



*Update Report #30*

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**The Impact of  
Ancillary Services  
on Entry &  
Retention to HIV  
Medical Care in  
New York City**

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**Submitted February 29, 2000  
Revised May 24, 2000  
HRSA Contract # 250-0A-13(8)**

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**C.H.A.I.N. REPORT**

## **Introduction<sup>1</sup>**

As medical treatment options for HIV/AIDS have evolved in the past few years, health planners at federal, state, and local levels have explored ways of increasing access to and retention in medical care for individuals with HIV. Prior to the widespread use of antiretroviral therapies, many urban areas in the United States had developed comprehensive health and human service programs in response to the HIV/AIDS epidemic, often as a result of Ryan White CARE Act Title I planning activities. A number of these areas employed strategies built upon “ancillary services” – an umbrella term encompassing a broad range of services designed to address the social and psychological needs of individuals and groups affected by the epidemic. Although these services were generally developed to ameliorate non-medical problems that burden individuals infected with HIV – such as inadequate or unstable housing, mental illness, substance use, or lack of transportation – there has been a growing interest in exploring whether such supportive services also help HIV-infected individuals access and maintain medical care services. This report explores the impact of specific ancillary services on entry and retention into medical care in the country’s largest Ryan White Eligible Metropolitan Area, New York City.

The study’s principal findings are that, (1) receiving such specific ancillary services as substance abuse treatment, mental health care, housing services, and case management do increase an individual’s likelihood of entering medical care and maintaining appropriate

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<sup>1</sup> The authors gratefully acknowledge the contributions of CHAIN’s Technical Review Team: Dorothy Jones Jessop, MHRA (chair); Mary Ann Chiasson, MHRA; Les Hayden, HIV Care Services/MHRA; Joanne Hilger, NYCDOH; Jeanne Kalinoski, HIV Planning Council; Katherine A. Nelson, formerly MHRA; Arturo Llerandi-Phipps, PWA Advisory Group; and Rebecca Tiger, HIV Planning Council. Data collection for this research was supported by grant number H89 HA 0015-10 from the US Health Resources and Services Administration (HRSA), and the analysis was supported by HRSA contract #250-0A-13(8). The CHAIN study is supported by the HIV Health and Human Services Planning Council of New York under a Title I grant of the Ryan White Comprehensive AIDS Resource Emergency Act of 1990 through the New York City Department of Health. It is conducted under the auspices of the Medical and Health Research Association of New York City, Inc. Its contents are solely the responsibility of the Joseph L. Mailman School of Public Health of Columbia University and do not necessarily represent the views of the funders.

medical care services for HIV, and (2) these services have their greatest effect when they address a corresponding need.

*Why would ancillary services increase entry or retention to care?*

Despite the availability of high quality HIV medical care in New York City and several options for health care coverage for people with limited resources (e.g., Medicaid, ADAP, Medicare), there are still individuals who either do not have a regular medical provider or who do not maintain continuous medical care. Ancillary services could increase access or retention to medical care in one of several ways: (1) by overcoming or addressing specific logistical barriers that prevent an individual from getting to a doctor, such as lack of transportation or child care; (2) by overcoming or addressing more complex problems, such as unstable housing, mental illness, or substance abuse; (3) by helping clients navigate the health and human services system with the aid of a case manager; or (4) by having a preventive effect in addressing issues before they develop into significant problems or reducing the number of competing needs that an individual has to address. In this study, we also considered whether ancillary services could address disparities in access to medical care that have historically plagued certain groups within the larger population.

Clearly, ancillary services such as drug treatment, case management, or child care are not equally valued or needed by all HIV-infected individuals in New York City. Individuals who have adequate private medical care or adequate social and economic resources may not benefit from the “value-added” of a comprehensive care system or the availability of specific ancillary services. Furthermore, not all HIV-infected individuals are at risk or exposed to such behavioral and social problems as mental illness, substance use, or unstable housing. Finally by definition, group disparities only affect some individuals within a broad population.

Our analyses, therefore, centered upon several specific questions:

C *Are people with a specific need who receive ancillary services designed to address that*

*need more likely to enter into medical care, or stay in medical care, than similarly needy individuals who don't receive ancillary services?*

- C Are individuals in certain traditionally underserved populations who receive ancillary services more likely to enter into medical care, or stay in medical care, than individuals in these populations who do not receive ancillary services?*

## **Data and Methods**

### *Data Source: The CHAIN Study*

We used data from the Community Health Advisory and Information Network (CHAIN) Study, a longitudinal study of persons living with HIV conducted as part of the evaluation activities of New York City's Title I Health and Human Services Planning Council. Its purpose is to provide systematic data from the perspective of HIV-positive adults about their needs for health and human services; their encounters with the full continuum of HIV services; and their physical, mental, and social well being.

