

Obesity and Lifestyle Weight Management for People with Disabilities

James Rimmer, Ph.D.,

Amy Rauworth, MS,

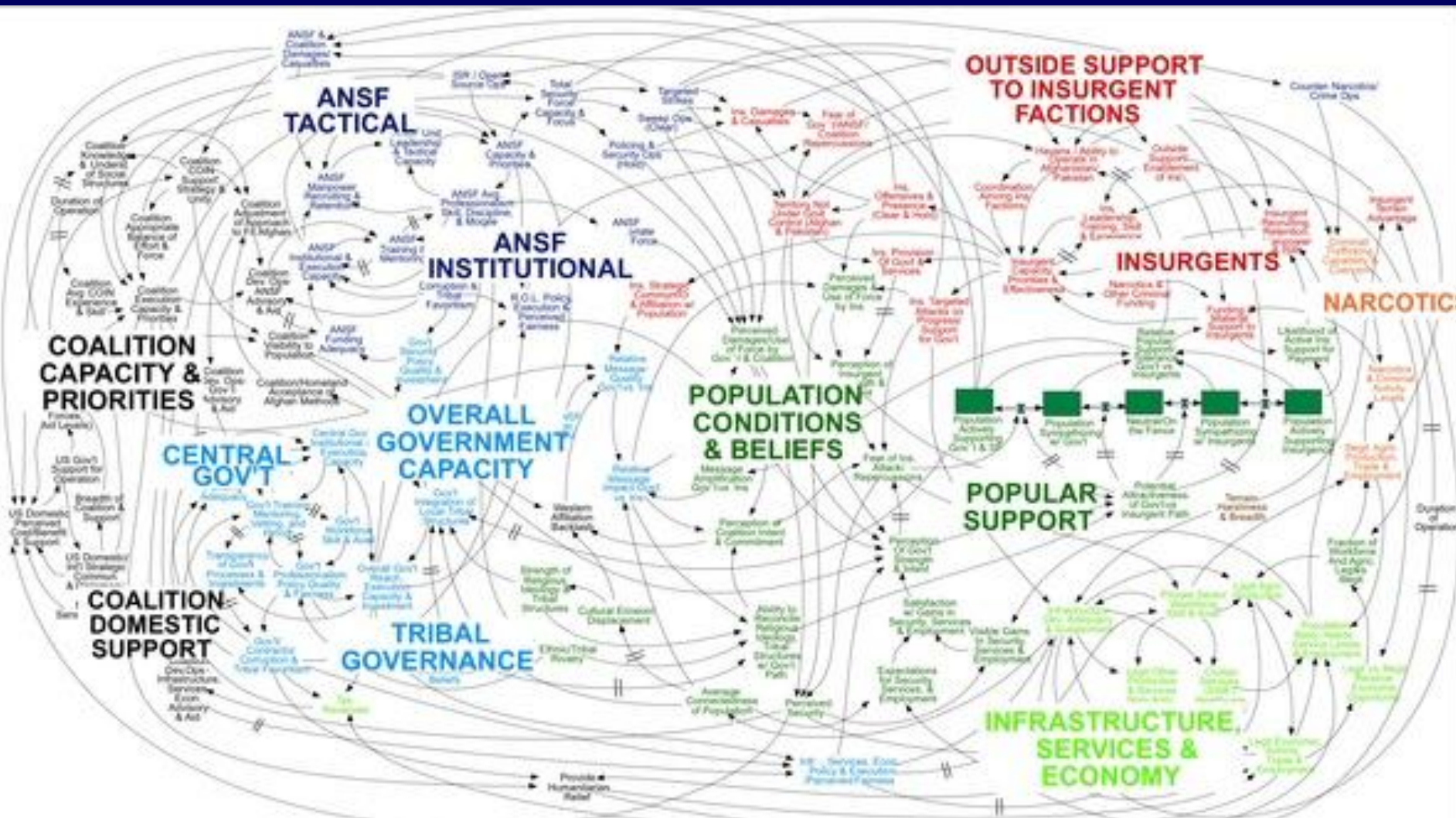
Gillian Goodfriend, RD

University of Illinois at Chicago

**Disability and Health State Grantees
Meeting**

May 19, 2010

Daily Briefing at the Department of Defense



Outline

I. Obesity and Disability

i. Prevalence

ii. Consequences

iii. Measurement issues

iv. Risk Factors

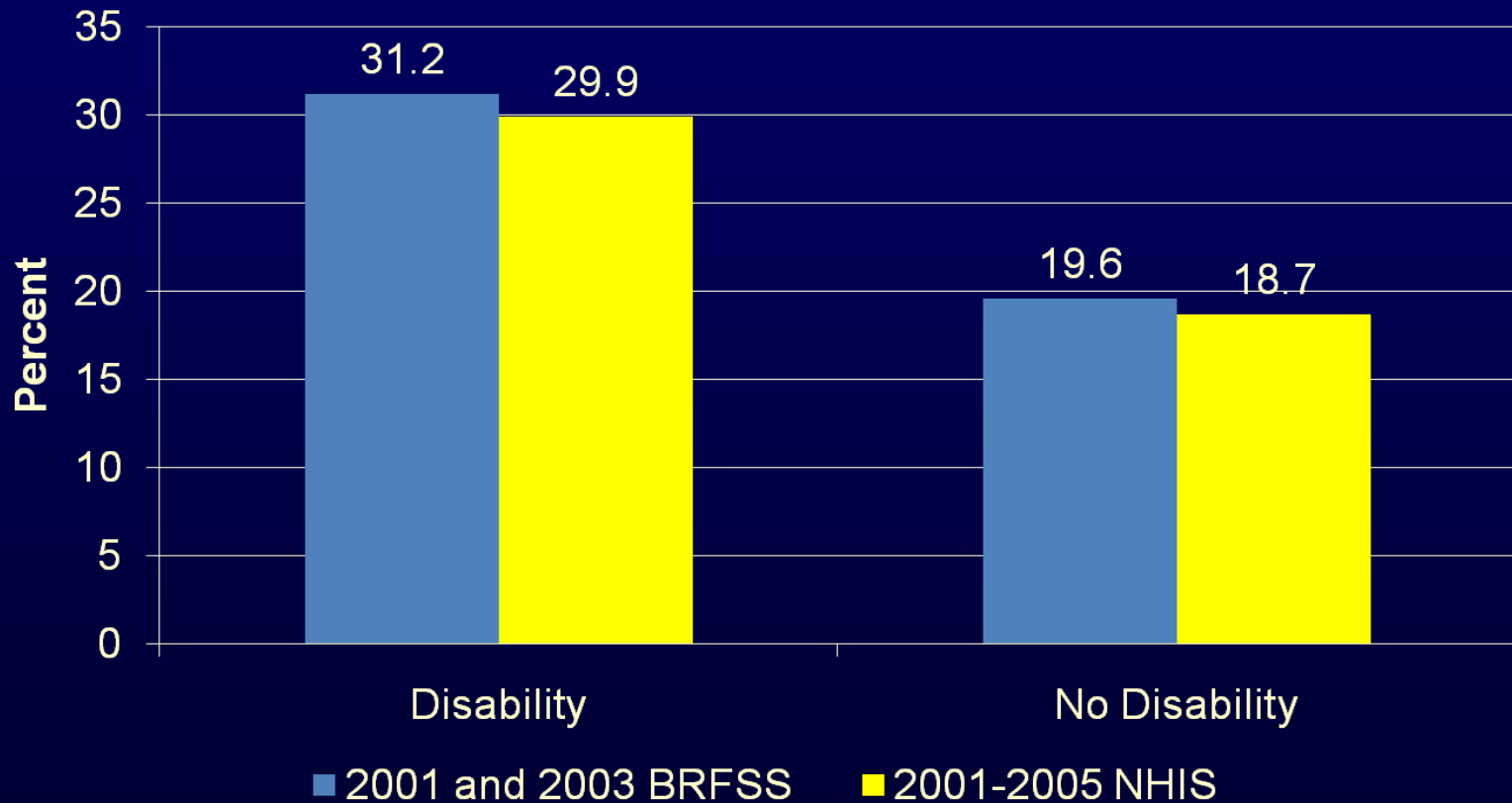
v. Obesity Strategies (MAPPS)

II. Physical Activity

III. Nutrition

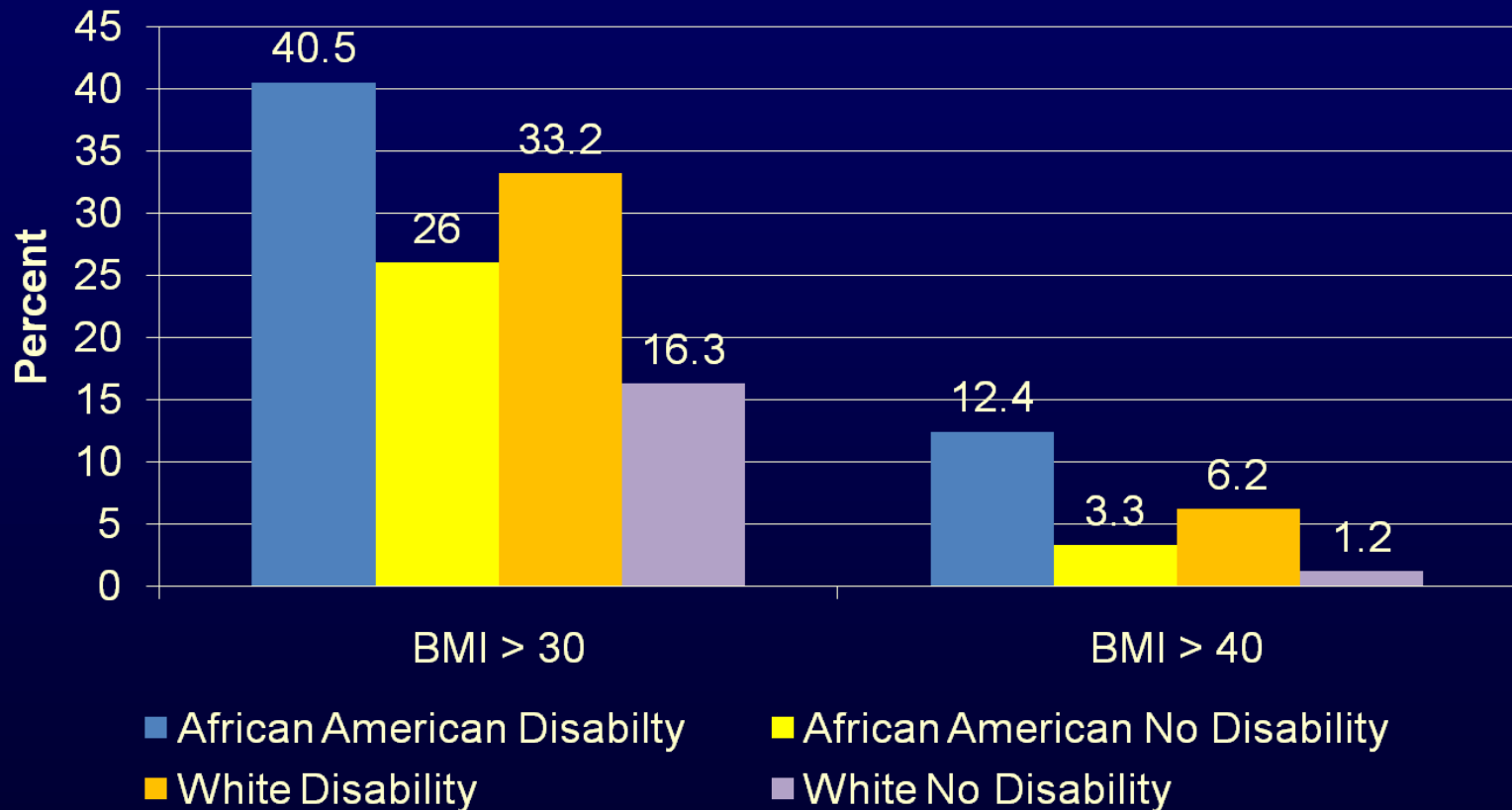
Prevalence

Prevalence of Obesity by Disability Status



Source: 2001 and 2003 Behavioral Risk Factor Surveillance Survey and 2001-2005 National Health Interview Survey

