Physical Therapy in the Community: Prevention Where We Live, Learn, Work, and Play

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The presenters have no conflicts of interest to disclose.

Learning Objectives

1) Compare and contrast current national initiatives and APTA views and missions in relation to disease prevention, health, and wellness
2) Describe the significance of cardiovascular disease and associated risk factors and their relevance to community-based disease prevention efforts
3) Recognize the role of physical therapists in primary and secondary disease prevention and health promotion efforts
4) Assess the benefits and challenges of community-based disease prevention and health promotion research and practice efforts

Program Outline

Introduction
- Welcome, Background, Objectives
- Overview of national guidelines and APTA, CVP Section statements/vision related to prevention/health promotion

Part 1
- Outline need for disease prevention and health promotion efforts
- Focus on prevalent conditions impacting national health (e.g., CVD)
- US Vital Statistics
- National guidelines and expert panel recommendations for health promotion
- What is the evidence that healthy lifestyle behaviors impacts health?

Part 2
- Discuss the role of physical therapy in primary and secondary disease prevention
- Explore barriers and opportunities for health promotion
- Discuss needed changes in Enter-to-Practice Professional Education
- Highlight opportunities for physical therapy students and faculty health promotion activities

Part 3
- Review research results of academic-community partnership projects conducted by faculty and students in the Program in Physical Therapy at Washington University School of Medicine
- Examples of prevention/health promotion where we live, learn, work, and play

Part 4
- Examples of community-based, prevention/health promotion clinician efforts
- Panel and audience discussion with guest Mike Eisenhart

Physical Therapy in the Community

The National Prevention Strategy

- “America’s Plan for Better Health and Wellness”
- Affordable Care Act
- Favorable health outcomes are a result of quality medical care but also stopping disease before it starts
- Prevention should be woven into all aspects of our lives, including where we:
  - LIVE
  - LEARN
  - WORK
  - PLAY

https://www.cdc.gov/features/preventionstrategy/
The National Prevention Strategy

Strategic Directions:
1. Building healthy and safe community environments
2. Expanding quality preventative services in clinical and community settings
3. Empowering people to make healthy choices
4. Eliminating health disparities

APTA Statement on The National Prevention Strategy

“APTA stands ready to help Americans live longer and more healthful lives through partnerships at the patient, community, and national level.”

“…physical therapists must engage at the individual and community level to address this public health need through evidence-based interventions, health services, and community-based initiatives.”

-- APTA President R. Scott Ward, PT, PhD

APTA Vision

Vision Statement for the Physical Therapy Profession
Transforming society by optimizing movement to improve the human experience.

Guiding Principles to Achieve the Vision
Movement is a key to optimal living and quality of life for all people that extends beyond health to every person’s ability to participate in and contribute to society. The complex needs of society, such as those resulting from a sedentary lifestyle, beckon for the physical therapy profession to engage with consumers to reduce preventable health care costs and overcome barriers to participation in society to ensure the successful existence of society far into the future.

APTA Policies on Health, Wellness, and Fitness

• The Association's Role in Advocacy for Prevention, Wellness, Fitness, Health Promotion, and Management of Disease and Disability
• Physical Therapists' Role in Prevention, Wellness, Fitness, Health Promotion, and Management of Disease and Disability
• The Role of the Physical Therapist in Diet and Nutrition
• Health Priorities for Populations and Individuals

Cardiovascular & Pulmonary Section Vision

Vision Statement
The Cardiovascular and Pulmonary Section - APTA, Inc. will be the leading advocate and resource for consumers as well as physical therapists, physical therapist assistants, and PT/PTA students who provide health, wellness, prevention and/or rehabilitation services in a variety of practice settings to individuals of all ages at risk for, or diagnosed with, cardiovascular or pulmonary impairments.