The study began collecting data in October 1994. Individuals were recruited into the study using a sampling strategy that yielded a group representative of HIV-positive adults in care in New York City in 1994. As illustrated in Table 1, the composition of the CHAIN study group was very similar to that of adult AIDS cases in the city at that time.

Since their original (baseline) interview in 1994-1995, individuals in the study have been re-interviewed five times, at six to nine month intervals. Very few individuals have refused to participate in follow-up interviews; most of the individuals lost to follow up have been lost due to death from AIDS-related causes. Because follow-up data were needed to assess the outcomes for this study, the sample for this project included 577 respondents who were interviewed at least once after the baseline survey. In the two-hour long interviews, participants are asked about: (1) their initial encounter with the health care delivery system, (2) their need for services, (3) their access, utilization and satisfaction with health and social services, (4) key sociodemographic characteristics, (5) informal caregiving from friends, family and volunteers, and (6) their quality of life with respect to health status, psychological

and social functioning. A number of items have been added over the years related to antiretroviral therapies, specific medical care services, viral load levels, and other topics of interest to policymakers, planners, providers, and clients on the Planning Council.

**Table 1. Sample representativeness, NYC CHAIN data**

	NYC Surviving AIDS Cases 12/31/94 <sup>1</sup>	Original CHAIN Sample 10/94 - 9/95
<b>n</b>	<b>28,243</b>	<b>700</b>
<b>Age</b>		
20-29	14%	11%
30-39	45%	45%
40-49	30%	35%
>49	10%	9%
<b>Gender</b>		
<i>Female</i>	24%	37%
<i>Male</i>	75%	63%
<b>Race/Ethnicity</b>		
<i>White</i>	23%	17%
<i>Black</i>	43%	50%
<i>Latino</i>	33%	33%
<i>Other</i>	<1%	<1%
<b>Risk</b>		
Males		
<i>MSM</i>	38%	35%
<i>IDU</i>	48%	35%
<i>MSM/IDU</i>	3%	17%
<i>Heterosexual &amp; Other</i>	11%	13%
Females		
<i>IDU</i>	58%	59%
<i>Heterosexual &amp; Other</i>	42%	41%

<sup>1</sup> Source: New York City Department of Health Office of AIDS Surveillance. Estimates of Persons Living with AIDS in New York City.

Four medical care outcome measures were used: (1) entry into primary HIV medical care from a state of no medical care, (2) entry into HIV medical care that met certain minimum preferred practice guidelines, based upon New York State AIDS Institute recommendations, (3) continuity of care at the same medical provider agency as reported at consecutive interviews, and (4) continuity of primary medical care that met the minimum practice guidelines, regardless of whether the care was delivered at the same medical provider agency.

Based on our interview data we focused on five ancillary services: transportation, drug treatment, mental health services, housing, and case management services. Other survey items were used to identify CHAIN participants with specific needs for each service. For case management, drug treatment, and mental health services we distinguished between respondents with high and low needs for these services. Respondents who reported current drug use, or who scored below 37.0 on a standardized mental health scale (in which lower numbers are associated with clinical symptoms), or who reported not having a primary medical provider at time of initial HIV diagnosis<sup>2</sup>, were presumed to have high needs for drug treatment, mental health services, and case management services, respectively. For housing and transportation services our analysis was restricted to respondents who reported problems in these respective areas. Figure 1 illustrates our analytical model, in which specific ancillary services are hypothesized to match needs identified by respondents.

#### *How we conducted the analysis*

We applied statistical procedures that combined the survey data from all five rounds of interviews between 1994 and 1998. Our analysis measured whether use of ancillary services increased the chances that a person not in medical care at one interview would

