

BZKF-BORN-Project

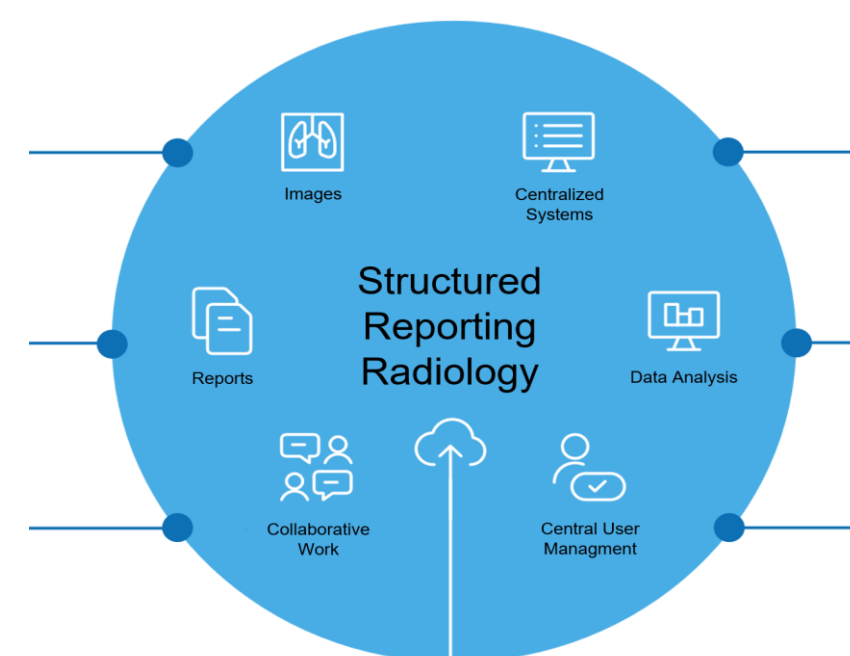
Bavarian Oncological Radiology Network

The aim is to generate large-scale data in oncology imaging to facilitate research and patient care. We harmonized imaging protocols and generated standardized and structured imaging data of six malignancies beyond all BZKF sites.

Speaker: Prof. Dr. T. Kroencke, Augsburg

Activities & Achievements

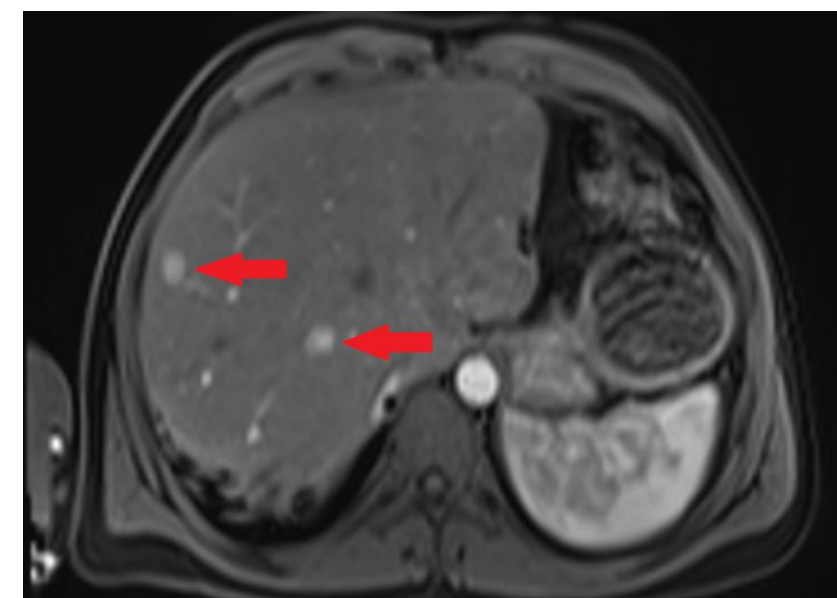
Imaging plays a key role in the diagnosis and surveillance of tumor diseases. Large-scale structured data sets are urgently needed to establish new image-based biomarkers for primary diagnosis, risk-adapted stratification, prognosis, understanding of the disease, therapy planning, and monitoring. So far, radiologic examinations are non-uniformly performed and evaluated throughout Bavaria and even within clinics. The BZKF-BORN project consists of all six Bavarian University radiology departments. It generates harmonized and structured data and makes them accessible for research and patient care. We identified six major malignancies that considerably impact radiology departments and the whole healthcare system: breast cancer, prostate cancer, lung cancer, liver



cancer, pancreatic cancer, and rectal cancer. A working group was formed for each cancer, consisting of at least one expert from each of the six BORN sites. A bi-weekly online meeting was held for consultation and consensus-building between the groups. An industry partner – Mint Medical GmbH, a subsidiary of Brainlab AG – provided the Mint Lesion™ software, which was used for image annotation, structured reporting, and data transfer..

Each site created the infrastructure to integrate the collected data into the local PACS, RIS, and the planned BZKF Real-World-Data Integration Platform. A comprehensive data protection concept, already developed in the RACOON Project (Radiological COoperative Network, a cooperation of all German university radiology departments) allows local, decentralized storage of patient-related data, pseudonymized or anonymized transmission to research platforms within the protected clinical

network, and anonymous transmission outside the network. The working group identified the relevant modalities for each malignancy and consented to harmonized imaging protocols, allowing for uniform and consistent data collection. Structured report templates were created on the Mint Lesion™ platform for each entity in several feedback rounds. The templates were validated by internal cross-testing and external expert review. The finalized templates are currently rolled out in September 2023, and real-world testing is scheduled by the end of 2023. Starting in 2024, the templates will be used for routine clinical practice for 1.5 years, evaluated for clinical applicability, and structured data collected for the research platform.



Long-term goals at all BZKF sites

- » Harmonization of imaging protocols
- » To standardize the collection of quantitative imaging data
- » Seamless integration of collected data in the local clinical information systems and the interoperable BZKF environments
- » Open interfaces for linking structured imaging data with other healthcare data
- » Support the development of quantitative image-based biomarkers and AI techniques.

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