

Steps to a HealthierNY- Broome County: Local Level Program Evaluation

PRESENTER:

Yvonne Johnston, MS, MPH, FNP

Steps to a HealthierNY-Broome County Program Evaluator
Decker School of Nursing, Binghamton University

CO-AUTHORS:

Mary McFadden, Steps to a HealthierNY-Broome County Coordinator
Adrienne Ronsani, Steps to a HealthierNY Program Evaluator

PRESENTATION:

135th Annual Meeting of the American Public Health Association
Politics, Policy, & Public Health
3252.0 Health Promotion & Disease Prevention
Monday, November 5, 2007, 12:30 PM

Steps to a HealthierUS



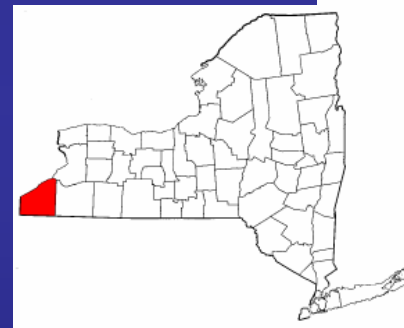
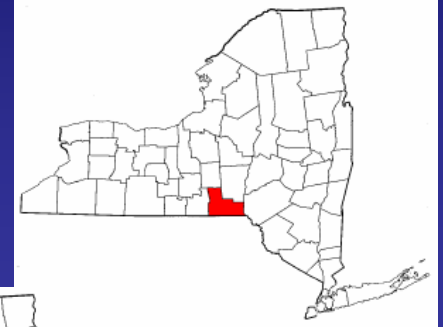
- Coordinated by the U.S. Department of Health and Human Services (USDHHS) and the Centers for Disease Control and Prevention (CDC)
- Advances the HealthierUS goal of helping Americans live longer, better, and healthier lives
- Funds communities to implement chronic disease prevention and health promotion programs that target three major chronic diseases—diabetes, obesity, and asthma and their underlying risk factors of physical inactivity, poor nutrition, and tobacco use
- Funds the YMCA of the USA as a national partner to expand the reach of community-based programs
- Since its inception in FY 2003, the Steps Program has awarded more than \$100 million to 40 communities (cities, states, and tribal entities) to implement evidence-based activities

Steps to a HealthierNY



■ New York project area

- **Broome County**
population 200,536
- **Chautauqua County**
population 139,750
- **Jefferson County**
population 111,738
- **Rockland County**
population 286,000



NYS Steps Interventions



- **Media**
 - Create awareness of chronic diseases and risk factors
- **Policy**
 - Develop and implement policies and guidelines for healthy diet and physical activity in schools, community, workplace, and healthcare settings
- **School-based**
 - Conduct asthma education programs in schools & day care centers
 - Create and strengthen School Health Advisory Councils and Healthy Schools Teams
 - Establish staff wellness programs
- **Community-based**
 - Conduct community-based programs for physical activity and weight loss
 - Promote 5 A Day program, farmer's markets, healthy food options in restaurants
- **Workplace**
 - Promote physical activity programs and expand healthy food choices
- **Health Care**
 - Train/educate health professionals in chronic disease prevention (diabetes, obesity, asthma, tobacco)



Steps to a HealthierNY - Broome County

- **Farm-to-You & Give-Me-Five**
 - Increase consumption of fruits & vegetables
- **Mission Meltaway & Weight Management Teaching Day**
 - Reduce obesity among adults especially those at risk for diabetes
 - Promote good nutrition and physical activity
- **BC Walks & Walkable Communities**
 - Promote sustained, lifelong physical activity
- **Breathe Better in Broome – Open Airways for Schools & A is for Asthma / CAP Program**
 - Comprehensive asthma intervention for elementary and middle school students
- **Tobacco Cessation & Tobacco Systems Change**
 - Educate providers to increase tobacco cessation
- **Media & Social Marketing**
 - Promote Steps messages