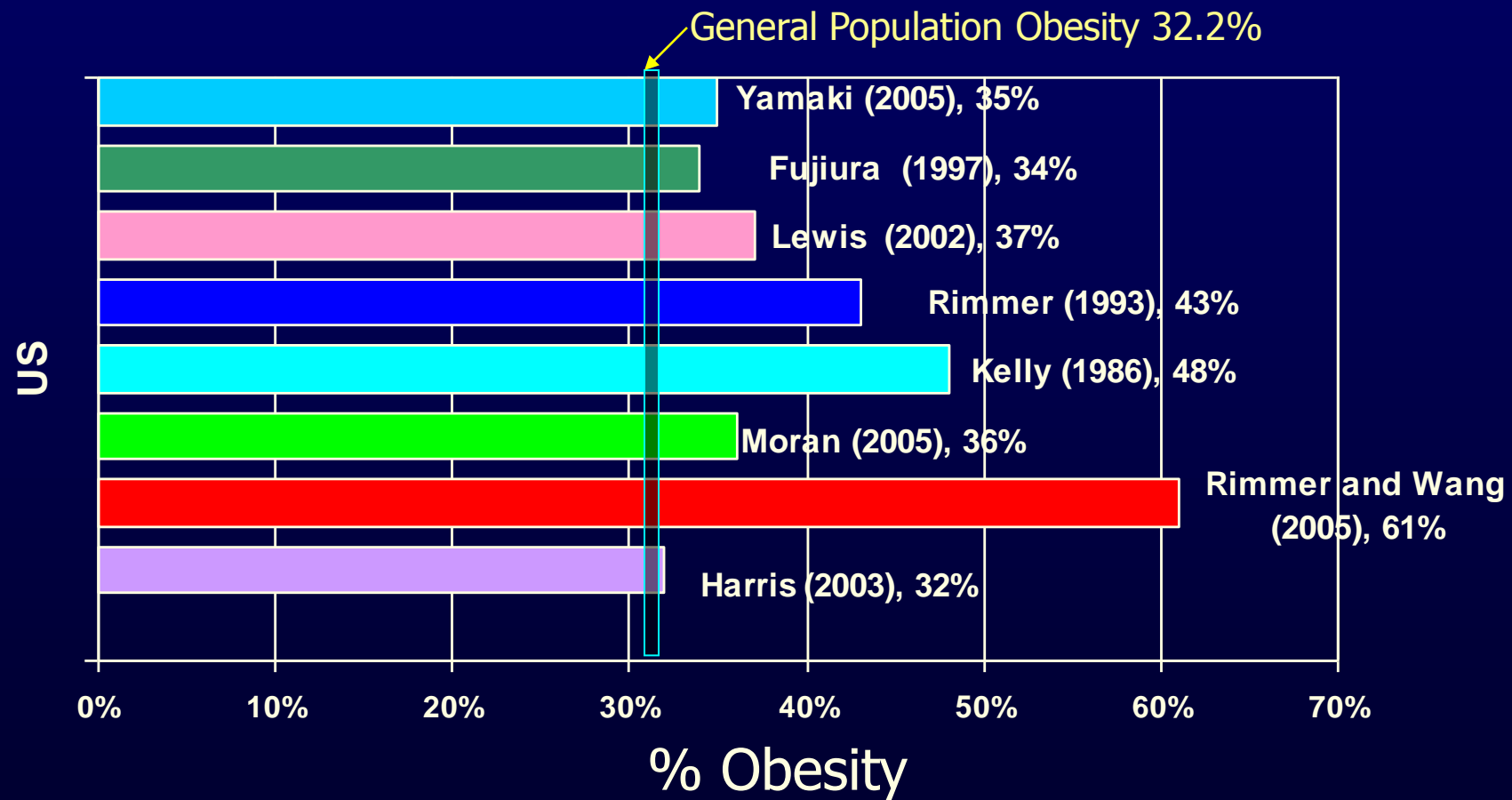
Prevalence of Obesity in Adults (18-64 years) by Disability and Race



Prevalence by Disability Type

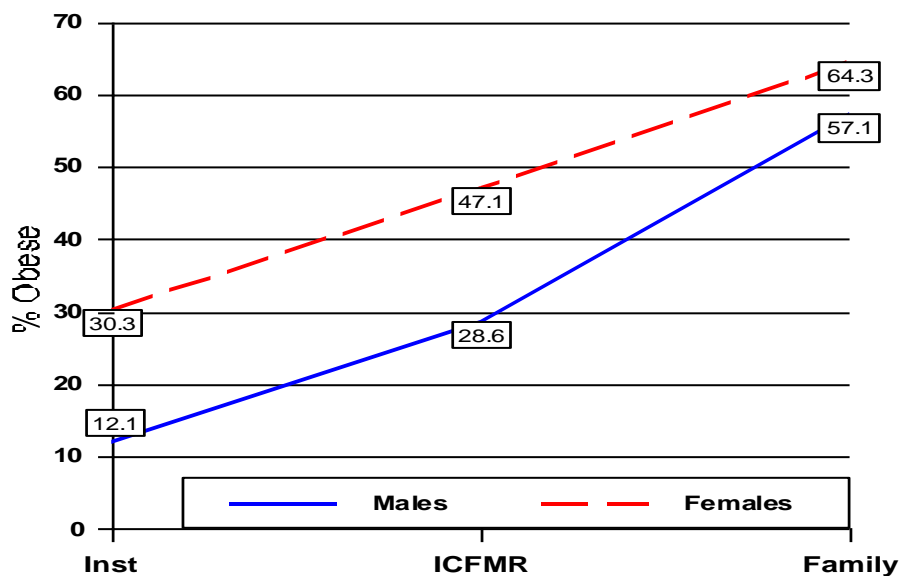
Prevalence of Obesity among US Adults with ID

(Rimmer & Yamaki, MRDD Res. Rev 2006;12:22-27)

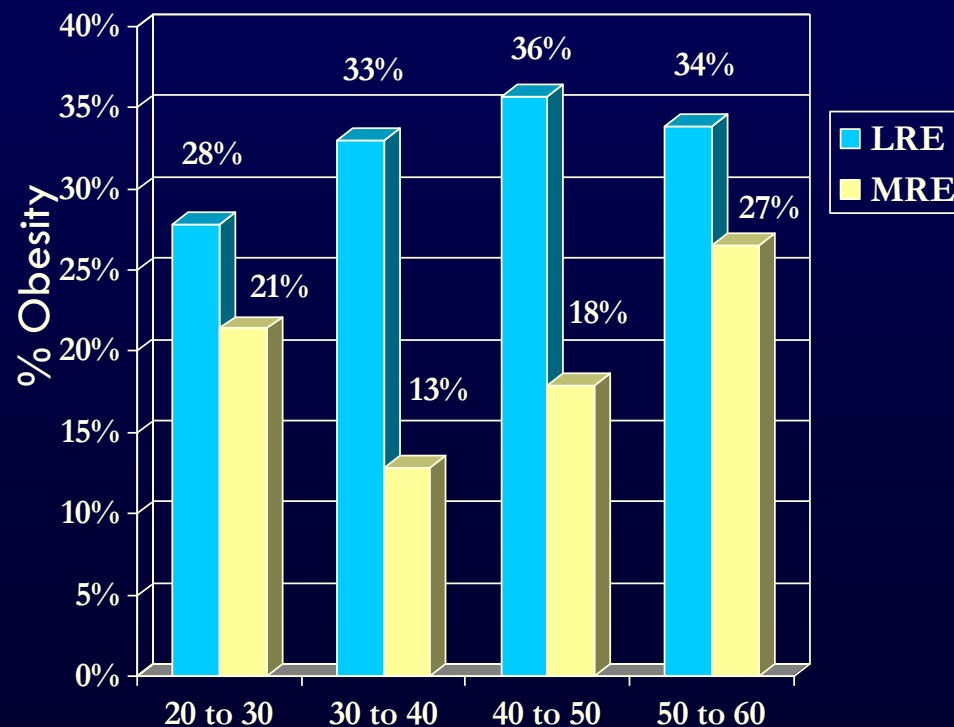


What is the impact of the environment on the health status and health behaviors of adults with I/DD?

