



2012-2013 Food Consumption Behaviors in Hilo, Hawaii: Preliminary Results

The US Department of Agriculture (USDA) supported Children's Healthy Living Program, or CHL, has been working with your community to understand the nutrition, food consumption behaviors, and health of children 2-8 years of age. During 2013, parents, teachers, community members, and project partners gathered data in your community. Parents/caregivers were asked to complete Food and Activity Logs for a minimum of 2 non-consecutive days within one week.

What children eat is very important. Growth and physical activity play key roles in determining children's nutritional and energy needs. Children need calories for energy, but eating too much, with not enough activity, can cause unhealthy weight gain.

To ensure that deliberate choices regarding healthy eating and physical activity were made for Hawaii's children, CHL, along with key members of your community, established some targets for healthier children.



Here we present preliminary results on the diet data collected in a sample of Food and Activity Logs from your community. With this information, parents and community leaders can see where things are going well and where additional effort, leadership, and resources will need to be placed to raise the next generation of well nourished, healthy, happy children.

Primary CHL Diet Targets

1. Increase Fruit and Vegetable Intake

The CHL Targets encourage children to eat more fruits and vegetables daily. Children should consume at least 1 cup of fruit and 1 heaping cup of vegetables daily. As children age, they need more, as shown in Table 1.

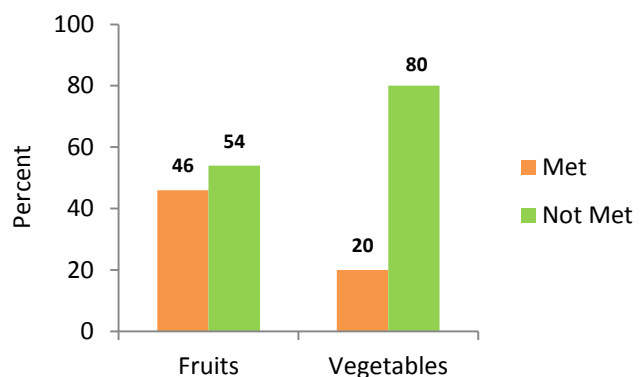
Table 1. USDA Daily Recommended Amounts of Fruits and Vegetables for Children 2-8 Years of Age.

United States Department of Agriculture's My Daily Food Plan		
Daily recommended amount of fruits and vegetables	 VEGETABLES	 FRUITS
2 years	1 cup	1 cup
3 years	1 ½ cup	1 cup – 1 ½ cup
4-5 years	1 ½ cup – 2 cups	1 cup – 1 ½ cup
6-8 years	1 ½ cup – 2 ½ cups	1 cup – 2 cups

Fruits and vegetables contain many minerals and vitamins needed for helping children be healthy. Notably fruits and vegetables provide fiber, which enhances health and is important for bowel function.

What did we find regarding fruit and vegetable intakes among children in Hilo, Hawaii? Over the two days of children's intakes recorded on the Food and Activity Logs, 14% of the children had no fruits recorded on their logs, while 9% of children had no vegetables recorded on their Food and Activity Logs. The percentage of children meeting the fruit and vegetable recommendations, which were outlined in Table 1, is shown in Figure 1.

Figure 1. Percentage of Children Meeting the Daily Recommended Fruits and Vegetable Intake



Only 46% of children in Hilo met the recommended intake for fruits, while only 20% met the recommended intake for vegetables.

Many varieties of fruits and vegetables were consumed by the children in Hilo. Table 2 presents the fruits and vegetables that were most frequently recorded on the Food and Activity Logs.

Table 2. Top 5 Fruits and Vegetables Recorded for Hilo, Hawaii.

	Fruits	Vegetables
1	Bananas	Lettuce
2	Apples	Tomato (ripe/raw)
3	Oranges	Carrots
4	Grapes	Cucumber
5	Pineapple	Broccoli

Strategies that have been found to be effective in the promotion of fruit and vegetable intake include: (1) Offering fruits and vegetables as snacks instead of cookies and chips, (2) Offering fruit as dessert after meals, and (3) Parents and caregivers serving as role models for eating fruits and vegetables.

2. Increase Water Intake

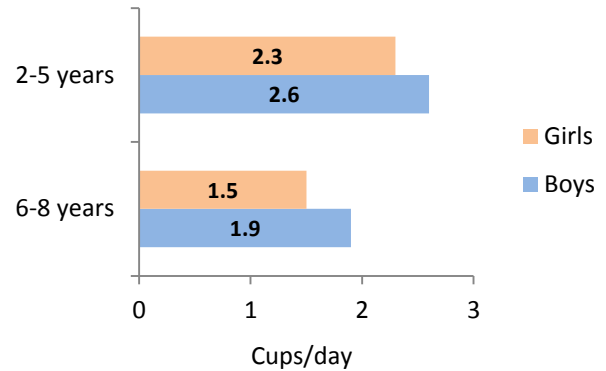
CHL has set targets that encourage children to drink more water. Only 83% of parents/caregivers reported that their child consumed drinking water over the two days on the logs. Among children not meeting recommendations, as a start, we suggest increasing intake by ½ cup of water per day.

