

Why Promote EBT at Hawai'i Farmers Markets?

National data show that:

- Access to a low-cost source of fresh fruits and vegetables has been shown to significantly predict individual fruit/vegetable consumption and obesity levels, even after controlling for income, ethnicity, education levels, and community-level factors.¹
- Individuals in lower-income neighborhoods have less access to sources of fresh fruits and vegetables; this reduced access explains a significant portion of observed racial/ethnic differences in fruit/vegetable consumption.²
- Fruit and vegetable consumption levels are associated with rates of both adiposity and chronic disease in adults.^{3,4}
- Farmers' markets are an effective way to increase access in low-income areas. However, the portion of SNAP participants' budgets being spent at farmers' markets has declined 3-fold in the decade since EBT was introduced. At the same time, the number of farmers' markets has tripled, and the proportion of the general population's food budgets spent at farmers' markets has risen.⁵
- SNAP participants have changed their shopping patterns since the introduction of EBT. They show low awareness of farmers' markets, perceive them as more expensive than supermarkets, and have time and transportation issues that limit access. EBT implementation imposes burdens on markets that must be addressed. Community support in promoting farmers markets is critical.^{5,6}
- Double-bucks and incentive promotions have been found to be effective at both increasing SNAP participation and increasing farmers' market revenue, WHEN used in conjunction with community support, market outreach and targeted efforts to overcome barriers to participation.^{6,7}

¹ Michimi A and Wimberly MC. Associations of supermarket accessibility with obesity and fruit and vegetable consumption in the conterminous United States. *International Journal of Health Geographics* 2010, 9:49. <http://www.ij-healthgeographics.com/content/9/1/49>

² Dubowitz T. et al. Neighborhood socioeconomic status and fruit and vegetable intake among whites, blacks, and Mexican Americans in the United States. *Am J Clin Nutr* 2008;87:1883–91

³ Ledoux TA, Hingle MT, and Baranowski T. Relationship of Fruit and Vegetable intake with adiposity: a systematic review. *Int. Association for the Study of Obesity*, 2010. DOI 10-1111/J.1467-789X.2010.00786.x

⁴ Huang HC et al. Fruit and Vegetable Intake and Risk of Major Chronic Disease. *J Natl Cancer Inst* 2004;96:1577– 84]

⁵ Briggs S, Fisher A, Lott M, Miller S, Tessman N. Real food, real choice: Connecting SNAP Recipients with farmers markets. Report of the Community Food Security Coalition and Farmers Market Coalition. June 2010. Accessed 9/21/12 at http://farmersmarketcoalition.org/wp-content/uploads/2010/07/EBT-SNAP_Final_Web.pdf

⁶ USDA Food and Nutrition Service. Nutrition Assistance in Farmers Markets: Understanding Current Operations—Formative Research Findings. *Nutrition Assistance Report Series*, January 2012. Retrieved 9/21/12 at <http://www.fns.usda.gov/ora/MENU/Published/snap/FILES/ProgramOperations/FarmersMarkets.pdf>

⁷ Blue Cross and Blue Shield of Minnesota's Market Bucks Pilot Program at Midtown Farmers Market Summary of Evaluation Findings *Spring 2011*. Accessed 9/24/12, at www.preventionminnesota.com/objects/pdfs/C2226hi_MarketBucks_rept.pdf

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Our low-income population has the lowest levels of fruit and vegetable consumption in the state -- well below recommended levels.

