

nucleotide polymorphisms within CASK allow for allele specific analysis of our targeted reactivation. We anticipate that following an increase of CASK expression, there would be a decrease in region specific promoter methylation. Further, with the identification of clinically described disease-causing point mutations that result in a loss of function of CASK protein, induction of the mutant sequence onto a healthy cell background will result in a similar reduction of CASK protein in our cell model. **DISCUSSION/SIGNIFICANCE:** This project will demonstrate the first therapeutic avenue for CASK-related MICPCH, and the potential to utilize targeted X-reactivation as a platform approach for X-linked disorders. Further, investigation of smaller dCas9 orthologues prepares our approach for future translational applications such as packaging into AAV for delivery.

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### Clinical and Translational Research at The University of Florida College of Veterinary Medicine

Kelly A. Deabold<sup>1</sup>, Rowan J. Milner<sup>1</sup>, Lana I. Fagman<sup>1</sup>, Elias J. Sayour<sup>2</sup>, John A. Ligon<sup>3</sup> and Ji-Hyun Lee<sup>4,5</sup>

<sup>1</sup>Department of Small Animal Clinical Sciences, University of Florida, College of Veterinary Medicine, Gainesville, FL, USA;

<sup>2</sup>Department of Neurosurgery, University of Florida, Preston A. Wells, Jr. Center for Brain Tumor Therapy, Gainesville, FL, USA;

<sup>3</sup>Department of Pediatrics, Division of Hematology/Oncology, University of Florida, Gainesville, FL, USA; <sup>4</sup>Department of Biostatistics, College of Public Health and Health Professions and

College of Medicine, University of Florida, Gainesville, FL, USA. and

<sup>5</sup>Division of Quantitative Sciences, University of Florida Health Cancer Center, University of Florida, Gainesville, FL, USA.

**OBJECTIVES/GOALS:** To demonstrate a successful example of clinical and translational research at a busy veterinary teaching hospital and highlight a collaborative effort in Comparative Oncology between the University of Florida's (UF) Colleges of Medicine and Veterinary Medicine. **METHODS/STUDY POPULATION:** The UF College of Veterinary Medicine (CVM) is a full-time teaching hospital with multiple departments actively recruiting patients for clinical trials. These departments include but are not limited to Oncology, Internal Medicine, Dermatology, Cardiology, and Emergency and Critical Care. The Oncology department collaborates with the doctors at the UF Health Cancer Center (UFHCC) as part of a Comparative Oncology Initiative, which has many ongoing canine and feline trials focusing on immunotherapy. **RESULTS/ANTICIPATED RESULTS:** As of August 2023, there are 60 clinical trials actively recruiting and enrolling patients at the UF CVM. 57% of these trials are interventional studies, while the other 43% are observational studies. The UFHCC Comparative Oncology Initiative has successfully completed one clinical trial focusing on canine gliomas; has 4 clinical trials that are actively recruiting patients, and 6 trials that are opening for enrollment in the near future. These studies focus on osteosarcoma, melanoma, and squamous cell carcinoma. It is anticipated that with continued successful collaborations, more clinical trials will be possible, and new treatment options will become available for not only veterinary patients but human patients as well. **DISCUSSION/SIGNIFICANCE:** Clinical and translational research is an important part of veterinary medicine to further patient care. Due to ongoing collaborative efforts, not only veterinary patients but also human

patients will benefit from the research being conducted at the UF CVM.

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### Implementation of COPD Clinical Practice Guidelines with Use of Telehealth

Deepa Raghavan<sup>1</sup>, Sanders Sonya<sup>2</sup>, James Williams<sup>2</sup>, Danielle Bailey<sup>2</sup>, Mary Bartnik<sup>2</sup> and JoAnn Kirchner<sup>2</sup>

<sup>1</sup>University of Arkansas Translational Research Institute and Central Arkansas Veterans Healthcare System and <sup>2</sup>Central Arkansas Veterans Healthcare System

**OBJECTIVES/GOALS:** Studies to improve uptake of Chronic Obstructive Pulmonary Disease Clinical Practice Guidelines (COPD CPG) have yielded inconsistent results. We hypothesized that using implementation science would facilitate rigorous site 'diagnosis', and promote effective contextual tailoring of COPD CPG, while piloting the use of telehealth for this. **METHODS/STUDY POPULATION:** The study was conducted in two Veterans Affairs primary care clinics located in a small sized city. A detailed formative evaluation was conducted using key informant interviews (with VA staff and veterans with COPD who received care at this location) and quantitative data. Multidisciplinary stakeholder group was engaged and strategies to address the determinants identified through the previous step were identified. Telehealth was strongly encouraged as the primary modality for implementing the COPD CPG and we are collecting pilot data on this. Tele-facilitation, used as the meta-strategy was employed in conjunction with other strategies such as develop/distribute educational materials, tailor strategies, change record systems and revise professional roles. **RESULTS/ANTICIPATED RESULTS:** Primary Care at the VA is provided by Patient Aligned Care Teams (PACT-teams), where each team consists of multiple health professionals to provide collaborative care to the patient. Discussions with the multidisciplinary stakeholder team suggested that any implementation effort primarily focused on physician and nursing efforts was unlikely to succeed due to competing demands. A pharmacy-centric model that allowed for the PACT-team clinical pharmacist to address most of the COPD CPG (inhaler technique education/assessment, inhaler choice optimization, COPD-specific patient education, spirometry use, smoking and immunization) was developed and implemented with incorporation of telehealth (video visits and telephone). We will present pilot implementation outcomes using RE-AIM framework elements. **DISCUSSION/SIGNIFICANCE:** This use of implementation science to implement COPD CPG and novel use of telehealth has enormous potential for impact. Increasing reach/adoption by targeting primary care practices can help permeate quality care to the underserved population. This data will allow us to explore generalizability through wider scale implementation studies.

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### The Effect of a Culturally-tailored and Theory-based Resistance Exercise Intervention on Motivation, Self-Regulation, and Adherence in Young Black Women\*

Chloe Jones and Danielle D. Wadsworth  
Auburn University

**OBJECTIVES/GOALS:** Black women participate in the least amount of physical activity in the U.S., and determining methods to increase