PS1-22:

Tumor—VDW Table Structure Dictated by National Agency Standards

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Background: North American Association of Central Cancer Registries (NAACCR) was established in 1987 as a collaborative organization for cancer registries, government agencies, professional associations and private groups. NAACCR develops and promotes uniform data standards, provides education and training, certifies population-based registries, processes and publishes data from central registries and promotes the use of cancer surveillance data for research, public health and patient care. Cancer registries in the US include the national central registries, NCI-SEER and CDC-NPCR, individual State registries and hospital-based (care provider-based) registries. The Cancer Research Network (CRN) has adopted NAACCR data standards to define the Virtual Data Warehouse tumor registry table (VDW-TR). However, since the inception of the VDW-TR, there have been many version of NAACCR in effect. **Aims/Methods:** VDW-TR needed to have similar and merge-able data for multi-site projects. Data standards set by NAACCR are optimal for construction of this resource as they are designed to collect tumor data centrally from multiple data sources. The standards establish processes for data exchange and record layout in addition to coordinating input from sponsoring organizations, such as AJCC and NCI. NAACCR is also responsible for incorporating new items of interest as the data used to characterize cancers evolve. We describe how these changes were incorporated into the VDW-TR. **Results:** AJCC Collaborative Stage I (CS-1), applicable to cases diagnosed beginning with January 2004, brought many changes to data and data formats required for staging. These changes were not incorporated by the VDW tumor file in 2004 due to the lack of ownership and oversight. Discrepancies eventually developed between VDW data dictionary and NAACCR causing data value decay. ICDO-2 histology lists were expanded and recoded in ICDO-3, providing additional challenges, along with other rules-based changes in tumor classification. CS-1 also mandated addition of anatomic site specific factors. Many additional changes occurred in 2010 with CS-2. The specifications incorporated in our current VDW-TR address all of these data changes. **Conclusion:** The VDW has to adopt NAACCR changes as they are adapted to remain current with all standards. We are now sensitized to monitor and adjust for significant future changes in NAACCR.

Keywords: Tumor registry, NAACCR, VDW

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C-A1-02:

Developing a Structure for Programmatic Quality Assurance Checks on the Virtual Data Warehouse

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Background/Aims: The HMORN Virtual Data Warehouse (VDW) has an expanding set of quality assurance data checks developed by its data content work groups. These checks improve the reliability and consistency of the data across sites. When the Center for Effectiveness and Safety Research (CESR) Data Coordinating Center sought to provide additional data checks, it defined a standard methodology for additional validation. The structure and methodology provides a basis to apply data checks consistently across the data content areas. **Methods:** The CESR Data Coordinating Center created a work group of data warehouse experts and analysts that began by compiling an inventory of existing quality assurance data checks. Using the inventory as a reference, the work group selected data content areas with few existing data checks to identify checks that could be documented and programmed more consistently. The work group developed a structure for defining, documenting, and programming new data checks. Finally, the work group tested and refined its documentation and programming structure for new data checks by creating new checks and learning how they fit into the existing

structure. **Results:** The work group created a consistent process under which new data checks could be defined, documented, and programmed. This process included a structure to: • Improve the consistency of the types of programmatic data checks. • Document the data checks and processes for the VDW CESR Data Coordinating Center quality assurance programs. • Create a structure in which new data checks could be added that would not conflict with existing data checks. • Reuse programming logic across data content areas. **Conclusions:** This standard methodology enables more consistent implementation and documentation of data checks for the VDW. The methodology also provides information about the outcomes of the data checks which have been processed. Finally, the methodology should allow for quicker development of future data checks.

Keywords: Virtual Data Warehouse, Quality assurance

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C-A1-04:

Challenges Faced as New Members of the HMO Research Network Virtual Data Warehouse

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Background/Aims: This presentation will focus on challenges faced by new HMO Research Network (HMORN) sites and their experiences with the Virtual Data Warehouse (VDW) tables for version 3 specifications. The step-by-step procedure developed by Scott and White will be showcased to provide a head start for new incoming sites. Sharing lessons learned during our one year in the HMORN VDW, our objective is to provide best practices regarding resources, time allocation, priorities, schedules, financing, backups, and possible available alternatives. **Methods:** The comprehensive procedure followed by Scott & White to build VDW V3 tables: 1) Setting up your SAS Environment • Establishing an architecture and components • Analyzing and forecasting server specifications; 2) Identifying and understanding the multiple data sources embedded in your organization • Claims data • EMR • Lab • Pharmacy • Other; 3) Detailed variable mapping of sources to VDW specifications; 4) Assessment of source data availability; 5) Getting your site's first feed from the source and following through with quality checks; 6) Methods for building transformation logic for the table; 7) Choosing the methodology to approach table-building. **Results:** We will showcase Scott & White metrics for building a VDW starting with version 3 and best practices used. We improved the validity and completeness of the data through person-to-person interactions with claims personnel who often were disinterested in the needs of research. Having strong advocates who think of research as a part of the institutional mission was helpful. The VDW data team included a sole programmer for the first 6 months along with the Site Data Manager; adding a second programmer improved the rate of progress. **Conclusions:** A structured, step-by-step, approach is recommended for new incoming sites joining the HMORN. This approach will optimize efficiency and effectiveness. The more information and guidance the existing members can provide, the better the achieved results will be. Sharing experiences will guide new members to a more pro-active and efficient start and ensure the success of seamless data-sharing.

Keywords: Virtual data warehouse (VDW), Challenges, New member

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PS1-26:

Data Quality Issues/Checks While Building Virtual Data Warehouse Enrollment, Demographics, Provider and Utilization Tables from Scratch

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Background/Aims: This presentation will focus on data quality issues experienced by new HMO Research Network (HMORN) sites while building