FOR YOUTH DEVELOPMENT
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

BUILDING PARTNERSHIPS THAT ENDURE

JONATHAN LEVER, Ed.M., J.D.

ACTIVE LIVING RESEARCH CONFERENCE

SAN DIEGO, CA

February 23, 2011

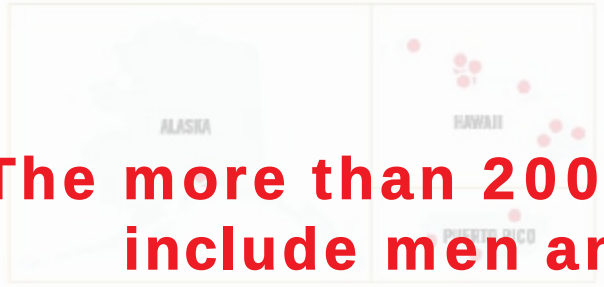
FOR YOUTH DEVELOPMENT
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

57% of U.S. households are located within 3 miles of Y

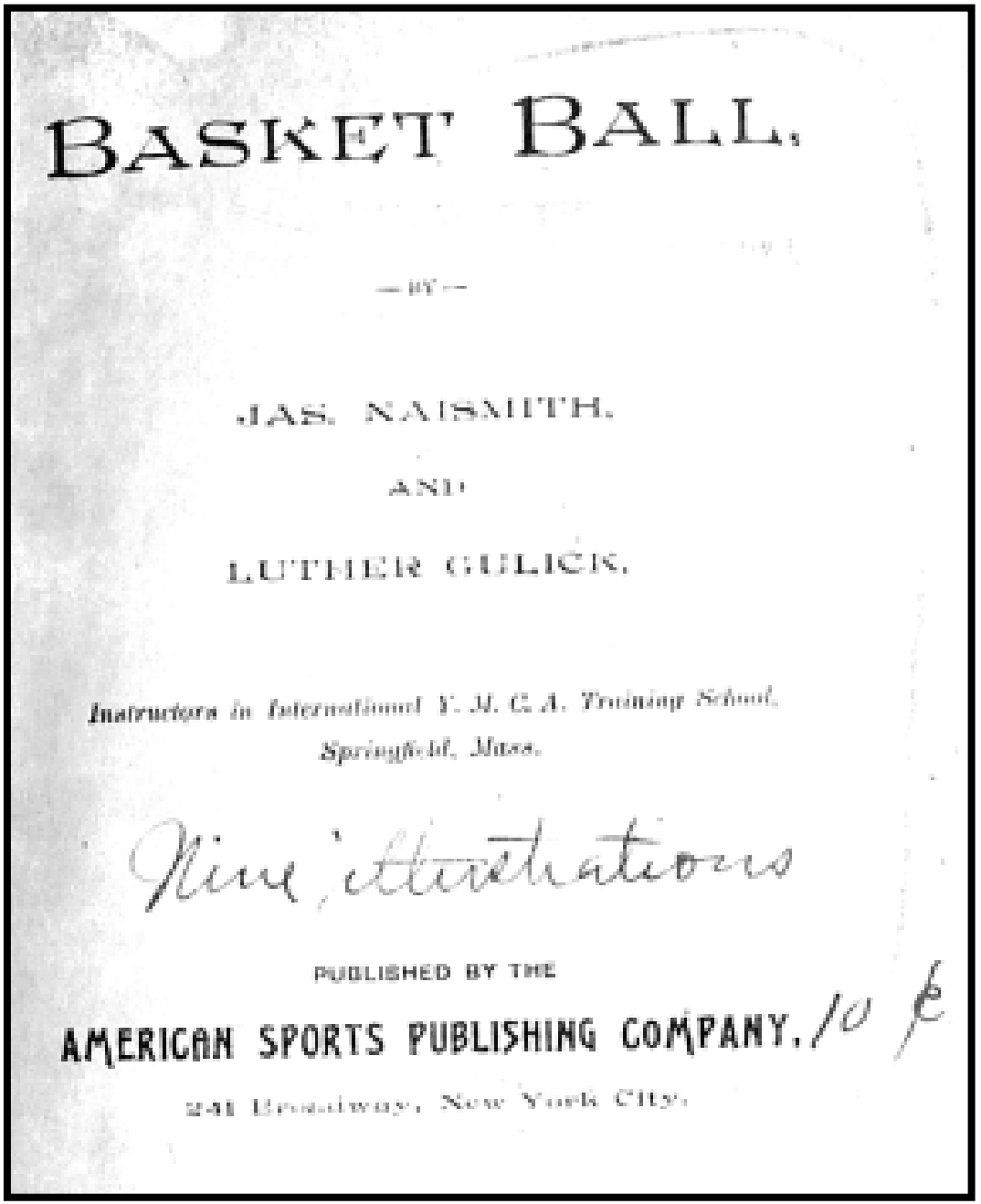
There are 2,687 Ys across the country

The Y engages 9 million youth and 12 million adults in 10,000 communities across the U.S.

Youth development, healthy living, and social responsibility



The more than 200,000 staff and 500,00 volunteers include men and women of all ages, from many religions, and from all walks of life



BASKET BALL.

—BY—

JAS. NAISMITH.

AND

LUTHER GULICK.

Instructors in International Y. M. C. A. Training School, Springfield, Mass.

Nine illustrations

PUBLISHED BY THE

AMERICAN SPORTS PUBLISHING COMPANY.

241 Broadway, New York City.

10 ¢

FOR YOUTH DEVELOPMENT
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

http://www.youtube.com/watch?v=HucsNJy5B4s

A PARTNERSHIP CONTINUUM

1	2	3	4
Limited use of partnerships	Early stages of building relationships and collaborating with other organizations	Effectively built and leveraged some key relationships with a few types of relevant organizations; some relationships may be precarious or not fully "win-win"	Built, leveraged, and maintained strong, high-impact relationships with variety of relevant parties; relationships deeply anchored in stable, long-term, mutually beneficial collaboration

THE STORY OF THE Y'S DIABETES PREVENTION PROGRAM – CHAPTER 1

- NIH/CDC invest over $200 million
