

CHAIN 2013-4 Report

HIV/AIDS and Aging:
People Aged 50 and Over

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C.H.A.I.N. REPORT

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Introduction

For most individuals infection with HIV occurs before age 40, but once infected, individuals who maintain adherence to antiretroviral medications can expect to live out their natural lives and are likely to die from causes unrelated to HIV. Among 2,718 HIV infections diagnosed in New York City (NYC) in 2014, 64% were among individuals younger than 40, but among the 119,550 New York City residents living with HIV in that year, half were 50 and older (HIV Epidemiology and Field Services Program, 2015). Similarly, in the Tri-County region, among 137 individuals with newly diagnosed infections in 2013, 58% were younger than 40, but among the 4,182 Tri-County residents living with HIV in that year, 53% were 50 and older (HIV Epidemiology and Field Services Program, 2015). Today, most deaths among persons living with HIV are from causes unrelated to their HIV infection (HIV Epidemiology and Field Services Program, 2015).

Not surprisingly, published studies find that aging of the HIV-infected population is associated with increased comorbidity with other medical conditions (Neundorfer et al., 2005). However, how an aging HIV/AIDS population adjusts to the psychological trauma of HIV and physical co-morbidities associated with aging remains a subject for further research. Previous studies found high rates of psychiatric distress or depression and psychological crises when people first learn of their diagnosis. They also report depression, stress and mental disorder due to lack of material and emotional resources (Nichols et al., 2002, Sherbourne et al., 2000). Fear of disapproval from family and friends can result in an individual isolating herself/himself from potentially beneficial social networks (Shippy & Karpiak, 2005). The additional stress of guilt, shame and fear of rejection may also adversely impact physical and mental wellbeing (Schrimshaw & Siegel, 2003). Social support available to buffer the stressful nature of HIV appears to weaken with age. Thus, older infected individuals more than younger individuals may depend on formal support networks, since traditional informal social networks of older adults are fragile or become attenuated because of isolation and stigma (Shippy & Karpiak 2005). In short, this study explores the premise that aging has mixed consequences for an HIV population. As they age, surviving HIV-infected individuals acquire self-management skills that promote long-term survival and at the same time they may experience diminished benefits from a weakening of supportive social networks.

We last examined the health, and service needs of New York City CHAIN cohort members over the age of 50 in 2007 (Lee, 2007). The major findings of that report indicated that NYC members over 50 were more financially secure than younger members, as the sources of income shifted from sporadic job earnings to a sustained stream of welfare benefits from Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI). As a consequence, 64% of older NYC cohort members compared to 43% of younger NYC cohort members were living in households above the poverty line. Compared to older NYC participants, a smaller proportion of older Tri-County participants received social welfare benefits or rental subsidies, but Tri-County participants were more likely to have earnings from employment.

With the exception that older NYC participants had disclosed their HIV status to larger circles of friends or family (11.1 versus 9.6), measures of social support generally diminished with age. NYC cohort members over 50 were more likely than younger members to live alone (67% versus 44%). Older NYC participants were more likely than younger participants to have not disclosed their HIV infection to anyone (18% versus 12%) and were more likely to experience stigma because of their disease. Tri-County participants 50 and older reported larger social networks than older NYC participants, but similar levels of social support.

Older NYC members were diagnosed at a more advance stage of HIV disease than either younger members or older Tri-County members. However once diagnosed, older cohort members from both NYC and Tri-County were less likely than younger members to delay entry into medical care. Finally, older NYC members were in better mental health than either younger cohort members or older Tri-County participants.

This report revisits the wellbeing, service needs and service utilization of CHAIN cohort members aged 50 and older in comparison to younger cohort members. It updates the analysis of the 2007 report using interview data collected from 2011 to 2013 and expands the range of variables examined to include participants' use of the internet for obtaining information about their HIV condition.

Key Findings

- At the time interviews were conducted for this study, between 2011 and 2013, 61% of NYC CHAIN participants and 60% of Tri-County participants were 50 years and older.
- A majority of CHAIN participants 50 and older lived alone; about half had an intimate partner.
- CHAIN participants 50 and older had a larger circle of close friends or family, 9.5, compared to 8.7 for younger cohort members to whom they had disclosed their HIV+ status.
- Approximately 80% of CHAIN participants 50 and older had a family member or friend they could turn to should they require care for an extended period of time.
- A majority of older participants lived in households with incomes below the United States poverty line.
- Among participants aged 50 to 65, few were employed and most relied on disability benefits as their major source of income.
- Two-thirds of older participants in NYC and Tri-County perceived themselves to be in good health.
 - 73% of NYC older participants and 74% of Tri-County older participants reported CD4 counts over 200.
 - 89% of NYC older participants and 92% of Tri-County older participants had undetectable viral loads.
 - However, nearly all older cohort members had at least one chronic disease or co-morbid condition.
- 84% of NYC older participants and 75% of Tri-County older participants reported they were in ‘good’ mental health.
- A minority of older CHAIN participants delayed entry into medical care after initial HIV diagnosis.
- Nearly half of older NYC participants and over 80% of Tri-County participants 50 and older were sexually active.
- Nearly all participants over 50 were recently asked by medical providers about their sexual activity and their use of illicit substances.

