

[P05.008] Automated Data Mining: An Innovative and Efficient Web Based Approach To Maintain Resident Case Logs

Ramesh Madhavan, Troy, MI, Pratik Bhattacharya, Royal Oak, MI, Lakshmi Shankar, Maneesh Singhal, Renee Van Stavern, Detroit, MI

OBJECTIVE: To demonstrate an automated data mining tool for resident case logs and compare with the existing method. **BACKGROUND:** Individual resident case logs are mandated by Residency Review Committee (RRC) of the Accreditation Council for Graduate Medical Education (ACGME). Published resident survey in Neurology journal showed poor compliance and lack of educational benefit for residents. Manual web-based programs are still used as case logs. In this study, an innovative data mining program is demonstrated and compared to a currently used manual web based system. **DESIGN/METHODS:** Patient notes dictated by residents was extracted from the Hospital Information System and analyzed using an unstructured patent-pending data mining program. Procergy™ uses analytical algorithms for the mining. The automated data was obtained for 30 days and compared to the currently used manual case logs. **RESULTS:** The automated method extracted all the resident dictations with the dates of encounter and transcription. History, examination, ICD codes, staffing and referring physician information obtained will be presented and compared to the existing resident log. The automated data miner processed information from all the 19 residents (range 3-27 dictations per resident), while only 4 residents logged manually. ICD-9 codes were assigned automatically by the program. Headache (16.5%) seizures (17.4%) and low back pain (9%) formed the majority of chief complaints while Epilepsy 21.7%, Headache 14.4%, cerebral atherosclerosis 15% were the commonest primary diagnoses. The manual method identified only broad categories of diseases. More detailed patient information e.g. 42% smokers, 38% alcohol use, 7% drug use were extracted by the new method. **CONCLUSIONS/RELEVANCE:** Currently manual case logs are time consuming, provide limited information and are unpopular with residents. The new data mining program was a time effective tool for data collection and analysis. We propose that this innovative application can be used to study the AGME core competency requirements, aid in resident's clinical research and provide rapid feedbacks to residents.