



Annual Report 2022

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Foreword by the BZKF Director

Bavarian Cancer Research Center (BZKF)

In the Bavarian Cancer Research Center (BZKF), the six Bavarian University Hospitals and their respective Universities have joined forces to form a strong alliance. Since 2019, the BZKF has been pursuing the goal of translating innovative therapeutic approaches from cancer research into clinical application promptly.

Cancer patients in the Free State of Bavaria are to have the best possible therapy based on the latest scientific knowledge made available to them. In line with our motto, **“Strengthening Excellence—Sharing Knowledge,”** the BZKF bundles the scientific expertise of the Universities of Augsburg, Erlangen, LMU and TU Munich, Regensburg, and Würzburg in the field of cancer research.

During the past year, the BZKF has continued with the expansion of its common research infrastructure. Regular cross-site exchange has been established in the molecular tumor board conference and the ECTU network. The lighthouse structures have also been expanded further, with new foci being set in the areas of omics technologies as well as AI and bioinformatics. The targeted development of lighthouse structures particularly aims to sharpen the profile of individual sites and provide the expertise gained there to all the BZKF sites.

A major success was the completion and release of the central BZKF Trial and Study Registry, which summarizes all oncological studies in a central and publicly accessible database at all the BZKF sites. Cancer patients and physicians responsible for their treatment throughout Bavaria now have the opportunity to view clinical trials and studies online and find the contact person for the trial or study in an easily accessible manner. In an intensive coordination process, data collection at the BZKF sites was standardized and harmonized to enable the consolidation of all clinical trials and studies into one registry.

The new BZKF Trial and Study Registry is a clear demonstration of how to achieve concrete and tangible improvements for patients in Bavaria through constructive cooperation in the BZKF network. We at the BZKF shall carry on taking advantage of the opportunities that such active networking of the Bavarian sites offers. Together, for the benefit of patients, we will continue driving towards becoming a nationally and internationally recognized oncology research center. The BZKF makes a sustainable contribution to strengthening Bavaria as a center of science and research.



This annual report will give you an insight into the developments within the BZKF in its third year of funding by the Bavarian State Ministry of Science and the Arts. Our sincere gratitude goes to the State Government of Bavaria, which has supported us generously, even through the crisis-ridden year of 2022, thus enabling us to continue driving forward with the development of the BZKF.

Prof. Dr. Andreas Mackensen
Director of the Bavarian Cancer
Research Center (BZKF)

Milestones in 2021/2022



January 2021

- » Foundation of the **Project Group BZKF Trial and Study Registry**



April 2021

- » Review of the first **applications for start-up funding** of the **lighthouse and trials and studies groups**



May 2021

- » Funding of the first **lighthouse and trials and studies groups**



July 2021

- » Approval of the **consensus paper on the equipment of biobanks** (Working Group Biobank)
- » **The Working Group Molecular Tumor Board** approves the integration of the **MIRACUM-Pipeline/cBioPortal** into the BZKF network to exchange clinical and molecular pathological data
- » Foundation of the **BZKF Working Group "AMG / MPG"**
- » Publication of the **BZKF image brochure**
- » **First BZKF Network Meeting** in Erlangen



August 2021

- » Foundation of a **networking group on planning** the **central BZKF research infrastructure**—Start of planning for the **BZKF Real-World-Data Integration Platform**



September 2021

- » Foundation of **eight new BZKF trials and studies groups**



October 2021

- » **First BZKF Study Nurse Meeting** in Würzburg



November 2021

- » **First cross-site BZKF ECTU Board**



February 2022

- » Inauguration of the **BZKF BORN Project** (Bavarian **O**ncological **R**adiology **N**etwork)



May 2022

- » Two **additional lighthouse groups** and eight **further trials and studies groups** receive start-up funding
- » The BZKF participates in the event **“The Long Night of Science”** with the presentation: **“Cell therapy—when cells become medication”**



June 2022

- » Start of the **WAVES Study** documenting existing structures in the context of breast cancer treatment



July 2022

- » **Second BZKF Network Meeting** in Regensburg
- » **First Meeting of the Board of Directors** with the BZKF External Advisory Board at the network meeting in Regensburg
- » **First interim evaluation** of the trials and studies and lighthouse groups
- » The **trials and studies group on primary and secondary malignant brain tumors** and the **trials and studies group on lung tumors** receive a **prize for their outstanding work**
- » **First cross-site conference of the Molecular Tumor Board;** The MTB conferences have been held regularly every month since then.
- » **PublicCancerHotline—Launch of the Bavarian self-help-group portal** on the BZKF website



August 2022

- » The BZKF joins the **Alliance for Patient Involvement** of the BMBF project group “National Decade against Cancer”



September 2022

- » **First strategy meeting** of the BZKF Board of Directors in Nuremberg
- » **Young Scientist Fellowships**—Funding of eight young scientists at all of the BZKF sites
- » Foundation of a project group to develop a concept for a **BZKF Training Academy**



October 2022

- » **First meeting of IT Oncology Bavaria** in Erlangen



November 2022

- » **Launch of the BZKF Trial and Study Registry**
- » The BZKF presents itself for the first time at the **German Cancer Congress** in Berlin



December 2022

- » **The new lawyer for data protection at the BZKF** takes up her position at “University Hospital rechts der Isar” of TU Munich.

The BZKF in the Public Eye

The BZKF serves as an information hub for patients, their relatives, and for all the professional groups involved in cancer care and research. The latest findings in cancer research are regularly published through various channels and formats for all stakeholders.

Media relations and publications

In 2022, the office sent out a large number of press releases to Bavarian media outlets throughout Bavaria as well as to national professional media. This led to numerous publications in the form of press reports in various media such as daily newspapers, magazines, radio, television, and the Internet, and resulted in around 9.8 million media contacts, including six radio and television reports.

Press Talks

Within the framework of press talks and interviews, representatives of the BZKF provided insight into their work and current developments:

07 June 2022:

Medicine and technology: How theranostics is transforming medicine: Interview with Prof. Dr. Wolfgang Weber, Spokesperson for the BZKF Lighthouse on Theranostics

04 June 2022:

München TV: Prof. Dr. Claus Belka on the foundation of the BZKF, current cancer research, and the PublicCancerHotline

01 August 2022:


- » Sat1 Bayern: Better cancer care soon? The AI project BORN is launched
- » Franken Fernsehen: Living medicine—Visiting the GMP laboratory in Erlangen with Dr. Michael Aigner


16 November 2022:

Bayerischer Rundfunk/Franken Fernsehen: Transparency in cancer research/New trials and studies registry for Bavarian cancer research goes online—Opening of the BZKF Trial and Study Registry

Social Media

The BZKF has been present on Facebook, Instagram, LinkedIn, and Twitter since 2021. Ever since, the numbers of followers on all these social-media channels have been steadily increasing. In December 2022, the accounts were followed by a total of 1,320 users. The goal is to introduce subscribers to the structures and latest developments in the BZKF and to give the BZKF sites and BZKF network a voice in public.

 **Instagram:**
@bz kf_bayern

 **Facebook:**
Bayerisches Zentrum für Krebsforschung

 **LinkedIn:**
@bz kf

 **Twitter:**
@bz kf_bayern

Printed materials

In 2022, a total of 1,300 BZKF brochures were sent to patients, clinics, practices, self-help groups, and cancer counseling centers, as well as to representatives of politics and industry, and also handed out in personal meetings.



The BZKF invited to 37 patient events in total, organized by the six BZKF sites or cooperation partners. In addition, numerous further training courses for physicians and oncology nursing staff took place at the BZKF sites.

Events

Information events with invited experts enabled those affected to find out about the latest developments in cancer therapy and aftercare. Once again, the corona pandemic ensured that nearly all face-to-face events took place digitally instead. Participants responded very positively and the offerings were well received throughout Bavaria.