- Although food and nutrition services emerged as the most needed services by both older NYC and Tri-County CHAIN participants, less than half of those in need used these services.
- Older cohort participants seldom reported barriers to medical care and social services.
- Half of participants over 50 used the internet, and slightly less used email. Of those who used the internet, half said they used the internet to search for information on HIV, and a quarter used it for socializing, dating, and “hooking up.”

Methodology

Study Sample

Data for this study were obtained from two samples of people living with HIV/AIDS: 545 NYC residents, who completed interviews between September 2011 and June 2013, and 177 Tri-County residents, who completed interviews between March 2012 and August 2013.

Study Variables

Defining Older Age

We selected age 50 as a cutoff to distinguish older from younger study participants due to the concentration of CHAIN participants between ages 50 and 65. At the time the interviews were conducted for this study, the median age of the NYC CHAIN cohort was 52 and the median age of the Tri-County cross sectional sample was 53; 54% of the NYC cohort and 56% of the Tri-County cross-section were between the ages of 50 and 65. Too few participants were 65 or older (5% in NYC and 4% in Tri-County) to further subdivide this older age group. The age 50 cutoff point is also consistent with the designation for older individuals used by official bodies, including the National Institute on Aging (Centers for Disease Control and Prevention, 2016; National Institute on Aging 2015).

Sociodemographic Characteristics

Data for this study came from CHAIN in-person interviews. Gender was categorized as male, female, or transgender. Race/ethnicity was categorized as white, black, Latino, or other. Educational attainment was dichotomized as less than a high school education or a high school education or more.

Economic Status and Resources

Study participants were asked to indicate all sources of income from a long list of legal, grey area (such as off-the-books work, peddling) and illegal sources. To capture feelings of economic insecurity, participants were asked “In the last six months, how often has it happened that there was not enough money in the household for...” various household expenses. Possible responses were ‘never,’ ‘once in a while,’ ‘fairly often,’ and ‘very often.’ In this analysis, ‘fairly often’ and ‘very often’ responses were categorized together, as were ‘never’ and ‘once in a while.’

Living Situation and Household Characteristics

Self-reported 'living situation' categories were:

- Privately owned or rented
- Subsidized rental –any form of rental assistance or help with paying for housing from a government program or an agency
- Doubled up
- Temporary transitional housing - SRO, welfare hotel, nursing home, hospice, or jail
Emergency housing - shelter or drug treatment housing
- Non housing - street or other public space.

Beginning with these detailed living situations, we classified individuals into one of three mutually exclusive 'housing status' categories. We defined *Stable housing* as always residing in privately owned, rental or subsidized rental housing in the last six months. We defined *Unstable housing* as “doubled-up” in someone else’s housing or having spent any part of the past six months in a temporary transitional housing, such as substance abuse treatment housing, in jail, prison, or corrections housing with no other address. We classified individuals as *homeless* if at any time during the past six months they slept on the street or stayed in emergency housing, such as a shelter, SRO, or welfare hotel with no supportive services.

Date of HIV Diagnosis and Entry into Medical Care

Date of HIV diagnosis was based upon participants’ recall of the date of their first positive HIV test result. Delayed entry into medical care was defined as more than three months between the date of initial diagnosis and first contact with a medical provider.

Physical Health Status

Physical status was assessed based on the SF-12, a standardized 12-item physical component summary scale (PCS; Ware et al. 2002).

Non-HIV Comorbid Conditions

These variables were constructed based upon a list of 14 non-HIV comorbid health conditions for males and 15 for females as described in CHAIN report 2013-6 (Messeri et al., 2016). They measured lifetime experience of conditions reported by CHAIN participants.

Substance Use and Mental Health

Tobacco use was categorized as current, former, or no history. During baseline interviews, CHAIN participants were asked “Have you smoked at least 100 cigarettes in your entire life.” At each interview, they were also asked: “Do you smoke cigarettes now?” Those who replied positively to this question were classified as ‘current smokers.’ The remaining CHAIN participants who smoked at least 100 cigarettes were classified as ‘former smokers.’

Illicit substance use was categorized as current, former, or no history. Illicit substance use was defined as the use of heroin, cocaine, and/or crack during the six months preceding the interview. Former illicit substance use was defined as a reported history of heroin or cocaine/crack, with no reported use in the six months preceding the interview.

Mental health functioning was measured using the Medical Outcomes Study (MOS) SF-12v2 Mental Health Composite Scale (MCS; Ware, et al. 2002). Following Medical Outcomes Trust guidelines, we used a cutoff point of 37, with scores under 37 deemed ‘poor’ mental health, indicating a need for clinical intervention.

Perceived stress is measured using the four-item Perceived Stress Scale (Cohen, Kamarck, & Mermelstein 1983).

Current Health Service Use

Participants were asked how many outpatient visits, inpatient stays, ER visits and dental service appointments they had during the six months preceding the interview.

