

# Housing / Lack of Housing and HIV Prevention and Care

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## Evidence and Explanations

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WOMEN AS THE FACE OF AIDS  
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# Evidence and Explanations

- ◆ Increasing evidence directs attention to the role of housing – or lack of housing - for the continuing HIV epidemic and associated health disparities
- ◆ **Housing is a structural factor** - an environmental or contextual influence that affects an individual's ability to avoid exposure to health risks, or avail of health promoting resources
- ◆ Housing is unique as a contextual factor within which we live our lives – but also manifestation of broader, antecedent, structural processes of inequality and marginalization that are fundamental drivers of HIV vulnerability and poor outcomes among the infected

# Examining the Evidence

- **Review findings from NYC and national studies conducted by Columbia researchers**
- **National Housing and HIV/AIDS Research Summit Series**
- **Search of published research literature**
  - Pubmed and Medline – major data bases for medical / public health research
  - Search terms: (Housing or homelessness ) and (HIV or AIDS)
  - Peer-reviewed research articles published 2005 to present

# NYC & National Research Studies

## Community Health Advisory & Information Network (CHAIN) Project

- ◇ Multi-stage probability sampling – designed to be representative of larger population of persons living with HIV/AIDS in NYC
- ◇ Includes 1661 PLWHA randomly recruited from clinics and agencies in 1994, 1998, 2002 and interviewed yearly

## HRSA SPNS/ HUD HOPWA Multiple Diagnoses Initiative

- ◇ Interviews conducted with clients of programs throughout U.S. providing health and social services to low income PLWHA
- ◇ Baseline information from 3191 clients from 24 projects and follow-up data from 891 clients from 16 projects - 1996-2000

# Housing & HIV Epidemiology

The patterns of disease and risk for disease and death in a population



# Homelessness - a major risk factor for HIV infection

- Rates of HIV infection are 3 - 16 x higher among persons who are homeless or unstably housed compared to similar persons with stable housing
- 3% to 14% of all homeless persons are HIV positive (10 x the rate in the general population)
- Over time studies show that among persons at high risk for HIV infection due to injecting drug use or risky sex, those without a stable home are more likely than others to become infected
- Evidence indicates that housing challenges more problematic for women than men increasing risk for HIV

# HIV- a major risk factor for homelessness

- 50% to 70% of all PLWHA report a lifetime experience of homelessness or housing instability
- 10% to 16% of all diagnosed PLWHA are literally homeless - sleeping in shelters, on the street, in a car, or in an encampment
- Twice as many are unstably housed, have housing problems, experience threat of housing loss
- Rates of housing instability are high in clinic samples as well as community samples
- In NYC no gender differences in housing need among PLWHA

# Rates of Housing Need Remain High

**As some persons get their housing needs met others develop housing problems**

- Loss of income due to progressive inability to maintain employment
- Growing disparities between income and rent requirements
- Relationship breakup including leaving abusive situations
- Loss of spouse/partner to HIV related death or disability
- Loss of shared housing options with disclosure of HIV
- Disease progression requiring accessible facilities
- Policy requirements that limit residency in publicly funded housing



# Housing- a matter of life and death for Persons with HIV/AIDS

- Homeless/ unstably housed PLWHA have higher rates of opportunistic infections, HCV, other co-morbidities
- All-cause death rate among homeless PLWHA is 5 x the death rate for housed PLWHA
- In NYC the death rate due to HIV/AIDS among adults in the shelter system is 7 - 9 x the death rate due to HIV/AIDS among the general population
- Recent studies in San Francisco and Boston show similar pattern of excess mortality among homeless PLWHA

# Housing & HIV Prevention

Factors increasing or decreasing risk for disease



# Housing status predicts HIV risk

- Multiple studies have shown a strong and consistent relationship between housing status and sex and drug risk behaviors
- Ex: Homeless or unstably housed PLWHA are 2 to 6 x more likely to use hard drugs, share needles or exchange sex than stably housed persons with the same personal characteristics and service use patterns
- Prevention interventions are much less effective for participants who are struggling with housing issues
- Studies show a 'dose-relationship' with the homeless at greater risk than the unstably housed, and both of these at greater risk than those with stable secure housing