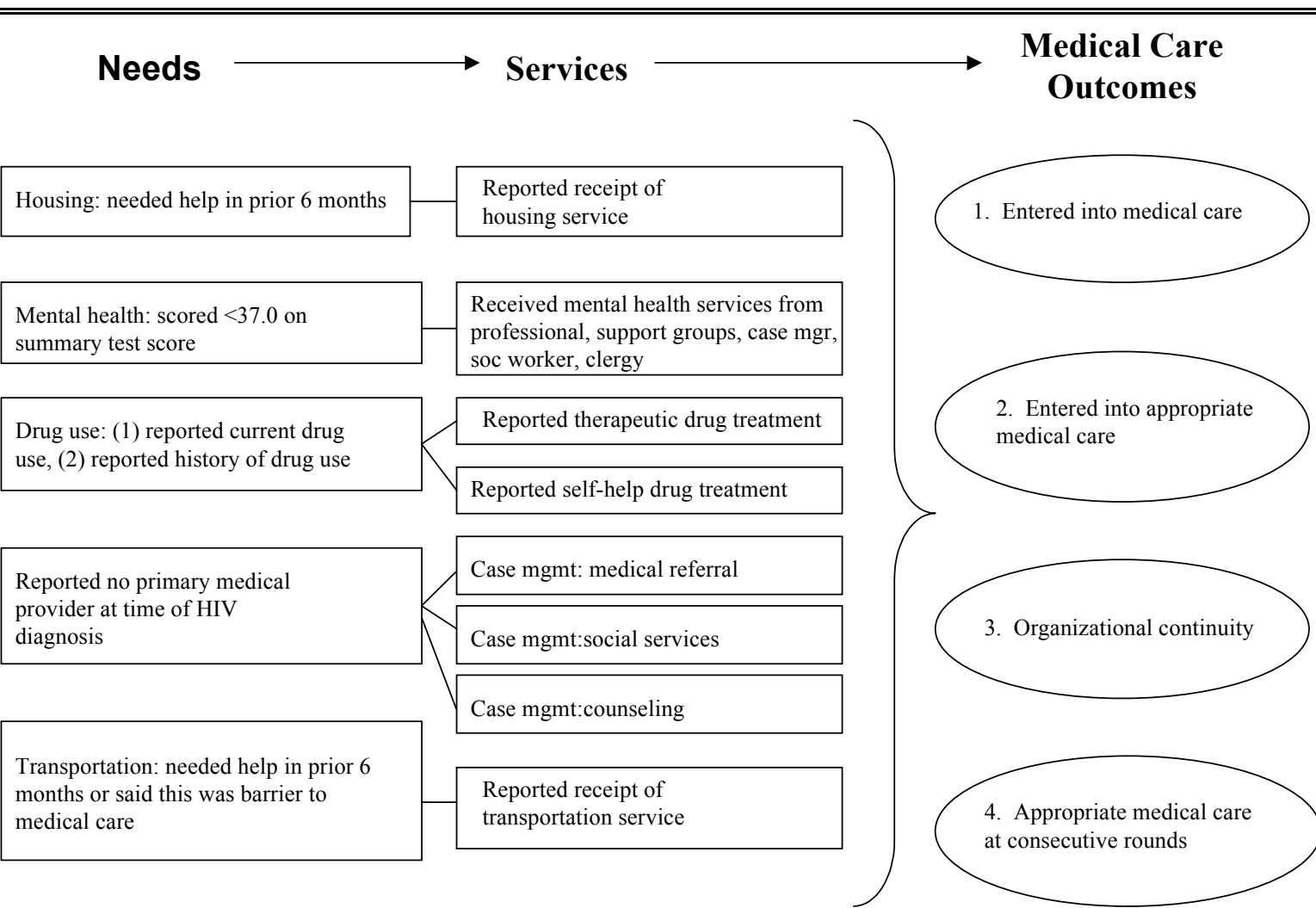
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<sup>2</sup> This measure of no medical provider at time of initial HIV diagnosis has been consistently associated with episodic disengagement from health and social services, and appears to be a reliable measure of a need for coordinative case management services.

enter care by the next interview. Among people who were in medical care, the analysis measured whether use of ancillary services increased the chances that individuals would remain in medical care at the next round of interviews. Since we measured access to medical care in two ways, we conducted four separate analyses. For all five ancillary services, we focused on respondents in need of that service. For case management, mental health, and drug treatment, we conducted a parallel analysis among respondents with low need for these services. For these three services it was possible to determine whether the benefits of ancillary services were more pronounced among individuals exhibiting a greater need for that service.

**Figure 1. The Model: Services Matched to Needs Influence Medical Care Outcomes**

Since there may be other factors that could account for an individual’s greater use or



continuity of medical care services, our analysis controlled for a number of other characteristics. This way we could assess the impact of ancillary services notwithstanding an individual’s race/ethnicity, gender, stage of illness, history of frequent drug use, history of housing instability, educational level, or residence in a high poverty neighborhood. This permitted us to assess, for example, the impact of ancillary services on medical care outcomes among all individuals with similar t-cell counts – distinguishing those individuals with low needs versus individuals with high needs for that service.

**Findings**

The basic findings of our study are summarized in the following series of figures. The *odds ratio* is the statistic we use to measure the impact of ancillary services on the four outcome measures; it describes how much a specific “exposure” increases the odds of a specific outcome. For example, an odds ratio of two could be interpreted that an individual’s exposure to a specific ancillary service would double his or her odds of a specific medical care outcome. Odds ratios greater than one indicate that the ancillary service is associated with increased entry and retention; a value of two or more represents a

