Center for Excellence Obesity Research

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APHA – 2007

Washington, DC

Background

- Pennsylvania Department of Health – Create *Centers of Excellence in Obesity Research*
- State Tobacco Settlement Funds
- Four Year Project
- 4+ million
- Five grantees
  - Jefferson, CHOP, Penn, Temple and Pitt
- Basic Research and Clinical Care
- Historical Black Institution and Industry

Overall Goal

- Develop knowledge to advance treatments and reduce disparities in obesity and obesity related co-morbidities

- Project – *"Adipokines and Genotypes: Injury vs. Protection in Obesity-Related Co-Morbidity"*

COE Objectives

1) Identify clinical, biochemical and genetic markers of obesity co-morbidities in young adults
   - Determine if the clinical phenotype of obesity plus high blood pressure identifies the metabolic syndrome and predicts vascular injury
   - Determine if obesity plus high blood pressure is associated with a specific adipokine profile
   - Determine if genetic polymorphisms regulating adipose cell secretion of adipokines distinguish obesity plus high blood pressure
   - Determine if weight reduction and/or blood pressure reduction in obese adults alters the adipokine profile and markers of vascular injury

COE Objectives

2) Apply interrelated components of the Chronic Care Model in low income urban minority communities to improve control of obesity and obesity related co-morbidities

COE Objectives

3) Establish a Data Resource and Management Center to assist investigators and community based organizations to design, analyze and evaluate research projects and test interventions for weight management and obesity related co-morbidities

- Provide the data management and analysis for the hypothesis driven research project
- Manage and analyze the data obtained from the CCIP and Chronic Care Model components, as preliminary data for subsequent projects

COE Objectives

4) Establish collaborations for education and training between the components of the COE

- Provide education and training opportunities for Cheyney University students through courses, mentors, and active participation in research through data collection, analysis and independent projects
- Develop interdisciplinary research with Cheyney faculty – biologic sciences, economics, sociology, physical education/recreation, computer science and IT
- Support Cheyney faculty development for acquisition of extramural sponsored research and prepare Cheyney students for advanced training in science

Objective II - Clinic Community Intervention Program (CCIP)

Applies interrelated components of the **Chronic Care Model** in low income urban minority communities to improve control of obesity and obesity related co-morbidities

- Provide programs for management of obesity, blood pressure control, and obesity related co-morbidities
- Provide supportive services for weight reduction and for blood pressure control by utilizing and augmenting existing community resources
- Evaluate the data for feasibility, effect and economic cost of delivery of community based interventions that are linked to primary care

