

25475

### Healthcare Delivery Science in LA: Addressing patient and health system priorities with cross-sector research infrastructure

Amytis Towfighi<sup>1</sup>, \*Allison Z. Orechwa<sup>2</sup>, Arleen F. Brown<sup>3</sup>, Moira Inkelas<sup>4</sup>, Stefanie Vassar<sup>5</sup> and Deborah K. Herman<sup>5</sup>

<sup>1</sup>University of Southern California and LA County Department of Health Services; <sup>2</sup>Southern California Clinical and Translational Science Institute; <sup>3</sup>University of California Los Angeles and LA County Department of Health Services; <sup>4</sup>University of California Los Angeles; <sup>5</sup>University of California Los Angeles Clinical and Translational Science Institute

**ABSTRACT IMPACT:** Effective healthcare interventions improve access, quality of care, and health outcomes for underserved, high-disparity populations of Los Angeles county and beyond. **OBJECTIVES/GOALS:** We will expand our successful, Los Angeles-based public-academic partnership to develop and evaluate health system interventions aimed at improving healthcare for underserved communities, as well as develop workforce skilled in healthcare delivery science. **METHODS/STUDY POPULATION:** Together with the LA County Department of Health Services, the two LA-based CTSA hubs at USC and UCLA have established critical infrastructure for effective cross-sector translational research: (1) New funding mechanisms to evaluate health system interventions in county hospitals and clinics in areas of mutual interest; (2) Specialized research service cores (Safety-net Health Innovation core, Clinical Research Informatics core, and Healthcare Delivery Science core), and (3) Training and mentorship programs tailored for healthcare delivery scientists. **RESULTS/ANTICIPATED RESULTS:** Outcomes from the first four years of the partnership include: (1) Significant impact on health outcomes from eight funded projects, e.g., lowered A1c levels by 0.9%; (2) Successful, coordinated service to dozens of research projects, e.g., a teleretinal screening program decreased ophthalmology visit wait times from 158 to 17 days; (3) New virtual coursework in seven domains (healthcare delivery science, dissemination and implementation science, systems engineering, behavioral economics, informatics, team science, and community engagement); (4) A published 'synergy paper' w/ CTSA hubs in three other urban cities examining common themes of academic-public partnerships; and (5) Rapid and streamlined COVID-19 research policy setting with county leadership. **DISCUSSION/SIGNIFICANCE OF FINDINGS:** Our sustainable infrastructure is effectively bridging research-policy-practice gaps in Los Angeles and addressing patients' and the health system's priorities.

44190

### Comparing the Accuracy of Different Tools in Identifying Glaucoma Medication Non-adherence

Juno Cho<sup>1</sup>, Leslie Nizio<sup>1</sup>, Paul Lee<sup>1</sup>, Michele Heisler<sup>1</sup>, Kenneth Resnicow<sup>2</sup>, David C Musch<sup>1</sup> and Paula Anne Newman-Casey<sup>1</sup>

<sup>1</sup>Michigan Medicine; <sup>2</sup>University of Michigan School of Public Health

**ABSTRACT IMPACT:** Medication non-adherence is a widespread problem in glaucoma care, and this abstract shows that a free and easy to implement tool can be used to accurately screen and identify patients who are not adherent to their glaucoma medication. **OBJECTIVES/GOALS:** To compare the accuracy of pharmacy refill

data and five measures of self-reported adherence in identifying patients with poor electronically monitored glaucoma medication adherence. **METHODS/STUDY POPULATION:** Glaucoma patients (age  $\geq 40$ , poor self-reported adherence, and  $\geq 1$  medication) recruited at the University of Michigan completed five surveys of adherence and 3-months of electronically monitored medication adherence; pharmacy refill data were obtained. Electronically monitored adherence was summarized monthly as percent of doses taken on time. Median monthly adherence  $\leq 80\%$  was considered non-adherent. Pharmacy refill data were reported as the proportion of days covered. The accuracy of the measures in predicting  $\leq 80\%$  adherence was assessed with receiver operating characteristic curves such as estimation of area under the curve (AUC), sensitivity, specificity, and accuracy. **RESULTS/ANTICIPATED RESULTS:** 95 patients completed electronic monitoring with a median monthly adherence of 74% ( $\pm 21\%$ ); 53 patients (56%) were non-adherent. Pharmacy refill adherence was not significantly correlated with electronically monitored medication adherence ( $r=0.12$ ,  $p=0.2$ ). A single-item adherence question ('Over the past month, what percentage of your drops do you think you took correctly?') had the largest correlation with electronically monitored adherence ( $r=0.47$ ,  $p<0.0001$ ), the largest AUC for predicting non-adherence (AUC=0.76, [95% Confidence Interval = 0.66, 0.87]), best accuracy (71%, [61, 82]), and good sensitivity (84%, [73, 96]). **DISCUSSION/SIGNIFICANCE OF FINDINGS:** A free, single-item screening question ('Over the past month, what percentage of your drops do you think you took correctly?') offers an easy-to-implement tool for identifying glaucoma patients with poor medication adherence in clinical practice.

