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2005

Housing is the Foundation of HIV Prevention and Treatment
Results of the National Housing and HIV/AIDS Research Summit

Overview
Compelling new research findings demonstrate the significance of housing as an intervention to address public and individual health priorities, including disease prevention, health care access and effectiveness, and cost containment. This is especially true of HIV and related conditions. Models of care that include housing status as a key component offer great power, enabling new and more effective approaches to HIV prevention and treatment.

Recent studies that examine the relationship of housing status to HIV prevention and care show strong correlations between improved housing status and reduced HIV risk, improved access to medical care, and better health outcomes. Homelessness or unstable housing is directly related to greater HIV risk among vulnerable persons. For persons with HIV, being homeless is a barrier to starting outpatient care, staying in care and starting antiretroviral therapy (ART). For those engaged in HIV care, improved housing status is directly related to higher levels of ART adherence, lowered viral loads, and reduced mortality. Indeed, appropriate housing protects individuals from "exposure" to a range of individual and public health threats, including HIV, violence, harmful drug use, and incarceration. Housing protects and stabilizes not only individuals, but also their families and communities.

This growing body of evidence refutes the predominant "risky person" model for understanding the co-occurrence of homelessness, HIV infection, and poor health outcomes among persons living with HIV/AIDS who lack stable housing. The "risky person" model assumes that behavior follows the person. This research shows instead that housing status has an independent effect on risk behaviors and treatment access, after controlling for a range of individual characteristics like histories of prior homelessness, drug use and mental illness. It is not the homeless or unstably housed person who is risky but the person's situation.

There is also evidence that housing is a cost-effective prevention and treatment intervention. Research involving behavioral HIV prevention interventions has shown that the cost of the interventions is dwarfed by the substantial savings associated with prevented HIV infections. Likewise, research has shown that the cost to the public of providing supportive housing is offset by reduced use of more expensive public services such as acute health care, mental health inpatient care, emergency shelters and prisons and jails. The effectiveness and cost implications of housing as an HIV prevention and treatment intervention are currently the subject of a national research project conducted by the United States Department of Housing and Urban Development (HUD) and the Centers for Disease Control and Prevention (CDC).

These powerful findings provide the basis for a sound, data-driven public health response to housing needs of persons living with HIV/AIDS, and of persons whose homelessness places them at heightened risk of HIV infection – a response based on facts rather than assumptions, on research rather than opinion. On June 11 and 12, 2005, the National AIDS Housing Coalition (NAHC) convened a small group of leading health, housing, and social service researchers and policy makers to discuss and document existing and proposed research regarding the relationship between housing status and HIV prevention and care. The National Housing and HIV/AIDS Summit provided an unprecedented opportunity for national research and policy experts to share existing data regarding the role of housing as a public health intervention, and to identify gaps in current knowledge and questions for ongoing examination.

The research findings presented and discussed at the Summit support the development of new housing policies and practices based upon the proven effectiveness of and primary importance of housing as a structural HIV prevention and treatment intervention. This paper summarizes those findings, framed in terms of four public policy imperatives that are dictated by our current understanding of the critical relationship of housing and health:

> *First Imperative:* Make subsidized, affordable housing (including supportive housing for those who need it) available to all low-income people living with HIV/AIDS;
> *Second Imperative:* Make housing homeless persons a top prevention priority, since housing is a powerful HIV prevention strategy;
> *Third Imperative:* Incorporate housing interventions as a critical element of HIV health care; and
> *Fourth Imperative:* Continue to collect and analyze data to assess the impact and effectiveness of various models of housing as an independent structural HIV prevention and healthcare intervention.

Description of the Summit

The 2005 NAHC National Housing and HIV/AIDS Summit brought together for the first time a core group of researchers and policy experts to examine empirical data regarding the relationship of housing status to HIV prevention and treatment, and to discuss the policy implications of these research findings. The Emory Center for AIDS Research (CFAR) hosted the Summit on the campus of Emory University in Atlanta, Georgia.[1]

Three leading researchers in the field of HIV care, homelessness and heath care economics[2] convened the Summit, and working sessions included researchers who have conducted important recent work in each of these areas,[3] as well as experts on housing policy and health care access.[4]

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[1] NAHC engaged Shubert Botein Policy Associates (www.shubertbotein.com) to help plan, coordinate, and document the summit.