Department of Family and Community Medicine
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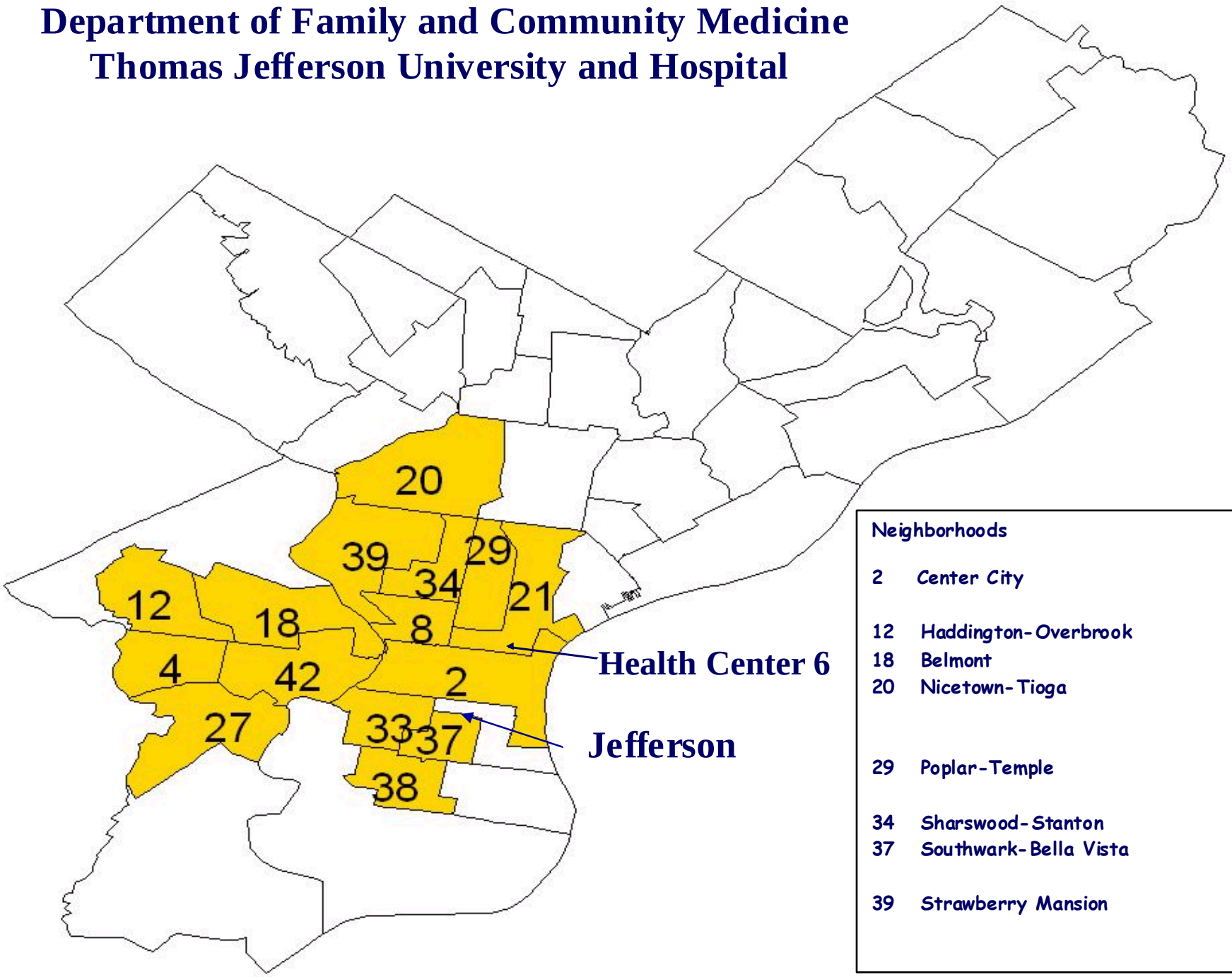


