

# **Surveillance Plan**

*Eat Smart, Move More: North Carolina's Plan to Prevent Overweight, Obesity and Related Chronic Diseases,  
2007 – 2012*

Last updated March 2011

## Table of Contents

Purpose and Intended Users	Page 3
How to Use This Surveillance Plan	Page 4
Background	Page 5
Progress to Date on North Carolina's Obesity Prevention Plan	Pages 6 - 10
How to Measure Progress	
Overweight and obesity	Pages 11 - 16
Fruit and vegetable consumption	Pages 17 - 23
Breastfeeding initiation and duration	Pages 24 - 26
Intention to choose healthy foods and beverages	Pages 27 - 30
Fast food consumption	Pages 31 - 33
Preparation and consumption of meals at home	Pages 34 - 37
Sugar-sweetened beverage consumption	Pages 38 - 40
Physical activity among adults	Pages 41 - 45
Physical activity among children and youth	Pages 46 - 51
Data Gaps	Pages 52 - 54
Recommendations for Writing the Next Statewide Obesity Prevention Plan	Pages 55 - 58
Appendix A: Eat Smart, Move More North Carolina Surveillance Retreat Agenda	Page 59
Appendix B: Eat Smart, Move More North Carolina Surveillance Retreat Participant List	Page 60

**Purpose**

The primary purpose of this document is to clarify how to monitor progress on the behavior- and weight-related objectives of *Eat Smart, Move More: North Carolina's Plan to Prevent Overweight, Obesity and Related Chronic Diseases, 2007 – 2012* (statewide obesity prevention plan), particularly given that the development of data sources for obesity prevention has progressed since the statewide obesity prevention plan was written.

Secondary purposes include the following:

- Listing primary and secondary data sources
- Documenting progress-to-date
- Identifying data gaps
- Making recommendations for writing the next statewide obesity prevention plan

**Intended Users**

This Surveillance Plan provides information that will be helpful to the following groups:

- Health professionals and health advocates interested in state data on obesity and related behaviors
- Evaluators of North Carolina's Obesity Prevention Plan
- Authors of North Carolina's next statewide plan for preventing obesity

More information on how this Surveillance Plan may be useful to each of the intended users listed above is provided on the following page.

## **How to Use this Surveillance Plan**

Suggestions for use are provided below for each of the intended users of this document.

### **For health professionals and health advocates**

Health professionals and health advocates may find the *Executive Summary: Progress to Date* to be particularly helpful for understanding obesity trends. This section also clearly identifies which surveillance systems serve as the most appropriate data sources for monitoring changes in weight status, eating behaviors, and physical activity.

### **For evaluators of North Carolina's Obesity Prevention Plan**

Evaluators of North Carolina's Obesity Prevention Plan will find the *How to Measure Progress* section to be particularly helpful. In addition to listing indicators, targets for year 2011, and progress to date, this section records (1) discussion notes and (2) suggestions for supplemental data to include in the final report on the 2007-2012 Obesity Prevention Plan. The discussion notes reflect key comments from a January 2010 surveillance retreat which brought together programmatic and data experts to discuss data sources for measuring the Obesity Prevention Plan. The following items were agreed upon at the surveillance retreat and provide valuable context for understanding the *How to Measure Progress* section:

- The objectives in North Carolina's Obesity Prevention Plan served as the basis for the agenda and the starting point for discussion at the surveillance retreat. For some objectives, experts recommended revisions to the details originally included in the Obesity Prevention Plan regarding (1) data sources and (2) years for baseline data collection. These revisions are reflected in this Surveillance Plan.
- Year 2011 will be the last year of data collection for North Carolina's Obesity Prevention Plan. The Plan's end date is 2012, and the Chair of the Eat Smart, Move More NC Leadership Team recommended the release of the final report in late 2012. At that point, 2012 data will not be available.
- The final progress report for the Plan will be released in December 2012. The report should compare actual 2011 data to target data to evaluate progress on each objective. In addition, it should provide supplemental data and additional key information in a narrative section related to each objective.

### **For authors of North Carolina's next statewide plan for preventing obesity**

Authors of the state's next obesity prevention plan are the intended audience of the *Recommendations* in the final section of this report. This section is a compilation of the recommendations made by experts at the January 2010 surveillance retreat. General recommendations are listed first, followed by those specifically related to particular objectives in the current obesity prevention plan.

## **Background**

This Surveillance Plan is based on the work of the Eat Smart, Move More NC Surveillance Ad Hoc Committee of 2009-2010. The committee's charge and members are listed below.

### **Eat Smart, Move More NC Surveillance Ad Hoc Committee Charge**

This committee was established in September 2009 by the Executive Committee of the Eat Smart, Move More NC Leadership Team and charged with the following:

Develop an Eat Smart, Move More NC Surveillance Plan.

- The plan should outline key surveillance data indicators to monitor progress on the goals and objectives of *Eat Smart, Move More: North Carolina's Plan to Prevent Overweight, Obesity and Related Chronic Diseases*.
- The plan should list specific survey questions (including answer options and question frequency) to be included in existing surveillance systems.
- The plan should address data gaps. If additional surveillance data are needed to monitor progress, the plan should include recommendations for obtaining those data.
- The plan should outline how data will be shared – how often, with whom, via what method, and with leadership from which organization.

### **Eat Smart, Move More NC Surveillance Ad Hoc Committee Members**

- Jenni Albright (Chair): Manager of Evaluation & Surveillance, Physical Activity and Nutrition (PAN) Branch, North Carolina Division of Public Health (NC DPH)
- Sarah Langer (Coordinator): PAN Branch Project Coordinator, NC DPH
- Kathy Andersen: Nutrition Consultant, Nutrition Services Branch, NC DPH
- James Cassell: Behavioral Risk Factor Surveillance System (BRFSS) Coordinator, State Center for Health Statistics
- Carolyn Dunn: Professor, North Carolina State University
- Kelly Evenson: Research Associate Professor, University of North Carolina at Chapel Hill
- Nakisha Floyd: Physical Activity, Nutrition and Tobacco Consultant, NC Department of Public Instruction
- Donna Miles: Child Health Assessment and Monitoring Program (CHAMP) Coordinator, State Center for Health Statistics
- Elizabeth Mizelle: Children and Youth Data Manager, NC DPH

The Eat Smart, Move More NC Surveillance Ad Hoc Committee hosted a surveillance retreat on January 13, 2010, at the NC Division of Public Health to gather input from key stakeholders. The decisions made at that retreat served as the basis for this surveillance plan and are reflected in the *Notes from Retreat Discussion* sections of this document. The retreat agenda is provided in Appendix A, and the participant list is provided in Appendix B.

### Progress to Date on North Carolina's Obesity Prevention Plan

The following tables are identical to those in the *How to Measure Progress* section of this Surveillance Plan. They are presented here without the technical notes to provide a user-friendly summary of progress to date on North Carolina's Obesity Prevention Plan.

#### Overweight and Obesity

Indicators	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Overweight adults (self-reported height and weight)	BRFSS	35.9	<b>35.9</b>	35.5	37.0	37.9	36.7	36.2	35.9	36.2	35.3	TBD	Goal: ≤ 35.9
Obese adults (self-reported height and weight)		21.8	<b>22.9</b>	23.5	24.0	25.2	25.9	26.6	28.7	29.5	30.1	TBD	Goal: ≤ 22.9
Overweight high school students (self-reported height and weight)	YRBS		<b>14.3</b>		12.5		15.7		17.1		14.6		Goal: ≤ 14.3
Obese high school students (self-reported height and weight)				<b>12.9</b>		14.7		13.5		12.8		13.4	
Overweight youth ages 10 to 17 (parent-reported height and weight)	CHAMP						16.7*	15.6*	<b>19.9</b>	17.6	16.5	TBD	Goal: ≤ 19.9
Obese youth ages 10 to 17 (parent-reported height and weight)								15.3*	14.3*	<b>13.8</b>	15.2	15.8	TBD

*Numbers in cells represent percentages (%).*

**Bold** outline represents baseline data collection.

\*CHAMP overweight/obesity data are less reliable in 2005 and 2006 than in later years.

## Fruit and Vegetable Consumption

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adults who consume five or more fruits and vegetables per day	BRFSS	22.1	25.2	23.6	23.2		22.5		21.6		20.6		Goal: ≥ 36.1
High school students who consume five or more servings of fruits and vegetables per day	YRBS		17.8		17.8				14.8		16.9		Goal: ≥ 31.8
Children and youth ages 1 – 17 who consume five or more servings of fruits (including 100% fruit juice) and vegetables per day	CHAMP						65.1	66.4	65.4	67.0	54.2	TBD	Goal: ≥ 79.1

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

## Breastfeeding Initiation and Duration

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children under age 5 <sup>1</sup> who were ever breastfed	CHAMP						70.1	71.4	75.9	76.9	73.5	TBD	Goal: 75.0
Children under age 5 <sup>1</sup> who were breastfed for at least 6 months (of those who were ever breastfed)							36.5	25.7	36.8	40.3	43.3	TBD	Goal: 50.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

<sup>1</sup>Data is limited to parents of children under age 5 because of potential recall error regarding breastfeeding experiences among parents of older children. Note that confidence intervals will be larger since the sample size is limited by age range.

### Intention to Choose Healthy Foods and Beverages

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adults choosing healthier foods/beverages when eating out <i>Very likely</i>	BRFSS							26.9					Goal: > 26.9
<i>Somewhat likely</i>								47.2					Goal: > 47.2

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

### Fast Food Consumption

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children ages 1 to 17 who eat fast food 3 or more times per week	CHAMP						12.3	11.3			12.8		Goal: ≤ 9.2

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

### Preparation and Consumption of Meals at Home

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Members of household ate a main meal together that was prepared at home five or more times in a typical week	CHAMP								67.8	64.3	71.5	TBD	Goal: ≥70.0
Adults who ate a main meal prepared at home five or more days per week	BRFSS								71.9		74.9		Goal: ≥70.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.