Patient events:

Highlights

- » **Patient forum: Corona & Cancer, CCC Augsburg** (04 February 2022)
- » **Breast Cancer Information Day 2022, LMU Hospital Munich** (09 March 2022)
- » **Social service benefits for cancer patients, DKFZ** (17 March 2022)
- » **Patient event: Knowledge Against Cancer, TZM** (19 March 2022)
- » **Bavarian Cancer Patient Day, Bavarian Cancer Society** (11 June 2022)
- » **Diagnosed with Cancer—What Happens Next? CCCO Regensburg** (20 July 2022)
- » **Patients' Question Time—Clinical trials, CCC Munich** (15 December 2022)

Courses of further training:

Highlights

- » **Europe Biobank Week Roadshow, ESBB and BBMRI-ERIC** (19—20 September 2022)
- » **Satellite Workshop "Best of Cancer", University Hospital Regensburg** (27 September 2022)
- » **Quality Conference, Bavarian Cancer Registry** (19 October 2022)
- » **ASPO Symposium on "Rare Tumors", CCC Munich** (14 December 2022)

Events at which the BZKF participated in person

- » **MedtecLIVE together with Innovative Bavaria in Stuttgart**
Central meeting for the medicine technology sector (03–05 May 2022)
- » **The Long Night of Science in Erlangen**
Presentation on the subject: "Cell therapy—when cells become medication": Dr. Michael Aigner (21 May 2022)
- » **First Bavarian E-Health Congress in Augsburg**
Digital networking and developments regarding data use in health care (29 June 2022)
- » **TEAM-X: Conference with HEALTH-X and Gaia-X in Erlangen**
Health Care in the Future: Dr. Mandy Wahlbuhl-Becker (12 October 2022)
- » **BZKF as guest at Mission "Beating Cancer" in Brussels**
—Research and innovation as key to success? Prof. Dr. Martin Trepel, member of the BZKF Board of Directors, presented the work and goals of the BZKF in Brussels on the initiative of the Bavarian Minister for Europe, Melanie Huml. (12 October 2022)
- » **Visiting YES!CON in Munich**
Cancer needs communication. Germany's largest cancer convention for affected individuals, experts, and influencers with a multitude of offers available (15 October 2022)
- » **Cancer Information Day 2022, with the association "lebensmut e.V." in Munich**
Experts inform on current opportunities available for the treatment of cancer (22 October 2022)
- » **35th German Cancer Congress in Berlin**
Professional congress on oncology: Interfaces between innovation and health care (13–16 November 2022)
- » **Patient symposium: 9th World Pancreas Cancer Day in Erlangen**
Pancreatic cancer: risk factors, symptoms, treatment, aftercare (17 November 2022)



Second BZKF Network Meeting

In addition to the presentation and discussion of the funded research projects, the Second BZKF Network Meeting in Regensburg on 21 July 2022 enabled direct and personal exchange between active members and through patient associations of the BZKF.

In total, 140 physicians and scientists traveled from all over Bavaria to the meeting. All attendees welcomed the opportunity to interact with the different working groups of the BZKF and to discuss possible networking. The focus of the BZKF Network Meeting lay on the current developments to BZKF infrastructure, the presentations

of the lighthouses, as well as the review of the trials and studies groups founded in 2021 by national and international experts of the External Advisory Board and by patient representative bodies of the BZKF.

Together with our cooperation partners, the BZKF pursues one goal: to advance the care and education of cancer patients actively.

Collaborations and Networks

To this end, the BZKF seeks active contact with experts not only within but also outside the six BZKF sites and thus pools expertise on the topics of prevention, early detection, therapy, and aftercare of tumor diseases. The BZKF gains important partners from associations representing the interests of various groups and federal research institutions.

These include collaborations with self-help groups, foundations, the Bavarian Cancer Society, German Cancer Aid, and the Bavarian Cancer Registry. In addition, the health insurance companies and the medical ser-

vices of the health insurance companies are regularly informed of the developments of the BZKF in order to enable the rapid dissemination and adoption of innovative diagnostics and therapeutics.

270

communities, district offices, in particular public health offices, and cities in Bavaria

200

active exchanges with self-help groups and advisory services

A selection of the existing collaborations in the BZKF

50

foundations, associations, societies, and blogs

5

active exchanges of information with health insurance companies

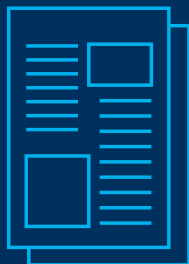
Miscellaneous



17.870

website visits

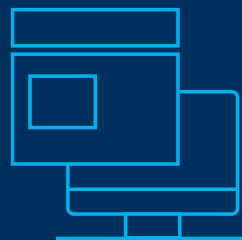
(January until December 2022)



8

advertisements

in daily and weekly newspapers



16

new webpages

on the BZKF website



The PublicCancerHotline

The PublicCancerHotline is a free telephone service (0800 85 100 80) throughout Bavaria on the subject of cancer available to those affected, their relatives, doctors, as well as the general public.

The specially trained and qualified staff of the **PublicCancerHotline** advise callers individually, answer questions and “translate” medical terms when necessary. Focusing on their individual needs, callers are met where they currently are. The **PublicCancerHotline** team answers all questions from A to Z. In some cases only a matter of reimbursing travel expenses, it is often about explaining complicated findings. The **PublicCancerHotline** staff see themselves as interpreters for patients, but also as anchors, advisors, and solution providers. At times, this leads to personal conversations that in some cases continue for several weeks.

Through the direct and instant contact with cancer patients, the **PublicCancerHotline** provides access to new therapy options and scientifically based information, as well as inclusion in clinical trials and studies at the BZKF sites where applicable. Depending on the disease in question, the **PublicCancerHotline** staff also refer

patients to specialized and certified centers, experts, medical specialists, or self-help groups. If necessary, the **PublicCancerHotline** also offers support to those seeking advice in obtaining a medical second opinion on diagnosis and therapy.

In 2022, another service was added to the **PublicCancerHotline** portfolio. The BZKF website now offers affected individuals and their relatives a portal to search for self-help groups (<https://bzkf.de/selbsthilfegruppen/>).

Here, suitable self-help groups may be located close to home and for the corresponding cancer. More than 60 self-help groups from all over Bavaria are currently listed there already.



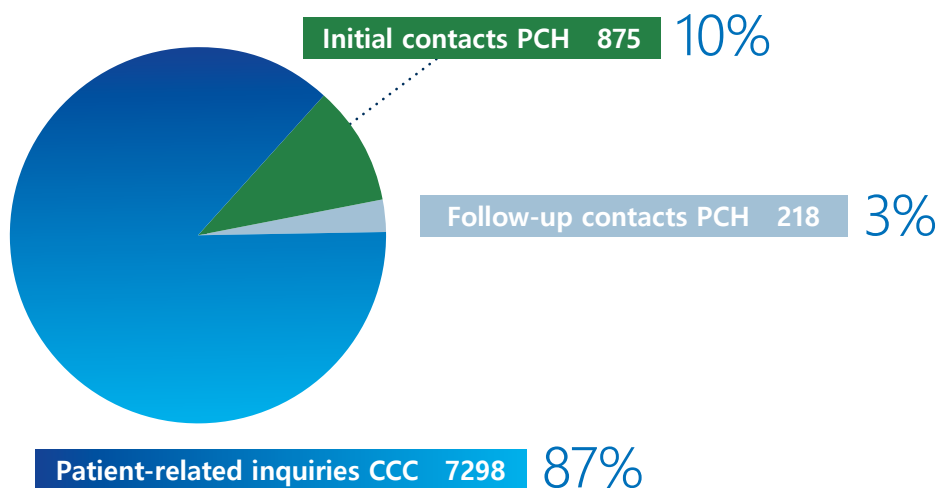
bzkf.de/selbsthilfegruppen



Key figures for the PublicCancerHotline, 1 January 2022 — 31 December 2022

Contacts and enquiries

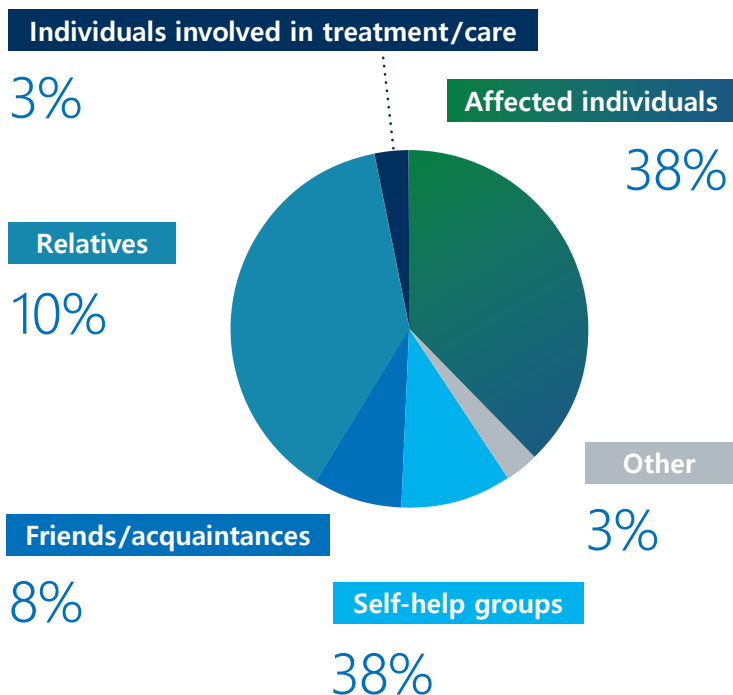
8373



Who made use of the PublicCancerHotline?