Neighborhoods

2 Center City

12 Haddington-Overbrook
18 Belmont
20 Nicetown-Tioga

29 Poplar-Temple

34 Sharswood-Stanton
37 Southwark-Bella Vista

39 Strawberry Mansion

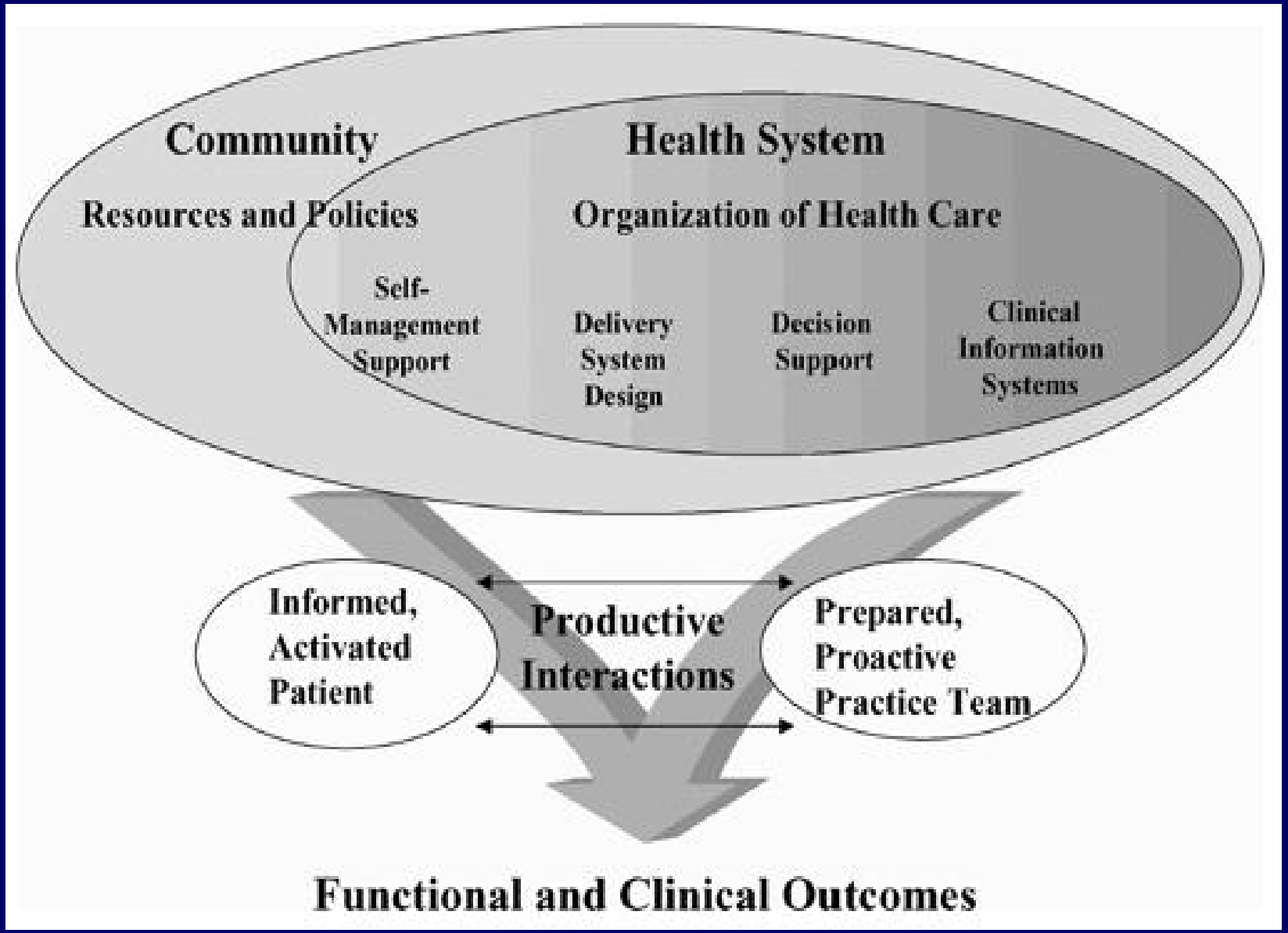
Clinic Community Intervention Program

- **Hypothesis** – The addition of a lifestyle counselor and community-based healthy lifestyle weight management program to usual care will improve outcomes in obese adults

Outcome Measures

- Primary – change in BMI
- Secondary –
  - Diet choices
  - Physical activity
  - Biological measures
    - Blood pressure
    - Lipids
    - Glucose

Chronic Care Model – Wagner and others



CCIP Application of Chronic Care Model

- **Delivery System Redesign**
  - Physician education
  - Staff education
  - BMI routine assessment
- **Team Care** (Provider, Staff, Lifestyle Counselor, Community Health Educator)
- **Self-management support –** personal action plan, resource guide
- **Community Based Programs**
- **Patient activation**

Clinical Sites

- Jefferson
  - Jefferson Family Medicine Associates
    - Center City Academic practice – 88,000 visits/year; 37 Faculty, 5 Fellows, 27 residents, 3 NP's
    - St Elizabeth's – North Philadelphia satellite
- Philadelphia Department Public Health
  - District Health Center 6
    - 50% AA; 50% Latina
    - Safety net
    - Bi-lingual

A. Health Care Providers

- JFMA/St E/ Health Center #6
  - Health care provider orientation and training
  - Identify and recruit individuals age 18-45 with BMI≥30
  - At JFMA –Zip codes – 19102, 19103, 19104, 19106, 19107, 19121, 19122, 19125, 19130, 19131, 19133, 19140, 19145, 19146, and 19151

B. Lifestyle Coach

•Physiologic measures

•Readiness to change; Nutrition and physical activity survey; Personal action plan, Support for participants

