

analysis aims to quantify the impact of SDOH on access to mental health services and elucidate key barriers to care for older adults in Puerto Rico. **RESULTS/ANTICIPATED RESULTS:** We anticipate that lower socioeconomic status, lack of supplemental insurance, and inadequate family support will be strongly associated with the underutilization of mental health services among older adults in Puerto Rico. These disparities are expected to be more pronounced in individuals with limited income, weaker family networks, leading to significant gaps in access to necessary mental health care. Barriers such as healthcare insecurity, financial hardship, and fragmented support systems will likely emerge as major obstacles. By including patients from both rural and urban regions, the study will capture the distinct challenges each population faces, enhancing the contextual relevance of the findings to broader populations, ultimately informing policy and developing intervention strategies. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The findings will provide crucial insights for developing targeted interventions to enhance mental health care access for older adults in Puerto Rico. These results will inform policy development and public health strategies, addressing disparities and promoting equitable care in underserved populations.

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Identifying barriers and facilitators influencing physical activity levels in children and adolescents with congenital heart disease (CHD): A rapid review

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OBJECTIVES/GOALS: Physical activity (PA) is critical to improving the health and well-being of patients with congenital heart disease (CHD); however, rates of PA, specifically in children and adolescents with CHD, remain significantly lower than the general population. Our goal was to understand what factors influence rates of PA in children and adolescents with CHD. **METHODS/STUDY POPULATION:** A rapid review was performed in February 2024 across 5 databases: PubMed, Scopus, CINAHL, PsycINFO, and PEDRO (PROSPERO 2024 CRD42024516250). A search strategy combined all possible terms and MESH terms related to the population of interest: children or adolescents with CHD and the outcome of interest: PA levels. Descriptive analysis and concept maps were used to further describe the various barriers and facilitators to PA. **RESULTS/ANTICIPATED RESULTS:** We identified 49 articles. Most articles were quantitative (76%) and assessed demographic influences, such as age and gender. Self-efficacy was the most common facilitator to PA, in addition to wanting to fit in and have fun. Self-imposed limitations and self-perceived barriers such as fears and anxiety, feelings of inadequacy, and lack of enjoyment were barriers to PA. Parents, teachers, and peers facilitated PA by providing support, possessing knowledge about the importance of PA, and by engaging in the activity with the child; however, these groups limited PA by showing anxiety and stress. Barriers related to social determinants of health (SDOH) include costs, lack of education, and accommodations during PA. Environmental barriers included

less PA during winter, weekends, and between the hours of 15:00 and 17:00. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Identifying barriers and facilitators to PA in patients with CHD is necessary to design tailored programs that will increase PA behaviors. Future work should integrate perspectives of clinicians, patients, and families with the factors described in this review, to create programs that effectively address low PA levels in the young CHD population.

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Clinician and researcher knowledge, barriers, and facilitators of patient partner research engagement to accelerate translational science

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OBJECTIVES/GOALS: To identify clinician and researcher barriers, facilitators and learning preferences for patient partner engagement in research. In addition, to describe the strategies, our Patient Partners Program has planned for building clinician and researcher capacity to engage patient partners in clinical research. **METHODS/STUDY POPULATION:** Our program to promote authentic patient–researcher partnerships to advance clinical and translational research is grounded in participatory approaches to maximize meaningful engagement. We utilized small group listening sessions with health care providers involved in clinical research at the University of Michigan, Michigan Medicine healthcare system. Insights from these sessions are informing the development of learning models and curriculum content. We used purposive sampling to recruit individuals ($n = 12$) with a wide array of patient engagement experiences across diverse clinical departments. The study materials and interview guide were co-created with a patient research partner who also participated in co-facilitating the listening sessions. **RESULTS/ANTICIPATED RESULTS:** The interview guide included questions about the benefits, challenges, and supports to engagement and capacity building training programs for researchers. The listening sessions were recorded, transcribed, and analyzed for common themes. Preliminary findings have identified the following themes related to barriers: (1) identifying and onboarding patient partners, (2) communication challenges, and (3) institutional and structural challenges (e.g., time constraints and difficulty offering compensation) and facilitators: (1) institutional and administrative support, (2) flexibility, and (3) respect, trust, and partnership. Improved knowledge about how and when to engage patient partners was identified as a key component to build researcher capacity in patient partnered research. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Integrating patient partners into study teams accelerates innovation and translational science, increases the relevance of research findings, improves health outcomes and patient empowerment, and elevates the value of the patient perspective allowing researchers to gain a new point of view from an individual with lived experience.