Maria Shkrob et al., J Genet Syndr Gene Ther 2017, 8:3 (Suppl)
DOI: 10.4172/2157-7412-C1-015

Integrating informational resources for drug repurposing in rare diseases

Maria Shkrob[1], **Matthew Clark**[1], **Anton Yuryev**[1] and **Rick Thompson**[2]
[1]Elsevier, USA
[2]Findacure, USA

Statement of the Problem: One of the pressing challenges in drug repurposing for rare diseases is a limited amount of scientific information needed to discover new targets and suggest new treatments. In this field, it is particularly critical not only to aggregate all available evidence about the rare disease but also to be able to fill the gaps with the knowledge from other research areas to generate new ideas and propose new therapeutic approaches.

Methodology & Theoretical Orientation: Elsevier is collaborating with a rare disease charity, Findacure, to provide information about congenital hyperinsulinism to the patients, researchers and doctors, to help finding new treatments, support applications for drug repurposing programs, increase awareness, streamline information exchange and education. Using an integrative approach of automated and manual curation of literature, we provided an overview of the mechanisms, targets, drugs, key opinion leaders and institutions studying the disease. An automated pipeline to generate such summaries was designed to expand the use of the approach and provide scalability.

Findings: Suggested approach was applied to several rare diseases to automatically generate ranked lists of drug repurposing candidates, targets and key opinion leaders.

Conclusion & Significance: We developed a framework to retrieve and aggregate information required to support drug repurposing decisions, facilitate clinical trials and bring together stakeholders. Suggested approach was applied to congenital hyperinsulinism and was replicated two more rare diseases.

Biography

Maria Shkrob has 7 years of experience in the bioinformatics industry, working on the solutions for text and data mining. At Elsevier, she works as a Consultant for Elsevier Professional Services applying the rich R&D Solutions portfolio to address customers' needs.

m.shkrob@elsevier.com

Notes: