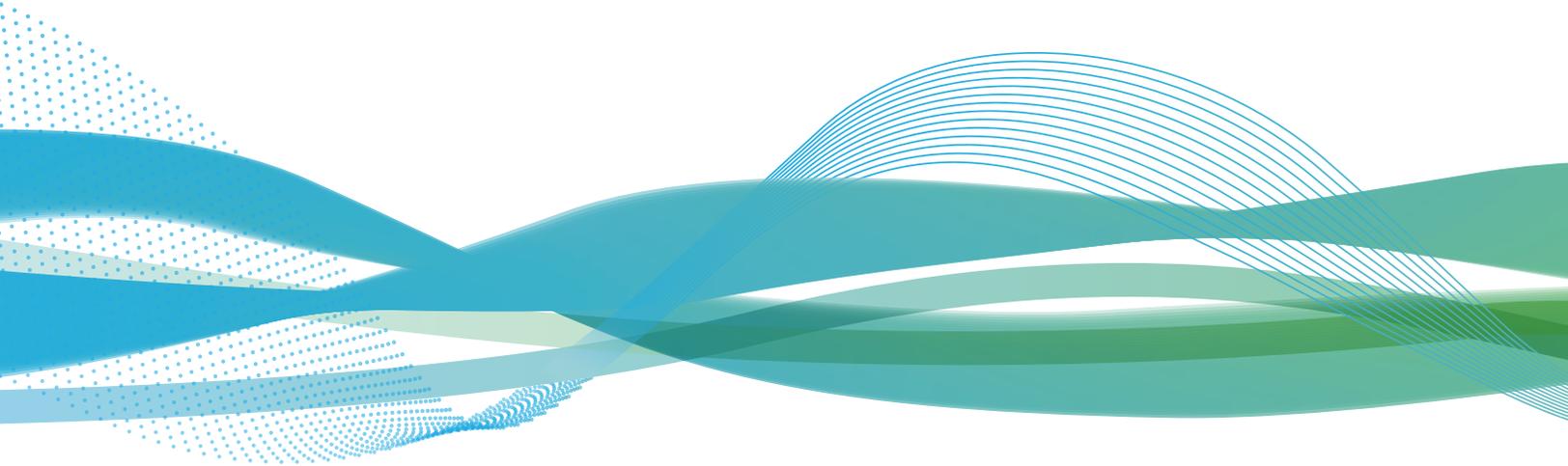


Transforming care with digital oncology solutions

The Marien Hospital in Wesel, North Rhine-Westphalia, Germany treats a number of complex oncology patients. **The hospital is based at a single site, with 16 different medical departments, approximately 432 beds, and 1,000 employees.** Every year the hospital treats approximately 20,000 inpatients and 50,000 outpatients.¹ In collaboration with Roche, Marien Hospital explored the use of digital oncology solutions to improve patient care.



Overview

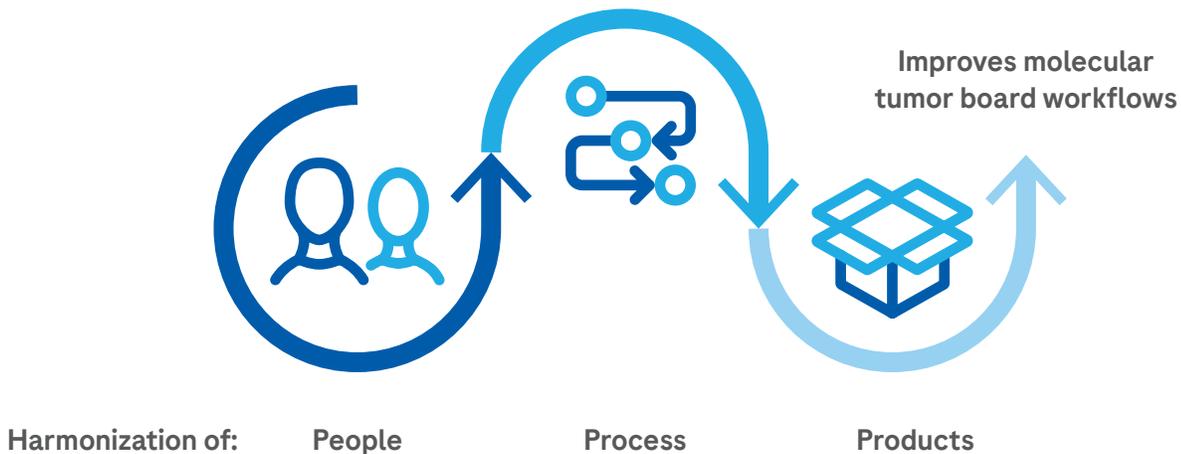
As we are moving towards a digital world, with medical knowledge increasing at an exponential rate,² there is a pressing need for the simplification and standardization of hospital processes to enable healthcare professionals to clearly understand and interpret available data.