Rimmer et al. *Ment Ret.* 1995;
16:489-499

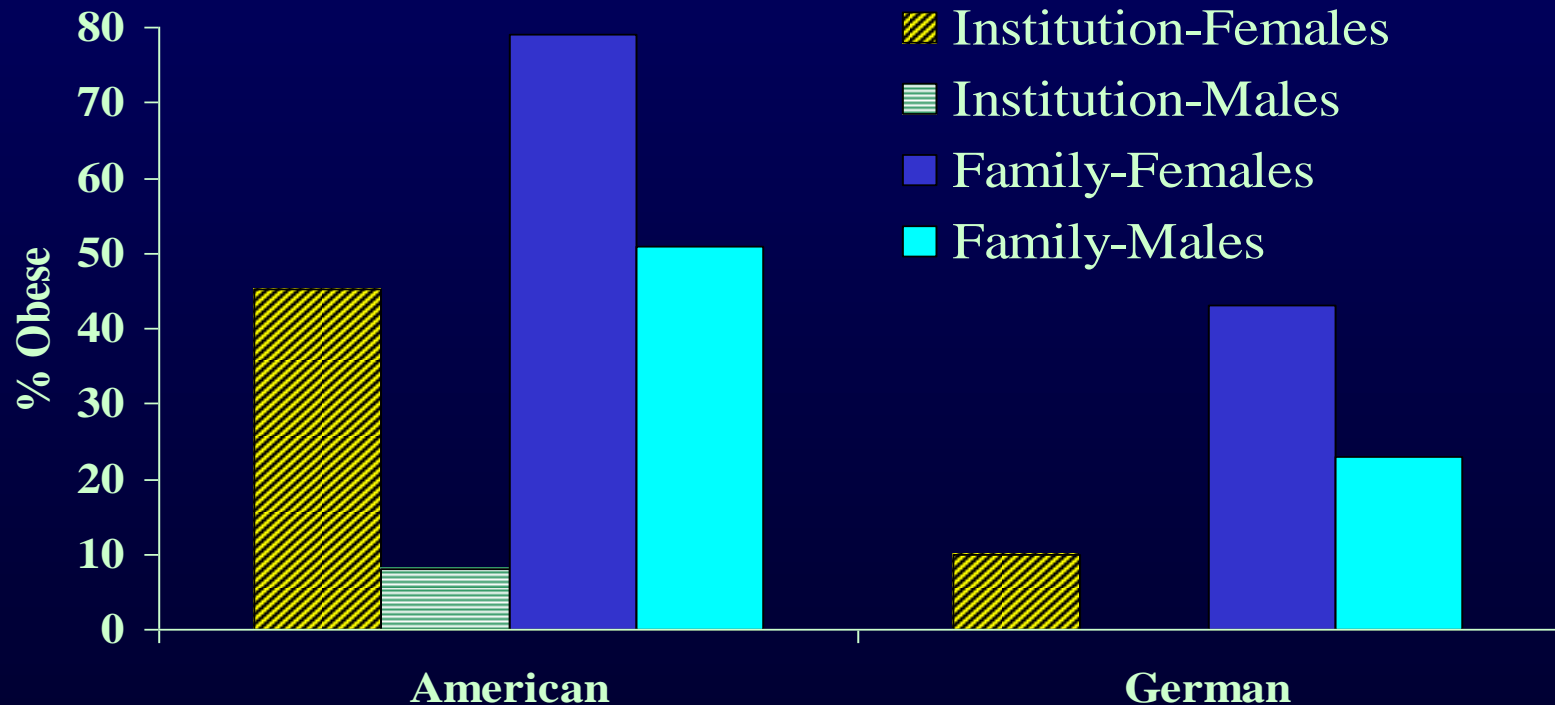


Moran et al. *Obes. Res.*
2005;13:342-349

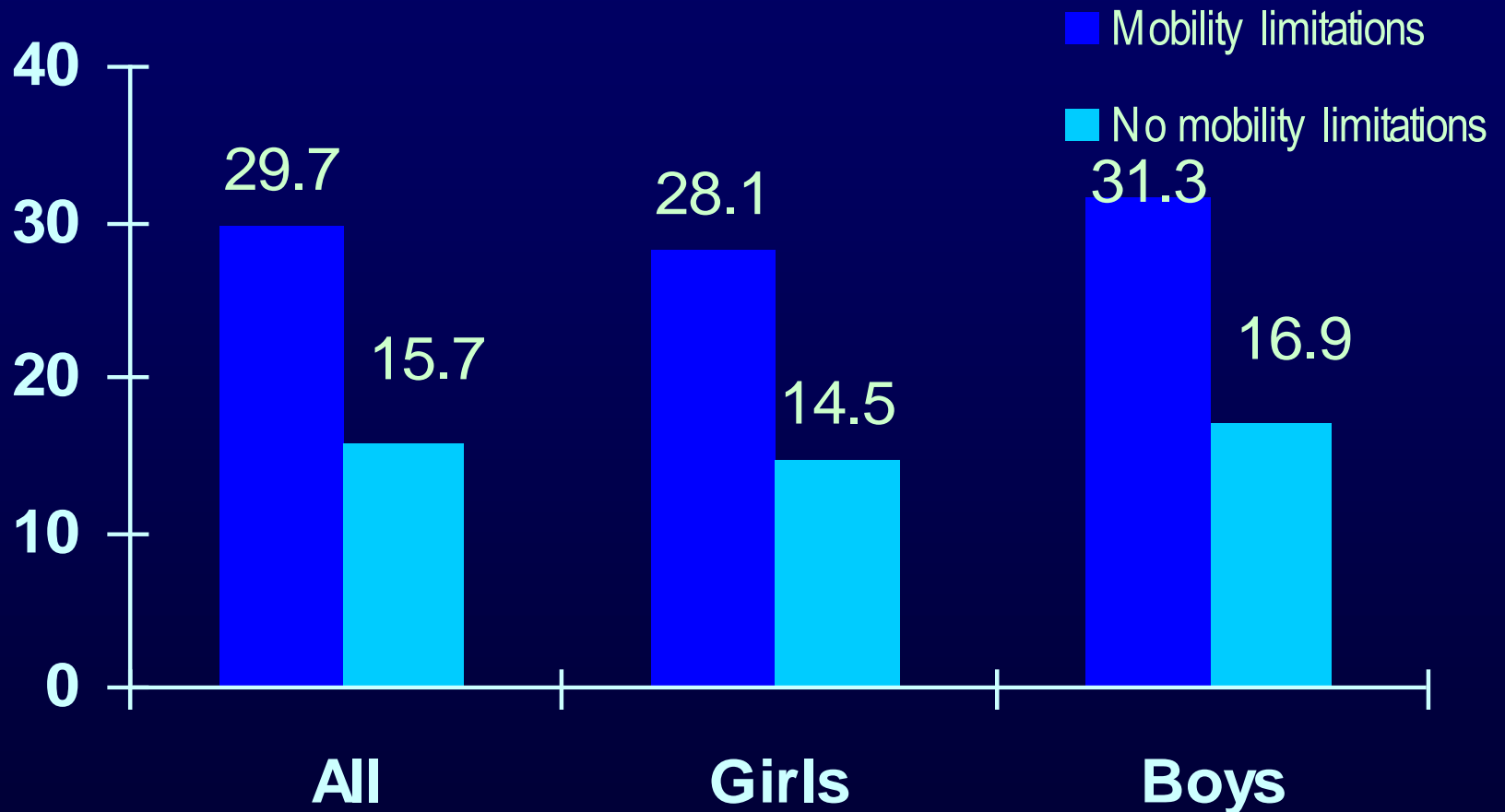


Frequency of obesity by sex, living arrangement, using percent body fat (PBF)

Ref: [Frey, B., & Rimmer, J. H. (1995). Comparison of body composition between German and American adults with mental retardation. Medicine and Science in Sports and Exercise, 27, 1439-1443.]



Prevalence of Obesity (BMI_≥95th %) among Adolescents by Mobility Limitation and Gender



Source: NHANES data reported by Bandini et al. 2005

National Survey of Children's Health

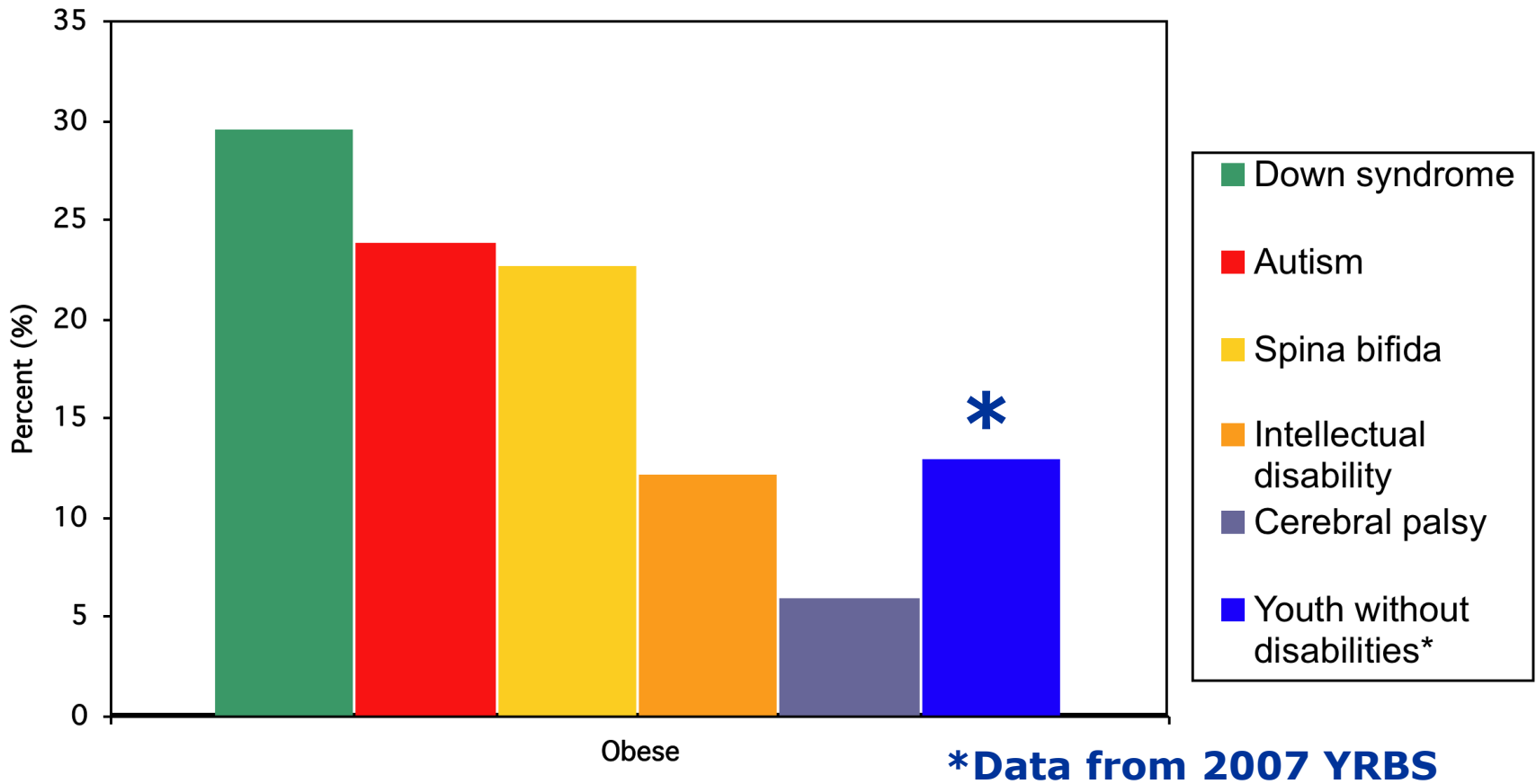
Prevalence of Obesity Among Children With Chronic Conditions

Alex Y. Chen¹, Sue E. Kim², Amy J. Houtrow³ and Paul W. Newacheck⁴

New evidence suggests that children with chronic conditions may be predisposed to overweight and obesity. This study provides prevalence estimate of obesity for children and adolescents with select chronic conditions. We analyzed reported height and weight and the corresponding BMI from 46,707 subjects aged 10–17 years collected by the National Survey of Children's Health (NSCH-2003). Our main outcome measure was the prevalence of obesity (defined as ≥ 95 th percentile of the sex-specific BMI for age growth charts), adjusted for underlying demographic and socioeconomic factors. We found that the prevalence of obesity among children 10–17 years of age without a chronic condition was 12.2% (95% confidence interval (CI) 11.5–13.0); the prevalence of obesity for children with asthma was 19.7% (19.5–19.9); with a hearing/vision condition was 18.4% (18.2–18.5); with learning disability was 19.3% (19.2–19.4); with autism was 23.4% (23.2–23.6); and with attention-deficit/hyperactivity disorder was 18.9% (18.7–19.0). Our findings suggest that children 10–17 years of age with select chronic conditions were at increased risk for obesity compared to their counterparts without a chronic condition.

Prevalence of Obesity in Youth with Disabilities

Rimmer, Yamaki, Davis, et al. Prevalence of Obesity in Youths with Physical and Cognitive Disabilities, JIDR, in press.



BMI \geq 95th%

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SECONDARY
CONDITIONS

- ↑ Sarcopenia
- ↓ FFM
- ↓ REE

INTERMEDIATE
BEHAVIORS

- ↓ Physical Activity
- ↑ Caloric Intake

OTHER ANTECEDENTS

- ↑ Medication Usage
- ↑ Environmental Barriers

Obesity

- Muscle Spasms
- Depression
- Sleep Problems
- Injuries/ Falls
- Fatigue
- Pain
- Bowel/ Bladder Problems

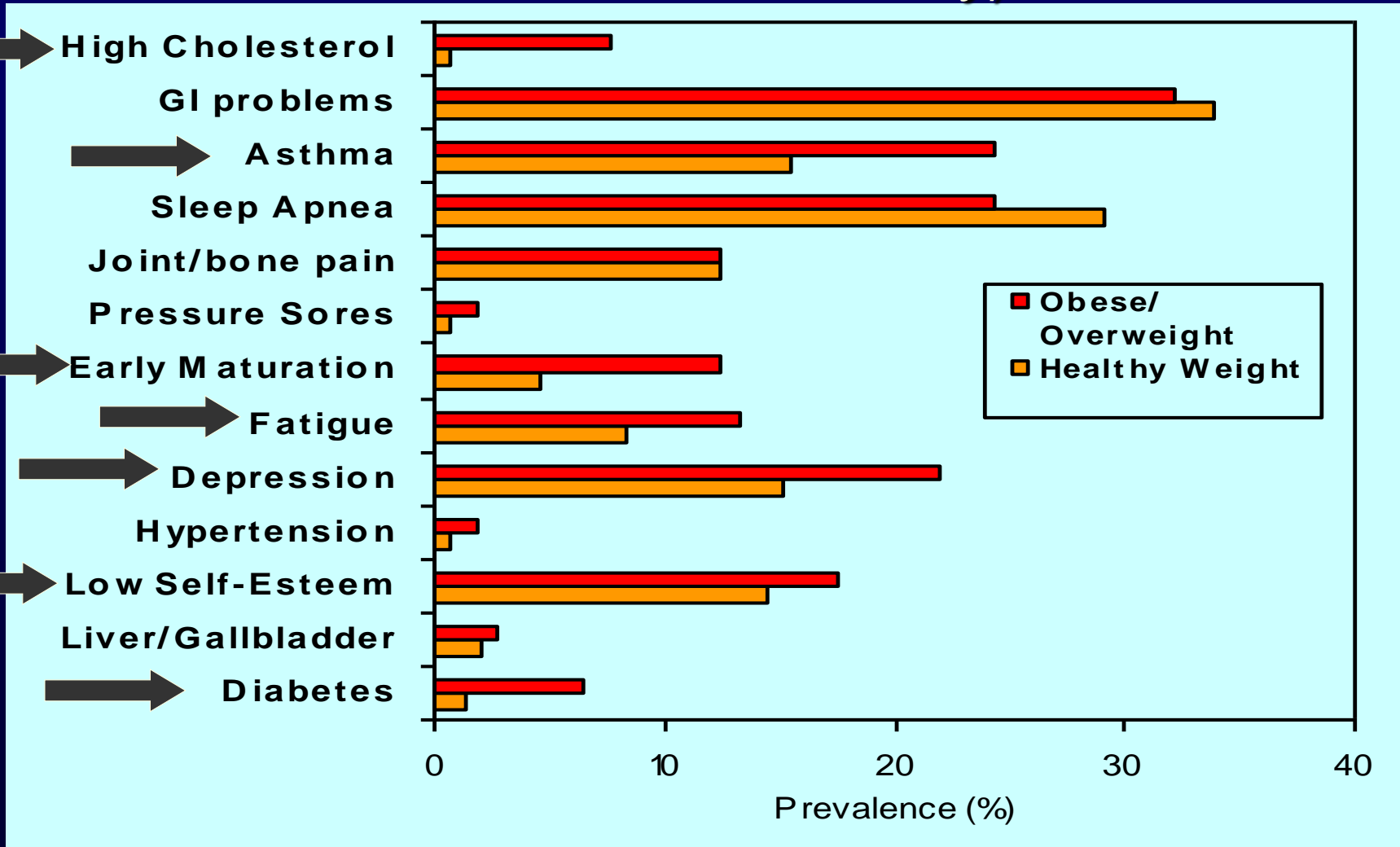
- Diabetes
- Heart Disease
- Hypertension
- Hyperlipidemia

