



Annual Report 2023



Annual Report

2023

Bavarian Cancer Research Center (BZKF)



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

Foreword by the BZKF Director

Bavarian Cancer Research Center (BZKF)

In this Annual Report, we look back on a successful and eventful 2023, in which we worked intensively to continue intensifying collaboration in the field of cancer research at the six BZKF sites in Bavaria, as well as to promote excellent preclinical and clinical cooperation projects.

A prime example of this is the “Bavaria goes Shared-Decision-Making (SDM)” project, in which BZKF funding is being used to establish facilities at the Bavarian University Hospitals in order to involve patients in treatment decisions actively. Through its funding of the SDM project, the BZKF aims to make a further contribution to improving the lives of cancer patients in Bavaria and to placing the individual needs of each patient at the forefront.

We are convinced that the care of cancer patients can only be improved in the long term on the foundations of outstanding and innovative translational research. This is why the BZKF supports highly specialized and qualified researchers throughout Bavaria, for example as part of the expansion of the lighthouse structures. The “Preclinical Models” lighthouse was established in 2023. One of the main objectives of this lighthouse is to build organ-specific organoid units (so-called 3D models). These central structures will enable researchers in the BZKF network to improve preclinical, targeted cancer research further with the help of innovative cellular model systems. In 2023, we also announced a “Translational groups and accompanying research” funding program for the first time, which aims to support the translation of excellent basic research into clinical care.

Unfortunately, we had to bid farewell to our dear, valued colleague and founding member of the BZKF Board of Directors, Prof. Dr. Wilko Weichert, who played a key role in the development of the BZKF throughout its early years. Wilko Weichert distinguished himself through his clarity, his tireless efforts always to act in the interests of the cause, his determination, as well as his unique and profound sense of humor. Working with him was extraordinarily enriching and rewarding. Our aim in founding the Wilko Weichert Young Scientist Academy in 2023 is to honor his memory.

Our warm thanks go to the State Government of Bavaria, which has once again supported us generously this year, enabling us to continue driving the development of the BZKF forward.



Prof. Dr. Andreas Mackensen

Director of the Bavarian Cancer Research Center (BZKF)
and Director of Medical Clinic 5—Hematology and Medical Oncology,
University Hospital Erlangen

Milestones in 2023

January 2023

- » New Chair of the Steering Committee—**Prof. Dr. Thomas Gudermann**, Dean of the Faculty of Medicine, Ludwig-Maximilians-University (LMU) Munich

February 2023

- » The Board of Directors gains two more members—**patient representatives** play an active role in shaping cancer research

March 2023

- » **FC Bayern Munich supports the BZKF** with a donation and raises awareness of cancer prevention
- » **BZKF study/trial contract template and central BZKF trial and study coordination office** go public
- » Meeting at the Bavarian State Ministry of the Interior, Sport, and Integration—discussion with State Minister Joachim Herrmann on data protection in the context of BZKF activities
- » New member of the External Advisory Board—**Prof. Dr. Florian Greten**, Director of the Georg-Speyer-Haus Frankfurt, Institute for Tumor Biology and Experimental Therapy

April 2023

- » United instead of alone—the **1st BZKF Pharmaceutical Industry Forum** in Munich

May 2023

- » Further support of the **lighthouse and trial and study group**
- » **2nd Bavarian IT-Oncology meeting** in Erlangen
- » **Bavaria goes SDM**—the Bavarian University Hospitals establish structures that actively involve patients in treatment decisions
- » **WAVES Study** focused on developing new patient-oriented measures in breast cancer

June 2023

- » Reliable information for three years running: The **PublicCancerHotline** turns three years old
- » Meeting of the **Biobank Working Group in Würzburg** on the occasion of the celebrations “Ten years of the Interdisciplinary Biomaterials Bank and Database Würzburg—The coldest place in Würzburg”
- » **1st Bavarian Pediatric Cancer Day 2023** of the Bavarian Pediatric Oncology Network (KIONET) in Munich

July 2023

- » Foundation and start-up funding of the Translation groups
- » **1st BZKF Summer School** of the AI and Bioinformatics lighthouse at Seeon Monastery
- » New member appointed to the BZKF Board of Directors—**Prof. Dr. Wolfgang Weber**, Director of the Department of Nuclear Medicine, University Hospital rechts der Isar, TU Munich

August 2023

- » Presentation and information booth during the **German Federal Police Health Day** in Bamberg on the subject of cancer prevention
- » **Nuremberg Health Market**—the BZKF informs citizens at their information booth in Nuremberg

September 2023

- » **3rd BZKF Network Meeting** and meeting with the External Advisory Board in Munich
- » **2nd BZKF Award**: The Sarcoma Study Group and the Prostate Cancer Study Group receive an award for their exceptional work
- » **1st BZKF Publication Award**: Recognition of outstanding publications by six scientists
- » **Interim evaluation** of the trial/study and lighthouse groups
- » **Campaign day against breast cancer**—BZKF information booth and presentations on the market square in Augsburg

October 2023

- » **22nd Cancer Information Day** in Munich—information aimed at patients
- » Start of the DKFZ's **traveling exhibition** throughout Bavaria on **HPV**
- » Cancer counseling via the **PublicCancerHotline** now also **in Turkish**

November 2023

- » **2nd strategy meeting** of the BZKF Board of Directors in Würzburg
- » Establishment of a project group to develop the concept for the **BZKF Patient-Expert Pool (PEP)**
- » **2nd BZKF Pharmaceutical Industry Forum in Munich**

December 2023

- » Support for translational research through the **lighthouse "Preclinical Models"**

The BZKF in the Public Eye

The BZKF serves as an information hub for patients, their relatives, and all the professions involved in cancer care and research. Various channels and formats regularly publish the latest findings in cancer research for all stakeholders involved.




Presentation of the cheque donated by FC Bayern Munich—from left to right: Andreas Jung, Prof. Dr. Martin Trepel, Herbert Hainer, Prof. Dr. Roland Schmidt, Petra Leufstedt, Susanne Kagermeier and Prof. Dr. Thomas Bein


Media relations and publications

In 2023, the BZKF central office circulated a large number of national press releases throughout Bavaria to the Bavarian media and nationwide professional media. This led to a large number of publications in daily newspapers, magazines, on radio, television, and the Internet. In total, around ten million media contacts were generated, including seven radio and television reports.