n=1075*

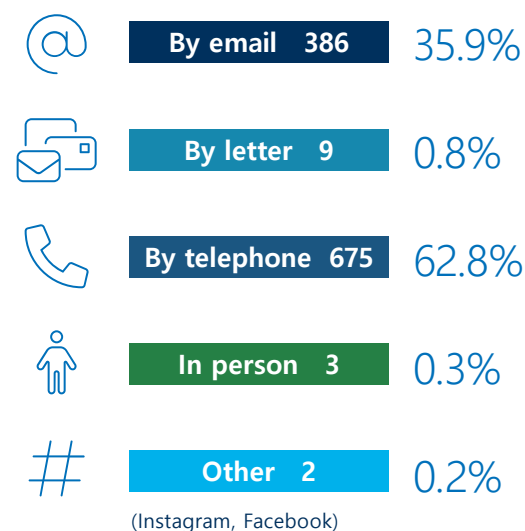
*Initial and follow-up contacts



Total number of contacts for the PublicCancerHotline

n=1075*

*Initial and follow-up contacts

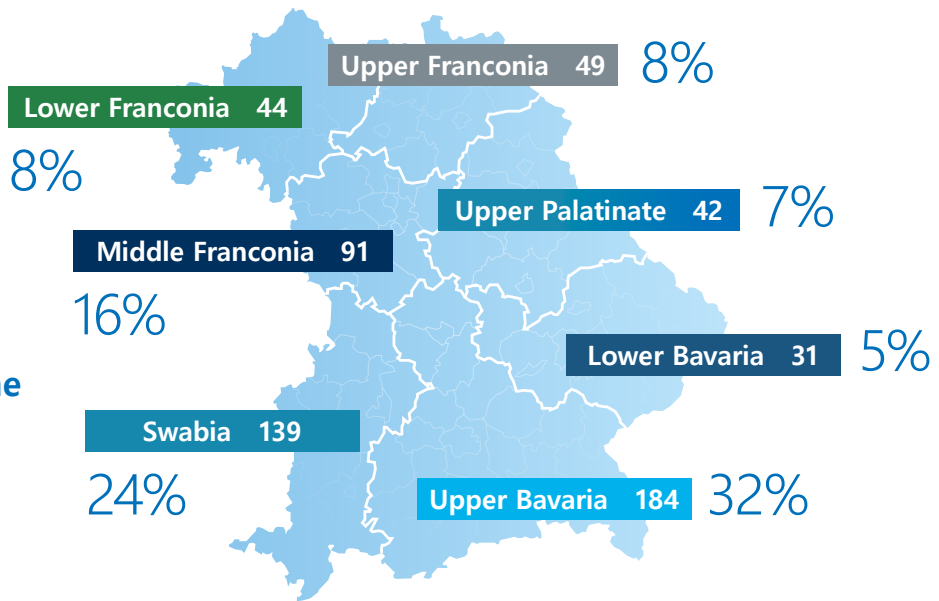


Key figures for the PublicCancerHotline, 1 January 2022 — 31 December 2022

Place of residence (administrative district) of the contact person in the region of Bavaria in 2022

n=580*

*Initial and follow-up contacts



Place of residence of the contact person outside Bavaria in 2022

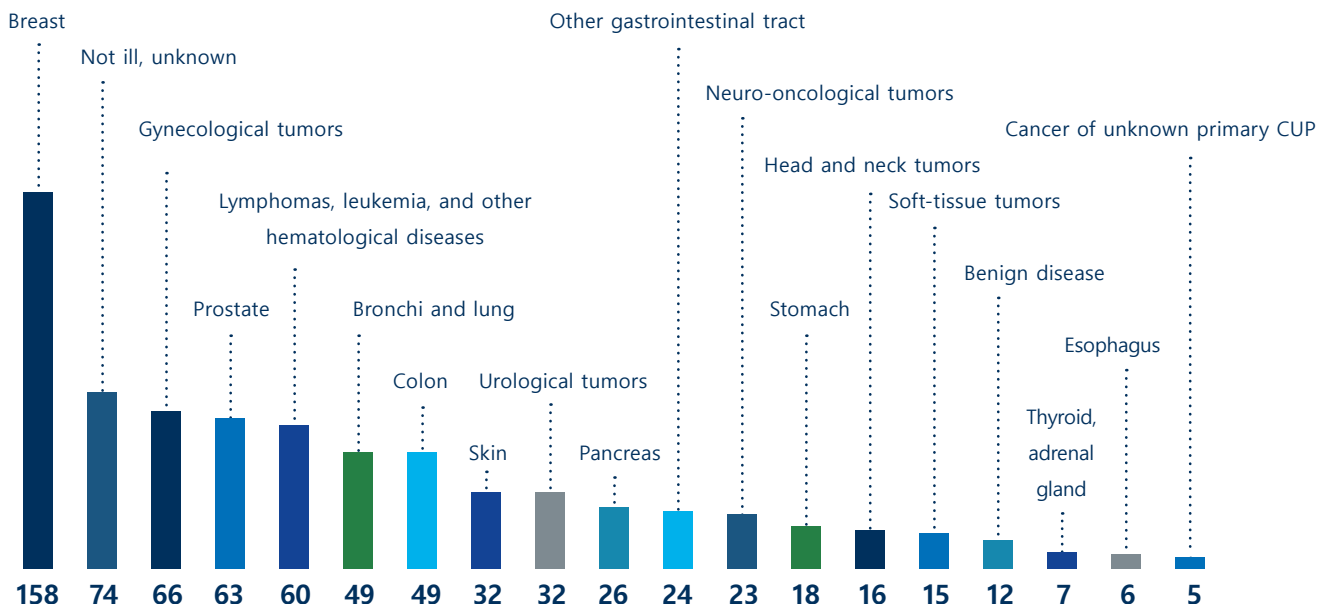
n=495*

*Initial and follow-up contacts

Tumor entities

n=735*

*Initial and follow-up contacts



Promotion of Young Scientists

BZKF Young-Scientist Fellowship

In order to strengthen Bavaria as a center of science and research in the long term and to promote the potential of young scientists, the BZKF Board of Directors awarded eight grants for projects in the field of oncological research with a funding volume of €600,000 in 2022.

With the targeted promotion of young scientists, the BZKF creates attractive and self-determined research spaces for young scientists and thus drives networking, not only between the sites in Bavaria, but also between the generations of researchers.



From left to right: Dr. Najib Ben Khaled, Dr. Hanna Hübner, Dr. Konstantin Drexler, Dr. Markus Eckstein, Dr. Vera Nickl, PD Dr. Friederike Liesche-Starnecker, Dr. Kerstin Michalski, Dr. Dr. Sebastian Schober

The scholarships were awarded to:

Dr. Najib Ben Khaled

Medical Clinic and Outpatient Clinic II, LMU Munich

Mapping drug synergies through CRISPR screens in cholangiocarcinomas.

Dr. Konstantin Drexler

Clinic and Outpatient Clinic for Dermatology, Regensburg

The influence of topical application of diclofenac on the tumor metabolism of skin tumors.

Dr. Markus Eckstein

Institute of Pathology, Erlangen

Spatial high-throughput characterization of the immunological microenvironment of metastatic urothelial carcinomas under immune checkpoint inhibitor therapy.

Dr. Hanna Hübner

Department of Gynecology, Erlangen

HER2 response—The impact of current and novel targeted anti-HER2 combination therapies on antibody-dependent cell-mediated cytotoxicity and phagocytosis in breast cancer.

PD Dr. Friederike Liesche-Starnecker

Institute of Pathology, Augsburg

ESCAPE—Development of a standardized computerized index to detect morphological heterogeneity in glioblastomas.

Dr. Kerstin Michalski

Department and Outpatient Clinic of Nuclear Medicine, Würzburg

PSMA-PET/CT in HCC—a prospective study

Dr. Vera Nickl, M.Sc.

Department of Neurosurgery and Outpatient Clinic, Würzburg

Characterization of synergistic therapeutic effects of CAR-T cells and checkpoint inhibitors in *ex vivo* and *in vivo* models of glioblastoma.

Dr. Dr. Sebastian Schober

Department of Pediatrics, TU Munich

Oncolytic viro-immunotherapy in combination with CAR-T cells in the treatment of pediatric sarcomas—Establishment of a preclinical rationale.



BZKF Trial and Study Registry

In 2022, the BZKF succeeded in developing a joint, central trials and studies registry for Bavaria. This central registry is the result of a long and intensive coordination process between the six BZKF sites.

The process of approval was coordinated by the IT working group of the BZKF under the direction of Prof. Dr. Claus Belka, LMU Hospital Munich, in collaboration with Dr. Thomas Ramming, University Hospital Erlangen. In order to make all clinical trial and study data centrally available in one location, the data collection attributes of entities, file formats, and molecular markers had to be standardized and harmonized. (<https://bzkf.de/studies/?lang=en>)

In the past, clinical oncology trials and studies were published exclusively in the respective online registries of the six Bavarian university hospitals and their comprehensive cancer centers (CCC). With the help of the central BZKF Trial and Study Registry, a large number

of such oncological trials and studies are now in a central, publicly accessible database. In the BZKF Trial and Study Registry, patients and physicians can view current oncology trials and studies, their status, and determine the contact persons at Bavarian university hospitals and associated clinics and practices.

