)	32 (47.76)	Reference		Reference	

Variable	Undocumented HIV/ AIDS diagnosis during Psychiatric Inpatient Stay (N=432) (row %)	Unadjusted OR of undocumented HIV/AIDS Dx (95% CI)	p value	Adjusted[1] OR of undocumented HIV/AIDS Dx (95% CI)	p value
Medium: 49–71%	186 (59.24)	1.58 (1.06 – 2.36)	**0.022**	1.69 (1.13 – 2.53)	**0.010**
High: over 71% (Q3)	214 (59.44)	1.6 (0.99 – 2.57)	0.051	1.71 (1.06 – 2.77)	**0.028**
Population w/ ≥ 2 psychiatric discharges, %					
Low: less than 24.5% (Q1)	7 (38.89)	**Reference**		**Reference**	
Medium: 24.5–35%	197 (54.57)	1.88 (0.79 – 4.47)	0.149	2.62 (1.15 – 5.98)	**0.022**
High: over 35% (Q3)	228 (62.98)	2.67 (1.13 – 6.31)	**0.025**	3.73 (1.66 – 8.39)	**0.001**
System-Level Variables					
Region					
NYC	316 (60.42)	**Reference**		**Reference**	
Hudson River	62 (57.94)	0.9 (0.58 – 1.40)	0.648	0.82 (0.52 – 1.29)	0.379
Long Island	17 (50.00)	0.65 (0.40 – 1.06)	0.087	0.59 (0.36 – 0.96)	**0.034**
Central	10 (43.48)	0.5 (0.21 – 1.17)	0.114	0.38 (0.15 – 0.91)	**0.031**
Western	27 (50.00)	0.65 (0.34 – 1.26)	0.205	0.63 (0.3 – 1.33)	0.226

[1] Adjusted for age group, gender, race/ethnicity, and modified ECI.