## Sugar-Sweetened Beverage Consumption

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
High school students who drink sweetened beverages more than one time per day <i>(Note: To obtain this indicator, combine data from two survey questions – see table below.)</i>	YRBS								60.0		57.1		Goal: ≤ 50.0
Children who drink sweetened beverages more than one time per day	CHAMP						39.2	40.4			36.9	TBD	Goal: ≤ 50.0
Adults who drink more than one sweetened beverage per day	BRFSS										33.0		Goal: ≤ 50.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

## Physical Activity Among Adults

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adults who participate in the recommended amount of physical activity	BRFSS		42.4	38.1	37.7		42.1		44.0		46.4		Goal: ≥ 46.0
Adults who participate in no leisure time physical activity			26.4	29.5	25.0	25.2	25.6	23.8	24.3	24.6	26.4	TBD	Goal: < 15.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

## Physical Activity Among Children and Youth

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children and youth ages 2-17 who spend 60 minutes or more in physically active play per day*	CHAMP						73.0	74.7	80.4	87.1	90.2		Goal: ≥ 52.0
Middle school students who are physically active for 60 minutes or more per day*	YRBS, middle school						32.9		33.7		34.9		Goal: ≥ 52.0
High school students who are physically active for 60 minutes or more per day*	YRBS, high school						25.9		24.5		24.1		Goal: ≥ 52.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

\* "Per day" means that students reported this behavior on "7 out of the past 7 days."

## How to Measure Progress: Overweight and Obesity

**North Carolina's Obesity Prevention Plan Objective 2A:** By December 31, 2012, there will be no increase in the percentage of North Carolina adults, youth and children who are classified as overweight or obese.

### Indicators to Measure Progress

Use 2001 as baseline for BRFSS and YRBS. Use 2007 as baseline for CHAMP.

To measure progress on North Carolina's Obesity Prevention Plan, use these six indicators:

1. Overweight adults – BRFSS
2. Obese adults – BRFSS
3. Overweight high school students – YRBS
4. Obese high school students – YRBS
5. Overweight youth ages 10 to 17 – CHAMP
6. Obese youth ages 10 to 17 – CHAMP

Indicators	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Overweight adults (self-reported height and weight)	BRFSS	35.9	<b>35.9</b>	35.5	37.0	37.9	36.7	36.2	35.9	36.2	35.3	TBD	Goal: ≤ 35.9
Obese adults (self-reported height and weight)		21.8	<b>22.9</b>	23.5	24.0	25.2	25.9	26.6	28.7	29.5	30.1	TBD	Goal: ≤ 22.9
Overweight high school students (self-reported height and weight)	YRBS		<b>14.3</b>		12.5		15.7		17.1		14.6		Goal: ≤ 14.3
Obese high school students (self-reported height and weight)				<b>12.9</b>		14.7		13.5		12.8		13.4	
Overweight youth ages 10 to 17 (parent-reported height and weight)	CHAMP						16.7*	15.6*	<b>19.9</b>	17.6	16.5	TBD	Goal: ≤ 19.9
Obese youth ages 10 to 17 (parent-reported height and weight)								15.3*	14.3*	<b>13.8</b>	15.2	15.8	TBD

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

\*CHAMP overweight/obesity data are less reliable in 2005 and 2006 than in later years (refer to Notes from Retreat Discussion on following page).

## How to Measure Progress: Overweight and Obesity (continued)

Survey Questions to Capture Indicator Data (in table above)		
<i>Note: Weight status (i.e., overweight, obese) is based on Body Mass Index, which is calculated from the height and weight data collected by the survey questions below.</i>		
Source	Question	Response Options
BRFSS	About how much do you weigh without shoes?	Open-ended responses
	About how tall are you without shoes?	Open-ended responses
YRBS	How much do you weigh without your shoes on?	Write your weight in the shaded blank boxes on your answer sheet. Fill in the matching circles below each number [pounds]
	How tall are you without your shoes on?	Write your height in the shaded blank boxes on your answer sheet. Fill in the matching circles below each number [for feet and inches]
CHAMP (2005 – 2006)	How much does (CHILD) now weigh? INTERVIEWER: If respondent says “don’t know” say: “Most children that are XX years old weigh XX pounds. Based on that, what is your best estimate of his/her weight?” NOTE: For kids older than 1, round pounds up and enter 0 for ounces.	Weight in whole pounds or kilograms
	About how tall is (CHILD) without shoes? INTERVIEWER: If respondent says “don’t know” say: “Most children that are XX years old are XX tall. Based on that, what is your best estimate of his/her height?” NOTE: If respondent answers in metrics, put “9” in first blank. [Round fractions down]	Height (feet / inches / meters / centimeters)
CHAMP (2007 – 2011)	How much does (CHILD) weigh now?	Weight in pounds / kilograms
	How did you arrive at {CATI fill weight} _____ pounds (whole) kilograms for (CHILD)’s weight? Would you say... INTERVIEWER: If SR says child was weighed 6 months or more ago, (home, school, or doctor's office) select (2) estimated or guessed.	<b>Please read</b> Your child told you (his/her) weight. You estimated or guessed your child’s weight. You used a bathroom scale within the past 6 months. The child was weighed at the doctor’s office within the past 6 months. The child was weighed at school within the past 6 months, OR Some other way.
	How tall is (CHILD) now?	-----

	<p>How did you arrive at {CATI fill height}_feet inches (or meters/centimeters) for (CHILD)'s height? Would you say...</p> <p>INTERVIEWER: If SR says child's height was measured 6 months or more ago, (home, school, or doctor's office) select (2) estimated or guessed. If SR says s/he used a growth chart or wall chart or ruler, select (3).</p>	<p><b>Please Read</b></p> <p>Your child told you (his/her) height.</p> <p>You estimated or guessed your child's height.</p> <p>You used a tape measure or yard stick within the past 6 months.</p> <p>The child's height was measured at the doctor's office within the past 6 months.</p> <p>The child's height was measured at school within the past 6 months, OR</p> <p>Some other way.</p>
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## **How to Measure Progress: Overweight and Obesity (continued)**

### **Notes from Retreat Discussion**

The group discussed North Carolina Nutrition and Physical Activity Surveillance System (NC-NPASS) data, which is height and weight data that is measured and recorded by local health departments and some school-based health centers. The group recommended limiting the collection of height and weight data for ages 2 to 4 to children who participate in the Supplemental Nutrition Program for Women, Infants and Children (WIC), who currently make up about 85% of the NC-NPASS sample for ages 2 to 4. This would improve the reliability of the data as a reflection of weight status among the WIC population. NC-NPASS is the only data source currently available that provides county-level, measured data on weight status. Sample size varies widely by county and age group, however, the sample size is consistently largest for the youngest age group (ages 2 to 4). The group recommended that NC-NPASS data not be used to measure progress on population-level objectives (e.g., Objective 2A of North Carolina's Obesity Prevention Plan), given that the NC-NPASS sample is not representative of the state population.

CHAMP data is less reliable for children under age 10 than it is for children age 10 and over. That is why the CHAMP weight status data (based on BMI-for-age percentile) are only available for ages 10 to 17 on the State Center for Health Statistics Web site. CHAMP weight status data from year 2007 and later are more reliable than in previous years because a survey question was added in 2007 to determine how the reporting parent arrived at the child's height/weight (parent estimate/guess vs. parent asked child vs. measured).

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

Include data for WIC participants ages 2 to 4 in the narrative/discussion. This data is not readily available but can be pulled from the larger NC-NPASS data set.

Consider including NC-NPASS data for older age groups (i.e., ages 5 to 11, ages 12 to 18) only if data limitations (i.e., data not representative of state population) are clearly communicated.

Include data from the CHAMP survey question: "During the past year, has your child's physician or another health professional told you that your child was overweight?"

Consider including CHAMP data on parent perception of child weight status.

### How to Measure Progress: Overweight and Obesity (continued)

Supplemental Data	Source	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children ages 10 to 17 who were told by their physician or healthcare provider that they were overweight	CHAMP							7.4	8.11	6.9	TBD	TBD
Parent description of child's weight: Very or somewhat overweight						14.7	13.0			14.9	TBD	TBD
Healthy weight						73.6	76.3			74.7	TBD	TBD
Children ages 2 to 4 who participate in WIC who are overweight	NC- NPASS	14.0	14.2	15.3	15.6	15.3	15.6	15.6	16.2	15.7	TBD	TBD
Children ages 2 to 4 who participate in WIC who are obese		12.2	13.3	14.1	14.5	14.1	14.7	14.8	14.9	14.7	TBD	TBD
Children ages 5 to 11 seen in public health sponsored child health clinics who are overweight		14.9	15.8	15.7	16.0	16.2	16.8	16.9	17.0	17.1	TBD	TBD
Children ages 5 to 11 seen in public health sponsored child health clinics who are obese		20.3	21.1	22.8	23.8	24.5	25.2	24.9	25.7	25.9	TBD	TBD
Children ages 12 to 18 seen in public health sponsored child health clinics who are overweight		16.8	17.0	17.0	18.3	18.1	17.3	17.7	17.2	18.1	TBD	TBD
Children ages 12 to 18 seen in public health sponsored child health clinics who are obese		26.0	26.3	26.5	27.2	27.3	29.6	29.9	28.5	28.0	TBD	TBD

*Numbers in cells represent percentages (%).*

**How to Measure Progress: Overweight and Obesity (continued)**

<b>Survey Questions to Capture Supplemental Data (in table above)</b>		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
CHAMP (2007-2011)	During the past year, has your child's physician or another health professional told you that your child was overweight?	Yes No
CHAMP (2005 - 2006, 2009 - 2011)	How would you describe your child's weight? Would you say: very overweight, somewhat overweight, healthy weight, somewhat underweight, or very underweight?	Very overweight Somewhat overweight Healthy weight Somewhat underweight Very underweight Don't know/Not sure Refused
NC-NPASS (2002 – 2011)	Height and weight are measured by health department staff	N/A



## How to Measure Progress: Fruit and Vegetable Consumption

**North Carolina's Obesity Prevention Plan Objective 3A:** By December 31, 2012, 14% more North Carolina adults, youth and children will consume five or more servings of fruits and vegetables each day.

### Indicators to Measure Progress

The 2012 target provided in North Carolina's Obesity Prevention Plan should be interpreted as an increase of 14 percentage points, not an increase by 14% of the baseline number.