•Regular follow-up; encourage PCP visits

Research Study

•Recruit, refer

Community Advisory Board

C. Community Health Educator – Group Community Intervention

•Ten – 1.5-2 hour free group weight management sessions; Home Visit; Pedometer; Monitor Personal Action Plan; Refer to existing resources; develop community resource guide; Link to Lifestyle coach

Education and Training

Data Center Support

Stage of Change and Motivational Interviewing

Pre-contemplation – goal is to help patient to begin thinking about change	▪What would have to happen for you to know that this is a problem ▪What warning signs would let you know this is a problem ▪Have you tried to change in the past
Contemplation – assist patient to examine benefits and barriers to change (pros and cons)	▪Why do you want to change at this time ▪What were the reasons for not changing ▪What would keep you from changing at this time ▪What would help you at this time

Stage of Change and Motivational Interviewing

Preparation, action and maintenance – assist patients to address the barriers to full fledged action	▪Continue to explore patient ambivalence ▪Focus on behavior skills ▪Continue to ask about successes and difficulties ▪Praise and encourage patient efforts

Personal Action Plan

- Set goals
- How do you plan to achieve goals
- Within the plan, what are some specific first steps you might take
- When, where and how will these steps be taken
- Three items

Community Curriculum Skill-Based

- Using the food guide pyramid
- Reading food labels
- Healthy meal planning
- Supermarket tours
- Shopping on a budget
- Cooking healthy for a family
- Healthy snacking
- Dining out
- Healthier shopping at corner stores
- Putting physical activity into daily life

Activities to Date

- IRB – TJU, PHMC, PDPH
- Protocol development
- Hiring and training new staff
  - Lifestyle Counselors
  - Health Educators
- Training Guides
- Practice orientations
- Identification, recruitment and orientation of community sites

Activities to Date

- Community curriculum, lesson plans, assessment tools
- Presentations – Research, QI, HC Advisory Board, providers
- DFCM Grand Rounds; Residency Conference
- Data collection instruments – development and printing
- Database development
- Feedback mechanisms – recruitment strategies
- Neighborhood Resource Guide

Challenges

- Integration project into busy practices
- Scheduling
- Recruiting
- Retention
- Follow-up
- Integrating students at all levels

CCIP - Enrollment

	Original Target		*Revised Target*	*Actual*
	Three Years	Per Year	Three Years	12 Months
# Eligible	**3,259**			
# Referred	**3,259**	**1,086**	**3,075**	**906**
# Enrolled	**1,629 (50%)**	**543**	**922 (30%)**	**207 (23%)**
# Community Program	**862 (50%)**	**287**	**369 (40%)**	**65 (31%)**

Enrollment/Retention Analysis

- Referrals nearly on target
- 23% referrals completed baseline assessment
  - Patients not interested
  - Lack immediate contact with Lifestyle Counselor
  - Time delay between referral and appointment
  - Inability to contact patients – answering machines, wrong numbers

Enrollment/Retention Analysis

- 31% of enrolled patients completed one or more community sessions
  - Patients not interested
  - Lack of time
  - Inconvenient program times
  - Inability to contact patients – answering machines, wrong numbers

Responses

- Reminder phone calls/postcards
- Modification classes – times and content
- Incentives – at classes and a raffle
- Motivational interviewing training
- Process evaluation – satisfaction participants and chart reviews
- Additional Lifestyle Counselor in practice

Statistical Analysis

- Preliminary data from the first 20 participants indicate that the variability of weight change is much smaller than expected. Therefore, the postulated effect of the intervention (i.e., BMI decrease of 7% in the CCIP group vs. 1.6% in the usual-care control group) represents a relative effect size larger than expected. Thus, the study appears to have sufficient power for the same intervention effect, even with the slower than expected enrollment.

