Systematic indication expansion for new drug assets

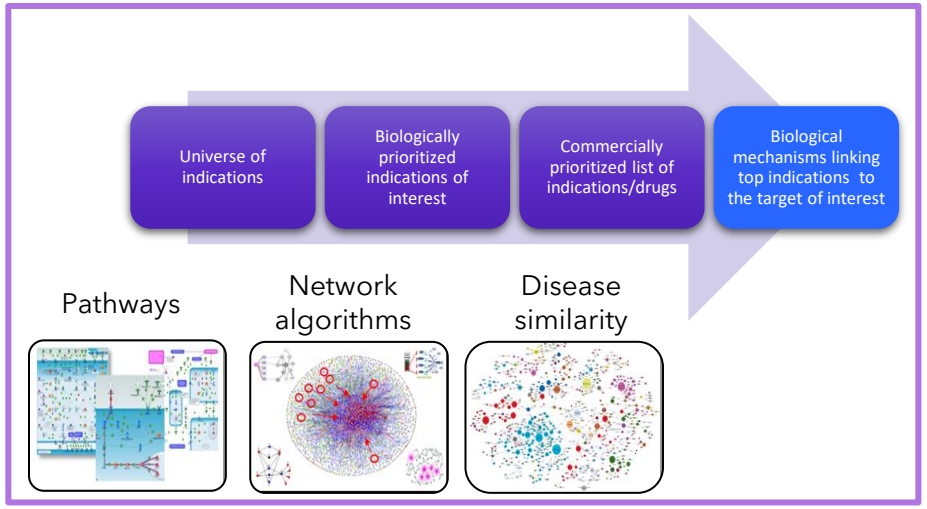
Indication prioritization

Client Background and Objectives:

APAC division of a top pharma company was looking to identify and assess alternative indications in the APAC market for one of their most promising drug assets.

Key Business Questions:

What are the most promising indications to pursue in the APAC region with both a strong scientific rationale and favorable commercial and competitive landscapes?



Solution

- **AI-driven** systematic indication prioritization, followed by expert-led literature-validation of therapeutic rationale and market potential assessment for shortlisted indications.
- Clarivate **proprietary Knowledge Graph** covering Cortellis Drug Discovery Intelligence (CDDI) and MetaBase™ was used as data source for integration of disease signatures over the network of molecular interactions and biological pathways.
- An ensemble of scores characterizing each condition's relevance to a given target were combined to train a machine learning classifier across the entire target-disease universe. The resulting model was then used to **predict most relevant indications** for the asset MoA.
- Shortlisted conditions were assessed on the strength of **mechanistic biomedical rationale** for asset's MoA using published literature and a range of public and proprietary databases. The conditions were further assessed for **unmet need and market opportunity** in APAC region.

Outcomes

- Thousands of indications systematically ranked on biological relevance of disease pathology signature to asset's MoA
- 10 indications selected for in-depth validation of scientific rationale and reconstruction of mechanistic links between disease pathology and target
- 5 candidate indications evaluated for patient impact and commercial opportunity in APAC
- Client moved asset to Phase 2 clinical trials for the two prioritized indications
- **All primary and key secondary endpoints were met in both trials and asset was progressed to pivotal trials for both indications**

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