Use 2003 as baseline for BRFSS and YRBS. Use 2005 as baseline for CHAMP.

To measure progress on North Carolina's Obesity Prevention Plan, use these three indicators (see table below):

1. Adults who consume 5 or more servings of fruits and vegetables per day – BRFSS
2. High school students who consume 5 or more servings of fruits and vegetables per day – YRBS
3. Children and youth who consume 5 or more servings of fruits and vegetables per day - CHAMP

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adults who consume five or more fruits and vegetables per day	BRFSS	22.1	25.2	23.6	23.2		22.5		21.6		20.6		Goal: ≥ 36.1
High school students who consume five or more servings of fruits and vegetables per day	YRBS		17.8		17.8				14.8		16.9		Goal: ≥ 31.8
Children and youth ages 1 – 17 who consume five or more servings of fruits (including 100% fruit juice) and vegetables per day	CHAMP						65.1	66.4	65.4	67.0	54.2	TBD	Goal: ≥ 79.1

*Numbers in cells represent percentages (%).*

***Bold outline represents baseline data collection.***

## How to Measure Progress: Fruit and Vegetable Consumption (continued)

Survey Questions to Capture Indicator Data (in table above)		
Note: Fruit and vegetable consumption is calculated based on responses to the following series of questions.		
Source	Question/Measure	Response Options
BRFSS  (These questions are asked every two years.)	How often do you drink fruit juices such as orange, grapefruit, or tomato?	Per day 1_ _
	Not counting juice, how often do you eat fruit?	Per week 2_ _
	How often do you eat green salad?	Per month 3_ _
	How often do you eat potatoes not including french fries, fried potatoes, or potato chips?	Per year 4_ _
	How often do you eat carrots?	Never
	Not counting carrots, potatoes, or salad, how many servings of vegetables do you usually eat?	
High School YRBS  (These questions are asked every two years.)	During the past 7 days, how many times did you drink <b>100% fruit juices</b> such as orange juice, apple juice, or grape juice? (Do <b>not</b> count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)	I did not [insert behavior] during the past 7 days 1 to 3 times during the past 7 days 4 to 6 times during the past 7 days
	During the past 7 days, how many times did you eat <b>fruit</b> ? (Do <b>not</b> count fruit juice.)	1 time per day 2 times per day 3 times per day 4 or more times per day
	During the past 7 days, how many times did you eat <b>green salad</b> ?	
	During the past 7 days, how many times did you eat <b>potatoes</b> ? (Do <b>not</b> count french fries, fried potatoes, or potato chips.)	
	During the past 7 days, how many times did you eat <b>carrots</b> ?	
	During the past 7 days, how many times did you eat <b>other vegetables</b> ? (Do <b>not</b> count green salad, potatoes, or carrots.)	
CHAMP  (These questions are asked every year.)	On a typical day, how many servings of fruit does (CHILD) consume? <b>INTERVIEWER:</b> a serving of fruit is 1/2 cup or a medium piece of fruit.	<b>Please read</b> 1 serving 2 servings 3 or more servings None
	On a typical day, how many servings of 100% fruit juice does (CHILD) consume?	
	On a typical day, how many servings of vegetables does (CHILD) eat, not including french fries? <b>If necessary, say</b> “such as carrots, celery, or broccoli.” <b>INTERVIEWER:</b> a serving of vegetables is 1/2 cup of cooked or raw vegetable, or 1 cup of raw leafy salad greens.	

## **How to Measure Progress: Fruit and Vegetable Consumption** (continued)

### **Notes from Retreat Discussion**

MyPyramid references cups instead of servings for fruits and vegetables, but BRFSS still asks about servings. BRFSS questions on fruit and vegetable intake are expected to change.

The In-School Prevention of Obesity and Disease (IsPOD) survey conducted by North Carolina Alliance for Athletics, Health, Physical Education, Recreation and Dance (NCAAHPERD) collects data on fruit and vegetable consumption. The group agreed that this data should not be used to measure statewide progress on fruit and vegetable consumption at this time. However, it should be kept in mind as a data source when IsPOD is implemented statewide, as long as the survey questions prove to be valid.

Acreage for fruits and vegetables is one of the policy and environmental measures that CDC used for the State Indicator Report on Fruits and Vegetables, 2009. The produce consumed in North Carolina is not limited to that which is grown in-state, so this indicator, while important, may not reflect consumption.

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

Consider including national data to provide context:

- National Health and Nutrition Examination Survey (NHANES) is the most valid data set, but it is national-level data, not state-level.
- U.S. Department of Agriculture (USDA) Food Disappearance Data is not available by state. It is available per capita. The database is very time-consuming to navigate.
- Produce for Better Health collected data at one point in time from young moms, but this is national-level data, not state-level.

Consider including programmatic data from the Expanded Food and Nutrition Education Program (EFNEP) to provide context. This is a data source for North Carolina's low-income population, although it doesn't offer a representative sample of the state. It is available from counties that have EFNEP programs.

Consider including CHAMP data on parent opinion about facilitators to fruit and vegetable consumption (see table below).

**How to Measure Progress: Fruit and Vegetable Consumption** (continued)

Supplemental Data	Source	2003	2004	2005	2006	2007	2008	2009	2010	2011
Frequency in the past 12 months of parent buying fruits or vegetables locally grown such as from a farmer's market, CSA, roadside stand, or pick-your-own produce farm	CHAMP									
<i>Never</i>							26.9			
<i>Less than once a month</i>								33.6		
<i>Once a month</i>								14.9		
<i>Once a week</i>							22.6			
Perceived level of difficulty for parent to prepare a healthy meal for family from the food in the home right now	CHAMP									
<i>Very difficult</i>							2.1			
<i>Somewhat difficult</i>								7.5		
<i>Not difficult</i>							90.4			
Perceived parental skill level for cooking healthy meals for family	CHAMP									
<i>Excellent</i>							22.8			
<i>Very good</i>								39.3		
<i>Good</i>								28.2		
<i>Fair</i>								8.3		
<i>Poor</i>							1.4			
Perceived potential facilitators (among parents) for serving more fruits and vegetables	CHAMP									
<i>More skill in food preparation techniques</i>								4.9		
<i>Greater willingness of family members to eat fruits and vegetables</i>								22.5		
<i>Easy access to affordable locally grown fruits and vegetables</i>								12.7		
<i>More convenient packaging</i>								5.6		
<i>Lower cost</i>							39.4			

<i>Parent thinks he/she already serves plenty</i>							22.2				
Parent's perception of child's level of understanding of how food is grown and prepared before it gets to the store ( <i>asked only for children age 3 and older</i> )	CHAMP										
<i>A lot</i>							48.3				
<i>Some</i>								35.5			
<i>Not very much</i>								12.3			
<i>Not at all</i>							3.9				

*Numbers in cells represent percentages (%).*

**How to Measure Progress: Fruit and Vegetable Consumption** (continued)

<b>Survey Questions to Capture Supplemental Data (in table above)</b>		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
CHAMP (2008)	How often in the past 12 months did you buy fruits or vegetables locally grown such as from a farmer’s market, CSA, roadside stand, or pick-your-own produce farm?  [INTERVIEWER NOTE: CSA stands for Community Supported Agriculture. Locally grown means grown in North Carolina or if not, within 100 miles of your home.]	-- Times a week (example 201 = 1 time per week) -- Times a month -- Times a year Never Don’t know/not sure Refused
	How difficult would it be for you to prepare a healthy meal for your family from the food you have in your home right now? Would you say:  [INTERVIEWER NOTE: This means without having to go buy more ingredients. Also, the degree of difficulty includes cooking skills necessary not just the availability of ingredients.]	Read: Very difficult Somewhat difficult Not Difficult Do not read: Don’t know/not sure Refused
	Thinking about every day cooking, how would you rate your skill at cooking healthy meals for your family? Would you say:	Read: Excellent Very good Good Fair Poor Do not read: Don’t know/not sure Refused
	What would help you to serve your family more fruits and vegetables than you do right now?  [INTERVIEWER PROMPT: After each response say: “Is there	Read only if necessary [Check all that apply]: Lower cost More convenient packaging (like packaged baby carrots) Easy access to affordable locally grown fruits and

	<p>anything else?" until they say "No"]</p>	<p>vegetables  Greater willingness of family members to eat fruits and vegetables  More skill in food preparation techniques  Already serve plenty  Some other reason</p>
	<p>About how much does [CHILD] understand how food is grown and prepared before it gets to the store? Would you say:</p>	<p>Please read:  A lot  Some  Not very much  Not at all  Don't Read:  Don't know  Refused</p>

## How to Measure Progress: Breastfeeding Initiation and Duration

**North Carolina's Obesity Prevention Plan Objective 3B:** By December 31, 2012, the proportion of North Carolina infants who are breastfed will increase to 75 % and the proportion of infants who are breastfed for at least six months will increase to 50 %.

### Indicators to Measure Progress

Use 2005 as baseline for CHAMP.

To measure progress on North Carolina's Obesity Prevention Plan, use these two measures (see table below):

1. Mothers who initiated breastfeeding – CHAMP, limited to children under age 5
2. Mothers who breastfed for at least six months – CHAMP, limited to children under age 5

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children under age 5 <sup>1</sup> who were ever breastfed	CHAMP						70.1	71.4	75.9	76.9	73.5	TBD	Goal: 75.0
Children under age 5 <sup>1</sup> who were breastfed for at least 6 months (of those who were ever breastfed)							36.5	25.7	36.8	40.3	43.3	TBD	Goal: 50.0

*Numbers in cells represent percentages (%).*

**Bold** outline represents baseline data collection.

<sup>1</sup>Data is limited to parents of children under age 5 because of potential recall error regarding breastfeeding experiences among parents of older children. Note that confidence intervals will be larger since the sample size is limited by age range.

Survey Questions to Capture Indicator Data (in table above)		
Source	Question/Measure	Response Options
CHAMP  (These questions are asked every year.)	Was (CHILD) breastfed for any length of time?	Yes No [skip]
	For how many days, weeks, or months was (CHILD) breastfed?	-- Day(s) -- Week(s) -- Month(s) Still breast feeding



## **How to Measure Progress: Breastfeeding Initiation and Duration** (continued)

### **Notes from Retreat Discussion**

Research indicates that breastfeeding exclusivity has a major impact on babies' weight and health. In 2010, CHAMP will begin collecting data on breastfeeding exclusivity.