**Table 2. Summary Results: Services Associated with Improved Medical Care Outcomes**

Entry into Care		Retention in Care	
<i>Entry into care to any medical provider</i>	<i>Entry into care to a medical provider who meets preferred practice guidelines</i>	<i>Same provider at consecutive interviews</i>	<i>Continuity of appropriate medical care services</i>
Case management <sup>3</sup>	Case management <sup>1 3</sup>		Case management <sup>1 3</sup>
Therapeutic drug treatment	Self-help drug treatment		
Mental health services <sup>1 3</sup>	Mental health services		Mental health services
Housing <sup>2</sup>	Housing <sup>2 3</sup>		Housing <sup>2</sup>

**Notes:**

- <sup>1</sup> Greater effect of ancillary services among those in need
- <sup>2</sup> Service measured only for those who expressed a specific need
- <sup>3</sup> Lagged effect: services received in a prior 6 month period had a positive impact at a later 6 month period

substantial impact (and generally, a statistically significant one as well). Each figure

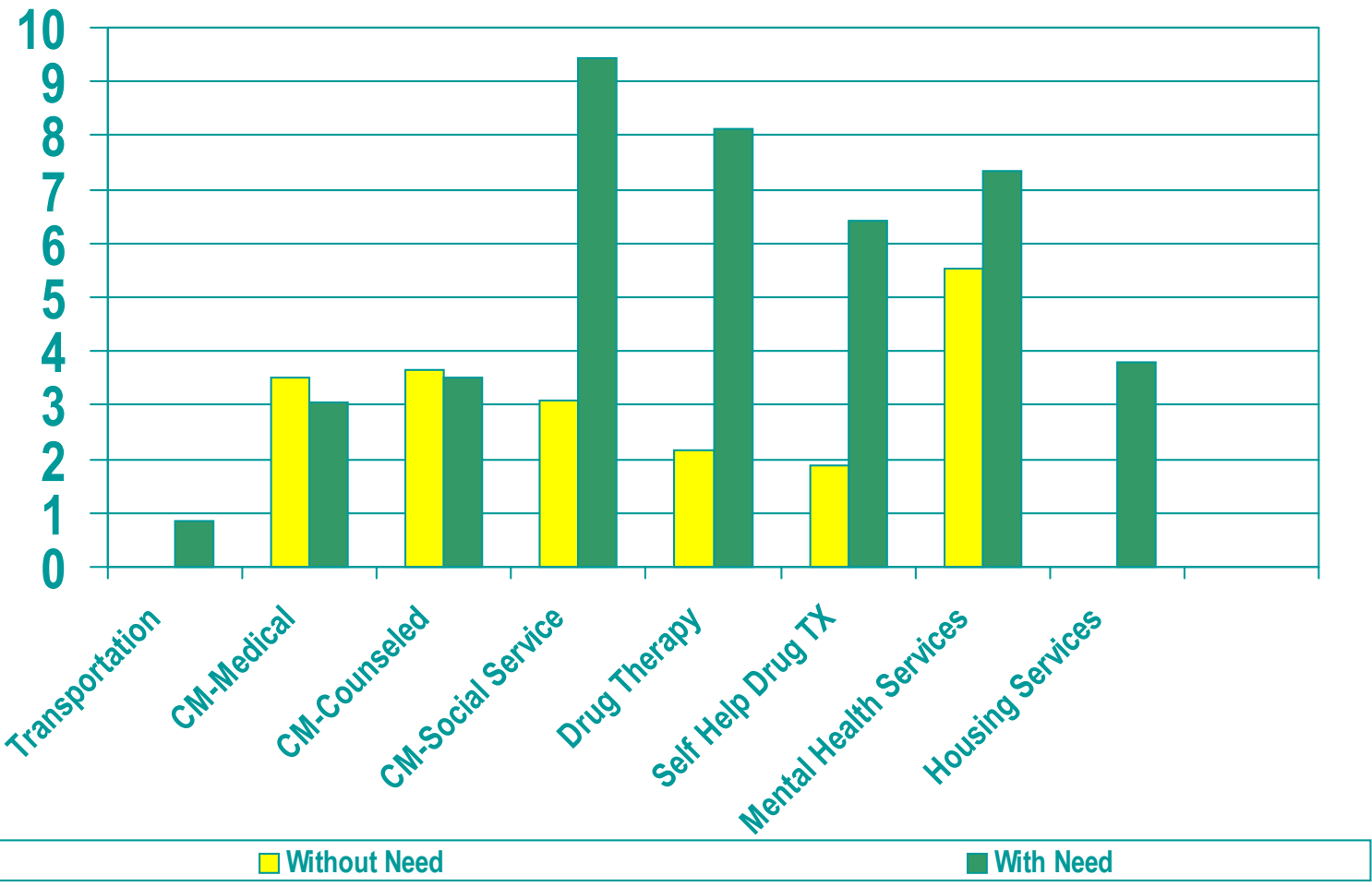
represents results for a different outcome. For case management, mental health and drug treatment services, the graphs pair people with high needs and those with low needs. For transportation and housing, the analysis is restricted to those who expressed a need for the service.