- What's more effective in preventing diabetes – Metformin or a one-on-one delivered lifestyle intervention?
- 27 academic centers
- 3,234 participants
  - BMI ≥ 24 (22 for Asians)
  - Prediabetes
  - 46% American Indian, African American, Hispanic American, Asia American, Pacific Islanders
- Goal of lifestyle intervention: ≥ 7% loss of body weight & maintenance
  - Fat gram goal: 25% of calories from fat
  - Calorie intake goal: 1200-1800 kcal/day
  - Increase physical activity to 150 minutes/week

WHAT RESULT?

The New England
Journal of Medicine

VOLUME 346 FEBRUARY 7, 2002 NUMBER 6

REDUCTION IN THE INCIDENCE OF TYPE 2 DIABETES WITH LIFESTYLE INTERVENTION OR METFORMIN

DIABETES PREVENTION PROGRAM RESEARCH GROUP*

ABSTRACT

Background Type 2 diabetes affects approximately 8 percent of adults in the United States. Some risk factors — elevated plasma glucose concentrations in the fasting state and after an oral glucose load, overweight, and a sedentary lifestyle — are potentially reversible. We hypothesized that modifying these factors with a lifestyle-intervention program or the administration of metformin would prevent or delay the development of diabetes.

Methods We randomly assigned 3234 nondiabetic persons with elevated fasting and post-load plasma glucose concentrations to placebo, metformin (850 mg twice daily), or a lifestyle-modification program with the goals of at least a 7 percent weight loss and at least 150 minutes of physical activity per week. The mean age of the participants was 51 years, and the mean body-mass index (the weight in kilograms divided by the square of the height in meters) was 34.0; 68 percent were women, and 45 percent were members of minority groups.