[2] Dr. Angela Aidala, Research Scientist at the Center for Applied Public Health at Columbia University and the Department of Sociomedical Sciences; Dr. David Holtgrave, Professor of Behavioral Science and Health Education, and Professor of Health Policy and Management in the Rollins School of Public Health at Emory University, and Director of the Behavioral & Social Science Core of Emory's Center for AIDS Research (CFAR); and Dr. Dennis Culhane, Professor of Social Welfare Policy and Psychology, and Senior Fellow of the Leonard Davis Institute of Health Economics and Co-Director of the Cartographic Modeling Lab at the University of Pennsylvania School of Social Work.

[3] Martha Burt, Ph.D., of the Urban Institute's Center on Labor, Human Services and Population; Carlos del Rio, M.D., of the Emory University School of Medicine; Ernest Drucker, Ph.D., of Montefiore Medical Center/Albert Einstein College of Medicine; Elise Riley, Ph.D., M.P.H., of the University of California at San Francisco/San Francisco General Hospital; and Suzanne Wenzel, Ph.D., of the Rand Corporation.

[4] Arturo Bendixen of the AIDS Foundation of Chicago; Russell Bennett of the Southern AIDS Coalition; Christine Campbell and Gina Quattrochi of Bailey House; Joe Carleo of the AIDS Housing Corporation; Dr. A. Gene Copello of the AIDS Institute; Mary Cunningham of the National Alliance to End Homelessness; and Charles King of Housing Works.

Participants presented and discussed findings, shared information and strategies regarding ongoing and planned research projects, considered policy and program implications of rigorous research, and examined disparities in access to care and health outcomes. A community discussion at the conclusion of the Summit provided the opportunity to share the results of the meeting with providers, consumers and policy makers from across the country, and to open the policy discussion to a broad group that included representatives of the Centers for Disease Control and Prevention and the U.S. Department of Housing and Urban Development. [5]

First Imperative: Make subsidized, affordable housing (including supportive housing for those who need it) available to all low-income people living with HIV/AIDS.

Homelessness is a major risk factor for HIV, and HIV is a major risk factor for homelessness.

The co-occurrence of homelessness and HIV/AIDS has long been recognized and is well documented. The prevalence of HIV/AIDS is three to nine times higher among persons who are homeless or unstably housed compared with persons with stable and adequate housing, depending upon the population and geographic area studied.[6] Researchers have examined rates of HIV infection among homeless persons through HIV testing of samples of homeless persons, AIDS housing needs assessment surveys, and administrative data integration, finding rates of HIV infection among homeless populations ranging from three percent to ten percent or higher.[7]

Homelessness and unstable housing are likewise common and recurring issues among persons living with HIV/AIDS.[8] Seventeen to sixty percent of all persons living with HIV/AIDS report a lifetime experience of homelessness or housing instability, depending on the jurisdiction studied.[9] Currently homeless persons (staying in a shelter, or on the street, in a car or another place not intended for sleeping) comprised 16% of the total sample of persons with HIV/AIDS in Phoenix, 14% in Durham, 13% in Contra Costa County, 10% in Chicago, 10% in Alameda County, 5.2% in Philadelphia, 2% in Minnesota, 1% in Denver and 1% in Riverside/San Bernadino.[10]

National research shows that housing is the greatest unmet service need among persons living with HIV/AIDS, and that while individual housing needs typically are resolved within six months, over time the rate of overall unmet housing needs remains constant.[11] As some persons get their housing needs met, others develop housing problems due to personal and structural factors including: growing disparities between income and housing costs; loss of income due to progressive inability to maintain employment; relationship breakup including leaving abusive situations; disease progression requiring accessible facilities; and policy requirements that limit residence in temporary or transitional programs.[12]

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[5] A Summit Briefing Book including presentations, articles and other materials used at the meeting is available at a nominal charge from the National AIDS Housing Coalition, www.nationalaidshousing.org.

[6] Aidala, 2005; Allen et al., 1994; Culhane et al., 2001; Fournier et al., 1996; Paris et al., 1996; Shlay et al., 1996; Torres et al., 1990; Zolapa et al., 1994.

[7] Culhane et al., 2001; Empfield et al., 1993; Greer et al., 1989; Susser et al., 1996; Robertson et al., 2004; 1994; Torres et al., 1990; Zolopa et al., 1994.