Social Media

The BZKF has been successfully represented on the social media channels Instagram, LinkedIn, Facebook, and X (formerly Twitter) since 2021. The number of followers is steadily increasing and reached 2,500 users in December 2023. The aim of the presence on social media is to give subscribers an insight into the structures and the latest developments, as well as to give the BZKF network a voice in public.

 **Instagram:**
@bzkf_bayern

 **Facebook:**
Bayerisches Zentrum für Krebsforschung

 **LinkedIn:**
@bzkf

 **X (formerly Twitter):**
@bzkf_bayern

Press Talks

During press conferences and interviews, BZKF representatives provided insights into their work as well as current developments:

15 January 2023:

BR24 Radio—Health Magazine: Second opinions and assistance with finding an expert: The **PublicCancerHotline**: Interview with Volker Davinghausen

01 March 2023:

BR Television: FC Bayern Munich supports cancer research: Interview among others with Herbert Hainer, President of FC Bayern Munich; Prof. Dr. Roland Schmidt, Team Physician for FC Bayern Munich, and Prof. Dr. Martin Trepel, Member of the Board of Directors of the BZKF Further publications/broadcasts: RTLNews, WELT, ZEIT, t-online, Süddeutsche Zeitung, Frankfurter Allgemeine, Antenne Bayern

03 June 2023:

BR24 Radio: Background report on the state of cancer research in Bavaria and how AI is supporting progress: Interview: Prof. Dr. Andreas Mackensen, BZKF Director und Jasmin Ziegler, IT expert in the BZKF lighthouse AI und Bioinformatics

20 June 2023:

Franconia TV: Shared Decision Making: Patients should also have a say: Interview with Prof. Dr. Christoph Ostgathe, member of the project group SDM, and Reinhard Krämer, leader of the Nuremberg self-help group of people affected by prostate cancer.

14 November 2023:

Munich TV/BR24 Radio: HPV vaccination: Taking cancer prevention into your own hands—a traveling exhibition throughout Bavaria raises awareness of the quick jab with long-term protective effect.

Events

During focused events with invited experts, patients and interested parties were able to find out the latest information on developments in cancer treatment and aftercare. The feedback from participants was very positive and the events were well received throughout Bavaria.

Overall, the BZKF hosted 63 patient events in 2023, which the six BZKF locations or cooperation partners organized. Furthermore, numerous training courses were run for doctors and oncology nursing staff.

Cancer prevention campaign focusing on HPV vaccination—a traveling exhibition throughout Bavaria raised awareness of the quick jab that protects long-term



Launch of the exhibition on 14.11.2023 at the LMU University Hospital in Munich—from left to right: Prof. Dr. Claus Belka, Prof. Dr. Sven Mahner, Monika Eckert, Stefan Kübler, Yvonne Köth, Prof. Dr. Martin Canis

In collaboration with strong partners, the BZKF campaigned against the negative trend regarding vaccination. The traveling exhibition “HPV has many faces”, from the German Cancer Research Center, German Cancer Aid, the German Cancer Society, and the preventa Foundation, presented the stories of people with HPV-related cancer at seven locations in Bavaria from mid-November 2023 to March 2024.

Events at which the BZKF participated in person

- » **Future Forum “Future X Change” of the National Decade against Cancer in Berlin** (23 February 2023)
- » **1st Bavarian Pediatric Oncology Day for KIONET in Munich** (12 June 2023)
- » **Health Market on Jakobs Square in Nuremberg** (08 July 2023)
- » **Second Bavarian E-Health-Congress in Augsburg** (12 July 2023)
- » **Medical summit “Highmed Agenda Bavaria” in Munich** (17 July 2023)
- » **Satellite workshop “Best of Cancer”, University Hospital Regensburg** (04 October 2023)
- » **The Long Night of the Sciences in Erlangen** (21 October 2023)
- » **Presentation on the subject “Data aid healing—How you can support cancer research”** by Prof. Dr. Thomas Ganslandt
- » **Cancer Information Day 2023 together with “lebensmut e.V.” in Munich** (11 November 2023)

Patient events: Highlights

- » **Online information event in conjunction with World Cancer Day, CCC Mainfranken** (4 February 2023)
- » **Female sexuality and cancer, DKFZ** (26 January 2023)
- » **Patient Forum—Diagnosed with Cancer—Rights and Obligations of Patients, CCC Munich** (27 April 2023)
- » **Cancer Patient Day Bavaria, Bavarian Cancer Society** (17 June 2023)
- » **Diagnosed with cancer—What happens next? CCCO Regensburg** (19 July 2023)
- » **World Pancreatic Cancer Day, CCC Erlangen-EMN** (16 November 2023)

Courses of further training: Highlights

- » **Review of the annual meeting of the American Society of Hematology, CCC Augsburg** (13 January 2023)
- » **ASPO Symposium on “Rare Tumors—Personalized Medicine”, CCC Munich** (05 July 2023)
- » **BZKF Translational Technology Workshop—Pancreatic Cancer Alliance Bavaria (PCAB)** (06 July 2023)
- » **Quality Conference of the Bavarian Cancer Registry** (25 October 2023)



Third BZKF Network Meeting



The 1st BZKF Publication Award was presented to six young researchers —from left to right: Dr. Valerie Glutsch, Dr. Georgios Kaissis, Dr. Jinjiang Chou, Georg Prokop, Dr. Rafael Schmid, Dr. Annika Kengelbach-Weigand, Prof. Dr. Claus Belka, Dr. Cindy Ament, and Prof. Dr. Julia Mayerle

The annual BZKF network meeting took place in St. Vinzenz House of the LMU University Hospital in Munich on 13 September 2023.

Around 200 doctors and scientists discussed the latest developments in the BZKF infrastructure, scientific lighthouses, and clinical trial and study groups. Topics such as the BZKF-AYA Study on brain tumors and new advances in cellular immunotherapy were presented.

The elevator pitches from the recipients of the BZKF Young Scientist Fellowship 2023 were another highlight. The young researchers presented their clinical research projects and impressed the audience with their innovative approaches.

The BZKF supports young physicians, creating a strong oncological research infrastructure in Bavaria for the continuous improvement of cancer care. The aim is to further expand the BZKF, an internationally competitive cancer research center providing care for cancer patients that provides care for cancer patients in all parts of the region involving all partners in care, implementing digitalization close to patients' homes. Simultaneously and in collaboration with non-university research institutions and Bavarian industry, the BZKF offers the opportunity to create an international hub in the fight against cancer.



BZKF Young-Scientist Fellows 2023—from left to right: Prof. Dr. Tobias Pukrop, Dr. Najib Ben Khaled, PD Dr. Hanna Hübner, PD Dr. Friederike Liesche-Starneker, Dr. Vera Nickl, Dr. Kerstin Michalski, Dr. Konstantin Drexler, Dr. Dr. Sebastian J. Schober, and Prof. Dr. Andreas Mackensen



BZKF patient representatives meet and exchange ideas— from left to right: Nicole Kultau, Kurt Wagenlehner, Susanne Kagermeier, Karen Abel, Prof. Dr. Michael H. Schoenberg, Birgitta Wacker-Heinlein and Sandra Windschüttl

Collaborations and Networks

The BZKF actively seeks contact with experts within and outside the six BZKF locations, in order to pool expertise on the topics of prevention, early detection, treatment, and aftercare of tumor diseases.

The BZKF secures important partners from self-help groups, foundations, and state research institutions. These include collaborations with the Bavarian Cancer Society, German Cancer Aid, the German Cancer Research Center, the Fraunhofer Society, as well as the Bavarian Cancer Registry of the Bavarian State Office for Health and Food Safety.

Furthermore, cooperation with the pharmaceutical industry in Bavaria and associations such as the Association of Research-Based Pharmaceutical Companies (vfa) and the Medical Valley EMN will be strengthened.

In addition, health insurance companies and medical services are regularly informed on the progress of the BZKF in order to promote the dissemination and use of innovative diagnostics and therapeutics. In association with KIONET—the pediatric oncology network of Bavarian University Hospitals—new treatment concepts and research projects in children are also enabled.

A selection of the existing collaborations in the BZKF

270 local authorities, regional district offices, especially public health offices and towns/cities in Bavaria

200 self-help groups and advice centers

50 foundations, associations, clubs, and blogs

Hand in hand with our cooperation partners, the BZKF pursues one goal: to promote the care and education of cancer patients actively.

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 **PublicCancerHotline** team—from left to right: Susanne Kagermeier, Ivonne Schacke, Songül Saridemir-Yolveren, and Volker Davinghausen

An important contribution to the health of the population in Bavaria!

During the course of 2023, the **PublicCancerHotline** team was actively involved in numerous public information events, informing citizens on the topic of cancer prevention and raising awareness at the same time. At cancer information events, the team was able to talk directly to many cancer patients and offer them valuable information and support. Through its work, the **PublicCancerHotline** team has helped to continue raising awareness of cancer prevention and providing those affected with the help they need.

The PublicCancerHotline sees itself not only as an interpreter for patients, but also as an anchor, advisor, and solution provider.

Metaphorically speaking, callers are met where they currently stand and receive individual advice tailored to their specific needs.

Once again, the **PublicCancerHotline** team answered many questions relating to cancer in 2023. When calling the free-of-charge number (0800 85 100 80), the specially trained staff explain complicated findings, provide support in obtaining second opinions from doctors, and offer access to new treatment options and scientifically sound information. If necessary, patients are also referred to specialized and certified centers, experts, or self-help groups.



bzkf.de/selbsthilfegruppen

Cancer counseling in Turkish

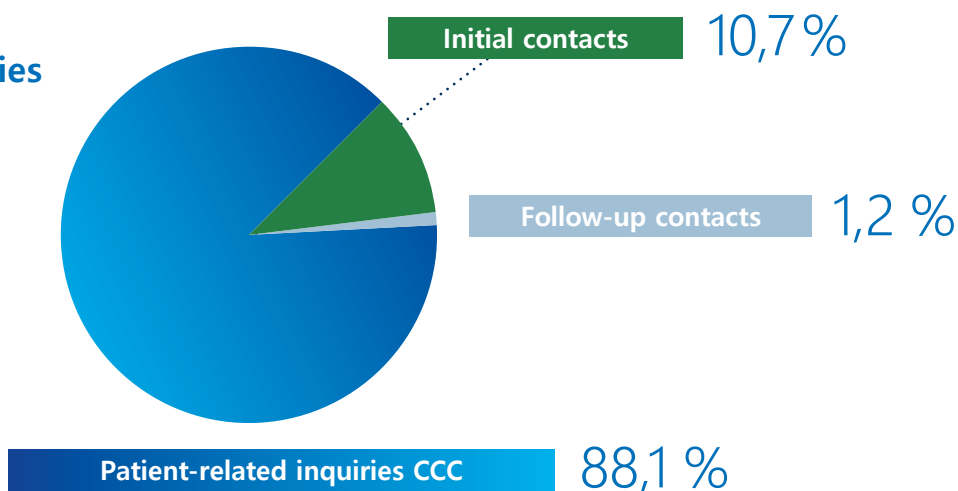
In 2023, cancer counseling in Turkish was launched as a new service for patients, relatives, and doctors, with the aim being to find solutions that meet individual needs in a cultural context. On Wednesdays and Fridays, Songül Saridemir-Yolveren answers questions on the phone from 8.30 a.m. to 12.30 p.m. and complements the **PublicCancerHotline** team with her many years of experience in oncology.



