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Transition Across Care Boundaries: Opportunities to Improve Medication Safety for Children with Medical Complexity

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OBJECTIVES/GOALS: Children with medical complexity (CMC) experience frequent transitions of care (e.g., hospital to home) and are at increased risk for medication-related harm. This study aimed to identify transition-related medication safety barriers experienced by family caregivers, as they shoulder most of the caregiving responsibility following discharge. **METHODS/STUDY POPULATION:** We conducted semi-structured qualitative research interviews of 6 family caregivers and 10 healthcare professionals with roles assisting families during hospital discharge. Interviews focused on identifying key stages of the hospital-to-home transition period as well as medication-related tasks, decisions, and contexts. Transcribed audio interviews and research meeting notes were content analyzed to develop journey maps visually depicting key phases of the families experiences managing medication at home and their decision points and unmet needs. **RESULTS/ANTICIPATED RESULTS:** Journey mapping identified key decision points, medication management needs, and way points navigated by family caregivers during the hospital-to-home transition. Findings were salient for each phase of the family journey: 1) initial admission/intra-unit transfer; 2) in-patient care; 3) peri-discharge planning; 4) discharge; 5) immediate post discharge period (we termed post-discharge configuration); and 6) period of ongoing tasks and needs. Illustrative examples will be presented and discussed. **DISCUSSION/SIGNIFICANCE:** Family caregivers of CMC have needs that evolve throughout the medication use journey, suggesting a need for interventions that account for the time variant nature of this work. Findings lay a foundation for the next step of our study which aims to develop a prototype medication safety intervention that will be evaluated with family caregivers.

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Understanding vaccine hesitancy among underserved communities in South Florida – an effort by the Florida Community-Engaged Research Alliance Against COVID-19 in Disproportionately Affected Communities (FL-CEAL) to address vaccine uptake disparities in the COVID-19 pandemic.

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OBJECTIVES/GOALS: The goal of this project is to understand vaccine hesitancy and barriers to COVID-19 vaccine uptake among underserved communities in South Florida, to promote vaccine awareness, and to tailor education and communication based on the findings, in partnership with local community-based organizations. **METHODS/STUDY POPULATION:** By partnering with local community organizations, leaders, faith groups, and other trusted sources, the FL-CEAL teams will conduct a nationally developed CEAL survey in minority communities in South Florida to understand vaccine hesitancy and barriers, conduct outreach activities such as webinars and virtual townhalls to address hesitancy and promote vaccine uptake, and develop and disseminate educational materials and social media communications based on findings. The

communities in South Florida include the Latinx farm working community, Latinx sexual/gender minorities, and Haitian and Black populations in South Florida. **RESULTS/ANTICIPATED RESULTS:** Early findings have indicated that hesitancy drivers vary among specific communities, while lack of trust is an overall barrier. Over 100 outreach activities have been conducted, including events with subject matter experts and community partners addressing vaccines. A credit-earning Community Health Worker (CHW) curriculum on COVID vaccine hesitancy was created in partnership with the Miami CTSI and the Florida CHW Coalition and has been delivered to over 200 Florida CHWs. The training focuses on evidence-informed best practices for CHWs to increase vaccine acceptance. At least 350 surveys will be conducted to understand beliefs and concerns around COVID-19 vaccines, and tailor education materials and communication strategies. **DISCUSSION/SIGNIFICANCE:** The FL-CEAL Alliance has successfully leveraged their ongoing state-wide effort at addressing COVID-19 disparities to focus on COVID vaccine hesitancy in minority communities and leveraged data and findings to inform community-specific approaches in addressing some of those barriers.

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Engagement to Reduce COVID-19 Vaccine Hesitancy - The Value of Investments In Long Term Community Relationships

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OBJECTIVES/GOALS: The Colorado Community Engagement Alliance Against COVID-19 Disparities (CO-CEAL) Team has worked with 5 racial/ethnic communities in Colorado to understand COVID-19 vaccine hesitancy and develop messages, materials and dissemination strategies to impact vaccine hesitancy. Relationships have been key facilitators of this work. **METHODS/STUDY POPULATION:** CO-CEAL was funded for one year as a part of the national CEAL Teams effort. CO-CEAL engaged urban Hispanic/LatinX, rural Hispanic/LatinX, urban African/American, rural African Immigrant and urban American Indian/Alaska Native communities through Community Connectors in each community. Our Community Connectors led recruitment of community members for our community survey data collection (goal of 200 surveys from each community) and participation in our 5 Community (Boot Camp) Translations. Where possible we worked with Community Connectors and leveraged community relationships with whom we had worked over multiple years and projects. In two communities we worked to quickly build and establish new relationships with Community Connectors and their communities. **RESULTS/ANTICIPATED RESULTS:** The rapid nature of the CO-CEAL project, its timeline and the unusual nature of the funding mechanism required adaptations to usual ways of working on both the academic and community side. In our CO-CEAL partner communities where there was a history of working together, concerns, possible barriers and other issues tended to be rapidly addressed. The prior existing, long-standing relationships fostered trust that enabled open airing of concerns and an ability to address issues as they arose. In CO-CEAL partner communities where new relationships were being forged, trust needed to be build from the ground up. This made adaptations more challenging and the ability to address concerns and issues as they arose more problematic. Although the work has moved forward in all communities, extra care has been

required in some. **DISCUSSION/SIGNIFICANCE:** When crises necessitate rapid action in communities, the depth of prior investments in building and maintaining relationships makes a difference in how rapidly and successfully partners can work together to address a crisis like the COVID-19 pandemic. Funders and Academic researchers should invest broadly in communities to enable rapid responses.