Clinical trials and studies are of enormous importance in cancer research, because only within the framework of such studies can therapies be improved or new therapies developed. For cancer patients, participation in a clinical trial or study can provide access to innovative treatment methods that are not yet available in routine care, thus opening up new probabilities of recovery.

Collaboration ...



... with the pharmaceutical and medicine technology industries

There is often a long and rocky road to travel before the results of oncology research can benefit patients..

Drugs have to be developed further and tested in controlled clinical trials and studies. In addition, this process requires a great deal of knowledge, time, and money in order to introduce novel anti-cancer agents and innovative therapeutic options into the care of cancer patients.

The research-based pharmaceutical companies are an essential building block in this process. In order to strengthen Bavaria as a business and science location further and to drive innovative oncological research forward, the BZKF works transparently and on an equal footing with the research-based pharmaceutical companies. To benefit society and with the common goal of continuously improving the care of cancer patients in Bavaria, the BZKF cooperates with the pharmaceutical industry in Bavaria and throughout Germany in various areas. In 2022, the **AMG / MPG (German Medicines Act and Medical Devices Act) working group** headed by Prof. Dr. Julia Mayerle, LMU Hospital Munich, further expanded and deepened its cooperation with the Pharmaceuticals Initiative in Bavaria, an association of now 16 research-based pharmaceutical companies based in Bavaria.

In an international comparison, Germany has been falling behind in the ranking of the top locations for clinical trials and studies for years because of complex bureaucratic procedures, decentralized long approval processes and a lack of digitalization. This is where countermeasures are necessary. At the BZKF, we should be able to initiate and conduct multicenter trials and studies quickly along clearly defined processes and within the framework of effective organizational structures.

In 2022, the AMG/MPG working group therefore focused in the first step on the development of a uniform contract template for the conduct of clinical trials and studies in oncology. The aim of this contract model, agreed among the six Bavarian university hospitals and the participating industrial enterprises, is to accelerate the conclusion of contracts to run clinical trials and studies and thus to increase the competitiveness of Bavaria as a research location. Above all, the purpose is to expand the range of trials and studies available to patients. This milestone will significantly strengthen Bavaria as a location to conduct clinical trials and studies and make it more attractive to the pharmaceutical industry.

... in the field of biobanks

Biobanks store large quantities of biological material such as blood or tissue samples. The availability of biomaterials is essential to application-oriented cancer research.

In order to optimize the use of the valuable biomaterials for cancer research and to make them available to all BZKF sites for research purposes, the **Biobank Working Group** headed by Prof. Dr. Martin Trepel, Augsburg University Hospital, has set itself the following goals within the framework of the BZKF. The first is to create uniform quality standards for the collection and archiving of biomaterials. The second is to create interfaces that enable the exchange of sample-related information and thus form the basis for future, innovative research approaches.

The **first meeting of the Bavarian biobanks** took place in September 2022. All six BZKF sites were represented at the meeting in Regensburg. After each of the six university biobanks were introduced in a short presentation, the attendees discussed possible strategies to improve networking of the biobanks and to increase the quality of the preserved materials through uniform processes and structures. With the help of key performance indicators (KPIs), uniform quality characteristics are to be defined, which a pilot project will evaluate and analyze.

Meeting the Challenge of Cancer

Personalized medicine and BZKF Real-World-Data

Cancer medicine has made recognizable progress in recent years with new promising and diverse approaches to cancer therapy having been developed. Initially purely anatomically defined diseases (e.g. lung cancer) have evolved into molecular pathologically defined diseases (e.g. 25 different types of lung cancer) with an increase in evidence-based targeted therapy aimed at individuals.

The term “personalized medicine” is often used as a synonym for modern cancer medicine that tailors treatment of the disease to the exact needs of each patient. The approach of personalized medicine involves a complete molecular analysis of the tumor, taking into account the individual metabolism of the patient concerned.

A further building block on the path to therapies optimally adapted to the individual case of disease is the further development of systematic and continuous documentation and evaluation of the data collected throughout the course of cancer disease in the context of diagnostics, therapy, and aftercare. Future modern cancer therapy will also base on the intelligent and scientifically sound consolidation and evaluation of so-called real-world-data (RWD), health data that are not generated in randomized clinical trials under controlled conditions, but during routine everyday care in clinics.

These real-world-data contain an enormous wealth of knowledge that must be made available for research, in line with the motto, “data helps recovery.”

So far, real-world-data are converted into valuable information far too seldom; the potential offered by these data sources has not yet been exploited sufficiently.



By processing, analyzing, and evaluating real-world-data, the BZKF is helping to drive medical progress forward and enable patients to receive targeted and effective therapy tailored to individuals.



The BZKF Real-World-Data Integration Platform

In the course of 2022, the development of the BZKF Real-World-Data Integration Platform has progressed further under the leadership of Prof. Dr. Hans-Ulrich Prokosch at University Hospital Erlangen. The primary goal here is to ensure, continuously review, and evaluate the quality of real-world-data throughout the BZKF network. Not the quantity of data is the decisive factor in successful use, but its quality. Existing structures at the sites should be used wherever possible to save resources and avoid duplication.

Fortunately, in setting up the Real-World-Data Integration Platform, the BZKF can draw on the preliminary work of the Medical Informatics Initiative (MII) funded by the Federal Ministry of Education and Research, which has already created important structural foundations for the digitalization of health research. At the heart of the planned BZKF data network are the local data integration centers (DICs) established by the MII. These relatively newly established facilities at all BZKF sites collect care and research data from the respective university hospitals, with data quality and data protection playing a key role. The merging of patient care data in the DICs is subject to the strict requirements of data protection laws at the state, federal, and European levels and is based, among other things, on close collaboration with trustee agencies established at the sites in the context of the MII.



Structure of the BZKF Real-World-Data integration platform

For the first time, the planned BZKF Real-World-Data Integration Platform will merge the basic oncological data of cancer patients with data generated during the treatment of cancer in routine clinical practice. Examples of this are, in addition to the clinical data documented in local tumor registries in compliance with cancer registry legislation, radiological findings (MRI, CT), which should provide information on the type and spread of the cancer, as well as molecular analyses obtained in preparation for therapy decisions in so-called molecular tumor boards. If radiotherapy is administered in addition to the surgical removal of the tumor, so-called radiation dosimetry data are generated.

- » **The aim of the BZKF Real-World-Data Integration Platform is to combine all this data in a pseudonymized form in each case at the place where the data were generated - in the local DICs at each of the six Bavarian BZKF sites.**

The evaluation and use of this wealth of data is to be based in particular on the principles of distributed machine learning. The patient data collected at each site remain in the local DIC and are not moved to any other location. With the aid of a feasibility portal, it will be possible for researchers to query the data sets on specific cancers across all the BZKF sites in a manner compliant with data protection.

Connecting the Molecular Tumor Boards (MTB) with the BZKF real-world-data Integration Platform

Patients with an advanced stage of cancer, for whom there are no conventional therapy options with good prospects of success, are presented at the university hospitals of the BZKF network in special expert committees, the molecular tumor boards.

An interdisciplinary team of physicians and scientists from the fields of medicine, bioinformatics, medical informatics, and biology meet on the molecular tumor boards to decide which therapy options promise the greatest chance of fighting the tumor on the basis of the available data.

Since the treatment of advanced cancers usually generates enormous amounts of highly complex data in everyday clinical practice, physicians must use standardized bioinformatics tools to enable them to interpret these complex data in concrete terms in order to draw the most appropriate conclusions when determining treatment options for the patient.

- » **The goal of the BZKF is also to render the patient data available to the molecular tumor boards at each site usable on the BZKF Real-World-Data Integration Platform for scientific evaluation and therapy recommendations in compliance with data protection regulations.**

To achieve this, it is essential that the same standardized bioinformatics tools are used at all the BZKF sites. The **Molecular Tumor Board working group** headed by Prof. Dr. Wilko Weichert, TU Munich, is working on this. With the help of funding provided by the BZKF, analysis pipelines are being harmonized at each site that deliver data to the DICs, including the necessary data formats and analysis tools. The preliminary work of the Medical Informatics Initiative (MII) provides the basis for this. The cBioPortal software platform has already been implemented at all six BZKF sites. cBioPortal visualizes the results of tumor DNA sequences and combines the clinical and molecular biological data of patients to present them in a way that reduces to the essentials. This process makes it easier for physicians to interpret the data. In addition, cBioPortal can assist with viewing the data in the context of other cases.