The literature indicates that there is a difference between babies who receive breast milk via attachment to breast versus being bottle-fed breast milk, related to the correlation of breastfeeding with weight status.

Parent recall can be biased based on how positive or negative the breastfeeding experience was. Also, recall may be less accurate if the breastfeeding experience was long ago (i.e., for the parent of an adolescent versus the parent of a toddler). For CHAMP, look specifically at data for children under age five since data is likely to be more accurate.

Deciding which year to use as baseline is not very important in this case since the objective gives an exact percentage to reach by 2012, as opposed to stating that the prevalence will increase by a certain percentage from baseline.

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

Include state-level and national-level breastfeeding data on initiation, duration, and exclusivity from the National Immunization Survey (NIS), Pediatric Nutrition Surveillance System (PedNSS), Pregnancy Nutrition Surveillance System (PNSS), and Pregnancy Risk Assessment Monitoring System (PRAMS). See table below.

PRAMS data on the barriers to breastfeeding may also be valuable supplemental data to include.

Note that PNSS and PedNSS data represent low-income mothers (PNSS) and infants (PedNSS) in federally funded maternal and child health programs. On the other hand, NIS and PRAMS data are not limited to a particular demographic group.

## How to Measure Progress: Breastfeeding Initiation and Duration (continued)

Supplemental Data	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Infants and children under age 5 breastfed	PedNSS	47.9	50.4	51.2	52.4	53.0	53.6	57.1	58.3	60.3	60.5	TBD	TBD
Infants and children under age 5 breastfed for at least 6 months		15.0	16.6	17.7	18.9	18.7	19.6	19.6	20.6	21.3	21.9	TBD	TBD
Women who initiate breastfeeding	PNSS	49.8	52.6	53.9	55.2	57.0	57.6	60.0	61.1	61.0	62.5	TBD	TBD
Prevalence of Breastfeeding Initiation	PRAMS	62.9	67.5	70.1	69.9	71.8	70.0	72.5	72.6	73.0	TBD	TBD	TBD
Breastfeeding at 4 Weeks After Delivery		50.4	54.4	56.0	56.0	60.0	60.1	60.2	61.9	60.6	TBD	TBD	TBD
Breastfeeding at 8 Weeks After Delivery		42.0	44.6	47.7	47.1	49.8	50.5	50.5	50.9	51.9	TBD	TBD	TBD
Exclusive Breastfeeding at 4 or More Weeks After Delivery		56.7	59.2	57.8	55.5	44.5	54.2	56.4	54.8	56.8	TBD	TBD	TBD
Exclusive Breastfeeding at 8 or More Weeks After Delivery		41.1	42.2	43.6	42.1	29.2	40.3	46.6	43.1	45.1	TBD	TBD	TBD
Ever Breastfeeding	NIS	66.5	65.8	63.2	71.7	73.0	69.2	66.9	73.5	TBD	TBD	TBD	TBD
Breastfeeding at 6 months		29.3	34.3	33.7	32.1	40.9	39.4	36.7	35.9	TBD	TBD	TBD	TBD
Breastfeeding at 12 months		9.0	16.0	19.6	16.4	20.9	21.0	18.9	19.4	TBD	TBD	TBD	TBD
Exclusive breastfeeding through 3 months						27.6	28.0	30.2	28.2	TBD	TBD	TBD	TBD
Exclusive breastfeeding through 6 months						11.9	11.2	13.1	8.7	TBD	TBD	TBD	TBD

## How to Measure Progress: Intention to Choose Healthy Foods and Beverages

**North Carolina’s Obesity Prevention Plan Objective 3C:** By December 31, 2012, when eating out, more North Carolina adults and children will choose foods and beverages generally considered to be healthier. Healthier will be defined by: lower in fat, sugar, calories, fast-food meals once per week or less often and labeled as healthy.

### Indicators to Measure Progress

Use 2006 as baseline for BRFSS, and ask this question again in 2011 to measure progress.

To measure progress on North Carolina’s Obesity Prevention Plan, use this measure:

- Adults who choose foods and beverages to be considered healthier – BRFSS  
*Review data for the most appropriate answer options (i.e., very likely, somewhat likely) to report.*

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Adults choosing healthier foods/beverages when eating out <i>Very likely</i>	BRFSS							26.9					Goal: > 26.9
<i>Somewhat likely</i>								47.2					Goal: > 47.2

*Numbers in cells represent percentages (%).*

**Bold** outline represents baseline data collection.

Survey Questions to Capture Indicator Data (in table above)		
Source	Question	Response Options
BRFSS (2006, 2011)	When you are eating out, how likely are you to choose foods or beverages labeled as healthy? Would you say:	Very likely Somewhat likely Somewhat unlikely Very unlikely Don’t know / Not sure Refused

## **How to Measure Progress: Intention to Choose Healthy Foods and Beverages (continued)**

### **Notes from Retreat Discussion**

There is a big difference between 2006 and 2009 BRFSS questions – “eating out” vs. “eating out at a sit-down restaurant.” The committee prefers the 2006 wording, though both have their limitations. The 2006 question relies on eating establishments to determine what is healthy because the question specifies “labeled as healthy.” Another weakness of the 2006 wording is it asks how “likely” someone is to do something that is socially desirable. The 2009 question restricts measurement by specifying “at a sit-down restaurant.”

The committee discussed the possibility of including the 2009 YRBS question about choosing healthier options again on the 2011 YRBS survey but decided against doing so.

The State Center for Health Statistics staff reminded the group that we need to allow for questions in emerging areas, like this one, to change over time.

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

Include data on adult fast food meals from 2009 BRFSS.

Include data on high school students choosing healthy options from 2009 YRBS.

Review Restaurant Heart Health Survey results for relevant data to include on the percentage of restaurants that provide healthy options (e.g., healthy side items, smaller portion size).

Explore PRIZM marketing data, if available, for relevant information on food purchasing behavior.

**How to Measure Progress: Intention to Choose Healthy Foods and Beverages (continued)**

<b>Supplemental Data</b>	<b>Source</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Adults choosing foods that are low in fat, sugar or calories when eating out at sit-down restaurant <i>Always</i>	BRFSS										11.5		
<i>Most of the time</i>											32.1		
Adults eating one or less fast food meal per week <i>One meal per week</i>												29.9	
<i>No meals per week</i>											36.1		
High school students who never or rarely choose healthy foods when eating out	YRBS										60.8		

Numbers in cells represent percentages (%).

**How to Measure Progress: Intention to Choose Healthy Foods and Beverages (continued)**

<b>Survey Questions to Capture Supplemental Data (in table above)</b>		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
BRFSS (2009)	When you eat out as a <b>sit-down</b> restaurant, how often do you choose foods that are low in fat, sugar or calories? <b>INTERVIEWER Note:</b> a “sit-down” restaurant has a dining room where customers are seated and usually has a waiter or waitress to take your food order.	<b>Would you say-</b> Always Most of the time Sometimes, or Never <b>Do not read</b> Do not eat out at restaurants Don’t know/Not sure Refused
BRFSS (2009)	In a typical week, how many of your own meals come from fast food restaurants like McDonald’s, Taco Bell, or KFC (Kentucky Fried Chicken)?  If needed, say: “We are interested in all meals: breakfast, lunch, dinner or snack sandwiches.”	<b>Do not read</b> 1 meal per week 2 meals per week 3 meals per week 4 meals per week 5 or more meals per week 6 Do not eat any fast food meals in a typical week 7 Don’t know/Not sure 9 Refused
YRBS (2009)	When you eat out, how often do you choose foods that are low in fat, sugar, or calories, compared to the other foods available at that restaurant?	Never Rarely Sometimes Most of the time Always

## How to Measure Progress: Fast Food Consumption

**North Carolina’s Obesity Prevention Plan Objective 3D:** By December 31, 2012, 25% fewer North Carolina children ages 2 to 17 will eat fast food three or more times per week.

### Indicators to Measure Progress

Use 2005 as baseline for CHAMP and ask this question again in 2011. The question was worded differently in 2010. In 2011, use the 2005 wording to assess change over a longer period of time (2005 to 2011 versus 2010 to 2011).

To measure progress on North Carolina’s Obesity Prevention Plan, use this measure:

1. Children ages 2 to 17 who eat fast food at least three times per week – CHAMP

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children ages 1 to 17 who eat fast food 3 or more times per week	CHAMP						12.3	11.3			12.8		Goal: ≤ 9.2

*Numbers in cells represent percentages (%).*

***Bold** outline represents baseline data collection.*

Survey Questions to Capture Indicator Data (in table above)		
Source	Question/Measure	Response Options
CHAMP (2005, 2006, 2009, 2011)	“How often does (CHILD) eat fast food?” <b>If needed, say “like Burger King, McDonald’s, or Kentucky Fried Chicken?”</b>	<p><b>Please read</b></p> <ul style="list-style-type: none"> <li>less than once a week</li> <li>once a week</li> <li>2 times a week</li> <li>3 to 5 times a week</li> <li>5 or more times a week</li> </ul> <p><b>Do not read</b></p> <ul style="list-style-type: none"> <li>Child does not eat fast food</li> <li>Don’t know/Not sure</li> <li>Refused</li> </ul>

**How to Measure Progress: Fast Food Consumption (continued)**

**Notes from Retreat Discussion**

None recorded

**Supplemental Data to Include in 2007-2012 Final Report Narrative**

Include data on children’s *meals* eaten at fast food restaurants (instead of *times* eaten at fast food restaurants, as captured on 2005, 2006, and 2009) from 2010 CHAMP survey. (Based on retreat discussion, *number of meals* is the preferred method of collecting information and was suggested for use on future surveys.)

Include data on adult fast food consumption from 2009 BRFSS since it is possible that parents’ fast food consumption is related to that of their children.

<b>Supplemental Data</b>	<b>Source</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Children and youth ages 1 to 17 who have three or more <i>meals</i> per week from fast food restaurants	CHAMP											TBD	
Adults who eat one or less fast food meal per week <i>One meal per week</i>	BRFSS										29.9		
<i>No meals per week</i>											36.1		

Numbers in cells represent percentages (%).



