

(BMI) >40 and without a diagnosis or prior evaluation for sleep apnea were invited to complete the "STOP" questionnaire, a self-administered validated screening tool consisting of 4 "yes/no" questions; "yes" answers to 2 questions identify individuals at high risk of having OSA. Patients who screened positive were then contacted to schedule a sleep medicine evaluation. **Results:** Electronic invitations were sent to 2,283 eligible patients to take the questionnaire; 279 (12%) completed and submitted their responses. Based on their answers, 122/279 (44%) were identified as being at high risk for having OSA and recommended to undergo evaluation in the sleep clinic. To date, 104/122 patients (85%) were offered an appointment with a sleep specialist; the remaining 18 (15%) are waiting scheduling. Of those offered a clinic appointment, 41/104 (40%) have undergone a sleep medicine evaluation, 38/104 (36%) are waiting to be scheduled, and 25/104 (24%) cancelled or did not keep their appointment. Of the evaluated patients, 38/41 (93%) were diagnosed with OSA, 2/41 (5%) had negative sleep studies, and 1/41 (2%) are awaiting polysomnographic evaluation. The positive predictive value of the STOP questionnaire among patients who underwent polysomnography was 95%. **Conclusions:** This pilot study suggests that utilizing an internet-based patient portal via the EHR can identify patients at high risk of OSA and facilitate their ultimate evaluation and diagnosis through the administration of a simple questionnaire.

**Keywords:** Obstructive sleep apnea, Sleep apnea screening

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PS1-20:

#### **Developing an Ontology: Informatics for Integrating Biology & the Bedside (I2B2) and Structuring the Virtual Data Warehouse (VDW) Content Areas**

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**Background/Aims:** Informatics for Integrating Biology & the Bedside (I2B2) offers a dynamic graphical interface for querying VDW data. Part of the I2B2 effort involves designing the drop-down menu of standardized nomenclatures provided by coding schemes such as CPT-4, ICD-9, and RxNorm, by which the user queries the data. This menu of content hierarchies can be complex in terms of the number of nodes and levels of nested folders. In addition, there often isn't an established way to organize these codes into categorization scheme that allows for a clean and organized querying interface. **Methods:** We will demonstrate the use of SAS and SQL to craft these hierarchies and how to leverage the resources provided by the Unified Medical Language System (UMLS) along with resources that may be available at your local site. **Results:** We have been able to develop an ontology that spans many of the VDW content areas including Procedures, Diagnoses, Pharmacy Fills, Vitals, Demographics, Tumor, and Enrollment. **Conclusions:** It is possible to build an ontology that organizes the various coding schemes using SAS and SQL, sourcing public resources such as UMLS. Therefore, our knowledge about building an ontology can be readily transferred across HMORN sites and other consults, empowering additional I2B2 deployments. The development of an ontology for VDW subject areas may have additional uses insofar as organizing standard nomenclatures in a programmatic way is useful.

**Keywords:** Ontology, I2B2, SAS

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PS1-32:

#### **Psychology in Primary Care: An Evaluation of Best Practices**

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**Background/Aims:** Integrating psychology and mental health professionals into primary care settings has emerged as a means to improve the access to and utilization of mental health services. Three main delivery models of psychology in primary care settings have emerged: (1) referring a patient to

a psychologist/mental health professional located in a facility outside of the primary care physician's (PCP) office; (2) referring a patient to a co-located psychologist/mental health professional who does not directly interface with PCP; (3) integrated and co-located model where the PCP and the psychologist/mental health professional discuss the patient's health. The overall purpose of this project was to compare patient utilization of psychology/mental health services across the Scott & White Health care system. **Methods:** Using electronic medical records and the virtual data warehouse (VDW), mental health clinics/facilities were categorized into one of the three main psychology models. Patients that had depression, anxiety or ADHD DRG codes in their EMR and were aged 18 and older (n=37,310) were included in the analysis. The following additional variables were controlled for: gender, race/ethnicity, and chronic physical health conditions (i.e. arthritis, lung disease, heart disease, diabetes, hypertensive disease, and osteoporosis). ANOVA/ANCOVA analyses were performed to determine the differences across the three models in the length of time between the PPC referral and the first appointment with the psychologist/mental health professional. **Results:** Patients that were seen by psychologist in facilities with integrated co-located models of care experienced a shorter amount of time between their referral and their first appointment with the psychologist/mental health professional, compared to the other two models of care. **Conclusions:** These initial results begin to inform best practices for delivering mental health services within primary care and provide physicians and health care systems with data on issues that facilitate integrated, person-centered care.

**Keywords:** Psychology, Best practices, Primary care

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PS1-28:

#### **The Grid-Enabled Measures (GEM) Database: A Research Tool to Facilitate the Use of Standardized Measures and Data Sharing**

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**Background:** We are in an era of unprecedented access to data and the potential to move areas of science forward rapidly but currently there is a lack of coordination of research efforts in regards to: 1) Using standardized measures; and 2) sharing harmonized data. The Grid-Enabled Measures (GEM) database has been conceptualized by the National Cancer Institute (NCI) to help accomplish these goals. **Methods:** GEM encourages and enables standardization of measures and data harmonization by supporting a virtual community of researchers who interact with each other using Web 2.0 technologies. Through GEM, researchers are able to upload health-related measures and associated meta-data for use by others and provide comments and ratings about these measures and their associated theoretical constructs. Input from users—including ratings, usage statistics and psychometric properties of the measures—established criteria to prioritize measures to be curated for use on the Cancer Biomedical Informatics Grid (caBIG®). Curation starts with models that are used to represent the measure and its items in a form understandable to both researchers and informaticians. The outcome of the curation process is registration of a measure as a caBIG® common data element so that the variable representing the measure's score can be shared via the grid. **Results:** Models for measure curation have now been developed for five measures in GEM (e.g., Center for Epidemiologic Studies Depression Scale (CESD)). GEM currently has 216 registered users and 110 measures based on 73 constructs and these numbers will change over time with user interaction. Next steps in developing GEM include making datasets—based on GEM-curated measures—available on the grid for use by other systems and users connected to caBIG®. **Conclusions:** GEM represents a critical step in advancing the research enterprise and complements other NIH-funded systems being developed such as Phen-X (consensus measures for Phenotypes and eXposures) which seeks to build consensus measures used in genome-wide association studies. In addition to describing the rationale and development of GEM and how measures and data are curated into caBIG®, this presentation will include a live demonstration of the site