

HIV and Hunger in the Heartland: Estimates of Food Insecurity among Oklahomans with HIV/AIDS Receiving Ryan White Care



Marianna Wetherill, PhD, MPH, RDN/LD¹, Robert John, PhD¹, Denna Wheeler, PhD², Andrew Moore, LPC³
¹Department of Health Promotion Sciences, College of Public Health, University of Oklahoma Health Sciences Center
²Center for Rural Health, Oklahoma State University Center for Health Sciences
³Infectious Diseases Institute, Department of Medicine, University of Oklahoma Health Sciences Center



Background

The social determinants of health are associated with access to and retention in medical care for persons living with HIV/AIDS. Evidence-based interventions for the treatment of HIV-associated wasting and the management of medication side effects include medical nutrition therapy; however, the role of food security as a determinant of HIV/AIDS associated outcomes in the U.S. has only recently been explored. Food insecurity is associated with HIV transmission risk behaviors and poor health outcomes among persons living with HIV/AIDS, including suboptimal gains in CD4 immune cell count, failure to achieve a suppressed viral load, and overall mortality.¹⁻³

An estimated 5,375 persons are living with HIV/AIDS in Oklahoma and nearly one-half of these individuals rely on Oklahoma's Ryan White system of HIV safety net providers for ongoing treatment and care.⁴ The purpose of this study was to assess the magnitude and subjective health impact of food insecurity within Oklahoma's Ryan White population.

Aims

1. To estimate the proportion of Ryan White clients with food insecurity.
2. To identify the association between food insecurity and factors associated with HIV-associated health outcomes and behaviors, including subjective mental and physical health and medication adherence.
3. To identify perceptions of food insecure Oklahomans living with HIV/AIDS regarding the health consequences of food insecurity.

Methods

The research used a mixed-methods approach which included self-administered surveys and focus groups. A self-administered 66-item questionnaire using standardized measures was used to assess food security status,⁵ food assistance program use, self-rated physical and mental health, and demographics. Survey participants were recruited from Ryan White case management providers between September 2012 and February 2013 ($n = 164$). Descriptive and inferential statistics were calculated using SPSS 20.0.

Four focus group discussions were conducted at three food pantries that exclusively serve HIV-positive individuals between November 2012 and January 2013 ($n = 31$). Focus group transcripts were analyzed to identify themes surrounding food insecurity and opportunities for food assistance program improvement. These discussions allowed the researchers to better understand how food insecure HIV-positive persons identify and respond to their food situation, the perceived health consequences of food insecurity, and possible unmet food needs within the population.

Acknowledgements

The researchers would like to thank members of the HIV care community for their participation in the project, including the University of Oklahoma Infectious Diseases Institute, Oklahoma State University Internal Medicine Specialty Services, RAIN Oklahoma, Tulsa CARES, Other Options, Inc. Friends Food Pantry, and the Parish of St. Jerome. We would also like to thank the Oklahomans living with HIV/AIDS who participated in the research. A portion of this research was supported by a doctoral scholarship from Commission on Dietetic Registration.

Results

The overall sample was representative of Oklahoma's Ryan White population according to gender, major race and ethnicities, and income characteristics. Two-thirds (67%) of survey participants were classified as food insecure (Figure 1), despite high participation in SNAP and charitable food assistance programs.

Persons living in households earning less than 100% of the federal poverty level experienced a two-fold rate of food insecurity, OR = 2.28, 95% CI [1.17, 4.42], compared to those earning a higher income. However, food insecurity remained a common problem for persons earning above 100% of the federal poverty line, with 56.5% (39) of these experiencing food insecurity. There was no significant association between food security status and household size, age, gender, education, duration of HIV infection, or body mass index.

Mental Health

Frequent mental distress (FMD), defined as 14 or more self-reported bad mental health days in a thirty day period, was common within the overall sample ($n = 67$, 40.9%). Persons with FMD had 3.5 times the odds of being food insecure, OR = 3.5, 95% CI [1.7, 7.4].

Physical Health

Persons with poor or fair self-rated physical health had over twice the odds of being food insecure, OR = 2.4, 95% CI [1.2, 4.8], compared to those with self-rated good or excellent health.

Medication Adherence

Medication non-adherence by self-report was also associated with food insecurity. Persons reporting non-adherence experienced a four-fold odds of being food insecure, OR = 4.1, 95% CI [1.4, 12.4].

Frequent mental distress, self-rated health, and medication adherence were not independently associated with household size, income, gender, education, duration of HIV infection or BMI.