Key figures for the PublicCancerHotline, 1 January 2023—31 December 2023

Contacts and enquiries

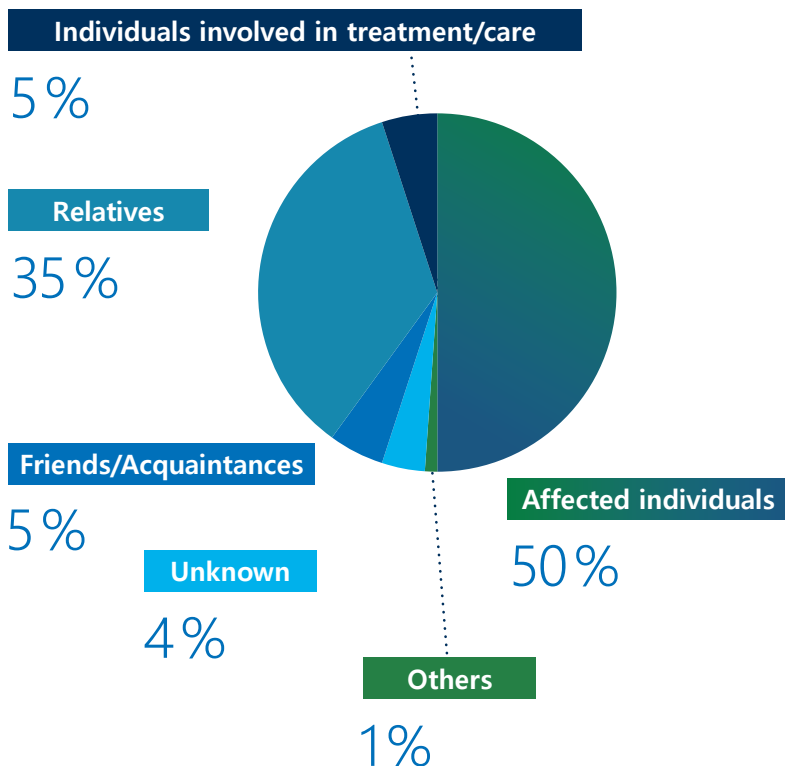
6745



Who made use of the PublicCancerHotline?

n=723*

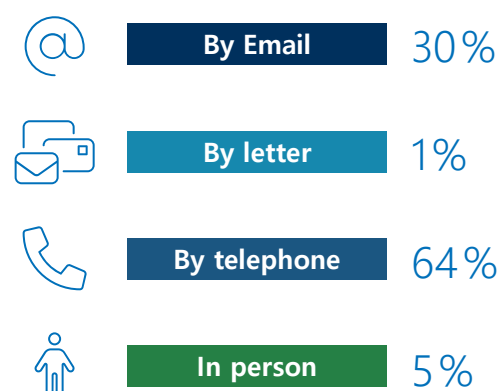
*Evaluation of last contact; difference from first contact number may be possible through the change of the year



Key figures for the PublicCancerHotline,

n=805*

*Initial and follow-up contacts



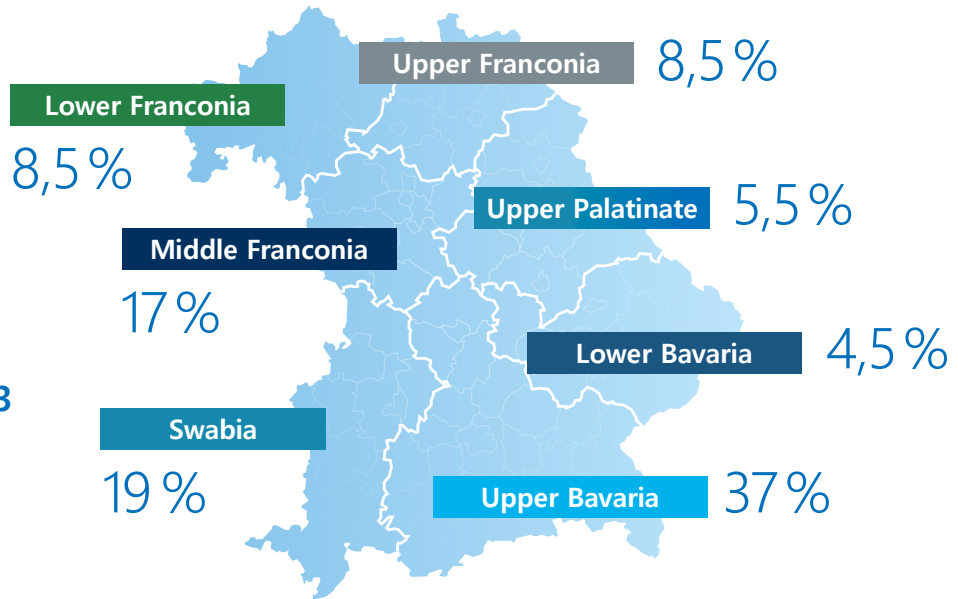
Key figures for the PublicCancerHotline, 1 January 2023—31 December 2023



Place of residence (administrative district) of the contact person in the region of Bavaria in 2023

n=472*

* evaluated by the first contact.
Contacts outside Bavaria and abroad
+ missing values resulting from:
unassignable postal codes,
postal code unknown.



