

co-facilitator, and CCH staff. These custom panels bring together 8-10 community members familiar with a research topic or community of focus, offering feedback on adaptations that can improve research relevance and feasibility. Until the COVID-19 pandemic, all ShARPs were conducted in person. From March 2020 to January 2023, panels occurred virtually. From 2023, the option of virtual or in-person ShARPs has been available. Count data and informal interview data were reviewed. RESULTS/ANTICIPATED RESULTS: The number of ShARPs peaked in 2019 and has remained stable. The first virtual ShARP occurred on April 22, 2020, and all subsequent sessions have been virtual. As of October 2023, 6 ShARPs have occurred, with no research teams pursuing an in-person session despite its availability. Participants described virtual ShARPs as convenient and accessible. Academic teams cited concern about low community member participation should they opt for an in-person session. DISCUSSION/SIGNIFICANCE: It is feasible to conduct ShARPs virtually and is the current preferred modality. Whether virtual ShARPs enhance, neutralize, or detract from the effectiveness of the session is unknown and guides our future work. More research is needed, including discussion, and learning from our CTSA colleagues.

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### Defining the Role of Hedgehog Signaling in Breast Cancer Risk of non-Hispanic Black Women

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OBJECTIVES/GOALS: The molecular basis of increased risk of triple negative breast cancer in non-Hispanic Black women represents a critical knowledge gap that this research is designed to address; successful completion of this work could lead to better prevention, earlier stage diagnoses, and possible discovery of novel therapeutic strategies for this population. METHODS/STUDY POPULATION: We have recently generated a living tissue cohort of 11 non-Hispanic Black and 25 non-Hispanic White women who underwent breast surgery at Mayo Clinic. Gene expression profiling of normal breast tissue from this cohort has identified a pattern of gene expression differences that have been associated with the development of basal breast cancer and are also reflective of Hedgehog (Hh) signaling. We will identify protein-based biomarkers for Hedgehog signaling within normal breast tissue using immunohistochemistry methods. We will culture primary human mammary epithelial cells and further separate luminal and myoepithelial cells using flow cytometry to then decipher Hedgehog signaling. RESULTS/ANTICIPATED RESULTS: We anticipate identifying and localizing protein-based biomarkers for Hedgehog signaling within myoepithelial cells of non-Hispanic Black women. Using our findings, we aim to create a biomarker risk model for triple negative breast cancer and validate this model within a separate and larger cohort of women to predict breast cancer risk. DISCUSSION/SIGNIFICANCE: In addition to immediate benefits from improved risk prediction, the proposed work has the potential to provide new insight into the driving forces underlying basal breast carcinogenesis and the distinct biological differences that distinguish non-Hispanic Black women from non-Hispanic White women.

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### Gender Disparities in the Acquisition of Lower Extremity Prosthetics Following Major Limb Amputation

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OBJECTIVES/GOALS: The time between lower extremity amputations and prosthetic acquisition profoundly influences patient rehabilitation and mortality outcomes. Our primary outcome was time to prosthetic acquisition following major limb amputation. We hypothesize that women face an increased time lag between amputation and prosthetic acquisition compared to men. METHODS/STUDY POPULATION: We used the 2015-2021 Truven Marketscan Medicare and Commercial Claims Administrative dataset to identify individuals with lower extremity amputations based on CPT codes. We excluded patients < 18 years old, those with prior/concurrent major extremity amputations, and those with ≤ 31 days discontinuity in enrollment. To estimate time to prosthetic acquisition after initial amputation, Weibull Accelerated Failure Time multivariable regression models were used to estimate unadjusted and adjusted time ratios and 95% confidence intervals comparing men to women. We adjusted models for age, Medicare supplement/commercial payer, Metropolitan Statistical Area (MSA), amputation type, social deprivation index, and Elixhauser comorbidities. RESULTS/ANTICIPATED RESULTS: We identified 4,054 patients with major lower extremity amputations (75% below knee and 25% at or above knee). Patients were predominantly male (72%). For patients who received prosthetics, 39.06% of men and 31.28% of women received prosthetics within the first three months of amputation ( $p < 0.001$ ). Time ratios > 1 indicated longer time to prosthetic acquisition between comparison groups. The adjusted time ratio for women compared to men for the time to acquisition of prosthetics was increased; this was statistically significant (TR 1.3281, 95% CI 1.1667, 1.5118). This time ratio suggests that if a man received a prosthetic in 100 days, a woman would receive her prosthetic in 133 days. DISCUSSION/SIGNIFICANCE: We found a significant difference in the time to prosthetic acquisition following major limb amputation and acquisition rate in the first three months of amputation among men and women. Successful rehabilitation, quality of life, and healthcare costs are influenced by the timeliness of prosthetic acquisition.

