

# Alcimed

Press Release

## Translational research: innovation accelerator in the pharmaceutical industry

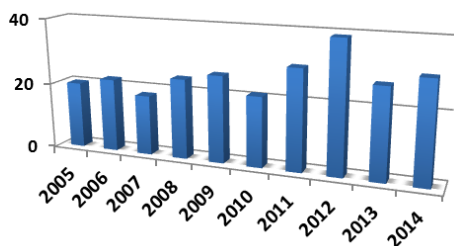
*In a relatively unproductive environment of the pharmaceutical industry, translational research offers prospects for privileged innovation and challenges the way research is currently organised. Alcimed, consultants in innovation and development of new markets, raises the issues of translational research and its impact on the development of new treatments for patients.*

Paris, 20 January 2016 – In recent years the pharmaceutical industry has been confronted with research and development of new treatments slowing down: **it is not more difficult to create a therapeutic innovation.** Despite a great many scientific advances, such as in genome sequencing, and rising investment in research and development in the industry, the number of authorised innovative therapies on the market has stabilised, judging by the FDA's figures (cf. graph below).

"Beyond the objective of improving patients' quality of life, innovation is also a means for pharmaceutical companies to strengthen their position in a highly competitive market", comments Lambert Lacoste, Alcimed Project Manager.

**Historical R&D models have shown their limits, so it is**

Growth in the number of new drugs (New Molecular Entities) authorised by the FDA



### *What is translational research?*

Translational research in medicine consists of accelerating the transfer of scientific discoveries into clinical benefits for patients.

This approach repositions the patient at the centre of the research effort by focusing on detailed understanding of what is happening to the patient, starting point for developing new treatments.

It aims to make research processes cyclical by strongly recommending establishing a *continuum* where knowledge flows are not simply directed from fundamental research to clinical practice, but also from the patient to researchers.

Translational research is, by its nature, multi-disciplinary. The issue is to make this knowledge gained from observing the patient available to all stakeholders involved throughout the research process.

**now necessary to consider permanent alternatives to encourage innovation. Today, translational research is an alternative to be investigated.**

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## *Innovation encouraged by translational research*

Some examples demonstrate the benefit that translational research can bring to members of the pharmaceutical industry.

The first example is Novartis. In 2002, the company reorganised its research activity with the aim of setting up the Novartis Institutes for BioMedical Research (NIBR). The objectives targeted are to increase understanding of the mechanisms of action involved, to rely on proof-of-principle studies carried out on a limited number of well-defined patients and to develop close collaborations with academic institutions as well as biotechnology companies. Over the 2010-2011 period, Novartis had a 20% success rate for the translation of molecules from the preclinical phase to clinical phase II, nearly twice the industry average<sup>1</sup>.

At the beginning of the 2000s at the Necker Hospital, observations made on a patient with abnormally high blood cholesterol level highlighted overexpression of a gene called PCSK9. At the same time, an American study had made the link between a low cholesterol level and suppression of the same gene. After making this clinical discovery, Sanofi, in partnership with Regeneron, was able to lead the development of an innovative treatment for hypercholesterolaemia and is now about to market an anti-PCSK9 antibody, so opening the way to a new therapeutic class for this illness<sup>2</sup>.

Many pharmaceutical companies, among them Big Pharma such as Pfizer, Roche, GSK or Astrazeneca, or more modestly-sized companies such as Celgene, Takeda or Ipsen, have now **integrated a translational research activity as such into their organisation**. Although everyone is not at the same level of restructuring, this shows the interest that the companies have in this discipline.

## *Implications for industrial companies*

### *... In the design of new medicines and treatments*

These examples show the **scientific and technical implications of translational research for healthcare companies and changes in the way the development of new medicines is designed**. Actually, it is first necessary to establish the resources for a better understanding of disease mechanisms, to identify new therapeutic targets.

Then, starting from this detailed understanding of the biochemical pathways, the **aim is to adapt the therapeutic option as well as possible to patient profile, so as to provide an effective and safe response based on determining factors of the people affected**. In this way, translational research implies **gathering and analysing masses of data at each development stage for new medicines, but also focused design of clinical trials based on patient profiles**.

In addition, the internal organisation must be suited to translational research, in order to favour continuity of the research process and create synergies between all the activities involved (e.g. fundamental research, preclinical, clinical, development, etc.).

### *... In collaboration with partner-clinicians, knowledge of patients*

Because translational research aims to mobilise each unit's expertise and knowledge in aid of developing new therapeutic options, **collaboration with external partners is a key factor**. Collaborating with clinicians provides better knowledge of patients and their needs, but also offers easier access to patients, through samples or by conducting clinical trials. Being closely linked to academics means benefiting from cutting-edge knowledge on specific scientific and technical subjects.

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<sup>1</sup> *The Current State of Pharmaceutical Industry Research and Development: Increasing Translational Research to Improve R&D Productivity*, Frankel Group LLC Advisory Board, 2013

<sup>2</sup> *Translational medicine is making therapeutic innovations more rapidly accessible*, Le Mag, Sanofi, 2013 [Link](#)

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## *Translational research opens prospects*

Translational research is fully integrated in the changing environment of the healthcare industry. Firstly, it facilitates advances in personalised medicine, or how to give the right treatment to the right patient. Like the change in oncology, when the development of broad-spectrum treatments has been replaced by targeted high therapeutic value treatments for patients, translational research is a means of promoting improvement of the medical service in all therapeutic areas. Next, granting a significant place to forming external partnerships, it promises recourse to new R&D organisations encouraging *Open Innovation*, which has made some parts of the industry pioneers.

Séverine Robineau, Alcimed Healthcare Business Unit Manager, concludes: *"Today the pharmaceutical industry has to be aware of the innovative potential represented by the development of translational research and jump on the bandwagon quickly, rethinking both the strategy and operational organisation of their research"*.

## **ABOUT ALCIMED**

Alcimed ([www.alcimed.com](http://www.alcimed.com)) is a consultancy company in innovation and development of new markets, specialised in life sciences (healthcare, biotech, food processing), chemistry, materials and energy, as well as aeronautics, aerospace, defence and Public Policy. Alcimed counts on a team of 180 employees, sub-divided by sector and able to handle extremely varied missions from marketing & sales subjects (market surveys, targeting new needs, positioning a new product, etc.) to strategic issues (development strategy, research & assessment of acquisition targets, organisation of an activity, design/assessment/deployment of public policies, etc.). The company's head office is in Paris and it also has offices in Lyon and Toulouse, as well as in Germany, Belgium, Switzerland, England and the United States.

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