## How to Measure Progress: Fast Food Consumption (continued)

Survey Questions to Capture Supplemental Data (in table above)		
Source	Question/Measure	Response Options
CHAMP (2010)	In a typical week, how many of (CHILD)'s meals come from fast food restaurants, like McDonalds, Taco Bell, or KFC (Kentucky Fried Chicken)?	<p><b>[If needed say: "We are interested in all meals: breakfast, lunch, dinner, or snack sandwiches."]</b></p> <ul style="list-style-type: none"> <li>1 meal per week</li> <li>2 meals per week</li> <li>3 meals per week</li> <li>4 meals per week</li> <li>5 or more meals per week</li> <li>Child does not eat any fast food meals in a typical week</li> </ul>
BRFSS (2009)	<p>In a typical week, how many of your own meals come from fast food restaurants like McDonald's, Taco Bell, or KFC (Kentucky Fried Chicken)?</p> <p>If needed, say: "We are interested in all meals: breakfast, lunch, dinner or snack sandwiches."</p>	<p><b>Do not read</b></p> <ul style="list-style-type: none"> <li>1 meal per week</li> <li>2 meals per week</li> <li>3 meals per week</li> <li>4 meals per week</li> <li>5 or more meals per week</li> <li>6 Do not eat any fast food meals in a typical week</li> <li>7 Don't know/Not sure</li> <li>9 Refused</li> </ul>

## How to Measure Progress: Preparation and Consumption of Meals at Home

**North Carolina’s Obesity Prevention Plan Objective 3E:** By December 31, 2012, at least 70% of North Carolinians will prepare and eat their main meal at home at least five times per week.

### Indicators to Measure Progress

Use 2007 as baseline and ask these questions again in 2011 to assess progress.

To measure progress on North Carolina’s Obesity Prevention Plan, use these two measures:

1. Times in a typical week that family eats a main meal together that was prepared at home – CHAMP
2. Days in a typical week that adults eat a main meal that was prepared at home – BRFSS

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Members of household ate a main meal together that was prepared at home five or more times in a typical week	CHAMP								67.8	64.3	71.5	TBD	Goal: $\geq 70.0$
Adults who ate a main meal prepared at home five or more days per week	BRFSS								71.9		74.9		Goal: $\geq 70.0$

*Numbers in cells represent percentages (%).*

***Bold outline represents baseline data collection.***

**How to Measure Progress: Preparation and Consumption of Meals at Home (continued)**

<b>Survey Questions to Capture Indicator Data (in table above)</b>		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
CHAMP (2007-2011)	How many times in a TYPICAL WEEK do members of your household eat a main meal together that was prepared at home? [INTERVIEWER NOTE: ‘main meal’ = most substantial meal of the day.] <i>(In 2007 and 2008, no interviewer note was included on survey instrument, and “typical week” was not capitalized.)</i>	__ Number of times None Don’t know/Not sure Refused
BRFSS (2007, 2011)	On how many days per week do you usually eat a main meal that is prepared at home?	__ Number of days None Don’t know/Not sure Refused
BRFSS (2009)	In a typical week, how many days do you eat a main meal prepared at home? If needed, say, “A main meal is the most substantial meal of your day.”	1-2 days 3-4 days 5-6 days Every day Do not eat a main meal at home

## How to Measure Progress: Preparation and Consumption of Meals at Home (continued)

### Notes from Retreat Discussion

The intent of this objective is cooked at home. There are a wide variety of interpretations of “prepared.”

It would be better to ask “in the past week” (instead of “in a typical week”) on BRFSS and CHAMP.

Discussion led to the recognition that we may not need to include this question on both BRFSS and CHAMP, given that the same person would likely respond to both surveys and the behavior being examined is oftentimes a family behavior. Collecting both responses – that for the adult (on BRFSS) and that for the child (on CHAMP) – may not be a worthy use of resources. It may be interesting to compare the extent to which BRFSS and CHAMP answers are similar/different among respondents who did participate in both surveys to help determine how reliable the data produced by this survey question is. Over the past several years, this question has been included more frequently on the CHAMP survey than the BRFSS survey. The benefit of including it on the BRFSS survey is the potential to collect data on adults without children. The suggestion was made to look closely at BRFSS and CHAMP data once 2009 data are available and decide which survey (or both) is best to use.

### Supplemental Data to Include in 2007-2012 Final Report Narrative

Include additional data from high school YRBS on eating at home with family (2005, 2009). Include data from middle school YRBS on eating dinner that was *prepared* at home with family (2007, 2009). Compare CHAMP data from 2005 and 2006 on eating *dinner* at home with family to CHAMP data from subsequent years on eating a *main meal* together that was *prepared* at home.

Supplemental Data	Source	2005	2006	2007	2008	2009	2010	2011
<b>Middle school</b> students who ate dinner at home with family 5+ times during the past 7 days (does not specify <i>prepared at home</i> )	YRBS	70.0*						TBD
<b>Middle school</b> students who ate dinner <b>prepared at home</b> with family 5+ times during the past 7 days				67.4		73.3		
<b>High school</b> students who ate dinner at home with family 5+ times during the past 7 days (does not specify <i>prepared at home</i> )		50.2				55.6		TBD
Household eats dinner together more than four times per week (does not specify <i>prepared at home</i> )	CHAMP	66.9	68.8					

Numbers in cells represent percentages (%).

\*Middle School YRBS did not achieve weighted data in 2005 and can not be used to generalize data.

**How to Measure Progress: Preparation and Consumption of Meals at Home** (continued)

<b>Survey Questions to Capture Supplemental Data</b> (in above table)		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
YRBS (middle school 2007 and 2009)	During the past 7 days, how many times did you eat dinner prepared at home with your family?	0 days 1 day 2 days 3 days 4 days 5 days 6 days 7 days
YRBS (middle and high school 2005 and 2011; high school only in 2009)	During the past 7 days, on how many days did you eat dinner at home with your family?	0 days 1 day 2 days 3 days 4 days 5 days 6 days 7 days
CHAMP (2005, 2006)	How many times does your household eat dinner together in a typical week?	Parent reports number of times (not multiple choice)

## How to Measure Progress: Sugar-Sweetened Beverage Consumption

**North Carolina’s Obesity Prevention Plan Objective 3F:** By December 31, 2012, the percentage of North Carolina adults, youth and children who typically consume more than one 12-ounce serving of sugar-sweetened beverages per day will not exceed 50%.

### Indicators to Measure Progress

Use 2005 as baseline for CHAMP, 2007 for YRBS, and 2009 for BRFSS.

To measure progress on North Carolina’s Obesity Prevention Plan, use these three indicators:

1. High school students who drink sweetened beverages more than one time per day - YRBS *(Note: To obtain this indicator, combine data from two survey questions – one about soda/pop and one about other sweetened beverages.)*
2. Children who drink sweetened beverages more than one time on a typical day - CHAMP
3. Adults who drink sweetened beverages more than one time on a typical day - BRFSS

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
High school students who drink sweetened beverages more than one time per day <i>(Note: To obtain this indicator, combine data from two survey questions – see table below.)</i>	YRBS								60.0		57.1		Goal: ≤ 50.0
Children who drink sweetened beverages more than one time per day	CHAMP						39.2	40.4			36.9	TBD	Goal: ≤ 50.0
Adults who drink more than one sweetened beverage per day	BRFSS										33.0		Goal: ≤ 50.0

*Numbers in cells represent percentages (%).*

***Bold outline represents baseline data collection.***

## How to Measure Progress: Sugar-Sweetened Beverage Consumption (continued)

Survey Questions to Capture Indicator Data (in table above)		
Source	Question	Response Options
<p>YRBS (High school only: 2007, 2009, 2011)</p> <p><i>Note: Combine data from these two questions to estimate sugar-sweetened beverage consumption.</i></p>	<p>During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite?</p> <p>During the past 7 days, how many times did you drink a can, bottle, or glass of any other sweetened beverage?</p>	<p>I did not drink [ ] during the past 7 days</p> <p>1 to 3 times during the past 7 days</p> <p>4 to 6 times during the past 7 days</p> <p>1 time per day</p> <p>2 times per day</p> <p>3 times per day</p> <p>4 or more times per day</p>
<p>CHAMP (2005, 2006, 2009, 2010, 2011)</p>	<p>On a typical day, how many times does (CHILD) drink sweetened beverages such as soda pop, sweet tea, fruit punch, Kool-aid, sports drinks or fruit drinks? Do not count 100% fruit juices.</p> <p><i>In 2009, an interviewer note was added: “Typical day ‘On average, or think about a week and what the average would be.’”</i></p> <p><i>In 2005 and 2006, there was no interviewer note and “Do not count 100% fruit juices” was in parentheses.</i></p>	<p>1 time</p> <p>2 times</p> <p>3 or more times</p> <p>None</p>
<p>BRFSS (2009, 2011)</p>	<p>On a typical day, how many times do you drink sweetened beverages, NOT including diet or sugar-free beverages? If needed, say, “Sweetened beverages include regular soda, sweet tea, energy drinks, sports drinks, and fruit drinks containing less than 50 percent juice.” (Interviewer Note: Plain white milk is not a sugar-sweetened beverage. Flavored milk is a sugar-sweetened beverage.)</p>	<p>__ _ Number of times per day</p> <p>None</p> <p>Don’t know/Not sure</p> <p>Refused</p>

**How to Measure Progress: Sugar-Sweetened Beverage Consumption** (continued)

**Notes from Retreat Discussion**

Selection of a baseline year is not of key importance, given the wording of the objective (not to exceed 50% by 2012).

The group decided that the most accurate representation of sweetened beverage consumption among high school students is the combination of the data from the two YRBS sweetened beverage questions – one (a YRBS core question) about soda and one (a question added by the state of North Carolina) about other sweetened beverages. The State Center for Health Statistics is able to do the necessary data analysis to provide this data.

**Supplemental Data to Include in 2007-2012 Final Report Narrative**

Consider including data on consumption of sweetened beverages among middle and high school students from YRBS in 2005. This data was collected with a single survey question instead of the combination of two survey questions as has been the case since 2007.