Part 1
• Outline need for disease prevention and health promotion efforts-US Vital Statistics
• Focus on prevalent conditions impacting national health (e.g., CVD)
• National Guidelines and expert panel recommendations for Health Promotion
• What is the evidence that healthy life-style behaviors impacts health?
National Vital Statistics Reports
Volume 65, Number 4, June 30, 2016
US Department of Health & Human Services
Centers for Disease Control and Prevention
Final Data set for 2014
1. Diseases of the heart (heart disease)
2. Malignant neoplasms (cancer)
3. Chronic lower respiratory diseases
4. Accidents (unintentional injuries)
5. Cerebrovascular diseases (stroke)
6. Alzheimer’s disease
7. Diabetes Mellitus (diabetes)
8. Influenza and Pneumonia
9. Nephritis, nephrotic syndrome and nephrosis (kidney disease)
10. Intentional Self-harm (suicide)
11. Septicemia
12. Chronic Liver Disease and cirrhosis
13. Essential hypertension and hypertensive renal disease (hypertension)
14. Parkinson’s disease
15. Pneumonitis due to solids and liquids

Major Chronic Diseases in the US
Chronic Diseases in the USA are a leading cause of death and disability.
Seven of the top 10 causes of death in 2010 were attributed to chronic diseases.
Approximately ½ of USA adults have one or more chronic health conditions.

Health Risk Behaviors that cause Chronic Disease
- Physical inactivity: > than 50% adults do not meet the recommendations for aerobic exercise and > 75% do not meet recommendations for muscle-strengthening exercise.
- 50% of US adults have one major risk factor for heart disease or stroke.
- Uncontrolled hypertension, high blood LDL cholesterol, tobacco use, high dietary Na+:
- ~ 30% of youth and adults report eating less than 1 fruit or 1 vegetable per day.
- Excessive alcohol consumption.

Cost of Chronic Diseases and Health Related Risks
2010: ~86% of all health care spending.

American Heart Association
My Life Check – Life’s Simple 7
Developed by AHA with the goal to “improve health by educating the public on how to best live.”

Life’s Simple 7
- Manage Blood Pressure
- Control Cholesterol
- Reduce Blood Sugar
- Get Active
- Eat Better
- Lose Weight
- Stop Smoking

http://www.heart.org/HEARTORG/Conditions/My-Life-Check---Lifes-Simple-7_UCM_471453_Article.jsp

The Burden of Physical Inactivity
World Health Organization: Physical Activity Fact Sheet, 2016
- Insufficient physical activity is 1 of the 10 leading risk factors for death worldwide.
- Insufficient physical activity is a key risk factor for non-communicable diseases (NCDs) such as cardiovascular diseases, cancer and diabetes.
- Physical activity has significant health benefits and contributes to prevent NCDs.
- Globally, 1 in 4 adults is not active enough.
- More than 80% of the world’s adolescent population is insufficiently physically active.
- Policies to address insufficient physical activity are operational in 56% of WHO Member States.
- WHO Member States have agreed to reduce insufficient physical activity by 10% by 2025.

http://www.who.int/mediacentre/factsheets/fs385/en/

Obesity
Health Consequences
- Cardiovascular disease/Stroke
- Diabetes/Insulin Resistance
- Dyslipidemia
- Proinflammatory states
- Hypertension
- Pulmonary problems, sleep apnea
- Pancreatitis
- Renal, Liver, and Gall Bladder disease
- Cancer
- OA
- Gynecologic abnormalities
- Phlebitis
- Psychological burden/stigmatization
- Obese offspring/childhood obesity
- ↓ Life expectancy/longevity: a leading cause of preventable deaths
- USA-Annual health care cost: estimates of $447-$710 billion

Risk for Death: Protective effect of Physical Activity

Risk for Death with the presence of 0-3 CV risk factors: Protective effect of Physical Activity

Fitness Groups
• Low
• Moderate
• High

CV risk
• Tobacco smoke
• Elevated BP
• Elevated Cholesterol

Blair SN et al. JAMA 1996; 276: 205-10

Relationship between low cardiovascular fitness and mortality in normal-weight, overweight, and obese individuals

Wei M. et al. JAMA 1999; 282: 1547-1553

Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women.

4 Quartiles of Physical Activity
MET-h/week

4 Levels of Sitting Time

2008 Physical Activity Guidelines for Americans
https://health.gov/paguidelines/

2016 Physical Activity Guidelines for Americans

Evidenced Based Activity for School-Age Youth

Evidence-based physical activity for school-age youth.

The 2016 United States Report Card on Physical Activity for Children and Youth

The 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.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Definition</th>
<th>Prevalence</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Activity</td>
<td>% of youth attaining 60 min or more of MVPA on 5 days/week</td>
<td>Age 6-11: 14%</td>
<td>D-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age 12-15: 8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age 16-19: 5%</td>
<td></td>
</tr>
<tr>
<td>Sedentary Behaviors</td>
<td>% of youth engaging in 2 hours or less of screen time/day</td>
<td>Age 6-11: 47%</td>
<td>D-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age 12-15: 39%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age 16-19: 21%</td>
<td></td>
</tr>
<tr>
<td>Organized Sports</td>
<td>% of High School students participating in at least 1 sports team</td>
<td>Boys: 62%</td>
<td>C-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls: 53%</td>
<td></td>
</tr>
<tr>
<td>Health-Related Fitness</td>
<td>% of US youth meeting cardiorespiratory fitness standards</td>
<td>Boys: 50%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Girls: 34%</td>
<td></td>
</tr>
</tbody>
</table>

http://www.physicalactivityplan.org/projects/reportcard.html
Recess

CDC definition of recess: “regularly scheduled periods within the elementary school day for unstructured physical activity and play”

The Crucial Role of Recess in School

“Recess serves as a necessary break from the rigors of concentrated, academic challenges in the classroom. But equally important is the fact that safe and well-supervised recess offers cognitive, social, emotional, and physical benefits that may not be fully appreciated when a decision is made to diminish it. Recess is unique from, and a complement to, physical education—not a substitute for it.”

http://pediatrics.aappublications.org/content/131/1/183.full

Expert Panel on Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents

October 2012

Physical Activity (PA) optimizes Cardiovascular Health

- Patterns of physical activity established in childhood are carried into adulthood (good evidence)
- Increases in MVPA is associated with lower BP, decreased body fat, lower TC, lower LDL-C, lower TG, higher HDL-C, decreased insulin resistance (strong evidence)
- Physical exercise interventions improve subclinical measures of atherosclerosis (limited but strong evidence)
- There is no evidence of harm associated with increasing PA
- Patterns of PA, smoking, and dietary behaviors cluster together
- Strong evidence that PA should be promoted in schools


Recommendations

• Parent involvement and family centered activities
• Limit TV viewing, no TV in child’s bedroom
• Limit screen time
• Wear safety equipment appropriate for each sport
• Support PA/PE recommendations in local schools
• 5-10 yr old: 1 hr/d MVPA with intense activity 3d/week
• 11-17 yr old: 1 hr/d MVPA with intense activity 3d/week, encourage involvement in year-long/life long activities
• Limit total media time to no more than 1-2 hours daily


SHAPE:

Society of Health and Physical Educators

http://www.shapeamerica.org/

National Physical Activity Guidelines for Children ages 5-12

Guideline 1. Children should accumulate:
- at least 60 minutes and up to several hours
- age-appropriate physical activity
- on all, or most days of the week
- Activities should include moderate and vigorous physical activity

Guideline 2. Children should participate in several bouts of physical activity lasting 15 minutes or more each day.

Guideline 3. Children should participate each day in a variety of age-appropriate physical activities to achieve optimal health, wellness, fitness, and performance

Guideline 4. Extended periods, 2 hours or more, of inactivity are discouraged for children, especially during the daytime hours.

Summary Intro and Part 1

- APTA supports the National Prevention Strategy.
- Chronic Diseases are a major contributor to disability and death
- There is strong evidence for the health promoting benefits of physical activity

Recommendations:

Adults
- Engage in Physical Activity
- Limit sedentary time

Children and Adolescents
- Encourage children to play; variety of activities is pivotal
- Promote physical activity in adolescents
- Educate patients about the benefits of an active lifestyle

Part 2

- Discuss the role of physical therapy in primary and secondary disease prevention
- Explore barriers and opportunities for health promotion
- Discuss needed changes in Enter-to-Practice Professional Education
- Highlight opportunities for physical therapy students and faculty health promotion activities
Physical Therapists Role in Disease Prevention and Health Promotion

- Physical Therapists need to:
  - Promote and monitor the health of individuals via new avenues of delivery of care
  - Community-based health assessments
  - Health promotion among all individuals seeking physical therapy services
  - Prevention of disease, disability and frailty
  - Demonstrate interprofessional competence
  - Prepare to be case managers for the variety of patient/client needs
  - Serve as community resources for coordinating care and promoting health lifestyles

Community Based Health Assessments

- Shared ownership in the Communities Health
- Participate in Monitoring and Evaluation

