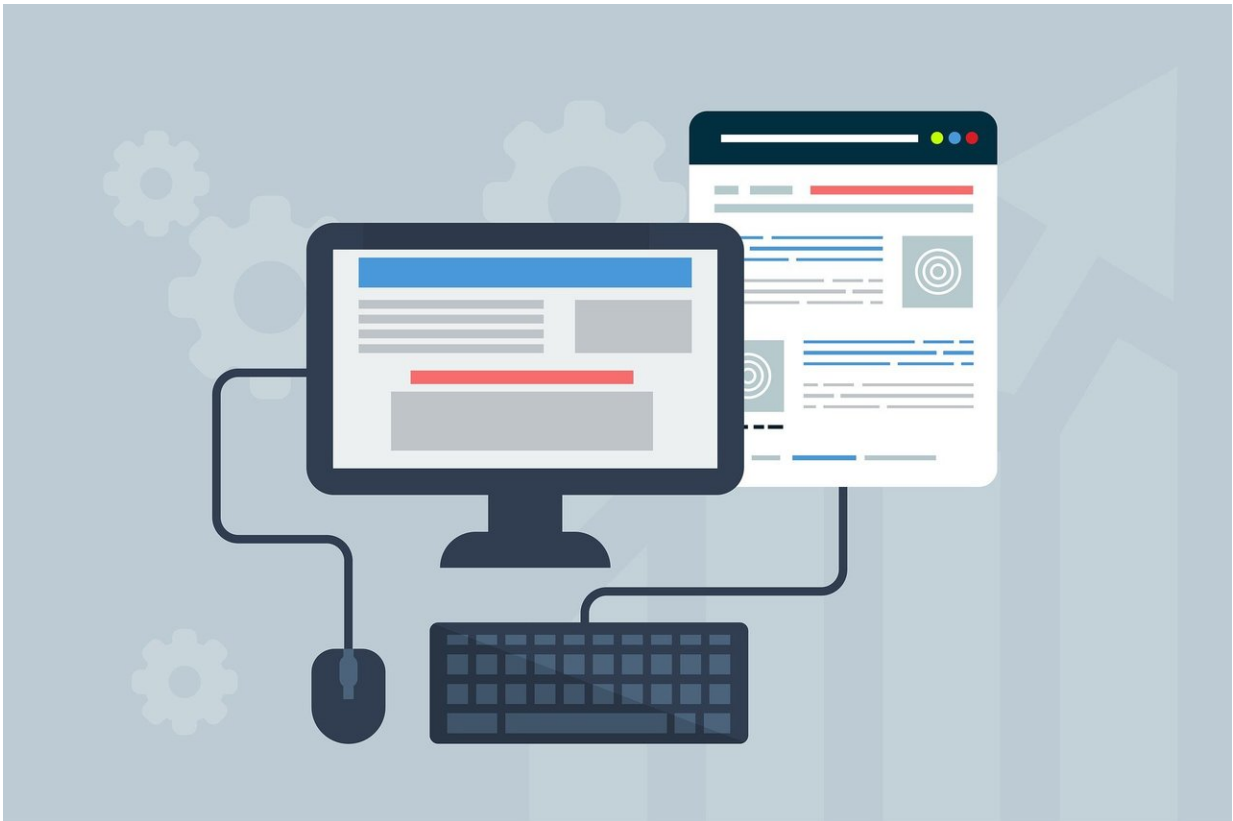


Unique tool paves the way for more individualized cancer treatments

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Making the latest research results available to doctors increases the opportunities for finding better individualized cancer treatment. For a few years, researchers at Karolinska Institutet and several other

universities have been working on building a digital tool which will make global genomic data easily available as support for treatment decisions.

The results are now published in *Nature Medicine* and at the same time the tool—the Molecular Tumor Board Portal—will be launched on www.mtbp.org. Janne Lehtiö, professor at the Karolinska Institutet Department of Oncology-Pathology led this work, along with researcher David Tamborero.

What is the Molecular Tumor Board portal (the MTB portal)?

The MTB [portal](#) is a web-based tool which provides support for clinical decisions in the field of [cancer](#), based on cancer-related changes in the genetic material. The MTB portal creates a link between research and treatment and is used to analyze genomic data from different databases around the world. Cancer occurs when gene changes take place in the genetic material of the cells. By analyzing the molecular properties of the tumors, it is possible to find information about each individual tumor. The MTB portal makes it possible to match the specific properties of one tumor with various approved or experimental treatments tested in [clinical trials](#).

How can the MTB portal contribute to the development of better cancer treatments?

Via the MTB portal the latest research is made public and more accessible, and both base researchers and research clinics the world over are able to be informed about the great amount of knowledge there is around the world. The tool makes it possible for the treatment team to seek similar analyses in order to then design a more individualized treatment based on the specific characteristics of the patient's disease.

Are there any concrete examples of how the MTB portal has been used?

Within the framework of clinical trials, in conjunction with seven leading cancer centers in Europe, we have analyzed more than five hundred tumors which did not respond to the standard treatment. Subsequently, approximately 140 patients were included in various clinical trials where, by analysis of their specific tumor, they will undergo a molecular based treatment instead. Moreover, by means of analyses in the MTP portal we have been able to identify 10 to 15% of cases whose cancer has a genetic mutation which may be hereditary. This information is forwarded to the clinic carrying out the treatment, to be followed up by the patient and their family.

Why is this tool so important?

In the treatment of cancer time is a decisive factor. The use of the MTB portal can reduce the time for complex analysis from two or three months to only two weeks while the risk of interpretation error also decreases. This means that treatment can be initiated much more quickly. In the last five years many new cancer medicines have also been introduced, but finding the best combination of treatments for each individual has produced a kind of bottleneck effect. The MTB portal helps to unblock this bottleneck, since the tool is accessible and free to use for researchers and doctors the world round.

What effect does the MTB portal have on clinical work?

The MTB portal is patient-centered and easy to use, which lowers the thresholds for introducing complex data in clinical work. We also see that an online portal increases collaboration between hospitals and

knowledge is shared in an efficient way. This is especially important when the case is complex. Medical teams around Europe gain easy access to the latest knowledge about each patient's specific cancer mutations and can think about treatment decisions together.

Who is behind the tool?

The MTB portal was developed and managed by Lehtiö lab at Karolinska Institutet with funding from Radiumhemmets Research Funds, the Swedish Cancer Society and the Swedish Childhood Cancer Foundation. Seven leading European oncology centers collaborated in this work under the umbrella of Cancer Core Europe: Cancer Research UK Cambridge Centre (Great Britain), German Cancer Research Center (DKFZ) & National Center for Tumor Diseases (NCT) Heidelberg (Germany), Gustave Roussy (France), Instituto Nazionale dei Tumori di Milano (Italy), Karolinska Institutet (Sweden), Netherlands Cancer Institute (Netherlands) and Vall d'Hebron Institute of Oncology (Spain).

More information: undefined undefined et al. Support systems to guide clinical decision-making in precision oncology: The Cancer Core Europe Molecular Tumor Board Portal, *Nature Medicine* (2020). [DOI: 10.1038/s41591-020-0969-2](https://doi.org/10.1038/s41591-020-0969-2)

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