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### The Appalachian Translational Research Network (ATRN) Newsletter: Supporting Communication and Collaboration among Academic and Community Partners to Improve Health in Appalachia

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**OBJECTIVES/GOALS:** The Appalachian Translational Research Network (ATRN) Newsletter provides a unique platform that facilitates communication among Appalachian-serving CTSA/CTSAs and partnering academic and community organizations that strengthens research efforts and advances translational science across the region. **METHODS/STUDY POPULATION:** Published biannually, each ATRN Newsletter features content submitted by ATRN member universities and organizations. Members of the Communications Committee, who represent both CTSA- or non-CTSA- affiliated ATRN member institutions, provide as well as review and edit content for the Newsletter. Regular features include researcher and community member spotlights; funding opportunity announcements; information on upcoming seminars, trainings, and special events; and opportunities for collaborations among partnering ATRN institutions. Complementing regularly scheduled Newsletters, special editions are released as warranted, such as a special COVID-19 focused edition published in 2020. **RESULTS/ANTICIPATED RESULTS:** First published in 2012, the ATRN Newsletter initially represented founding ATRN institutions, the University of Kentucky and the Ohio State University CTSA, and a readership of 50. Reflecting ATRN growth that now represents 9 academic centers including NCATS- and IDeA-funded hubs, affiliated universities and partnering organizations, readership has grown to include 500 subscribers from across the U.S. and 3 other countries. With the establishment of the official ATRN website in 2019, the ATRN Newsletter became a prominent addition, providing ATRN members' access to both new and archived editions, thereby expanding reach and further strengthening critical communication across the Network. **DISCUSSION/SIGNIFICANCE:** Providing a vehicle for communication that supports ATRN collaborations and networking, the Newsletter is foundational to the success of the ATRN mission to improve health outcomes across Appalachia by fostering collaborative inter-institutional and community-academic research partnerships.

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### Psychosocial factors influencing the maintenance of a healthy lifestyle among African American adults during the COVID-19 Pandemic

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**OBJECTIVES/GOALS:** The COVID-19 pandemic disrupted established social support networks (faith-based, community, family, friends), resulting in unprecedented health-related, financial, and

employment challenges among African Americans (AAs). This study explores the psychosocial influences of the pandemic on the health and wellness of AAs. **METHODS/STUDY POPULATION:** The FAITH! (Fostering African-American Improvement in Total Health!) Program, an academic-community partnership with AA churches, shifted focus to COVID-19 prevention in AA communities. Funded by the Mayo Clinic Center for Clinical and Translation Sciences, this cross-sectional study recruited AA adults from FAITH!-affiliated churches and social media to complete a survey exploring the personal impact of the pandemic from hardships (e.g., food and housing insecurity, paying utilities) on healthy lifestyle (HL). The primary outcome was difficulty maintaining a HL during the pandemic. Logistic regression (odds ratios and associated 95% confidence intervals (CIs)) was used to examine the associations between difficulty maintaining a HL and factors including COVID-19 hardships and mental health. **RESULTS/ANTICIPATED RESULTS:** Participants (N=169, 71.4% female, 41.4% essential workers) had a mean age [SD] of 49.4 [14.9] years. Over half (91/169, 54%) reported difficulty maintaining a HL. Those reporting unemployment (OR 2.3; 95% CI [1.2,4.4]; p=0.008), difficulty paying rent (OR 4.1; 95% CI [2.1,8.6]; p<0.001), or food/utilities (OR 5.5; 95% CI [2.7,11.5]; p<0.001) all had greater odds of difficulty maintaining a HL. High stress ( $\geq 5/10$ , scale 1-10) was associated with difficulty maintaining a HL (OR 4.1; 95% CI [2.1,8.5]; p<0.001) compared to AAs with low stress. Negative mental health (depression (OR 3.4; 95% CI [1.0,13.7]; p<0.001), anger (OR 2.5; 95% CI [0.5,18.9]; p=0.005), and nervousness (OR 4.1; 95% CI [1.1,19.5]; p=0.003) was associated with difficulty maintaining a HL compared to AAs with positive mental health. **DISCUSSION/SIGNIFICANCE:** Our study findings revealed that COVID-19 hardships, stress, and negative mental health impacted the ability of AAs to maintain a HL. These issues should be considered in the design and implementation of community-based health programs to promote healthy living during future public health emergencies.

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### What is still needed?: Community conversations about health research

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**OBJECTIVES/GOALS:** While strategies for community engagement in health research and clinical trials are well documented, participation from underserved populations remains low. Our research team conducted a series of Community Engagement Studios for community members to discuss what is still needed for them to engage in health research. **METHODS/STUDY POPULATION:** In the spring of 2023, our research team conducted four community engagement studios using the Vanderbilt Community Engagement (CE) Studio model. Community members were recruited through health councils- which are a community-led collaborative, focused on health at the county level throughout the state. In the CE Studio model community members or stakeholders are referred to as experts. In total, 31 experts from 12 different health councils from around the state participated in the CE Studios via Zoom. The CE Studios centered around two main questions 1.) What do communities want to know before agreeing to participate in research? And 2.) When a study is presented as an opportunity for your community, what things need