What is the Impact of Obesity on Secondary Conditions?

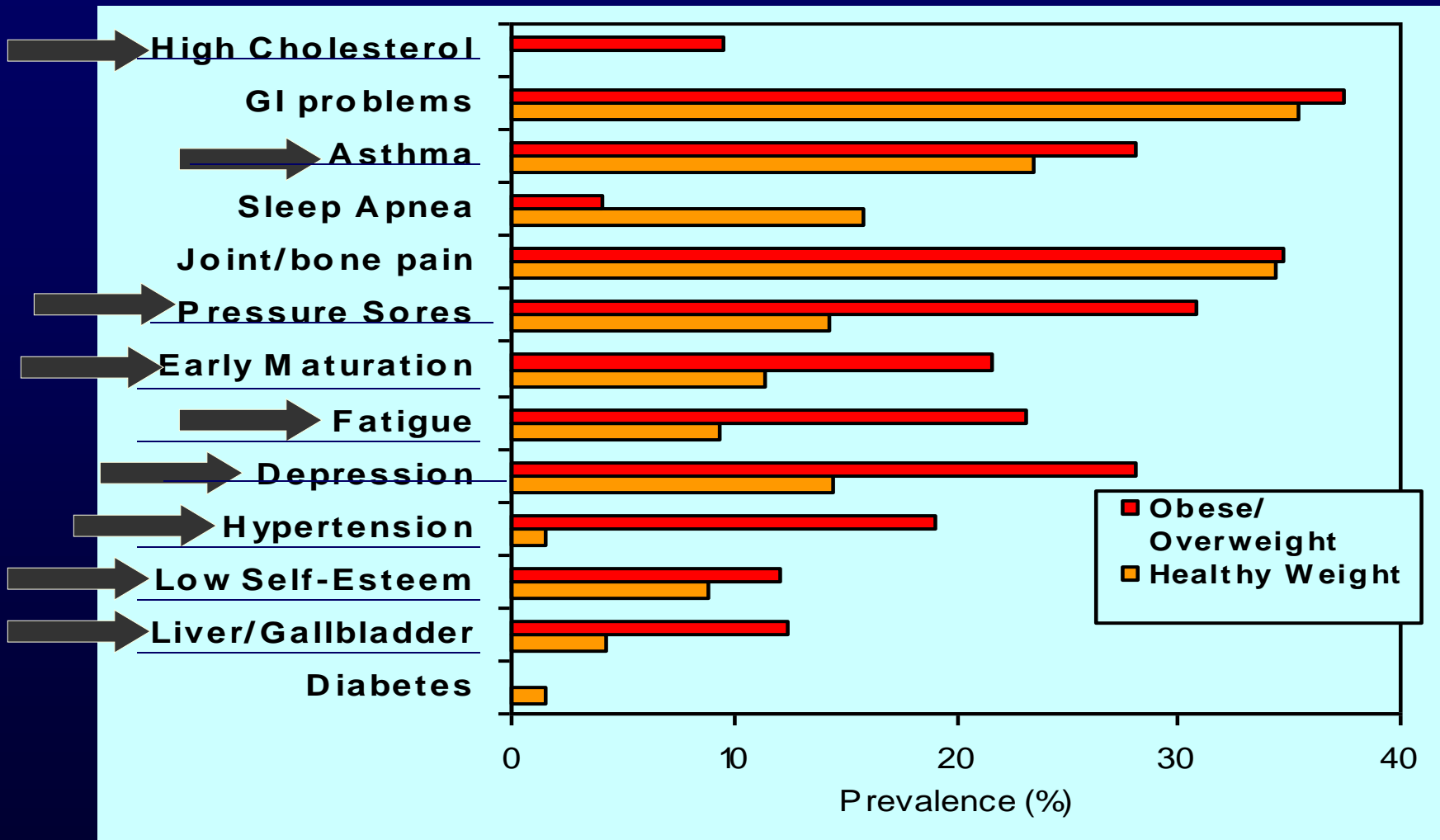
Rate of Secondary Conditions in PEP Participants Vs. Disabled and Non-Disabled Cohorts (Kinne et al. 2004)

Condition	Rate in Total Sample, % (n=2075)	Rate in Disability Group, % (n=545)	Rate in PEP Group, % (n=92)	Rate in No Disability Group, % (n=1530)
Chronic pain in muscles, joints	23.8	55.6	62.1	14.2
Sleep problems	22.4	41.8	62.4	16.3
Extreme fatigue	20.7	44.8	54	13.2
Weight or eating problems	19.8	39	77.9	13.7
Periods of depression	17.2	33.5	31.4	12.1
Skin problems	14.2	22	22.7	9
Muscle spasms	11.4	25.5		7
Respiratory infections (not colds)	10.9	20.9		7.8
Falls or other injuries	10.2	20.6		6.9
Bowel/bladder problems	9.8	22.8	41.4	5.7
Serious episodes of anxiety	9.6	19.9	27.6	6.3
Lack of romantic relationships	8.4	14.9		6.3
Problems getting out/getting around	8.3	22.4	53.5	3.9
Problems making/seeing friends	7.4	12.7		5.7
Feelings of being isolated	5.6	14.8	55.3	5.3
Asthma	5.3	12.2	34.9	3.4
Deconditioning			100	

Prevalence of Secondary Conditions in Youths with Cognitive Disabilities (Autism, Down Syndrome, Intellectual Disability)



Prevalence of Secondary Conditions Between Obese and Healthy Weight Youths with Physical Disabilities (CP, Spina Bifida)



Measurement Issues

Measurement Issues

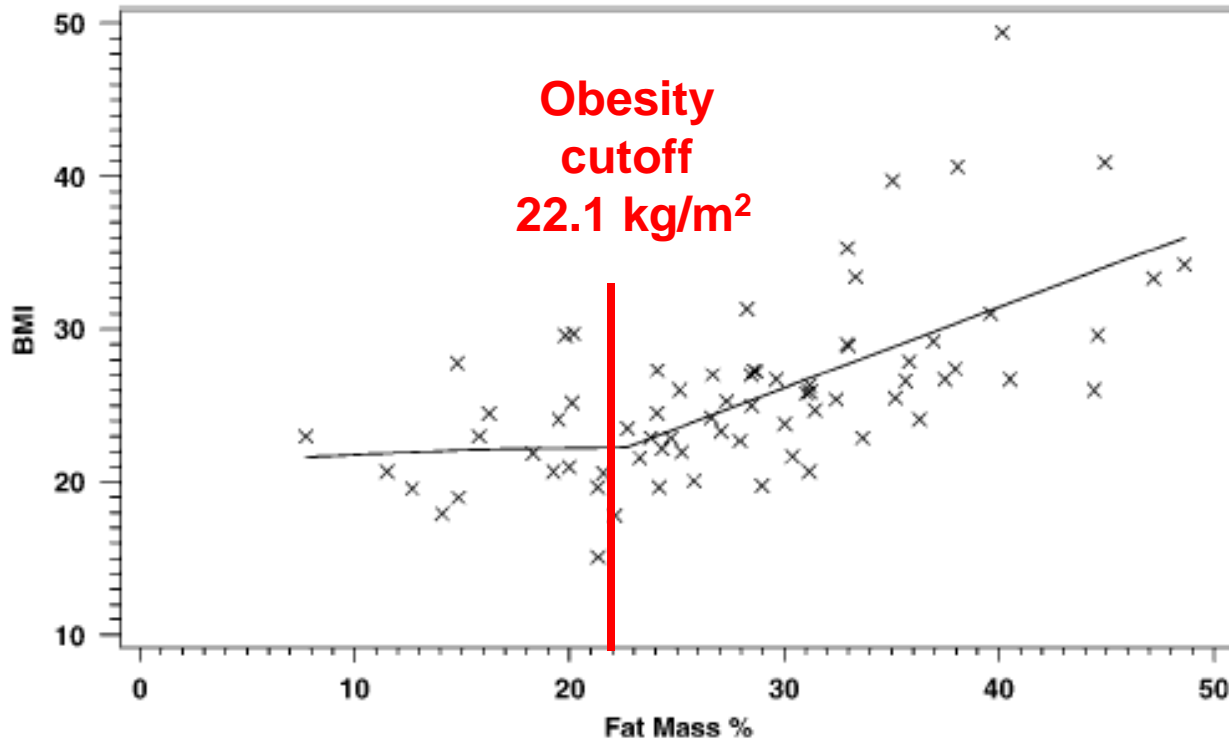
- BMI is most commonly used to assesses overweight and obesity
- Issues that arise in disabled populations:
 - Lack of necessary equipment
 - Wheelchair scale
 - Large capacity scales
 - Height-adjustable exam tables to measure supine length)
 - Lifts
 - Inaccurate height measurements
 - Individuals with spasticity and contractures may be unable to fully extend torso and limbs



BMI and measured percent fat mass in cross-sectional studies of adults with chronic SCI

