

Drug Repurposing Guidebook

Building Block I443

This document defines the content of the FACT SHEET to be created for each identified tool, incentives, initiative or practice (the Building Block) introduced by public bodies or used by developers to expedite drug repurposing in Rare Diseases (RDs).

ITEM	DESCRIPTION
Building Block (BB) Title	Drug prioritization analysis
References	<p>Examples of software and references are:</p> <p>http://www.dreimt.org/</p> <p>https://www.nature.com/articles/s41598-019-42806-6</p> <p>https://www.scienceopen.com/hosted-document?doi=10.14293/S2199-1006.1.SOR-PPPGCKMC.v1</p>
Description	Databases can be used to explore possible drug-indication pairs that suggest likely therapeutic response. These pairs can then be followed up with more traditional clinical studies.
Category	Compound and network databases and tools to use them
Type of BB	Development practice
Geographical scope	International
Availability	Databases will vary in their availability. Some will have constraints based on patient confidentiality reasons, some may have constraints due to commercial and intellectual property reasons. In cases of patient confidentiality, it may be possible to anonymise some data and release a de-identified version.

ITEM	DESCRIPTION
Scope of use	To combine different types and kinds of data, and extract most available information from this, and consequently being able to prioritize candidates for repurposing.
Stakeholders involved	Owners / custodians of databases, whether commercially held or available for public access.
Enablers/ Requirements	Existence of (and access to) suitable databases.
Output	Possible drug candidates and associate therapeutic targets. But all identified drug-indication pairs will need to be explored in more traditional clinical studies.
Best time to apply and time window	There is no best time to “apply” but large databases will need to be available to support these types of activities.
Expert tips	<p>If you do intend to prioritization models, make sure you have several robust data sets, including different data sources</p> <p>Pro: Allows you to systematically discover new candidates that you might have missed otherwise.</p> <p>Con: Sufficient (freely accessible) data is needed if you want to be able to find new information</p>