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## Characteristics of Medicaid recipients in Methadone Maintenance Treatment: A comparison across the lifespan

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### Abstract

Methadone Maintenance Treatment (MMT) is utilized by an increasingly broad age-range of individuals with opioid use disorders. The present study aims to (1) describe health, behavioral, and psychosocial characteristics among adults aged 50 years and older compared with younger adults enrolled in MMT, (2) describe socioeconomic and clinical characteristics by age and time in MMT and (3) investigate whether age influences the associations between duration of MMT and health and psychosocial characteristics. Our sample consisted of 1364 recipients from four MMT programs (age ranged from 18 to 77 years; mean: 38 years; standard deviation: 11.1 years) in Southern New England. Using descriptive analysis and logistic regression, we determined that one-third (33%) of adults 50 years of age and older had been admitted or readmitted into MMT within the previous 6 months, 27% had been in treatment for 7–47 months, while 40% had been in treatment for at least 4 years. Psychosocial problems and smoking were both common (> 80%) at the time of MMT enrollment but declined with longer duration of MMT for all age groups. The prevalence of metabolic conditions was associated with increased duration of MMT for younger adults for both age (1.03; CI 1.02–1.05;  $p < 0.001$ ) and time in treatment (1.29; 1.12–1.44;  $p < 0.001$ ; interaction term 0.0996; CI 0.993–0.998). Tailored strategies to enhance engagement, retention, and prevention among MMT recipients should include considerations of age, health status upon enrollment, duration of treatment, and developmental context.

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## 1. Introduction

Methadone Maintenance Treatment (MMT) is used by over 300,000 people in the US for the treatment of opioid use disorder (OUD) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2009). Although alternative treatments are available, MMT is still the most widely used form of medication-assisted treatment for OUD (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2009). Now entering its fifth decade, MMT serves an increasingly broad age-range of recipients. Adults aged 50–59 years comprised the largest age group served by New York City's opioid treatment programs, and the number of MMT recipients over age 60 is increasing rapidly (Han et al., 2015). Yet, despite these shifting demographics, the health and psychosocial characteristics of older adults receiving MMT have not been systematically assessed. The Substance Abuse and Mental Health Services Administration indicates that over 900 MMT programs provide care for seniors and older adults (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2009), but no description of these individuals or programs is available in the literature.

Retention in MMT is recognized as a major determinant of positive health and socioeconomic outcomes for individuals with OUD (Corsi, Lehman, & Booth, 2009; Mattick, Breen, Kimber, & Davoli, 2009). Although older age is associated with increased retention in MMT (Deck & Carlson, 2005; Mancino et al., 2010; Strike et al., 2005), existing research has not addressed whether the impact of both age and duration of MMT differs between younger and older adults. This is another critical gap in the literature, since age-related differences are potentially important. For example, age-related changes in methadone pharmacodynamics and pharmacokinetics may pose additional risk in aging populations (Chau, Walker, Pai, & Cho, 2008). Further, the psychosocial needs of older adults frequently differ from those of younger cohorts, including changes in employment status, income, family relationships, social roles, and social connectedness (Charles & Carstensen, 2010). Finally, metabolic changes associated with MMT are common; MMT users are more likely to develop a metabolic condition (Mysels & Sullivan, 2010; Vallecillo et al., 2017) as well as an increase in BMI (Fenn, Laurent, & Sigmon, 2015; Sadek, Chiu, & Cernovsky, 2016). However, the degree to which conditions such as diabetes, hypercholesterolemia, hypertension and obesity potentially vary by age and duration of treatment has yet to be investigated.

Understanding the health and psychosocial differences between older and younger MMT recipients may help providers understand and address the needs of MMT recipients across the lifespan. Using data from electronic medical records, the first aim of this study is to (1) describe health, behavioral, and psychosocial characteristics among adults aged 50 years and older compared with younger adults enrolled in MMT, (2) describe socioeconomic and clinical characteristics by age and time in MMT and (3) investigate whether age influences the associations between duration of MMT and health and psychosocial characteristics.