Health Promotion Topics

- 2008 Physical Activity Guidelines for Americans
- 8 WAYS TO STAY HEALTH AND PREVENT CANCER
- MyPlate
- Be Active, Healthy, and Happy!
- https://nhes.wustl.edu

Disease Risk Profiles

- http://www.yourdiseaserisk.wustl.edu
- http://www.cvriskcalculator.com/

Prevention and the Role of Physical Therapy

- Primary Prevention-aims to prevent disease or injury before it ever occurs. This is done by preventing exposures to hazards that cause disease or injury, altering unhealthy or unsafe behaviours that can lead to disease or injury, and increasing resistance to disease or injury should exposure occur.

- Secondary Prevention-aims to reduce the impact of a disease or injury that has already occurred. This is done by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent reinjury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems.

Physical Therapists Role in Disease Prevention and Health Promotion

- Physical Therapists need to:
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  - Community-based health assessments
  - Health promotion among all individuals seeking physical therapy services
  - Prevention of disease, disability and frailty
  - Demonstrate interprofessional competence
  - Prepare to be case managers for the variety of patient/client needs
  - Serve as community resources for coordinating care and promoting health lifestyles
Needed Areas of Change Within Physical Therapy Education Curriculum

- Achievement of excellence in interprofessional care
- Knowledge of new healthcare delivery models and clinical education in a variety of models
- Provision of focused and in-depth education for the care of patients with highly prevalent conditions e.g. diabetes mellitus, obesity, cancer, low back pain, HTN
- Development of clinical education models in preventative care, community environments, public health venues
- Goal is to prepare physical therapists to work effectively in the today’s changing healthcare environment


<table>
<thead>
<tr>
<th>Lifestyle Health Behavior</th>
<th>Examination/Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td>Smoking Hx, quit attempts, methods and outcomes, Readiness to change</td>
</tr>
<tr>
<td>Nutrition/Diet</td>
<td>Brief nutritional assessment: BMI, WHR, Readiness to change, Ongoing supports and success</td>
</tr>
<tr>
<td>Sitting</td>
<td>Profiles of daily sitting, Readiness to change</td>
</tr>
<tr>
<td>Activity</td>
<td>Profile of general Physical Activity, Readiness to change</td>
</tr>
<tr>
<td>Structured Exercise</td>
<td>Profile of regular structured exercise, Readiness to change</td>
</tr>
<tr>
<td>Sleep/Quality and quantity</td>
<td>Profile of sleep quality and quantity</td>
</tr>
<tr>
<td>Anxiety, Stress and Depressive Symptoms</td>
<td>Hospital Anxiety and Depression Scale, Psychological Stress measure</td>
</tr>
</tbody>
</table>

Opportunities and Barriers

**Opportunities:**
- Increasing collaboration amongst healthcare stakeholders and the community
- Advancing the Physical Therapy Profession’s role in healthcare

**Barriers:**
- Changing the Health Care System and Physical Therapists mindset regarding the role of physical therapy
- Remuneration of services
- Needed changes in Educational Accreditation Standards

Obesity Surveillance in St. Louis City for the City of St. Louis Obesity Plan
https://www.google.com/?gws_rd=ssl#safe=active&q=City+of+St.+Louis+obesity+Plan

Data collection: faculty and pre-health students at a variety of community sites

Participants were provided:
- Explanation of results
- Educational materials to promote healthy life style
- Individualized consultation

Health Happening
Annual event for all Washington University School of Medicine Employees

PT Clinicians and DPT student roles:

Health-related Assessments
- Body composition
- Aerobic fitness-3 minute step test
- Foot screen for sensation and shoe wear
- Posture analysis
- Functional assessment of balance, sit to stand and floor to stand

Physical Activity
- “Deskercise”

Ask the Expert
- Education
- Q and A

% of Screened Employees at Risk

Body Mass Index

Blood Pressure
% of Screened Employees at Risk

Fitness

Worksite Health Promotion

Worksite Opportunities for Wellness (WOW)

Assessments

• Heart Rate
• Blood Pressure
• Height
• Weight
• Waist & Hip Circumferences
• Body Composition (BIA)
• Step Test
• Lipids (venipuncture)
• Glucose (venipuncture)
• Questionnaires

