Impact of Unmet Subsistence Needs on HIV Health Outcomes

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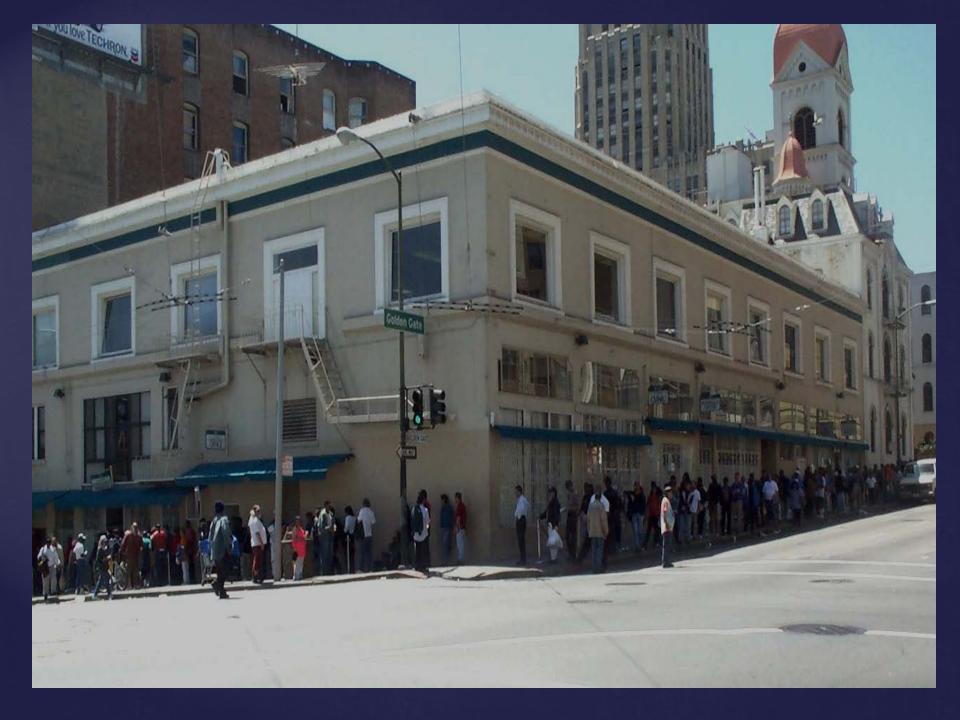
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Background

❖ 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)

Study Objective

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

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

- ❖ Insurance status

- ❖ 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

- ❖ Median age =41 years

- ❖ 38% graduated from high school

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

Results (past 3 months)

- Median monthly income = $815

- 20% slept in a public place

- 26% reported unmet subsistence needs

- 23% used crack-cocaine

- 9% drank>2 alcoholic beverages/day

Physical Health Status

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

- ❖ 33% of participants report current symptoms of a chronic health condition

- ❖ 18% 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

Mental Health Status

- ❖ 35% Depression

- ❖ 22% Manic Episodes

- ❖ 16% PTSD

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

❖ Only 18% of homeless and unstably housed men 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

❖ Results are consistent with a recent women's study

Implication

❖ Homeless and unstably housed individuals will not fully benefit from advances in HIV medicine until social and structural barriers are overcome

Acknowledgements

❖ This study would not have been possible without the study participants who keep coming back to answer our questions

❖ We thank the SHADOW and REACH project staffs