## 2. Methods

For this cross-sectional study, Medicaid Health Homes Data were collected quarterly by clinicians of an Opioid Treatment Program (OTP) within Southern New England as part of standard clinic protocol. Patients receiving Medicaid or Medicaid/Medicare are eligible to enroll in a Health Home according to the following criteria: have 2 or more chronic conditions or one chronic condition and are at risk for a second or one serious and persistent mental health condition (Centers for Medicare and Medicaid Services, n.d.). Enrolled patients receive services intended to increase integrated medical care and case management as needed. Administrative staff of the OTP agreed to collaborate and share data with Principal Investigator for the purpose of this study. Our final sample ( $N = 1364$ ) was collected from four OTP sites in Rhode Island through the Health Homes data management for clients receiving MMT. Greater than 90% of the sample received MMT from an urban area. In addition to MMT, qualified clients also attended individual and group counseling for substance abuse treatment. Mental health services were available for those referred or who requested treatment, but not required of MMT recipients. Approval for the study was granted from the Institutional Review Board of Dartmouth College. Health assessments were conducted from medical records from July 1, 2014 until March 31, 2015.

*Age of MMT Recipients* at the most recent assessment was recorded and categorized within three age cohorts: adults aged 18–29 years ( $n = 373$ ), aged 30–49 years ( $n = 741$ ), and aged 50 years and older ( $n = 250$ ). Fifty years of age was chosen as the cut-off for the older adult category, supported by the theory of accelerated aging that often occurs among people with histories of substance use disorder (Bachi, Sierra, DVolkow, Goldstein, & Alia-Klein, 2017).

*Sociodemographic Factors* included indicators of race/ethnicity (White, Black, Hispanic/Latino, other), sex, homelessness, marital status (married or cohabitating vs. other), education level (less than high school graduation vs. high school graduation or more), and employment (full-time or part-time vs. other).

*Psychosocial Problems* were measured by clinician assessment of problems in any aspect of psychosocial functioning as defined in the Axis IV section of the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) (American Psychiatric Association, 2000): problems with primary support group, social environment, education, occupation, housing, finances, access to health care, interactions with the legal system, and other psychosocial or environmental problems. For this study, the assessments were classified as “any/no” psychosocial problems. Clinicians performed these assessments quarterly.

*Health Status* was indicated by “yes/no” responses on a standard self-reported health assessment for the following medical diagnoses: diabetes, obesity, hypertension, hyperlipidemia, chronic obstructive pulmonary disease (COPD), asthma, and hepatitis C. We defined a variable for “metabolic condition(s)” that included one or more of four diagnoses: diabetes, hypertension, hypercholesterolemia, and/or obesity (Kaur, 2014). Additionally, we created a variable to represent “chronic respiratory condition(s),” which included COPD and/or asthma. Smoking variable was calculated as current use of tobacco of any quantity.

*Mental Health Condition* was indicated by a “yes/no” response to any diagnosable condition according to criteria listed within the DSM-IV (American Psychiatric Association, 2000).

*Treatment Duration* was measured to include the most recent admission into MMT. It was divided into four categories for descriptive analyses and included as a continuous independent variable in our logistic regression models. Based on the distribution of treatment duration within the study sample, the following cutoff points were chosen for categorization: treatment duration < 6 months, 6–17 months, 18–47 months, and 48 or more months. Due to data limitations, it was not possible to determine which clients had previously discharged and reentered treatment after relapse on opioids.

### 3. Analytic strategy

The distribution of each characteristic was compared across three age groups: 18–29 years; 30–49 years; and 50 years and older using Pearson chi-square test. The sample was then stratified by age group, and within each age category we tested for changes in health and psychosocial conditions over duration of MMT (< 6 months, 6–17 months, 18–47 months, 48 months). Our analyses included the following health and psychosocial conditions: any psychosocial problem(s), any metabolic condition(s), any chronic respiratory condition(s), hepatitis C, current tobacco use, and presence of any co-occurring mental health diagnoses.

For the two conditions that appeared to differ by age and MMT duration in our descriptive analyses (metabolic conditions and co-occurring mental health diagnoses), we proceeded to use multivariate logistic regression to test whether those differences persisted after controlling for other characteristics. The two logistic regression models included “any metabolic condition(s)” and “any co-occurring mental health diagnoses” as the dichotomous outcome variables. Continuous measures of age and MMT duration, and their interaction, were included as the primary predictor variables of interest. We also controlled for sex, black race, Hispanic/Latino ethnicity, housing status, education, marital status, employment, psychosocial problems, tobacco smoking, chronic respiratory conditions, and hepatitis C. Model diagnostics did not identify any evidence of misspecification, multicollinearity, or influential outliers. Due to multiple comparisons, we highlight results with  $p < 0.01$  or  $p < 0.001$ . All statistical analyses were performed with STATA software version 13.1 (STATA Corporation, College Station, TX).

### 4. Results

Participant ages ranged from 18 to 77 years with a mean age of 38 years (standard deviation 11.1). Of the entire sample, 250 people (18%) were aged 50 years and older with only 12 people 65 years or older. Adults aged 50 years and older were more likely ( $p < 0.001$ ) than their younger counterparts to identify as a racial minority group (age > 50: 22%; age 30–49: 17.5%; age 18–29: 10.5%;  $p < 0.001$ ) and more likely to be married or cohabitating (age > 50: 20%; age 30–49: 19%; age 18–29: 13%;  $p < 0.05$ ). Older adults were also more likely to be male, though this did not reach statistical significance (age > 50: 60%; age 30–49: 58%; age 18–29: 52%;  $p < 0.08$ ) (see Table 1).

Duration of MMT among the entire sample ranged from 1 day to 37 years with a mean of 2.5 years (standard deviation 4.8 years). Adults aged 50 and older were more likely than younger cohorts to remain in MMT for longer duration: 34% of older adults were in treatment for < 6 months; 27% between 6 months and 4 years, and 39% at least 4 years (compared to 53%, 33%, and 13%, respectively, for adults under 50;  $p < 0.001$ ). In fact, over 20% of older adults had been receiving uninterrupted MMT for 10 or more years and 8% for over 20 years.

Older adults were more likely to report the presence of one or more metabolic conditions – obesity, hypertension, diabetes, or hypercholesterolemia - (age > 50: 32%; age 30–49: 21%; age 18–29: 13%;  $p < 0.001$ ) and were less likely to smoke during the study period (age > 50: 63%; age 30–49: 79%; age 18–29: 81%;  $p < 0.001$ ) (see Table 1). Older adults were significantly more likely to report a chronic respiratory condition (asthma or chronic obstructive pulmonary disease) (age > 50: 19%; age 30–49: 12%; age 18–29: 13%;  $p < 0.05$ ) and were more likely to have hepatitis C (age > 50: 45%; age 30–49: 34%; age 18–29: 22%) (see Table 1).

Finally, adults over 50 years were also less likely to report any psychosocial problem including problems with social supports or environmental problems (age > 50: 69%; age 30–49: 83%; age 18–29: 88%;  $p < 0.001$ ) (see Table 1).

The likelihood of having a metabolic condition with longer duration of MMT (< 6 months; 6–17 months; 18–47 months; and > 48 months) was increased for adults aged 18–29 and those aged 30–49 years, but not for those aged 50 years and above (age > 50:  $p = 0.39$ ; age 30–49:  $p < 0.05$  age 18–29;  $p < 0.05$ ) (see Table 2). Psychosocial problems decreased in every age group with longer duration of treatment ( $p < 0.001$ ). Current tobacco use at the time of assessment decreased among all age groups with longer duration of treatment ( $p < 0.001$ ). Finally, the presence of a co-occurring mental health diagnosis was more likely for the younger ( $p < 0.05$ ) and older group ( $p < 0.05$ ), but not the middle-aged group (see Table 2).

Both age and time in MMT were associated with increased risk of developing a metabolic condition such as hypertension, obesity, diabetes, or hyperlipidemia for the younger and middle-aged cohorts (see Table 3 and Fig. 1). Increased likelihood was also associated with black race (OR 1.89; CI 1.02–3.51), comorbid chronic respiratory condition (OR 2.08; CI 1.45–2.98) and co-occurring mental health diagnosis (OR: 2.14; CI 1.51–3.02) (see Table 3). Overall, females were less likely to develop a metabolic condition (OR 0.71; CI 0.53–0.94) (see Table 3).

The presence of a mental health condition was not significantly associated with either age or time in MMT. Diagnosis of Mental health condition was significant for sex (OR female 2.0; CI 1.57–2.70), tobacco use (OR 1.44; CI 1.07–1.95), psychosocial problems (OR 2.61; CI 1.89–3.61), and comorbid hepatitis C (OR 1.86; CI 1.38–2.51) (see Table 3).

