

# ODP Portfolio Analysis: Data Snapshot

## Pathways to Prevention (P2P) Workshop: Can Physical Activity Improve the Health of Wheelchair Users?

### Introduction

The [Pathways to Prevention \(P2P\) Workshop: Can Physical Activity Improve the Health of Wheelchair Users?](#) was convened in December 2020 to assess the available scientific research on the benefits of physical activity interventions for people at risk of using, or currently using, wheeled mobility devices (e.g., wheelchairs, scooters, walkers, rollators) as a result of a disabling injury or illness. The goals of the workshop were to synthesize evidence, identify research gaps, shape a research agenda, and develop an action plan to move the field forward. Published products from the workshop include the [independent panel's report](#), [systematic evidence review](#), and [Federal Partners Meeting report \(PDF\)](#).

### Purpose

A portfolio review was conducted during fall 2020 as part of the National Institutes of Health's (NIH's) assessment of current agency support and informed by NIH subject matter experts. The review describes and evaluates research projects funded by NIH that are related to the P2P workshop topic. Aims of the review were to quantify and characterize current research activities, inform the identification of potential research and funding gaps, and provide a baseline to measure against future progress.

### Methods

New NIH research projects (Types 1, 2, and 9) funded from fiscal years 2016–2020 (FY16–20) were identified using NIH RePORTER based on related keywords such as “physical activity,” “exercise,” “mobility exercise,” and/or “disability exercise” in relation to “wheelchair users” within defined populations including those diagnosed with multiple sclerosis, spinal cord injury, cerebral palsy, paraplegia, stroke, muscular dystrophy, and Parkinson's disease.

Project titles and abstracts were screened for relevance and included in the final data if they focused on developing, testing, or assessing the impact of physical activity interventions in the defined populations (e.g., people with multiple sclerosis at risk for or currently using a wheeled mobility device). Research projects were excluded if they included basic research, medication interventions, observational studies, or ineligible grant types (including intramural, career development, and infrastructure awards). Relevant projects were manually screened and validated internally by Westat coders, Office of Disease Prevention staff, and NIH subject matter experts to ensure relevance to the research topic.

The funding and number of new NIH projects were broadly summarized across NIH Institutes and Centers to assess and develop a baseline of relevant research.

## Results and Summary of the Data

- From 2016 to 2020, the annual number of relevant projects increased from four to nine per year.
- The initial search yielded approximately 980 new projects, of which 27 (2.8%) were determined to be directly relevant to this P2P workshop.
- Six NIH Institutes and Centers supported 27 new relevant research projects with funding totaling \$38,611,970, with the majority of support provided by the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development and the National Institute on Neurological Disorders and Stroke.

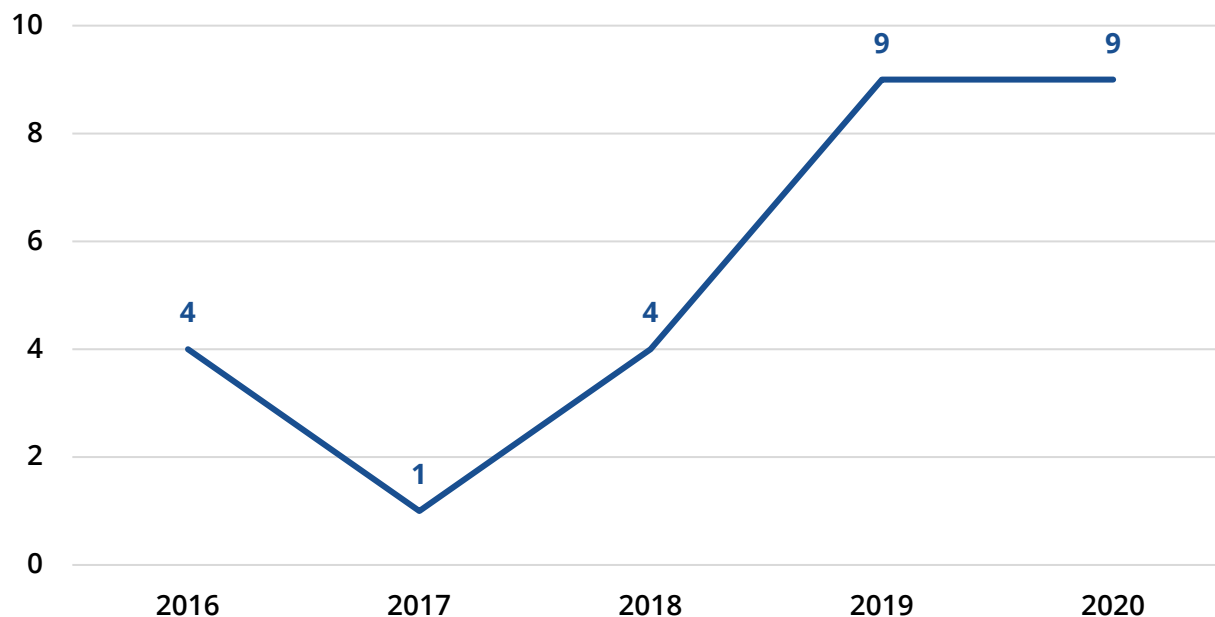
## Implications

Review of the NIH research portfolio found that fewer than 30 new projects were funded over the last five years that developed, tested, or assessed the impact of physical activity interventions for people at risk of using, or currently using, wheeled mobility devices because of a disabling injury or illness. These results are similar to previous portfolio analysis findings indicating an overall lower representation of prevention interventions focusing on people with disabilities when compared with other study designs like observational studies or analysis of existing data.<sup>1</sup>

This summary of NIH's FY16-20 portfolio represents a baseline that will be used to measure future progress as the [P2P workshop's independent panel recommendations \(PDF\)](#) are implemented to address this critical research need.

