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Prior Depression and Health Insurance in Non-Receipt of Needed Medical Services

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Abstract

Introduction—Rates of non-access to needed medical services are elevated among uninsured and sociodemographic subpopulations. Clinical depression is associated with comorbid medical illness and reduced treatment adherence. The purpose of this study was to examine whether prior depression predicts missed needed medical care independent of health insurance status and socioeconomic and demographic characteristics.

Methods—Data were from a cross-sectional representative sample of adult New York City residents, surveyed through the 2009 (n=9,900) and 2010 (n=8,622) annual Community Health Survey. Logistic regression was used to evaluate the association of lifetime depression with missed needed medical care in the past year, with stratification by health insurance status and adjustment for socioeconomic characteristics. Analyses were performed in 2014.

Results—Prior depression was associated with missed needed medical care among both insured (OR=1.9, 95% CI=1.7, 2.2) and uninsured adults (OR=1.8, 95% CI=1.3, 2.4). Missed needed care report was associated with uninsured status (OR=3.6, 95% CI=3.1, 4.0), controlling for employment, income, and demographics.

Conclusions—Prior depression corresponded to greater probability of missed needed medical care report in the previous year, independent of health insurance status, employment, income, and demographics.

Introduction

Depression is a common health condition that can affect physical health conditions and their medical management. Depression is frequently comorbid with eating disorders, anxiety, substance abuse, and chronic health conditions such as heart disease, cancer, and diabetes.[1] Major depression has been linked to worse health outcomes and adverse health behaviors in the context of comorbid chronic disease.[1–4] Reduced care seeking and treatment adherence among individuals with depression may contribute to suboptimal outcomes.[3,5–10]

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Need for medical attention frequently correlates with social and economic barriers to medical care. Low income is associated with increased rates of illness and comorbidity,[11,12] and inadequate access to quality health care impedes recovery among economically disadvantaged subpopulations.[13–17] Improved health outcomes and reduced mortality have been linked to greater primary care use compared to emergency services.[18,19]

Population-based survey data were used to examine whether depression was associated with missed needed medical care, independent of insurance status and socioeconomic characteristics.

Methods

Sample and Recruitment

Data were collected in New York City (NYC) from 18,552 participants surveyed through the 2009 (n=9,900) and 2010 (n=8,622) Community Health Survey (CHS).[20] The CHS is an annual telephone survey carried out by the NYC Department of Health and Mental Hygiene to identify health behaviors and conditions among non-institutionalized adults aged ≥18 years living in NYC's 34 United Hospital Fund neighborhoods.[21] Response rates for the 2009 and 2010 CHS were 37.7% and 39.0%, with cooperation rates of 89.5% and 89.4%. CHS data were de-identified and publicly available.[20]

Instrument

Missed needed medical care was defined as an adult's perception of having a medical condition requiring treatment for effective recovery, coupled with non-receipt of medical services. CHS respondents responded *yes* or *no* to the survey item: *Was there a time in the past 12 months when you needed medical care but did not get it?* Prior depression was based on respondents' report of whether a health professional had at any point told them that they had depression. Whether an individual had any form of health insurance at the time of interview was coded dichotomously. Socioeconomic and demographic characteristics were reported, including income, employment, age, race, ethnicity, nativity, sex, marital status, and cohabitation.

Statistical Analysis

Descriptive statistics were calculated with sampling weights to estimate the proportion of NYC adults with selected sociodemographic and health-related characteristics. Proportions were calculated separately for individuals with and without health insurance. Logistic regression was used to estimate ORs and 95% CIs for covariate association with missed needed care report. Models were additionally evaluated stratified by health insurance status. Statistical analyses were carried out using R, version 3.1.0, in 2014.

Results

Characteristics of the CHS sample are reported in Table 1. Approximately 12% of NYC adults were estimated to have missed needed medical care in the previous 12 months. Reported missed needed medical care was less frequent among adults reporting insurance

(9%) relative to uninsured adults (25%) (Table 1). An estimated 17% of NYC adults were without current health insurance. Lifetime prior depression was estimated at 13%.