Place of residence of the contact person outside Bavaria in 2023

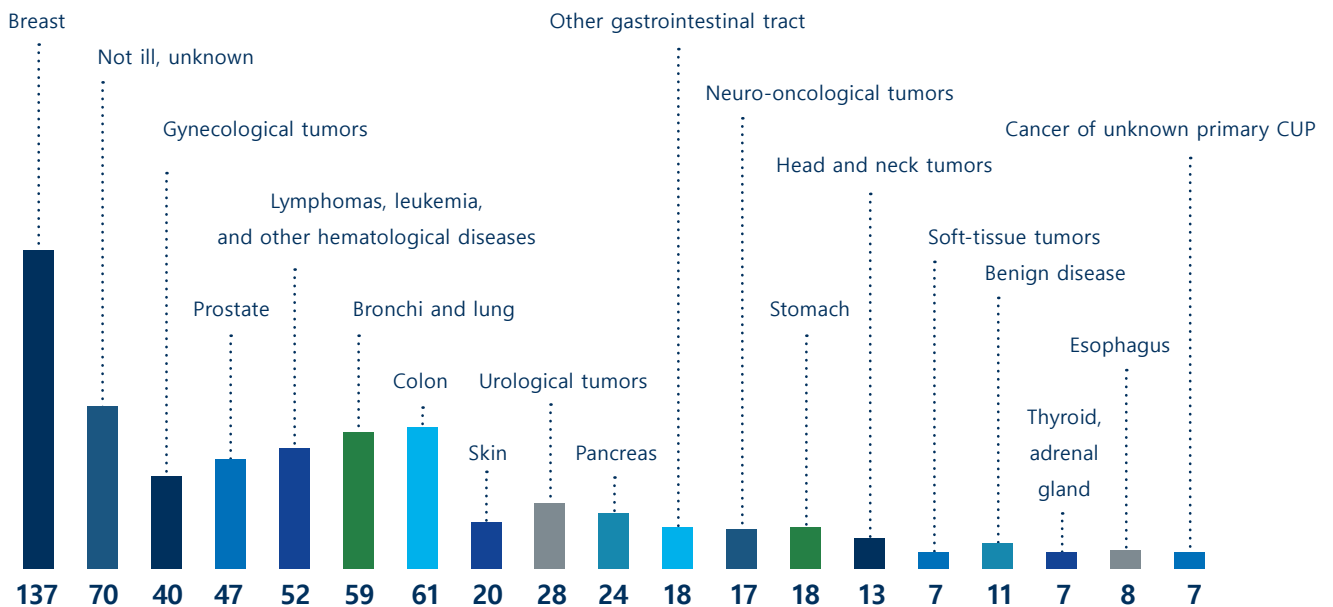
n=249*

*Initial and follow-up contacts

Tumor entities

n=644*

*Initial and follow-up contacts—no patient-related request





Bavaria goes SDM

Shared-Decision-Making = involving patients

Patient involvement is playing an increasingly important role in the German health-care system as well as in science. In terms of the doctor-patient relationship, this change is reflected, among other things, in the decision-making process: the concept of shared-decision-making (SDM) is moving more and more into the spotlight.

Bavaria is the first federal state in Germany to support the systematic implementation of SDM. With the foundation of the project group "Bavaria goes SDM" with 23 members under the leadership of Prof. Dr. Claus Belka at the LMU University Hospital in Munich, the BZKF is supporting the necessary structural development with the aim of promoting scientific projects on the topic of SDM. So far, two decision aids for prostate cancer have been developed in cooperation with the self-help groups Prostate Cancer Munich and Schleswig of the "Bundesverband Prostatakrebs Selbsthilfe e.V." (German Prostate Cancer Self-Help Association). In 2024, the SHARE TO CARE program will be implemented in seven clinics. The project partner of the BZKF project "Bayern goes SDM" is the company Share-to-Care GmbH.

SDM process = actively involving patients

The process involves exchanging information with the aim of making a medically appropriate treatment decision that takes into consideration the personal circumstances and needs of the person affected.



Three important questions for patients wishing to be involved in decision-making:

- » 1. »What possibilities do I have?« (including watching and waiting)
- » 2. »What are the advantages and disadvantages of each of these possibilities?«
- » 3. »How probable is it that I experience these advantages and disadvantages?«

[bzkf.de/
shared-decision-making/](https://bzkf.de/shared-decision-making/)



Select press releases

Since the project began in 2023, the subject of SDM has attracted a gain in interest through increased media presence.

AerzteZeitung:

"Bavaria goes SDM": Patients and doctors decide together, 24 May 2023

Frankfurter Allgemeine:

Who decides? Involving patients during diagnosis and therapy is warranted from a medical ethics perspective—and can improve treatment. Researchers now want to realign medicine, 18 June 2023

Journal Med:

Shared Decision Making: How does it function in practice? 13 July 2023

Hanns-Seidel-Stiftung:

Patients and doctors decide together "Bavaria goes SDM", 24 July 2023

tz and the Münchner Merkur:

How patients make good decisions, 29 August 2023/26 July 2023

BORN-Projekt

Bavarian-Oncological-Radiology-Network

Imaging plays an important role in the diagnosis and follow-up of cancer. In order to enable scientifically sound evaluations of the examination data, the radiological imagery must be recorded in a structured and standardized manner.

The necessary preparations for this took place in 2023, during which the first six entity-specific templates for standardized radiological findings were created. Following clinical testing of the templates, release for use is expected in summer 2024. Up to ten further templates are to be developed during the second funding period in 2024. All the work of the BORN project group will use the already established data platform of the RACOON Network, which will be connected to the BZKF real-world-data integration platform. The software package mint Lesion™, from Mint Medical GmbH, a Brainlab AG Munich company, is implemented for structured reporting.



BZKF-BORN Steering Group, Directors of the radiological clinics and institutes

From left to right: Prof. Dr. Martin Uder, Prof. Dr. Marcus Makowski, Prof. Dr. Thorsten Bley, Prof. Dr. Thomas Kröncke, Prof. Dr. Christian Stroszczyński (not pictured: Prof. Dr. Jens Ricke)

Members of the BORN Project Group: 57

Added value for patients:



Improvements in early detection



Personal data are only transmitted anonymously



Examination strategies are transferred to other hospitals and radiology practices throughout the whole of Bavaria

The BORN Project presents the opportunity to generate structured tumor imaging data for over 13 million people throughout Germany.



bzkf.de/born

ProKnow®

The field of radiotherapy is an essential pillar of modern oncology and thus an epidemiologically highly relevant treatment approach for a large number of tumors. Advances in targeted therapy and immunotherapy have actually led to an increase in the number of treatments, as relevant diseases are transformed into a state of “chronification”, even in very advanced stages, and the therapy of resistant single lesions makes significantly more sense over the course of the disease.