**Example:**

# **ODDS OF RECENT NEEDLE USE**

	<b>CHAIN SAMPLE</b>		<b>NAT'L SAMPLE</b>	
	<b>Rate</b>	<b>Adjusted Odds Ratio<sup>1</sup></b>	<b>Rate</b>	<b>Adjusted Odds Ratio<sup>1</sup></b>
<b>STABLE HOUSING</b>	<b>4%</b>		<b>4%</b>	
<b>UNSTABLE HOUSING</b>	<b>12%</b>	<b>2.87</b>	<b>13%</b>	<b>2.51</b>
<b>HOMELESS</b>	<b>17%</b>	<b>4.74</b>	<b>27%</b>	<b>4.65</b>

<sup>1</sup>Odds of needle use past 6 mos by current housing status controlling for demographics, economic factors, risk group, health status, mental health, and receipt of health and supportive services

Note: All relationships statistically significant  $p \leq .01$

# ODDS OF UNPROTECTED SEX

## CHAIN SAMPLE

	Men		Women	
	Rate	Adjusted Odds Ratio <sup>1</sup>	Rate	Adjusted Odds Ratio <sup>1</sup>
<b>STABLE HOUSING</b>	<b>13%</b>		<b>13%</b>	
<b>UNSTABLE HOUSING</b>	<b>15%</b>	<b>(1.11)</b>	<b>21%</b>	<b>1.61</b>
<b>HOMELESS</b>	<b>16%</b>	<b>1.69</b>	<b>29%</b>	<b>2.30</b>

<sup>1</sup>Odds of unprotected sex past 6 mos by current housing status controlling for demographics, economic factors, risk group, health status, mental health, health and supportive services

Note: All relationships statistically significant  $p \leq .05$  except ( )=ns

# Housing is HIV Prevention

- Overtime studies show a strong association between change in housing status and risk behavior change
- Ex: PLWHA who improved housing status reduced sex and drug risk behaviors by half while persons whose housing status worsened are 2- 4 x as likely to exchange sex, have multiple partners
- Risk reduction associated with housing controlling for socio-demographics, drug use, mental health, health status, and receipt of health and supportive services
- Access to housing also increases access to appropriate care and antiretroviral medications which lowers viral load and reduces risk of transmission

# PREDICTING T2 HARD DRUG USE

## NATIONAL MDI SAMPLE

	Started Drug use	Stopped Drug use	Adjusted Odds Ratio T2 Drug Use <sup>1</sup>
<b>NO CHANGE</b>	7%	6%	
<b>IMPROVED HOUSING</b>	2%	12%	0.47
<b>WORSE HOUSING</b>	9%	5%	1.38

<sup>1</sup> Odds of Time 2 drug use by change in housing status controlling for Time 1 drug use, Time 1 housing status, demographics, economic factors, risk group, health, mental health, and receipt of health and supportive services

Note: All relationships statistically significant  $p \leq .01$

# PREDICTING UNPROTECTED SEX LAST INTERCOURSE

	Started Unprotected Sex	Stopped Unprotected Sex	Adjusted Odds Ratio T2 Unprotected Sex <sup>1</sup>
<b>NO CHANGE</b>	<b>25%</b>	<b>7%</b>	
<b>IMPROVED HOUSING</b>	<b>19%</b>	<b>15%</b>	<b>0.37</b>
<b>WORSE HOUSING</b>	<b>25%</b>	<b>11%</b>	<b>(1.02)</b>

<sup>1</sup>Odds of Time 2 sex exchange by change in housing status controlling for Time 1 sex exchange, Time 1 housing status, demographics, economic factors, risk group, health, mental health, and receipt of health and supportive services