[8] Aidala, 1997; Aidala et al., 2000; Song, 1999; HUD 2001.

[9] Aidala NAHC Summit Presentation (a), 2005 (60% New York City; 40% multi-state); Culhane et al., 2001 (35%, Philadelphia); Culhane NAHC Summit Presentation, 2005 (17% Durham, North Carolina; 43% Alameda County and Chicago); NYC HIV/AIDS Housing Needs Assessment, 2004 (54% New York City).

[10] Culhane NAHC Summit Presentation, 2005.

[11] Aidala NAHC Summit Presentation (a), 2005.

[12] Aidala NAHC Summit Presentation (a), 2005.

Housing status has profound implications for persons living with HIV/AIDS, and for those at highest risk of HIV infection, as detailed in the sections below entitled *Housing is HIV prevention* and *Housing is HIV health care*. Indeed, research shows that housing is a matter of life and death for persons living with HIV/AIDS. The all-cause death rate among homeless HIV positive persons is five times the rate of death among housed persons with HIV/AIDS: 5.3 to 8 deaths per 100 persons years for HIV positive homeless persons,[13] compared to 1 to 2 deaths per 100 person years for HIV positive persons who are housed.[14]

In order to meet the housing needs of persons with HIV/AIDS, it is critical to employ housing models that are accessible to all homeless persons, including those who are actively using substances. Such models have been found to be necessary and effective elements of serious efforts to address chronic homelessness; evaluation of these programs has found that "people will come in, they do use services even though not required to, they do reduce their substance use, and mostly they do not return to the streets.[15] These programs include: housing first models (placing persons directly from the streets into permanent housing without requiring them to demonstrate they are "housing-ready"); low-demand housing (making participation in services optional rather than a condition of housing); and use of a harm reduction approach (practical strategies designed to reduce the negative consequences of drug use by promoting first safer use, then managed use, and finally abstinence if people can do it). The fundamental belief underlying these strategies is that persons should not be left homeless because they are unable or unwilling to maintain abstinence.[16]

Second Imperative: Make housing homeless persons a top prevention priority, since housing is a powerful HIV prevention strategy.

Housing is HIV prevention.

A growing body of evidence establishes that housing is implicated in multiple causal levels of risk for HIV infection. These research findings suggest that the condition of homelessness itself, and not simply traits of homeless individuals, influences risk behaviors, making the provision of housing an essential structural intervention to reduce the spread of HIV.[17]

Several longitudinal studies have shown that among persons at the highest risk of HIV infection due to injection drug use or high risk sex, those without a stable home are significantly more likely than others to become infected.[18] Lack of stable housing is associated with high rates of drug and sex risk behaviors.[19] Most importantly, new research shows that change in housing status is strongly associated with risk behavior change, suggesting that housing is a structural factor that has an independent causal role in HIV infection.[20] Structural factors are environmental or contextual factors that directly or indirectly affect an individual's ability to avoid exposure to HIV or for HIV positive individuals to avoid exposing others to infection.[21] The study results demonstrate a direct relationship between housing status and risk behaviors among extremely low-income HIV positive persons with multiple behavioral issues. The

[13] Riley et al., 2005.
[14] Ledergerber et al., 1999.
[15] Burt et al., 2004.
[16] Id.
[17] Aidala, 2005.
[18] Joseph and Roman-Nay, 1990; Popkin et al., 1993; Smereck and Hockman, 1998; Song et al., 2000; Susser et al., 1996.
[19] Aidala et al., 2005; Sethi et al., 2004.
[20] Aidala et al., 2005.
[21] Aidala, 2005.

homeless are at greater risk of HIV infection than the unstably housed and both groups are at greater risk than the stably housed.

