Reviewer’s report

Title: The eMERGE Network: A consortium of biorepositories linked to electronic medical records data for conducting genomic studies

Version: 1 Date: 28 March 2010

Reviewer number: 1

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McCarty et al. describe the eMERGE network, including the participating sites, the aims, methods, and procedures, and the current status of this network. This is an important initiative from NHLBI to explore ways to combine biobanks with phenotypic data from electronic medical records (EMRs), and thus, this descriptive report of the network is an important initial contribution. Overall, the report could be improved by reorganizing the information and providing greater consistency in reporting across sites.

Major compulsory revisions:

1. There needs to be greater consistency about what information is reported for each site. At present, this description does not appear to have much structure or organization across sites. Including sub-headings may be useful to ensure that consistent information is reported for all sites.

2. The lessons learned section could benefit from additional description. For example, the statement “diagnostic codes are insufficient on their own for research-quality case and control classification” needs further support and clarification, since health services research commonly relies on these same sources from the EMR with valid results. Also, expand on the identified ethical issues and benefits of the network. Are there any potential solutions to the ethical issues?

Minor essential revisions:

1. Pg 13. Not sure what the phrase “the present generation EDT succeeds…” means, in the first paragraph after Mayo Clinic.

2. Specific references to previous work for GWAS need to be included. For example, the work of the FIND consortium for GWAS on diabetic retinopathy, GWAS for type II diabetes, GWAS for dementia, and GWAS for myocardial infarction, etc.

Discretionary revisions:

1. The organization of the paper could be improved by revising it around the aims of the network, rather than by site.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.