Table 1. Fruit and Vegetable Consumption by Poverty Level

	<130 FPL % (95% CI)	131-185% FPL % (95% CI)	>185% FPL % (95% CI)
Fruit Consumption			
<1 per day or never	58.5 (54.4-62.7)	53.6 (48.8-58.3)	52.0 (4.8-54.2)
1 to <3 times per day	34.5 (30.6-38.4)	39.8 (35.2-44.4)	41.6 (39.4-43.8)
>3 times per day	6.9 (4.9-9.0)	6.6 (4.3-9.0)	6.4 (5.4-7.4)
Vegetable consumption	<130%	131-185%	>185%
<1 per day or never	39.5 (35.2-43.8)	36.5 (31.6-41.4)	30.1 (28.0-32.3)
1 to <3 times per day	52.3 (47.9-56.6)	57.9 (53.0-62.7)	62.9 (60.7-65.1)
>3 times per day	8.2 (5.8-10.7)	5.7 (3.8-7.5)	7.0 (5.9-8.0)
Eat 2+ fruits and 3+ vegetables every day	<130%	131-185%	>185%
Yes	13.7 (11.0-16.5)	12.7 (9.9-15.6)	15.3 (13.7-16.9)
No	86.3 (83.5-89.0)	87.3 (84.4-90.1)	84.7 (83.1-86.3)

State of Hawai'i BRFSS (2009)

Our low-income population has the highest level of obesity and diet-related chronic disease in Hawai'i.

Table 2. Chronic Disease Rates by Poverty Level

	<130% FPL % (95% CI)	131-185% FPL % (95% CI)	>185% FPL % (95% CI)
Diabetes	10.2 (9.1-11.2)	8.9 (7.8-10.0)	7.4 (7.0-7.9)
Heart Attack	4.1 (3.5-4.7)	3.8 (3.0-4.6)	2.9 (2.6-3.1)
Coronary Heart Disease	3.3 (2.7-3.9)	2.5 (1.9-3.1)	2.9 (2.6-3.2)

State of Hawai'i BRFSS (2006-2010 5-year estimates)

Table 3. Overweight and Obesity Rates by Poverty Level

BMI Category	<130% FPL % (95% CI)	131-185% FPL % (95% CI)	>185% FPL % (95% FPL)
Underweight (<18.5)	2.7 (2.1-3.3)	3.2 (2.4-3.9)	2.2 (1.9-2.4)
Normal (18.5-24.9)	37.0 (35.1-39.0)	36.8 (34.6-39.0)	40.9 (40.0-41.9)
Overweight (25-29.9)	31.6 (29.8-33.5)	34.2 (32.1-36.4)	36.8 (35.9-37.7)
Obese 1 (30-34.9)	16.2 (14.7-17.8)	15.6 (14.0-17.3)	13.5 (12.8-14.1)
Obese 2 (35-39.9)	7.0 (5.9-8.0)	6.4 (5.2-7.5)	4.5 (4.1-4.9)
Obese 3 (>40)	5.4 (4.6-6.3)	3.8 (2.9-4.7)	2.1 (1.9-2.4)

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Low-income individuals in Hawai'i show high levels of food insecurity

Table 4. Food Insecurity by Poverty Level

Food Insecurity Status	<130% FPL (%)	130-185% FPL (%)	>185% FPL (%)
Food Secure	52.9	64.6	80.4
At Risk for Hunger	27.9	25.6	13.6
Adult Hunger	16.7	9.4	5.7
Adult and Child Hunger	2.4	0.4	0.3

2009 Hawai'i Household Survey

Low-income individuals in Hawai'i are more likely to view both the cost and accessibility of fruits and vegetables as barriers to increasing consumption.

Table 5. What is the most important reason why you might NOT eat more FV?

Reason Given	<130% FPL (%)	130-185% FPL (%)	>185% FPL (%)
Cost	33.9	35.2	26.7
Lack of availability	29.6	27.1	29.5
Inconvenience	9.1	20.1	20.0
Taste	12.8	5.8	10.7
Health Reasons	4.2	3.2	1.8
Other	10.3	8.6	11.3

2011 Healthy Hawai'i Initiative Survey

While the USDA has not yet decided how to categorize “food deserts” in Hawai'i, a careful look at Hawaii's low income areas suggests that many low-income areas have limited transportation, and less convenient access to sources of low-cost fruits and vegetables than residents of other neighborhoods.⁸

⁸ Lee, S. Oshiro M, Hsu L, Buchthal V, Sentell T. Neighborhoods and Health in Hawai'i: Considering Food Accessibility and Affordability Hawai'i Journal of Medicine & Public Health, Vol 71, No 8, August 2012