

of the role of social determinants in pain outcomes in MS is further warranted.

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Impact of individual socioeconomic status on rural health disparities in chronic disease prevalence and control

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OBJECTIVES/GOALS: Rural disparities in chronic disease burden are well documented. However, the impact of individual socioeconomic status on these rural disparities in prevalence and control status of chronic diseases remains less understood. We aim to assess the association of prevalence and control status of chronic diseases among adults with rurality and socioeconomic status (SES). **METHODS/STUDY POPULATION:** The Expanded Rochester Epidemiology Project medical records linkage system identified prevalence of asthma, diabetes, hypertension, and mood disorder using ICD codes between 2014 and 2019 among adults in 27 Upper Midwest counties. Uncontrolled status was defined by presence of ED visit or hospitalization with corresponding ICD-9/10 codes. SES was measured by HOUSES index, a validated individual-level SES measure, and rural status was defined by primary Rural Urban Commuting Area codes of 4–10. Hierarchical logistic regression models were used to examine the association of rurality with prevalence and control status of the four chronic diseases, adjusting for age, sex, race/ethnicity, and presence of general medical exam extracted by CPT codes (Model 1) and additionally SES measured by HOUSES (Model 2). **RESULTS/ANTICIPATED RESULTS:** Among 455,802 adults, 42.8% were rural residents and 87.4% were Non-Hispanic White. Model 1 (without HOUSES) showed higher prevalence and lower control rates of chronic diseases in rural residents, except for asthma. In Model 2, accounting for SES, urban residents were more likely to have an uncontrolled mood disorder, hypertension, and diabetes, and there were no differences in prevalence of chronic diseases that existed between rural and urban residents. Lower SES measured by HOUSES was consistently and significantly associated with higher prevalence and uncontrolled status of chronic diseases (p-value **DISCUSSION/SIGNIFICANCE OF IMPACT:** Patient's SES explains rural disparities in prevalence (null association with rurality once SES is accounted) and changes the directionality of association for uncontrolled status in Upper Midwest, highlighting the importance of considering SES in rural disparities research.

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Community engaged co-creation and implementation of informational sessions on biomedical research

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OBJECTIVES/GOALS: Research mistrust is well documented. So is community engagement's potential to foster trust. We share the community engaged development and implementation of informational sessions on research and the protections for participants, aiming at enhancing community members' knowledge of research. **METHODS/STUDY POPULATION:** Drawing from a pool of community members who had participated in research projects with a community engaged (CE) research center, we established a four-

member Research Partner Committee (RPC) to work with the Center's research team (CE Team) in the co-creation of materials for an informational session covering two main topics: the fundamentals of biomedical research and of protections for research participants. The RPC and CE Team also co-developed two sets of pre- and post-tests to evaluate knowledge acquisition at session implementation. Community partners assisted in recruiting their constituents to participate in the sessions and provided convenient sites for the presentations. **RESULTS/ANTICIPATED RESULTS:** The CE Team and RPC met 7 times to co-create the research and protections presentations (e.g., research definition, importance, inclusion of diverse populations, reasons we have protections, Institutional Review Boards, and informed consent). They also co-developed a 7- and a 9- item pre-post test, respectively. Five informational sessions, implemented by the CE Team with RPC members as observers drew 49 participants (96% African American, 73% female). 55.1% and 75.5% of participants showed a positive change in knowledge after the research and the protections presentations, respectively. 91% agreed to be notified about future research studies at the center. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Engaging community members in dialogue around research and the reasons for mistrust in research encourages relationship development. This engagement equips community members with knowledge to join in conversations around medical studies and make informed decisions about participation in research.

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Systems Marketing Analysis for Research Translation (SMART) innovation program

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OBJECTIVES/GOALS: The goal of the RC2 Systems Marketing Analysis for Research Translation (SMART) special innovation program is to develop and test a structured approach for working with research teams and communities to accelerate the translation of clinical and community innovations to address health inequities by integrating social marketing with community-based system dynamics. **METHODS/STUDY POPULATION:** The SMART program is a consultancy service for CTS teams focused on selecting and tailoring implementation strategies for advancing equity. We use social marketing for understanding the alignment of practice innovation feature sets with community priorities for advancing health equity; and community-based system dynamics to understand and refine the dynamics of scaling up and sustaining the implementation of innovations with sufficient reach to address regional health inequities. The program is implemented as community-engaged group model-building workshops with research teams, with follow-up marketing analyses and computer simulation of implementation strategies of innovations and development of implementation roadmaps. We use developmental program evaluation to revise the SMART program. **RESULTS/ANTICIPATED RESULTS:** Anticipated results from piloting the SMART innovation program with four research teams include (1) design matrices pre and post-workshop for each innovation; (2) system dynamics simulation models and analyses of implementation and scale-up of innovations; (3) analysis of the SMART program for highest impact, with priors