Determinants of Overall Health Status among HIV-Infected Homeless and Unstably Housed Men

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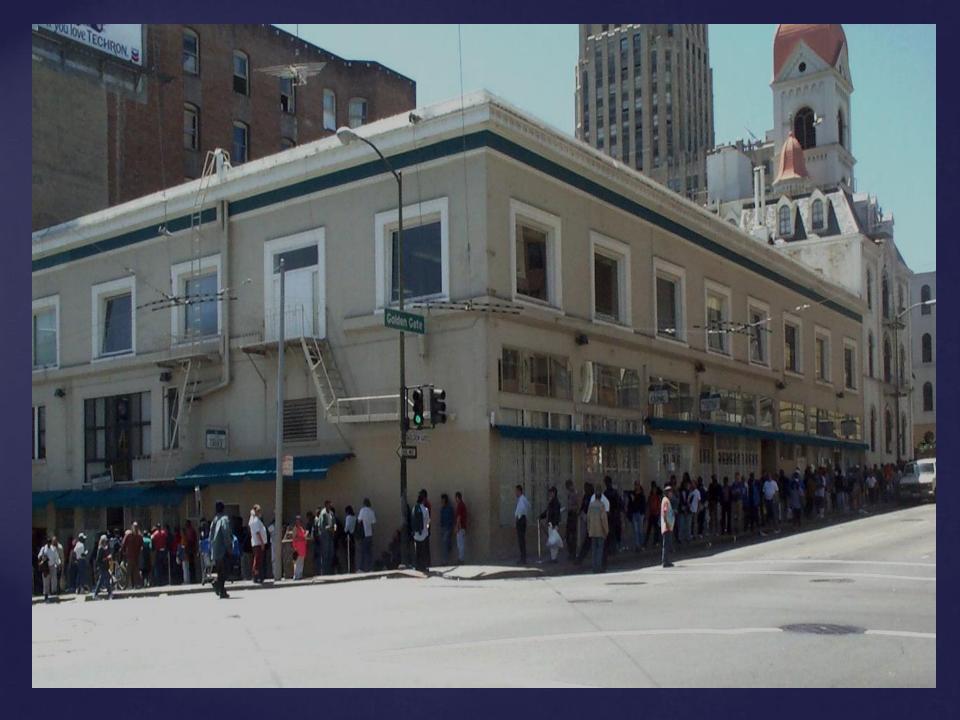
Background

- Homeless persons disproportionately suffer from serious mental and physical health problems including HIV infection (Aidala 2007, Hwang 2009)

- Improved antiretroviral medications have led to an era in which HIV is considered a manageable chronic condition for many individuals (Este 2010); *however,*

- Medical benefits have not been realized equally across populations due to barriers to medical care, treatment adherence and optimal health among homeless persons (Kidder 2007, Leaver 2007, Friedman 2009)

The Current Situation

Rising health care costs have highlighted the need to identify factors with the most influence on health in order to prioritize scarce resources

Study Objective

To empirically rank the impact of multiple risks on the health status of HIV-infected homeless and unstably housed men living in San Francisco

Outcomes of Interest

❖ Overall Physical Health Status (SF-36)

- general physical health

- physical functioning

- Pain

- Mobility

❖ Overall Mental Health Status (SF-36)

- general mental health

- Vitality

- social functioning

Exposures of Interest

- ❖ Age, race, education
- ❖ Employment, income
- ❖ Subsistence needs (housing, food, clothing, hygiene needs)
- ❖ Incarceration
- ❖ Drug use, alcohol use
- ❖ Victimization, social support
- ❖ Adherence to antiretroviral therapy
- ❖ CD4 cell count, viral load

Statistical Analysis

Targeted Variable Importance (tVIM)

1) Define population effects of each factor using marginal structural models

2) Empirically rank factors based on their influence on health status

Results

❖ N=288 men

❖ Median age =41 years

❖ 59% non-Caucasian
- 38% African American
- 7% Latino
- 13% "other"

Results (past 3 months)

- ❖ 20% slept in a public place

- ❖ 26% reported unmet subsistence needs

- ❖ 23% used crack-cocaine

Results

- ❖ Median baseline CD4 cell count was 349 cells/µl

- ❖ 18% of eligible persons (CD4<350) took antiretroviral therapy (ART)

Ranked Influence of Study Factors on Physical Health (N=288)

Main Effect	Adjusted Population Effect	95% Confidence Interval	p-value	tVIM Rank
Unmet subsistence needs	-3.83	(-5.27,-1.6)	<.0001	1
Caucasian race/ethnicity	-3.71	(-6.03,-1.29)	.0012	2
No source of instrumental support	-1.56	(-2.88,-0.21)	.0220	3
Viral load	-0.000018	(-0.000038 , - 0.000003)	.0410	4

Ranked Influence of Study Factors on Mental Health (N=288)

Main Effect	Adjusted Population Effect	95% Confidence Interval	p-value	tVIM Rank
Unmet subsistence needs	-3.51	(-5.08,-1.29)	<.0001	1
Has a close friend/confidant	3.19	(1.64,4.72)	<.0001	2
Any drug use	-3.67	(-5.53,-1.8)	<.0001	3
No reported sources of instrumental Support	-2.2	(-3.62,-0.89)	.0012	4
>90% ART adherence	1.66	(0.07,3.27)	.0430	5

Conclusions

❖ Among clinically eligible persons, only 18% are taking ART

❖ An inability to meet basic subsistence needs (housing, food, clothing and hygiene needs) has the strongest influence on overall health in this population

Implication

❖ Impoverished men will not fully benefit from advances in HIV medicine until social and structural barriers are overcome

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