## 5. Discussion

The present study contributes several important findings. First, while almost 40% of adults over 50 years of age have been receiving MMT for > 4 years, 34% of this age cohort were

either newly admitted or readmitted to MMT within the previous 6 months. Second, when compared with younger adults, older MMT recipients reported more comorbid health problems but fewer psychosocial problems. The likelihood of having at least one metabolic condition – hypertension, obesity, diabetes, or hyperlipidemia – was increased with longer duration of MMT among adults ages 18–49 but not for adults aged 50 years and older. Finally, the presence of a comorbid mental health diagnosis was not significant with either age or duration of MMT.

Older adults had received MMT for longer duration when compared with younger adults, but one-third were just beginning MMT (< 6 months). Although data limitations prevent distinguishing between the MMT recipients who had entered treatment for the first time in the past 6 months versus those who had re-entered after opioid relapse, it nevertheless suggests that the opioid epidemic continues to impact the older adult population. While specialized treatment programs are common among vulnerable populations entering MMT—such as pregnant women and parents involved with the Department of Children and Families (Department of Health and Human Services & National Center on Substance Use and Child Welfare) – few target the needs of the aging population. Just as antecedents, experience, and treatment of substance using behaviors vary across the lifespan in accordance with proximal and distal life contexts (Schulte & Hser, 2014), treatment modalities should consider the importance of context with regards to age and developmental stage.

Changes in prevalence of metabolic conditions were different and impacted by both age and duration of MMT: young and middle-aged adults were more likely than older adults to be diagnosed with a metabolic condition. Our findings suggest that different metabolic prevention and treatment approaches may be necessary for older vs. younger adults in MMT. Our study adds to this body of evidence, suggesting that the increased prevalence of metabolic conditions among MMT users over time may be driven by increases among younger but not older users. Our findings also support the claim that metabolic conditions reflect an array of environmental influences, including poverty and prior substance use, that may pose additional risk of developing health problems (Sigmon, 2016). For younger adults, our results indicate the need for increased emphasis on primary and secondary prevention. For older adults, the prevalence of health conditions was high at MMT enrollment (< 6 months), therefore, management of metabolic conditions that may already exist is necessary. Longitudinal studies are required to establish whether the differences in metabolic disorder prevalence are in part the result of MMT or selection bias. Additionally, tobacco use was high upon enrollment but decreased with increased duration of MMT, providing further evidence that longer duration of MMT may increase the likelihood of improved health behaviors.

Finally, mental health conditions were not associated with duration of MMT. In general, older adults on MMT demonstrate a high prevalence of comorbid mental health disorders (Rosen, Smith, & Reynolds, 2008). However, it is possible that the smaller sample size of long-term MMT users impacted our results. Additionally, mental health comorbidities appear to decrease with time in MMT across all ages in descriptive statistics. Although this effect did not persist in multivariate models, it is likely that the decrease in overall



prevalence of psychosocial problems among MMT recipients is potentially explained by increased duration of treatment.

This study has several limitations. First, the data came from self-reported in-person assessments. As is often the case in clinical practice, information was collected by various clinicians without the use of standardized assessments. As such, it is possible that presence of physical or mental health conditions might have been over- or under-estimated. Second, it is not possible to tell from these data if the date of admission corresponds to the first or a subsequent treatment episode, therefore, it is not possible to discern who is receiving MMT for the first time versus those re-entering treatment after relapse. Third, medical conditions were self-reported. Therefore, we were limited in the types of medical conditions available for analysis, as well as the severity and duration of conditions included. Finally, data was limited to Medicaid recipients, therefore older adults receiving only Medicare were not considered. Despite these limitations, this is among the first study to compare treatment characteristic and prevalence of metabolic conditions by age and time in treatment from a lifespan perspective.

## 6. Conclusion

The national opioid epidemic is impacting the older adult population. In a large sample of Medicaid recipients, over one-third of those 50 years of age or older had entered Methadone Maintenance Treatment (MMT) within the previous 6 months and almost 40% had been receiving MMT for four or more years. Clinical treatment should include consideration as to how services may be tailored across the lifespan, from initial engagement to long-term health maintenance. Additionally, the likelihood of developing a metabolic condition is associated with MMT duration with increased likelihood for younger and middle-aged adults with longer MMT duration. Prevention and treatment strategies within opioid treatment programs should consider the impact of age, duration, health status upon enrollment, and developmental context to mitigate risk and improve outcomes across the lifespan.