Note: All relationships statistically significant  $p \leq .01$  except ( ) =ns



# Housing & Health Care Outcomes for PLWHA

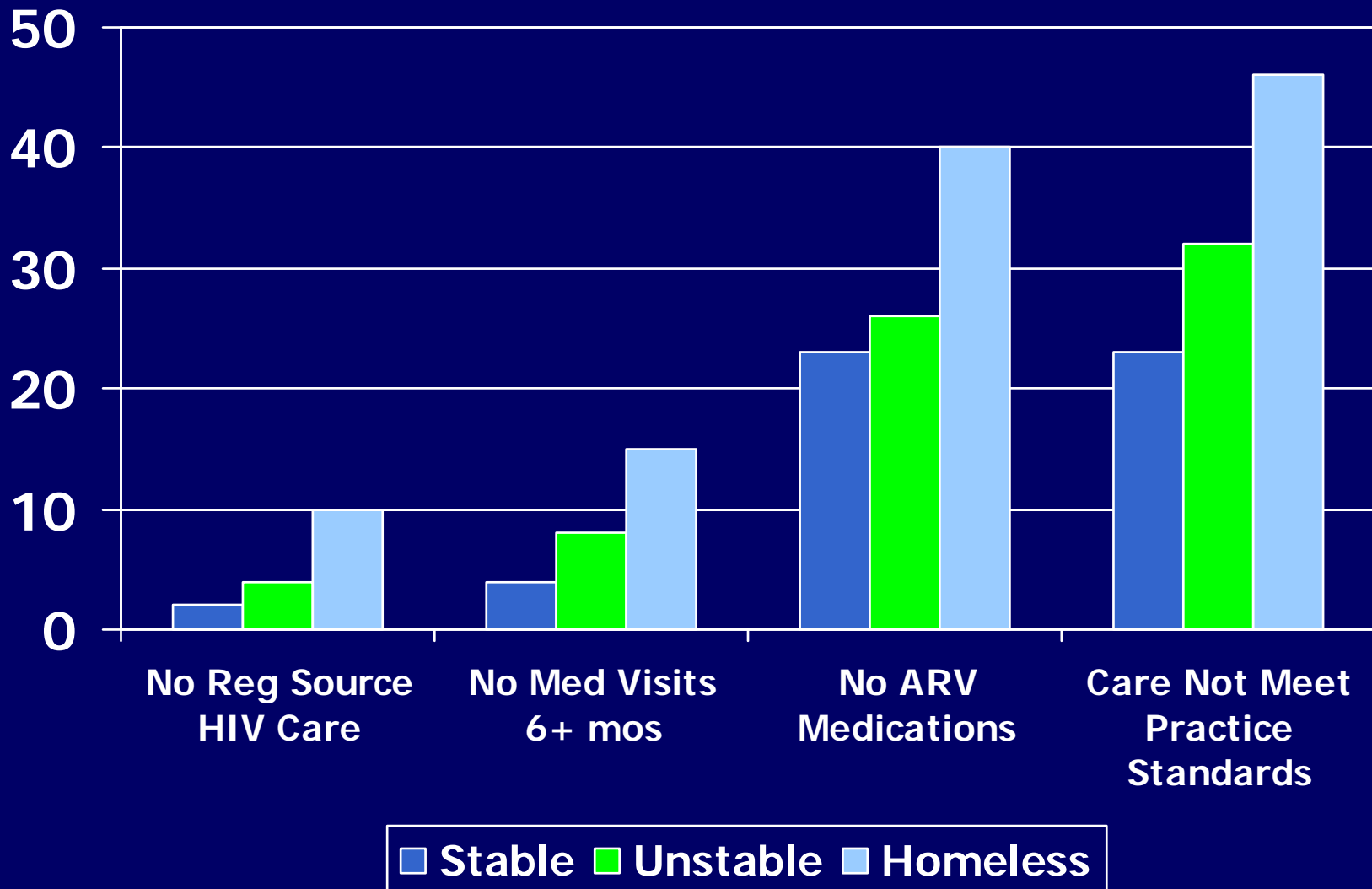


# Lack of stable housing = lack of treatment success

- Homeless PLWHA compared to stably housed:
  - More likely to delay entry into care and to remain outside or marginal to HIV medical care
  - Worse mental, physical & overall health
  - More likely to be hospitalized & use ER
  - Lower CD4 counts & less likely to have undetectable viral load
  - Fewer ever on ART, and fewer on ART currently
  - Less adherent to treatment regimen

