

Chapter 5
Food and Nutrition Surveys for Monitoring Public Health

Student assignments and activities designed to enhance learning and stimulate critical thinking.

1. Use the Behavioral Risk Factor Surveillance System (BRFSS) at <http://www.cdc.gov/brfss/> to learn the following. Be sure to indicate the year(s) that your data has come from.
 - A. The percentage of residents in your state that consume five or more fruits and vegetables daily compared with the nation as a whole. Discuss how these results have changed over time.
 - B. The prevalence of diabetes in your state over time. Describe the pattern you observe, and compare it to that of the nation during the same time period.
 - C. The percentage of adults who are classified as overweight ($\text{BMI} \geq 25\text{-}29.9$) and obese ($\text{BMI} \geq 30$) in your state over time and compared to the nation as a whole. Discuss your findings in relation to the trends described in A and B above.

2. Use the Youth Risk Behavior Surveillance System (YRBSS) at <http://www.cdc.gov/healthyyouth/yrbs/index.htm> to determine the following. Be sure to indicate the year(s) that your data has come from.
 - A. The percentage of students in your state that vomited or took laxatives to lose weight or keep from gaining weight during the past 30 days. Compare this number to that of the nation as a whole. What do your findings suggest?
 - B. The percentage of students in your state that drank three glasses of milk per day during the past seven days compared with students throughout the nation. Describe how this percentage has changed over time. (If only one year is available, compare your state with another in a different part of the country). What might be some reasons for this change (or differences between states)?
 - C. The percentage of students in your state who exercised or played sports for greater than 20 minutes during an average physical education (PE) class. Discuss this result in conjunction with the percentage of students who attended PE during the same year. What do you conclude?

3. Like the BRFSS, the National Health and Nutrition Examination Survey (NHANES) measures the prevalence of overweight and obesity in American adults (see http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overweight/overweight_adult_03.htm). Compare the national prevalence of overweight and obesity from NHANES 2003-2004 with the results from BRFSS during the same years. What are some reasons why the percentages are not the same between the two studies?

4. Review the 2004 Summary Report of the Pediatric Nutrition Surveillance System (PedNSS) at http://www.cdc.gov/pednss/pdfs/PedNSS_2004_Summary.pdf. Considering that 86% of the

data for the 2004 PedNSS was taken from the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants, what recommendations would you make to WIC programs based on the study results? How would these recommendations improve the nutrition and health of the WIC participants?

5. Using tables 12 and 13 of the 2005 Pregnancy Nutrition Surveillance System (PNSS) (http://www.cdc.gov/pednss/pnss_tables/tables_analysis.htm), describe the trends in infant health indicators by maternal race/ethnicity, age, education, weight gain, and smoking status. What groups should be targeted to improve infant health outcomes?

6. You are the State Nutritionist and your supervisor is requesting information about the overall physical activity and eating habits of your state's population. Refer to the Community Nutrition Mapping Project (CNMap), Version 2 at <http://www.ars.usda.gov/Services/docs.htm?docid=15656>. Click on the state in which you reside, and indicate the state in the chart below under "Your State of Residence." Then, complete the chart using the information from CNMap. Write a letter to your supervisor analyzing the results, and include a discussion of how your state differs from the country as a whole. Based on the data, what three nutrition-related priorities should your state focus on?

	Your State of Residence ()	All U.S.
Population, 2000		
Median household income, 1999		
Percent of persons below poverty, 1999		
Percent of households receiving food stamps, 2002		
Percent of individuals not experiencing hunger		
Percent of individuals at a healthy weight		
Percent of individuals who are overweight		
Percent of children (age 1-20 years) who are overweight		
Percent of individuals (age 12 years and older) who exercise 4 or more days per week		
Percent of individuals meeting vegetable recommendation		
Percent of individuals meeting fruit recommendation		

Percent of individuals with calories from total fat $\leq 30\%$		
Percent of individuals with calories from saturated fat $< 10\%$		
Percent of individuals with sodium intake $\leq 2,400\text{mg}$		
Percent of individuals with adequate intake of fiber		
Percentage of individuals with adequate intake of calcium		

7. Record your food and beverage intake (including serving sizes) for 24 hours. Using the Nutritive Value of Foods (http://www.nal.usda.gov/fnic/foodcomp/Data/HG72/hg72_2002.pdf), estimate your intake of the following nutrients:

- Calories
- Total fat
- Saturated fat
- Protein
- Total dietary fiber
- Vitamin A (RE)
- Vitamin C (listed as Ascorbic acid)
- Calcium
- Iron
- Sodium

Compare your daily nutrient intake to the Recommended Dietary Allowance (RDA) and Dietary Reference Intake (DRI) for your age and gender (found on page 13 of the Nutritive Value of Foods), as well as the Daily Values chart on page 15. How does your intake compare with the recommendations? What nutrients did you eat too little of? Too much of?

Using the CNMap, Version 2, at <http://www.ars.usda.gov/Services/docs.htm?docid=15656>, how well does your state do in meeting the recommendations for these nutrients? Discuss your findings.

8. Search THOMAS (<http://thomas.loc.gov/>) to determine the status of the *National Health, Nutrition, and Physical Activity Monitoring Act* (introduced in the House of Representatives as H.R. 2844). See Box 5.12 and 5.17 for more information.