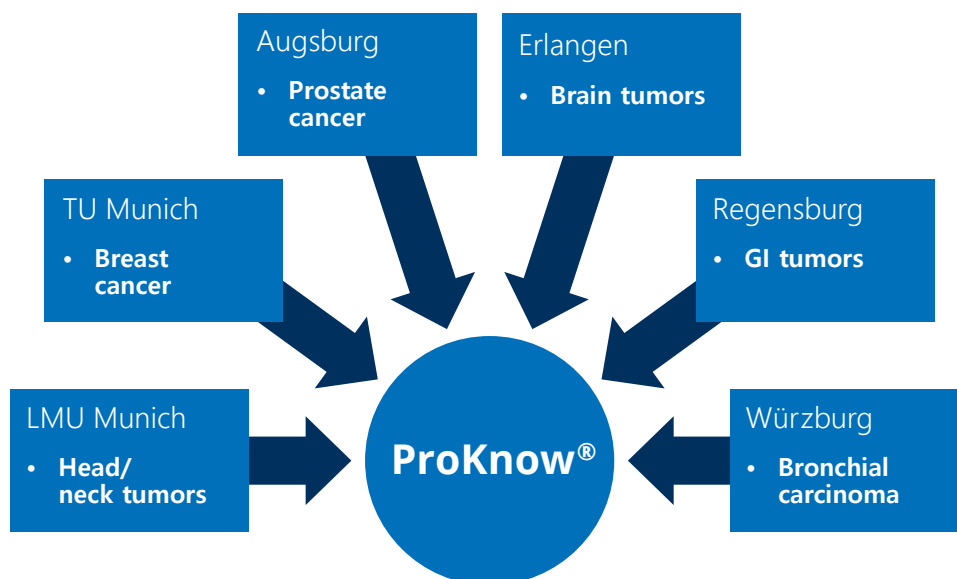
In addition to the usual single and total dose in radiotherapy, the target volumes and organs at risk, including the spatial conditions, and the individual three-dimensional dose distribution play an eminent role in the precise assessment, evaluation, and ultimately, the quality assurance of treatments. To date, documentation often only specifies point doses, which cannot adequately describe the complex distribution patterns of dose and volume in the tumor or in adjacent normal tissues. Until now, there has been a lack of tools to enable such complex evaluations across a large number of patients and, in particular, spanning multiple centers.

The implementation of the cloud-based software solution ProKnow® at the first BZKF sites forms the basis of future research projects and quality analyses in radiotherapy. With the help of ProKnow® from Elekta Inc., patient data from the PACS systems at the BZKF sites can be pseudonymized, uploaded, archived, displayed, and analyzed across systems (different radiation devices and planning

systems). ProKnow® thus enables the cross-site pooling of DICOM radiation data in compliance with data-protection regulations and in encrypted form (DICOM: Digital Imaging and Communications in Medicine) not only in research and quality assurance, particularly in the context of clinical trials and studies, but also in routine clinical practice.

The use of ProKnow® as part of the work of the BZKF trial and study groups is already showing signs of success and the project is being driven forward actively. The next steps include the deployment of ProKnow® to other BZKF sites as well as the verification of its scientific benefits.

Project leadership: Prof. Dr. Claus Belka and Dr. Stephan Schönecker, LMU University Hospital in Munich



Development of Scorecards / Templates to optimise the evaluation of treatment plans

Collaboration with the Pharmaceutical Industries



The path to new medicines and innovative treatment concepts for patients is long, as the medicines have to be developed and tested in controlled clinical trials. This process requires a great deal of knowledge, time, and money in order to offer novel cancer drugs and innovative treatment options to cancer patients.

In the last years Germany has been falling behind when compared internationally with top locations for clinical trials through complex bureaucratic procedures, lengthy decentralized approval processes, and a complete lack of digitalization. This needs to be counteracted and processes optimized. The research-based pharmaceutical companies are an important building block in this process.

The BZKF works together with representatives of the pharmaceutical industry in various areas to continue strengthening Bavaria as a business and science location and drive innovative oncology research forward.

BZKF trial and study contract template

On 28 February 2023, the Medicinal Products Act (AMG) working group headed by Prof. Dr. Julia Mayerle of the LMU University Hospital in Munich, adopted a standardized contract template for clinical trials and studies in the field of oncology, in collaboration with the "Bavarian Pharmaceutical Industry Initiative".

In the early summer of 2023, the BZKF contract template was successfully implemented for the first time in negotiations to conduct a clinical trial involving four BZKF sites. The template allowed a conclusion of the negotiations with all 4 sites in under 100 days. The contract template for BZKF trials and studies has since been employed successfully more and more frequently.

Presentation of the BZKF trials and studies contract template by representatives of the industry in the vfa (Association of Research-Based Pharmaceutical Companies) and BioM (Bavarian Biotech Cluster Development), as well as lawyers representing the University Hospitals in meetings on clauses in the contract template, aroused the interest of both industry and academia in using the BZKF contract template. Five non-Bavarian university hospitals, seven pharmaceutical companies outside the Bavarian Pharmaceutical Industry Initiative, and one representative of federal government have already requested the contract template. As the BZKF trials and studies contract template is a framework agreement, the BZKF working group on the German Medicines Act (AMG) is currently working with representatives of the pharmaceutical industry to develop special contract annexes for partial providers of service such as radiology, pathology, nuclear medicine, and pharmacy.

To strengthen collaboration with the pharmaceutical industry and explore further opportunities to collaborate, representatives from both sides met at the BZKF Pharmaceutical Industry Forum in Munich in the spring and autumn of 2023.



From left to right: Prof. Dr. Julia Mayerle, Annette Dünninger, Dr. Albrecht Bender, Anne Puls, Christoph Bertsch, Frederike Lehnert, Anselm Titz, Borislava Peric, Kerstin Anker, Dr. Mandy Wahlbuhl-Becker, Pia Schuhbauer

Highlight Publications



In 2023, the BZKF could progress collaboration in research even further, reflected by the joint cross-site scientific publications accredited to the consortium. Through the lively exchange of knowledge and ideas, BZKF researchers were able to gain new insight and thus raise access to innovative treatment options to a new level.

Thanks to the active and outstanding cooperation between scientists at the six BZKF locations, the BZKF is increasingly visible not only nationally but also internationally. The BZKF unites scientists and doctors throughout Bavaria, as demonstrated by **121 joint BZKF publications in 2023.**

The first BZKF research article to emerge from the collaboration of all six BZKF sites describes the BZKF-ECTU Board. This successful network promotes the importance of virtual patient discussions to improve the quality of treatment and the conduct of early clinical trials.



“Early clinical trial unit tumor board: a real-world experience in a national cancer network”, published in the Journal for Cancer Research and Clinical Oncology in November 2023.