Funded by CDC

Prevalence of Risk Factors at Baseline

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Worksite A</th>
<th>Worksite B</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overweight</td>
<td>22 %</td>
<td>28 %</td>
<td>23 %</td>
</tr>
<tr>
<td>Obese</td>
<td>63 %</td>
<td>48 %</td>
<td>58 %</td>
</tr>
<tr>
<td>Waist Circumference</td>
<td>64 %</td>
<td>45 %</td>
<td>56 %</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>79 %</td>
<td>59 %</td>
<td>72 %</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>49 %</td>
<td>47 %</td>
<td>48 %</td>
</tr>
<tr>
<td>HDL-Cholesterol</td>
<td>39 %</td>
<td>31 %</td>
<td>35 %</td>
</tr>
<tr>
<td>LDL-Cholesterol</td>
<td>33 %</td>
<td>33 %</td>
<td>33 %</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>25 %</td>
<td>24 %</td>
<td>25 %</td>
</tr>
<tr>
<td>Glucose</td>
<td>27 %</td>
<td>24 %</td>
<td>25 %</td>
</tr>
<tr>
<td>Smoking</td>
<td>24 %</td>
<td>15 %</td>
<td>20 %</td>
</tr>
</tbody>
</table>

Components of Program

Self-Monitoring

Tracking of:
• Physical Activity—pedometers and daily logs
• Dietary intake—Fruits and Vegetables—daily log
• Body weight

Goal setting

Monthly Newsletter

Change in Fitness Category at 1-year

Worksite A (Intervention)           Worksite B
Summary Part 2

- The profession of Physical Therapy is important in primary and secondary disease prevention
- Health promotion education should be incorporated in Enter-to-Practice Professional Education
- Physical therapy students and faculty can jointly provide health promotion activities

Part 3

Review research results of academic-community partnership projects conducted by faculty and students in the Program in Physical Therapy at Washington University School of Medicine
- School-based projects where children learn and play
- Worksite wellness where adults work
- City-wide initiatives where residents of all ages live, work, and play

Physical Activity & Fitness [https://pt.wustl.edu/research/physical-activity-fitness/]

Through collaborations with community partners, we strive to improve physical activity, fitness, and lifestyle behaviors that enhance health and reduce the risks for obesity, type 2 diabetes, and cardiovascular disease among urban residents, particularly youth. We continue to work collaboratively with the St. Louis Public Schools and the City of St. Louis Department of Health to implement novel initiatives that address lifestyle-related, modifiable health threats facing St. Louis residents.

Health Indices: St. Louis

Source: Understanding Our Needs
City of St. Louis, Department of Health

Healthy Harvest Festival, 2009

Healthy Harvest Festival, 2009
Health Screenings and Health Education Interdisciplinary Team

Cardiometabolic Risk Assessment in Youth:
A collaborative partnership with a large urban public school district
- fitness: President’s Challenge 1-mile endurance run → sex- and age-specific percentile
- weight & height → sex-specific BMI-for-age percentile
- waist circumference → sex- and age-specific percentile
- blood pressure → sex-, age-, and height-specific percentile
- resting heart rate

Weight Status of Urban Public School Population
N = 4,673 students, Spring 2010 assessed in collaboration with Certified Physical Education teachers.


National prevalence, NHANES
N = 4,111 2009-2010

Normal Weight: 53%
Overweight: 24%
Obese: 23%

**Body Mass Index**


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**Physical Fitness: Presidential Fitness Standards—1 mile run**

N = 1,074 students

Elementary  Middle School  High School

- 360th (best)
- 50th to <60th
- 50th to <50th
- <50th (worst)


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**Physical Activity: 60 min/day**

N = 1,398 students

Self-reported using Youth Risk Behavior Surveillance Survey (YRBSS)

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**Blood Pressure**

Status based on BP percentile for age

N = 1,467 students

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**TV Viewing on a School Day**

N = 1,406 students

Self-reported using Youth Risk Behavior Surveillance Survey (YRBSS)

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**Recess: Location influences physical activity**

- 20 minute recess
- Grades 2-5
- Assessed 2-3X/week at weeks 0,4,8

Tian I, Clark BR, Racette SB. Prev Chronic Dis 2013.
Heart Rate by Recess Location

Tran I, Clark BR, Racette SB. Prev Chronic Dis 2013.