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The Impact of Minimum Volume Thresholds on Geographic Access to Stroke Thrombectomy

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OBJECTIVES/GOALS: At least 15 stroke thrombectomies per proceduralist per year are required for Thrombectomy-Capable and Comprehensive Stroke Centers. We sought to estimate the potential impact of these minimum volume thresholds on geographic access to stroke thrombectomy (ST). **METHODS/STUDY POPULATION:** Using the Florida State Inpatient Database, we will identify patients discharged with acute ischemic stroke from 2015-2019 and all non-federal facilities that performed ≥ 1 ST procedure per year. We will then calculate the proportion of stroke patients who live within 20, 65, 115, 165 and 200 miles (correlating with estimated ground transport times of 1, 2, 3, 4 and 5 hours, respectively) of centers that perform ST using ArcGIS software and evaluate the impact of varying the threshold ST volume required by each facility on this proportion. We will then perform multiple two proportion z-tests to compare proportions of patients within driving distance over time. **RESULTS/ANTICIPATED RESULTS:** We hypothesize that over time, and particularly after the pivotal trials of ST were published in 2015, that the number of facilities that perform ST have increased over time, which would increase the geographic access to ST. We also hypothesize that since the Joint Commission set the minimum procedural volume for proceduralists at Thrombectomy-Capable and Comprehensive Stroke Center to 15 per year, this would work to increase regionalization and could work to decrease geographic access to ST. However, we hope to elucidate the net impact of the interplay between these two opposing factors on regionalization of care over time which is currently unclear. **DISCUSSION/SIGNIFICANCE:** Current ST volume thresholds have focused on technical proficiency but may impact regionalization of care and geographic access to ST. Since access to ST is time-sensitive, a data-driven approach and better coordination on a regional level may be necessary to ensure timely access to ST.

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Caregiving burden and resilience: a mixed methods analysis in dyads managing a VAD in the home*

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OBJECTIVES/GOALS: Caregivers of patients with ventricular assist devices (VAD) are invaluable contributors to patient health, but they may experience psychological symptoms or worsening quality of life related to caregiving. We aimed to explore VAD caregiving burden and resilience comparing high and low burden patient-caregiver

dyads. **METHODS/STUDY POPULATION:** Using a convergent mixed-methods design, we conducted semi-structured interviews and collected self-reported surveys from patient-caregiver dyads. Patients (n=10, mean age 55.8 years) were mostly white males implanted as destination therapy. Caregivers (n=10, mean age 52.6) were mostly white females. Most dyads were spousal (n=6). Caregiver burden was measured with the Zarit Burden Interview Scale, using the median score to categorize lower and higher burden dyads (median = 12, IQR = 8). Data were analyzed using deductive and inductive coding for thematic analysis. **RESULTS/ANTICIPATED RESULTS:** Lower and higher burden dyads described the shared burden experience of 1) hyper-vigilance and uncertainty immediately post-implant and 2) changing relationship roles. Lower burden dyads were more likely to be able to take on responsibilities outside of caregiving. Contextual differences among higher burden dyads included higher financial strain, less social support, worse quality of life (both patients and caregivers) and worse heart failure severity compared to lower burden dyads. All dyads were resilient, using coping strategies like cognitive reframing, positivity, and adaptation to new roles. Higher burden dyads were more vulnerable to coping fatigue and were more likely to express that the VAD had irreversibly changed their life. **DISCUSSION/SIGNIFICANCE:** VAD caregiver-patient dyads differ in their levels of caregiver burden. Burden experiences and resilience mechanisms may inform future interventions to reduce caregiver burden in diverse VAD dyads. Knowledge of the caregiver experience and factors contributing to burden can inform the healthcare team in providing essential caregiver support.

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Development and Validation of a Survey Measuring Over-the-counter Medication Protection Motivation

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OBJECTIVES/GOALS: A major barrier to older adult (65+) over-the-counter (OTC) safety is the lack of actionable research on factors affecting older adult decisions during OTC selection. This goal of this study is to develop and validate a survey instrument based on the Protection Motivation Theory to measure older adults perceived risk of OTCs. **METHODS/STUDY POPULATION:** The 24-item OTC Protection Motivation survey underwent revision using a consult from the UW Survey Center as well as rigorous cognitive interviewing and pilot testing with 8 older adults. It was administered to 103 community-dwelling older adults. OTC misuse data was gathered from 15 of the participants. OTC misuse evaluated by three pharmacy experts on the basis of OTC appropriateness given participants age, existing conditions, concurrent medication use, and intention to adhere to label guidelines. Multivariate linear regression was used to examine the relationship between OTC misuse and protection motivation. Exploratory factor analysis (EFA) was used to determine a model of best fit to describe the factor structure of the OTC Protection Motivation survey. **RESULTS/ANTICIPATED RESULTS:** The EFA yielded a 5-factor model of protection motivation, which included the components of deliberative risk perception, a combination of experiential and affective risk perception, threat severity, protective behavior intent, and perceived efficacy in protective behavior engagement. The EFA-based item reduction resulted in a final 18-item OTC Protection Motivation survey. **DISCUSSION/SIGNIFICANCE:** Older adults, who have the lowest health literacy levels, are responsible for 30% of OTC medication use