48847

### Assessing Transition Outcomes in Sickle Cell Disease (SCD) Prior To Implementation of A Formal Transition Program\*

Sydney Sheppard<sup>1</sup> and Julie Kanter<sup>2</sup>

<sup>1</sup>University of Alabama at Birmingham School of Medicine;

<sup>2</sup>Hematology/Oncology, University of Alabama at Birmingham

**ABSTRACT IMPACT:** To identify potential facilitators and barriers to a successful transition in care. **OBJECTIVES/GOALS:** Improvements in care for children with sickle cell disease (SCD) have increased survival into adulthood. However, mortality rates are increasing in young adults. One of the challenges is providing appropriate care during transition from pediatric to adult care. The goal is to identify facilitators and barriers to a successful transition in care. **METHODS/STUDY POPULATION:** The UAB SCD Center serves a large area of Alabama. The pediatric program is in Birmingham and has outreach clinics in three other cities. The adult program only has one clinic located in Birmingham. With IRB approval, we performed a retrospective chart review of individuals with SCD (all genotypes) aged 18-24 (as of 1/31/2019) who were seen at least twice prior to age 18 (in pediatrics) and have confirmed SCD. Charts were reviewed for demographics, genotype, last known insurance, SCD therapy, clinic location, and transition status. Analyses were undertaken to determine predictors of successful transition (defined as coming to an appointment with an adult hematologist) and unsuccessful transition (defined as lost to follow-up (LTFU) without transfer of care). **RESULTS/ANTICIPATED RESULTS:** There were 544 individuals meeting inclusion criteria. Of this group, 234 were LTFU, 189

transitioned, 36 moved, and 15 died. Seventy patients are still under pediatric care and were excluded. Sixty-eight percent of patients that transitioned had their last pediatric visit in Birmingham, compared to only 32% of those that transitioned from outreach sites ( $p < .01$ ). Patients were more likely to successfully transition if they had sickle cell anemia (HbSS or HbSÄŸ0) ( $p < .01$ ) and if they were receiving hydroxyurea or chronic transfusion therapy ( $p < .01$ ). DISCUSSION/SIGNIFICANCE OF FINDINGS: Geography, genotype, and SCD therapy are potential drivers for transition. Genotype in pediatrics likely confers disease severity, suggesting patients with worse SCD may be more likely to successfully transition. Novel strategies are needed to improve transition of care for patients outside of Birmingham and those with less severe disease.

58055

### Mothers' and Fathers' Parent-Child Aggression Risk, Intimate Partner Violence, and Perceived Child Behavior Problems\*