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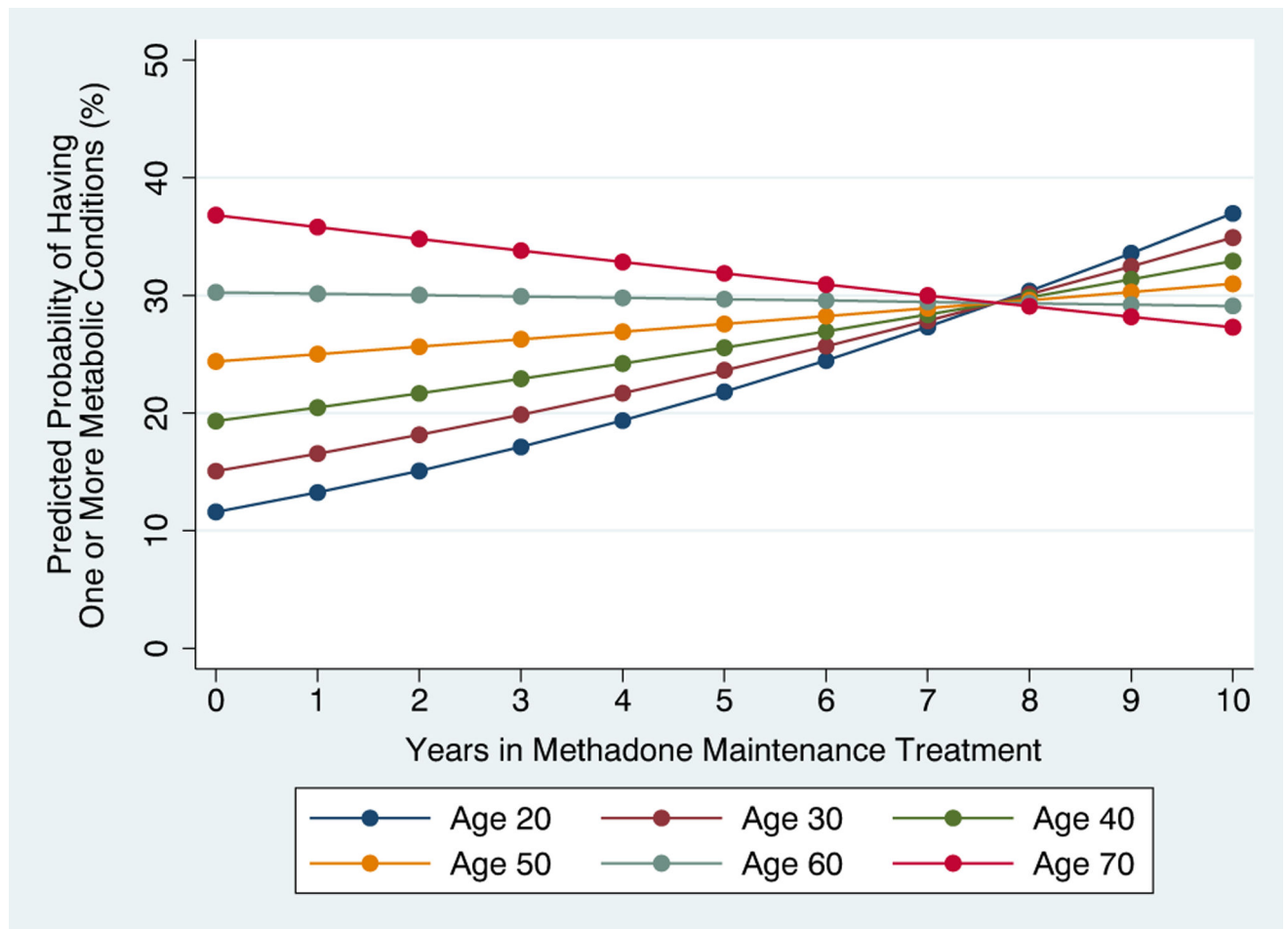
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**Fig. 1.**  
Predicted probability of having one or more metabolic condition(s), stratified by age and time in Methadone Maintenance Treatment (MMT).

