

Planning for Health: Designing Physical Activity into Our Communities

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Overview

- How Physical Activity Affects Health
- Types of Physical Activity
- Research Linking Community Design and Active Lifestyles

Health is multi-faceted...

“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”
World Health Organization

HEALTHY PEOPLE 2010

Physical Activity – one of ten leading health indicators



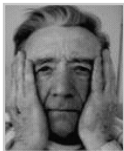
Physical Activity Contributes to Overall Wellness

- Bone and Muscle Strength
- Weight Control
- Agility and Balance
- Metabolic Function
- Physical Functioning of Ill and Disabled
- Psychological Well-Being



Physical Activity Reduces Health Risks

- Falls/Injuries
- Cardiovascular Disease
- Ischemic Stroke
- Type 2 Diabetes
- Osteoporosis
- Depression



Physical Activity Decreases Cancer Risk

Regular physical activity

- Decreases the risk of colon (~50%) and breast cancer (~25%)
- Probably decreases the risk of prostate cancer
- May reduce the risk of lung and endometrial cancer

Source: Friedenreich CM, J Nutr 2002; Hardman AE, Proc Nutr Soc 2001
Slide provided by Centers for Disease Control and Prevention

Physical Inactivity

A sedentary lifestyle increases the risk of

- Overall mortality (2 to 3-fold)
- Cardiovascular disease (3 to 5-fold)
- Some types of cancer, including colon and breast cancer

The effect of low physical fitness is comparable to that of hypertension, high cholesterol, diabetes, and even smoking.

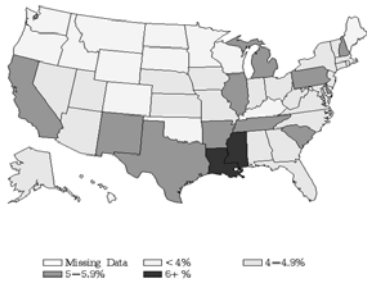
Sources: Wei et al., JAMA 1999; Blair et al., JAMA 1996
Slide provided by Centers for Disease Control and Prevention

Type 2 Diabetes

- Linked with physical inactivity
- Accounts for 90% - 95% of cases in U.S.
- Now being diagnosed in teens/children
- Greatest effect on older adults, those with low income, and some racial and ethnic minorities
- Lifetime risk: 1 in 3 Americans born in 2000

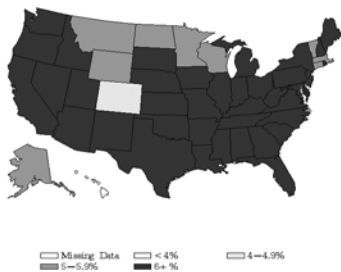
Source: COPAN State Plan 2010

Diabetes Among U.S. Adults BRFSS, 1994



Source: Centers for Disease Control and Prevention

Diabetes Among U.S. Adults BRFSS, 2004



Source: Centers for Disease Control and Prevention

Overweight

- ↑ Risk of overall mortality
 - up to 2.5-fold in 30-44 age group*
- ↑ Risk of cardiovascular mortality
 - up to 4-fold in 30-44 age group*
- ↑ Risk of diabetes (up to 5-fold)
- ↑ Risk of hypertension
- ↑ Risk of gall bladder disease
 - * Less in other age groups

Sources: Willett et al., NEJM, 1999; JAMA, Vol. 282, 1523
Slide provided by Centers for Disease Control and Prevention

Costs of Diseases Related to Obesity

- Annual Cost to U.S.
 - 350,000 preventable deaths
 - Over \$100 billion in health care
- Cost to Colorado
 - Also associated with premature deaths
 - \$874 million in 2003 or \$1,710 in health care per person



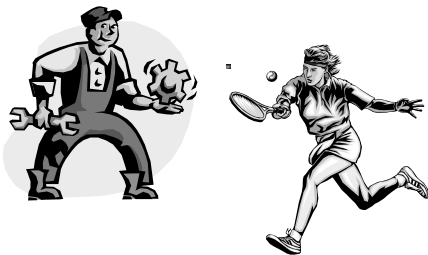
Source: Centers for Disease Control and Prevention, COPAN State Plan 2010