As should be evident from these graphs, ancillary services demonstrate a clear and significant impact on assisting individuals to enter into and retain medical care, particularly when they are considered within the context of a service matching a need. Our findings also provide some evidence about the relative effectiveness of different types of services among different populations of HIV-infected individuals. Overall, as illustrated in Table 2, the ancillary services displaying the greatest and most stable impact on the medical care outcomes for the CHAIN cohort are case manager referrals to social services, mental health services<sup>3</sup>, and housing services.

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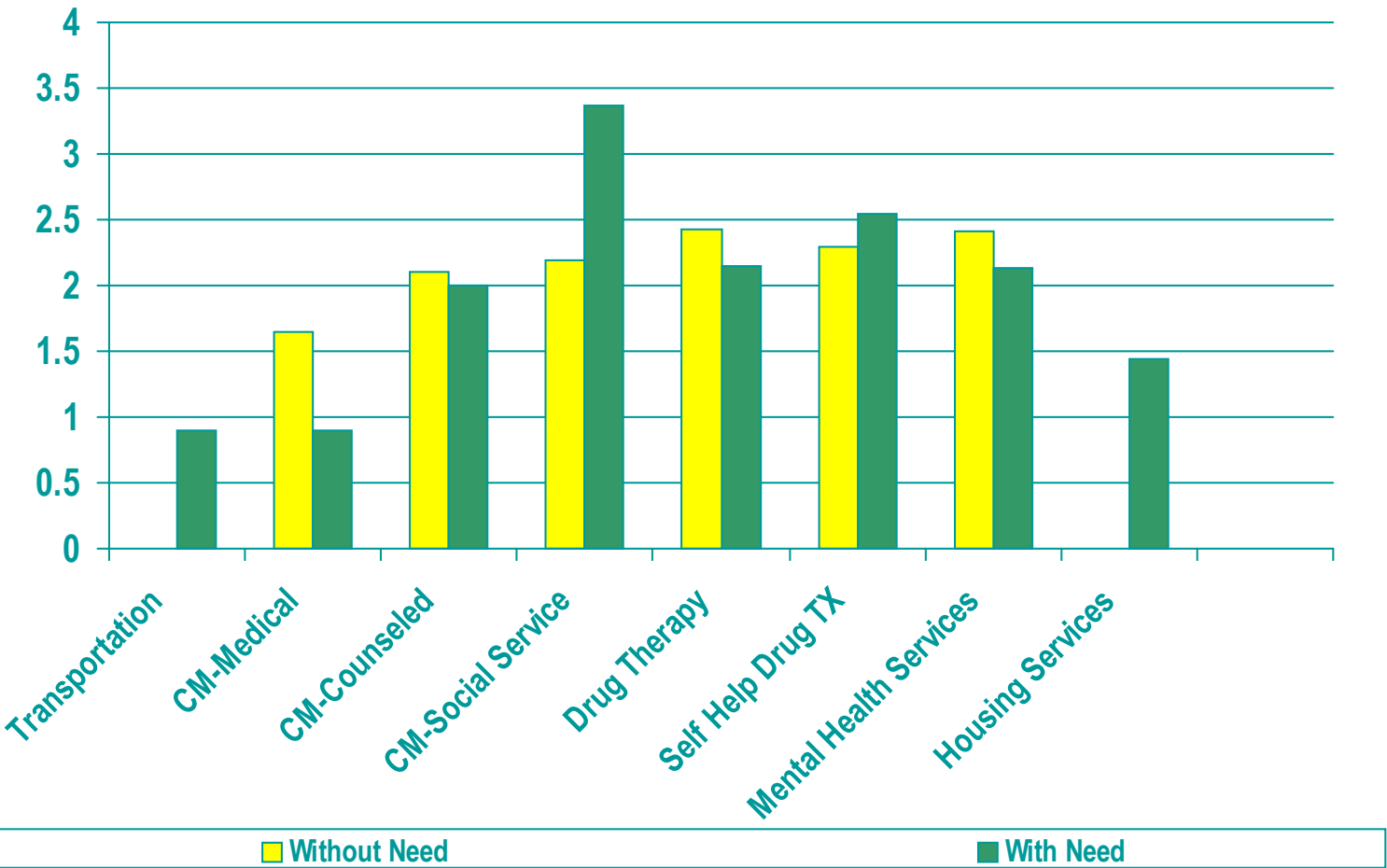
<sup>3</sup> Mental health services, as illustrated in Figure 1, include services received from mental health professionals as well as support groups, case managers, social workers, and clergy. Results might differ if mental health services are restricted to professionals only.