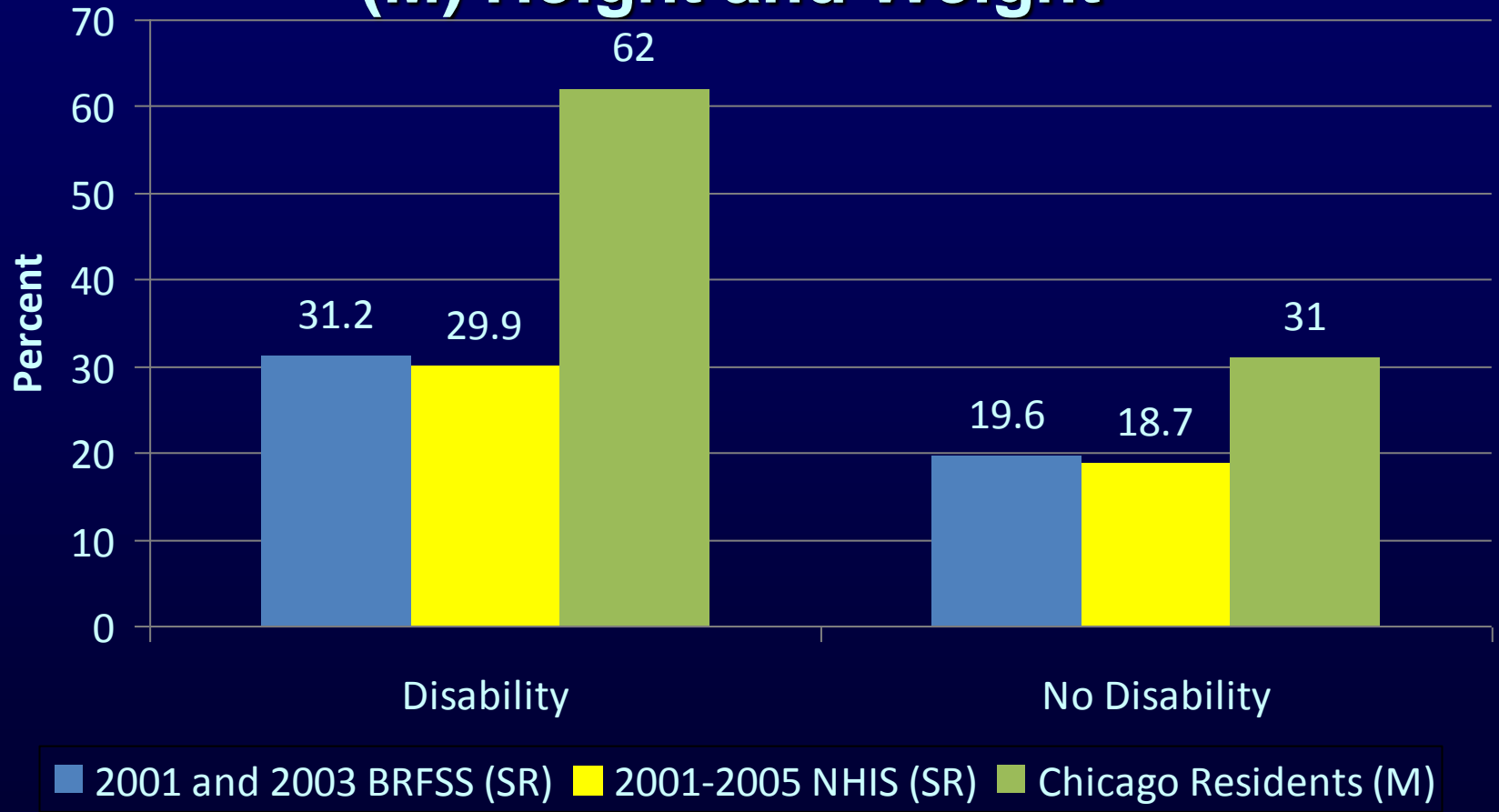
Reference	Study Pop.	SCI BMI Control BMI	% fat mass
Modlesky et al, 2004	8 men w/ SCI; age-, height- & weight-matched able-bodied controls	24.6 25.0	33.8 16.2
Buchholz et al, 2003	28 paraplegic adults; 34 BMI-matched able-bodied controls	24.3 26.0	30.8 22.8
Jeon et al, 2003	7 men w/ complete tetraplegia, age-, weight-, height-, BMI- & waist circumference-matched able-bodies controls	26.7 29.4	34.6 24.4
Jones et al, 2003	20 men w/ SCI, 20 age-, height-, & weight-matched able-bodied controls	23.1 24.0	27.5 18.1
Maggioni et al, 2003	13 men with SCI, 13 age- & BMI-matched able-bodied controls	25.7 24.5	31.1 20.8

Estimated Body Mass Index Cutoff for Adults with SCI



Source: Laughton et al., 2009

Prevalence of Obesity By Disability Status and Self-Report (SR) Vs. Measured (M) Height and Weight



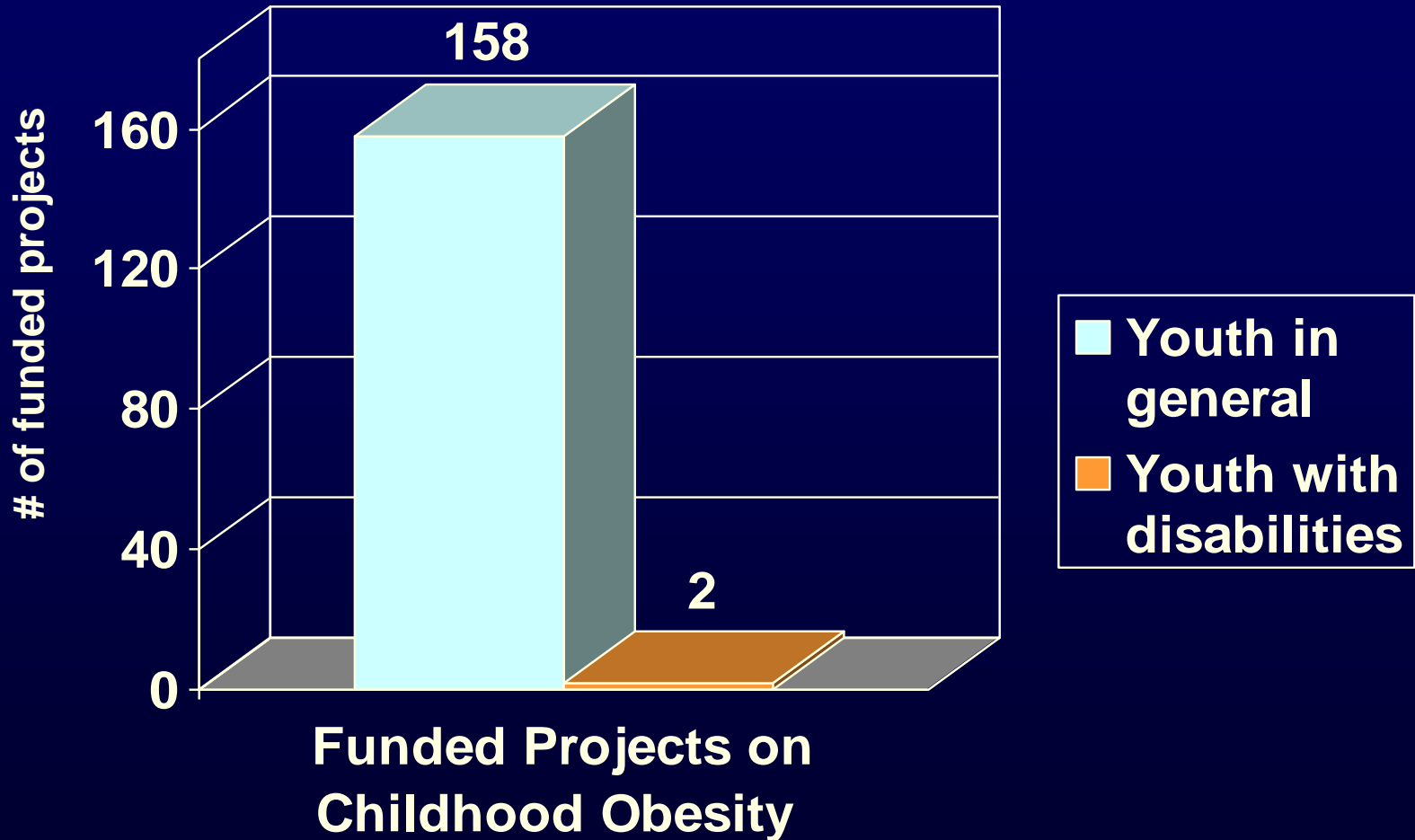
The New Federal Agency Battleground: Obesity, Smoking and Physical Inactivity

MAPPS Interventions for Communities Putting Prevention to Work

Five evidence-based MAPPS strategies, when combined, can have a profound influence on improving health behaviors by changing community environments: Media, Access, Point of decision information, Price, and Social support/services. The evidence-based interventions below are drawn from the peer-reviewed literature as well as expert syntheses from the community guide and other peer-reviewed sources, cited below. Communities and states have found these interventions to be successful in practice.

Awardees are expected to use this list of evidence-based strategies to design a comprehensive and robust set of strategies to produce the desired outcomes for the initiative.

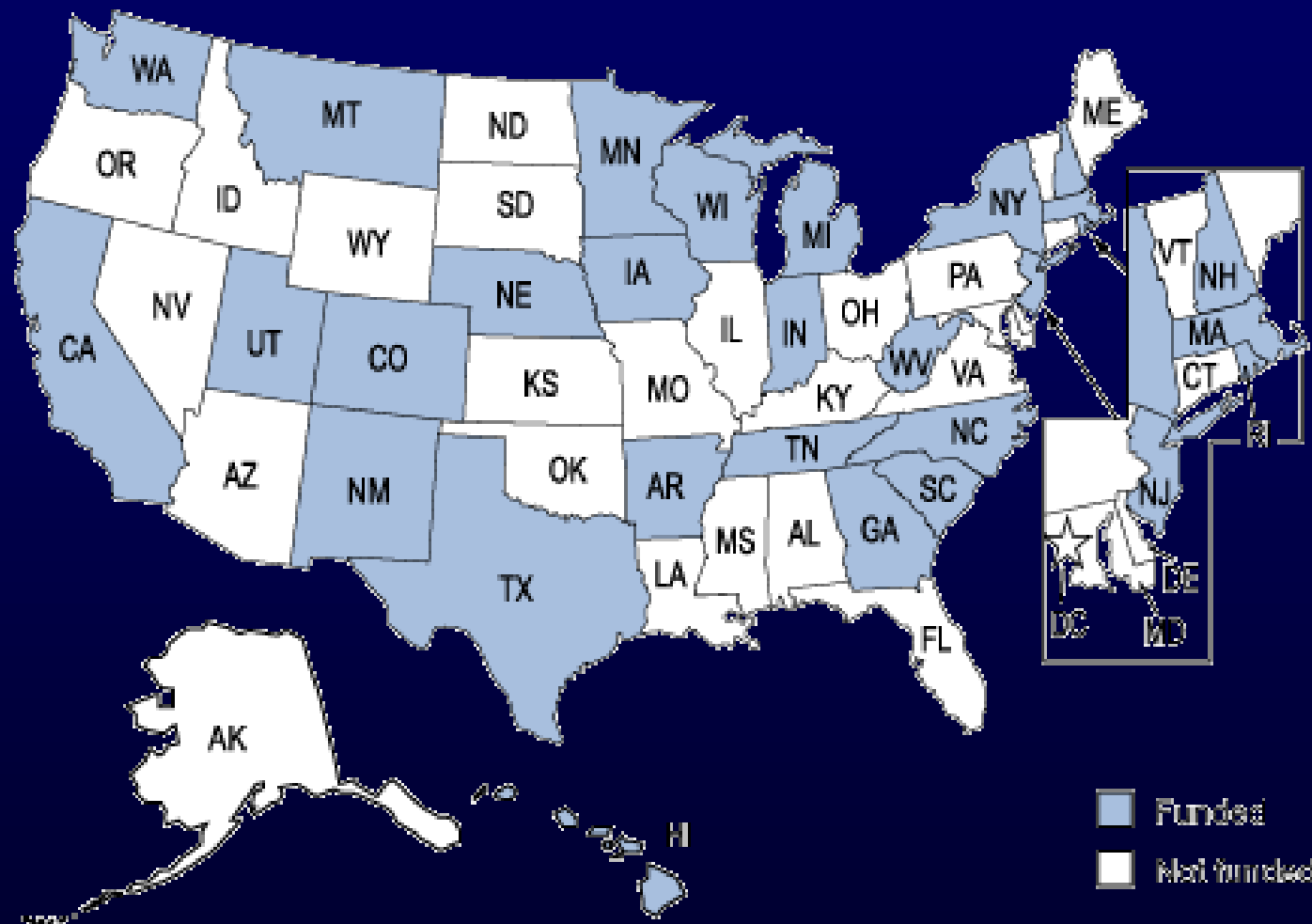
Currently funded projects on childhood obesity in youth with and without disability- NIH RePORTER



MAPPS

- Use **media** to promote healthy foods/drinks and increase activity; restrict advertising and employ counter-advertising for tobacco and unhealthy foods/drinks.
- Increase **access** to healthy food/drink choices and safe locations to be active and improve the built environment; reduce the availability of tobacco and unhealthy food/drinks.
- Use of **point of decision** labeling/signage/placement to discourage consumption of tobacco, increase consumption of healthy foods/drinks, and prompt physical activity.
- Use **price** to discourage consumption of tobacco, to benefit consumption of healthy foods/drinks, and increase use of fitness facilities, parks, and trails.
- Use **social support/services** to promote tobacco cessation, breastfeeding, and increased activity (ie, safe routes to school).