Water is one of the most important nutrients for the body. The benefits of water include keeping the body temperature normal, as well as getting rid of waste. Active persons, as well as those who live in hot climates, are encouraged to drink plenty of water. Children should consume about 40 fluid ounces (5 cups) of water from all beverages (milk, juice, drinking water etc.) daily.

There are several ways that more drinking water can be consumed daily, including: (1) Drinking water with and between meals, (2) Using reusable bottles and offering water throughout the day, (3) Drinking water instead of sugary / sugar-sweetened drinks.

Figure 2 provides the daily average amount of drinking water consumed by sex and age. Water intake was lowest among girls, aged 6-8 years (1.5 cups per day).

Figure 2. Intake of Daily Drinking Water (cups / day) in Hilo, Hawaii.



Note that Figure 2 only captures drinking water and not water consumed as part of other beverages.

3. Decrease Sugar-Sweetened Beverage Intake

The CHL program encourages children to avoid sugar-sweetened beverages (SSBs). Common SSBs are sweetened fruit drinks, fruit punches, iced tea with sugar, regular soda or pop, and energy/sports drinks (e.g., Gatorade). SSBs can be described as non-alcoholic beverages that contain added caloric sweeteners. They contribute to children consuming more calories than are needed and can affect overall dental health.

Over the two days of recordings, 60% of parents/caregivers reported that the child consumed SSBs. Figures 3 and 4 provide information on the consumption of SSBs by age and sex. Figure 3 shows the average intake of SSBs, across two days, for all children. Figure 4 shows the average intake of SSBs, across two days, for only the children that reported consuming SSBs.

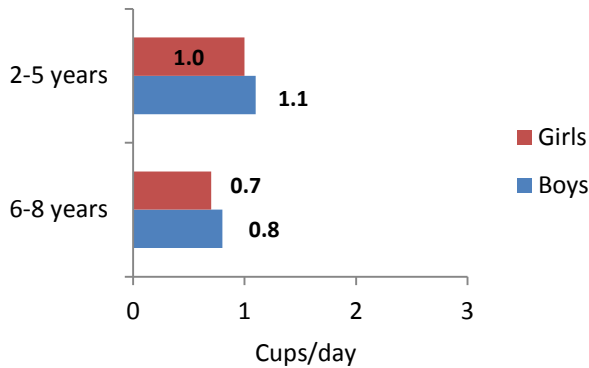
For more information about this report or the CHL Program, contact:

College of Tropical Agriculture and Human Resources
 Dr. Rachel Novotny | 808.956.3848 | novotny@hawaii.edu
www.CHL-Pacific.org



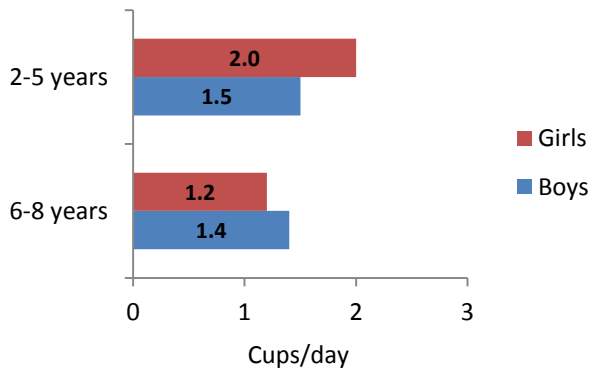
United States Department of Agriculture
 National Institute of Food and Agriculture
 Agriculture and Food Research Initiative (AFRI)
 No. 2011-68001-30335

Figure 3. Intakes of SSBs (cups/day) for Hilo, Hawaii.



Looking at the averages among all children, boys, aged 2-5 years had the highest consumption of SSBs at 1.1 cups per day.

Figure 4. Intakes of SSBs (cups/day) among SSB consumers in Hilo, Hawaii.



Among only the children who consumed SSBs, girls, aged 2-5 years had the highest consumption of SSBs at 2.0 cups per day.

Again, sugar-sweetened beverages can and should be replaced by drinking water.

What are Children in Hilo, Hawaii Eating?

Many recipes and dishes were provided by parents/caregivers on the Food and Activity Logs. Table 3 lists the most frequently reported foods for Hilo.

Table 3. Top 5 Reported Foods from the Food and Activity Logs for Hilo, Hawaii.

Frequently Reported Foods, Beverages, or Condiments	
1	Water
2	Rice (white)
3	Milk
4	Bread (white)
5	Rice (brown)

Acknowledgements

We would like to thank all the families of participants who completed the Food and Activity Logs so that we could make this important information available. We also thank our community partners for working with us to improve the health of children across the Pacific.

Cite as: Children’s Healthy Living Program for Remote Underserved Minority Populations in the Pacific Region. Selected information on nutrition and activity derived from the 2013-2014 Hawaii Food and Activity Logs. February 23, 2015. <http://www.chl-pacific.org/>

For more information about this report or the CHL Program, contact:

College of Tropical Agriculture and Human Resources
 Dr. Rachel Novotny | 808.956.3848 | novotny@hawaii.edu
www.CHL-Pacific.org



United States Department of Agriculture
 National Institute of Food and Agriculture
 Agriculture and Food Research Initiative (AFRI)
 No. 2011-68001-30335