Researchers at the Columbia Center for Applied Public Health and the CDC Division of HIV/AIDS Prevention examined the association between homelessness/ unstable housing and HIV drug and sex risk behaviors among persons with HIV/AIDS presenting for services at medical and social services agencies. Clients who were homeless or unstably housed at baseline were two to six times more likely to have recently used hard drugs, shared needles, or exchanged sex than persons with stable housing, controlling for demographics, economic resources, health and mental health status, and service utilization. Longitudinal analysis of follow-up data showed that change in housing status was associated with change in risk behaviors, again controlling for socio-demographic variables, service utilization currently and in the period between baseline and follow-up, and risk behaviors at baseline. Persons whose housing status improved between baseline and follow-up were half as likely to use hard drugs, use needles, share needles or have unprotected sex as were individuals whose housing status did not change. Those whose housing status worsened over time were four times more likely than others to have recently exchanged sex.[22]

Indeed, appropriate housing appears to provide protection from "exposure" to a number of individual and public health threats, including HIV, violence, harmful drug use and incarceration.[23] Housing protects and stabilizes individuals, families and communities.[24] For example, one ongoing study of indigent women has examined a range of health risks, including violence, drug use, sex exchange and HIV, comparing homeless women in public shelters with a comparable group of very low-income housed women. Controlling for demographic and socio-economic characteristics, the study found that homeless women were at much greater risk for all health problems examined, including HIV infection.[25]

While the exact causal direction and mechanisms linking housing and risk behaviors requires ongoing study, the realities of life for homeless or unstably housed persons suggest a number of possible ways in which housing status may affect sexual and/or drug taking behaviors. Lack of housing, transient living conditions, and communal sleeping arrangements in most homeless shelters pose a formidable barrier to forming stable intimate relationships.[26] The pressures of daily survival needs predominate and can supersede efforts to reduce HIV risk.[27] The homeless are concentrated in neighborhoods characterized by limited economic opportunities, high rates of crime and violence, and poor service infrastructure.[28] Persons who lack stable housing face multiple barriers to service utilization, including limited access to services that might provide risk reduction resources.[29] Substance use as "self-medication" can be a response to stress and/or untreated symptoms of depression or anxiety.[30] Exchanging sex, whether for drugs or to meet basic needs for food, money, or a place to stay, limits control over sexual encounters.[31]

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[22] Aidala et al., 2005.
[23] Holtgrave et al., 2003; Wenzel et al., 2004.
[24] Aidala 2005; Holtgrave et al., 2003.
[25] Wenzel et al., 2004.
[26] Browning and Olinger-Wilson, 2003; Castel, 2000; Goode, 1963; Huston, 2000.
[27] Burt et al., 1999; Mizuno et al., 2003; Reilly and Woo, 2003; Wong and Piliavin, 2000.
[28] Culhane et al., 1996; Saegert and Evans, 2000; Shaw, 2004.
[29] Messeri et al., 2002; Metzger et al., 1998; Nwakeze et al., 2003; Samet et al., 2003; Shoptaw and Frosch, 2000; Smith et al., 2000.
[30] Khantzian, 1997; McEwen, 2001; McKirnan et al., 2001; NIDA, 2002.
[31] Green et al., 1999; McGowan, 2004; Surratt and Inciardi, 2004.

Improved housing status facilitates engagement in health services, including HIV testing and care, which in turn impacts on rates of transmission. Persons who do not know their HIV status and therefore are outside of care present by far the greatest risk of new infections; the 25% of persons with HIV/AIDS who do not know they are infected transmit at a 8.5% to 11% rate per year, compared to 1.7% to 2.5% for persons who are aware of their status.[32] Stable housing likewise improves access and adherence to antiretroviral therapy, which reduces viral load and may lower the risk of HIV transmission. (See discussion below of *Housing is healthcare*.)

The provision of housing for persons with HIV and persons at high risk of HIV due to homelessness may be not only life-saving, but cost-effective as well. The economic costs of ongoing HIV transmissions and HIV treatment failure within this population are enormous. The estimated lifetime medical treatment cost of each new infection is $155,000 to $195,000;[33] the annual cost of providing supportive housing is approximately $14,000.[34] Cost analyses of behavioral prevention interventions have demonstrated that their costs are more than offset by the savings associated with prevented HIV infections.[35] It is entirely possible that the cost savings to the medical care system that are realized by providing housing to homeless HIV-infected individuals are similarly so enormous that the housing costs are offset. Existing research involving persons with mental illness has shown that the cost to the public of providing supportive housing is offset by reduced use of more expensive public services such as acute health care, mental health inpatient care, emergency shelters and prisons and jails.[36] The ongoing HUD-CDC Housing and Health study will provide concrete data needed to analyze the cost effectiveness of housing as an HIV prevention and treatment intervention.