Participants were asked whether “At any time during the past six months has [anyone from your medical provider]”

- a) Asked about your recent sexual activity (Yes/No)
- b) Asked about your recent drug use (Yes/No)

Service Needs and Utilization

These variables were constructed in accordance with CHAIN Report 2013-5: Service Needs and Utilization (Yomogida, Messeri, and Irvine, 2014).

Barriers to Service Use

To elicit barriers to services, the interview prompted participants that “sometimes people have difficulties in getting medical care and social services they need. At any time in the last 6 months, did you ever delay or not get the assistance you thought you needed...” followed by a range of possible barriers which are listed in Table 14. If a participant answered

that they have encountered such a barrier, they were asked whether it interfered with their receipt of medical services, social services, or both types of services.

Internet Use

Participants were asked whether they had an e-mail account, with the options being: 'No, does not use email,' 'Yes, own account,' 'No, use someone else's account,' 'Other.' This variable classified anyone who reported using any email account, whether their own or someone else's, as an email user.

Participants were further asked whether they "ever use the internet or world wide web" with a yes/no answer possible. For those participants who reported any internet use, further questions were asked with regard to the nature of this use. Internet using participants were asked whether in the past six months they had "searched the internet for any health or HIV information and/or used the internet to find people for socializing, hooking up, or dating."

Results

Sociodemographic Characteristics

For the ten-plus years we have followed the NYC CHAIN cohort, the number of cohort members, who have aged into the over 50 category, increased from 30% to 61% (Figure 1a). Despite the change from a cohort to a cross-sectional sample design, Tri-County CHAIN participants at successive interviews have similarly aged. The proportion of Tri-County participants 50 and older increased from about 25% of those enrolled into the original cohort to 60% at most recent cross-sectional interviews (Figure 1b). The temporary flattening of the age trend in NYC for the 5th and 6th round of interviews was due to the addition of a younger refresher cohort, and the slight downturn in Tri-County study participants' age between rounds 4 and 5 is the result of the shift from the cohort to the repeated cross-sectional design.

Column 1 of Table 1 shows that NYC CHAIN participants 50 and older were roughly equally divided between males and female and 90% were either black or Latino. Approximately 70% had high school degrees and about 25% were born in Puerto Rico or outside the United States. The borough of residence for those 50 and older was concentrated in Manhattan, the Bronx and Brooklyn. Smaller numbers lived in Queens and Staten Island.

Figure 1a: Percentage of NYC CHAIN Cohort 50 and Older at Successive Rounds of Interviews

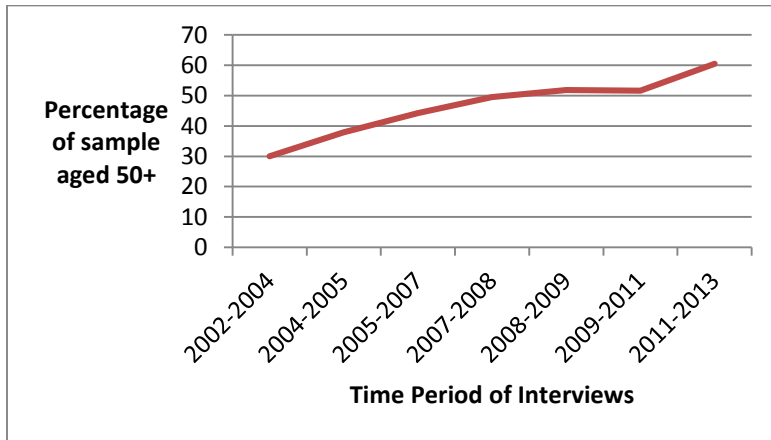
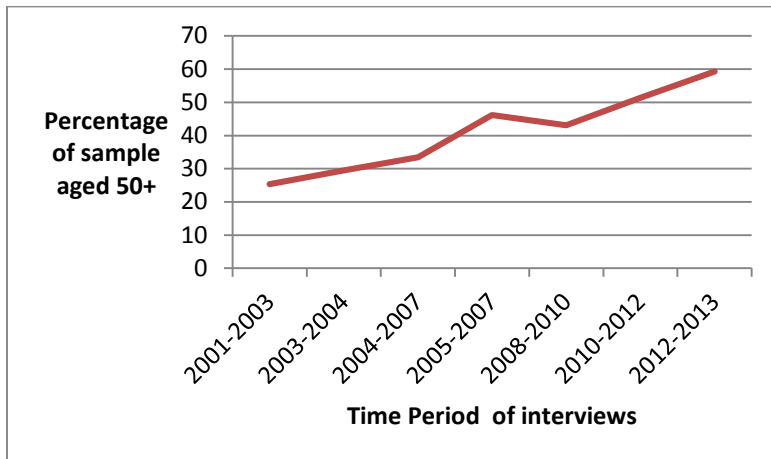


Figure 1b: Percentage of Tri-County CHAIN Participants 50 and Older at Successive Rounds of Interviews¹



The demographic composition of older participants was similar to that of younger participants.

The demographic composition of the Tri-County 50 and older study sample was similar to the NYC cohort (Column 3 of Table 1). The major departure was the higher proportion of white persons living in Tri-County and fewer Latinos compared to NYC. Compared to the younger Tri-County participants, the 50 and older age group had a higher percentage of whites, males, and those born in the United States.

