# Mobile Fruit and Vegetable Vendors' Impact on Food Deserts

*[Announcer] This program is presented by the Centers for Disease Control and Prevention.*

[Ana Diez Roux] Limited access to fresh fruits and vegetables, particularly in low-income areas, is believed to be one cause of chronic disease-related disparities. The study we're discussing today was conducted to examine the success of one city's solution to provide fresh produce in low-income areas.

I'm Ana Diez Roux, acting board member for CDC's *Preventing Chronic Disease* journal. And today I'm talking with Kathleen Li, winner of the journal's 2014 Student Research Paper Contest and medical student at the University of California. She joins us to discuss her winning paper, which asks the question, "Do mobile fruit and vegetable vendors alleviate food deserts?" Kathleen's study was featured in the September 2014 issue of *Preventing Chronic Disease*.

Thank you for joining us, Kathleen.

[Kathleen Li] Thanks, Ana.

[Ana Diez Roux] So Kathleen, why don't you start by giving us an overview of your study.

[Kathleen Li] Sure. So, the New York City Department of Health has been pioneering public health programs to try to curb obesity by making it easier for people to eat healthier. And in 2008, they established the Green Carts program, which aims to encourage fruit and vegetable vendors to—street vendors—to set up produce carts in certain areas of New York City where residents consistently report that they have very low levels of fruit and vegetable intake. And these areas also tend to have more residents who are lower income and have higher rates of obesity and related illnesses, like diabetes. So, the Department of Health specifically wanted carts to locate in what's called food deserts, which are areas within these neighborhoods that lack stores that sell healthy foods, like fresh produce.

The Green Carts can move freely within each neighborhood that they're assigned to. We wanted to see, first, whether Green Carts were in fact locating in food deserts, and secondly, how the neighborhoods around Green Carts compared to neighborhoods where they could have gone but didn't choose to go. So, to give an example, I was doing my research in East Harlem, and I saw a lot of Green Carts that were located right across the street from Mount Saini Hospital or along the border of wealthier neighborhoods, like the Upper East Side, which are not food deserts and wondered whether they were really in areas where they were positioned to fulfill the goals of the program to increase fruit and vegetable access for people living in areas that were further from these border areas or further from large institutions where people do lack fruits and vegetables.

So we got a list of all the Green Carts from the Department of Health, mapped them, and then studied how many carts were in food deserts, which we defined as areas that had no places that sell fresh produce within a quarter mile—about a five minute walk. And then we also compared

the areas with Green Carts to other places where the Green Carts could have gone but didn't, to see if there were differences in the size and income of their populations or in their proximity to other food stores, to large businesses, and subway stops.

[Ana Diez Roux] So, what did you find when you looked at the locations of the Green Carts?

[Kathleen Li] Surprisingly, we found that only eight percent of Green Carts were in food deserts. In fact, three out of four of the carts were within a five minute walk of not just one other healthy food store, but at least two other healthy food stores. And in contrast, over a third of candidate locations, the theoretical locations that we generated, where carts could have gone but didn't go, a third of them *were* in food deserts. So it's not that the food deserts don't exist in New York City, it's just that Green Cart vendors are choosing to go elsewhere.

[Ana Diez Roux] And why do you think that the vendors were setting up in these particular places?

[Kathleen Li] So it seems like it boils down to simple economics. The Green Cart vendors are part of this initiative to increase fruit and vegetable access, but they're unsubsidized and they need to make a living. So, they'll probably go where the most customers are, and from a vendors' perspective, it makes much more sense to be outside of a subway stop where people are constantly passing by, even if it means being two doors down or across the street from a competitor, like a supermarket, than to be in the middle of a residential neighborhood where the population density is lower and few people might be walking by.

[Ana Diez Roux] And was there any sort of monitoring of the carts after they were set up and functioning?

[Kathleen Li] The Department of Health maintains the vendor licenses and inspects the carts to make sure they're up to health code standards and not selling other food items, like chips or water bottles, but it doesn't really monitor or track exactly where they're located, since they are allowed to actually move freely within an assigned borough, like Harlem.

[Ana Diez Roux] And do you think the Green Carts fulfilled the goal of alleviating food deserts and serving the targeted population?

[Kathleen Li] So the short answer would probably be no, as far as alleviating food deserts. There is an argument to be made that Green Carts might increase the visibility of fresh fruits and vegetables and serve as a visible reminder for people to buy an apple or banana instead of chips or French fries, or that Green carts might increase access through lower prices. But if you live in a food desert and you can't get out to these places very easily or very often, let's say you're a stay at home mom or you're home bound for a medical reason, having these Green Carts far away near the subway stops might not help you and your family.

[Ana Diez Roux] And do you have suggestions for improving the program, based on your findings?

[Kathleen Li] So, it's hard to know for sure if other approaches would definitely work better, but if we wanted to figure out where the food deserts were and target those, we do have the ability to use mapping software like we did in our study to identify specific neighborhoods that still lack fruits and vegetables. Since we found that these neighborhoods don't always have high foot traffic, since they're more residential, they're further from the subway stops and large businesses, it might be necessary, or it might help to incentivize or subsidize vendors to locate in those specific areas, rather than having them move around freely.

The other issue is that these vendors are selling outdoors, and almost all of them are closed for five or six months of the year when the weather is colder. So, they're not a stable source of produce. This might be addressed by providing sheltered areas like schools or community centers where vendors could sell during the winter and on bad weather days. And a couple other cities, like Chicago, have had buses that drive around to food desert neighborhoods that advertise times to sell fruits and vegetables in a more sheltered environment, and that might be one way to address the problem. But the bottom line is that obesity is a very complex problem and there's no silver bullet to address factors that influence obesity, like poverty, culture, food marketing, food access. But especially when public health budgets are tight, it's really important for policy makers to consider sound evidence when they're planning their initiatives and to evaluate any new initiatives that they come up with with a really critical eye.

[Ana Diez Roux] Well, thank you for joining us, Kathleen. You can read the entire study online at cdc.gov/pcd.

*The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.*

*[Announcer] For the most accurate health information visit www.cdc.gov or call 1-800-CDC-info.*