Logistic regression models were used to fit relationships between missed needed medical care and prior depression and socioeconomic characteristics (Table 2). Adults who were uninsured were found to be at greater odds of having reported missed needed medical care in the previous 12 months (OR=3.56, 95% CI=3.13, 4.04). Prior depression was associated with report of missing needed medical care (OR=1.88, 95% CI=1.65, 2.14). Models stratified by health insurance status suggested a similar association between prior depression and missed care among adults with (OR=1.92, 95% CI=1.65, 2.22) and without (OR=1.77, 95% CI=1.32, 2.37) health insurance. The association between income and missed care report was found to be monotonic among insured adults with the highest household income category (>600% the poverty line) associated with the greatest reduction in odds of missed care (OR=0.46, 95% CI=0.37, 0.56). Among insured adults, missed care was more common for Hispanic respondents (OR=1.19, 95% CI=1.00, 1.42) compared to non-Hispanic white respondents. Increased age was associated with lower odds of missed care among insured adults but higher odds among uninsured adults; age >65 years was associated with lower odds of missed care report (OR=0.67, 95% CI=0.54, 0.83). Men were at greater odds of reporting missing needed care (OR=1.25, 95% CI=1.12, 1.40); this association was smaller among insured adults (OR=1.21, 95% CI=1.06, 1.38) compared to uninsured adults (OR=1.30, 95% CI=1.06, 1.61).

Discussion

The present study contributes to the investigation of differences in access to medical care, supporting prior depression as a potential barrier to healthcare access among both insured and uninsured populations. Health insurance was associated with lower probability of missed needed medical care and may modify associations of socioeconomic and demographic characteristics with missed medical care.

These findings draw attention to what may be an enduring role for depression in access and usage of medical services for mental and physical health. Complexity characterizes the U.S. medical care system[22] and impairment in behavioral, social, and cognitive functioning occur with depression[5,8,23]; depression may relate to failed navigation of medical services systems and dropout. Depression has been identified as the leading cause of disability worldwide among adults aged 15–44[24] years, and frequently goes untreated.[25,26] Disparities in depression treatment have been identified among racial and ethnic minority groups, with reduced detection of depression and follow-up.[27–29] Although there is already a strong case for improving equity in depression treatment, further emphasizing adults with a history of depression may help to reduce gaps in healthcare access.

Poverty relates to greater risk of illness or injury compounded by financial and logistic barriers to treatment. Eligibility for public medical insurance benefits may mitigate barriers to access; however, gaps in protections may correspond to greater risk of missed care, as seen in greater odds of missed care among uninsured adults approaching age 65 years, the self-employed, and households with incomes near the poverty threshold. Racial and ethnic

differences in missed medical care among those with current health insurance suggest additional opportunities to address barriers beyond health insurance alone.

These study results suggest that mental health and social barriers may contribute to poorly managed risk factors and chronic conditions. Missed care may ultimately accumulate to a higher disease burden alongside cost to individuals and the healthcare system. Medical care models promoting integration of mental health with physical health services, and progress monitoring, have been found to improve outcomes including depression.[30–32] Policy aimed at reducing missed care may benefit from targeted expansion of outreach and services programs tailored to engage subpopulations at greater odds of missed care.

Questions regarding generalizability of these results beyond NYC warrant further investigation. Data were collected by telephone survey with a response rate of approximately 38%; inclusion into the CHS sample may relate to non-observed selection processes, conceivably biasing estimates. The outcome examined here relates to probability that an individual both recognized a need for medical care and then did not receive medical services. Exploration of causal pathways leading to missed care, variation in perceptions of need, and separate consideration of health needs and access are recommended for future research.

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Table 1

Participant Characteristics by Insurance Health Insurance Status, New York City Community Health Survey Respondents, 2009–2010

	All (*n*=18,552) %[a]	Health insurance (*n*=16,381) %[a]	No health insurance (*n*=2,141) %[a]
Outcome variable			
Did not receive needed medical care	12	9	25
Predictor variables			
No health insurance	18	0	100
Lifetime depression	13	14	9
Income			
<100% poverty level	26	25	40
100%–<200% poverty level	21	18	29
200%–<400% poverty level	18	17	17
400%–<600% poverty level	16	16	9
>600% poverty level	19	23	5
Employment			
Employed	52	53	50
Self employed	8	6	14
Retired	13	15	2
Unable to work	6	6	2
Unemployed	9	7	19
Student	6	6	6
Homemaker	6	6	7
Demographics			
Additional adults in household; *mean(se)*	2.43 (0.02)	2.35 (0.02)	2.80 (0.05)
Children; *mean(se)*	0.67 (0.01)	0.64 (0.01)	0.80 (0.04)
Married	42	45	31
Race/Ethnicity			
Non-Hispanic white	36	39	18
Black	22	22	24
Hispanic	27	23	46
Asian/Pacific Islander	13	14	10

