

Translational Research IT at Philips Research



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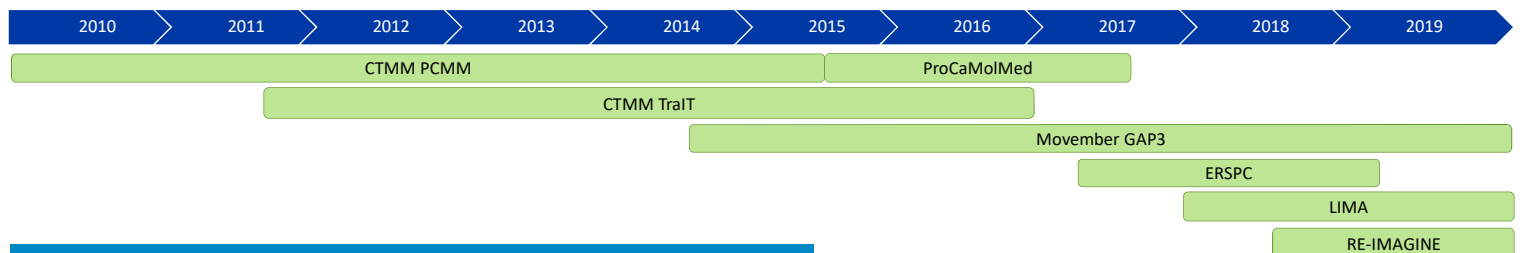
Abstract

Philips Research has a long history of supporting the data management, data curation and data integration of translational research projects. Starting in 2009, we worked within the CTMM projects PCMM (Prostate Cancer Molecular Medicine) and TraIT (Translational Research IT) on providing an IT infrastructure for translational research. Within TraIT, we worked with several tools such as tranSMART, OpenClinica, NBIA, XNAT, tEPIS, Workflow and Catalogue.

More recently we have been involved in projects such as the global project Movember GAP3 (active surveillance for prostate cancer) and the European project ERSPC (European Randomized Study of Screening for Prostate Cancer). For these large-scale, multi-site projects we setup a secure analysis environment in which researchers can browse and analyse their data using open-source tooling such as tranSMART and R. Data was transferred in a secure manner using the Secure Data Transfer tool of Philips, and subjected to a data quality and codebook conformance check, before being uploaded by an ETL procedure to the central database. For Movember GAP3 we also assisted in the creation of

the codebook, and updated the dataset with derived imaging and questionnaire data.

In 2019 we will work on two new projects: the British project RE-IMAGINE (improving diagnosis of early prostate cancer) and the European project LIMA (Liquid biopsies and IMaging). For RE-IMAGINE we will build an IT infrastructure similar to the one we built for Movember GAP3, but including genomics and digital pathology data. For LIMA we will extend our expertise from prostate cancer to breast and rectal cancer, and we will integrate data from liquid biopsies (ctDNA, CTCs) into the central database.

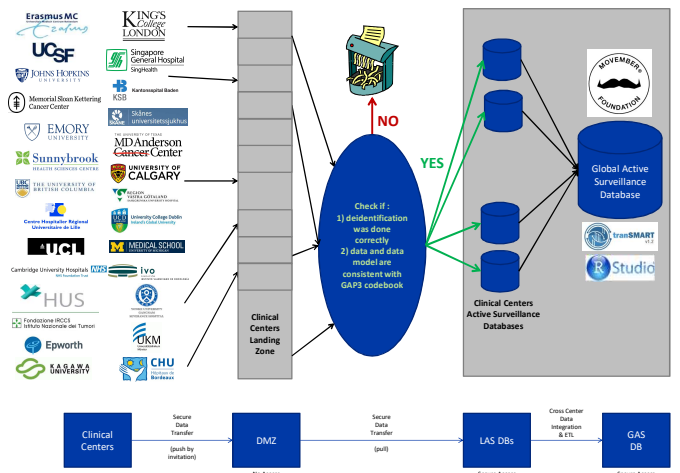


GAP3

Global PCa Active Surveillance Database

The Movember Foundation has committed 2.4M€ to the Global Action Plan Prostate Cancer Active Surveillance (GAP3) initiative to construct the largest centralized prostate cancer active surveillance database to date, comprising the majority of the world's active surveillance patient data. This will help create a global consensus on the selection and monitoring of men with low-risk prostate cancer and will reduce the number switching to active therapy within 1 year after the start of the active surveillance protocol and has the potential to improve their quality of life. Overall milestones include worldwide consensus guidelines on active surveillance and a worldwide web-based platform on active surveillance with information and guidelines on active surveillance as an acknowledged treatment option for prostate cancer.

Philips Research has constructed the GAP3 database, consisting of data from 27 institutes from 16 countries. This data has been made available to the GAP3 statisticians for further analysis.



Liquid Biopsies and Imaging for Improved Cancer Care

LIMA is a 6.3M€ Horizon2020 project which brings together hospitals and industry to develop new technologies to predict whether chemotherapy will be effective in individual patients with breast cancer and rectal cancer. The technology will be based on analysis of medical MR images and liquid biopsies from blood samples (ctDNA, CTCs).

Philips Research will help to create a central LIMA database in which data from different modalities will be brought together and analyzed.



Correcting 40 years of risk-stratification error in early prostate cancer

The RE-IMAGINE consortium (funded by the MRC with 5.1M£) seeks to change forever the way in which prostate cancer is diagnosed, the manner in which it is classified, the method by which risk is communicated, the utility associated with the diagnosis, the benefit that is derived from intervention and reduce the overall costs of care.

The precise risk-stratification that results from an image-based measurable-disease approach will allow us to determine whether progression in prostate cancer is clonally specified or is a transitional phenomenon.

The risk stratification of prostate cancer that will emerge from RE-IMAGINE will permit a departure from today's one-size-fits-all approach towards an individualised care that matches the very broad risk profile of this ill understood disease.

Philips Research will work together with the four clinical centres to create the central RE-IMAGINE database.

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See for more info:
<https://www.philips.com/a-w/research/home.html>
<https://gap3.movemberprojects.com>
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<https://www.reimagine-pca.org>