<b>Supplemental Data</b>	<b>Source</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Middle school students who drink a soft drink or sweetened beverage one or more times on a typical day	YRBS	95.6						
High school students who drink a soft drink or sweetened beverage one or more times on a typical day	YRBS	90.9						

*Numbers in cells represent percentages (%).*

<b>Survey Questions to Capture Supplemental Data</b> (in table above)		
<b>Source</b>	<b>Question/Measure</b>	<b>Response Options</b>
YRBS Middle and High School (2005)	On a typical day, how many times do you drink a soft drink or sweetened beverage?	I do not drink soft drinks 1 time 2 times 3 or more times



**How to Measure Progress: Physical Activity Among Adults**

**North Carolina’s Obesity Prevention Plan Objective 4A:** By December 31, 2012, at least 46% of adults will get the recommended amounts of physical activity each week and fewer than 15% will report no leisure time physical activity.

**Indicators to Measure Progress**

Use 2001 as baseline for BRFSS.

To measure progress on North Carolina’s Obesity Prevention Plan, use these two indicators:

1. Adults who participate in the recommended amount of physical activity – BRFSS
2. Adults who participate in no leisure time physical activity – BRFSS

<b>Indicator</b>	<b>Source</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Adults who participate in the recommended amount of physical activity	BRFSS		42.4	38.1	37.7		42.1		44.0		46.4		Goal: $\geq 46.0$
Adults who participate in no leisure time physical activity			26.4	29.5	25.0	25.2	25.6	23.8	24.3	24.6	26.4	TBD	Goal: $< 15.0$

*Numbers in cells represent percentages (%).*

***Bold** outline represents baseline data collection.*

## How to Measure Progress: Physical Activity Among Adults (continued)

Survey Questions to Capture Indicator Data (in table above)		
Source	Question	Response Options
BRFSS (every year)	During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?	Yes No
BRFSS (odd-numbered years)	When you are at work, which of the following best describes what you do? Would you say: <b>If respondent has multiple jobs, include all jobs.</b>	Mostly sitting or standing Mostly walking Mostly heavy labor or physically demanding work
	We are interested in two types of physical activity - vigorous and moderate. Vigorous activities cause large increases in breathing or heart rate while moderate activities cause small increases in breathing or heart rate.  Now, thinking about the moderate activities you do [fill in “when you are not working” if “employed” or self-employed] in a usual week, do you do moderate activities for at least 10 minutes at a time, such as brisk walking, bicycling, vacuuming, gardening, or anything else that causes some increase in breathing or heart rate?	Yes No [Skip]
	How many days per week do you do these moderate activities for at least 10 minutes at a time?	__ Days per week Do not do any moderate physical activity for at least 10 minutes at a time? [Skip]
	On days when you do moderate activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?	_:__ Hours and minutes per day
	Now, thinking about the vigorous activities you do [fill in “when you are not working” if “employed” or self-employed] in a usual week, do you do vigorous activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate?	Yes No [Skip]

	<p>How many days per week do you do these vigorous activities for at least 10 minutes at a time?</p>	<p>__ Days per week Do not do any vigorous physical activity for at least 10 minutes at a time? <b>[Skip]</b></p>
	<p>On days when you do vigorous activities for at least 10 minutes at a time, how much total time per day do you spend doing these activities?</p>	<p>_:__ Hours and minutes per day</p>

## **How to Measure Progress: Physical Activity Among Adults** (continued)

### **Notes from Retreat Discussion**

New Physical Activity Guidelines for Americans were released in October 2008. BRFSS will use new questions (in line with new guidelines) in future years, perhaps starting in 2011. No one has seen these new questions yet.

The group is supportive of continuing to focus on aerobic physical activity for monitoring progress on the current North Carolina's Obesity Prevention Plan, even though resistance training is addressed in the new 2008 Physical Activity Guidelines for Americans.

Validity and reliability studies may be needed for physical activity estimates.

The National Household Travel Survey (NHTS), which was formerly called the Nationwide Personal Transportation Survey (NPTS), could serve as an additional data source for this objective. It serves as the nation's inventory of personal travel. In fall 2009, NHTS data will be available for NC (whereas state-specific data has not been available in previous years) because the NC Department of Transportation is providing funding for NC to be an “add-on” state – a state from which a larger sample of households will be interviewed so that data can be reliably estimated at the state level. Data collection for this most recent NHTS occurred from March 2008 to April 2009. The next round of data will be collected in 2012-2013 (pending funding).

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

Consider including pre-2001 BRFSS data on leisure time physical activity to show as long of a trend as possible. Leisure time physical activity data was collected via BRFSS from 1987 to 1992, then in 1994, 1996, and 1998. Data has been compiled and made available by UNC.

Include data on walking or biking for transportation from BRFSS.

Consider including data from the National Household Travel Survey, such as frequency of bike and walking trips.

### How to Measure Progress: Physical Activity Among Adults (continued)

Supplemental Data	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Time spent walking or bicycling for transportation (adults)	BRFSS (2000, 2009)	2.6									4.0		
<i>Less than 30 minutes</i>													
<i>30-60 minutes</i>		2.7									3.8		
<i>1-2 hours</i>		3.3									3.4		
<i>2 or more hours</i>		6.6									5.4		
<i>Less than one hour</i>	BRFSS (2002)			5.5									
<i>60-119 minutes</i>				3.5									
<i>2-4 hours</i>				4.1									
<i>More than 4 hours</i>				1.3									

Numbers in cells represent percentages (%).

Survey Questions to Capture Supplemental Data (in table above)		
Source	Question	Response Options
BRFSS (2000, 2009)  <i>In 2009, a note for interviewer &amp; additional answer codes were added.</i>	In the past week, how much time did you walk or bicycle for transportation, such as to and from work or shopping?  2009 Interviewer Note: Walking or biking JUST for exercise should NOT be counted as transportation time  <i>Note: Wording of this question changed half-way through survey period in 2009. Jan – June wording was “In the past week, how much time did you walk or bicycle for transportation, such as to and from work or shopping, or walk to the bus stop?” July – Dec wording was same as in 2000 (above).</i>	(2000 and 2002*) __ Minutes __ Hours *None Don’t know/Not sure Refused  (2009) ___ Minutes No time Walking or biking just for exercise
BRFSS (2002)	In the <b>past</b> week, how much time did you spend walking or bicycling for <b>transportation</b> , such as to and from work or shopping?	Don’t know/Not sure Refused

## How to Measure Progress: Physical Activity Among Children and Youth

**North Carolina’s Obesity Prevention Plan Objective 4B:** By December 31, 2012, at least 52% of youth and children will participate in at least 60 minutes of physical activity every day.

### Indicators to Measure Progress

Use 2005 as baseline for all data sources.

To measure progress on North Carolina’s Obesity Prevention Plan, use these three indicators:

1. Children and youth ages 2 to 17 who spend 60 minutes or more in physically active play per day - CHAMP
2. Middle school students who are physically active for 60 minutes or more per day\* - YRBS
3. High school students who are physically active for 60 minutes or more per day\* - YRBS

\* “Per day” means that students reported this behavior on “7 out of the past 7 days.”

Indicator	Source	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Children and youth ages 2-17 who spend 60 minutes or more in physically active play per day*	CHAMP						73.0	74.7	80.4	87.1	90.2		Goal: ≥ 52.0
Middle school students who are physically active for 60 minutes or more per day*	YRBS, middle school						32.9		33.7		34.9		Goal: ≥ 52.0
High school students who are physically active for 60 minutes or more per day*	YRBS, high school						25.9		24.5		24.1		Goal: ≥ 52.0

Numbers in cells represent percentages (%).

**Bold** outline represents baseline data collection.

\* “Per day” means that students reported this behavior on “7 out of the past 7 days.”

**How to Measure Progress: Physical Activity Among Children and Youth (continued)**

<b>Survey Questions to Capture Indicator Data (in table above)</b>		
<b>Source</b>	<b>Question</b>	<b>Response Options</b>
CHAMP (2005 – 2011)	<p>On a typical day, how much total time does your child spend in physically active play?</p> <p><i>(added in 2008)</i> NOTE: This includes organized play that is led by a coach or teacher, as well as unorganized play, such as going for a walk or playing outside.</p> <p><i>(added in 2009)</i> NOTE: This includes organized play that is led by an adult, as well as unorganized play, such as playing outside.</p>	<p>(2005-2006)</p> <p>None</p> <p>Less than 20 min</p> <p>20 minutes to 1 hour</p> <p>1 hour to 2 hours</p> <p>2 hours to 3 hours</p> <p>3 hours or more</p> <p>(2007-2009)</p> <p>___ Minutes</p> <p>___ Hours</p>
YRBS (2005, 2007, 2009, 2011) Middle and High School	<p>During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?</p> <p>(Add up all the time you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)</p> <p><i>Note: The indicator to measure progress on North Carolina’s Obesity Prevention Plan includes only students who answered “7 days.”</i></p>	<p>0 days      4 days</p> <p>1 day        5 days</p> <p>2 days       6 days</p> <p>3 days       7 days</p>

## **How to Measure Progress: Physical Activity Among Children and Youth (continued)**

### **Notes from Retreat Discussion**

Change baseline year to 2005 for YRBS, and report on youth attaining 60 minutes per day (should be available through 2011) rather than 30 minutes per day, which is how data was reported prior to 2005.

The group recommended asking this question same way if possible on both CHAMP and YRBS, understanding that certain differences in question design may be necessary for written (i.e., YRBS) versus phone (i.e., CHAMP) survey.

### **Supplemental Data to Include in 2007-2012 Final Report Narrative**

The group could not determine the method by which the 2012 target of 52% for North Carolina's Obesity Prevention Plan Objective 4A was developed. Consider mentioning in the narrative that this target could have been based on old survey questions and may not be an appropriate goal for the indicators now being used to measure progress on North Carolina's Obesity Prevention Plan.

Consider including CHAMP data on the following:

- walking or bicycling to school
- use of school facilities during non-school hours
- participation in physically active play that is led, taught or coached
- screen time (Qualify the data by defining "screen time." For example, time spent texting is not included.)

Consider presenting CHAMP data by age group since the survey covers such a wide age range (ages 2 to 17).