Steps to a HealthierNY - Broome County

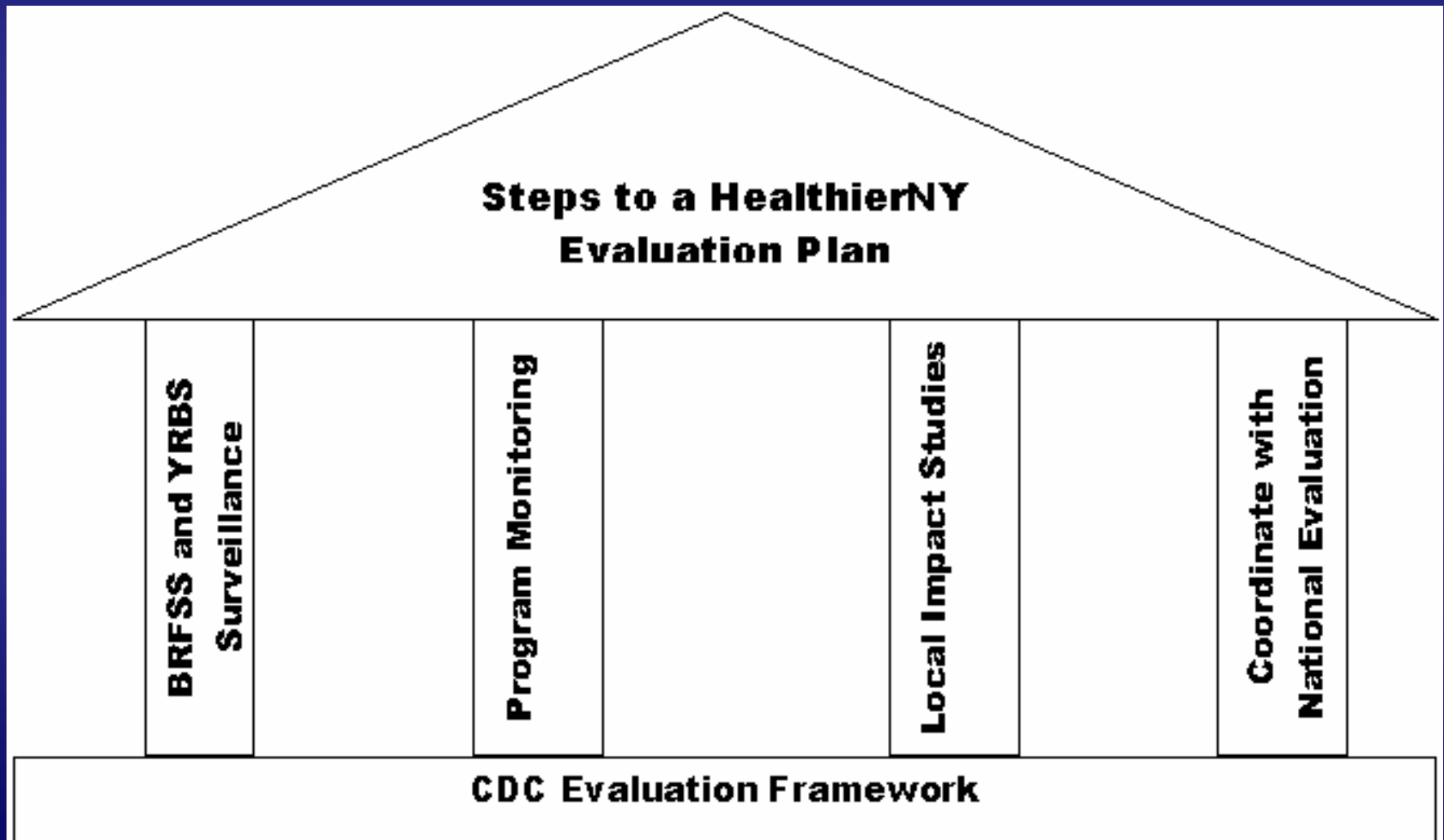
- **Professional Diabetes Education**
 - Increase knowledge of primary care providers on the standards of diabetes self-care practices
- **Coordinated School Health Infrastructure, School Health Index, School wellness policies & FitnessGram**
 - Develop effective partnerships between administration, school personnel, PTO representatives, & community
 - Develop school wellness policies
 - Promote physical activity & fitness among elementary school students using FitnessGram testing
- **BC Breastfeeds**
 - Increase incidence and duration of breastfeeding
- **Integrated Chronic Disease and Risk Reduction Education for Primary Care Providers**
 - Implement 5A framework for counseling obese & overweight individuals