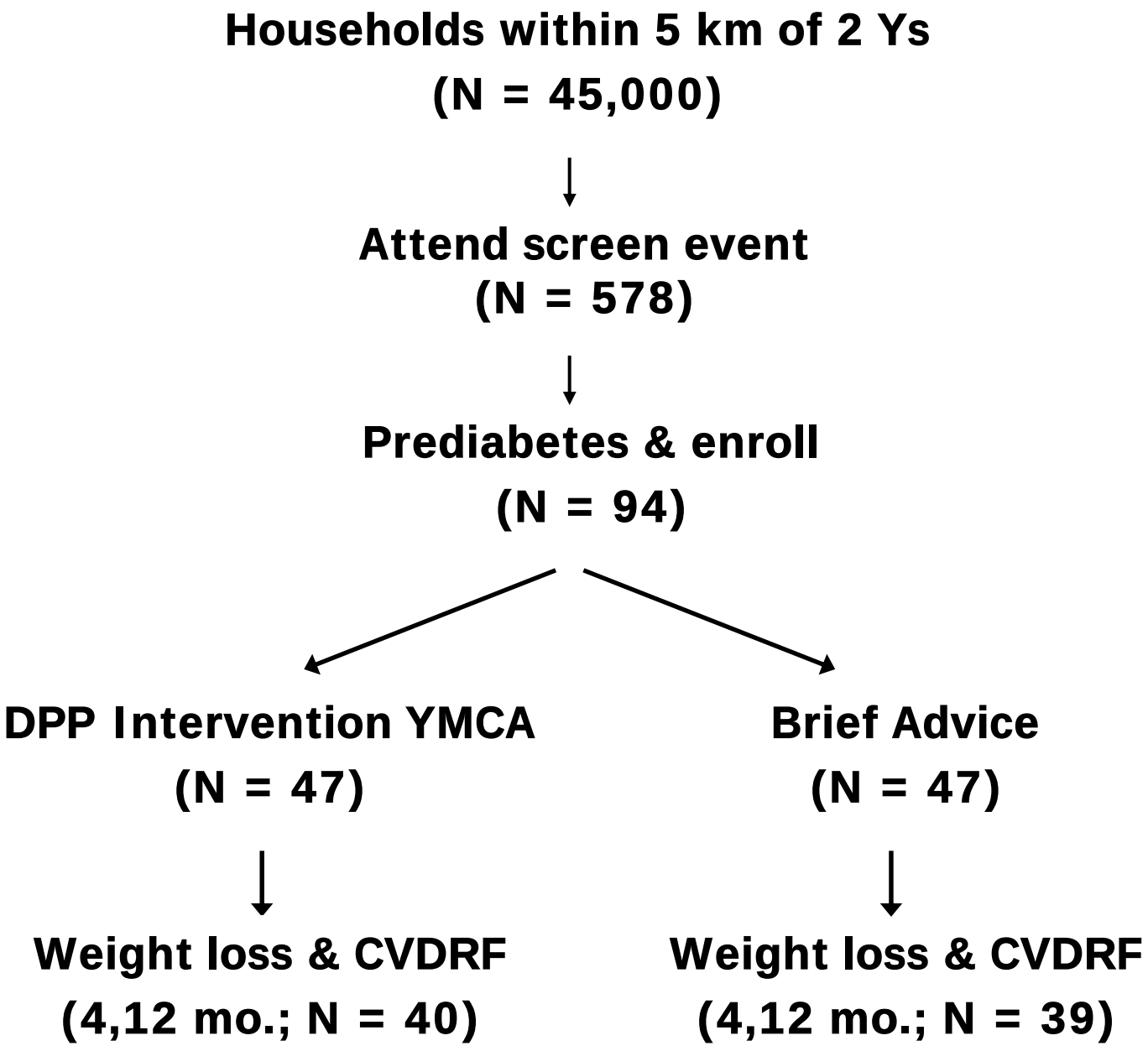
Results The average follow-up was 2.8 years. The incidence of diabetes was 11.0, 7.8, and 4.8 cases per

TYPE 2 diabetes mellitus, formerly called non-insulin-dependent diabetes mellitus, is a serious, costly disease affecting approximately 8 percent of adults in the United States.[1] Treatment prevents some of its devastating complications[2,3] but does not usually restore normoglycemia or eliminate all the adverse consequences. The diagnosis is often delayed until complications are present.[4] Since current methods of treating diabetes remain inadequate, prevention is preferable. The hypothesis that type 2 diabetes is preventable[5,6] is supported by observational studies and two clinical trials of diet, exercise, or both in persons at high risk for the disease[7,8] but not by studies of drugs used to treat diabetes.[5]

The validity of generalizing the results of previous prevention studies is uncertain.[9] Interventions that work in some societies may not work in others, because social, economic, and cultural forces influence diet and exercise. This is a special concern in the United States, where there is great regional and ethnic diversity in lifestyle patterns and where diabetes is es-

THE STORY OF THE Y'S DIABETES PREVENTION PROGRAM – CHAPTER 2

- Could a group-based adaptation of the DPP lifestyle intervention be implemented at a Y, using "lay" Y staff, at a fraction of the cost – and still achieve the weight loss goal of the landmark DPP?