**Table 3. Increasing the Odds of Entering Medical Care**



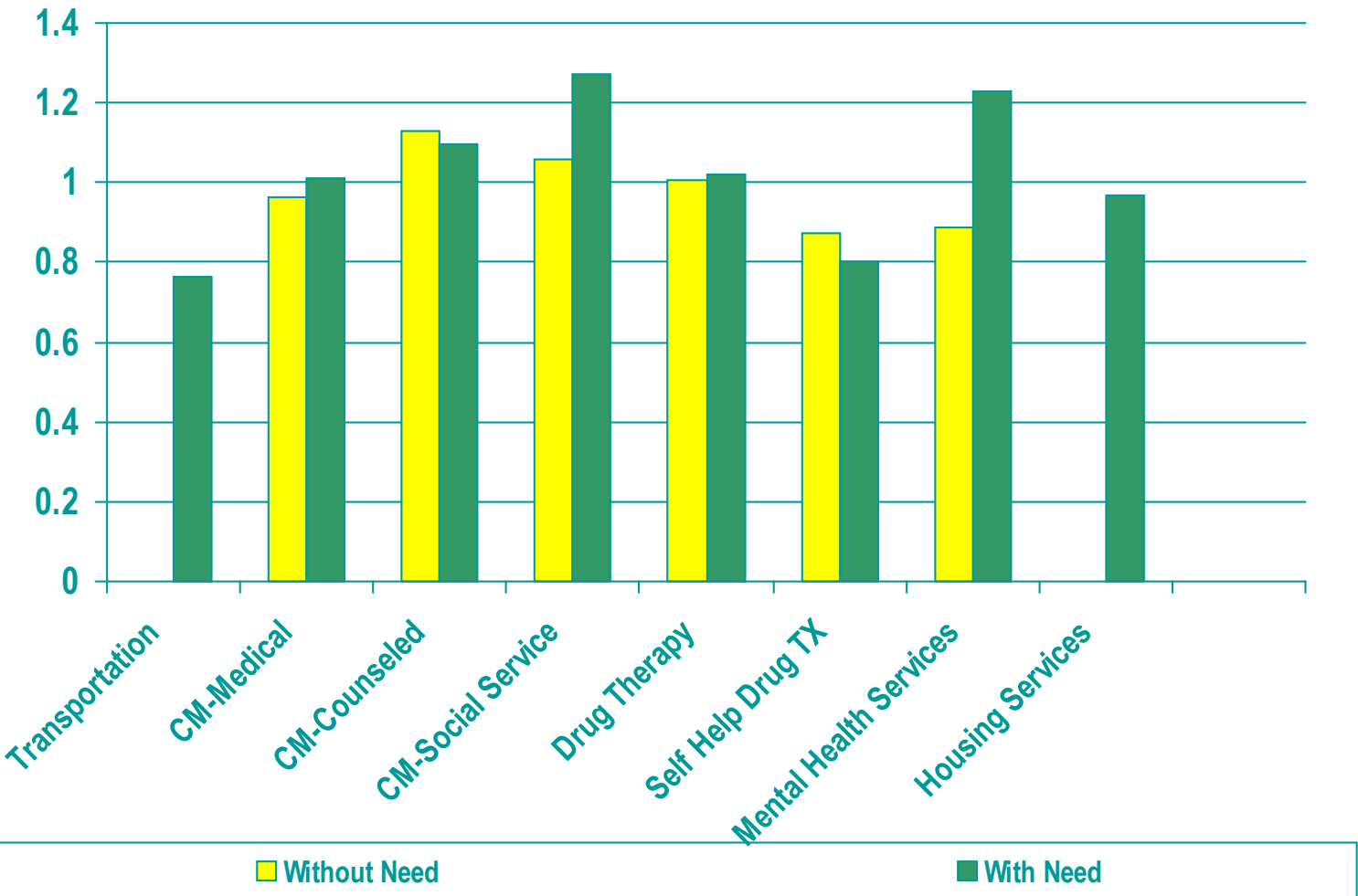
**Note:** As illustrated above, for example, individuals with a need for case management social services who receive that service are over 9 times as likely to enter into medical care as similarly needy individuals who don't receive the service. By comparison, individuals *without* a need for case management social services who receive that service are 3 times as likely to enter into medical care as similarly low-need individuals who don't receive the service.