One challenging, yet crucial, process for oncology patient care is the management of tumor board meetings, which involves the handling of large amounts of cancer patient case data and requires the input of multiple specialists to align on the optimal treatment recommendations.

Adding to the complexity is the advancement in next-generation sequencing (NGS) and an increasing number of available cancer treatment options, which is further progressing the field of oncology towards precision medicine. This leads to a rising need and formation of molecular tumor boards.^{3,4}

In 2020, healthcare professionals at the Marien Hospital partnered with Roche Healthcare Consultants to establish a standardized and digitalized molecular tumor board workflow for their institution. Prior to this project, the hospital had no molecular tumor boards in place, and a lack of expertise in executing this innovative and complex type of tumor board.

Through the coordination of people, processes, and products, a standardized digital workflow was created as a result of the collaboration. This has enabled healthcare professionals (HCPs) to implement effective patient-centered molecular tumor boards at Marien Hospital, allowing for the handling of various complex case data to make better-informed, evidence-based oncology care decisions. Furthermore, it has formed the foundation for future changes in personalized medicine.



Opportunities

The Marien Hospital recognized the crucial need of establishing a molecular tumor board. By partnering with Roche Healthcare Consulting, transparent data-driven insights that revealed the key pain points in the preparation, implementation, and post-processing of tumor boards were generated. These insights provided the basis for discussing which areas should be prioritized. Key opportunities identified were:

Optimizing the management and preparation for molecular tumor boards

Managing and preparing for multidisciplinary tumor boards is a complex, time- and labor-intensive process.⁵ This requires the efforts of multiple healthcare professionals to compile and systematically document clinically relevant data from a variety of sources and fragmented IT systems, adding additional administrative burden.^{5,6}

Analyzing complex individual genomic data makes preparing for these meetings more challenging. As a result, molecular tumor boards may need up to four times the preparation time compared with traditional tumor boards.⁷

Standardization of a tumor board process

Currently, there are no standards or guidelines for molecular tumor board processes^{8,9} and no standardized way of testing patients or presenting their data. This is made more challenging for clinicians given the exponential growth in medical knowledge.²

Improving efficiency with oncology digital solutions

In addition to streamlining workflows, digital solutions can reduce costs, support clinicians to make informed decisions, and ultimately improve the quality of care.¹⁰⁻¹² Additional support from digital transformation consultants, including Roche Healthcare Consultants, can help to identify the key factors that need changing and support HCPs during and after the transition to a digitally focused way of working.

Benefits from the collaboration of oncology teams with clinical decision support consultants include:

- More time efficient tumor board discussions
- Improved decision making
- Increased data consistency per tumor board case
- Increased staff satisfaction
- Streamlined and standardized methods to handle patient cases
- Reduced time for patients to receive treatments
- Quantitative comparison of entity and molecular tumor boards
- Personnel and staff cost transparency