Households within 5 km of 2 Ys
(N = 45,000)
Attend screen event
(N = 578)
Prediabetes & enroll
(N = 94)
DPP Intervention YMCA
(N = 47)
Brief Advice
(N = 47)
Weight loss & CVDRF
(4,12 mo.; N = 40)
Weight loss & CVDRF
(4,12 mo.; N = 39)

RESULTS AFTER 6 MONTHS

	Brief Advice	YDPP	p-value*
Weight (%reduction)	-2.0%	-6.0%	<0.001
Change SBP (mmHg)	-2.3	-1.9	0.88
Change A1c (%)	-0.1	-0.1	0.96
Change TChol (mg/dL)	+6.0	-21.6	<0.001
Change HDL (mg/dL)	+2.1	+1.1	0.68

RESULTS AFTER 12-14 MONTHS

	Brief Advice	YDPP	p-value*
Weight (%reduction)	-1.8%	**-6.0%**	0.008
Change SBP (mmHg)	-2.7	-1.6	0.78
Change A1c (%)	+0.03	-0.1	0.28
Change TChol (mg/dL)	+11.8	**-13.5**	0.002
Change HDL (mg/dL)	-1.4	+1.9	0.10

PERCENT WEIGHT LOSS BY GROUP

Translating the Diabetes Prevention Program into the Community

The DEPLOY Pilot Study

Ronald T. Ackermann, MD, MPH, Emily A. Finch, MA, Edward Brizendine, MS, Honghong Zhou, PhD, David G. Marrero, PhD

Background: The Diabetes Prevention Program (DPP) found that an intensive lifestyle intervention can reduce the development of diabetes by more than half in adults with prediabetes, but there is little information about the feasibility of offering such an intervention in community settings. This study evaluated the delivery of a group-based DPP lifestyle intervention in partnership with the YMCA.

Methods: This pilot cluster-randomized trial was designed to compare group-based DPP lifestyle intervention delivery by the YMCA to brief counseling alone (control) in adults who attended a diabetes risk-screening event at one of two semi-urban YMCA facilities and who had a BMI ≥24 kg/m^2, ≥2 diabetes risk factors, and a random capillary blood glucose of 110–199 mg/dL. Multivariate regression was used to compare between-group differences in changes in body weight, blood pressures, HbA1c, total cholesterol, and HDL-cholesterol after 6 and 12 months.

Results: Among 92 participants, controls were more often women (61% vs 50%) and of nonwhite race (29% vs 7%). After 6 months, body weight decreased by 6.0% (95% CI=4.7, 7.3) in intervention participants and 2.0% (95% CI=0.6, 3.3) in controls ($p<0.001$; difference between groups). Intervention participants also had greater changes in total cholesterol (–22 mg/dL vs +6 mg/dL controls; $p<0.001$). These differences were sustained after 12 months, and adjustment for differences in race and gender did not alter these findings. With only two matched YMCA sites, it was not possible to adjust for potential clustering by site.

Conclusions: The YMCA may be a promising channel for wide-scale dissemination of a low-cost approach to lifestyle diabetes prevention.

