Making Translational Research Work

TraIT (Translational Research IT)

Sharing translational research data allows researchers in widely dispersed groups to:
- combine and jointly analyze data from larger patient cohorts and multiple research studies
- develop more personalized treatment for diseases such as cancer and cardiovascular disease

It’s all about the patient

Translational research: sharing the same basic design
All translational research projects in personalized medicine share the same basic design, irrespective of the disease area. These projects aim to correlate variations in disease outcome between patients to variations in the underlying biology observed in the research laboratory, which should ultimately result in diagnostic tests and therapies tailored to individual patients.

The phenomenal size and the multidisciplinary nature of the datasets produced in translational research programs and their distribution over different research laboratories and clinics require an informatics infrastructure that allows for the seamless and secure integration and exchange of large amounts of data as well as complex data mining and analysis.

What is TraIT?
The TraIT project is a Dutch national consortium originally initiated by CTMM (Center for Translational Molecular Medicine). It provides the translational research community with an easy-to-access and easy-to-use infrastructure for sharing research data, together with a set of tools for further exploration of the collected data.

The TraIT project facilitates translational research logistics, data management, data integration and data analysis at a national level through a central and secure infrastructure. TraIT provides the Dutch hub in international networks and closely collaborates with initiatives like BBMRI, NFU Data4LifeSciences, DTL, and several others. The project adopted a 'think big, start small, act now' philosophy, having built a nationally accessible IT infrastructure for translational research in small steps, and preferably based on existing standards and software platforms, therefore ensuring that its databases and tools are open to the wide research community for the foreseeable future.

www.ctmm-trait.nl
Professional TraIT tools remove IT-hurdles for medical researchers who can then focus on their research. When you deploy TraIT in your research, your research data is securely stored in the cloud, allowing you to share it with other researchers and accelerate time-to-results without losing ownership.

To ensure the consistency of data entered into the TraIT environment, and hence its ability to be searched and mined, the framework includes tools that support typical research workflows, with integrated data pipelines to feed the data into the TraIT data analysis environment.

Existing users

A continuous growing number of users (over 1750 as of September 2015) are already leveraging the professional data capture, storage, data mining and data analysis tools deployed by TraIT, while also benefiting from comprehensive data security and patient privacy, as well as user support.

More than 150 studies make use of the TraIT infrastructure, from small investigator initiated studies to large registries. Example projects include:

CTMM DeCoDe project (focus: Decreasing deaths due to colorectal cancer)
The DeCoDe project was one of the founders of TraIT in that its IT infrastructure was adopted as a template for TraIT. The DeCoDe system includes a searchable biobank catalogue allowing researchers to seek access to relevant biobank material, as well as a platform (tranSMART) where data from all the domains involved in the DeCoDe study, from clinical to biobanking to genomics, are available for further analysis in an integrated way.

CTMM PCMM project (focus: Prostate cancer molecular medicine)
The PCMM project is linking several different data types, such as clinical, imaging, DNA, RNA and biomarker data, to close the loop from bench to bedside and back.

CTMM PARISK project (focus: Assessment of Plaque at Risk by Non-Invasive (Molecular) Imaging and Modeling)
TraIT works with Parisk to link image analysis to the TraIT XNAT image archive, as well as to make biobank information available.

Biobank of frozen faecal samples (DeCoDe)