# Housing & Connection to Medical Care

## NYC CHAIN Sample



# Housing Status Predicts Access and Maintenance in Health Care

- Homeless/unstably housed PLWHA whose housing status improves over time are:
  - more likely to report HIV primary care visits, continuous care, care that meets clinical practice standards
  - more likely to return to care after drop out
  - more likely to be receiving HAART
- Housing status more significant predictor of health care access & outcomes than individual characteristics, insurance status, substance abuse and mental health co-morbidities, or service utilization

# PREDICTING T2 MEDICATION USE

## National MDI Sample

Unadjusted  
Odds Ratio T2  
ARV

Adjusted  
Odds Ratio T2  
ARV<sup>1</sup>

	Unadjusted Odds Ratio T2 ARV	Adjusted Odds Ratio T2 ARV <sup>1</sup>
<b>NO CHANGE</b>		
<b>IMPROVED HOUSING</b>	<b>3.21</b>	<b>6.22</b>
<b>WORSE HOUSING</b>	<b>(0.63)</b>	<b>(1.01)</b>

<sup>1</sup> Odds of Time 2 antiretroviral medication use by change in housing status controlling for Time 1 ARV use, Time 1 housing status, demographics, economic factors, drug use, CD4, mental health, and receipt of medical and case management services

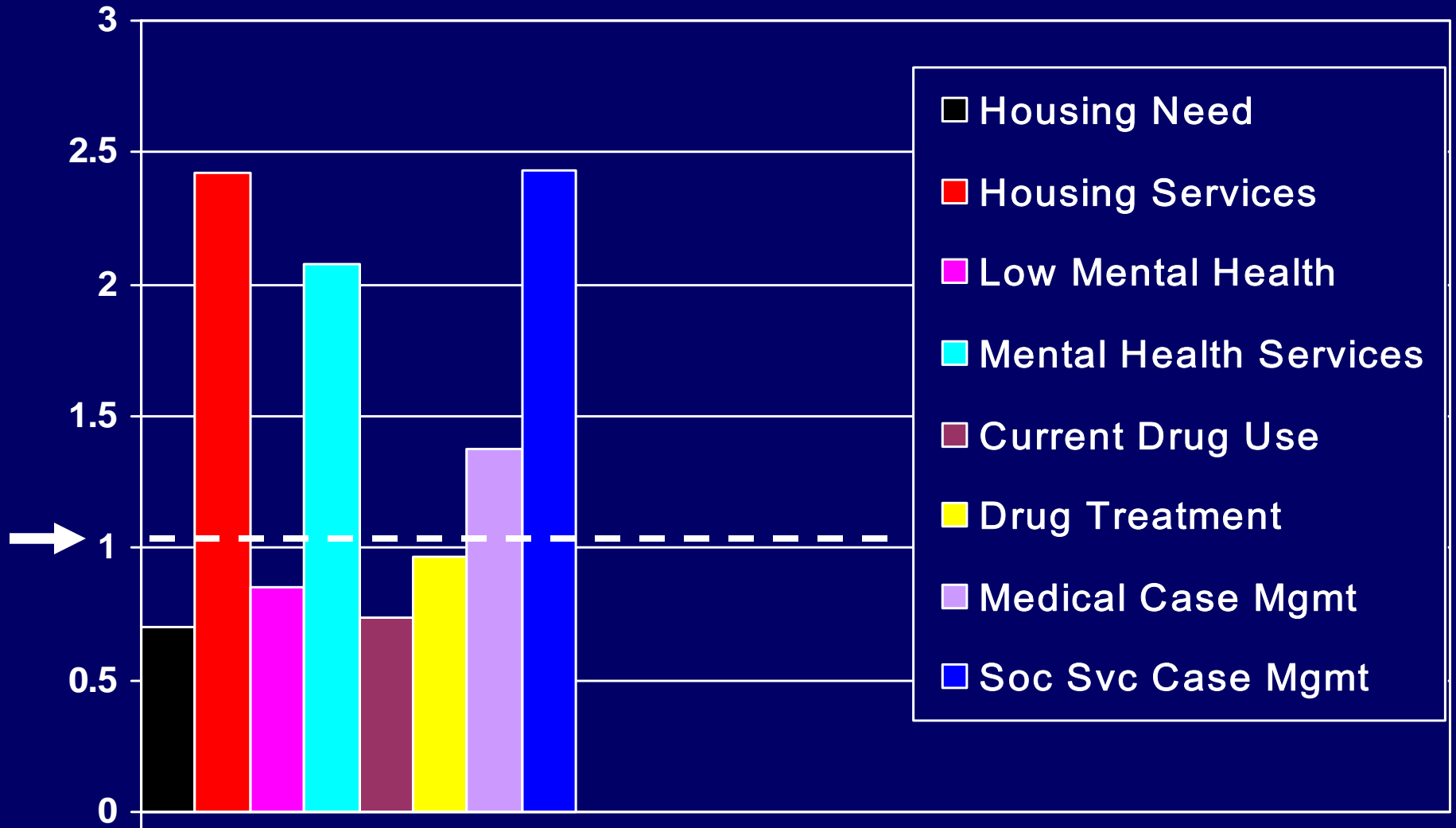
# Access to Medical Care: CHAIN NYC

	Any Medical Care	Continuity of Care
<b>HOUSING NEED</b>	(0.78)	<b>0.83 *</b>
<b>HOUSING ASSISTANCE</b>	<b>2.20 ***</b>	<b>1.20 *</b>
Low mental health functioning	(0.86)	(0.85)