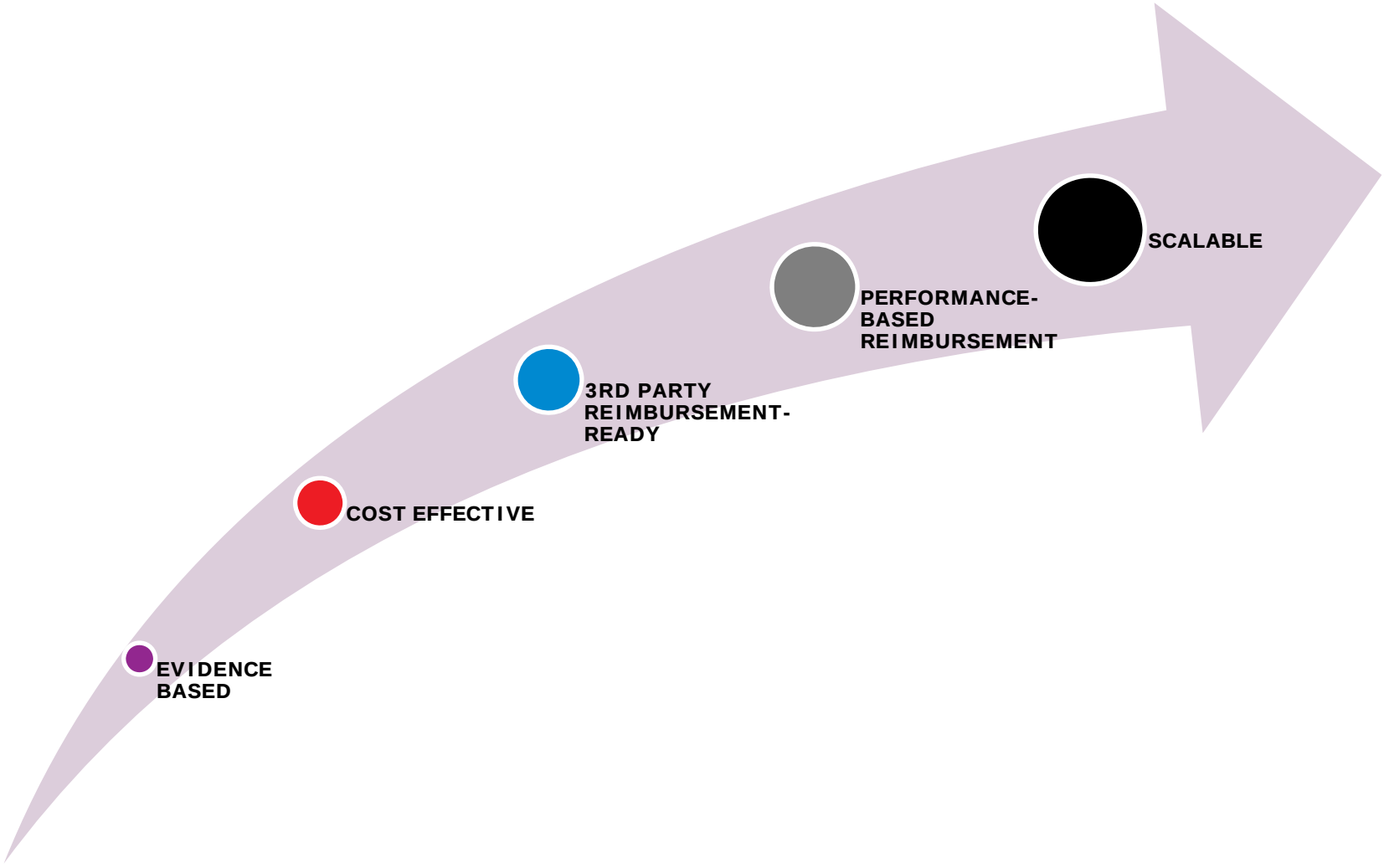
(Am J Prev Med 2008;35(4):357–363)

Introduction

More than 60 million Americans have prediabetes, defined by impaired glucose tolerance (IGT) or impaired fasting glucose (IFG). People with prediabetes are at increased risk for develop-

modest weight loss in overweight adults with IGT can significantly reduce the progression to diabetes.[11,12] However, the DPP involved enrollment criteria and an intensive lifestyle intervention that are challenging to implement and sustain in busy healthcare settings.[13,14]

THE STORY OF THE Y'S DIABETES PREVENTION PROGRAM – CHAPTER 3



From 2005-2009:	• 1 Y in a few sites
From 2009-June 2010:	• 2 Ys in a handful of sites
Last 6 months:	• **21 new Ys in 116 sites in 9 new states** • **Trained 200+ Lifestyle Coaches**
At the end of 2011:	• **50 total Ys in 116+ sites in a total of 24 states**
Lots, lots more in 2012 and beyond	

What started as a research project now has the potential to create a paradigm shift in how healthcare is delivered.