Steps Partners

- American Cancer Society
- American Lung Association
- American Heart Association
- American Diabetic Association
- United Health Services
- Lourdes Hospital
- Binghamton University
- Broome Community College
- Binghamton Mets
- Cornell Cooperative Ext.
- NYSEG
- BOCES
- Hilltop Retirement Home
- Family Enrichment Network
- BC Youth Bureau
- Excellus BCBS
- United Way
- WSKG TV
- YWCA
- BC Office for Aging
- BC Medical Society
- BC Breastfeeding Coalition
- BC WIC
- Binghamton Transit
- Binghamton Metropolitan Transportation Study
- Town of Vestal
- Binghamton Senators
- LOWES – Home Improvement
- Security Mutual
- Downtown Binghamton Business Association
- YMCA
- All 12 Broome County School Districts

Steps to a HealthierNY Program Evaluation





Sample Evaluation Activities

- Development of evaluation logic model and evaluation planning matrixes
 - Assist in planning intervention strategies and activities
 - Establish process and outcome measures
 - Collaboratively create instruments & surveys
 - Develop data collection protocols
- Tabulation, analysis, and reporting of county-specific data
 - Steps Youth Behavior Survey (Steps YBS)
 - Steps Behavioral Risk Factor Surveillance System (Steps BRFSS)
 - Local program evaluation (Mission Meltaway)
- Participate in evaluation planning conference calls and meetings
- Participate in development of health communications materials


Example: Mission Meltaway Logic Model

| Program Goal: To reduce obesity and diabetes, and promote good nutrition and physical activity | | | | | |
|--|---|---|--|---|---|
| PROCESSES | | | OUTCOMES | | |
| Inputs | Activities | Outputs | Short-Term Outcomes | Intermediate Outcomes | Long-Term Outcomes |
| Partnerships: YMCA, local hospitals, primary care sites, schools, churches, area businesses, community organizations, county government, residential communities | Identify & contact sites for Mission Meltaway recruitment | List of possible sites, contact person, and contact information | Increase participants' knowledge of nutrition | Increase physical activity of program participants | Reduce the prevalence of obesity in the county |
| | Establish new recruitment sites for Mission Meltaway programs | Number and organization type of new Mission Meltaway sites | Increase community awareness of Mission Meltaway program and program offerings | Improve dietary choices of program participants | Reduce the prevalence of type 2 diabetes in the county |
| Funding: Steps to a HealthierNY – Broome County, Broome County Office for Aging | Promote Mission Meltaway program through paid & unpaid advertisements | Number and type of paid advertisements | Increase access to Mission Meltaway programs in the community | Improve health risk profile of program participants | Establish healthy lifestyles as a social norm in the county |
| | Plan and conduct Mission Meltaway train-the-trainer sessions | Number of brochures distributed | Increase community support of and incentives for Mission Meltaway | | |
| Media: Local print, radio, and television media, county health department website | Provide facilitators with program support, technical assistance, and follow-up of evaluation activities | Number of train-the-trainer sessions | Effect environment, systems, and policy changes within sites/organizations conducting Mission Meltaway that encourage and support healthy lifestyles | | |
| | Monitor program offerings in established sites | Number of facilitators trained | | | |
| Curriculum: Mission Meltaway curriculum and program materials | Collect evaluation data and submit to Kresge Center for Nursing Research, Binghamton University | Number of participants enrolled | | | |
| | | Number of program completers | | | |
| Training: Mission Meltaway Train-the-Trainer sessions | | Pre and posttest survey data | | | |
| | | Participant satisfaction survey | | | |
| Staff: County Steps coordinator, public health educators, program facilitators, and local evaluator | | | | | |
| | | | | | |
| Data Sources: state and county level census, morbidity, & mortality data; state BRFSS & Steps BRFSS for county and state | | | | | |



Sample Process Measures for Asthma Intervention

- Purpose: Provide a comprehensive asthma intervention for elementary and middle school students, as well as, families and caregivers of children in order to increase proper management of asthma through education.
 - # schools who have Open Airways
 - # students who complete Open Airways
 - # daycare/preschools who have A is for Asthma
 - # child care providers trained in A is for asthma/CAP program
 - # referrals for home assessments
 - # home visits
 - # providers trained during asthma teaching day
 - Partnerships formed
 - In-kind contributions
 - Policy changes
 - Environmental changes
 - Systems changes



The NY Steps Behavioral Risk Factor Surveillance System (BRFSS)

- Based on monthly telephone surveys conducted by NYSDOH (data collected year-round)
- Consists of a standardized questionnaire with a core set of questions that allow comparisons to state & national data
- Permits counties to add questions specific to own needs
- Administered to adults aged 18 years or older
- Approximately 1500 interviews conducted per county per year
- Results are weighted & representative of adults age 18 or older in Broome County
- Sample weighting accounts for differential response rates