Doris F. Pu and Christina M. Rodriguez  
University of Alabama at Birmingham

ABSTRACT IMPACT: In light of the high co-occurrence between intimate partner violence (IPV) and physical child abuse, studying these forms of aggression simultaneously, bidirectionally, and longitudinally is vital to address this public health need. OBJECTIVES/GOALS: This study examined reciprocal associations between parent-child aggression (PCA) risk, IPV victimization, and perceived child behavior problems, to evaluate whether negative processes can transmit across family subsystems (i.e., spillover hypothesis) and/or across individuals (i.e., crossover hypothesis) over time. METHODS/STUDY POPULATION: Participants were first-time mothers and their male partners enrolled in a prospective longitudinal study, which tracked parenting and PCA risk over the transition to parenthood and into early childhood. The current project examined data from the third and fourth waves, when participants' child was 18 months old and approximately 4 years old. At both timepoints, parents reported on their PCA risk (i.e., child abuse potential, harsh parenting), physical and psychological IPV victimization and perpetration, and perceived child behavior problems. Mothers and fathers each completed protocol on laptops in separate private rooms. Hypotheses were tested with autoregressive cross-lagged path models, which were estimated for mothers and fathers separately as well as dyadically. RESULTS/ANTICIPATED RESULTS: Findings partially supported the hypotheses, with evidence of spillover occurring bidirectionally for mothers and unidirectionally for both mothers and fathers. Mothers' PCA risk predicted their subsequent IPV victimization and their reported child behavior problems (i.e., spillover effects) as well as fathers' reported IPV victimization (i.e., crossover effect). Maternal reports of child behavior problems also predicted mothers' reported IPV victimization and fathers' reported child behavior problems, indicating possible child-driven effects. Overall, results demonstrate the mutual influence of individuals and subsystems within the family. Additionally, mothers rather than fathers appear more vulnerable to harmful spillover effects. DISCUSSION/SIGNIFICANCE OF FINDINGS: The need for family prevention and intervention services is clear, given the complex, transactional nature of family violence. Particularly for mothers, higher PCA risk may herald an increased risk for subsequent IPV victimization and vice versa. Clinical implications for parent-focused intervention programs are discussed.

73061

### The UAB COVID-19 Collaborative Outcomes Research Enterprise (CORE): Developing a Learning Health System in Response to the Global Pandemic

Jami L. Anderson, Becky Reamey, Emily Levitan, Alia Tunagur and Michael J. Mugavero  
University of Alabama at Birmingham

ABSTRACT IMPACT: Interdisciplinary networks represent critical components of translational science and learning system development. Our work impacts translational research by presenting an evidence-based approach to developing interdisciplinary networks in response to the COVID-19 pandemic; the approach presented may have broad applications within other academic institutions and medical centers. OBJECTIVES/GOALS: As a local response to the COVID-19 pandemic, we established the University of Alabama at Birmingham COVID-19 Collaborative Outcomes Research Enterprise (CORE) as an interdisciplinary learning health system (LHS) to achieve an integrated health services and outcomes research response amid the pandemic. METHODS/STUDY POPULATION: We adapted a learning system framework, based upon a scoping review of the literature and the Knowledge to Action Framework for implementation science. Leveraging this framework, we developed an institutional-level collaborative network of extant expertise and resources to rapidly develop an interdisciplinary response to COVID-19. The network was designed to quickly collect newly published or clinical information related to COVID-19, to evaluate potential usefulness of this information, and to disseminate the new knowledge throughout the interdisciplinary network; we strove to engage a wide variety of expertise and skills in the network. Thus, we subsequently used social network analysis to examine the emergence of informal work patterns and diversified network capabilities based on the LHS framework. RESULTS/ANTICIPATED RESULTS: We identified three principal characteristics of institutional LHS development including: 1.) identifying network components; 2.) building the institutional collaborative network; and 3.) diversifying network capabilities. Seven critical components of LHS were identified including: 1.) collaborative and executive leadership, 2.) research coordinating committee, 3.) oversight and ethics committee, 4.) thematic scientific working groups, 5.) programmatic working groups, 6.) informatics capabilities, and 7.) patient advisory groups. Evolving from the topical interests of the initial CORE participants, three scientific working groups (health disparities, neurocognition, and critical care) were developed to support the learning network. DISCUSSION/SIGNIFICANCE OF FINDINGS: Interdisciplinary collaborative networks are critical to the development of LHS. The COVID-19 CORE LHS framework served as a foundational resource that may support further institutional-level efforts to develop responsive learning networks. The LHS approach presented may have broad applications within other academic institutions and centers.

95818

### Physical and Cognitive Resilience and Alzheimer's Disease in a Tibetan Buddhist Monastic Community

Tenzin Namdul<sup>1</sup>, Richard MacLehose<sup>1</sup> and Dedra Buchwald<sup>2</sup>  
<sup>1</sup>University of Minnesota; <sup>2</sup>Washington State University

ABSTRACT IMPACT: The findings of this study could lend us insights into behavioral intervention that could potentially prevent