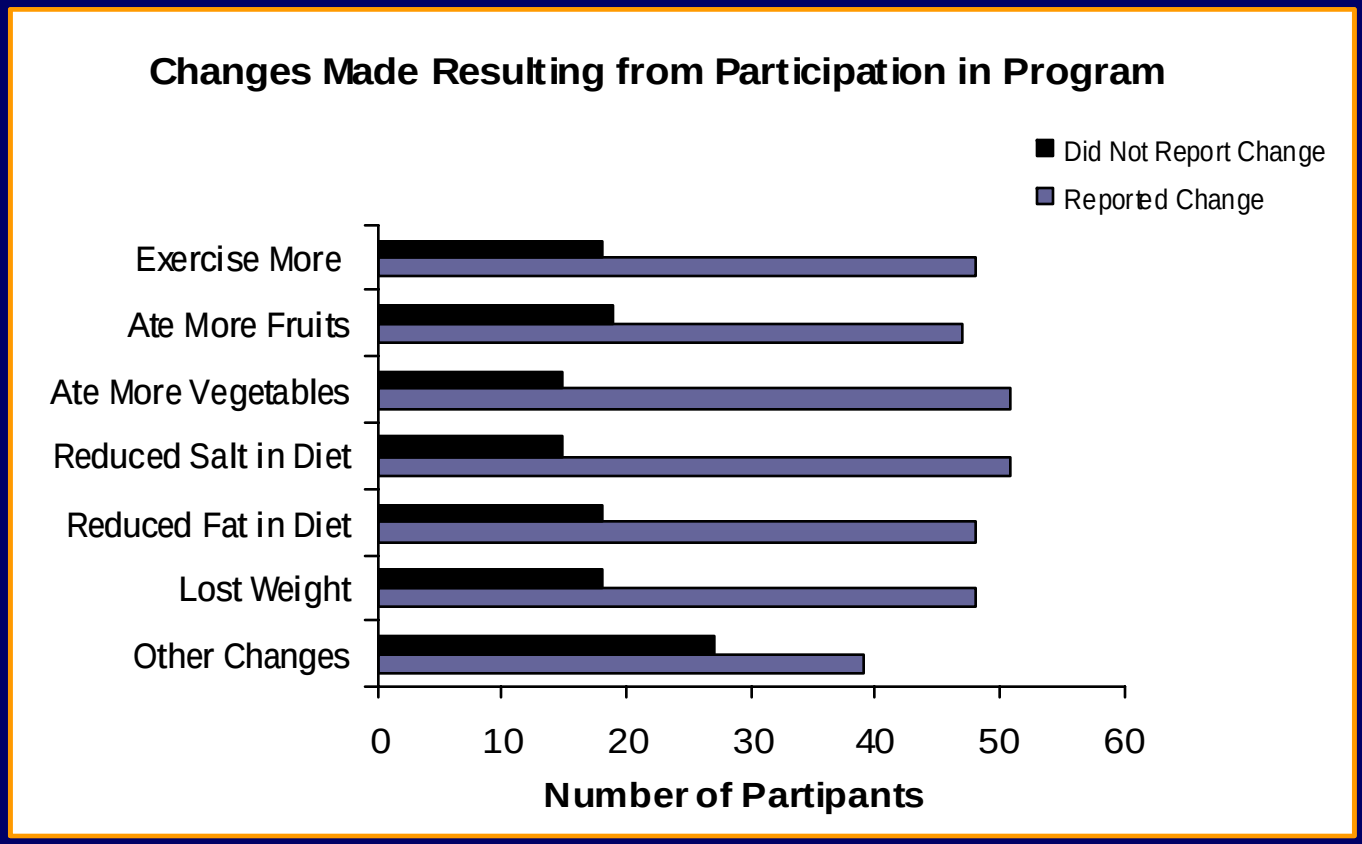
Descriptors

Age	18 to 45 – Mean 31- sd 6
Sex	19% male; 81% women
Race	8% Caucasian; 89% AA; 2% Hispanic, 2% other
Marital status	70% single; 28% married; 2% separated/divorced
Education	28% <=High School; 72% > High School
Employment	70% full-time, the rest a mix of part-time, unemployed, disabled, etc
Smoking	17% current smokers
Alcohol	50% current drinkers

