Abstract

The AETIONOMY consortium is part of the Innovative Medicines Initiative (IMI) and aims to collect data that could be used to create taxonomies for neurodegenerative disorders, including Alzheimer’s and Parkinson’s diseases. The focus of the taxonomy is based on molecular causes, rather than symptoms, with the goal of facilitating development of more effective and targeted treatments.

Mission

AETIONOMY was founded to establish mechanism-based taxonomies for Alzheimer’s and Parkinson’s diseases and other neurodegenerative disorders (NDD). To do this, the consortium collects and analyzes data to:

- create new ways to combine underutilized data currently available in the literature, public databases, and from private companies
- determine how to dynamically organize and structure different types of knowledge about NDD
3. Determine how to apply this knowledge to construct new patient group classification.

4. Identify correlations between disease features at molecular, tissue or organ-specific, and clinical levels.

5. Identify sub-groups of patients based on the molecular cause of their disease, as opposed to the nature and location of their symptoms.

6. Deliver data, tools, and recommendations for the biomedical community in the treatment of NDD.

A mechanism-based taxonomy is hoped to advance the (a) description and organization of the indication-specific data and (b) linking of data to disease models, based on causal and correlative relationships.

The expected outcome of AETIONOMY is a new NDD taxonomy system that distinguishes mixed pathologies, allowing for new features or classes to be added into the taxonomy, all with the goal of aiding drug and biomarker discovery.

**Consortium History**

AETIONOMY is the result of IMI’s eighth call for proposals, which included a call to develop aetiology-based taxonomy for human diseases. The project is based on methodology submitted by Fraunhofer SCAI and will build on work done in two other IMI consortia—OpenPHACTS.

AETIONOMY was launched in 2014 with a lifetime of five years. Disease modeling, data mining, and developing a knowledge base are the first work streams to launch in the initial three years. Patient recruitment will begin in year 2, and testing of disease mechanism is scheduled to begin in year 3.

A joint conference of IMI/European Union (EU) Neurodegenerative Diseases Research Projects working on neurodegenerative diseases is planned for November 2015. The final AETIONOMY Symposium on Neurodegenerative Research of Alzheimer’s and Parkinson’s Diseases will be held in 2017.
Structure & Governance

There are 12 academic partners involved in AETIONOMY: 4 clinical partners, 4 European Federation of Pharmaceutical Industries and Associations (EFPIA) member organizations (pharmaceutical industry), 2 small-to-medium sized businesses, and 2 patient organizations. The initiative is managed on a tiered structure, with a Steering Committee, General Assembly, and Project Office. The project is divided into five separate work streams:

Financing

AETIONOMY has a total budget of €17.8 million. IMI provides €8.0 million, EFPIA in-kind is funding €8.0 million, and other sources are covering the remaining €1.8 million.

Intellectual Property

All IMI projects, like AETIONOMY, operate under the same umbrella intellectual (IP) policy. Any IP discovered as a result of work in the collaboration is owned by the participating institution that made the discovery (or if the discovery was made jointly, there is joint ownership). Other participants have access rights to the generated IP during and after the project for research use, and participant owners have the right to license their IP and associated obligations to other parties, including to affiliated entities. Third parties may request access rights, which do not involve the ability to sublicense without receiving authorization from the IP-owning participant.

Patent Engagement

The AETIONOMY data repository builds off datasets from publicly available repositories containing datasets of patients with Alzheimer’s and Parkinson’s diseases. Beginning in year 2, AETIONOMY will begin recruiting patients to gather information beyond these available datasets.
Impact/Accomplishment

Tamas Letoha, CEO of Pharmacoida and an AETIOLOGY scientist, won the 2013 award for Hungarian Young Entrepreneur of the Year.

Resulting publications from AETIONOMY can be found at http://www.aetionomy.eu/index.php?id=5306

Links/Social Media Feed

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