NY Steps Youth Behavior Survey (YBS)

- The NYS Steps YBS measures behaviors that fall into three categories:
 - Dietary behaviors
 - Physical activity
 - Tobacco use
- The NYS Steps YBS also measures:
 - Self reported height and weight to allow calculation of Body Mass Index (BMI)
- Completed by 1,391 students in 11 public high schools in Broome County, NY during the spring of 2005 and 1,024 students in 12 public high schools in spring 2007
- Self-administered, anonymous, 51-item questionnaire
- Results are representative of Broome County students in grades 9-12
- Results are weighted based on response rate
- Sample weighting accounts for differential response rates

A Comparison of Broome County, NY to Healthy People 2010 Objectives: Physical Activity

| Health People 2010 Objective | Year 01 | Year 02 | Year 03 | HP 2010 Target |
|--|---------|---------|---------|----------------|
| 22-1. Reduce the proportion of adults who engage in no leisure-time physical activity. | 9.2% ✓ | 6.9% ✓ | 6.9% ✓ | 20% |
| 22-2. Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day. [5 or more days per week] | 37.4% ✓ | 40.1% ✓ | 41.4% ✓ | 30% |
| 22-3. Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion. | 26.1% | 28.5% | 28.2% | 30% |

Yellow highlight = Leading Health Indicator

A Comparison of Broome County, NY to Healthy People 2010 Objectives: Physical Activity

| Health People 2010 Objective | Year 01 | Year 02 | Year 03 | HP 2010 Target |
|---|---------|---------|---------|----------------|
| 22-6. Increase the proportion of adolescents who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous 7 days. [data for adolescents in grades 9 through 12] | 32.4% | NA | 36.8% ✓ | 35% |
| 22-7. Increase the proportion of adolescents who engage in vigorous physical activity that promotes cardiorespiratory fitness 3 or more days per week for 20 or more minutes per occasion. [data for adolescents in grades 9 through 12] | 71.9% | NA | 67.2% | 85% |
| 22-9. Increase the proportion of adolescents who participate in daily school physical education. [data for adolescents in grades 9 through 12] | 5.3% | NA | 5.4% | 50% |

Yellow highlight = Leading Health Indicator

Sample Core Performance Measures

O-3.1 Fruit and vegetable consumption among adults aged 18 and older

| n (Meets criteria) | n (Does not met criteria) | N (Total) | % (Meets criteria) | 95% CI (Meets criteria) |
|-------------------------------------|--|----------------------------|-------------------------------------|--|
| 425 | 1103 | 1528 | 25.53 | (22.87-28.39) |

O-3.2 Fruit and vegetable consumption among youth

| N (Total) | % (Meets criteria) | 95% CI (Meets criteria) |
|----------------------------|-------------------------------------|--|
| 1347 | 18 | (16.2-19.8) |

O-3.3 Recommended physical activity among adults aged 18 or older

| n (Meets criteria) | n (Does not met criteria) | N (Total) | % (Meets criteria) | 95% CI (Meets criteria) |
|-------------------------------------|--|----------------------------|-------------------------------------|--|
| 669 | 737 | 1406 | 50.53 | (47.15, 53.91) |