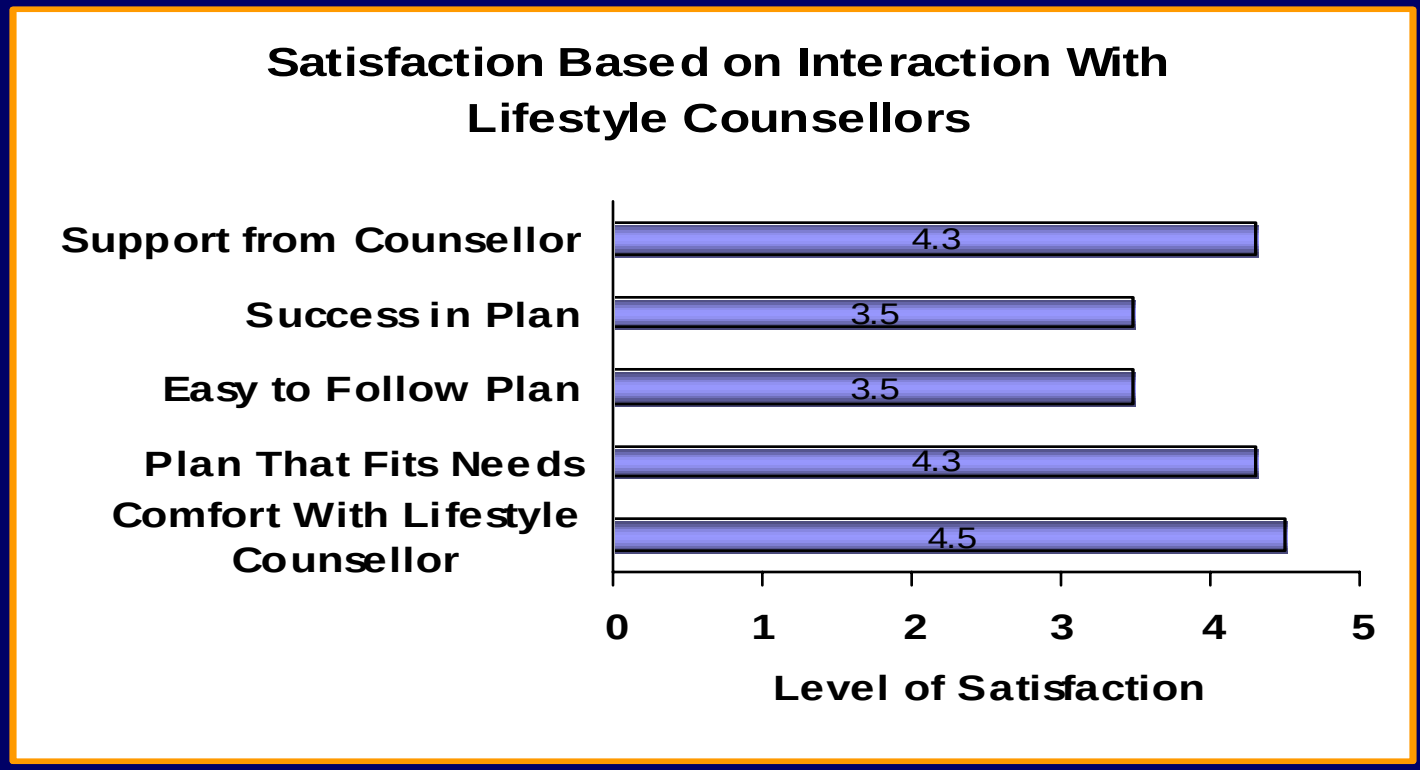
Descriptors

Weight (kg)	range = 76 to 140, mean = 112, sd = 19
Weight (lb)	range = 166 to 308, mean = 246, sd = 42
Total caloric intake	range = 683 to 4530, mean = 2121, sd = 881
BMI	range = 29.8 to 59.2, mean = 40.0, sd = 7.1
Systolic BP	range = 114 to 142, mean = 129, sd = 10
Diastolic BP	range = 66 to 110, mean = 76, sd = 12
Total Cholesterol	range = 128 to 252, mean = 181, sd = 37
HDL	range = 29 to 73, mean = 42, sd = 12

Changes



Satisfaction



Satisfaction