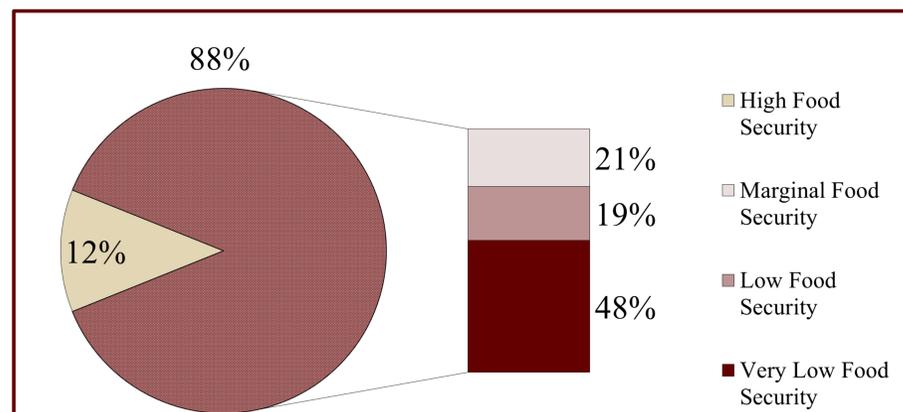


Figure 1. Summary of food security status among survey participants ($n = 164$). The vast majority of participants (88%) experienced some degree of food insecurity.

Results, continued

Focus group participants described how food insecurity affects their health as HIV-positive persons, in addition to how the competing needs of daily living, including inadequate transportation, food, and housing, act as barriers to health. Important food needs reported by participants included fresh fruits and vegetables and fresh protein foods, which participants attributed as essential for proper nutrition when living with HIV/AIDS.

The associations between income stability, mental health and food insecurity was reinforced during focus group discussions, as illustrated by the following quote from one participant:

"Getting used to not taking care of your own self—[it's] probably one of the hardest things, admitting that you don't have enough food at times. As a man, you are supposed to take care of your family. I can hardly take care of myself, much less my wife. It's a lot to deal [with], not just physically, but mentally."
 —White male, age 51, very low food security

Participants strongly endorsed the need for food pantries that address the needs of HIV-positive individuals, as illustrated by the justification by one participant:

"People nowadays, when they see you with HIV, they treat you like it's the black plague—stay away! [stated with emphasis, multiple people agreeing]. . . . Coming here, I see so many people that I know. . . . When you come here [to this pantry for people with HIV] and you see someone that you know, they know what you're going through. They understand what the struggle is like. You find a best friend in the worst of circumstances."
 —American Indian male, age 20, low food security

Conclusion

The implications of unresolved food insecurity on HIV prevention and treatment outcomes are likely significant for the state of Oklahoma. Food insecure Oklahomans living with HIV/AIDS more often experience a cluster of challenges to proper HIV treatment and care beyond food insecurity, including poor mental and physical health.

Ryan White medical and mental health providers should formally collaborate with nutrition programs to comprehensively assess the determinants of food insecurity and implement system-wide, sustainable solutions to reduce food insecurity within Oklahoma's low-income HIV/AIDS population. Likewise, nutrition providers should consider the mental and physical health needs of their client population when designing and implementing services.

References

- ¹Weiser, S., Young, S., Cohen, C., Kushel, M., Tsai, A., Tien, P., et al. (2011). Conceptual framework for understanding the bidirectional links between food insecurity and HIV/AIDS. *American Journal of Clinical Nutrition* 94(suppl), 1729S-1739S.
- ²Wang, E. A., McGinnis, K. A., Fiellin, D. A., Goulet, J. L., Bryant, K., Gibert, C. L., et al. (2011). Food insecurity is associated with poor virologic response among HIV-infected patients receiving antiretroviral medications. *Journal of General Internal Medicine*, 26 (9), 1012-1018.
- ³McMahon, J., Wanke, C. A., Elliott, J. H., Skinner, S., & Tang, A. M. (2011). Repeated assessments of food security predict CD4 change in the setting of antiretroviral therapy. *Journal of Acquired Immune Deficiency Syndrome*, 58 (1), 60-63.
- ⁴Oklahoma State Department of Health. (2014). Living HIV/AIDS Cases in 2013. Retrieved April 18, 2015, from <http://www.ok.gov/health2/documents/Living%20HIV%20AIDS.pdf>
- ⁵USDA Economic Research Service. (2008). *United States Department of Agriculture Economic Research Service*. Retrieved April 15, 2012, from Food security in the United States: Household survey tools: <http://www.ers.usda.gov/briefing/foodsecurity/surveytools.htm#adult>