

# A Description of Snack Foods in Select Ohio Schools: A Baseline Prior to USDA New Competitive Food Guidelines

Chukwudubem Obianagha MPH, Marietta Orlowski PhD, and William Spears PhD  
Department of Community Health, Center for Global Health



## Abstract

### Background

The proliferation of snack foods in school lunch programs has necessitated the USDA to regulate their consumption by implementing policies regarding their use. The competitive food guidelines were enacted in June 2013 through the Healthy, Hunger-Free Kids Act (Hanks, Just, Smith & Wansink, 2013). This required development of federal nutritional guidelines that snack foods had to meet to be considered a competitive food and thus sold in school lunchrooms (Guthrie, Newman, Ralston, Prell, & Ollinger, 2013).

### Objectives

The purpose of this study was to describe the current snack food offered in select Ohio high schools, and to determine how these snack foods affect the consumption of healthier free and reduced meal options. We also described factors that influence decision making in lunchrooms and explored effective ways to encourage healthier food decision making.

### Methods

This was a descriptive study that used plate waste data from select Ohio schools to determine food choice among students from three high schools. The model used for this study was from Cornell University's Smarter Lunch Rooms Movement.

## Results

- Nineteen (19) snack food items were served across the three high schools and 15 met the new competitive food guidelines. Table 1 shows that at least one of the four snack foods which failed to meet the guidelines were served across the three schools.
- Across the three schools, as reimbursable meal purchase increased, demand for snack foods declined and vice versa, (Table 2).
- As illustrated in Table 3, School A had 34 percent of families with low incomes (below 185 percent of the poverty level). This school purchased higher amounts of snack foods than School B and School C, who had low income rates of 44 percent and 65 percent, respectively.
- School A also purchased fewer amounts of reimbursable meals than School B and School C (Table 4).

## Results Continued

**Table 1. Proportion of Snack Food Items Purchased that Meet the Competitive Food Guidelines by High Schools**

High School	Snack Foods Sold	Meets Guidelines		Does not Meet Guidelines	
		N	%	N	%
School A	11	8	73	3	17
School B	11	7	64	4	36
School C	4	2	50	2	50

**Table 2. Reimbursable Meal Purchased by Socio-economic Status of School Districts**

High School	185% of Poverty		Reimbursable Meals	
	%	N	%	N
School A	33.6	150	38.1	193
School B	44.0	175	70.3	121
School C	65.1	337	72.9	68
<b>Total</b>		<b>662</b>	<b>59.9</b>	<b>382</b>

Chi sq = 179.9, df=4, p= 0.001 (School A vs School B&C)  
Chi sq = 1.6, df=4, p= 0.806 (School A&B vs C)

**Table 3. Proportion of Snack Foods Purchased by Poverty Level in High Schools**

High School	185% of Poverty		Snack Foods	
	%	N	%	N
School A	33.6	193	56.3	193
School B	44.0	121	40.9	121
School C	65.1	68	16.8	68
<b>Total</b>		<b>382</b>	<b>36.6</b>	<b>382</b>

Chi sq = 112.2, df=4, p= 0.001 ( School A vs School B & C)  
Chi sq = 9.7, df=4, p= 0.045 (School A & B vs C)

**Table 4. Reimbursable and Snack Foods Sales by High Schools**

School District	Reimbursable Meals		Snack Foods	
	N	%	N	%
School A	150	38.1	193	49.0
School B	175	70.3	121	48.6
School C	337	72.9	68	14.7
<b>Total</b>	<b>662</b>	<b>59.9</b>	<b>382</b>	<b>34.6</b>

Chi sq = 118, d = 4, p <.001 (School A vs School B & C)  
Chi sq = 85, d = 4, p <.001 (School A & B vs C)

\* Number of competitive foods are not included as meals.

## Public Health Implications

Because snack foods are high in energy and low in nutrients, efforts should be geared towards reducing their consumption to the barest minimum. The high energy in these food items are not used so they accumulate in the body which stores excess energy in the form of fat (Briefel, Wilson, & Gleason, 2009). In turn, this excess energy leads children to be overweight and in some cases obese. Obese children go through several social, emotional, psychological and health problems. Obese children are more likely to suffer from diabetes, stroke, hypertension and heart attack.

Secondary implications of obesity and overweight are major causes of morbidity and mortality in our world today. These are the reasons why obesity has been classified as a disease by the American Medical Association. Although the secondary impacts of obesity may not develop in childhood, the consequences are enormous in adulthood. Efforts to curb obesity should start in childhood and a good place to direct efforts is reducing snack food availability in school lunch rooms.

## Conclusions

Despite the new competitive food guidelines, none of these three schools has reached 100 percent compliance to this policy. This study demonstrated that poverty and number of snack food choices are associated with food decision making in school lunch rooms. Availability of snack food in school lunch rooms also affects consumption of healthier free or reduced meal options.

## References

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Chukwudubem Obianagha