Table 1

Sample characteristics.

Characteristic	Full sample n (%)	Age group in years			p-Value
		18–29 n (%)	30–49 n (%)	50 or older n (%)	
Total number	1364	373	741	250	
Race/ethnicity					< 0.001
Non-Hispanic White	1140 (83.6)	334 (89.5)	611 (82.4)	195 (78.0)	
Hispanic	138 (10.1)	26 (7.0)	85 (11.5)	27 (10.8)	
Black	50 (3.7)	6 (1.6)	22 (3.0)	22 (8.8)	
Other	36 (2.6)	7 (1.9)	23 (3.1)	6 (2.4)	
Female gender	590 (43.3)	179 (48.0)	312 (42.1)	99 (39.6)	0.076
Housing instability <sup>a</sup>	106 (7.8)	31 (8.3)	59 (8.0)	16 (6.4)	0.655
Married or cohabitating	239 (17.5)	48 (12.9)	140 (18.9)	51 (20.4)	0.018
Graduated high school	917 (67.2)	235 (63.0)	515 (69.5)	167 (66.8)	0.092
Employed <sup>b</sup>	415 (30.4)	123 (33.0)	237 (32.0)	55 (22.0)	0.006
Any psychosocial problems <sup>c</sup>	1117 (81.9)	327 (87.7)	617 (83.3)	173 (69.2)	< 0.001
Metabolic conditions					
Hypertension	161 (11.8)	27 (7.2)	83 (11.2)	51 (20.4)	< 0.001
Obesity	113 (8.3)	22 (5.9)	61 (8.2)	30 (12.0)	0.025
Diabetes	78 (5.7)	14 (3.8)	35 (4.7)	29 (11.6)	< 0.001
Hyperlipidemia	52 (3.8)	5 (1.3)	29 (3.9)	18 (7.2)	0.001
One or more	291 (21.3)	52 (13.4)	158 (21.3)	81 (32.4)	< 0.001
Any chronic respiratory condition(s) <sup>d</sup>	187 (13.7)	48 (12.9)	92 (12.4)	47 (18.8)	0.034
Hepatitis C	444 (32.6)	83 (22.3)	249 (33.6)	112 (44.8)	< 0.001
Smoke tobacco	1045 (76.6)	302 (81.0)	585 (79.0)	158 (63.2)	< 0.001
Any co-occurring mental health diagnoses	980 (71.9)	282 (75.6)	529 (71.4)	169 (67.6)	0.086
Time in Methadone Maintenance Treatment					< 0.001
< 6 months	681 (49.8)	244 (65.4)	353 (47.5)	84 (33.6)	
6–17 months	242 (17.7)	62 (16.6)	145 (19.5)	35 (14.0)	

Characteristic	Full sample <i>n</i> (%)	Age group in years			<i>p</i> -Value
		18–29 <i>n</i> (%)	30–49 <i>n</i> (%)	50 or older <i>n</i> (%)	
18–47 months	195 (14.3)	40 (10.7)	122 (16.4)	33 (13.2)	
48 months or more	248 (18.2)	27 (7.2)	123 (16.6)	98 (39.2)	

<sup>a</sup>Includes individuals experiencing homelessness, living in sober housing, or living in correctional housing.

<sup>b</sup>Includes full-time and part-time employment.

<sup>c</sup>Includes problems with primary support group, social environment, education, occupation, housing, finances, access to health care, interactions with the legal system, and other psychosocial/environmental problems.

<sup>d</sup>Includes COPD and asthma.

**Table 2**

Prevalence of socioeconomic and clinical characteristics by age and time in Methadone Maintenance Treatment.