Authors: Weiss L, Dorman K, Boukova M, Schwinghammer F, Jordan P, Fey T, Hasselmann K, Subklewe M, Bücklein V, Bargou R, Goebeler M, Sayehli C, Spoerl S, Lücke F, Heudobler D, Claus R, von Luettichau I, Lorenzen S, Lange S, Westphalen CB, von Bergwelt-Baildon M, Heinemann V, Gießen-Jung C

The article “CLDN6-specific CAR-T cells plus amplifying RNA vaccine in relapsed or refractory solid tumors: the phase 1 BNT211-01 trial” presents a novel therapeutic approach to solid tumors using chimeric antigen receptor (CAR)-derived T cells. So far, the efficacy of CAR-T cell treatment in solid tumors has been limited. The antigen claudin 6 (CLDN6) serves as a new approach, as it is highly and specifically expressed in many solid tumors, and thus represents a promising treatment target.



“CLDN6-specific CAR-T cells plus amplifying RNA vaccine in relapsed or refractory solid tumors: the phase 1 BNT211-01 trial”, published in Nature Medicine in October 2023.

Authors: Mackensen A, Haanen JBAG, Koenecke C, Alsdorf W, Wagner-Drouet E, Borchmann P, Heudobler D, Ferstl B, Klobuch S, Bokemeyer C, Desuki A, Lücke F, Kutsch N, Müller F, Smit E, Hillemanns P, Karagiannis P, Wiegert E, He Y, Ho T, Kang-Fortner Q, Schlitter AM, Schulz-Eying C, Finlayson A, Flemmig C, Kühlcke K, Preußner L, Rengstl B, Türeci Ö, Dahin U

Cancers are both complex and individual, and in some cases are difficult to treat with some standard therapy. The introduction of personalized medicine, to which the German Network for Personalized Medicine (DNPM) has dedicated itself, can offer targeted help. Modern analyses and imaging techniques determine and document individual characteristics of the cancer affecting the individual patient. These assist in developing targeted therapy based on the individual characteristics of those affected.



“The German Network for Personalized Medicine to enhance patient care and translational research”, published in Nature Medicine in June 2023.

Authors: Illert AL, Stenzinger A, Bitzer M, Horak P, Gaidzik VI, Möller Y, Beha J, Öner Ö, Schmitt F, Laßmann S, Ossowski S, Schaaf CP, Hallek M, Brümmendorf TH, Albers P, Fehm T, Brossart P, Glimm H, Schaden-dorf D, Bleckmann A, Brandts CH, Esposito I, Mack E, Peters C, Bokemeyer C, Fröhling S, Kindler T, Algül H, Heinemann V, Döhner H, Bargou R, Ellenrieder V, Hillemanns P, Lordick F, Hochhaus A, Beckmann MW, Pukrop T, Trepel M, Sundmacher L, Wesselmann S, Nettekoven G, Kohlhuber F, Heinze O, Budczies J, Werner M, Nikolaou K, Beer AJ, Tabatabai G, Weichert W, Keilholz U, Boerries M, Kohlbacher O, Duyster J, Thimme R, Seufferlein T, Schirmacher P, Malek NP

Cross-Site MTB Conference

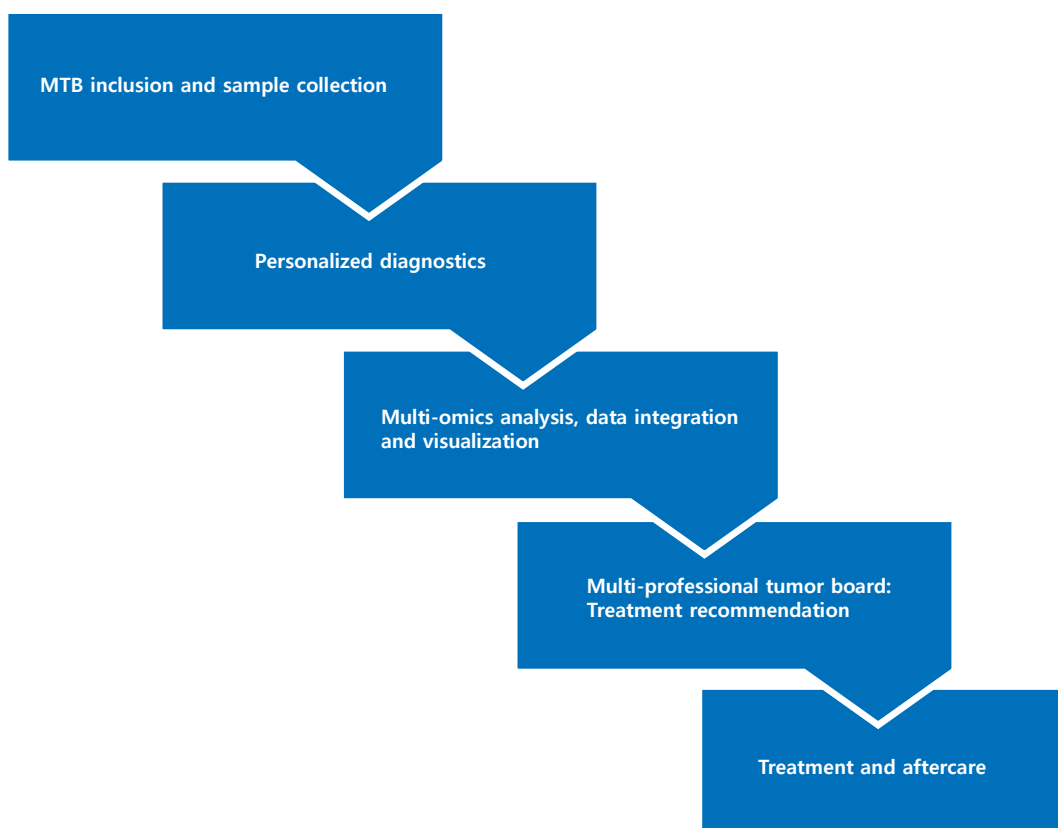
Complex data are generated at the BZKF sites as part of the molecular biological analysis. Their scientific evaluation will result in innovative research approaches that can further development of cancer therapies in the long term.

Molecular tumor boards (MTB) bring together experts from the fields of oncology, pathology, molecular pathology, and human genetics to discuss the results of new analytical and diagnostic methods, and recommend on this basis therapy options and trials/studies to patients with advanced tumor disease.