¹ The Tri-County sample used a cohort design for the first four rounds of interviews. It was changed to a cross-sectional design in subsequent rounds.

Table 1: Sociodemographic Characteristics

Sample(N=)	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
	330	215	105	72
Age				
Mean	57.70	44.01	58.07	41.13
(SD)	(6.11)	(4.78)	(4.87)	(7.39)
Gender				
Female	43%	46%	43%	61%*
Male	56%	51%	57%	38%
Transgender	1%	2%	0%	1%
Race/Ethnicity				
White	9%	8%	21%	7%
Black	58%	48%	54%	58%
Latino	31%	41%	21%	31%
Other	2%	2%	4%	4%
Education				
High school or more	71%	69%	67%	60%
Less than high school	29%	31%	33%	40%
Borough / County				
Bronx	24%	28%		
Brooklyn	34%	31%		
Manhattan	27%	21%		
Queens	9%	16%		
Staten Island	6%	4%		
Putnam			1%	1%
Rockland			12%	21%
Westchester			87%	78%
Place of birth				
US	75%	71%	73%	61%*
Puerto Rico	10%	8%	9%	3%
Other	15%	21%	18%	36%

Asterisks in Age<50 columns in this and subsequent tables indicate statistically significant differences between older and younger participants within regional samples.

*p<.05 ** p<.01 ***p<.001

Year of Diagnosis (Tables 2a, 2b)

Tables 2a and 2b shows that the majority of the older NYC CHAIN cohort (57%), and 48% of the Tri-County older cohort members were diagnosed prior to 1996. Given the different recruitment periods for New York City (2002 and 2009) and Tri-County (2012), it is not surprising that while there were very few recently diagnosed individuals in the New York City cohort, there was a larger proportion among the Tri-County participants.

Table 2a: Year of Diagnosis by Age Group, New York City Cohort Wave 7

	50+	Under 50
Before 1996	57%	49%
1996-2005	40%	45%
2006+	3%	6%

Table 2b: Year of Diagnosis by Age Group, Tri-County 2012 Cross-Section

	50+	Under 50
Before 1996	48%	28%
1996-2005	35%	43%
2006+	17%	29%

Economic Status and Resources (Table 3)

The first column of Table 3 shows that the NYC CHAIN participants 50 and older lived on modest incomes. A majority of such participants lived in households with an income below the United States poverty level. Only a small minority lived in households with annual incomes above \$35K. Although most of those over 50 are under 65, only a small percentage were working and report earned income. Their major source of cash income was disability benefits. The great majority of older NYC participants — as was the case for younger NYC

participants (Column 2 of Table 3) -- received subsidies for food and rent. For the most part, those 50 and older were better able to pay for food, rent and utilities, but larger numbers were short on cash to pay for clothing and recreational activities.

Table 3: Economic Status and Resources

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Household income				
Less than \$7,500	14%	30%***	11%	15%
\$7,500 to \$35K	84%	67%	81%	77%
\$35K or more	3%	3%	8%	7%
% Living in households below poverty line	67%	79%**	58%	66%
Work status				
Not currently working	87%	86%	83%	63%**
Irregular work	10%	7%	10%	16%
Full time	3%	7%	7%	21%
Income sources				
Regular job earnings	9%	14%*	18%	39%**
Social Security or other pension	7%	0%***	12%	1%*
Social Security Disability Income (SSDI)	26%	18%*	37%	21%*
Social Security Income (SSI)	57%	42%***	41%	34%
SNAP	83%	83%	76%	60%*
Rental subsidy	75%	83%	61%	55%
% Fairly often or very often, not enough money in the household for...				
Rent	6%	6%	7%	14%
Utilities	10%	11%	11%	18%
Food	8%	13%*	7%	21%**
Medical care	0%	1%	4%	3%
Clothing	16%	20%	16%	31%*
Recreational activities	33%	40%	40%	49%

Asterisks in Age<50 columns indicate significant differences between older and younger participants within regional samples.

*p<.05 ** p<.01 ***p<.001

Older NYC participants appeared to be in better economic shape than younger participants, but the difference was small. They were less likely to earn income from work than younger ones, but were more likely to be recipients of social welfare benefits such as disability, Social Security, food and rental subsidies. Older NYC participants were less likely to live in households below the poverty line, and in very poor households with annual income of less than \$7,500.

The economic circumstances of Tri-County participants 50 and older was similar to older NYC participants (Column 3 of Table 3). A majority live in households with incomes that were below the United States poverty level. Most older Tri-County participants depend upon social welfare benefits as their primary source of income. The general economic circumstances of older Tri-County participants were also similar to those of younger participants (Column 4 of Table 3), although the sources of income differ. A higher percentage of older than younger individuals were beneficiaries of pensions and social welfare programs; whereas, a higher proportion of younger than older individuals earned income from working. Despite similar levels of household income, older Tri-County participants were less likely than younger Tri-County participants to exhibit the outward manifestations of economic insecurity: a smaller proportion of older than younger Tri-County participants reported fairly or very often not having enough money for rent, utilities, food, clothing and recreation.