Third Imperative: Incorporate housing interventions as a critical element of HIV health care.

Housing is health care.

Recent research demonstrates that there is a strong correlation between the provision of housing and improved access to health care, ongoing engagement in care, and treatment success among persons living with HIV/AIDS.[37] Being homeless is a barrier to starting outpatient care, staying in care and starting ART.[38]

Lack of housing has been found consistently to be associated with remaining outside of medical care and with lack of access to treatment options for persons living with HIV, while improved housing status has been shown to significantly impact access to health care, including ART.[39] Being homeless and current crack use were the two strongest predictors of nonattendance or irregular attendance among a group of very low-income persons enrolled in primary HIV care.[40] Homelessness has been shown to be associated with higher utilization by persons with HIV/AIDS of expensive emergency department and inpatient services.[41]

[32] Holtgrave NAHC Summit Presentation, 2005.
[33] Holtgrave et al., 2002.
[34] Burt NAHC Summit Presentation, 2005.
[35] Holtgrave et al., 2002.
[36] Culhane et al., 2002.
[37] Hsu et al., 2001; Masson et al., 2004; Aidala et al., 2004; Messeri et al., 2003; Aidala NAHC Summit Presentation (c), 2005; Riley et al., 2005; Riley NAHC Summit Presentation, 2005.
[38] Del Rio NAHC Summit Presentation, 2005.
[39] Aidala NAHC Summit Presentation (c), 2005; Riley NAHC Summit Presentation, 2005.
[40] Del Rio NAHC Summit Presentation, 2005.
[41] Masson et al, 2004.

Persons with HIV/AIDS at all stages of illness who are homeless are almost three times as likely as those with stable housing to be outside of the HIV medical care system, indicated by not having any outpatient visits for the prior six to twelve months.[42] People with housing needs who get any kind of practical housing assistance are almost four times more likely to enter into medical care than those who do not get housing assistance.[43]

Housing status also impacts continuity of medical care. Individuals who were unstably housed or had other housing problems and who received housing assistance were 2.5 times as likely to retain appropriate medical care as those who did not receive the assistance.[44]

Homelessness and unstable housing also are associated with limited access to antiretroviral treatments, controlling for individual client characteristics as well as service system variables.[45] Differential rates of medication use result from both patient and provider factors, as some physicians are hesitant to prescribe complex regimens for persons with unstable living arrangements. This is particularly significant because even a low level of ART adherence has been found to result in prolonged life, without increasing the risk of resistant strains. Though improved housing status improves treatment adherence and health outcomes, recent research among homeless persons has found no evidence to support withholding antiretroviral treatment based on housing status: homeless and marginally housed individuals are adherent to ART; drug resistance occurs at similar rates regardless of level of adherence, occurring even at high levels of adherence; and survival is directly associated with more months on ART, even at lowest levels of adherence of one dose per month.[46] The risk of death among one group of homeless persons with HIV/AIDS was reduced 62% for those on ART therapy for six months.[47]

Importantly, however, improved housing status improves not only access to ART, but adherence as well, and improved adherence is associated with improved health outcomes, including lowered viral load and reduced mortality.[48] The number of months on ART and level of adherence are directly related to lower viral loads and reduced mortality among extremely poor and homeless people living with HIV/AIDS.[49]

Not surprisingly, given their lack of engagement with medical care and treatments, persons living with HIV/AIDS who are homeless or unstably housed experience poorer health outcomes than otherwise similar persons who are stably housed.[50] Unstable housing is one of the strongest predictors of "lack of treatment success," controlling for demographics, CD4 count, medication regimen, and receipt of medical and social services. Homeless persons with HIV/AIDS are approximately twice as likely to experience poor health, measured using indicators of physical functioning and health quality of life, or clinical indicators such as opportunistic infections. Persons in unstable housing situations score low on measures of functional health status as well as emotional wellbeing. High viral load, recent opportunistic infection, and recent hospitalization for HIV related disease are associated with housing status. Homeless persons also are significantly more likely than housed persons to experience multiple health crises or