**Table 4. Increasing the Odds of Entering Appropriate Medical Care**



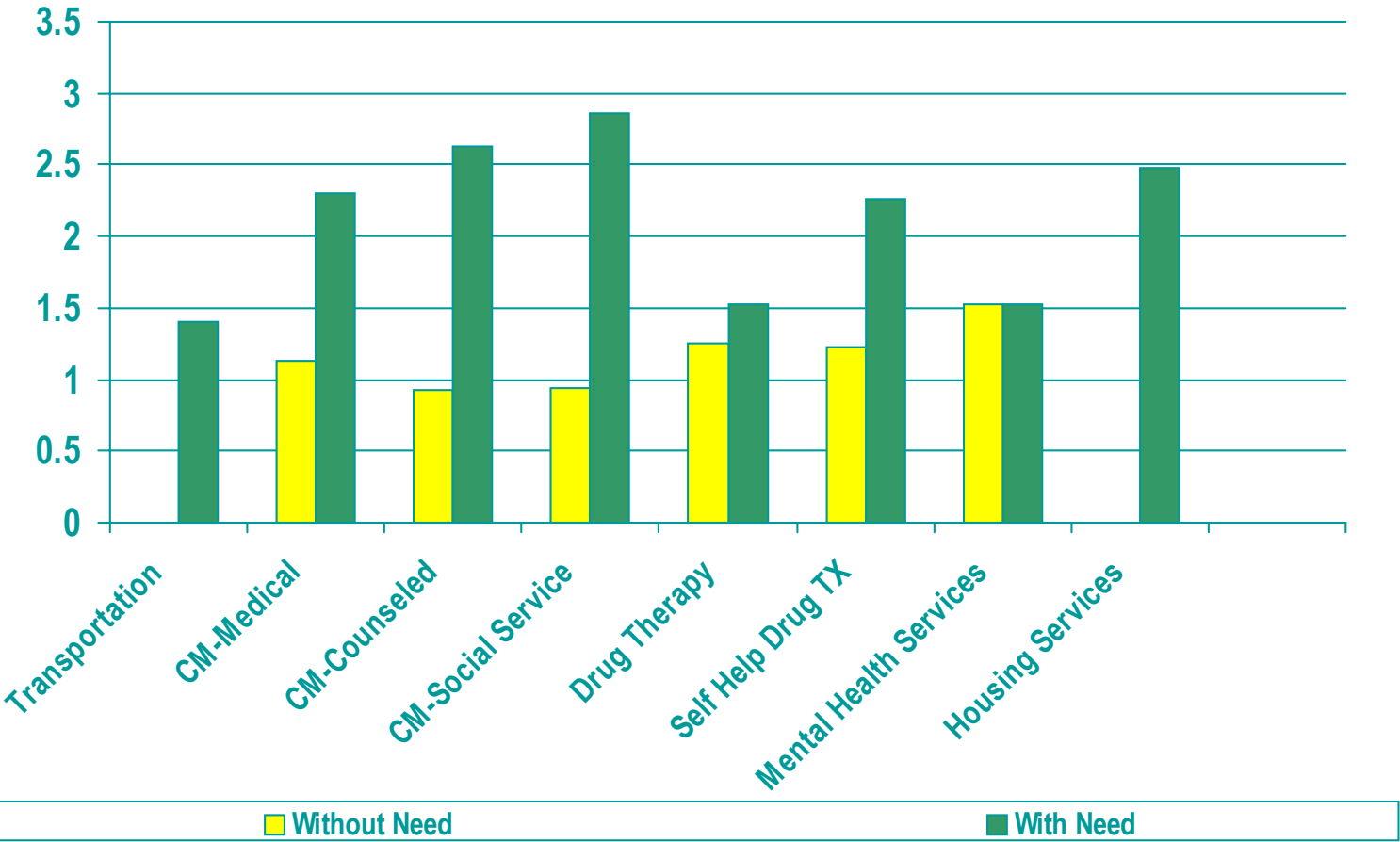
**Note:** As illustrated above, for example, individuals with a need for housing services who receive housing services are 1.5 times as likely to enter into appropriate medical care as similarly needy individuals who don't receive the service. In some of the cases displayed above, ancillary services may have a significant effect of increasing the odds of entering appropriate care, but it is not distinguished by whether individuals have a need for that service or not. For example, individuals who received counseling from a case manager were twice as likely to enter appropriate medical care as were similar individuals who did not receive counseling from a case manager. There was no difference in this effect between individuals who had a need for case management counseling and those who did not have a need (we have measured the need as an individual who did not have a primary medical provider at the time of initial HIV diagnosis).

**Table 5. Increasing the Odds of Retaining Medical Care**



**Note:** As illustrated above, for example, individuals with a need for case management counseling services who receive that service are *no more likely* to retain medical care than similarly needy individuals who don't receive the service. Odds ratios of approximately "1" indicate that there are no substantive differences.

**Table 6. Increasing the Odds of Retaining Appropriate Medical Care**



**Note:** As illustrated above, for example, individuals with a need for self help drug treatment services who receive that service are over 2 times as likely to retain appropriate medical care as similarly needy individuals who don't receive the service.

In considering how these ancillary services work, it appears that they operate in a far more complicated way than merely removing specific logistical barriers (such as lack of child care or lack of transportation). What we find noteworthy is how powerfully ancillary services operate in the more complicated domains of an individual's life: navigating multilayered health and human service systems, addressing multifaceted behavioral disorders, or focusing on such contextual problems as unstable housing. These all speak to the role that ancillary services play in bolstering key components of a comprehensive care system – facilitating system integration and addressing broad determinants of health and health care access.