Living Situation and Household Characteristics (Table 4):

Table 4 shows that a majority of older participants in the NYC cohort lived alone, and half of them did not have a partner, whether living with them or not. A large majority lived in subsidized rental accommodation, and almost all older cohort participants reported stable housing in the six months prior to the interview.

Participants aged 50 and over in the Tri-County sample were similar to NYC in that a majority of them lived alone, and more than half did not have a partner. Almost all reported stable housing in the six months prior to the interview. In Tri-County, as in NYC, a majority of older participants lived in subsidized rental housing, but Tri-County also had a larger percentage of participants than NYC living in privately owned accommodations. In both regional samples, older participants were more likely than younger ones to live alone.

Table 4: Living Situation and Household Characteristics

	NYC Cohort (Round 7)		Tri-County (2012 Cross -Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Household composition				
Lives alone	68%	57%	62%	31%
Lives in institution	2%	2%	3%	1%
Lives with others	30%	41%	35%	68%
Marital status				
Currently married	20%	15%	12%	25%
Formerly married	32%	21%	46%	25%
Never married	48%	64%	42%	50%
Partner status				
No partner	50%	48%	56%	42%
Live-in partner	13%	13%	14%	21%
Non-live-in partner	37%	38%	30%	37%
Living situation				
Privately owned or rented	14%	13%	34%	40%
Subsidized rental	80%	84%	64%	56%
Doubled up	2%	1%	1%	1%
Temporary transitional housing	3%	2%	0%	23%
Emergency housing	1%	0%	1%	0%
Non-housing	0%	0%	0%	0%
Housing status over past 6 months				
Stable	92%	90%	93%	85%
Unstable	5%	9%	6%	12%
Homeless	3%	1%	1%	3%

Social Relationships (Table 5)

Table 5 shows that a higher percentage of Tri-County older participants (17%) than NYC older participants (9%) had yet to disclose their positive serostatus. In other respects, the social relationships of older participants in Tri-County were similar to those in NYC. Older participants in the NYC CHAIN cohort had, on average, 9.5 close friends or family who were aware of their HIV serostatus. The mean size of the disclosure network was 8.6 in Tri-County. Very few older participants reported having no close friends or family, and nearly a fifth reported having no family or friends they can count on to take care of them if they require

bedside care for a long period. Nearly a quarter of older participants were not able to identify either a friend or family member who might be a source of information on finding a dentist who treats people with HIV. In both regional samples, the social relationships and levels of social support of were similar for older and younger participants.

Table 5: Social Relationships

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
HIV disclosure				
Mean (SD) number of close friends of family who know HIV status	9.53 (11.70)	8.75 (11.97)	8.60 (12.02)	6.04 (10.73)
% who disclosed HIV status to no one	9%	7%	17%	21%
Social Network				
Mean (SD) number of close friends or family who can help or advise	12.77 (14.17)	10.74 (13.01)	12.89 (11.81)	13.18 (17.15)
% with no close friend or family	2%	2%	1%	4%
% who have no one who could come to participant's aid in case of accident in the home	7%	10%	6%	9%
% who have no one they could count on to take care of them if they are confined to bed for several weeks	18%	16%	17%	15%
% who have no one who could be a source of information on finding a dentist who treats people with HIV	24%	25%	16%	18%

HIV Diagnosis and Entry into Medical Care (Table 6)

Given the different sample recruitment periods for the NYC and Tri-County study samples, it is not surprising that Table 6 shows that there were many fewer recently diagnosed infections among the NYC than the Tri-County participants. Among NYC participants, 2% were diagnosed within five years of the interview, and two-thirds had lived with the virus for over 16 years. In Tri-County 16% were diagnosed within five years of the interview, and just under half have lived with the virus for 16 or more years.

Table 6: HIV Diagnosis and Entry into Medical Care

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Years since HIV diagnosis				
1-5 years	2%	4%	16%	18%
6-10 years	8%	13%	11%	20%
11-15 years	28%	28%	19%	27%
16-20 years	30%	33%	26%	17%
21 years or more	32%	22%	28%	18%
Was HIV test taken because of sickness?	24%	22%	32%	31%
Delayed entry into medical care	39%	31%	21%	18%
First place approached for help after diagnosis				
Nowhere	14%	13%	1%	3%
Medical provider	66%	67%	90%	80%
Mental health or drug treatment center	6%	2%	2%	3%
Social service provider	10%	10%	1%	7%
Friend, family, or non-professional	4%	8%	7%	8%
How was first medical provider found?				
By self	53%	50%	38%	46%
Referred by friend/family	7%	7%	4%	4%
Referred by medical provider	16%	16%	33%	21%
Referred by other	16%	20%	16%	22%
Was just taken there	8%	8%	10%	7%

Nearly a quarter of older participants in the NYC cohort reported an initial positive HIV test due to sickness, and nearly two-fifths delayed entry into care by more than three months, which we consider 'late' entry into care. A majority of NYC older participants approached a medical provider as their first source of help after diagnosis, and just over half of them found this provider on their own.