O-3.4 Recommended physical activity among youth

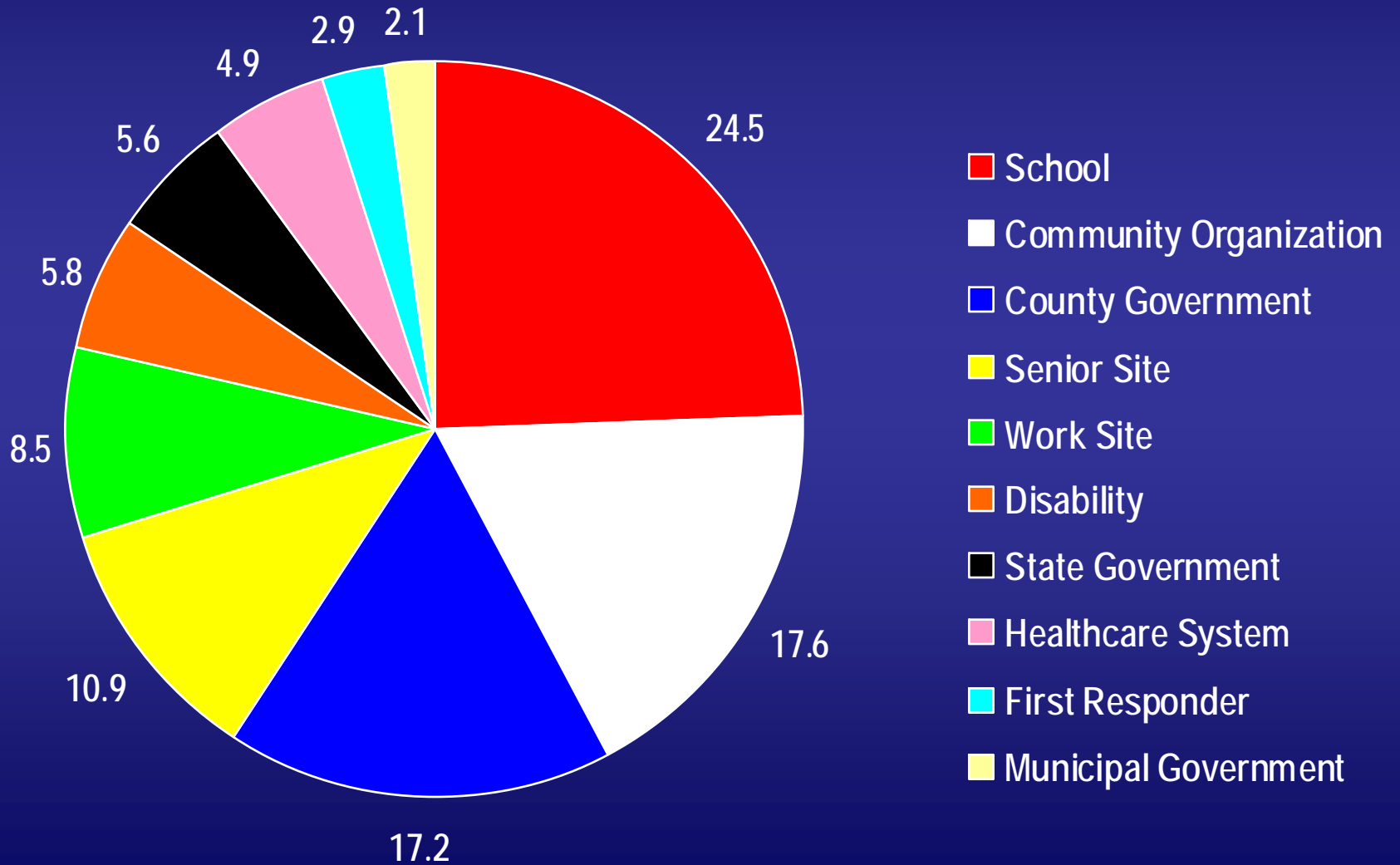
| N (Total) | % (Meets criteria) | 95% CI (Meets criteria) |
|----------------------------|-------------------------------------|--|
| 1381 | 37.8 | (34.5-41.1) |

Example of a Local Impact Study: The Mission Meltaway Program



- Facilitators receive manuals & are trained to provide weekly health programming to various groups (8-week healthy lifestyle curriculum)
- Programs offer participant incentives, such as a free 8-week membership donated by the YMCA
- Provides education by community “experts” on nutrition, physical activity & motivation for healthy lifestyles
- Trained facilitators lead each group & track pre/post weight, BMI, waist measurements, nutrition and physical activity surveys, & diabetes risk scores
- Participants receive educational materials, food logs, menu plans, & access to a variety of physical activities as well as nutrition education that is not available from other sources
- Group cohesion is developed for effective weight management & continued weight loss

Types of Participating Organizations in the Mission Meltaway Program (Year 01-03)





Program Participation Summary (Year 01-03)

- A large percentage of program participants (83%) were classified as being obese or overweight and 68% were identified as at-risk for diabetes
- A large majority of program participants reported feeling a need to lose weight (98%) with values ranging up to 200 pounds
- Most program participants reported participating in the Mission Meltaway program to improve eating habits (88%) and increase their level of physical activity (77%)
- Interestingly, 25% - 27% of participants indicated that they joined the program for social reasons -- the Mission Meltaway program addresses these social needs by providing a supportive group environment for making personal dietary and physical activity lifestyle change



Program Evaluation Summary (Year 01-03)