CDC Division of Nutrition, Physical Activity, and Obesity – 25 Funded States



Source: <http://www.cdc.gov/obesity/stateprograms/fundedstates.html>

North Carolina Eat Smart Move More

- **Since 2000, 157 Eat Smart, Move More community grants totaling approximately \$1.8 million have been awarded to local health departments and community partners.**
- **Grants support multi-level interventions— projects that make changes to policies and environments (e.g., workplaces, schools) while also educating community members about healthy behavior.**

Massachusetts Mass in Motion

- **Community Wellness Grant program serving 33 Massachusetts communities**
- **Regulations requiring the calculating and reporting of body mass index (BMI) measurements in grades 1, 4, 7 and 10.**
- **Nutrition and physical activity topics that are integrated into core subjects using the “Planet Health” curriculum**

Iowa Health Kids Act

- **Legislation requires that every student get 30 minutes of physical activity each day.**
- **Area Education Agencies should employ or contract with a licensed dietician.**

Michigan

Healthy Kids, Healthy Michigan

Supporting :

- **Body mass index (BMI) surveillance.**
- **Medicaid coverage of childhood obesity.**
- **Coordinated School Health Programs.**
- **Health and physical education.**
- **Complete Streets (streets designed for all users, including bicyclists and pedestrians).**
- **Safe Routes to School**

South Carolina Student Health and Fitness Act

- **The 2005 Student Health and Fitness Act comprehensively addresses:**
 - **Nutrition and physical activity requirements for children in Kindergarten through fifth grade**
 - **150 minutes of physical activity per week;**
 - **healthy vending policies;**
 - **school nutrition standards**
- **Local policy changes to support walking trails, nutritious foods in schools, and master plans for bicycle and pedestrian transportation.**

New York

Eat Well, Play Hard

- **Fifteen Eat Well, Play Hard community projects create environmental, policy and practice changes to increase healthy eating and physical activity in communities.**
- **Twelve Healthy Eating and Active Living by Design contracts to create more walkable/bikeable neighborhoods, expand community gardens, and create supermarkets in underserved areas.**

Montana

- **Funding for 13 county health departments and several tribal agencies to work on healthy eating and active living activities.**
 - **Nutrition and physical activity curriculum**

Arkansas

- **Arkansas Fitness Challenge**
Collaboration between Arkansas Department of Health and Arkansas Blue Cross Blue Shield. Employees of both organizations compete by participating in and tracking certain health-related activities during a three-month period.

D&H MAPPS Strategies

Media

- **Ensure that all health marketing/advertising campaigns are inclusive of people with disabilities.**
- **Develop marketing strategies to promote physical activity among people with disabilities.**
- **Promote use of public transit vs. door-to-door para-transit.**
- **Promote healthy eating and activity campaigns customized for specific disability networks.**

D&H MAPPS Strategies

Media

- **Develop social marketing campaigns that promote inclusive physical activity settings.**
- **Promote inclusion through all initiatives sponsored through the CPPW initiative.**

D&H MAPPS Strategies

Access

- **Provide adaptations for ensuring that all evidenced-based nutrition and physical activity programs are accessible to people with varying types and levels of disabilities.**
- **Promote access to wheelchair accessible scales in all health care facilities and encourage greater access to scales and measuring weight in supportive living facilities (e.g., group homes).**
- **Provide safety guidelines and recommendations to parents of youths with disabilities to promote outdoor physical activity.**

D&H MAPPS Strategies

Access

- **Ensure that trails, fitness centers, parks, etc. are accessible to people with disabilities.**
- **Train fitness professionals to promote health/fitness among community members with disabilities.**
- **Establish a loaner program for handcycle or tricycle use among community members who are unable to walk or bicycle.**

D&H MAPPS Strategies

Access

- **Establish an adapted Health Impact Assessment for community members with disabilities.**
- **Ensure that all youths with disabilities receive equitable amounts of physical education as their non-disabled peers.**
- **Increase opportunities for accessible after school/childcare physical activity.**

D&H MAPPS Strategies

Point of Purchase/Promotion

- Establish appropriate signage for healthier vs. less healthy items for people with disabilities.**
- Provide nutritional information and menu labeling in accessible formats.**

D&H MAPPS Strategies

Pricing

- **Subsidized memberships and public transportation for people with disabilities**

D&H MAPPS Strategies

Social Support

- Establish *health empowerment communities that build* socially constructive synergies between community members with and without disabilities.
- Identify Medicaid recipients receiving disability services and offer phone-based health coaching.

**Disability Section
Room 101**

CURRENT STRUCTURE

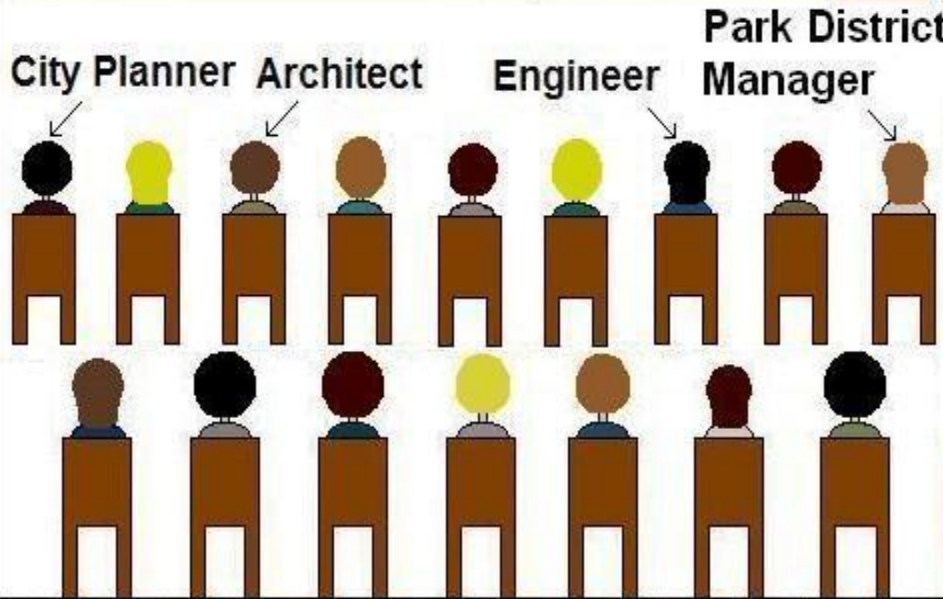
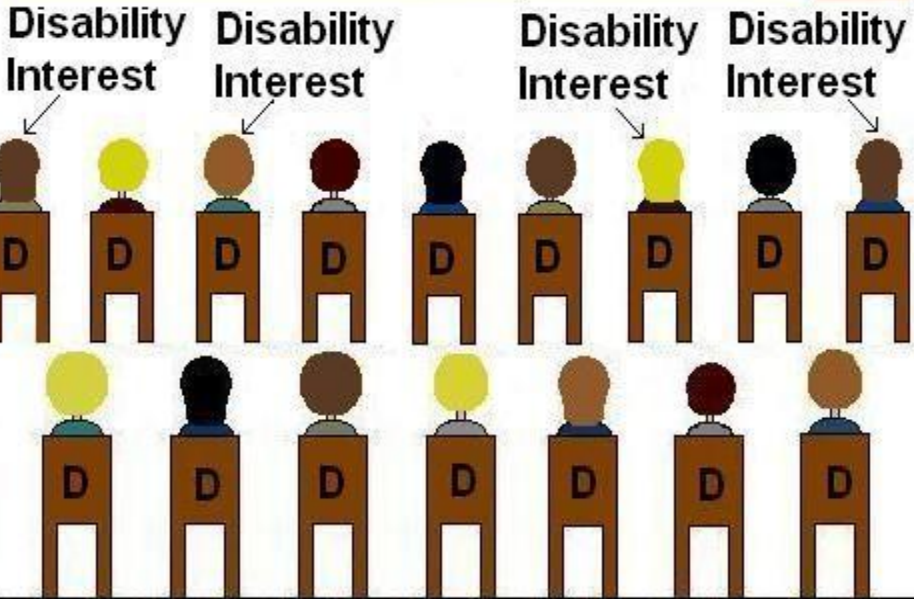
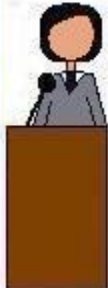
**Built Environment Section
Room 102**

Disability and the Built Environment

- Narrow sidewalks and uneven surfaces
- Poorly cared for ramps and curb cutouts
- Lack of access to outdoor recreation
- Inadequate transportation services

The Built Environment

- Walkability and bikeability
- Public Transportation
- Urbanization
- Access to parks and trails
- Safety

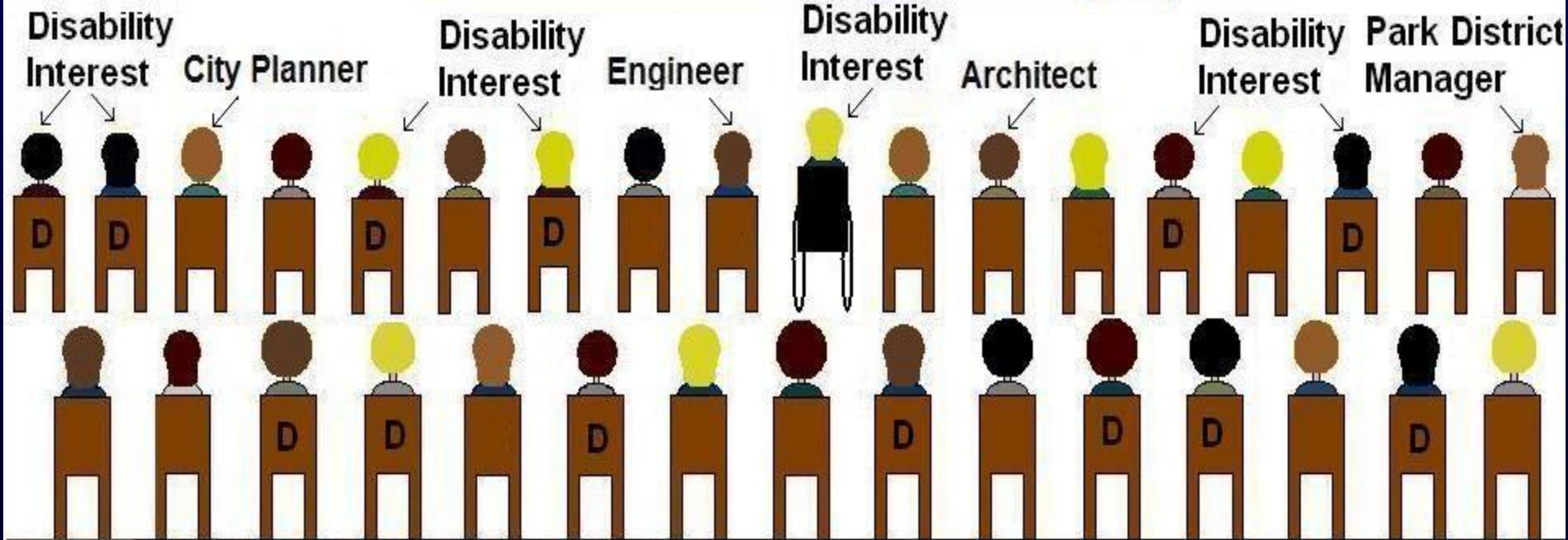


FUTURE STRUCTURE

Built Environment Section
Room 102

The Built Environment

- Mixed land use
- Economic Incentive
- Walkability and bikeability
- Public Transportation
- Urbanization
- Access to parks and trails
- Safety



Physical Activity and Disability

Amy E. Rauworth, MS, RCEP

Causes of Obesity

According to the Centers for Disease Control (CDC), the primary causes of obesity are:

- Medications (some will lead to weight gain)
- Poor food choices and overeating
- Lack of physical activity
- Lower levels of muscle mass
- Genetics (there are some genetic links)
- Environment
 - Lack of healthy food options
 - Lack of opportunities to be physically active
 - Media influence

Decreasing Obesity Levels

Primary ways to decrease obesity are more physical activity and healthier eating

- **Fitness programs**
 - **Suggestion is to expend 200 to 400 calories a day in physical activity**
- **Nutrition**
 - **Make healthier food choices**
 - **Eat smaller meals**

Why Physical Activity?