Cross-Site MTB Conference and ECTU Board

Scientific evaluation of the complex data generated at the BZKF sites during the course of molecular biological analyses of advanced tumor disease will provide innovative research approaches in the continued development of cancer therapies in the long term.



In order to utilize these knowledge assets collectively, the six regular molecular tumor boards (MTB) at each site are actively networked within the BZKF. Experts from each site meet regularly via videoconferencing in the **BZKF MTB conference** to share their experience and discuss treatment recommendations for specific molecular alterations.

The **Early Clinical Trial Unit-Board (ECTU-Board)**, under the leadership of Prof. Ralf C. Bargou, University Hospital Würzburg, is filling another gap in the care of cancer patients in Bavaria.

The development of new drugs and therapies is based on innovative preclinical research and clinical testing. This is ensured, among other things, by the early clinical trial outpatient clinics, so-called **early clinical trial units (ECTU)** at each BZKF site. They allow the safe application of experimental cancer treatments.

During an ECTU board, experts from the Bavarian university hospitals review and discuss the treatment plan and the medical condition of the respective patient. Since its launch in 2021, the Bavarian BZKF ECTU Board has been held every four weeks to provide patients with advanced tumor disease throughout Bavaria with access to early clinical trials and studies, as well as innovative therapies.

Already in the first year of its establishment in 2021, a total of 43 patients were presented during the BZKF ECTU Board. Patients ranged in age from 10 to 69 years. In 2022, 83 percent of patients presented to the BZKF ECTU Board were recommended participation in a clinical trial or study.

The BORN Project

Bavarian Oncological Radiology Network



BZKF BORN steering group, directors of the radiological clinics and institutes of the BZKF from left to right: Prof. Dr. Michael Uder, University Hospital Erlangen; Prof. Dr. Marcus Makowski, University Hospital rechts der Isar, Technical University Munich; Prof. Dr. Thorsten Bley, University Hospital Würzburg; Prof. Dr. Thomas Kröncke, University Hospital Augsburg; Prof. Dr. Christian Stroszczynski, University Hospital Regensburg; not in the picture Prof. Dr. Jens Ricke, LMU Hospital Munich.

Imaging plays a key role in the diagnosis and monitoring of tumor diseases. The data obtained in radiological imaging procedures, if evaluated in a scientifically sound manner, may also provide indications of factors influencing the course of disease.



[bzkf.de/born/
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To enable such a scientifically sound evaluation of health data, the collection of radiological image data must be structured and standardized. One goal of the BZKF BORN project is to pioneer the collection and evaluation of imaging data sets for oncological diseases in a uniform manner. The BORN project team has also set itself the task of structuring and standardizing the creation of examination protocols and the recording of radiological findings in oncological diseases. The BORN project thus supplements the planned **BZKF Real-World-Data Integration Platform** with a further component towards the structured and standardized recording of (in this case radiological image) data.

Moreover, the principle of using existing resources and avoiding duplication of structures also applies to the BORN project. The data platform successfully established during the SARS-CoV-2 pandemic (RACOON network) will be put to use profitably for the Bavarian BORN project and linked to the BZKF Real-World-Data Integration Platform. The mint LesionTM software application from Mint Medical GmbH, a subsidiary of Brainlab AG in Munich, is used for structured reporting. This software is already licensed as a medical product and has established itself internationally in the field of clinical reporting in other applications.

With the BORN project aiming for such harmonization and standardization, a unique opportunity exists in Germany to generate structured data relating to tumor imaging in the care of a population of more than 13 million people across the locations under the umbrella of the BZKF.

The challenge posed by Data Protection

A comment from the BZKF Data Protection Lawyer

The relationship of trust between patients and the medical team treating them is the basis of the best possible medical care. The author of the Hippocratic Oath already recognized this two thousand years ago.



About the person:

Rebekka Kiser completed her law degree and attained her license to practice law in Switzerland. After working as data protection officer of the Insel Group (University Hospital Bern) for several years, she took up the position as the data protection lawyer of the BZKF in December 2022. Her workplace is in University Hospital rechts der Isar (MRI/TUM)

Considered as the origin of medical confidentiality, which aims to provide patients with a safe environment to speak openly about their problems, the Oath forms the basis of accurate diagnosis and subsequent therapy and care.

Data protection law classifies information on health - not without reason - as particularly worthy of protection. After all, knowledge of illness can lead to significant professional, financial, or private disadvantages.

Nevertheless, both the best possible treatment and profitable patient-oriented research require a suitable and comprehensive data basis and, preferably, an interdisciplinary team to analyze the data. This inevitably raises the question as to whether data protection and the Hippocratic Oath stand in the way of optimum therapy and effective medical research. The answer has to be no, since effective data protection and profitable research do not contradict, but rather promote each other. If patients trust us to process their data in accordance with the law, they will also be more willing to make their data available to research and to support the research itself, especially if the results find their way into clinical practice.

However, clear federal legal foundations are without doubt necessary, which have been lacking in the field of biomedical research so far. Although the European Union General Data Protection Regulation privileges medical research for understandable reasons and provides for so-called opening clauses, researchers and industry partners in Germany have so far been waiting in vain for nationwide legal provisions on the use of health data.

In this context, the BZKF has an almost unique (location) advantage, as all six participating university hospitals are located in Bavaria. The responsible state ministries, especially in the fields of health and science, recognized early on how important concrete legal foundations are to use patient data effectively for scientific research while complying fully with data protection regulations, in the view that **"data aid recovery"**. It is my task and goal as a data protection lawyer to exploit this potential together with the stakeholders of the BZKF and to make the data usable in the best possible way to benefit both patients and medical research.



BZKF Trials and Studies Groups

Excellent researchers work together across sites in the BZKF trials and studies groups throughout Bavaria. During regular conferences, members of all six BZKF sites jointly develop innovative research approaches and achieve progress through the active exchange of experience and knowledge in the treatment of cancer patients.

The primary task of the BZKF trials and studies groups is to conduct clinical trials and studies, if necessary in cooperation with an industrial sponsor. In doing so, they jointly coordinate the design and implementation of clinical trials and studies, focusing on the rapid integration of new knowledge into daily care. **Currently, there are 15 active clinical trials and studies groups in the BZKF.**

The two most highly evaluated trials and studies groups were awarded prize money in 2022:

First prize of €10,000

Primary and secondary brain tumors under the leadership of Prof. Dr. Peter Hau, University Hospital Regensburg (left in the picture)

Second prize of €5,000

Lung tumors under the leadership of Prof. Dr. Christian Schulz, University Hospital Regensburg (right in the picture)



After successful interim evaluation in July 2022, the following trials and studies groups are already in their second period of funding, receiving between €100,000–€150,000 each:

- » Primary and secondary brain tumors
- » Lung tumors
- » Breast cancer
- » CNS tumors in children and adolescents
- » Pancreatic cancer
- » AML
- » Lymphomas

The following BZKF trials and studies groups are in the first funding period with a start-up sum of €100,000 each:

- » Liver tumors
- » Malignant melanoma
- » Multiple myeloma
- » Renal cell carcinoma
- » Ovarian cancer
- » Prostatic cancer
- » R/R ALL pediatric oncology
- » Sarcomas



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Which clinical trials and studies are running in the BZKF trials and studies groups?

An excerpt

Multiple Myeloma Study Group in cooperation with with the company Menarini

The BZKF Multiple Myeloma Study Group, headed by Prof. Dr. Hermann Einsele, University Hospital Würzburg, Germany, in cooperation with the company Menarini Silicon Biosystems, is conducting a multicenter study comparing different analytical methods in the context of the regular clinical care of patients with multiple myeloma.

- » **The objectives of the study include comparing and validating the sensitivity, specificity, and concordance of different methods to assess minimal residual disease (MRD).**

In addition, the biological properties of circulating plasma will be analyzed, in collaboration with the Omics, Genomics, and Liquid Biopsy Lighthouse of the BZKF.

Study title:

Analysis of circulating multiple myeloma cells (CMMCs) as a non-invasive tool to determine minimal residual disease (MRD) in peripheral blood: a comparative study with Clonoseq assays in bone marrow aspirates. CMMMC-ANIMA-02

Principal investigator:

Prof. Dr. Hermann Einsele, University Hospital Würzburg, Medical Clinic and Outpatients' Clinic II
Oberdürrbacher Straße 6, 97080 Würzburg
studien@bzkf.de

Breast Cancer Study Group in cooperation with breast-cancer self-help groups

The BZKF Breast Cancer Study Group, headed by Prof. Dr. Matthias W. Beckmann, University Hospital Erlangen, is conducting the WAVES study in cooperation with four self-help groups. The aim is to improve our understanding of and research into the needs of women and men with breast cancer with respect to coping with the disease, as well as the quality of the communication between patients and the medical team treating them.