[42] Aidala NAHC Summit Presentation (c), 2005.
[43] Aidala NAHC Summit Presentation (c), 2005; CHAIN, 2004.
[44] Aidala NAHC Summit Presentation (c), 2005; Messeri et al, 2002.
[45] Riley NAHC Summit Presentation, 2005.
[46] Riley et al., 2005; Waldrop-Valverde and Valverde, 2005.
[47] Riley et al., 2005.
[48] Riley et al., 2005; Moss et al., 2004.
[49] Messeri et al., 2002; Riley NAHC Summit Presentation, 2005.
[50] Aidala NAHC Summit Presentation (c), 2005; Stewart et al., 2005; Kidder et al., 2005.

serious episodes that require care in emergency rooms or hospital settings.[51]

Receipt of housing services and improved housing status are strongly associated with improved medical care outcomes for formerly homeless or unstably housed persons. Longitudinal studies have shown that after controlling for variables including outpatient use at baseline, demographics, health status, and receipt of case management, persons who improve their housing are almost five times as likely to report a recent outpatient visit for HIV care than persons who remained homeless or unstably housed. Homeless or unstably housed persons who improved their housing between baseline and follow-up were over six times as likely as persons who did not change their housing situation to be receiving antiviral medications at follow-up.[52]

Fourth Imperative: Continue to collect and analyze data to assess the impact and effectiveness of various models of housing as an independent structural HIV prevention and healthcare intervention.

Ongoing, targeted research is critical.
As described above, recent research has demonstrated the strong independent effect of housing status on HIV risk behaviors, access to health care for persons with HIV/AIDS, and both public and individual health outcomes. While these research findings provide compelling support for the provision of housing as a key structural intervention to prevent new HIV infections and to improve the health of very low income persons living with HIV/AIDS, rigorous ongoing study is required in order to better understand the how the intervention operates and how it can be most effective.

Ongoing research will deepen our understanding of the impact, effectiveness and cost of housing as a structural intervention: by quantifying the substantial cost savings to medical and other public service systems that are realized by the provision of safe and affordable housing to persons with HIV/AIDS; by comparing the cost of housing interventions with the savings associated with prevented infections and avoided emergency and inpatient health services; by investigating the causal relationships between housing, risk behaviors, and health outcomes for persons with HIV/AIDS, moving beyond the ability to merely correlate housing to improved outcomes, to an understanding of why and how the structural intervention of housing works to prevent infections and to facilitate health care; by documenting the effectiveness and appropriateness of different models of housing, including models designed to serve persons whose homelessness or housing instability is complicated by chronic drug use and/or mental health issues; and by measuring the broader impact that housing for persons with HIV/AIDS has on individual and community quality of life.

In order to facilitate this work and broaden our understanding of housing as a component of HIV prevention and treatment, it is critical to expand and standardize the collection and analyses of data on housing status as part of ongoing reporting by all housing, health and social service providers funded by federal, state and local government agencies to serve persons living with or at risk of HIV infection. Mandatory collection of data on housing status should be required in all funded research regarding HIV prevention and treatment and in all funded prevention and service interventions. To ensure that these data are most useful and to facilitate data collection and analysis, researchers from varied fields and disciplines, including public health, economics,

[51] Aidala NAHC Summit Presentation (c), 2005; Kidder et al., 2005.
[52] Aidala NAHC Summit Presentation (c), 2005.

housing policy, psychology, and social work, should arrive at standardized definitions for measuring housing status and homelessness, treatment access, and health care outcomes, among other data points.

Several important ongoing studies are examining some of the issues described above. The Housing and Health Study, a multi-site, multi-agency research project funded by HUD and the CDC, seeks to examine the impact, in terms of disease progression and risks of transmission, of providing housing to persons with HIV who are homeless or at imminent risk of homelessness. The study compares a treatment group of participants, who receive HUD-funded housing vouchers, with a comparison group, whose participants receive assistance finding housing according to local standard practice. All participants complete a questionnaire, and take part in two risk-reduction counseling sessions, including provision of a blood sample, and three follow-up meetings that include questionnaires and blood tests. Baseline data collection began in July 2004, and 18-month data collection will be complete in November 2006.[53]