- **Physical activity simply means movement of the body that uses energy.**

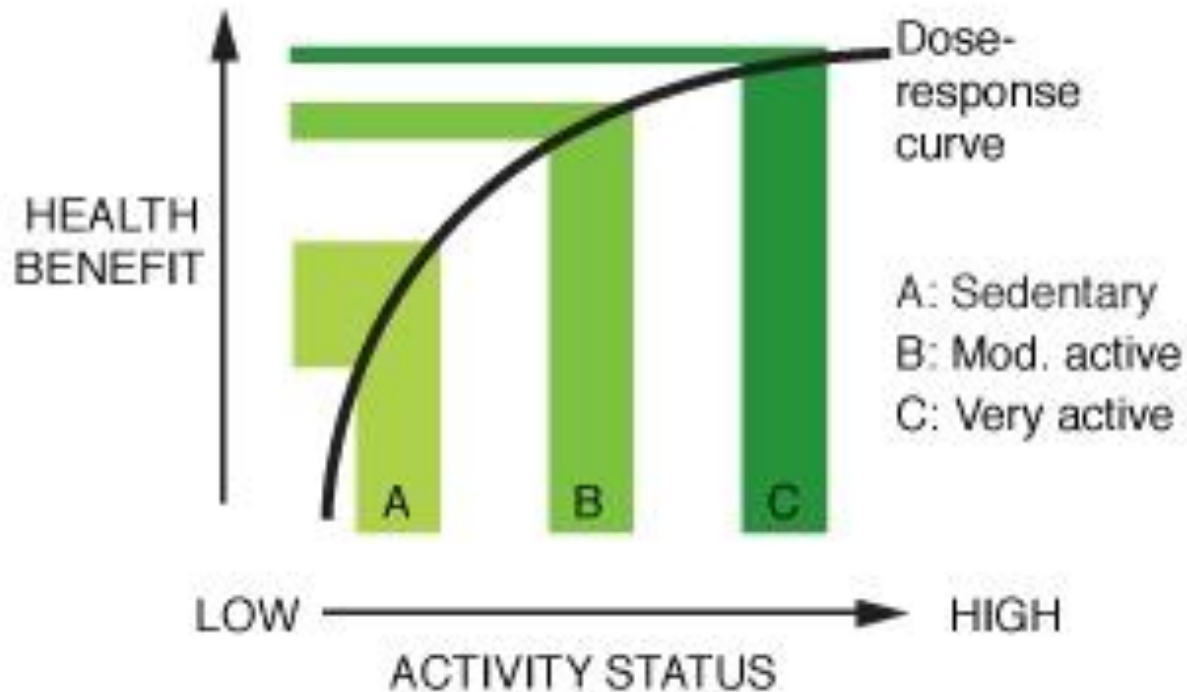
“The World Health Organization has identified physical activity as probably the single most effective means by which an individual can reduce the burden of noncommunicable diseases and thereby promote independence and sustain quality of life in older age.”

(Chodzko-Zajko et al, 2009)

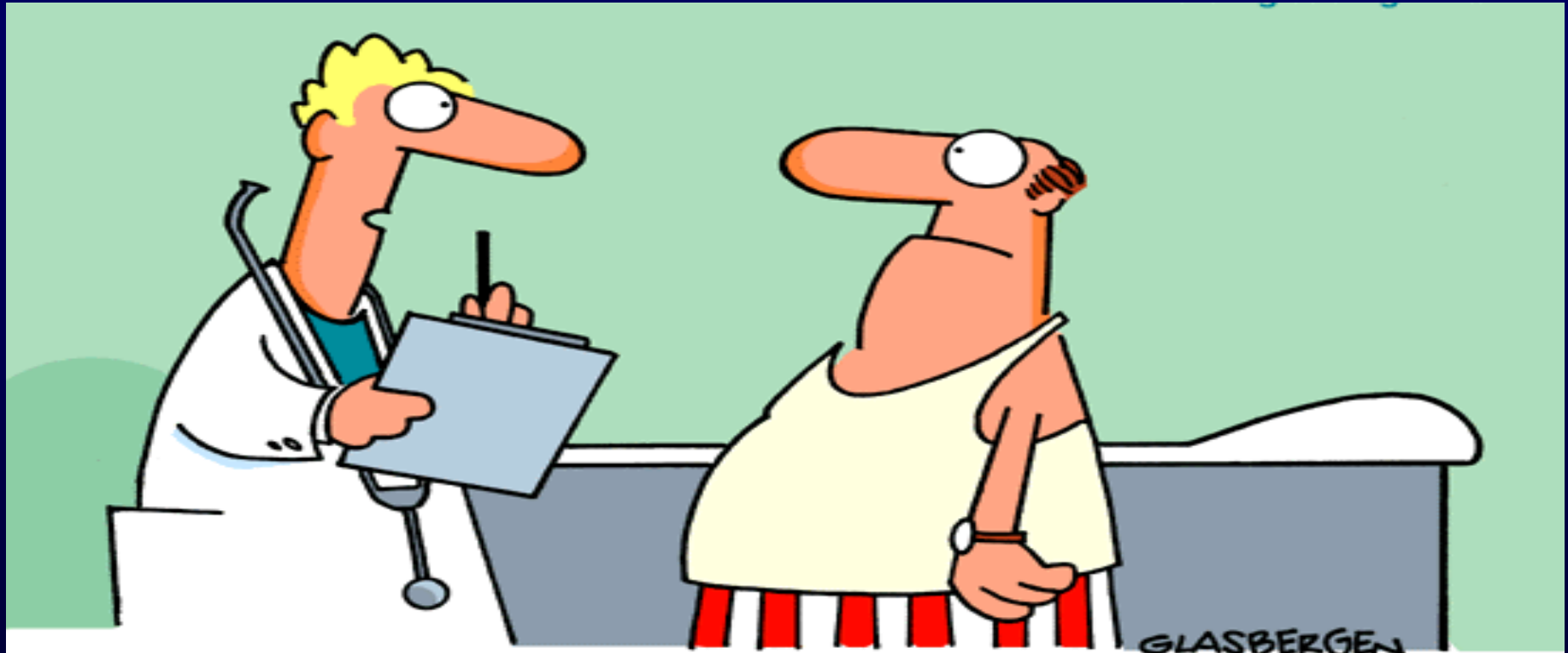
Benefits of Physical Activity

DOSE-RESPONSE CURVE FOR PHYSICAL ACTIVITY AND HEALTH

(Pate et al., 1995)



The *END* Result of Inactivity



“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”

Physical Activity Guidelines For Individuals with Disabilities (HHS)

- **Adults with disabilities, who are able to, should do:**
 - **Aerobic activity for ≥ 150 min/week (moderate-intensity) or 75 min (vigorous-intensity), or equivalent combination, performed in episodes of ≥ 10 minutes and spread throughout the week.**
 - **Muscle-strengthening activities of moderate or high intensity that involve all major muscle groups on ≥ 2 days/wk.**

Physical Activity Guidelines for Adults with Disabilities

- **When adults with disabilities are not able to meet Guidelines, they should engage in regular physical activity according to abilities and avoid inactivity.**
- **Adults with disabilities should consult health care provider about amounts and types of physical activity that are appropriate for their abilities.**

Effective Physical Activity Programs for People with Disabilities

Must address not only aspects of the disability (i.e., impairments/activity limitations/secondary conditions), but also certain interactions that may occur between the person and environment.

Physical Activity, Exercise & Physical Fitness

- **Physical Activity:** Any bodily movement produced by skeletal muscle that results in caloric expenditure.
- **Exercise:** a sub-category of activity, that is planned, structured, and repetitive, and results in the improvement or maintenance of one or more facets of physical fitness.

Categories of Physical Activity

Physical Activity Pyramid



Fitness Related Physical Activity (FPA)



Leisure Physical Activity (LPA)



Task Oriented
Physical Activity (TPA)



Residual Movement (RM)

Physical Fitness: Important for Optimizing Health and Reducing Secondary Conditions

Six components:

- **Cardiorespiratory endurance**
- **Muscular strength and endurance**
- **Flexibility**
- **Body composition (BMI, bone mineral density)**
- **Balance**
- **Pulmonary function**

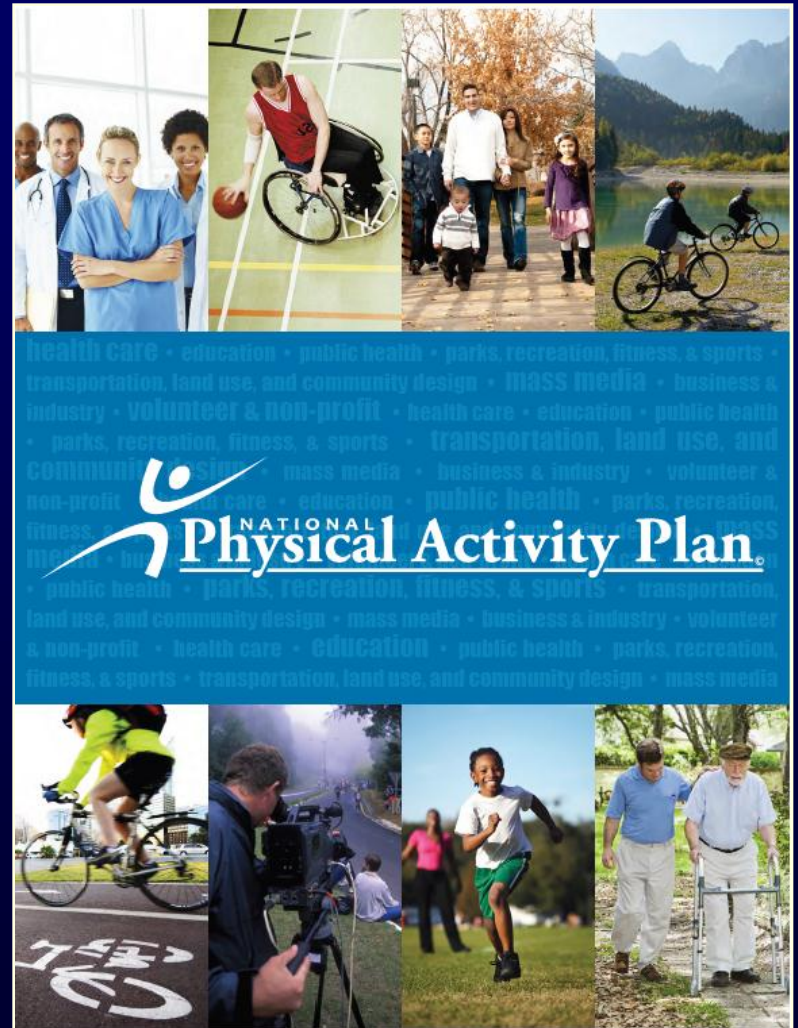
Physical Fitness in Children

- **Indicates a level of energy that allows children and adolescents to engage in daily activities without enduring high levels of stress or fatigue.**
- **Denotes a reduction in health risks that may occur in adulthood as a result of physical inactivity including such conditions as coronary heart disease, hypertension, obesity, low stamina, type 2 diabetes, osteoporosis, low back pain, and depression.**

National Physical Activity Plan

<http://www.physicalactivityplan.org/>

- “The U.S. National Physical Activity Plan has a vision: One day, all Americans will be physically active and they will live, work, and play in environments that facilitate regular physical activity.”
- “The Plan is a comprehensive set of policies, programs, and initiatives that aim to increase physical activity in all segments of the American population.”