Current problem drug use	(0.84)	(0.98)
Mental health services	<b>1.94***</b>	(1.12)
Substance abuse treatment	(0.91)	(0.97)
Medical case management	(1.40)	(0.89)
Social services case management	<b>2.30***</b>	(1.17)

Adjust odds ratios also controlling for age, ethnicity income, poverty neighborhood, risk exposure group, date of HIV diagnosis, date of cohort enrollment, t-cell count, insurance status.

N=1651 individuals, 5865 observations, 1994 - 2007

# Increasing the Odds of Accessing HIV Primary Care



# Housing and HIV Care Gender Differences

- **Women living with HIV/AIDS compared to men:**
  - ↑ Homeless/ unstable housing at time of diagnosis increases risk for delayed entry into HIV care
  - ↔ Housing need associated with lack of HIV primary medical care, inadequate or inconsistent care
  - ↑ Women with children report higher rates of disruption in care (no care for 6+ months)
  - ↑ Receipt of housing assistance associated with access to care and re-entry into care after drop out



# Explanation of Findings



# RISKY PERSONS v. CONTEXTS OF RISK

- ◇ Need to understand the **causal direction** and the mechanisms linking housing and behaviors that put people at risk for HIV infection and/or poor medical care outcomes
- ◇ Does **housing status influence individual risk behaviors** and medical care outcomes, or are findings evidence of self-selection of “risky persons” into conditions of homelessness
- ◇ **RISKY PERSON MODEL:**