**How to Measure Progress: Physical Activity Among Children and Youth** (continued)

<b>Supplemental Data</b>	<b>Source</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Children and youth (ages 5 to 17) who never walk or ride a bike to school	CHAMP	96.0	95.2			94.9	TBD	TBD
Households in which child (age 2 to 17) and/or parent use playing fields/facilities at school during non-school hours						38.6	TBD	TBD
At least once a week						10.7	TBD	TBD
At least once a month						8.9	TBD	TBD
A few times per year								
Children and youth (ages 2 to 17) who participate in physically active play that is led, taught or coached at least one day per week		73.5	74.0		74.7			
Children and youth (ages 2 to 17) who watch television daily for...		10.6	11.2		9.3	11.7	TBD	TBD
< 1 hour								
1 hour to < 2 hours		32.7	35.6		32.2	36.2	TBD	TBD
2 hours or more		53.0	49.9		48.7	46.4	TBD	TBD
Children and youth (ages 2 to 17) who play video games, computer games or using the Internet daily						TBD	TBD	
High school students who watch three or more hours of television on an average school day	YRBS	36.3		35.3		36.2		TBD
High school students who play video or computer games or use a computer for something that is not school work for three or more hours per day on an average school day		20.3		21.2		23.5		TBD

*Numbers in cells represent percentages (%).*

**How to Measure Progress: Physical Activity Among Children and Youth (continued)**

<b>Survey Questions to Capture Supplemental Data (in table above)</b>		
<b>Source</b>	<b>Question</b>	<b>Response Options</b>
CHAMP (2005, 2006, 2009, 2011)	On how many days per week does your child actually walk or ride a bicycle to school?	__ Number of days Don't know/Not sure Refused
CHAMP (2009, 2011)	How often do you or your child use any of the playing fields or facilities at a school in your community during after-school hours or on weekends?	<b>Please read 1 - 4</b> 1 At least once a week 2 At least once a month 3 A few times per year, or 4 Never  5 Not allowed on property after school hours 6 Live too far from school 7 Don't know/Not sure 9 Refused
CHAMP (2005, 2006, 2008)	In an average week, how many days does your child participate in physically active play that is led, taught or coached?  [NOTE: This includes physical education class, recreation & sports programs; this also includes active play led by adults such as in preschool.]	__ Number of days
CHAMP (2005, 2006, 2008, 2009, 2010, 2011)	On a TYPICAL DAY, how much total time does (CHILD) spend watching television?  <i>In 2010 and 2011, the survey question about television was revised, and a question about additional screen time was added (see below). An interviewer note was added as well.</i>  On a TYPICAL DAY, about how much time does (CHILD) usually spend watching TV, videos, or DVDs?  On a TYPICAL DAY, about how much time does (CHILD) usually spend playing video games, computer games or using the	__ Hours  88 Does not spend any time... 77 Don't know/Not sure 99 Refused

	Internet?  [NOTE: Typical day, “On average, or think about a week and what the average would be.”]	
YRBS (2005, 2007, 2009, 2011)	On an average school day, how many hours do you watch TV?	<p>A. I do not watch TV on an average school day</p> <p>B. Less than 1 hour per day</p> <p>C. 1 hour per day</p> <p>D. 2 hours per day</p> <p>E. 3 hours per day</p> <p>F. 4 hours per day</p> <p>G. 5 or more hours per day</p>
YRBS (2005, 2007, 2009, 2011)	On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod touch, Facebook, and the Internet.)	<p>A. I do not play video or computer games or use a computer for something that is not school work</p> <p>B. Less than 1 hour per day</p> <p>C. 1 hour per day</p> <p>D. 2 hours per day</p> <p>E. 3 hours per day</p> <p>F. 4 hours per day</p> <p>G. 5 or more hours per day</p>

## Data Gaps

The Eat Smart, Move More NC Surveillance Ad Hoc Committee hosted a surveillance retreat on January 13, 2010, at the NC Division of Public Health. Through the course of retreat preparation and discussion, a number of data gaps became apparent. These data gaps are listed below, as well as notes on actions taken to address them. The data gaps are categorized as follows: gaps in data sources (e.g., surveillance systems), data topics (e.g., topics addressed by surveillance systems), analysis and reporting (e.g., how data is shared in reports), and indicators (e.g., the specific target set for a topic area, like the number of fast food meals).

Data Sources		
Data Gap	Further Explanation	Actions Taken to Address Data Gap
Data source for <u>measured</u> height and weight data to calculate BMI and determine weight status	The only source of measured (versus self-reported or parent-reported) height and weight data is NC-NPASS, which does not collect data from a representative sample.	IsPOD implementation (described in <i>How to Measure Progress</i> section) continues to spread across the state and could offer such a data source.
Data source for height and weight data (even if not measured) on children <u>under age 10</u> to calculate BMI and determine weight status	CHAMP collects data (parent-reported) on children and youth ages 10 to 17. The only source of weight status data for younger children is NC-NPASS, which does not collect data from a representative sample.	No action taken to date (March 2011)
Data source(s) on factors that facilitate or hinder healthy eating and physical activity in workplace environments, neighborhood/community environments, and other places where people spend their time	This Surveillance Plan is intended to focus on data on behaviors (e.g., healthy eating, physical activity) and health conditions (e.g., overweight/obesity) rather than environmental data (e.g., characteristics of workplaces, neighborhoods, etc.). The <u>lack</u> of data sources for environmental data contrasted against the <u>availability</u> of data sources for behavior data lends itself to two different conversations in order to maintain focus and develop a concrete plan. The School Health Education Profiles is an exception to this norm, as it serves as a statewide data source (e.g., based on a representative sample of schools) on school policies and environments.	The Eat Smart, Move More NC Leadership Team formed an ad hoc committee (separate from the Surveillance Committee) to identify key measures for <u>policy and environmental change</u> in North Carolina. The committee compiled a report focusing on two environmental factors - joint use agreements in schools and beverage policies in childcare centers. The committee's report spoke to the lack of data sources. In 2009, the CDC released the <i>Recommended Community Strategies and Measurements to Prevent Obesity in the United States</i> . This resource defines twenty-four community-level data indicators on policies and environments. The next step is to create a system for collecting them.

<b>Topics</b>		
<b>Data Gap</b>	<b>Further Explanation</b>	<b>Actions Taken to Address Data Gap</b>
Breastfeeding exclusivity at 3 and 6 months	PRAMS cannot collect this data due to survey methodology. CHAMP could collect this data, but the respondents would be mothers of children of all ages versus all new mothers, as with PRAMS.	CHAMP began collecting this data in 2010 (results to be released in summer of 2011).
Screen time other than television for children (e.g., computer/internet, video games, DVD's)	YRBS collects screen time data beyond television for high school students. Data on this topic for younger children would be valuable as well.	CHAMP began collecting screen time data beyond television in 2010 for ages 1 to 17 (results to be released in summer of 2011).
Flexibility and resistance training	Data collection on these topics is suggested to align with the 2008 Physical Activity Guidelines for Americans	CDC is revising the core BRFSS questions to address these topics.
<b>Analysis and Reporting</b>		
<b>Data Gap</b>	<b>Further Explanation</b>	<b>Actions Taken to Address Data Gap</b>
Data on combined fruit and vegetable consumption for children	CHAMP data on fruit consumption is analyzed and reported separately from data on vegetable consumption.	The CHAMP Coordinator developed data tables on combined fruit and vegetable consumption.
Combined soda and "other sugar-sweetened beverage" consumption (e.g., sweet tea) among high school students	The YRBS data tables provided on the NC Healthy Schools Web site show data on "soda consumption" and "other sweetened beverage consumption" separately.	NC Healthy Schools provided combined data for inclusion in this document, but the data tables on the NC Healthy Schools Web site have not been revised.
High school students getting the recommended amount of physical activity on seven of the past seven days	The YRBS data tables provided on the NC Healthy Schools Web site show the percentage of students getting the recommended amount of physical activity on five of the past seven days rather than seven of the past seven days.	NC Healthy Schools provided the requested data for inclusion in this document, but the data tables on the NC Healthy Schools Web site have not been revised.
<u>County-level data</u>	Existing county-level data on childhood overweight and obesity (i.e., NC-NPASS) is not representative of the county population. Data on adult behaviors and weight status from BRFSS is available at the county-level for 23 of 100 counties. A larger sample size would solve this problem but would require more investment of resources into surveillance.	The CHAMP Coordinator recently combined three years of CHAMP data to offer regional-level data on childhood overweight/obesity and related behaviors. CHAMP data were previously only available at the state level.

<b>Indicators</b>		
<b>Data Gap</b>	<b>Further Explanation</b>	<b>Actions Taken to Address Data Gap</b>
Cups of fruits and vegetables	Survey questions about fruit and vegetable consumption ask about number of servings, how often, or how many times in a given period of time (i.e., the past 7 days) fruits/vegetables were eaten. The Dietary Guidelines for Americans use cups as a unit of measure, rather than “servings” or “number of times.”	CDC is revising the core BRFSS questions on fruit and vegetable consumption.
Number of fast food meals/ Number of times fast food is consumed	North Carolina’s Obesity Prevention Plan uses “the percentage of children eating fast food three or more times per week” as a target (to decrease). It also uses the “percentage of adults eating fast food meals once per week or less” as a target (to increase). A literature review to clarify the correlation between fast food consumption and overweight/obesity may help to determine the validity of fast food consumption as an indicator. It may also help to determine an appropriate target frequency.	No action taken to date (March 2011)
Meals prepared and eaten at home	North Carolina’s Obesity Prevention Plan uses “the percentage of people who eat their main meal at home at least five times per week” as a target (to increase). Authors of the Plan have confirmed that the intent of this indicator is to capture meals that are <u>cooked</u> at home. This indicator is related to one of CDC’s target areas for obesity prevention, that of consuming fewer energy-dense foods. North Carolina’s multi-dimensional indicator (a <u>main</u> meal that is <u>cooked</u> at home and <u>eaten</u> at home) is difficult to adequately address in telephone surveys (i.e., BRFSS, CHAMP). A literature review to clarify the correlation between home meals and overweight/obesity may inform potential revisions to this indicator and the target frequency of “five times per week.”	No action taken to date (March 2011)
Servings of sugar-sweetened beverages	North Carolina’s Obesity Prevention Plan uses “the percentage of people who typically consume more than one 12-ounce serving of sugar-sweetened beverages per day” as a target (to decrease). Data sources (e.g., BRFSS, CHAMP, YRBS) address “times per day” that sugar-sweetened beverages are consumed; they do not address portion size (i.e., “12-ounce serving). A literature review may inform potential revisions of this indicator and the target frequency of “more than one per day.”	No action taken to date (March 2011)
Hours of television and/or screen time	North Carolina’s Obesity Prevention Plan does not include an objective for decreasing television or screen time; however, decreasing television viewing is one of CDC’s target areas for obesity prevention and, thus, may be addressed in future obesity prevention plans. A literature review may help to inform the selection of a target frequency for this indicator (e.g., two hours or less per day). Furthermore, a literature review of the correlation of other types of screen time with overweight/obesity may help to determine the extent to which future obesity prevention plans should address those behaviors.	No action taken to date (March 2011)