A greater proportion of older Tri-County, 32%, than older NYC participants reported their initial HIV test result due to sickness, but far fewer, 21%, delayed entry into medical care. Medical providers were by far the first care provider to be approached for help after initial diagnosis. Compared to older NYC participants, older Tri-County participants were less likely to find an HIV medical provider on their own and more likely to be referred to an HIV provider by their medical provider at the time.

Other than the expected difference in years since HIV diagnosis, older participants in both samples were similar to younger participants with respect to seeking HIV specialized medical care after initial diagnosis.

General Health and HIV Health Status (Table 7)

Table 7 shows that two-thirds of older participants in NYC perceived their general health to be in excellent or very good health. Other health status measures present a mixed assessment of self-reported health. Only one-third had a physical component score (PCS) greater than 50, the mean physical health functioning level for the U.S. general population. However, only a small proportion of older NYC participants had clinical markers of advanced HIV disease; 27% reported CD4 counts less than 200 and 11% reported detectable viral loads. Older NYC participants were in poorer general health than younger NYC participants, but older and younger NYC participants were similar with respect to clinical measures of advanced HIV disease.

The health status characteristics of older Tri-County participants were similar to older NYC participants. As in NYC, older Tri-County participants were in poorer general physical health than younger participants as measured by a lower mean PCS and a lower percentage with a PCS above 50. In contrast, older Tri-County participants generally had good HIV disease markers: 74% reported CD4 counts greater than 200 and 92% reported undetectable

viral loads. The percentage of older Tri-County participants with undetectable viral loads was similar to those for both the younger and older NYC cohorts, but higher than that for the younger Tri-County participants, nearly a quarter of whom reported detectable viral loads.

Table 7: General Health and Health Status

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Perceived General Health				
% Excellent/Very good	67%	72%	65%	71%
PCS				
Mean	41.58	45.07	40.21	45.39
(SD)	(11.60)	(11.99)	(12.80)	(12.13)
% PCS>50	29%	40%**	26%	43%*
CD4 > 200	73%	70%	74%	83%
Undetectable Viral load	89%	85%	92%	77%**

Asterisks in Age<50 columns indicate significant differences between older and younger participants within regional samples.

*p<.05 ** p<.01 ***p<.001

Non-HIV Comorbid Conditions (Table 8)

Nearly all older NYC participants had at least one of 14 chronic diseases or co-morbid conditions for men (15 for women) listed in Table 8 (also see Messeri, Ball, & Sharma, 2015). More than half of older participants in NYC reported high cholesterol, and similar numbers report arthritis or rheumatism, and hepatitis. Hypertension was also common, reported by nearly half of older participants. Among older female participants, a history of cervical disease was widespread (62%). Although older participants in NYC were as likely as younger participants to report at least one chronic condition, they reported a higher burden for many specific conditions: breathing problems, hypertension, arthritis or rheumatism, hepatitis, active TB infection, and high cholesterol.

In Tri-County, as well, nearly all older participants reported at least one chronic disease or co-morbid condition. The most commonly reported conditions were hypertension,

arthritis or rheumatism and high cholesterol. In older female participants, cervical disease was commonly reported as well. Older participants in the Tri-County sample were more likely than younger participants to report at least one chronic condition. They were also more likely to report several specific conditions: hypertension, diabetes, arthritis or rheumatism, hepatitis, and high cholesterol.

Table 8: Non-HIV Comorbid Conditions

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
One or more Chronic Conditions	97%	95%	98%**	86%
Arthritis or rheumatism	55%	32%**	51%	36%*
Asthma	37%	44%	33%	39%
Bronchitis	22%	28%	30%	37%
Cancer (general)	8%	7%	14%	14%
Cervical disease ¹	62%	72%	60%	75%
COPD	7%	5%	12%	7%
Chronic sinusitis	33%	33%	23%	18%
Diabetes	22%	16%	27%	12%*
Emphysema	5%	5%	8%	1%
Heart Problems	31%	35%	25%	30%
Hepatitis C	54%	40%**	36%	8%***
High cholesterol	58%	49%*	49%	25%**
Hypertension	48%	33%***	50%	22%***
Other breathing problems	41%	31%*	33%	29%
Active TB infection	25%	15%**	20%	12%

Asterisks in Age<50 columns indicate significant differences between older and younger participants within regional samples. *p<.05 ** p<.01 ***p<.001

¹Applies only to female participants

Behavior and Mental Health (Table 9)

A majority of older participants in NYC were likely to have become infected with HIV through ‘heterosexual or other’ sexual contact, with the second largest group being IDU transmission (Table 9). About half of older participants reported having been sexually active

Table 9: Risk Behavior and Mental Health

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
HIV transmission risk				
MSM	8%	22%***	13%	21%**
IDU	31%	16%	36%	12%
MSM & IDU	1%	6%	3%	1%
Heterosexual or other	61%	56%	48%	65%
Sexual behavior (past 6 months)				
Sexually active	49%	67%***	83%	91%
Among those who are sexually active				
Condom-less sex	18%	18%	7%	24%*
Exchange sex	7%	2%*	2%	8%
Tobacco Use				
Current	48%	56%***	54%	50%
Former	35%	21%	29%	19%
Never	17%	23%	17%	31%
Substance use		***		
Current	15%	20%	12%	11%
Past	59%	40%	53%	36%
Never	27%	39%	35%	53%
MCS				
Mean MCS score (SD)	44.0 (7.62)	41.8 (9.09)***	43.5(9.09)	41.4 (8.96)
% MCS<37	16%	28%***	25%	31%
Perceived Stress Scale (PSS)				
Mean score (SD)	4.8 (2.80)	5.3 (3.25)	5.9 (2.98)	5.9 (3.67)

Asterisks in Age<50 columns indicate statistically significant differences between older and younger participants within regional samples.