Characteristic	Months in Methadone Maintenance Treatment				p-Value
	< 6 n (%)	6–17 n (%)	18–47 n (%)	48 and more n (%)	
Any psychosocial problems <sup>a</sup>					
Age 18–29	222 (91.0)	55 (88.7)	36 (90.0)	14 (51.9)	< 0.001
Age 30–49	323 (91.5)	127 (87.6)	100 (82.0)	67 (55.4)	< 0.001
Age 50 +	72 (85.7)	29 (82.9)	26 (78.8)	46 (46.9)	< 0.001
Any metabolic conditions <sup>b</sup>					
Age 18–29	36 (14.8)	2 (3.2)	8 (20.0)	6 (22.2)	0.03
Age 30–49	73 (20.7)	21 (14.5)	30 (24.6)	34 (28.1)	0.04
Age 50 +	25 (29.8)	11 (31.4)	15 (45.5)	30 (30.6)	0.39
Any chronic respiratory conditions <sup>c</sup>					
Age 18–29	34 (13.9)	7 (11.3)	3 (7.5)	4 (14.8)	0.68
Age 30–49	49 (13.9)	20 (13.8)	14 (11.5)	9 (7.4)	0.28
Age 50 +	16 (19.1)	7 (20.0)	7 (21.2)	17 (17.4)	0.96
Hepatitis C					
Age 18–29	53 (21.7)	16 (25.8)	4 (10.0)	10 (37.0)	0.06
Age 30–49	117 (33.1)	50 (34.5)	44 (36.1)	38 (31.4)	0.88
Age 50 +	36 (42.9)	19 (54.3)	15 (45.5)	42 (42.9)	0.67
Tobacco smoking					
Age 18–29	216 (88.5)	46 (74.2)	27 (67.5)	13 (48.2)	< 0.001
Age 30–49	302 (85.6)	123 (84.8)	90 (73.8)	70 (57.9)	< 0.001
Age 50 +	68 (81.0)	27 (77.1)	25 (75.8)	38 (38.8)	< 0.001
Co-occurring mental health diagnosis					
Age 18–29	196 (80.3)	41 (66.1)	32 (80.0)	13 (48.2)	0.001
Age 30–49	260 (73.7)	104 (71.7)	85 (69.7)	80 (66.1)	0.44
Age 50 +	62 (73.8)	26 (74.3)	27 (81.8)	54 (55.1)	0.007

<sup>a</sup>Includes problems with primary support group, social environment, education, occupation, housing, finances, access to health care, interactions with the legal system, and other psychosocial/environmental problems.

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Includes obesity (BMI ≥ 30), diabetes, hypertension, and hyperlipidemia.  
Includes COPD and asthma.

Logistic regression results to predict metabolic conditions and mental health diagnoses by age and time in Methadone Maintenance Treatment (MMT).

**Table 3**

Independent variables	Metabolic condition		Mental health diagnosis	
	Odds ratio	95% CI	Odds ratio	95% CI
Main predictors (continuous)				
Age	1.032 <sup>***</sup>	1.017, 1.047	0.992	0.978, 1.005
Time in MMT	1.268 <sup>***</sup>	1.116, 1.442	0.970	0.861, 1.093
Interaction term	0.996 <sup>***</sup>	0.993, 0.998	1.000	0.998, 1.002
Covariates (dichotomous)				
Female	0.710 <sup>*</sup>	0.534, 0.944	2.061 <sup>***</sup>	1.574, 2.698
Black	1.888 <sup>*</sup>	1.015, 3.514	0.778	0.399, 1.515
Hispanic	1.058	0.680, 1.648	0.949	0.618, 1.458
Not housed	0.576	0.321, 1.035	1.410	0.817, 2.434
Graduated HS	0.864	0.647, 1.153	0.984	0.746, 1.296
Employed	0.760	0.555, 1.041	0.861	0.654, 1.133
Married	1.167	0.823, 1.655	0.821	0.592, 1.137
Psychosocial problems	0.844	0.582, 1.226	2.612 <sup>***</sup>	1.887, 3.614
Smoke tobacco	1.147	0.810, 1.624	1.440 <sup>*</sup>	1.066, 1.946
Chronic respiratory condition	2.081 <sup>***</sup>	1.454, 2.978	0.991	0.667, 1.473
Hepatitis C	1.062	0.790, 1.427	1.859 <sup>***</sup>	1.380, 2.505
Co-occurring mental health diagnosis	2.138 <sup>***</sup>	1.512, 3.021	N/A	-
Metabolic Condition	N/A	-	2.107 <sup>***</sup>	1.492, 2.976

<sup>\*</sup>  $p < 0.05$ .

<sup>\*\*</sup>  $p < 0.01$ .

<sup>\*\*\*</sup>  $p < 0.001$ .