The acronym **"WAVES"** comes from the German title, which translates to, "Mutual patient-doctor exchange in breast cancer care with the aim of jointly developing new patient-oriented structures." Within the framework of the "WAVES" project, the current structures of patient care for breast cancer patients are being investigated with the aid of a questionnaire developed by an interdisciplinary team.

With the help of a parallel survey, physicians involved in treatment will record their assessment of the communication with their patients. The aim is to identify possible differences and existing barriers, in order to generate new ideas for improved care.

This study is being conducted in collaboration with the following patient organizations and associations:

- » **Breast Cancer Germany**
- » **mamazone—Women and Research Against Cancer**
- » **Mamma Mia! The cancer magazine**
- » **BRCA Network—Assistance with hereditary cancers**
- » **th!nk pink club**
- » **Men with Breast Cancer Network**

Title of the study:

WAVES study to record existing structures of patient care for breast cancer patients

Principal investigators:

Prof. Dr. Nina Ditsch and
Prof. Dr. Christian Dannecker,
University Hospital Augsburg,
Department of Gynecology
and Obstetrics
Stenglinstraße 2, 86156 Augsburg
waves@ukaugsburg.de





BZKF Lighthouses

The development and permanent establishment of lighthouse structures is one of the first concrete goals to be accomplished in the BZKF network. The development of the lighthouse structures, which are only planned for individual locations, will take place in stages. The lighthouses are a prerequisite for complex enhancements in the respective field and assume service functions for the entire center.

In 2021, the first lighthouse structures - **“Theranostics”** and **“Cellular Immunotherapies”** - received start-up funding of €700,000 each. In July 2022, both lighthouse groups underwent the first evaluation by the BZKF External Advisory Board and received approval for a second funding period, each being granted €700,000 for a further 18 months.

Two additional lighthouse groups have been approved since July 2022, each receiving start-up funding of €700,000. New priorities will be set in the field of **AI and bioinformatics** and the molecular biological methodology **omics** with a focus on **proteogenomics** and **liquid biopsy** in the BZKF.



bzkf.de/site-specific-lighthouses/?lang=en

Theranostics Lighthouse

One of the goals of the Theranostics Lighthouse, headed by Prof. Dr. Wolfgang Weber, University Hospital rechts der Isar of the Technical University of Munich, is to establish a BZKF radiopharmaceuticals network across Bavaria. Among other things, the lighthouse project plans to supply the entire region of Bavaria with radiolabeled substances and therapeutics, including the non-university clinics and doctors’ practices throughout Bavaria. Through the work of the lighthouse, the following progress in patient care has already been made:

The general hospitals in Bamberg and Bayreuth are now supplied with ^{18}F -PSMA, a radiopharmaceutical labeled with a radioactive fluorine atom, which is required for the diagnosis of prostate carcinomas using PET/CT. Furthermore, the production of ^{18}F FDG, already established at TU Munich, has been extended to University Hospital Würzburg within the framework of the lighthouse cooperation. This enables the delivery of ^{18}F FDG to University Hospital Erlangen and Bamberg General Hospital. The substance is used, for example, to detect adenocarcinomas of the pancreas.

in Bavaria in recent years. However, there is a shortage of qualified medical physicists in this field, as there is currently neither targeted and standardized training nor further education of the experts. As a result, clinics do not perform dosimetry in any standardized fashion, which often leads to considerable delays in the approval process of clinical trials and studies in Germany. The aim of the Theranostics Lighthouse Group is therefore to standardize and harmonize dosimetry at the BZKF centers and to align the quality standards at the sites through targeted training of the specialist staff.

In 2022, the Theranostics Lighthouse Group started to establish a **dosimetry competence center**. The number of therapies implementing novel radioactive substances has increased exponentially

HOMIE Trial in the Theranostics Lighthouse

The study into novel treatments of liver tumors involves all six BZKF sites in collaboration with the company Terumo Europe.

The HOMIE-166 trial is a multicenter phase-II study into selective intra-arterial radioembolization of inoperable primary liver cancer (hepatocellular carcinoma, HCC). HCC is one of the most common cancers worldwide and is usually associated with liver diseases such as cirrhosis, fatty liver disease, or viral disease (particularly hepatitis B and C). This trial is investigating the use of the radioactive isotope holmium-166 as a replacement for yttrium-90, which is already established in the treatment of HCC.

The primary objective is to evaluate the novel treatment technique. The parallel acquisition of clinical data from blood and tumor tissue, such as specific diagnostic and therapeutic data, in the highly specialized participating centers of the BZKF allows basic research in a completely new dimension.

HOMIE-166 enables the deployment of an advanced, highly innovative form of selective intra-arterial radioembolization to study patients throughout Bavaria. The HOMIE-166 study comprises a number of highly complex study elements in accordance with the requirements of the German Medical Devices Act.

Title of the study:

HCC Trial HOMIE-166

Trial principal investigator:

Prof. Dr. Jens Ricke

LMU Hospital Munich, Department of Radiology

Marchioninstr. 15, 81377 Munich

studien@bzkf.de

Cellular Immunotherapies Lighthouse

Cellular immunotherapy implementing chimeric antigen receptor (CAR) gene-modified T cells is to be extended to other hematological and, above all, solid tumor diseases as part of this lighthouse project headed by Prof. Dr. Wolfgang Herr, University Hospital Regensburg. In order to achieve this, the necessary advanced therapy medicinal products (ATMPs) have to be developed in university centers.

For many years, internationally acknowledged pioneering work on the development of cellular immunotherapies has been carried out at all BZKF sites, with initial translational success already having been achieved. The complementary and thematically focused division of the work creates considerable benefit in which it avoids the duplication of infrastructure saving both money and resources, since the five all-important modules do not need setting up and maintaining separately at each site.

In Germany, the Paul Ehrlich Institute (PEI) is responsible for testing clinical trials and studies in the field of vaccines and biomedical pharmaceuticals. Establishing effective communication channels with the PEI is therefore essential to further project work in the Cellular Immunotherapies Lighthouse. In 2022, a first meeting and personal exchange took place between members of the PEI and the Cellular Immunotherapies Lighthouse Group.

The following research groups have been actively working together in the Cellular Immunotherapies Lighthouse since 1 July 2021:

Subproject Preclinical Development

Prof. Dr. Michael Hudecek and Prof. Dr. Hermann Einsele
(University Hospital Würzburg)

Subproject Regulatory Affairs

Prof. Dr. Martin Hildebrandt and Prof. Dr. Florian Bassermann
(TU Munich)

Subproject GMP-Manufacture and ATMPs

Dr. Michael Aigner and Prof. Dr. Andreas Mackensen
(University Hospital Erlangen)

Subproject Toxicity Management

Dr. Veit Bücklein and Prof. Dr. Dr. Michael von Bergwelt
(LMU Hospital Munich)

Subproject Immunomonitoring

Dr. Maria Xydia and Prof. Dr. Wolfgang Herr
(University Hospital Regensburg)

AI and Bioinformatics Lighthouse

Real-world-data and artificial intelligence (AI) are important keywords in medicine nowadays. AI can combine and analyze large amounts of data in a very short time and faster than humans would ever be able to. This paves the way for intelligent applications in many areas of medical care.

The AI and Bioinformatics Lighthouse under the direction of Prof. Dr. Hans-Ulrich Prokosch, University Hospital Erlangen, is to establish a competence center for federated data analysis and distributed machine learning based on the BZKF-Real-World-Data Integration Platform currently under construction.

The planned BZKF Real-World-Data Integration Platform will merge, for the first time, the basic oncological data of cancer patients with other data generated during the treatment of cancer in routine clinical care. Building on the already established structures of the Medical Informatics Initiative (MII), the local data integration centers (DICs) of the BZKF sites will integrate basic clinical data, datasets defined by the Association of Population-Based Cancer Registries in Germany, so-called ADT datasets, from the clinical cancer registries, biospecimen information, image data, and molecular biology data.

The AI and Bioinformatics Lighthouse Group has defined three main pillars that will be progressively initiated to improve and expand the competencies and methodological portfolio of the Lighthouse in an iterative manner.

1. Implementation of the necessary infrastructure components (dataSHIELD), transfer of oncology data into the corresponding repositories (dataSHIELD OPAL and JIP STORE) and development of a knowledge base on federated machine learning.

2. Following an initial phase of data collection in the BZKF study groups, the lighthouse group will support these in their use of the acquired data with the help of AI analyses and federated data evaluation, and in utilizing the data in scientific projects.

3. Although both dataSHIELD and JIP STORE are already equipped with a predefined set of biometric and bioinformatics federated data analysis and machine learning tools, their respective libraries still do not cover the full spectrum of algorithms available for single-site analysis and machine learning.