	All (*n*=18,552) %[a]	Health insurance (*n*=16,381) %[a]	No health insurance (*n*=2,141) %[a]
Age; *mean(se)*	44.85 (0.21)	46.53 (0.23)	37.12 (0.40)
Over age 65	15	18	2
Female	54	56	42
Foreign born	45	42	62
Education (1: Less than high school; 4: college graduate); *mean(se)*	2.66 (0.01)	2.75 (0.01)	2.30 (0.04)
Year			
2009	42	42	43
2010	58	58	57

[a]Percentages are weighted proportions; Percentages do not always equal 100 because of rounding

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Table 2

OR for Missed Needed Medical Care in Previous 12 months; New York City Community Health Survey, 2009–2010

	All		Health Insurance		No Health Insurance	
	OR	**(95% CI[a])**	**OR**	**(95% CI[a])**	**OR**	**(95% CI[a])**
No Health Insurance	**3.56**	**(3.13–4.04)** ***				
Lifetime Depression	**1.88**	**(1.65–2.14)** ***	**1.92**	**(1.65–2.22)** ***	**1.77**	**(1.32–2.37)** ***
Income						
<100% Poverty level (referent)						
100%–<200% Poverty level	0.99	(0.86–1.14)	0.96	(0.80–1.13)	1.01	(0.78–1.30)
200%–<400% Poverty level	**0.80**	**(0.67–0.94)** **	**0.71**	**(0.58–0.87)** ***	0.95	(0.70–1.30)
400%–<600% Poverty level	**0.60**	**(0.49–0.73)** ***	**0.50**	**(0.40–0.63)** ***	0.96	(0.65–1.39)
>600% Poverty level	**0.46**	**(0.37–0.56)** ***	**0.42**	**(0.33–0.53)** ***	0.62	(0.38–0.99)
Employment						
Employed (referent)						
Self Employed	**1.39**	**(1.16–1.66)** ***	**1.30**	**(1.02–1.63)** *	**1.44**	**(1.08–1.93)** *
Retired	0.81	(0.65–1.01)	0.85	(0.67–1.07)	**0.48**	**(0.24–0.88)** *
Unable to Work	1.14	(0.93–1.40)	1.02	(0.81–1.29)	**1.71**	**(1.02–2.84)** *
Unemployed	**1.47**	**(1.24–1.74)** ***	**1.30**	**(1.04–1.62)** *	**1.58**	**(1.21–2.06)** ***
Student	0.88	(0.64–1.18)	0.79	(0.54–1.12)	0.92	(0.51–1.58)
Homemaker	0.85	(0.67–1.08)	0.85	(0.63–1.13)	0.85	(0.56–1.28)
Demographics						
Age (years over 18)	**0.99**	**(0.99–1.00)** *	**0.99**	**(0.98–1.00)** ***	**1.01**	**(1.00–1.02)** *
Over Age 65	**0.67**	**(0.54–0.83)** ***	**0.78**	**(0.61–0.99)** *	**0.37**	**(0.19–0.71)** **
Male	**1.25**	**(1.12–1.40)** ***	**1.21**	**(1.06–1.38)** **	**1.30**	**(1.06–1.61)** *
Race/Ethnicity						
Non-Hispanic White (referent)						
Non-Hispanic Black	1.12	(0.97–1.30)	1.15	(0.97–1.36)	1.00	(0.75–1.34)
Hispanic	1.09	(0.94–1.26)	**1.19**	**(1.00–1.42)** *	0.85	(0.63–1.13)
Asian/Pacific Islander	1.04	(0.82–1.31)	1.18	(0.91–1.52)	**0.55**	**(0.33–0.89)** *

	All		Health Insurance		No Health Insurance	
	OR	**(95% CI[a])**	**OR**	**(95% CI[a])**	**OR**	**(95% CI[a])**
Foreign Born	0.97	(0.86–1.09)	1.06	(0.92–1.21)	**0.75**	**(0.60–0.94)** *
Married	**0.87**	**(0.77–0.98)** *	**0.86**	**(0.74–1.00)** *	0.89	(0.70–1.12)
Children	**0.92**	**(0.87–0.98)** **	**0.89**	**(0.83–0.96)** **	1.01	(0.91–1.12)
Adults in Household	0.99	(0.94–1.05)	1.04	(0.97–1.11)	0.95	(0.87–1.04)
Education (1–4)	1.04	(0.98–1.10)	1.05	(0.98–1.12)	1.02	(0.92–1.13)
Year						
2010	0.96	(0.98–1.10)	0.99	(0.88–1.12)	0.83	(0.68–1.01)

Note: Boldface indicates statistical significance at $p<0.05$;

* : $p<0.05$;

** : $p<0.01$;

*** :$p<0.001$