- Systolic BP was lowered by 2.5 mmHg and diastolic by 1.8 mmHg with improvements observed in hypertensive classification for 28.7% of participants
- Mean weight decreased 4.7 pounds (from 192.6 to 187.9) with a total weight loss of 4429 pounds
- Weight loss occurred for 80% of participants and 18% lost 10 or more pounds
- Waist size decreased by nearly 1.4 inches (from 40.9 to 39.6) with 547 inches lost in total
- Waist size decreased by at least 1 inch for 76%
- BMI was lowered by 0.77 and reductions in BMI risk category were observed for 15%
- BMI decreased by at least 1 point for 62%



Program Evaluation Summary (Year 01-03)

- Both fruit and vegetable consumption increased by approximately $\frac{1}{2}$ serving per day yielding a total addition of about 1 serving per day
- Higher levels of knowledge about nutrition were reported by 44.6%
- Consumption of fast food, pastries or baked goods, fried foods, processed/prepared foods, candy, and chips declined significantly
- Walking for at least 10 minutes increased from 78% to 92% with a simultaneous increase in frequency by a full day per week (from 2.3 to 3.3 times per week)
- Frequency of participation in formal physical activity increased from twice a week to 3 times per week and the modal length of time spent in formal physical activity changed from the lowest category (0-10 minutes) to the highest (30 minutes or more)




Surveillance: Detecting Positive Changes in the Community

- The proportion of adults who have heard about the Steps to a HealthierNY program increased from 45.4% (Year 01) to 56.2% (Year 02)
- The proportion of adults who walk at least 30 minutes per day on 5 or more days per week increased from 47.2% (Year 01) to 53.6% (Year 02)
- The proportion of adolescents in grades 9-12 who reported smoking in the past month decreased from 17.1% (Year 01) to 12.6% (Year 03), which fell below the HP2010 Target of 16%
- The proportion of adolescents in grades 9-12 who engage in moderate physical activity for at least 30 minutes on 5 or more of the previous seven days increased from 32.4% (Year 01) to 36.8% (Year 03) exceeding the HP2010 Target of 35%
- The proportion of adolescents who reported viewing television 2 or more fewer hours on a school day increased from 73.9% (Year 01) to 74.9% (Year 03) nearly reaching the HP2010 Target of 75%
- The proportion of adolescents who consume at least 3 daily servings of vegetables increased from 10.6% (Year 01) to 14.9% (Year 03)



Surveillance: Identifying Challenges that Require Sustained Public Health Efforts

- The proportion of adults who are at a healthy weight decreased from 38.7% (Year 01) to 35.7% (Year 02) and then increased to 36.3% (Year 03), which is just under two-thirds of the HP2010 Target of 60%
- The proportion of adults who are obese increased from 24.5% (Year 01) to 28.0% (Year 02) and then decreased to 24.9% (Year 03), which is nearly double the HP2010 Target of 15%
- The proportion of adolescents in grades 9-12 who are at risk for being overweight ($\geq 85^{\text{th}}$ but $< 95^{\text{th}}$ percentile) decreased from 11.5% (Year 01) to 10.2% (Year 03), which is more than double the HP2010 Target of 5%
- The proportion of adolescents in grades 9-12 who are overweight ($\geq 95^{\text{th}}$ percentile) remained relatively constant at 14.3% (Year 01) and 14.5% (Year 02), which is more than triple the HP2010 Target of 5%
- The proportion of adults who are current smokers increased from 23.1% (Year 01) to 24.3% (Year 02) to 24.8% (Year 03)
- The overall rate of clinically diagnosed diabetes was 7.2% (Year 01) and 7.6% (Year 02 & 03)



Examples: Use of Surveillance Data for Program Planning

- Percent of persons advised by their health care provider about diet & nutrition (36.4%) & physical activity/exercise (41.3%) were higher than for losing weight (14.0%) & considerably lower than for smoking (70.7%)
 - Implementation of 5A framework for counseling in primary care
- Those with physical limitations and/or who require special equipment are more likely to be overweight or obese and less likely to meet the recommended levels of moderate or vigorous physical activity, report exercising in the past month, or perform regular walking
 - A mini-grant was received through the YMCA of the USA, and used to install two pool chair lifts at two local YMCA centers as well as a specialized bike to increase upper body strength for wheelchair-bound individuals
- The majority of individuals have sedentary jobs (42.6%)
 - Need for workplace interventions for PA