

1655 copies of viral RNA/mL. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Our preliminary results are very promising, indicating that commercially available LFA can quantitatively measure HIV-p24 concentration to low levels. When coupled with our analysis of the relationship between HIV-p24 concentration and HIV RNA concentration, LFA may be a potential platform allowing us to estimate HIV viral burden at clinically relevant levels. Our next steps will be to evaluate this relationship in primary, clinical specimens in collaboration with the Tennessee Center for AIDS Research. We will incorporate technologies to improve the sensitivity of these LFA and evaluate their performance in field settings in Zambia. Our findings are broadly applicable for use in HIV care and treatment programs and early infant diagnosis programs around the world.

2536

The effect of skeletal muscle lipoprotein lipase overexpression on energy expenditure during weight loss maintenance and weight regain

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OBJECTIVES/SPECIFIC AIMS: Obesity is a rapidly growing epidemic and long-term interventions aimed to reduce body weight are largely unsuccessful due to an increased drive to eat and a reduced metabolic rate established during weight loss. Previously, our lab demonstrated that exercise has beneficial effects on weight loss maintenance by increasing total energy expenditure above and beyond the cost of an exercise bout and reducing the drive to eat when allowed to eat ad libitum (relapse). We hypothesized that exercise's ability to counter these obesogenic-impetuses are mediated via improvements in skeletal muscle oxidative capacity, and tested this using a mouse model with augmented oxidative capacity in skeletal muscle. **METHODS/STUDY POPULATION:** We recapitulated the exercise-induced improvements in oxidative capacity using FVB mice that overexpress lipoprotein lipase in skeletal muscle (mLPL). mLPL and wild type (WT) mice were put through a weight-loss-weight-regain paradigm consisting of a high fat diet challenge for 13 weeks, with a subsequent 1-week calorie-restricted medium fat diet to induce a ~15% weight loss. This newly established weight was maintained for 2 weeks and followed with a 24-hour relapse. Metabolic phenotype was characterized by indirect calorimetry during each phase. At the conclusion of the relapse day, mice were sacrificed and tissues were harvested for molecular analysis. **RESULTS/ANTICIPATED RESULTS:** During weight loss maintenance, mLPL mice had a higher metabolic rate ($p = 0.0256$) that was predominantly evident in the dark cycle ($p = 0.0015$). Furthermore, this increased metabolic rate was not due to differences in activity ($p = 0.2877$) or resting metabolic rate ($p = 0.4881$). During relapse, mLPL mice ingested less calories and were protected from rapid weight regain ($p = 0.0235$), despite WT mice exhibiting higher metabolic rates during the light cycle ($p = 0.0421$). **DISCUSSION/SIGNIFICANCE OF IMPACT:** These results highlight the importance of muscular oxidative capacity in preventing a depression in total energy expenditure during weight loss maintenance, and in curbing overfeeding and weight regain during a relapse. Moreover, our data suggest that the thermic effect of food is responsible for the differences in metabolic rate, because no differences were found in activity or resting metabolic rate. Additional studies are warranted to determine the molecular mechanisms driving the ability of oxidative capacity to assist with weight loss maintenance.

BIOMEDICAL INFORMATICS/HEALTH INFORMATICS

2048

Two EMR query strategies to assess prevalence of adrenal incidentaloma

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OBJECTIVES/SPECIFIC AIMS: To compare methods of ascertaining prevalence for adrenal incidentalomas **METHODS/STUDY POPULATION:** Retrospective electronic medical record study using Looking Glass Clinical Analytics (Streamline Health, Atlanta, GA, USA) at an urban university medical center. All patients with CT or MR imaging of the abdomen between 1997 and 2014

were identified. Patients with a documented diagnosis (ICD-9 code or problem list) for any history of adrenal disease were excluded. The prevalence of adrenal incidentalomas was ascertained by 2 different detection strategies: (1) documented diagnosis of adrenal incidentaloma or (2) imaging reports containing in the same sentence "adrenal" and "nodule*," "adenoma*," or "mass*," and not containing "no" and "adrenal" in the same sentence. Adrenal pathology surprise was further established in the second approach by excluding patients having previously undergone adrenal lab testing (cortisol, aldosterone, catecholamines, adrenocorticotropic hormone, renin) or having been registered in the cancer registry for any cancer excluding superficial skin cancers. **RESULTS/ANTICIPATED RESULTS:** In total, 194,624 individuals were identified in our initial search, from which 1056 were excluded for past adrenal disease (Table 1). Detection by the documented diagnosis method yielded 1578 cases (0.8%), compared with 13,697 cases (7.1%) by the imaging report method (Figure 1). Further restricting detection to true "Adrenal Surprise" by excluding those with any past adrenal lab testing and cancer history yielded 10,568 cases (6.1%). Validation studies for the 7.1% prevalence with 100 records revealed an adrenal incidentaloma positive predictive value (PPV) of 98%. When restricted to size ≥ 1 cm the PPV was 84%. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Comparing our first strategy using documented diagnoses as criterion for incidentaloma as used in a recent paper by Lopez D (*Annals of Internal Medicine* 2016; 165: 533–542), we found a prevalence of 0.8% in our population similar to her 0.6%. However, when searching at the level of radiology report text, we found a prevalence ten-fold greater at 7.1%. Therefore, adrenal incidentalomas are more robustly identified by searching radiologic reports.

2085

MyResearchHome@Duke—launch and adoption of a portal for the research community

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OBJECTIVES/SPECIFIC AIMS: Describe (1) the features of the first release of Duke's myRESEARCHhome portal for researchers, and (2) the methods and results of adoption strategies **METHODS/STUDY POPULATION:** Through methods described previously (cite ACTS poster, 2016), the myRESEARCHhome portal team conducted a needs assessment to determine priorities for inclusion in the tool. Based on results of that assessment, the "minimal viable product" launched in June 2016 included the following features, organized into 9 distinct widgets: Access to all web-based research applications; ability to find and request research services; at-a-glance view of financial, protocol, and salary distribution information; access to financial and personnel reports; access to status of agreements and patents; access to CTSA-supported navigation services; visibility into required training and expiration dates; listing of announcements relevant to researchers; customized links area; ability to customize portal. The portal was developed using Ruby on Rails™, with a REACT grid framework. The development team, internal to Duke University, followed industry-standard best practices for development. After the initial release, the team employed several strategies to ensure awareness and adoption. Although written communications were an important factor for awareness, the presentations and hands-on studios proved most important. **RESULTS/ANTICIPATED RESULTS:** Use of the portal was directly related to in-person outreach efforts. There were small spikes after written communications, but strategies such as presentations, hands-on demonstrations, training sessions, and faculty meetings garnered the steady adoption rates. As of early January, 2017, almost 3000 users have interacted with the portal, with numbers rising steadily. There are an estimated 10,000+ faculty, staff, and trainees engaged in research at Duke. **DISCUSSION/SIGNIFICANCE OF IMPACT:** To maintain high adoption rates with the research community, engagement strategies must be ongoing. In addition to frequent in-person demonstrations, updates via written communications, and attendance at events, the portal team will employ a key adopt strategy—engaging the researchers in ongoing needs assessments. By maintaining the portal's relevance to the needs of the research community, the tool can better improve the efficiency of research at a large academic medical center.

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Addressing African American glaucoma through genetics and electronic health records

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OBJECTIVES/SPECIFIC AIMS: The overall goal of this project is to understand the genetic and clinical differences in POAG that specifically increase risk in