Thus, after establishment of the basic infrastructure and initial federated analytics and machine learning projects, the AI and Bioinformatics Lighthouse will conduct research continuously to overcome the barriers discovered and develop new algorithms and methods.

Omics, Genomics, Liquid Biopsy Lighthouse

Under the leadership of Prof. Dr. Rainer Claus, University Hospital Augsburg, the Lighthouse aims to provide all the BZKF network members with multi-omics analyses focusing on proteogenomics and liquid biopsy methodology at a central location, as an essential component of innovative translational research and clinical care.

The Lighthouse is to help with integrating the results of omics and proteogenomics analyses into the local molecular tumor boards at each site. This will be implemented in a first use-case project of the Lighthouse, supporting individual therapy decisions with the help of proteogenomics and liquid biopsy analyses using the rare disease salivary gland carcinoma (SGC) as example.

The aim of the project is to enroll 15-20 SGC patients (stages III-IV) over a period of 18 months in a multicenter study and thus establish a salivary gland carcinoma registry throughout Bavaria. This specific project is intended to pave the way for the integration of molecular data from omics analyses and liquid biopsy into the molecular tumor boards, in order to enable precision oncology therapy recommendations throughout the BZKF.

A second Lighthouse project is being conducted in cooperation with the BZKF Multiple Myeloma Study Group (for detailed information see Multiple Myeloma Study Group in cooperation with Menarini p. 22).

In the long term, the Omics, Genomics, Liquid Biopsy Lighthouse will be available to the BZKF study groups as a partner in scientific projects requiring specific expertise in the field of multi-omics analyses, and proteogenomics and liquid biopsy methodology in particular.

Committees and Structures

The BZKF supports patient-oriented cancer research in Bavaria across universities in a uniform centralized structure with the goal of achieving a new dimension in cutting-edge medicine through optimum networking for the benefit of patients in the whole of Bavaria.



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Members of the Board of Directors

from left to right:

Prof. Dr. T. Pukrop, Prof. Dr. W. Weichert,
Prof. Dr. R. C. Bargou, Prof. Dr. H. J. Schlitt,
Prof. Dr. Dr. M. Frühwald, Prof. Dr. M. Trepel,
Prof. Dr. A. Mackensen, Prof. Dr. J. Mayerle,
Prof. Dr. M. W. Beckmann, Prof. Dr. H. Einsele,
Prof. Dr. C. Belka, Prof. Dr. F. Bassermann

Steering Committee

The Steering Committee is the strategic controlling body of the BZKF. It analyzes developments, determines the strategic direction of the BZKF, and comments on the annual budget plan. The Steering Committee comprises twelve members and consists of one representative per site from the university management team (presidents, deans) and the hospital management board (medical and commercial directors), respectively.

- Dr. Albrecht Bender**, University Hospital Erlangen
- Prof. Dr. Stephanie Combs**, Technical University of Munich
(Deputy: **Prof. Dr. Thomas F. Hofmann**)
- Prof. Dr. Sabine Doering-Manteuffel**, University of Augsburg
- Prof. Dr. Matthias Frosch**, JMU Würzburg
- Prof. Dr. Thomas Gudermann**, LMU Munich
(Chair of the Steering Committee)
- Prof. Dr. Dirk Hellwig**, University Hospital Regensburg
- Prof. Dr. Thomas F. Hofmann**, Technical University of Munich
- Prof. Dr. Oliver Kölbl**, University Hospital Regensburg
- Prof. Dr. Klaus Markstaller**, University Hospital Augsburg
- Prof. Dr. Jens Maschmann**, University Hospital Würzburg
- Prof. Dr. Markus F. Neurath**, University Hospital Erlangen
- Dr. Martin Siess**, University Hospital rechts der Isar, TU Munich
- Markus Zender**, LMU Hospital Munich

The Board of Directors

The Board of Directors is the representative and decision-making body of the BZKF. It prepares the budget plan and decides on all the central projects and measures of the BZKF. The Board of Directors consists of twelve members with a direct connection to patient-oriented oncological research and elects a president from among its members. The current BZKF active president is Prof. Dr. Andreas Mackensen.

- Prof. Dr. Ralf C. Bargou**, University Hospital Würzburg
- Prof. Dr. Florian Bassermann**, University Hospital rechts der Isar, TU Munich
- Prof. Dr. Matthias W. Beckmann**, University Hospital Erlangen
- Prof. Dr. Claus Belka**, LMU Hospital, Munich
- Prof. Dr. Hermann Einsele**, University Hospital Würzburg
- Prof. Dr. Dr. Michael Frühwald**, University Hospital Augsburg
- Prof. Dr. Andreas Mackensen**, University Hospital Erlangen
- Prof. Dr. Julia Mayerle**, LMU Hospital Munich
- Prof. Dr. Tobias Pukrop**, University Hospital Regensburg
- Prof. Dr. Hans J. Schlitt**, University Hospital Regensburg
- Prof. Dr. Martin Trepel**, University Hospital Augsburg
- Prof. Dr. Wilko Weichert**, Technical University Munich

External Advisory Board

The External Advisory Board is the evaluation and advisory body of the BZKF. The External Advisory Board advises the Board of Directors and can make recommendations to the Board of Directors and the Steering Committee on the funding and support of the central projects, translational teams, and trials and studies. It regularly evaluates the scientific development of the BZKF and prepares a report on this. The External Advisory Board consists of at least five national and international experts and one patient representative.

Prof. Dr. Michael Baumann,

German Cancer Research Center (DKFZ), D

Prof. Dr. Nicolai Maass, University Hospital Schleswig-Holstein, D

Prof. Dr. Markus Manz, University Hospital Zurich, CH

Prof. Dr. Emma Morris, University College Hospital London, UK,

Prof. Dr. Renata Pasqualini, University Hospital Newark, USA,

Kurt Wagenlehner, Munich, Self-help group on bladder cancer (patient representative), D

Local coordination teams

The local coordination teams provide advice in particular on IT and infrastructural measures, start-up projects, profile-building measures, and cross-site translational teams, as well as trials and studies on site, monitoring implementation in this respect. The local coordination teams comprise representatives of the clinics, departments, and institutes involved in research, diagnostics, and therapy of cancer, as well as representatives of the hospital management board and hospital administration at each of the six BZKF sites.

Administrative office

The administrative office located in Erlangen supports the BZKF Board of Directors in its tasks. Its activities include scientific and administrative coordination, participation in the strategic development of the Center, as well as public relations work for the BZKF.

Dr. Mandy Wahlbuhl-Becker (Manager)

Nina Vaughn, M.A. (Deputy manager)

Dr. Marlen Thiere (Study and trial coordinator)

Franziska Klein (Public relations)

Helene Burger (Public relations)

Dr. Katrin Faber (Finance)

Lisa Reichold (Finance)

Rebekka Kiser (Data protection lawyer)

Dr. Thomas Ramming (IT coordination)

Barbara Bärthlein (IT coordination)

Corinna van der Heyd

(Assistance and scheduling of appointments)

The close interconnection of basic research, clinical research, and patient care forms the focus. The structure and organization of the BZKF is governed by internal rules of procedure.



bzkf.de/office/?lang=en

From left to right:

Franziska Klein, Helene Burger,

Dr. Marlen Thiere, Corinna van

der Heyd, Nina Vaughn,

Prof. Dr. Andreas Mackensen,

Dr. Mandy Wahlbuhl-Becker,

Rebekka Kiser, Dr. Katrin Faber,

Dr. Thomas Ramming, Barbara

Bärthlein



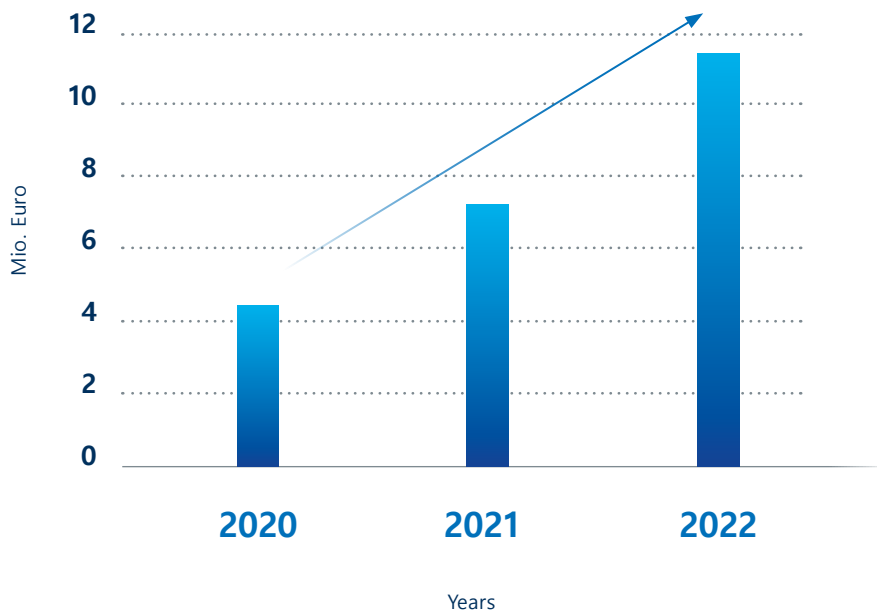
Finances

The BZKF is an association of the six Bavarian university hospitals and the six universities in accordance with Article 16 Paragraph 2 of the Bavarian Higher Education Act (BayHSchG) in conjunction with Article 15 of the Bavarian University Hospitals Act (BayUniKlinG). The aim of the BZKF is to promote patient-oriented cancer research in Bavaria across universities in a uniform centralized structure.

