

29th Workshop of the EURORDIS Round Table of Companies (ERTC)

How to teach an old medicine new tricks *The importance of repurposing medicines for patients*

Wednesday, 19 February 2020 (09:00 to 17:30)
Brussels

CONCEPT PAPER

Introduction

Thanks to advancements in science and a favourable legislative environment, the number of therapies for rare diseases has increased dramatically in the past decade and will continue to increase in the foreseeable future. However, therapies that have come to market so far cover less than 5% of all rare diseases, demonstrating a need to speed up development of new treatments whilst at the same time safeguarding the sustainability of the system.

As EURORDIS' ambition is to have 3 to 5 times more new rare disease therapies approved per year by 2025, 3 to 5 times cheaper than todayⁱ, in this workshop we will take a deep look at the new initiative on repurposing from the European Commission and Member States (in the context of the work of the Expert Group on Safe and Timely Access to Medicines for Patients - STAMPⁱⁱ) and other initiatives to foster the development of therapies.

An underused source of potential innovative medicines

Apart from new medical entities and advanced therapy medicinal products, innovation can also lie in products that are already authorised (for a first use) and that can target a different condition (second medical use). Examples are numerous within common diseases and most importantly from a common disease to a rare one (see table 1).

85% of other uses discovered are discovered in the 18 months after approval, however 85% of these uses are labelled only when generics come inⁱⁱⁱ. There are economic advantages: the median cost to conduct a phase 3 trial for a second use: 200 million \$ over 3.5 years, representing a 25-33% of the cost of development for a first use^{iv}. There are inherent limitations to the patent system make non-patent incentives essential: the commercial life of an innovative product is twelve years, whilst for

Active substance	Initial indication	Second medical use
Daclizumab	Prevention of transplant rejection	Multiple sclerosis
Everolimus	Organ transplant rejection	Breast cancer
Finasteride	Prostate disorders	Androgenetic alopecia
Pregabalin	neuropathic pain, seizures	Generalised anxiety disorder
Apilimod	Crohn's disease, cancer	Amyotrophic lateral sclerosis*
Aztreonam	Antibiotic large spectrum	Pseudomonas aeruginosa in cystic fibrosis*
Cycloserine	Urinary tract infections	Tuberculosis*
Hydroxyurea	Myeloproliferative disorders	Sickle-cell disease*
Sildenafil	Erectile dysfunction	Primary pulmonary hypertension*
Thalidomide	Nausea in pregnancy	Leprosy, multiple myeloma*

Table 1- examples of second medical use. *represents a rare disease

a Second Medical Use is only six, meaning that the developer has less time to generate the return on investments needed. As a result, industry invest much more in innovative products (such as new medical entities), as there is no market for the second medical use, or not enough time to generate the expected revenues, even if these products could cost much less and attract payers' interest. Furthermore, they represent a lost opportunity for treatment options to the detriment of patients and public health. When a new use does not benefit from a marketing authorisation, access can be limited, for example in countries where off-label use is not legally possible or only after significant administrative work, or where it is not reimbursed.

The STAMP initiative on repurposing

During the last three years, the European Commission Expert Group on Safe and Timely Access to Medicines for Patients (STAMP) reflected on potential incentives and disincentives, on sources of evidence that support the repurposing of an authorised product, on what role academia could play, on off-label use in different Member States. STAMP concluded that:

1. Clinical trials or data analysis from various sources investigating new uses for off-patent drugs are often conducted by non-commercial stakeholders;
2. There is low of interest from and difficulties in engaging with industry e.g. due to lack of regulatory and / or financial incentives;
3. There is a lack of accessible information in the public domain and lack of experience in generating data according to regulatory standards;
4. The regulatory framework fails to recognises the challenges faced by non-industry researchers;
5. A lack of knowledge and resources from non-profit organisations exists in terms of understanding the regulatory routes and requirements

Based on this analysis, the European Federation of Pharmaceutical Industries and Associations (EFPIA) and Medicines for Europe made a first proposal. The current initiative evolved from the EFPIA/Medicines for Europe proposal. It is the aim of the workshop to present and understand the STAMP initiative on re-purposing and its potential benefits for people living with a rare disease. Nonetheless, as the STAMP proposal focuses on off-patent products with some clinical evidence for efficacy and safety, other projects aiming at conducting clinical research/translational research will be presented.

Objectives

This workshop will provide valuable information to its participants with the following objectives:

- Build on existing repurposing efforts and discuss innovative platforms to boost re-purposing research;
- Understand the opportunity for companies to increase their portfolio of products while also helping to reduce costs and facilitate access to rare disease products;
- Explain the potential for academia, patient organisations and healthcare companies to work more collaboratively together to discover the opportunities for re-purposing products for rare diseases;



- Explore how academia and patient organisations can find research funding to pursue re-purposing for rare diseases;
- Understand the positive impact for rare disease patients if companies open their library of compounds to academics;
- Learn how patient organisations could facilitate the repurposing process.

ⁱ EURORDIS Rare Diseases Europe (2018), 'Breaking the Access Deadlock to Leave No One Behind'

ⁱⁱ https://ec.europa.eu/health/documents/pharmaceutical-committee/stamp_en

ⁱⁱⁱ Henry Grabowski Professor Emeritus of Economics, Duke University, Margaret Kyle Professor of Economics, Center for Industrial Economics (CERNA), Alex Brill American Enterprise Institute

^{iv} Clinical Innovation - Fair and Effective Incentives for New Uses of Established Drugs Conference, 7-9 February 2018, Washington DC