Mental Health Issues That May Relate to Physical Inactivity

- Stress
- Depression
 - Relieved by physical activity and social interaction
 - Aggravated by long commutes
- Attention Deficit-Hyperactivity Disorder
 - Greenspace may improve function in ADHD

Slide provided by Centers for Disease Control and Prevention

Physical Activity Varies by Purpose



Recreational Activity

- Purpose is to get exercise
- Requires ongoing motivation
- Often not sustained



Utilitarian Activity

- Purpose is practical: to get somewhere or do a task
- Exercise is incidental
- As part of routine, may be easier to maintain



Recommended Levels of Physical Activity

- Accumulate 30 minutes of moderate intensity activity at least 5 days/week - (60 minutes/day for children)
- Same benefits if accumulated in multiple episodes (e.g., 3 ten-minute sessions)
- Brisk walking and bicycling qualify
- Suggests there are implications for the built environment

An active lifestyle is not just a matter of personal choice....

Many studies are showing that the built environment influences how much physical activity people get in their daily routines.



Better Access Can Encourage Recreational Activity

- Access to natural and built facilities - 43% more likely to exercise 30 minutes each day
- Up to 25% more people exercise 3x/week
- Aesthetics matters



Sources: Centers for Disease Control and Prevention, Active Living Research
www.activelivingresearch.org

What Makes a Neighborhood Walkable?



- Destinations !!!
- Connectivity: safe, direct ways to get there
- Density: compact places support mixed use

Slide provided by Active Living Research
www.activelivingresearch.org

Walkable Neighborhoods Encourage Activity

- 6-study analysis: residents in highly walkable communities took 2x more walking trips than those in less walkable ones.
- Increase mostly due to walking for errands or to go to work.



Source: Active Living Research
www.activelivingresearch.org

Walkable Neighborhoods: Rx to Maintain Healthy Weight?

- In a walkable neighborhood, residents take an average of 1-2 more walking trips/week
 - For a 150-pound person, = 1 pound of body weight per year
- Average American adult gains 1 pound per year



Sources: America on the Move,
Active Living Research, www.activelivingresearch.org

Increasing Routine Walking/Bicycling by Children

Safe Routes to School



Photo provided by Centers for Disease Control and Prevention

Good Planning Makes Roads Safer for Walking

Pedestrians are less safe when there are

- High traffic speeds
- Wide arterials
- Poorly located crosswalks and bus stops



Photo provided by Centers for Disease Control and Prevention

Safe Places Encourage Activity

- Research suggests fear of crime is linked to lower activity levels in seniors, the young, and women, especially minorities.
- Number of pedestrians on the street increases level of safety for all pedestrians



Source: Active Living Research
www.activelivingresearch.org

Encouraging Physical Activity for Special Populations

- Older adults and disabled
 - Crosswalk signals – extended times, audible
 - Safe, maintained sidewalks, curb cuts
 - Transit that serves destinations
- People of color and low income – least likely to be active, but subject of few studies to date

Walkable Neighborhoods Offer An Air Quality Bonus

King County (Seattle), WA Study Findings:

- Residents in the most interconnected areas travel 26% fewer vehicle miles per day
- Increased density, street connectivity and land use mix > lower per capita vehicle emissions
- Transit and walking are highly synergistic

Source: www.metrokc.gov/kcdot/tp/orp/Index.htm

Designing for Indoor Activity

Stairs

- Research shows taking stairs effectively increases activity levels
- Key - Design to remove barriers to stair use
 - Prominent location and signage
 - Good lighting, maintenance, aesthetics
 - De-emphasize elevators and escalators



Source: U.S. Task Force on Community Preventive Services

In Conclusion

- Regular physical activity is an indicator of health
- The built environment can encourage physical activity



In Conclusion

- Research clearly shows that active community environments help more people choose to be routinely active.
- Ongoing studies will clarify the relative effect of different environmental factors on physical activity.



Source: Active Living Research
www.activelivingresearch.org
