NCCOR | WORKING TOGETHER TO REVERSE CHILDHOOD OBESITY

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The National Collaborative on Childhood Obesity Research (NCCOR) brings together four of the nation's leading funders of childhood obesity research—the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Robert Wood Johnson Foundation (RWJF), and the U.S. Department of Agriculture (USDA)—to build evidence and advance practice to reduce childhood obesity in the United States, creating a healthier future for all children, their families, and communities.

The PARO Framework as a Tool to Advance Physical Activity Research

BACKGROUND

- Physical activity (PA) supports overall health and prevents, delays the onset of, and helps to manage chronic disease.[1]
- Only 1 in 4 adults and 1 in 5 adolescents in the United States meet PA guidelines for aerobic and muscle-strengthening activities.[2]
- Evidence-based strategies to increase PA exist but are difficult to locate and implement as they are published in multiple disparate reports.

Objective: Synthesize and organize PA research opportunities to guide funders, researchers, practitioners, and policymakers in advancing PA research more strategically to impact the prevalence of chronic disease in the U.S.

METHODS

We conducted qualitative document analysis[3] combined with expert consultation, including the following steps:

1. **Identify key source documents**
2. **Extract PA research opportunities**
3. **Code research opportunities by translational research phase,[4] ecological level, setting, and population**
4. **Synthesize similar opportunities**
5. **Examine relationships between variables and develop the Physical Activity Research Opportunities (PARO) framework**

The PARO framework organizes research opportunities by translational research phase and by social ecological level, providing a guide of where research efforts can be more impactful in PA promotion.

The PARO framework is a practical tool to focus the PA research agenda to help advance policy and practice. The framework:

Can enhance communication of research opportunities and maximize overall research efficiency.

Provides the research community, funding agencies, and policymakers with a tool to identify priority focus areas for PA research and build cross-sector collaborations (e.g., city planning, transportation, parks and recreation).

Offers a replicable method for synthesizing and prioritizing research opportunities in other public health areas.

Access the manuscript, including all 87 opportunities in the PARO framework.

References:
1. Anderson E, Durstine JL. Physical activity, exercise, and chronic diseases: a brief review. Sports Med Health Sci. 2019;1:3–10.
2. Bennie JA, De Cocker K, Teychenne MJ, Brown WJ, Biddle SJH. The epidemiology of aerobic physical activity and muscle-strengthening activity guideline adherence among 383,928 U.S. adults. Int J Behav Nutr Phys Act. 2019;16:1–11.
3. Altheide DL, Schneider CJ. Process of qualitative document analysis. In: Qualitative Media Analysis. London: SAGE Publications, Ltd; 2013. p. 3874.
4. Zarbin M. What constitutes translational research? Implications for the scope of translational vision science and technology. Transl Vis Sci Technol. 2020;9:22.

FINDINGS

Figure 1. Research opportunities by intervention level

- Crosscutting — 32%
- Individual and interpersonal level — 30%
- Policy, systems, and environment level — 38%

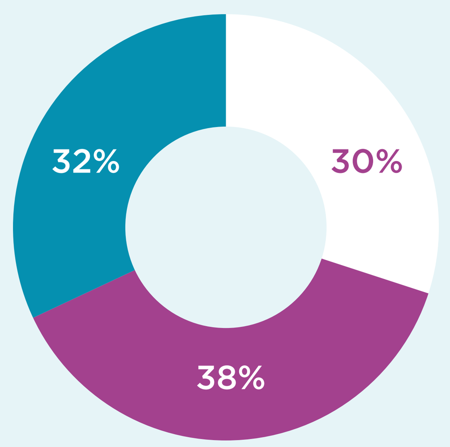

Figure 2. Research opportunities by translational phase

- Effectiveness — 51%
- Dissemination and implementation — 16%
- Surveillance — 10%
- Methods and measures development — 9%
- Etiology — 7%
- Efficacy — 7%

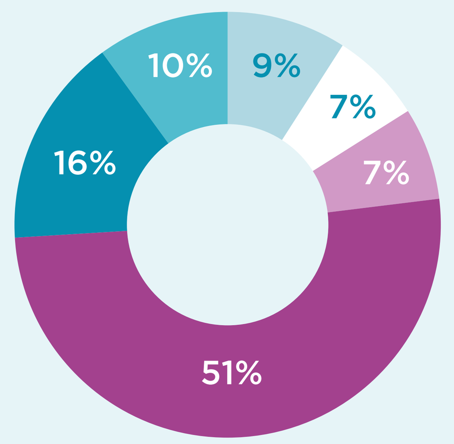

Table 1. Opportunities for one of the translational research phases, dissemination and implementation.

DISSEMINATION AND IMPLEMENTATION SCIENCE RESEARCH OPPORTUNITIES
Individual and interpersonal
• Tailor and test existing school-based physical activity interventions for student needs and school context. • Assess the implementation of computer-tailored interventions, including tailoring variables and core components. • Investigate the implementation of social support interventions in community settings, including type, medium, intensity, structure, and frequency.
Policy, systems, and environment
• Conduct policy research on improving the adoption and implementation of active transportation, land use, and community design policies. • Determine evidence-based core components of active travel to school interventions (e.g., active school buses, school bus availability, proximity to homes). • Determine which characteristics of park, greenway, and trail infrastructure (e.g., wayfinding signs, trails, fitness centers) are most effective for increasing physical activity. • Study the implementation of point-of-decision prompts, including format, type, size, distance to stairs, and number of flights. • Test strategies to integrate physical activity interventions in clinical settings and guidelines.
Crosscutting
• Conduct research on the effectiveness of technical assistance to support communities in collecting data, measuring outcomes, and tailoring interventions. • Develop and systematically test methods for improving the implementation and sustainability of evidence-based physical activity interventions in real-world settings. • Examine how to best integrate and disseminate faith-based and faith-placed interventions. • Examine barriers to adoption, implementation, and maintenance of school-based physical activity interventions. • Examine how community-wide campaigns can be institutionalized, such as through community coalitions. • Systematically test implementation of multi-component physical activity interventions, including core components (e.g., sedentary time, sleep, nutrition) and implementation strategies.