surveillance system covering most US hospitals would have good power to detect clusters of allograft infection.
Keywords: Allograft Infection; Surveillance; Health Informatics
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PS1-39:
Accuracy of Coding for Cigarette Smoking in the Electronic Medical Records of a Large Integrated Health System

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Background/Aims: Cigarette smoking is an important risk factor for multiple serious health outcomes and has significant consequences for health care management and research. However, the completeness and accuracy of the smoking information in the electronic medical record (EMR) system remain unknown. We assessed the accuracy of diagnosis coding for cigarette smoking in the EMR using self-reported smoking status collected from Kaiser Permanente Southern California (KPSC) male members who participated in the California Men's Health study (CMHS). **Methods:** Ever smokers in the CMHS were identified based on their self-reported smoking status in the initial (2002-2003) and/or follow-up (2006) study surveys. Smoking diagnosis coding (SDC) was ascertained based on tobacco-related ICD-9 diagnosis codes, CPT procedure codes, and smoking history from KPSC's integrated EMR system after the initial CMHS survey date. Sensitivity and positive predictive value (PPV) of the SDC were calculated. Logistic regression was used to study the association between SDC and demographics and clinical characteristics among self-reported ever- smokers. **Results:** A total of 13,539 (65.9%) of 20,554 self-reported ever smokers from the CMHS had SDC in the EMR. The overall sensitivities were 19%, 58%, and 65% during the time periods of 2003-2005, 2006-2008, and 2009-2010, respectively. The sensitivities were higher among those with higher co-morbidity scores and smoking-related chronic diseases, especially chronic obstructive pulmonary disease [78% (95% CI: 74-82%) in 2009-2010]. The overall sensitivity increased to 92% among self-reported current smokers from the CMHS in 2009-2010. The PPV ranged from 76% to 94% during the study period. In multivariable Logistic regression, increased health service utilization and smoking duration were associated with a higher likelihood of having SDC among self-reported ever-smokers. On the other hand, Asian race and Spanish language preference was linked to a lower likelihood of having SDC. **Discussion:** We found that completeness of SDC in the EMR increased significantly over time. Of note, Asian men and men with Spanish language preference may be at risk of being under coded for smoking history. Although considerable progress has been made, results highlight the need for greater efforts by the health plan to screen for and code patients' tobacco use.
Keywords: Cigarette Smoking; Electronic Medical Record; Health Informatics
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PS1-40:
The VDW Vital Signs File: 2011 Quality Assurance Activities

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Background/Aims: The VDW Vitals Workgroup specifies data standards for the four traditional clinical vital signs (body temperature, blood pressure, respirations, heart rate) and other physiological measures that are collected routinely during clinic visits, such as height and weight. Data specifications changed considerably between the older Version 2, and the current Version 3. The Vitals Workgroup recently completed quality assurance review of the vital signs data from the sites participating in the VDW. The aim of this review is to ensure that sites have standardized their data tables according to Workgroup Version 3 specifications, data are within plausible ranges, and to assess the abundance of data. **Methods:** The Vitals Workgroup developed and distributed a SAS program to all HMORN sites collecting quality information, abundance (counts), and distributions of vitals measurements for the years 2001 through 2010. We checked for data anomalies and summarized the distributions of height, weight, and systolic- and diastolic blood pressure according to site, age, gender, and year. **Results:** Data were received from 12 of the 15 HMORN sites. The 3 sites not reporting do not have a Vitals Table. Variable lengths were often set to the SAS default instead of the specified length. Seven sites had instances of diastolic blood pressure greater than the corresponding systolic blood pressure. One site had blood pressure measurements skewed considerably lower than the other 11. Data were highly abundant, although the years of data availability vary considerably across sites. **Discussion:** Several sites had correctable errors such as incorrect formats and data types. The nature of errors suggested that some sites do not have on-going internal quality assurance procedures in place. The data are sufficiently clean for simple counts, but quality and abundance of data needs to be evaluated at the site level prior to use of data for research.
Keywords: Health Informatics; VDW
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PS1-41:
Just Add Data: Implementing an Event-Based Data Model for Clinical Trial Tracking

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Background/Aims: Clinical research trials often have similar fundamental tracking needs, despite
being quite variable in their specific logic and activities. A model tracking database that can be quickly adapted by a variety of studies has the potential to achieve significant efficiencies in database development and maintenance. **Methods:** Over the course of several different clinical trials, we have developed a database model that is highly adaptable to a variety of projects. Rather than hard-coding each specific event that might occur in a trial, along with its logical consequences, this model considers each event and its parameters to be a data record in its own right. Each event may have related variables (metadata) describing its prerequisites, subsequent events due, associated mailings, or events that it overrides. The metadata for each event is stored in the same record with the event name. When changes are made to the study protocol, no structural changes to the database are needed. One has only to add or edit events and their metadata. Changes in the event metadata automatically determine any related logic changes. In addition to streamlining application code, this model simplifies communication between the programmer and other team members. Database requirements can be phrased as changes to the underlying data, rather than to the application code. The project team can review a single report of events and metadata and easily see where changes might be needed. In addition to benefitting from streamlined code, the front end database application can also implement useful standard features such as automated mail merges and to do lists. **Results:** The event-based data model has proven itself to be robust, adaptable and user-friendly in a variety of study contexts. We have chosen to implement it as a SQL Server back end and distributed Access front end. Interested readers may request a copy of the Access front end and scripts for creating the back end database. **Discussion:** An event-based database with a consistent, robust set of features has the potential to significantly reduce development time and maintenance expense for clinical trial tracking databases.
Keywords: Clinical Trial; Tracking Database; Health Informatics
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PS1-43:
ICD9 to ICD10 Migration and Impact to Reporting

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Background/Aims: The International Classification of Diseases (ICD) is a classification system developed and maintained by the World Health Organization. The 10th revision of ICD (ICD-10) was created in 1994. The U.S. is the only industrialized nation still using ICD-9. On January 16, 2009, the Department of Health and Human Services released the Final HIPAA Administrative Mandate to Adopt ICD-10. The compliance date for implementation of the ICD-10 Coding System is October 1, 2013. Complying with new federal regulations to implement ICD-10 by October 1, 2013 will