YMCA-Harvard Afterschool Project

An evaluation of a multi-year project to integrate research-based best practices in promoting organizational behavior change in YMCA afterschool programs

- Universal nutrition standards
- Member centered physical activity programs
- Healthy environments
- Healthy role models
- Collaborative research model

YMCA-Harvard Afterschool Project

Environmental Standards

Offer a fresh fruit or vegetable option every day
Do not serve foods with trans fats
Do not serve sugar sweetened drinks
Involve kids in snack preparation & clean up
Offer water as the primary drink every day
Include 30 minutes of moderate, fun, physical activity for every kid every day (include outdoor activity if possible)
Offer 20 minutes of vigorous physical activity 3x/week
Do not include commercial broadcast TV or movies
Limit computer time to less than one hour per day

YMCA-Harvard Afterschool Project

Study Design

Quasi-experimental study
4 YMCA associations across the US
32 afterschool sites
- 16 intervention versus 16 control sites

Youths ages 5-12 and their families
Communities vary in racial/ethnic & SES background
Children & families followed from fall 2006 to spring 2007
Organizational and process data collected over 2 years

YMCA-Harvard Afterschool Project

Key Findings: Nutrition

Participating YMCAs showed great progress in snack quality:

✓ Weekly **servings of fresh fruits and vegetables** (1.3 vs 3.9; P=.02) and overall fruits and vegetables (1.9 vs 5.2; P=.009) **increased** from baseline to post-intervention;

✓ Weekly servings of **foods with added sugars** (3.9 vs 2.4; P=.03), and foods containing **trans fats** (2.6 vs 0.7; P=.01) **decreased.**

✓ After the intervention, **all YMCAs offered water daily, and none served sugar-sweetened beverages.**

Mozaffarian RS, Wiecha JL, Roth BA, Nelson TF, Lee RM, Gortmaker SL. Impact of an organizational intervention designed to improve snack and beverage quality in YMCA after-school programs. Am J Public Health. 2010 May;100(5):925-32.

YMCA-Harvard Afterschool Project

Key Findings: Physical Activity

- ✓ There was a greater **increase in average physical activity level per day** from fall to spring in intervention vs control sites (76 counts/minute; P=0.037;95%CI 8.1,144) (Actigraph accelerometer)
- ✓ There was a greater **increase in time spent at moderate and vigorous physical activity** of about 10.5 minutes per day in intervention vs control sites (95%CI 1.5,18.6 P=0.017).
- ✓ This change in physical activity represents an additional 26 kcal/day expended per child.

Gortmaker SL, Lee RM, Mozaffarian RS, Sobol A, Nelson TF, Roth BA, Wiecha JL. Impact of an after school intervention on increases in physical activity among children: The YMCA after-school Food and Fitness Project. Harvard School of Public Health, 2010.

The Faces of Performance Measurement

Solberg, Mosser, and McDonald, *Journal on Quality Improvement*. March 1997, Vol.23, No. 3

Aspect	Improvement	Research
Aim	Improvement of care/program	New knowledge
Methods: Test Observability	Test observable	Test blinded or controlled
Bias	Accept consistent bias	Design to eliminate bias
Sample Size	"Just enough" data, small sequential samples	"Just in case" data
Flexibility of Hypothesis	Hypothesis flexible, willing to change as learning takes place	Fixed hypothesis
Testing Strategy	Sequential tests with larger denominator	One large test
Determining if a Change is an Improvement	Run charts or Shewhart control charts	Hypothesis, statistical tests (t-test, F-test, chi square), p-values
Confidentiality of the Data	Initial data used only by those involved with improvement	Research subjects' identities protected

“To Be of Use” by Marge Piercy

The people I love the best
jump into work head first
without dallying in the shallows
and swim off with sure strokes almost out of sight.
They seem to become natives of that element,
the black sleek heads of seals
bouncing like half-submerged balls.

I love people who harness themselves, an ox to a heavy cart,
who pull like water buffalo, with massive patience,
who strain in the mud and the muck to move things forward,
who do what has to be done, again and again.

I want to be with people who submerge
in the task, who go into the fields to harvest
and work in a row and pass the bags along,
who are not parlor generals and field deserters
but move in a common rhythm
when the food must come in or the fire be put out.

The work of the world is common as mud.
Botched, it smears the hands, crumbles to dust.
But the thing worth doing well
has a shape that satisfies, clean and evident.
Greek amphoras for wine or oil,
Hopi vases that held corn, are put in museums
but you know they were made to be used.
The pitcher cries for water to carry
and a person cries for work that is real.