LEARNING FROM COMMUNITY BEHAVIORAL LIFESTYLE INTERVENTION TRIALS:
MEASUREMENT AND REPORTING OF PHYSICAL ACTIVITY

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Integrating Physical Activity Measurement into Health Care

Primary Care Provider  Medical System  Community
Diabetes Prevention Program (DPP): Intervention Overview

- **Lifestyle Goals**
  - 7% weight loss
  - 150 minutes/week of moderate intensity physical activity (similar to a brisk walk)

- **Physical Activity Measurement**
  - Diaries (minutes/week)
  - Modifiable Activity Questionnaire (MET-hrs/week)
  - Accelerometer (counts/minute → minutes/week; ancillary study only)

- **Physical Activity Outcomes**
  - Lifestyle participants increased PA by 6-7 MET-hrs/week; 60-70% met PA goal
  - Meeting PA goal was associated with ~45% reduction in diabetes incidence (post-hoc)

Physical Activity in DPP Community Interventions: Systematic Review

■ Purpose:
  - Describe the PA goals of community-based DPP interventions
  - Summarize the frequency and types of measurement utilized
  - Evaluate the frequency and types of PA-related outcomes reported

■ Methods
  - 72 studies identified through PubMed and Ovid Databases
  - 57 unique study populations included in review
  - Information related to setting, program structure, and PA goals, measurement and outcomes collected and summarized

DPP Interventions in the Community

Physical Activity Program Structure in Community DPP Interventions

- Goal: 150 minutes/week of moderate intensity physical activity
  - Same PA Goal as the DPP

- Physical Activity Session Delivery
  - Self-guided/at-home
  - Supervised sessions
  - Resistance/strength training
Measurement of Physical Activity in Community DPP Interventions

Reporting Physical Activity Outcomes in Community DPP Interventions

% Meeting Goal
Kcal/week
MET-hrs/week
Days/week
Minutes/week
Self-efficacy
Steps/day
PA is a critical component of DPP behavioral intervention: Is something being lost in translation when taken to community settings?

It is difficult for patients to change a behavior if they do not know where they are starting!
Challenges and Considerations for Physical Activity Measurement in the Community

- Physical activity is a multi-dimensional behavior that can be difficult to assess

- The wide array of assessment instruments available generates highly variable types of data and outcomes

- Balance most valid way of measuring PA (i.e. gold standard) with what is most feasible for community sites and what provides info that is interpretable by health care team

- Need a shared understanding between exercise prescription given in clinic or hospital setting and PA measurement in community
Example of PA Measurement and Outcomes in a DPP Community Trial

- Population: 223 overweight (BMI > 25 kg/m²) adults with pre-diabetes and/or the metabolic syndrome
- PA Measurement: MAQ and more general questionnaire
- Main take-aways:
  - Participants overall successful in behavior change
  - Both PA measures showed similar results

Results: Mean Change in Physical Activity

Adapted from Eaglehouse, et al. (unpublished, under review)
Needs for Integrating PA Measurement into Health Care and Community

- Simple, reliable assessment instrument

- Quantify PA consistently in a way that resonates with behavior goals

- Open communication between community provider and primary health care team
Special Thanks and Disclosures

- Society of Behavioral Medicine and American College of Sports Medicine Organizing Committees
- Symposium Panel Members
- Drs. Kramer, Rockette-Wagner, Arena, & Kriska (systematic review); Univ. of Pittsburgh
- R18 DK081323-04; PI: Dr. Kriska (predoctoral support)
- NIH T32 CA186873; PI: Dr. Yuan (postdoctoral support)
- No conflicts of interest to declare