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| **eMERGE Network: Proposal for Analysis**  Project/Manuscript Concept Sheet | |
| **Reference Number** | NT279 |
| **Submission Date** | April 10, 2018 |
| **Project Title** | Pilot evaluation of ACGs for characterizing co-morbidities in eMERGE cohorts |
| **Tentative Lead Investigator** *(first author)* | Casey Overby Taylor |
| **Tentative Senior Author**  *(last author)* | Jonathan Weiner |
| **All Other Authors** | George Hripcsak (Columbia), Nephi Walton (Geisinger), Ken Borthwick (Geisinger), and all point people for sites with OMOP participating in the effort. |
| **Sites Involved** | We propose a network-wide study with sites using OMOP (all sites invited to participate). The analyses will be led by Johns Hopkins University. |
| **Background / Significance** | We propose a pilot study to explore the potential use of The Johns Hopkins Adjusted Clinical Groups (ACG) system to characterize co-morbidities in patients with a range of conditions being explored by the eMERGE Phenotyping Workgroup.  In particular, we will target the following conditions for which eMERGE phenotypes that have been completed or are underway   1. Abdominal aortic aneurysm 2. Heart Failure/Cardiomyopathy 3. Colorectal Cancer 4. Arrhythmias 5. Ovarian & Uterine Cancer 6. Valvular Heart Disease 7. Breast Cancer 8. Chronic Kidney Disease (CKD) 9. Autoimmune disorders 10. ACE medication-induced cough |
| **Outline of Project** | 1. Distribute OMOP-compatible queries to eMERGE sites for selected phenotypes 2. Run queries with eMERGE sites that have OMOP implemented. 3. Apply eMERGE phenotypes to identify “cases” (NOTE: already completed for Phase II and for some Phase III phenotypes) 4. Apply ACGs to identify case co-morbidities 5. Evaluate performance of ACG to find co-morbidities 6. Prepare manuscript for submission. |
| **Desired Variables**  *(essential for analysis*  *indicated by* ***\*****)* | Variables required to carry out the above #5 assessment. |
| **Desired Data** | ICD, RxNorm, and CPT codes of eMERGE phenotype-selected cases. |
| **Planned Statistical Analyses** | Assess precision and recall of ACGs to find co-morbidities for eMERGE cases |
| **Ethical Considerations** | None |
| **Target Journal** | TBD |
| **Milestones\*\*** | Distribute OMOP-compatible queries – April 20, 2018  Complete data collection – mid-May 2018  Complete data analyses – early June 2018  Complete draft manuscript – end of June 2018  Final paper submission – end of July 2018 |

***\*\**** *This section should include the timeline for completion of project, including: approval, project duration, first and second draft of the paper and submission.*