*p<.05 ** p<.01 ***p<.001

during the six months prior to the interview. Among them, nearly a fifth reported condom-less sex and 7% reported sex in exchange for money or drugs. Nearly half of older participants in NYC were current smokers, and more than four-fifths had been smokers at some point in their lives. Sixteen percent of older participants received a score of less than 37 on the Mental Health Composite Scale (MCS), indicating poor mental health status.

Compared to younger participants, older NYC participants were less likely to have reported HIV transmission through MSM sexual contact, less likely to have reported sexual activity and more likely to have reported exchange sex. Older cohort members were in better mental health than younger cohort members.

The main HIV transmission risk for older participants in Tri-County was, as in NYC, 'heterosexual or other' sexual contact; this risk group accounted for just under half of participants, with IDU being the second largest group. Older participants in Tri-County were more likely than older NYC participants to have reported recent sexual activity. Nonetheless, they were less likely to report unsafe sex, and hardly any reported exchange sex. Older Tri-County participants were similar to NYC participants in tobacco use and illicit substance use. A quarter of them are classified as being in 'poor' mental health.

Compared to younger participants, older participants in Tri-County were less likely to be MSM who reported likely HIV transmission through sexual contact. Although older participants reported similar levels of sexual activity to younger participants, they were less likely to report condom-less sex.

Current Health Service Utilization (Table 10)

Table 10 shows that older CHAIN participants visited their outpatient provider about once a month. Less than a fifth of older participants in New York City had an overnight stay at a hospital as an inpatient in the 6 months preceding the interview. A quarter had used the ER during that period, and 31% made use of dental services. Only 5% of older participants in NYC reported using no HIV medication. The majority were on Highly Active Antiretroviral Therapy (HAART). Nearly all older participants were asked by their medical provider about their sexual behavior and their drug use in the six months preceding the interview. Over half were using the same medical provider as they did in the previous round of interviews (2009-2011).

Table 10: Current Health Service Utilization

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Outpatient visits over past 6 months				
Mean (SD)	5.48 (12.59)	4.61 (9.94)	5.79 (5.89)	4.69 (4.11)
Inpatient Use				
% over past 6 months (1 night or more)	15%	13%	13%	21%
ER Use				
% over past 6 months (1 time or more)	25%	26%	20%	25%
Dental service use				
% over past 6 months	31%	42%*	26%	22%
HAART use				
No HIV Medication	5%	11%	10%	7%
Non-HAART	8%	6%	8%	3%
HAART	87%	83%	82%	90%
% medical provider asked about sexual behavior in past 6 months	96%	99%	91%	94%
% medical provider asked about drug use in past 6 months	99%	98%	98%	97%
% continuously used the same medical provider since the last interview	63%	56%	N/A	N/A

Asterisks in Age<50 columns indicate significant differences between older and younger participants within regional samples.

*p<.05 ** p<.01 ***p<.001

There were minimal age differences in NYC. Younger cohort members were more likely to have received oral health care in the last six months, and continuity of care provider was more common among older than younger cohort members.

The pattern of health service utilization was similar for Tri-County. Older cohort members had more outpatient visits than younger members; younger participants in Tri-

County, but not in NYC, were more likely to have had an overnight inpatient visit. Older Tri-County cohort members had slightly lower levels of HAART use than younger cohort members (82% versus 90%).

Service Needs and Utilization – New York City (Table 11)

The most common service needs (see Yomogida, Messeri and Irvine, 2014) among older participants in the NYC cohort were for food and nutritional counseling (Table 11). While more than 85% of participants were in need of these services, just under half of those with the need used nutritional services. Rental assistance was also a common service need for older NYC participants, and was far more commonly used than other supportive services, with 84% of older participants in need reported receiving this service. Nearly a quarter of older participants in NYC needed home care, but only 29% in need receive such services. Among those in need of a particular service, use was particularly low for medical case management, home care, permanent housing placement and transportation.

Table 11: New York City (2011-2013) Service Need and Use

	Service Need		Use among those in need	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	330	215
Case management: medical services	34%	37%	15%	17%
Case management: social services	35%	48%***	69%	64%
Home care	23%	16%*	29%	18%
Permanent housing placement	8%	10%	11%	32%
Rental assistance	86%	88%	84%	88%
Transportation	27%	22%	22%	17%
Food	93%	94%	47%	37%*
Nutrition counseling	92%*	85%	47%	47%
Mental health	47%	55%	79%	75%
Substance use	44%	42%	42%	40%

Asterisk in Age<50 columns indicate significant differences between older and younger NYC participants.