Physical Activity Throughout the School Day


MVPA During the School Day based on HR

Racette SB, Oll TC, White ML, Castillo JC, Uhrich ML, Immel CL, DuPont NC, Clark BR. Prev Chronic Dis 2015.

(U.S. Department of Education Awards More Than $27 Million to School Districts, Community Organizations for Physical Education and Nutrition Education (July 31, 2012)

Carol M. White Physical Education Program (PEP) Grant

U.S. Secretary of Education Arne Duncan: “Exercise and good nutrition make for happier, healthier, more attentive and more productive students. These grants will help students strengthen their bodies and in so doing, inspire their minds to confront the challenges that face them both inside the classroom and out.”

U.S. Department of Education Awards More Than $27 Million to School Districts, Community Organizations for Physical Education and Nutrition Education (July 31, 2012)

St. Louis Public Schools (SLPS) Partners:
- Washington University School of Medicine
- BJC HealthCare
- Healthy Youth Partnership
- St. Louis Rams
- Physicians Blawurt Memorial Fund
- City of St. Louis Department of Health
- City of St. Louis, Office of the Mayor

AIM for Fitness

- Objective
  To improve the health and fitness of elementary school students, increase the extent to which they meet or exceed state and national physical fitness standards, and empower them to become active and positive decision makers in their own health and fitness learning.

- Performance Measures
  % of students who:
  1) Engage in 60 minutes/day of physical activity
  2) Achieve age-appropriate cardiorespiratory fitness
  3) Consume fruit 2x/day & vegetables 3x/day

- Data Analysis
  - Examining the relationship of the school environment on physical activity and aerobic fitness
  - Exploring the relationship of neighborhood on weight status

Summary- Part 3

Need for wellness where children & adolescents learn and play:
- Students in our urban community are at high risk for Cardiometabolic disease
- Cardiorespiratory fitness & physical activity decline across grade levels
- Recess & PE provide important opportunities for school-based PA
- Recess outdoors is optimal
- PE contributes significantly to daily in-school PA & in-school MVPA
- School environment is important

AIM for Fitness goals:
- increase daily in-school physical activity
- increase quality physical education
- improve physical fitness
- promote healthful dietary behaviors

Physical Therapy students and faculty mentors can design and conduct community-based health-related studies.
Challenges of Community-Based Research in the Schools

- Institutional IRB
- Obtaining informed consent
- School-district research review committee
- Difficulty prescribing interventions
- Outcome measures & assessment methodology
- Engaging support of diverse principals, PE teachers, classroom teachers...
- High transfer rate
- Homelessness
- Illiteracy, non-English speaking
- Time constraints in a school setting
- Space for assessments
- Requirements for entering schools

Rewards of Community-Based Research

Part 4

- Review one additional research project from former Nutrition & Exercise Science Laboratory (now Physical Activity and Fitness research area) at Washington University School of Medicine in St. Louis that illustrates community-based clinician efforts
- Provide additional example of community-based clinician efforts with guest panelist Mike Eisenhart
- Offer and brainstorm ideas on how physical therapists can get involved in their communities
- Panel and audience discussion including future directions

Physical Activity for Campus Employees: Background

- National organizations have published a variety of evidence-based CVD prevention recommendations, yet widespread application of health promotion programs remains insufficient
- Nearly 80% of adults have at least one risk factor that may be modified with prevention activities
- 25-30% of companies' annual medical costs are spent on employees with CVD or CVD risk factors
- Worksites provide ideal environments for the implementation of CVD prevention programs

Physical Activity for Campus Employees: Aims

- To determine the feasibility of conducting a worksite wellness program in a university campus setting
- To explore the effects of a pedometer-based worksite wellness program on physical activity and CVD risk factors
- To explore exercise self-efficacy among university employees

Physical Activity for Campus Employees: Program components

- Pre- and post-program health assessments
  - Step count
  - BMI
  - Resting BP and HR
  - Cardiorespiratory fitness
  - Waist and hip circumferences
  - Fasting lipids and glucose
- Questionnaires
  - Exercise self-efficacy measures
  - Post-program satisfaction survey
- Personal health reports
  - 8 weeks of pedometer-based walking and tracking activities
  - Weekly health and wellness education sessions
  - AHA workplace resources
Percentage of participants by Tudor-Locke steps/day zone group and associated descriptive category at baseline and week 8.

