Obesity in Michigan

What do we know? What can we do about it?

Call to Action to Reduce and Prevent Obesity
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Introduction

Dr. Karen E. Peterson, D.Sc.
Professor and Director, Human Nutrition Program
Department of Environmental Health Sciences
School of Public Health, University of Michigan

Associate Director
Michigan Nutrition and Obesity Research Center (P30 DK089503-01)
http://mmoc.med.umich.edu/
Overview

Why do we care?
  Trends and consequences of obesity

Approaching the problem
  Frameworks for action

Which interventions are effective?
  Change in people’s immediate environments
Obesity in U.S. children and adults increased dramatically in past 3 decades

Widespread efforts to tackle obesity trends and dampen the health and social consequences have had only limited success

Recent rates seem to be slowing, BUT

- Disparities persist: across states and by age, race/ethnicity, income, gender
- Overall magnitude of obesity remains high
- Both prevention and treatment are necessary
Monitoring obesity

How do we know we have a problem?

- **U.S. Surveillance systems (CDC)**
  - **Self report surveys: Weight, height, health behaviors**
    - Adults: Behavioral Risk Factor Surveillance System (BRFSS)
    - Adolescents, grades 9-12: YRBS
    - School-age: no data
    - Low-income preschool, infants: PedNSS (to be phased out in 2012)

- **State, local efforts to monitor BMI**

- **Data-action Cycle: What do we need to know to take action and monitor our effectiveness?**
Adult obesity prevalence in Michigan has doubled in past 15 years

Obese: BMI >30
Overweight: BMI >25 <29.9
Not Obese or Overweight: BMI <24.9

Source: BRFSS Survey, 2011
Michigan has a greater prevalence of adult obesity than the U.S. in every category: total, gender, race/ethnicity.
Michigan has a greater prevalence of adolescent obesity, grades 9-12, than the U.S. in many categories.

Source: YRBS Survey, 2010
Obesity across the life course

U.S. prevalence of obesity by age group, NHANES 2007-2008

Obesity is a complex, chronic condition. Health consequences start in childhood. Reducing obesity requires a continuum of prevention & control across life course.
Increasing BMI in children is associated with insulin resistance, dyslipidemia and high blood pressure.


Source: Michigan Diabetes Burden and Diabetes Program – Overview 2008
Economic impacts of obesity

- US spends > $215 billion annually on obesity
  - $147 billion on adults’ medical costs
  - $14.3 billion on children’s medical costs
  - $53.7 billion on indirect costs

- Michigan spending on obesity-related medical costs
  - 2008 = $3.1 billion
  - 2018 = $12.5 billion (projected)
  - $6.9 billion saved if 2008 obesity levels were maintained

References:
Deckelbaum & Williams 2001; Finkelstein et al 2009; Hammond & Levine, 2010;
http://www.cdc.gov/Features/Obesity;
Overweight and Obesity in Michigan: Surveillance Update 2011
Obesity is a complex and chronic condition

Multiple root causes affect individuals, families, organizations and communities

Frameworks for understanding and intervening on obesity can be used to:

- Integrate perspectives and stakeholders
- Tackle obesity across different settings
- Create solutions that work
IOM. 2007. Progress in Preventing Childhood Obesity: How Do We Measure Up?
Linking medical and public health approaches: to support individuals and families

Environment:
- Family
- School
- Work site
- Community

Patient/family self-management

Medical System:
- Decision supports
- Self-management supports
- Delivery system design
- Information systems

Improved Health Outcomes

Evaluation is critical to solving the obesity crisis

Interventions ineffective in changing behaviors and reducing obesity squander public resources

Need to take action based on ‘best available’, rather than ‘best possible’ evidence

What evidence is needed?

*Does it work?* Randomized and quasi-experimental studies
[US Preventive Task Force, meta-analyses, cost-effectiveness]

*How and why?* Qualitative and operations research

IOM 2005, Stover and Bassett 2003, CDC Preventive Task Force
### Evaluating interventions

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Home interventions

Children
- Parents essential to preventing child obesity
- Few intervention studies based in home setting
- Federal programs can support parents’ role in obesity prevention (WIC)

Adults
- Few studies, promising findings
- Both spouses may benefit from intensive life style interventions resulting in weight loss

62% of U.S. pre-school children attend child care outside of the home

Limited number of studies in child care settings
- Prevalence of obesity and impact of interventions varies by race/ethnicity
- Cultural tailoring important to address disparities

No centralized BMI monitoring for pre-school children in Head Start

School interventions

- Behavioral setting where children spend many hours
- Meta-analyses inconclusive, studies suggest:
  - Interventions more effective for: pre-adolescents (late elementary/middle school) & heavier children
  - Physical activity alone does not lower obesity
  - Gender-specific effects
- Multi-component interventions: mixed findings
  - Range of intervention strategies & parental involvement improve outcomes
- Limitations: few primary preventions, short follow-up

Worksite interventions

Worksite wellness programs can reach many adults at risk at relatively low cost

Meta-analysis shows average 2.8 lb weight loss after 6-12 mo participation

- Range of intervention strategies: health education, lifestyle prescriptions, competitions & incentives
- Greater impact: diet & exercise; multi-component
- Professional and lay leaders equally effective

Limitations: few interventions address primary prevention, weight regain common

Health care interventions

Integrating health care & community resources key to patient and family self-management

Adults:
- Weight loss at 6 months = similar for diet + exercise, meal replacements, Orlistat, Sibutramine interventions
- Weight loss plateaus—ongoing support for maintenance necessary

Children:
- Greater BMI change with moderate- to high- intensity interventions in referral or specialty treatment settings
- Primary care, low-intensity interventions have modest success in adolescents but not children ages 5-9 yr
- Maintenance of weight loss—mixed findings

Obesity is a complex, chronic condition.

Incidence rises across the life course with key transitions (pre-to-school age, early adulthood).

Health consequences demand a continuum of prevention and treatment.

Integration of efforts across different behavioral settings is needed to address root causes.

Policies and system changes are essential to support individual, family, organizational and community actions to reduce obesity.
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