*p<.05 ** p<.01 ***p<.001

Older and younger participants in the NYC sample were similar in terms of service need and use. However, older participants were less likely to require social services case

management and more likely to need nutrition counseling, and more likely to use food services.

Service Needs and Utilization – Tri-County (Table 12)

According to the definitions used in Tri-County, all participants require case management and nutrition counseling. Other than these types of service, the most commonly needed services among older individuals in the Tri-County sample were rental assistance (94%) and food services (85%) (Table 12). Almost a fifth of older participants needed home care services, and just over a quarter of those in need used these services. Very few older participants required permanent housing placement services, but use of such services was very low among those who do. Older and younger participants in Tri-County were similar to each other with regard to service need and use. For a more in depth analysis of service needs and utilization see Yomogida, Messeri, and Irvine (2014).

Table 12: Tri-County (2012-2013) Service Need and Use

	Service Need		Adequate Use	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	105	72	105	72
Case management: medical services²	100%	100%	45%	44%
Case management: social services³	100%	100%	70%	71%
Home care	18%	15%	26%	18%
Permanent housing placement	7%	15%	14%	18%
Rental assistance	94%	93%	65%	55%
Transportation	41%	39%	72%	79%
Food	85%	82%	78%	67%
Nutrition counseling⁴	100%	100%	40%	40%
Mental health	52%	54%	76%	59%
Substance use	35%	25%	30%	39%

² All PLWHA in the Tri-County area are defined as in need of case management for medical services.

³ All PLWHA in the Tri-County area are defined as in need of case management for social services.

⁴ All PLWHA in the Tri-County area are defined as in need of nutrition counseling.

Barriers to Use of Medical Care and Social Services

In general, CHAIN participants seldom reported barriers to service utilization. Only 8% of older participants and 10% of younger participants in the NYC cohort report even one barrier to medical care and social services, respectively. The equivalent percentages in Tri-County were 8% and 8%, respectively.

Internet Use (Table 13)

Nearly half of older participants in NYC reported internet use, and 38% used email (Table 13). Tri-County figures were lower, less than a third of older participants reported internet use or email use. Among older participants who reported internet usage, nearly half in NYC and over half in Tri-County used the internet to search for HIV information. In both samples, about a quarter of older participants report using the internet for purposes of socialization, dating, or “hooking up”. Older participants in both samples were less likely than younger participants to report internet or email usage. However, older and younger participants were similar when it comes to the purpose of their internet usage.

Table 13: Internet Use

	NYC Cohort (Round 7)		Tri-County (2012 Cross-Section)	
	Age 50+	Age <50	Age 50+	Age <50
Sample (N=)	330	215	105	72
Email use				
Any email use?	38%	59%***	27%	65%***
Internet use				
Any internet use?	48%	68%***	32%	71%***
<i>Out of those who use the internet:</i>				
HIV information	49%	45%	56%	37%
Socializing/dating/hooking up	23%	29%	25%	27%

Asterisk in the Age<50 columns indicate significant differences between older and younger participants within regional samples

*p<.05 ** p<.01 ***p<.001

Discussion

The development of highly active antiretroviral therapies as well as continuing efforts to improve HIV outpatient care have led to a continuing increase in the number and proportion of people aged 50 and older living with the HIV. In both NYC and Tri-County, persons 50 and older account for about three-fifths of the sample. The majority of older participants lived alone and in a household that had a yearly income below the poverty line. Few of them engaged in any type of employment. Disability benefits (SSI and SSDI) were a major source of income. Nonetheless, older participants appeared to be in better financial shape than younger participants. They were less likely to report lacking funds for household goods and services. Although hardly any older participants reported a complete lack of a social network, nearly a fifth of them said that they had no one to count on in a situation where they required long term care.

The majority of older participants in both samples were sexually active. In New York City, a fifth of sexually active older participants reported recent condom-less sex; this risk behavior was reported by only 7% in Tri-County. Reports of recent exchange sex were uncommon.

In terms of physical health, most of the older participants in both samples considered themselves to be in good health. This finding was consistent with findings related to HIV disease progression: three-quarters had CD4 counts greater than 200, and around 90% in both samples had undetectable viral loads. However, almost all of the older participants reported at least one co-morbid condition or chronic disease, and many reported more than one. Older participants appeared to be no different from their younger counterparts in Tri-County in their mental health status, and older compared to younger NYC participants were actually less likely to fall into the 'poor' mental health category.

Although older participants were significantly less likely than younger participants to report internet usage, about half in NYC and a third in Tri-County did use the internet, and that figure will likely to grow as increasingly technologically fluent younger generations continue to age.

It is important to note that this report did not account for the possibility of a survival bias in both the cohort and cross sectional samples used in this study. That is, there was always a possibility that those participants who lived to 50 have certain beneficial characteristics that allowed them to live to an older age. Second, while this report roughly divided participants into 'older' and 'younger,' the older groups in the samples were largely between the ages of 50-65, while the younger groups were between the ages of 30 and 50. This meant that these descriptive statistics did not capture the age extremes. The report may underrepresent both the youngest of 'younger' adults and the oldest of 'older' adults.

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