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## New NIH-Funded Projects by Fiscal Year (FY16–20)



## Funding by NIH Institutes and Centers (FY16–20)

NIH Institutes and Centers	Number of Projects	Total Cost
<i>Eunice Kennedy Shriver</i> National Institute of Child Health and Human Development (NICHD)	17	\$16,980,580
National Institute of Neurological Disorders and Stroke (NINDS)	6	\$19,563,959
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	1	\$1,313,597
National Institute of General Medical Sciences (NIGMS)	1	\$306,084
National Institute on Aging (NIA)	1	\$225,000
National Institute of Nursing Research (NINR)	1	\$222,750
<b>Grand Total</b>	<b>27</b>	<b>\$38,611,970</b>

## New NIH Projects Relevant to the Wheelchair Users P2P Workshop (FY16–20)

Project Number	Project Title
F31HD097903	<a href="#"><u>Restless legs syndrome and physical activity in adults with multiple sclerosis</u></a>
F32HD101214	<a href="#"><u>Development of a wheelchair exercise training program for persons with multiple sclerosis using a community-engaged research approach</u></a>
K23HD101667	<a href="#"><u>Aerobic exercise to improve mobility in multiple sclerosis: optimizing design and execution for a full-scale multimodal remyelination clinical trial</u></a>
R01HD083384	<a href="#"><u>Daily and Weekly Rehabilitation Delivery for young children with Cerebral Palsy (DRIVE Study)</u></a>
R01HD085930	<a href="#"><u>Ischemic Conditioning as a Neurorecovery Agent for Stroke</u></a>
R01HD090126	<a href="#"><u>Effect of vibration on muscle properties, physical activity and balance in children with cerebral palsy</u></a>
R01HD091155	<a href="#"><u>Treadmill Walking Exercise Training Effects on Cognition and Brain Function in Multiple Sclerosis: A Systematically-Developed Randomized Controlled Trial</u></a>
R01HD093724	<a href="#"><u>Multimodality Intervention to Improve Function and Metabolism in Spinal Cord Injury</u></a>
R01HD097407	<a href="#"><u>An exercise intervention to Reduce Neuropathic Pain and Brain Inflammation after Spinal Cord Injury</u></a>

Project Number	Project Title
R01HD098270	<a href="#"><u>Short-Burst Interval Treadmill Training to Improve Community Walking Activity and Mobility in Cerebral Palsy</u></a>
R01HD100383	<a href="#"><u>Mobility in Daily Life and Falls in Parkinson's Disease: Potential for Rehabilitation</u></a>
R01HD100544	<a href="#"><u>Priming with High-Frequency Trans-spinal Stimulation to Augment Locomotor Training Benefits in Spinal Cord Injury</u></a>
R01HD101900	<a href="#"><u>Evaluation of the Efficacy of a Physical Therapy Intervention Targeting Sitting and Reaching for Young Children with Cerebral Palsy</u></a>
R03HD094583	<a href="#"><u>Pediatric Gait Rehabilitation Via Wearable Robotic Assistance</u></a>
R03HD097727	<a href="#"><u>NEO rehab program for premature infants at risk for cerebral palsy</u></a>
R21HD087840	<a href="#"><u>Post-PT Extension of In-Home Dynamic Standing Table Use in Parkinson Disease</u></a>
R44HD097803	<a href="#"><u>FitMi Plus: Smart Functional Modules for Practicing Activities of Daily Living after Stroke</u></a>
R01NS100810	<a href="#"><u>Closed loop control of vibration for muscle spasms after human spinal cord injury: efficacy and mechanism</u></a>
R01NS114279	<a href="#"><u>Characterization of Physiological Changes Induced Through MEP Conditioning in People with SCI</u></a>
R21NS118764	<a href="#"><u>Imaging Biomarkers of Exercise-Induced Brain Changes in Parkinson's Disease</u></a>
R44NS110237	<a href="#"><u>Enhancing Physical Therapy with Brain Stimulation for Treating Postural Instability</u></a>
U01NS106655	<a href="#"><u>Perinatal Arterial Stroke: A Multi-site RCT of Intensive Infant Rehabilitation (I-ACQUIRE)</u></a>
U01NS113851	<a href="#"><u>Study in Parkinson Disease of Exercise Phase 3 Clinical Trial: SPARX3</u></a>
R01DK116669	<a href="#"><u>Weight management for adults with mobility related disabilities</u></a>
P20GM113125	<a href="#"><u>Interventions to improve cardiovascular health and fitness and walking function and activity after stroke</u></a>
R43AG064990	<a href="#"><u>MiGo-Wheels: A comprehensive feedback system to help wheelchair users maintain a healthy lifestyle</u></a>
R21NR019309	<a href="#"><u>Telehealth high intensity interval exercise and cardiometabolic health in spinal cord injury</u></a>

## References

1. Oyedele NK, Ganoza LF, Schully SD, Liggins CA, Murray DM. [NIH Primary and Secondary Prevention Research in Humans: A Portfolio Analysis of Study Designs Used in 2012-2019](#). *Prevention Science*. 2022;23(4):477-487. doi: 10.1007/s11121-022-01337-9. PMID: 35064895.

## Additional Information

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