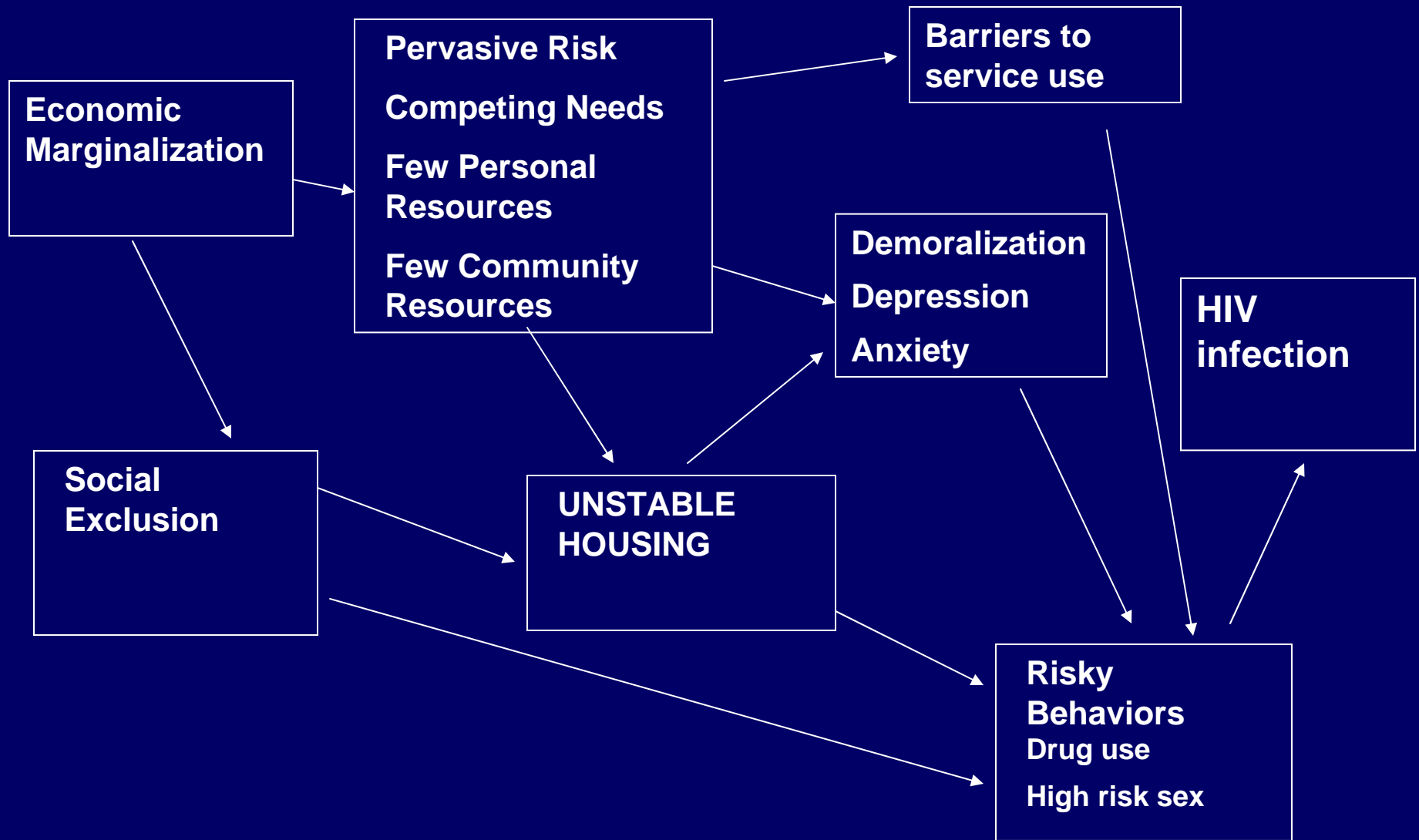
# OPPOSING MODEL: STRUCTURAL CONTEXTS OF RISK

- Growing awareness that focus on individual level factors not sufficient – need address structural factors
- **Structural factor** - an environmental or contextual influence that affects an individual's ability to avoid exposure to health risks, or avail of health promoting resources
  - ◆ Housing is itself a structural or **contextual factor** within which we live our lives – but also manifestation of broader, antecedent, more global structural factors
  - ◆ The same **fundamental causes** put persons at risk for poor health and for unstable/inadequate housing: political contexts, inequality of opportunities and conditions, social processes of discrimination and social exclusion

# Direct and Indirect Effects of Housing

- ◇ **Lack of stable, secure, adequate housing:**
  - Lack of protected space to maintain physical and psychological well-being
  - Constant stress producing environments and experiences
  - Neighborhoods of disadvantage and disorder
  - Compromised identity and agency
  - Press of daily needs - barrier to service use when available
  - Structuring the private sphere – lack of housing is barrier to forming stable intimate relationships

# RISKY CONTEXTS Model



# Policy & Practice Implications

- Data show strong relationship between housing and risk and medical care outcomes, regardless of other personal characteristics, health status, or service use variables
- Improving access to housing is a promising structural intervention to reduce the spread of HIV as well as improve the lives of infected persons and the communities in which they live
- Housing is a strategic target for intervention by addressing more proximal consequences of broader economic, social, political or policy barriers that affect prevention and health care
- Expensive but offset by social and economic costs of poor health, inappropriate medical treatment, and treatment failure among growing numbers of persons living with HIV/AIDS or at high risk of infection

# HOUSING IS PREVENTION AND CARE



SIXTH FLOOR BATHROOM, AVARDA HOTEL, SAN FRANCISCO, Richard Reinold, 1909



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