The Community Health Advisory & Information Network (CHAIN) project is an ongoing prospective cohort study of a representative sample of persons living with AIDS in New York City, conducted by researchers from the Center for Applied Public Health at Columbia University. The initial cohort was recruited during 1994 and 1995, the sample was "refreshed" in 1998, and an entirely new cohort was recruited in 2002. After initial interviews, follow-up interviews are conducted at 6 to 12 month intervals. The study has generated more than 100 reports examining a range of topics with a focus on unmet health and social service needs, trends in service utilization, and various outcomes among the CHAIN cohort. The CHAIN study has resulted in much of the persuasive research cited above that demonstrates a strong association between housing status and risk for HIV transmission, as well as between housing status and connection to care.[54]

In addition to these two targeted ongoing studies, several other ongoing studies will result in informative findings. Researchers at Columbia University and the CDC have conducted secondary analysis of pooled data from more than 3,000 clients presenting for services at 24 HIV/AIDS-specific medical and social services agencies participating in a national, multi-site, evaluation study, and used the data to examine the relationship between housing and HIV risk behaviors. Researchers studying the Research in Access to Care for the Homeless (REACH) Cohort, a cohort of HIV+ urban poor individuals in San Francisco established in 1997, have focused on the measurement of antiretroviral adherence and the biologic outcomes of adherence, but given that participants' housing status is noted on a monthly basis, the study also demonstrates connections between housing and adherence.[55]

In 2004, at the request of the federal Health Resources and Services Administration (HRSA), the Institute of Medicine (IOM) produced a study on the financing and delivery of primary care and related support services to low-income persons with HIV/AIDS. The Committee on the Public Financing and Delivery of HIV Care used this study as the basis for a report recommending the establishment of a new federally-funded program for persons with HIV that provides early access, continued coverage, and uniform benefits.[56] The Committee emphasized that such a program would be cost-effective. As a companion to the 2004 report, and in order to explore the

[53] Kidder NAHC Summit Presentation, 2005.
[54] Aidala NAHC Summit Presentation (a), 2005.
[55] Riley NAHC Summit Presentation, 2005.
[56] Committee on the Public Financing and Delivery of HIV Care (2004), Public Financing and Delivery of HIV/AIDS Care: Securing the Legacy of Ryan White, Executive Summary.

issues raised in this policy paper, NAHC recommends that the IOM conduct a similar study examining housing as HIV health care.

Conclusion

NAHC and its member organizations call on federal, state and local policy makers to respond to our rapidly evolving understanding of housing and health with a re-visioned HIV/AIDS housing policy driven by the following imperatives:

First Imperative: Make subsidized, affordable housing (including supportive housing for those who need it) available to all low-income people living with HIV/AIDS.

Second Imperative: Make housing homeless persons a top prevention priority, since housing is a proven HIV prevention strategy.

Third Imperative: Incorporate housing interventions as a critical element of HIV health care.

Fourth Imperative: Continue to collect and analyze data to assess the impact and effectiveness of various models of housing as an independent structural HIV prevention and healthcare intervention.

The NAHC Housing Summit Policy Paper was adopted by the Board of Directors, October 2005.

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NAHC Summit Presentations, June 2005 (Copies of these presentations, as well as key articles and reports, are available at nominal cost from the National AIDS Housing Coalition as the *National Housing and HIV/AIDS Research Summit Briefing Book*)

Angela Aidala (a), "Homelessness, Housing Instability and Housing Problems among Persons Living with HIV/AIDS"

Angela Aidala (b), "Housing and HIV Drug and Sex Risk Behaviors"

Angela Aidala (c), "Housing is Healthcare for Persons Living with HIV"

Dennis Culhane, "The Co-Occurrence of AIDS and Homelessness"

Carlos Del Rio, MD, "Characteristics of Persons With HIV Infection Who Are and Who Are Not in Regular HIV Outpatient Care"

David Holtgrave, "The Status and Future Directions of HIV Prevention Efforts in the U.S.: Guidance from the Scientific Literature"

Daniel Kidder, United States Centers for Disease Control and Prevention (CDC), "The Housing and Health Study"

Gina Quattrochi and Christine Campbell, "HIV/AIDS Housing Policy: Vision, Challenges, and Opportunities"

Elise Riley, "Addressing Health Disparities Among the HIV+ Homeless and Marginally Housed"

Suzanne L. Wenzel (a), "HIV Risk and HIV/AIDS Among Women in Shelters and Low-Income Housing in Los Angeles County"

Suzanne L. Wenzel (b), "Prevention of HIV and Other Health Problems Through Housing for Indigent Women"

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