

Marquette University: Physical therapy professor receives NIH grant to develop physical activity intervention for people with chronic knee pain

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MILWAUKEE — [Dr. Daniel Pinto](#), assistant professor of physical therapy in Marquette University's College of Health Sciences, has received a grant from the National Institutes of Health worth \$636,680 to study a physical activity intervention designed to increase and sustain physical activity in employees with chronic knee pain.

Computer-guided Action Planning is a behavioral intervention that supports both health coaches and employees. Coaches who use Computer-guided Action Planning will get access to a structured, interactive coaching platform that follows the format of Brief Action Planning, an evidence-based self-management support tool. Employees will receive the benefit of consistent, structured health coaching and access to a personalized physical activity dashboard for self-monitoring.

"Knee osteoarthritis is a major public health problem and a leading cause of disability and productivity loss among persons in the workforce," Pinto said. "Of those afflicted with knee osteoarthritis, over half have severe disability and 40% are likely to require joint replacement before age 65. The goal of this program is to develop and assess a low resource physical activity coaching intervention for large groups of employees with chronic knee symptoms."

This program will support employees in making physical activity action plans for

their health, use data transmitted from a personal fitness tracker to support coach and employee knowledge about physical activity performance, and use data about physical activity to suggest optimal timing to step up to higher resource treatments in future research studies. The long-term potential of this intervention is to improve symptoms and quality of life for those with chronic knee pain and decrease the functional limitations, productivity losses, and soaring health care costs associated with knee osteoarthritis.

“This is an exciting and innovative program, and I am excited that Dr. Pinto will be leading an established interdisciplinary team from Marquette and beyond,” said [Dr. William Cullinan](#), dean of the College of Health Sciences. “This research will have a profound impact on the more than 13 million adults over 45 years old with symptomatic knee osteoarthritis, including a third of working adults between 45-64. The outcomes of this plan will produce physical, mental, and financial benefits to so many dealing with chronic knee pain.”

[Dr. Sheikh Iqbal Ahamed](#), professor of computer science in the Klingler College of Arts and Sciences, is a co-investigator on the project. The research team also includes additional co-principal investigator Dr. Rowland Chang, professor of preventative medicine, and co-investigator Dr. Lutfiyya Muhammad, assistant professor of preventative medicine, from Northwestern’s Feinberg School of Medicine, and co-investigator Dr. Pamela Semanik, associate professor of adult health and gerontological nursing at RUSH University.

The research team includes additional consultants from the Feinberg School of Medicine, Shirley Ryan AbilityLab, and University of South Carolina.

This award was funded through NIH’s R21 grant mechanism, which is intended to encourage exploratory/developmental research by providing support for the early and conceptual stages of project development.

About Marquette University

Marquette University is a Catholic, Jesuit university located near the heart of downtown Milwaukee that offers a comprehensive range of majors in 11 nationally and internationally recognized colleges and schools. Through the formation of hearts and minds, Marquette prepares our 11,100 undergraduate, graduate, doctoral and professional students to lead, excel and serve as agents of positive change. And, we deliver results. Ranked in the top 20% of national universities,

Marquette is recognized for its undergraduate teaching, innovation and career preparation as the sixth-best university in the country for job placement. Our focus on student success and immersive, personalized learning experiences encourages students to think critically and engage with the world around them. When students graduate with a Marquette degree, they are truly prepared and called to Be The Difference.