<table>
<thead>
<tr>
<th>Steps/day zone</th>
<th>Descriptive Category</th>
<th>Baseline</th>
<th>Week 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥12,500</td>
<td>Highly active</td>
<td>3.3</td>
<td>7.4</td>
</tr>
<tr>
<td>10,000 - 12,499</td>
<td>Active</td>
<td>2.5</td>
<td>22.1</td>
</tr>
<tr>
<td>7,500 - 9,999</td>
<td>Somewhat active</td>
<td>27.9</td>
<td>31.1</td>
</tr>
<tr>
<td>5,000 - 7,499</td>
<td>Low active</td>
<td>37.7</td>
<td>26.5</td>
</tr>
<tr>
<td>&lt;5,000</td>
<td>Sedentary</td>
<td>28.7</td>
<td>9.8</td>
</tr>
</tbody>
</table>


Physical Activity for Campus Employees: Discussion

- Allowed us to partner with a local university and assist them in identifying health initiatives that may be successful in their employee population
- Physical activity and physical fitness improved within 8 weeks; small changes in physiological measures
- Walking at the workplace may allow individuals to overcome commonly perceived barriers to exercise participation, such as schedule conflicts or difficulty getting to the exercise location, as reported by many of our participants
- Pedometers are simple, economical tools for monitoring and increasing physical activity and may enhance worksite walking initiatives

Average daily pedometer step count at baseline, week 4, and week 8 stratified by weight status.

Physical Activity for Campus Employee: Successes

- “...it was the push I needed to get back on track…”
- “I felt better, I slept better, and was more alert during the day (especially after a 20-minute walk just before coming into work.”
- “I realized how different my perception of daily activity varied from what my pedometer readings indicated.”
- “…an incentive to do better since my co-workers were involved.”
Success and barriers of community-based clinician efforts in the workplace

**Successes**
- Disease prevention and health promotion strategies can be delivered to relatively large populations at relatively low cost
- Variety of strategies promote success
- Variety of program components may better suit needs of employees

**Barriers**
- Less than 7% of U.S. employers offer worksite wellness programs per AHA guidelines
- Difficult to determine relative efficacy of each component
- Some components may not be popular or effective
- Feasibility of program may be difficult to access
- Multi-component approach can be costly
- Employee availability/schedule conflicts

Community-based clinician efforts with Mike Eisenhart

**BUILDING DISEASE PREVENTION AND HEALTH AND WELLNESS INTO A CLINICAL PRACTICE AND MORE**

http://www.pro-activity.com/

Physical Therapy in the Community: Prevention Where We Live, Learn, Work, and Play

PANEL & AUDIENCE DISCUSSION

How physical therapists can get involved in their communities

- Fitness and wellness-oriented clinical services
- Clinic or community seminars
- Health fairs or screenings
- After-school programs
- Local sponsorships
- Corporate charity fundraising

- **Settings:** Workplaces, schools, gyms or fitness centers, churches, community centers

Summary and Implications for the Profession of Physical Therapy

- Patterns of Physical Activity are important across the life-span
- Inquire about current PA habits with patients; all individuals benefit from education regarding lifestyle modifications
- Emphasize importance of MVPA with patients & families
- Provide meaningful curricular experiences during entry-level DPT education
- Support local school & school district health & wellness policies
- Help promote outdoor recess & more frequent PE in schools
- Engage in worksite and community health promotion activities
- Model a physically active lifestyle

Resources

- APTA Policies on Health, Wellness, and Fitness:
  http://www.apta.org/PreventionWellness/Policies/
- APTA Cardiovascular & Pulmonary Section:
  http://www.cardiopt.org/
- @APTACvp
- American Heart Association:
  http://www.heart.org/HEARTORG/
Session Summary

- Advancing the health of our nation requires an integrated, multidisciplinary, and community-based approach.
- The dynamics of health care reform will continue to provide opportunities for our profession to shape its own future, including roles in prevention and public health.
- We are uniquely qualified to engage at individual and community levels to address chronic, preventable health conditions.
- Disease prevention and health promotion efforts must be woven into all aspects of our lives – where we live, learn, work, and play – not just in academic or clinical settings.
- We must look beyond the clinical environment and into the community to optimize movement and improve the human experience on a larger scale!

References


Acknowledgments


THANK YOU