The BZKF cooperation agreement between the twelve contract partners regulates this goal and the cross-university sharing of university and clinical facilities as well as the distribution of tasks, furthermore detailed in the BZKF rules of procedure. The BZKF concept paper published in 2019 formulates the development of the BZKF up to its full operation, including the funding requirements.

On signing of the BZKF cooperation agreement on November 21, 2019, the Bavarian State Ministry of Science and the Arts continuously provided the BZKF with funding to establish—and expand—the Bavarian Cancer Research Center. The Corona pandemic from 2020 on and the war in Ukraine since 2022 pose great challenges to the budget in Bavaria. Nevertheless, the Bavarian State Ministry of Science and the Arts is pleased to report an increase in the funding available to achieve the goals of the BZKF.

Growth of funding



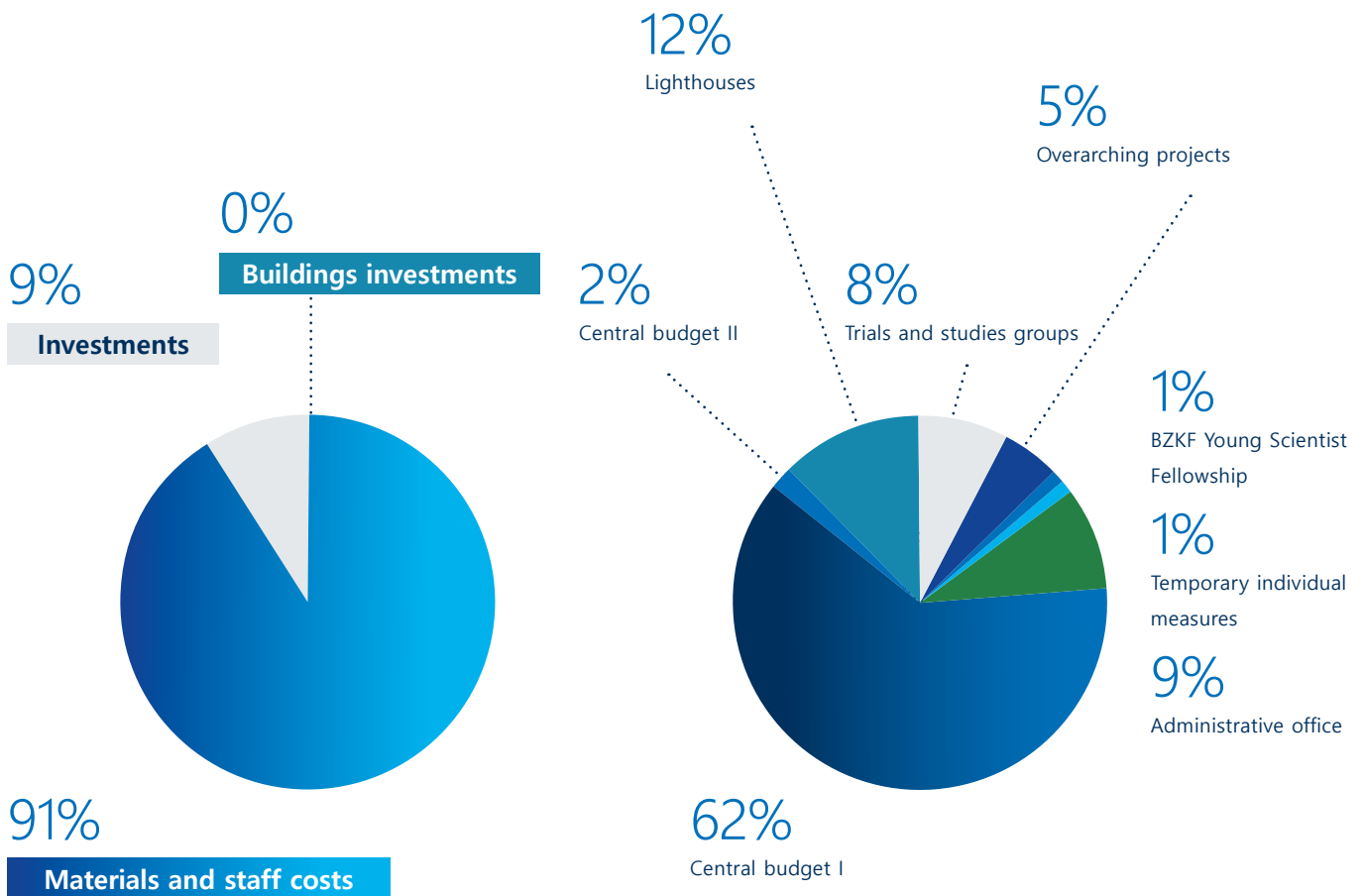
For year three (2022) of the BZKF, the Bavarian State Ministry of Science and the Arts made €11,425,000 available to the BZKF. This represents an increase in funding of around 60% compared to the previous year 2021.

The funding will be used to continue developing the BZKF into a nationally and internationally recognized oncology research center.

The aim of the BZKF is to strengthen the structures at the sites while simultaneously promoting cooperation in the network, in line with the motto: research in a network, strengthen excellence, share knowledge. This is clearly apparent in the distribution of funding illustrated in the following graphs.

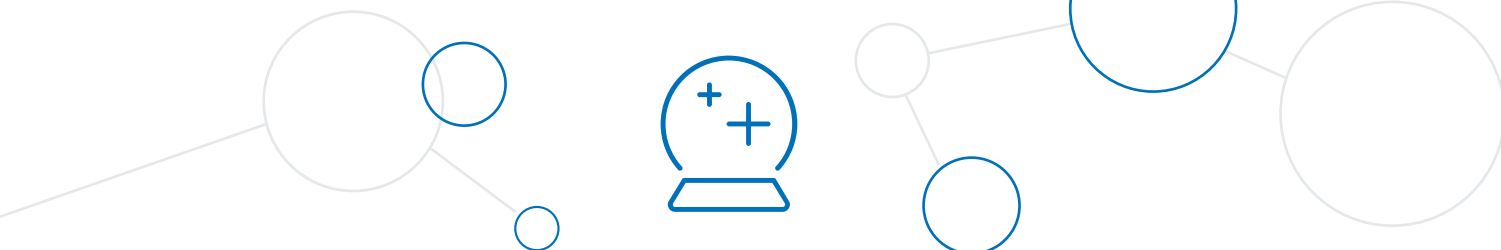
Overall, the six BZKF sites account for 77.8% in almost equal shares. In 2022, €774,845 was spent on investments and €8,112,662 on material and personnel costs.

Funding was allocated to the following areas



Outlook in 2023

Sustained and substantial support of the BZKF over the coming years will continue to drive the development of the Bavarian network forward and strengthen Bavaria as a hub for business and science in the long term.



» **The largest structured platform in Europe to evaluate clinical and scientific data in oncology is being created, offering unique opportunities for distributed machine learning and evaluation analyses in the field of AI.**

» **Bavaria is the first federal state in Germany to have cross-university study groups addressing all major tumor entities.**

The BZKF...

- 1.** ... continues to develop into the hub of co-operation for all research staff working on tumors in Bavaria in the field of oncological basic and translational research.
- 2.** ... is of enormous interest to industry through the foundation of a statewide center for phase I/II trials and studies basing on a uniform study/trial contract within the framework of the BZKF. The BZKF becomes the Bavarian "single point of contact" for the pharmaceutical industry and non-university institutions
- 3.** ... acts as a catalyst in the development of patents and products in the field of drugs and medical technology in oncology in Bavaria.
- 4.** ... provides Bavarian cancer patients with nationwide access to cutting-edge medicine in the treatment of tumor diseases through the free PublicCancerHotline.
- 5.** ... contributes in the long term to a reduction in the onset of cancer, cancer mortality, and an increase in the quality of life of cancer patients in Bavaria.

Imprint

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K. Czoppelt / University Hospital rechts der Isar: Title upper left
University Hospital Munich / Arne Trautmann: Title midpage
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Matthias Merz Fotografie: Title lower left,
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