

From Twinkies to Turnips; Cultivating Wisconsin's Food Deserts

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Specific Aim

People living in designated food deserts are more likely to suffer from health issues such as cancer and type II diabetes mellitus, resulting in poor health outcomes. If we can increase access to nutrient-rich food via various methods such as urban gardening, farmers' markets, supermarkets, and changes in health legislation; health outcomes may improve for those living in food deserts.

Introduction

Food deserts are areas in the United States that have low densities of grocery stores, high densities of fast food restaurants and low fruit and vegetable availability. They arise from the lack of grocery stores in impoverished neighborhoods, areas with high shoplifting and neighborhood crime rates, and the growth of large chain supermarkets in suburbs where the population is more affluent. Food deserts can be linked to low-income areas due to the populations' lack of resources to access food outside of their area. Diet contributes to inflammation, which has been shown to be a contributor to cancer. Inflammation plays a role in tumor development, suppression of immune system responses, and metastatic spread. Increasing access to these foods, by placing more grocery stores in food deserts can increase buying of healthier foods. When this was done in Saskatoon, Canada, residents in a food desert spent 0.70 dollars more on fruit, 1.20 dollars less on meat, and 1.10 dollars less on prepared foods than residents in non-food deserts. Similarly, when farmers markets were added to the food desert areas, prices of healthier foods went down, making food accessibility easier for residents.

Methods

The resident cancer data has been gathered from Wisconsin Cancer Facts and Figures 2013-2014, a journal made by the American Cancer Society that examines cancer incidences and mortalities in Wisconsin between the years of 2013 and 2014. For the first trial of data collection we are looking at how cancer incidence rates correlate to low income counties. To do so, we used a map in Wisconsin Cancer Facts and Figures 2013-2014 that has the number of cancer incidences for each county. For the second trial of data collection, we looked at cancer mortality rates compared to low income counties. To do this, we used a second map in the Wisconsin Cancer Facts and Figures 2013-2014. This study also used the United States Census Bureau, a website that data on income for each Wisconsin county.

Discussion

In this Wisconsin county study, the correlation among cancer incidence rates and median household income was a weak negative correlation. When looking at cancer mortality rates and median income, the results also showed a weak negative correlation. The purpose was to highlight the already existing data on the correlation between cancer rates and food deserts due to the lack of healthy foods. This study also fills the gap of research in Wisconsin and research done on a county level along with analyzing one factor of a food desert, low income. One limitation in this study was the misalignment of years that the data was taken from. Another limitation was the lack of access to food desert and food access data. This limited the study to looking at just income as a factor of food deserts; though, there is an 81% correlation rate among low-income areas and food deserts

Community Outreach

We believe that increasing access to fresh foods through various methods will improve the health of people living in these designated areas. We investigated how urban gardening could be implemented, and connected with community partners who's goals aligned with ours. After discussions with State Representative Evan Goyke and Beverly Tyree from Victory Garden Milwaukee, it became apparent that this practice of urban gardening would be beneficial in combating food insecurity in Milwaukee. Rep. Goyke has plans to open an urban agriculture school. Beverly Tyree from Victory Garden emphasized how this urban gardening could lead to jobs, enhance the communities, and better the mental health of those gardening. Both community outreach partners stressed how urban gardening can teach young people to be aware of the various methods to increase their health. We are currently working on solutions to implement within the MCW, Froedtert, and Children's Hospital community so that cancer patients can receive these benefits.

Acknowledgements

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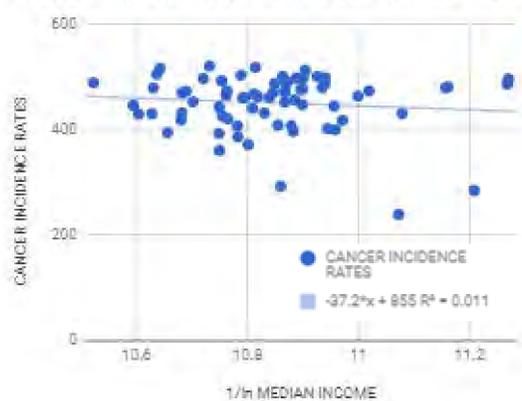
Results

CANCER MORTALITY RATES vs. 1/ln MEDIAN INCOME

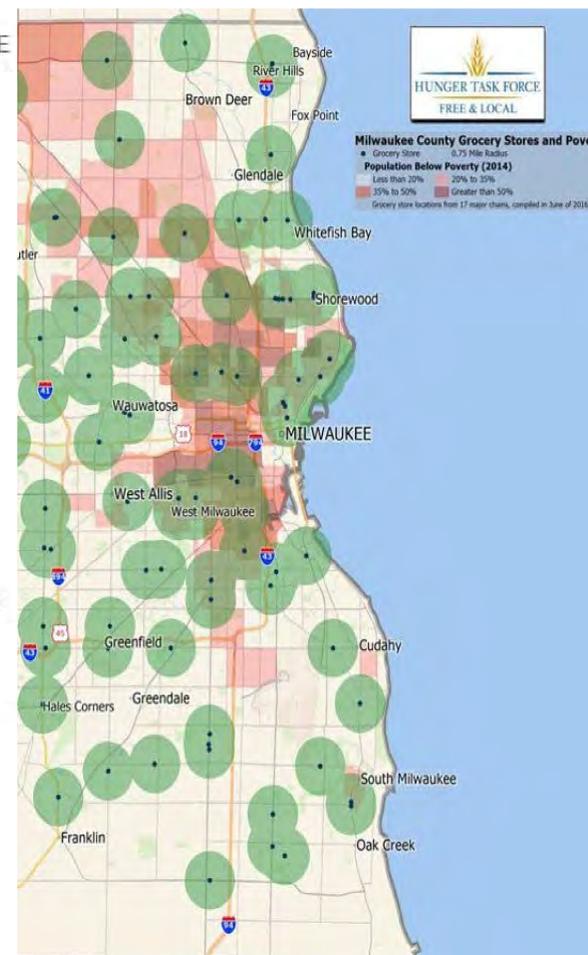


This graph shows the correlation between cancer mortality rates and median household income. It shows a weak negative correlation.

CANCER INCIDENCE RATES vs. 1/ln MEDIAN INCOME



This graph shows the correlation between cancer incidence rates and median household income. It shows a weak negative correlation.



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