NPAP: Strategies and Tactics that Highlight People with Disabilities

- Provide access to and opportunities for high-quality, comprehensive physical activity programs
- Ensure that the programs are physically active, inclusive, safe, and developmentally and culturally appropriate.
- Provide continuing education classes and seminars for all teachers on state-of-the-art physical activities for children that provide information on adapting activities for children with disabilities, in classrooms and physical education settings.
- Ensure groups at high risk for chronic disease and inactivity have equal or better access to physical activity services in clinical settings than the general patient population.

NPAP: Strategies and Tactics, cont.

- Reduce disparities in access to physical activity services in health care.
- Increase funding to improve the equity of access to parks, trails, recreation, fitness, and sports (public, private, and non-profit) programs and facilities.
- Target programming funds to expand and broaden services to attract and engage populations not traditionally served through varied, innovative, and culturally relevant offerings.
- Maximize use of current parks, recreation, fitness, and sports facilities (e.g., athletic fields) to increase physical activity opportunities for less active groups (e.g., girls, women, those with mental and/or physical disabilities, and low-income youth) through increased programming, social marketing and transport assistance.

Nutrition and Disability

Gillian P. Goodfriend, RD, LDN

Nutrition-Specific Recommendations

- **Type of disability**
- **Secondary conditions**
- **Chronic conditions**
- **Nutritional implications of medications**
- **Barriers to healthy eating**

Spinal Cord Injury

- **Pressure Sores**
 - **Protein**
 - Insufficient protein intake inhibits collagen and fibroblast production
 - Wt in kg x 0.8gm/kg = general health
 - Wt in kg x 1.5-3gm/kg = wound healing (depending on severity of wound)
 - **Vitamin A**
 - Helps in the early inflammatory phase of wound healing
 - **Vitamin C**
 - Supports collagen synthesis
 - **Zinc**
 - Supports the development of collagen and helps to synthesize protein
 - **Fluid**
 - Promotes good skin turgor

Spinal Cord Injury

Energy Expenditure

- Lower levels of fitness likely due to a reduction in activity as a result of their injury
- Decline in activity can bring about changes in body composition such as reduced muscle and bone mass and can lead to alterations in metabolic rate
- Collins et al: Determined that 1 MET was equivalent to $2.7 \text{ ml}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ for persons with SCI compared with standard $3.5 \text{ ml}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ for people without disabilities (22.8% lower EE).
- Measurement difficulty

Spinal Cord Injury

- **Ideal body weight for SCI**
 - To compensate for a reduction in muscle mass, the general rule is to subtract 5-10% for paraplegia and 10-15% for tetraplegia (quadriplegia).
- **Calculating calorie needs**
 - Lower overall needs for SCI than general population
 - Difficulty in measuring energy expenditure leads to difficulty estimating exact calorie needs
 - More research needs to be done in this area

Spinal Cord Injury

- **Blood pressure**

- Misconception that people with SCI should increase the amount of salt in their diets to reduce incidence of orthostatic hypotension
- People with SCI need to get their blood pressure checked and know what their baseline is. Monitor any increases above the baseline as potential evidence of hypertension
- A moderate salt intake is recommended for all Americans to help prevent and treat hypertension.

Multiple Sclerosis

- **Fatigue**
 - Impact on shopping for and preparing meals
- **Dysphagia**
 - ~30-40% of people with MS experience swallowing problems
 - Risk of aspiration pneumonia
 - Requires proper medical diagnosis
 - Levels of dysphagia diets
- **Sleep disturbances**
 - Pain, muscle spasms, frequent urination, medications
 - Dietary implications (caffeine, alcohol, spicy foods, timing of fluid intake)

Multiple Sclerosis

- **Medications**

- Corticosteroids - reduce the inflammation that spikes during a relapse (oral prednisone and intravenous methylprednisolone)
- Nutritional implications: Weight gain with prolonged use

- **Common nutritional imbalances**

- Omega-3 fatty acids - produce various immunomodulatory and anti-inflammatory reactions which may influence the course of the disease.
- Vitamin D- deficiency can lead to osteoporosis; vitamin D has been shown to reduce the production of pro-inflammatory cytokines.

Intellectual/Developmental Disabilities (ID)

- 93% of adults with ID living in the community have a high fat diet
- 63-69% of adults with ID do not consume enough fruits and vegetables
- On average, people with ID consume about 2 servings of F&V per day
- People who had higher F&V intake had lower BMI
- People who were living on their own, group home, or with family eat less F&V compared to people living in a large residence

Nutrition: Planning, shopping, preparing

Table 3. Involvement in food shopping, meal planning, and preparation (reported by informants)

	Food shopping (%)	Planning meals (%)	Preparing meals (%)
Little or None	68	63	60
About Half	17	20	24
Most or All	15	17	16

Note: Percentages may not add up exactly to 100% due to rounding.

What Keeps Adults with ID from Eating more Fruits and Vegetables?

Barriers	Person with ID (%)	Informant (%)
Go bad too quickly	60	10
Cost too much	50	6
Don't know how to prepare	33	17
Difficult to chew/swallow	31	13
Too long to prepare	27	9
Too lazy to prepare	22	8
Hard to prepare	21	9
No one to show them how to prepare	20	8
Do not taste good	13	16
Make health worse	9	5
Don't know what's in season	n/a	10
Will not be eaten by family/friends	n/a	6

Intellectual Disability

- **Steps to Your Health**
 - Randomized efficacy of the STYH program study
 - 443 participants
 - Baseline: 21.3% were healthy weight (BMI<25), 19.9% were overweight (BMI 25-29.99), 40.5% were obese (BMI 30-39.99), and 18.3% were morbidly obese (BMI≥40).

S. McDermott, personal communication

Intellectual Disability

- **After completion of STYH intervention and follow-up for one year**
 - Statistically significant difference in BMI reduction between completers of the STYH group compared to the comparison group.
 - Completers of either STYH or the control intervention, who lived in group homes, were more likely than their counterparts who lived with families or in supervised apartments, to decrease their BMI [OR 5.86 (95% CI 1.46-23.50)].

S. McDermott, personal communication

Intellectual/Developmental Disabilities

- **MENU-AIDDS**
 - **A novel approach to structuring the food systems of group homes and managing the dietary intake of adults with IDD**
 - **Creates a food environment that encourages participants to make informed choices for their own nutritional health**

K. Humphries, personal communication

MENU-AIDDS

- **Benefits**

- Reduces the need for staff training
- Gives participants significant control of their food choices

- **Weight Outcomes**

- At baseline, 50.4% of participants were overweight or obese (body mass index, BMI \geq 25).
- Their average weight loss at six months post introduction of the program was significant at 1.4 BMI points.
- 55% of overweight and obese participants who lost any weight lowered their BMIs by an average of 2.8 points.

- **Implications for involvement in meal planning in the group home setting**

K. Humphries, personal communication

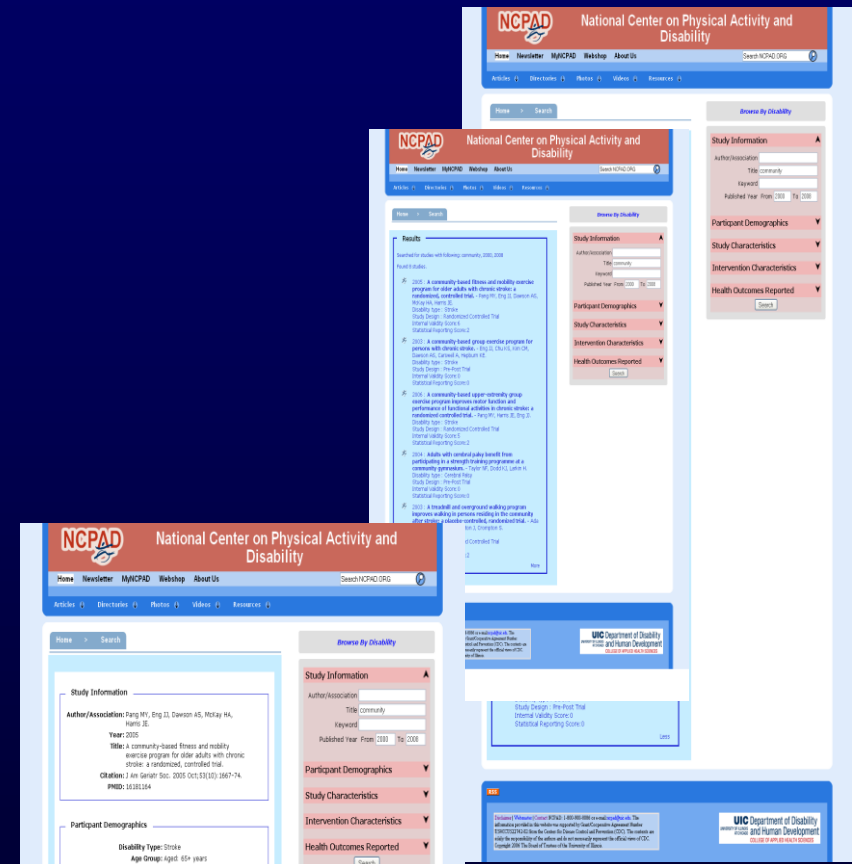
NCPAD's Online Databases

- NCPAD has developed (and is continuing to develop) an online searchable database of physical activity and nutrition interventions for people with disabilities designed to provide program planners and public health practitioners easy and immediate access to research-tested, evidence-based materials.

Searchable Database

Objectives:

- (1) include all published physical activity trials, systematic reviews, and practice guidelines in people with disabilities by continuous, comprehensive literature searches;
- (2) design a user-friendly interface for end-users to search for research studies by disability characteristics, intervention, and health outcomes; and
- (3) provide a uniform search with precise information on key characteristics of each study.



Database Searching Interface [beta version]

Search

Select program attributes (if you like) and then click the button at the bottom of the page to get a list of relevant programs. Multiple selections within a category expand your criteria; selections in different categories narrow them.

Topic

- Physical Activity
- Nutrition
- Weight Loss

Age

- Adolescents (15-18 yr)
- Young adults (19-25 yr)

Disability Type

- Intellectual disability
/Down syndrome
- Autism
- Cerebral palsy
- Spina bifida

Level of Severity of Disability

- Mild/Moderate
- Severe

Gender

- Male
- Female

Race/Ethnicity

- Black, not of Hispanic or Latino origin
- Hispanic or Latino origin
- White, not of Hispanic or Latino origin

Level of Function

- Wheelchair users
- Understanding difficulties

Setting

- Community
- Religious establishments
- Rural
- Suburban
- Urban
- School-based
- Clinical
- Workplace
- Home-based

Study Design

- Randomized controlled
- Non-Randomized controlled
- Pre-post without a control group

Implementation History

- Implemented internationally
- Replicated
- Partially/fully funded by NIH

Accessible Version of Research-Tested Intervention Programs (example of Shapedown Program)

Weight Management Program Database for Youths with Disabilities



Cancer Control P.L.A.N.E.T. Home

SHAPEDOWN

- [The Need](#)
- [The Program](#)
- [Time Required](#)
- [Intended Audience](#)
- [Suitable Settings](#)
- [Required Resources](#)
- [About the Study](#)
- [Program Scores](#)
 - [Research Integrity](#)
 - [Intervention Impact](#)
 - [Dissemination Capability](#)
- [Publications](#)

Products



[Preview and order the materials from the developer](#)

Adaptation : Accessible version for youths with physical disabilities

Adolescent obesity is an epidemic in the United States. There is increasing medical concern about the problem, as its risk of persistence into adulthood is high and obesity in adults is relatively intractable. Moreover, overweight adolescents face social discrimination leading to poor self-esteem, depression, and sub-par school performance. Effective programs for dealing with adolescent obesity remain relatively rare, and most programs reporting some success fail to maintain weight loss in the