

SUPPORTING INFORMATION

Detailed Steps Achieved in Launching the MME

1. *Goals of the MME Defined* – At the 2013 ASHG Conference, representatives of genomic discovery platforms met and agreed on a common goal to develop a federated network of databases to support novel gene discovery and inform the clinical interpretation of genomic variation.
2. *MME API Developed* – In 2014, members of PhenomeCentral and GeneMatcher collaborated to develop a common API. The group engaged technical input from the wider MME services and the Data WG of the GA4GH to refine the API and conform to evolving genomic standards. The API was posted on GitHub for community exchange of ideas.
3. *MME Core Policies Developed* – Over the span of one year, core policies to support the MME were developed and finalized in January 2015 at the Miami MME meeting. These policies are described above and include a tiered consent framework, a set of requirements to qualify MME services, a user agreement and a steering committee to oversee the program.
4. *Matchmaker Exchange Website Launched* – a website was launched to begin engagement of the outside community. The website can be found at <http://www.matchmakerexchange.org>.
5. *Matching Algorithm Principles Defined* – It was agreed that each matchmaker service would support its own matching algorithms, in part to deal with the practical aspects of different data schemas, database content and notification management on behalf of existing users. However, matchmaker services continue to collaborate and share practices using GitHub as a forum for exchange of ideas and algorithms.

6. *API Test Phase* – Beginning in 2014, three matchmaker services (PhenomeCentral, GeneMatcher and DECIPHER) implemented the API in three point-to-point launches in which the entire content of each databases was queried against the content of the other databases to evaluate the code-base for the API and matching algorithms. API keys are exchanged using a protocol that promotes data security. Problems were documented on the GitHub issue tracker and resolved.
7. *MME Test Dataset Developed* – To improve the ease with which new matchmaker services can be incorporated into the MME, a test dataset has been developed and resides on GitHub to help evaluate implementations of the API and matching algorithms.
8. *User Interfaces Developed to Support Queries* – User interfaces at individual MME services were built to support user-initiated queries of content across the MME.