Case managers clearly serve as the principal coordinators within a comprehensive care system, and our results suggest that their effect is felt both directly (i.e., by providing a specific service) or indirectly (i.e., by assisting an individual in obtaining a service through an interagency coordination or referral mechanism). The finding that social services provided by a case manager in a prior time period have an effect on later entry or retention in primary medical care supports this notion of coordinative agency.

One of the key questions facing policymakers is whether ancillary services have an effect beyond their direct impact on a problem. In other words, one can expect housing services to address housing needs, but can those housing services also have consequences for medical care outcomes? Our findings that housing, mental health, and therapeutic drug treatment services all display a positive association with medical care outcomes support the notion of a secondary effect.

We also explored the question of whether traditionally underserved populations were less likely to enter and retain medical care than other groups, and whether ancillary services alleviated these inequities. We did find disparities among specific disadvantaged populations in entering into care – men, African Americans, and individuals with less than a high school education were all more likely to be without medical care at any interview period. Interestingly, we did not find such disparities among these subgroups when we looked at their retention in medical care, which possibly suggests that once individuals successfully entered the city's health and human services system they were treated more

equitably. When we analyzed the effect of ancillary services for these subgroups (data not shown) we found that receiving these services did not significantly change their entry or retention into medical care. It appeared that ancillary services were not having a significant effect on reducing socioeconomic disparities in the utilization of medical care.

Finally, it is worth noting the alternative strategies for measuring entry and retention into medical care. For one analysis we defined medical care organizationally. An individual was considered to be in medical care if he or she reported at least one visit to a medical provider organization, regardless of the level or type of clinical service reported. Alternatively, we introduced the notion of “appropriate” medical care as the reported receipt of specific clinical services that may reflect a minimum set of preferred practice guidelines<sup>4</sup>. In the final analysis, as illustrated in Table 2, ancillary services were associated with increasing an individual’s entry to medical care and sustaining clinically-indicated primary medical care over time, although they were not significantly associated with maintaining organizational continuity over time. This suggests that ancillary services assist individuals in finding *any* medical care, and in finding and maintaining *appropriate* HIV medical care as well.

## **Policy implications**

Given the findings of our analyses we have considered the following policy implications for the role of ancillary services in increasing an individual’s entry and retention in HIV medical care. Although these findings are based on a representative sample of HIV-positive adults in New York City we consider that they may apply broadly to health and human service systems in other urban areas.

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<sup>4</sup> An individual was deemed to have received medical care that met minimum preferred practices based on having received at least one CD4 check, a physical exam, and a blood test within the prior six months, as well as having made a minimum number of visits to a primary medical provider. Prior to 1996, the criteria for primary care visits was one every six months of asymptomatic individuals, and two visits every six months for symptomatic individuals or those with an AIDS diagnosis. After 1996, and the introduction of antiretroviral therapies, the criteria for primary care visits for asymptomatic individuals not on antiretroviral therapy was once every six months. All others had to meet a criteria of two visits every six months. These criteria are based on New York State AIDS Institute primary care protocols and with program staff at the AIDS Institute.

1. Persons with HIV are heterogeneous, and are not uniform in their needs for ancillary services.
2. By assuring the provision of ancillary services, a health and human services system is likely to achieve increased rates of access and retention in medical care, particularly among individuals with a need for those services.
3. There is a significant effect of ancillary services on increasing access and retention in care even among individuals who do not report an explicit need for that service, or who are experiencing less of an explicit need for that service.
4. Ancillary services that meet complex needs – such as housing instability and mental illness – may have an even **greater** impact on getting individuals into care than in maintaining them in care (although they have a positive impact on both). This suggests that such ancillary services are particularly important in engaging hard-to-reach populations. Our findings also suggest that efforts to begin addressing complex needs first, before focusing exclusively on medical care, may assist individuals in accessing and retaining ongoing medical care.
5. Case management services may not exert an immediate effect on increasing access and retention in care, particularly since such coordinative services may require linkages across a number of organizations or may require a number of stepwise services before the underlying problem has been addressed.
6. Not having a primary medical provider at the time of an initial HIV diagnosis proved to be an accurate predictor of an ongoing need for coordinative services throughout the course of the illness.
7. In constructing a medical care outcome measuring retention it may make more sense to look at “adequate” primary care as a minimal package of services rather than provider continuity.
8. One can estimate the need for services (and their potential effect on increasing access and retention among HIV-positive populations) with several simple self-reported measures: housing instability, mental health scores as measured in the MOS SF-36, the presence of a primary medical provider at the time of initial diagnosis, and a history of substance use (or current use).