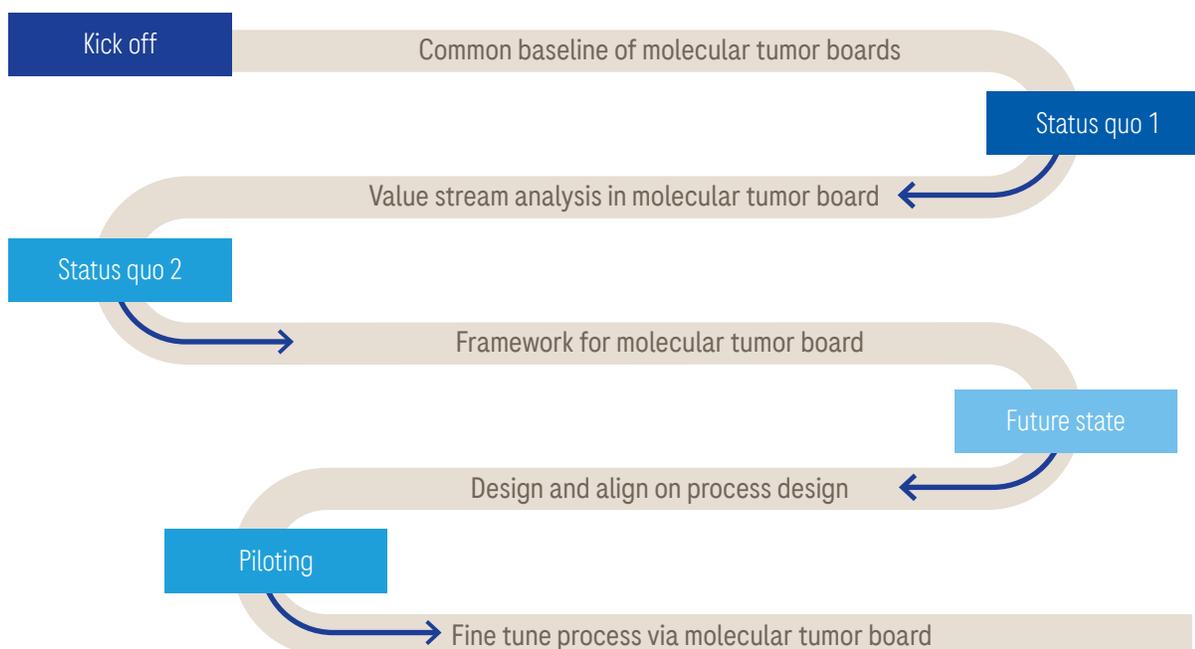
Approach

The Marien Hospital team had an overall goal to develop a virtual network of experts in precision oncology and implement a digital workflow solution, which would enable the running of effective patient-centered molecular tumor boards. Additionally, they hoped this work would lead to increased regional visibility, and enable other small hospitals to create expert networks.

Together with Roche Healthcare Consultants and led by the hospital steering committee, an initial meeting was held where the teams jointly aligned on five key objectives for this project.

At Marien Hospital, a sequential approach was used to set up the molecular tumor boards. ‘Phase one: status quo’ was performed to identify the essential steps in the process and determine the molecular tumor board framework for the preparation, implementation, and post-processing of the meetings. Alignment of the process design occurred in “Phase two: future state”, and the final stage, “Phase three: piloting”, involved fine tuning and trialing of the workflow.

A sequential approach for setting up molecular tumor boards:



5 key project objectives



Understand the needs and requirements of the healthcare professionals



Identify the incremental value of each stage of the processes that are involved in the patient care pathway



Uncover pain points and develop customized approaches to solve these



Co-create workflow standards



Harmonize people and align on the process and implementation of the cloud-based software solution

Outcomes

As a result of the project, a Germany-wide network of experts in precision oncology was created, along with a standardized and digitalized molecular tumor board workflow. This expert network and streamlined workflow have already facilitated the implementation of molecular tumor boards at the Marien Hospital.

The virtual network, which consists of 10 partners and seven clinical oncology experts from six institutions, went live in June 2020. The first molecular tumor board was held in August 2020.

Following establishment of the expert network and streamlined workflow, molecular tumor boards have been held which have resulted in:

Results



High resource investments (approximately 600 head count investments) per molecular tumor board



Very complex patient cases;
14 minutes discussion time on average



Multiple data sources used to create a holistic view of each case (including CT scans, clinical trials, experimental trials, biomarkers, whole-genome sequencing results)



Germany-wide top specialists for specific entities are participating virtually for relevant cases to support the core network team with their expertise



If necessary, specialists are also consulted before the molecular tumor board is conducted to gather their feedback on complex patient cases

Conclusions

Digital tools, such as emerging clinical decision support technologies, offer a way to improve the efficiency of molecular tumor boards.^{5,13,14} In addition to streamlining workflows, digital solutions can reduce costs, support clinicians to make informed decisions, and ultimately improve the quality of care received, as shown in studies.¹⁰⁻¹² Additional support from digital transformation consultants can help to identify the key factors that need changing and support healthcare professionals during and after the transition to a digitally focused way of working.

The project at Marien Hospital demonstrates that the successful implementation of standardized molecular tumor board workflows requires a collaboration between digital healthcare consultant experts, high-quality digital solutions, and passionate healthcare professionals who want to make a change to the future of their oncology patients' care.

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