## **Recommendations for Writing the Next Statewide Obesity Prevention Plan**

### **Recommended committees:**

- Form a committee(s) to develop surveillance questions to add to BRFSS and CHAMP starting in 2012 or 2013 to monitor progress over the course of the next statewide obesity prevention plan. Work with State Center for Health Statistics to complete cognitive testing on questions if needed.
- Form a committee(s) to look at proxy measures and policy/environmental change data (e.g., acres of available farm land) instead of or in addition to behavior data (e.g., fruit and vegetable consumption). Self-reported behavior data may not be valid, especially in response to specific questions about past behaviors (e.g., quantity of fruits and vegetables consumed). For sample nutrition-related policy/environmental measures, refer to the State Indicator Report on Fruits and Vegetables that the Centers for Disease Control and Prevention (CDC) published in 2009.  
[www.fruitsandveggiesmatter.gov/downloads/StateIndicatorReport2009.pdf](http://www.fruitsandveggiesmatter.gov/downloads/StateIndicatorReport2009.pdf)
- Form a committee(s) to explore the establishment of objectives and/or sub-measures specific to health disparate populations.

### **Recommendations for setting objectives and measures:**

- Use the same process for setting goals as Healthy People 2020 and/or Healthy NC 2020. Align the dates of the next obesity prevention plan with the Healthy NC 2020 Plan. Consider making it an Eat Smart, Move More NC 2020 Plan.
- When setting an objective, provide the actual percentage for NC to reach by the end date (e.g., By 2020, 25% of NC youth will eat three servings of fruit per day), instead of a percent change (e.g., By 2020, 40% more youth will eat three servings of fruit per day). This will make it simpler to measure progress and ultimately determine if the objective is met.
- Explore the best method for using past trends to set future goals, given shifts/changes in the state population (e.g., growing Hispanic population).
- When writing objectives, focus on people's past/current behavior (i.e., "During the past seven days, did you choose an item labeled as "healthy" at a restaurant?"), not on their likelihood to do something moving forward (i.e., "Would you be more likely to choose healthy options if they were labeled?").

- A separate target rate for a sub-group (e.g., WIC participants) would not be a good idea, as it sets different standards for one particular group than for the NC population at large. However, reporting data on a sub-population (e.g., low-income women) to evaluate how they are doing with reaching the objective vs. how the general population is doing may be valuable.

**Recommended data sources:**

- Do not use data sources that are not representative of the state population (e.g., PedNSS and PNSS for breastfeeding, NC-NPASS for weight status) to measure the state’s progress.
- Consider new data sources in addition to those in North Carolina’s Obesity Prevention Plan:
  - In-school Prevention of Disease (IsPOD) Fitnessgram data and/or survey data if it is valid, reliable, and available statewide.
  - Kindergarten Health Assessment: Talk to the State Center for Health Statistics about the quality of the existing pilot data. This may not be a complete or accessible data set, although there is interest in getting it to that point. In addition, there is interest in collecting data through a Middle School Health Assessment.
  - Child Health Assessment and Monitoring Program (CHAMP) for weight status
  - National surveys that provide state data (e.g., National Survey of Children’s Health for weight status, National Immunization Survey for breastfeeding)

**Recommendations for developing survey questions:**

- It is better to ask “during the past 7 days” than “in a typical week” for behavior recall.
- If possible, test validity and reliability of new questions.
- Since obesity is an emerging area, allow for survey questions to change over time.

**Recommendations by topic:**

- Overweight and obesity
  - Use BRFSS, YRBS and CHAMP to evaluate progress. Also consider using data from the National Survey of Children’s Health to align reporting with that of the NC Alliance for Health.
  - Do not use NC-NPASS as a data source to evaluate progress on this objective since it does not collect data from a representative sample of the state population. Instead, use NC-NPASS data as supplemental information when reporting. For ages 2 to 4, limit data reporting to WIC participants.
- Breastfeeding



- Consider using the National Immunization Survey as a data source. It is used by CDC and is best for overall numbers, although reporting is delayed by several years.
- Consider new objectives specifically about exclusivity and attachment to breast (versus being bottle-fed breast milk). Research indicates that these are important factors in linking breastfeeding to weight status.
- Intention to choose healthy foods and beverages
  - Do not include this objective/measure in the next statewide obesity prevention plan.
  - The definition used to describe “healthy” currently includes “lower in fat.” Explore the science of fat, as some studies have shown that “low-fat” does not improve body weight status and there are health benefits associated with unsaturated fat.
- Fast food consumption
  - Review available research and reports to determine the best or most often used target for fast food consumption. For example, should the objective be to decrease the percentage of people who eat 3 or less fast food meals per week or to increase the percentage of people who eat 1 or less fast food meal per week?
  - Ask about fast food “meals” consumed rather than “times” eating fast food.
- Preparation and consumption of meals at home
  - Consider using BRFSS and YRBS data in addition to (or in place of) CHAMP data to measure progress on this objective.
- Sugar-sweetened beverage consumption
  - Review the research about water consumption and consider adding an objective to monitor this behavior.
  - Use BRFSS as a data source for this objective.
  - Review available research and reports to determine the best or most often used target for fast food consumption.
- Physical activity among adults

- Consider adding objectives to reflect 2008 Physical Activity Guidelines for Americans (e.g., objectives related to flexibility and resistance training).
- Physical activity among children and youth
  - Consider using IsPOD survey as a data source if IsPOD is implemented statewide and offers valid and reliable data.

## Appendix A

### Eat Smart, Move More North Carolina Surveillance Retreat Agenda January 13, 2010

#### Meeting Objectives

- Review data on physical activity, nutrition and weight status related to the objectives in *Eat Smart, Move More: NC's Plan to Prevent Overweight, Obesity and Related Chronic Diseases*.
- Determine a plan for monitoring progress on each objective; specify data sources, frequency and content of survey questions, and key indicators of progress.
- Discuss methods for reporting on progress; consider target audience, frequency, and format.

#### Meeting Agenda

For each objective in the ESMM Plan, retreat participants will:

- 1) Review data (to be provided) for each year since baseline for the data sources listed.
- 2) Discuss strengths and limitations of existing data (i.e., measured vs. self-reported, collection methodology).
- 3) Determine if there are additional existing data to use to measure progress.
- 4) Determine if there are any new survey items to consider adding to measure progress.

9:00	Welcome and Setting the Stage <ul style="list-style-type: none"> <li>• Presentation on In School Prevention of Obesity and Disease (IsPOD)</li> </ul>
9:30	Discuss Goal 4 of ESMM Plan: Recommended Amounts of Physical Activity
10:45	Discuss Goal 3 of ESMM Plan: Consume a Healthy Diet
12:00	Lunch (provided)
12:30	(continued) Discuss Goal 3 of ESMM Plan: Consume a Healthy Diet
1:15	Discuss Goal 2 of ESMM Plan: Maintain a Healthy Weight <ul style="list-style-type: none"> <li>• Presentation on Body Mass Index (BMI) Data</li> </ul>
2:15	Break
2:30	Discuss methods for reporting progress and recommendations for standard use of data <ul style="list-style-type: none"> <li>• Identify any needed reports for this data.</li> <li>• Define ESMM Leadership Team role in distributing information.</li> <li>• Identify common measures for ESMM partners to use for public relations on obesity.</li> <li>• Technical report on confidence intervals.</li> <li>• Common language for baseline, significance, health disparities, etc.</li> </ul>
3:45	Wrap up
4:00	Adjourn

## APPENDIX B

### **Eat Smart, Move More North Carolina Surveillance Retreat Participant List January 13, 2010**

The Eat Smart, Move More NC Surveillance Ad Hoc Committee hosted a surveillance retreat on January 13, 2010, at the NC Division of Public Health to gather input from key stakeholders, including surveillance system coordinators, programmatic experts, epidemiologists, researchers, evaluators, and data managers. A complete list of retreat participants is provided below:

Jenni Albright  
Physical Activity and Nutrition Branch  
NC Division of Public Health

Alice Ammerman  
UNC Center for Health Promotion and Disease  
Prevention

Kathy Andersen  
Nutrition Services Branch  
NC Division of Public Health

Diane Beth  
Physical Activity and Nutrition Branch  
NC Division of Public Health

James Cassell  
State Center for Health Statistics

Najmul Chowdhury  
Nutrition Services Branch  
NC Division of Public Health

Carolyn Dunn  
NC Cooperative Extension

Kelly Evenson  
UNC Gillings School of Global Public Health

Rachel Head  
State Center for Health Statistics

Sarah Langer  
Physical Activity and Nutrition Branch  
NC Division of Public Health

Judy Martino  
North Carolina Alliance for Athletics, Health,  
Physical Education, Recreation, and Dance

Donna Miles  
State Center for Health Statistics

Elizabeth Mizelle  
Children and Youth Branch  
NC Division of Public Health

Jimmy Newkirk  
Physical Activity and Nutrition Branch  
NC Division of Public Health

Lori Schneider  
Physical Activity and Nutrition Branch  
NC Division of Public Health

Asheley Skinner  
UNC School of Medicine

Catherine Sullivan (participated via phone)  
Nutrition Services Branch  
NC Division of Public Health