The molecular tumor boards that were set up at all six BZKF sites in recent years connect in the cross-site MTB conference, which has existed since 2022 and regularly brings together more than 30 experts from all the sites. Every six weeks, topics from the fields of molecular diagnostics, targeted therapies in use particularly frequently at the respective sites, or items needing cross-

site coordination are discussed. In 2023, both classic molecular biomarkers such as HER2, BRAF, and FGFR variants, as well as novel biomarkers such as alterations in homologous recombination and the use of liquid biopsies were discussed during a total of nine meetings.

Molecular tumor board—flowchart



Cross-Site ECTU Network

The development of new drugs and therapies is based on innovative preclinical research and clinical trials. This is ensured, among other things, by the early clinical study outpatient clinics, the so-called Early Clinical Trial Units (ECTU) at the six BZKF sites. They enable the safe application of experimental cancer treatment.

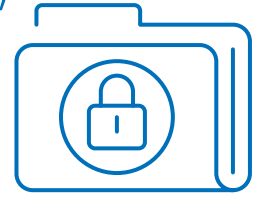
Within the framework of the BZKF, the ECTUs at the six University Hospitals in Bavaria have joined forces to form a BZKF-ECTU network. Thus, 48 physicians and 41 study assistants and study coordinators are actively connected and support cross-site cooperation with the aim of being able to offer an innovative treatment option to as many patients as possible in the respective catchment areas. Current study inquiries, upcoming projects, or developments at the BZKF are discussed at monthly meetings with at least one representative from each BZKF site.

Another very relevant exchange in the ECTU network takes place within the framework of the BZKF-ECTU Board under the organizational leadership of Dr. Lena Weiss at the LMU University Hospital in Munich. Every four weeks, experts from the Bavarian University Hospitals review and discuss the treatment plans and the medical conditions of patients. The aim is to give patients access to early clinical trials. Furthermore, within the BZKF study nurse network, a small select group of around 13 participants from all six BZKF-ECTU sites also meets regularly every four weeks to address the study processes and forms. The aim here is to simplify and harmonize the increasingly complex study/trials-related work for the BZKF sites as much as possible.

This intensive collaboration within the ECTU network at various levels also increasingly awakened the interest of industry. In 2023, for example, several interactions with interested industrial partners took place in the form of an online site visit and software presentation to present the pipeline. In addition, the network received several study requests and the first BZKF studies were launched successfully, which also demonstrates the benefit of the close active cooperation in the framework of the BZKF.

The challenge posed by data protection

A wish comes true—an article by Rebekka Kiser, data protection counsel for the BZKF



Seldom do wishes come true so quickly, especially when it comes to the enactment of laws that one longs for.

In the annual report last year, I called for nationwide legal measures to regulate the use of health data in the interests of medical research and patients, while simultaneously doing justice to the protection of these highly sensitive data. The lack of such nationwide legal regulations and the associated challenges to research were also part of an exchange between representatives of the BZKF and Bavaria's Minister of the Interior Joachim Herrmann, as well as employees of the Ministry of Science and Health, which took place on 14 March 2023. One year after this meeting, two pieces of legislation have now come into force as part of the Federal Ministry of Health's digitalization strategy, raising hopes in this regard. The "Act to Accelerate Digitalization in the Healthcare Sector" (DigiG) stipulates, among other things, that an electronic patient record (ePA) will be available to all people with statutory health insurance from 15 January 2025, provided the person concerned has not opted out. The data stored in the electronic patient record is also to be made available for medical research. Here too, patients have the right to refuse (opt-out).

The provisions of the DigiG are only of limited relevance to the research projects at the BZKF, as the six Bavarian University Hospitals themselves have a comprehensive data pool. However, appropriate legal provisions are required in order to use this data jointly for research. Otherwise, data processing would only be possible with the prior consent of the patient, which is particularly time-consuming in the case of extensive or rare data sets. In the last annual report, I spoke of Bavaria's "pioneering role" in this regard: As early as the end of 2022, the amendment to §16 of the Bavarian University Hospitals Act enabled Bavarian university hospitals to share existing health data in pseudonymized form.

This proactive role is now paying off, since the second new legislative decree at federal level, the "Health Data Utilization Act" (GDNG), allows data-processing healthcare facilities to use their data for their own scientific purposes. However, the joint use of pseudonymized data with other healthcare institutions is only possible on different legal grounds, which exist in Bavaria for the University Hospitals and thus considerably reduces the hurdles for research projects at the BZKF.



From left to right: Cornelia Thum, Prof. Dr. Claus Belka, State Minister Joachim Herrmann, Dr. Mandy Wahlbuhl-Becker, Rebekka Kiser, Prof. Dr. Martin Boeker, Dr. Georg Münzenrieder.

As a data protection lawyer, I welcome the fact that the federal legislator is seeking to strike a balance with the new regulations between promoting medical research and the responsibility that comes with handling this highly sensitive data. This is achieved, among other things, by enacting new penalties and clearly defined obligations to provide information to those affected. Only practical experience and pending legal implementation provisions will reveal whether and to what extent the new provisions will boost medical data research. The focus should always be on scientific findings that ultimately benefit the direct treatment of patients. At the BZKF, we work daily to achieve this, including through increased cooperation with the pharmaceutical and medical technology sectors. The new decrees at federal level now also create a clear legal basis for the first time, which enables the BZKF's cooperation partners to anonymize stored health data and make this data available for the benefit of public research. This opportunity must be used in compliance with the law and data protection regulations



BZKF trial and study groups

Excellent clinical researchers in Bavaria work together across all the sites in the BZKF trial and study groups. At regular meetings, members from all six BZKF sites collectively 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 trial and study groups are to conduct clinical trials and studies, where appropriate in cooperation with a sponsor from industry. They jointly coordinate the design and implementation of clinical trials and studies, with the focus on the rapid integration of new knowledge into everyday healthcare. **There are currently 15 active clinical trial/study groups at the BZKF.**



bzkf.de/klinische-studiengruppen



From left to right: Prof. Dr. Martin Trepel, Prof. Dr. Michael H. Schoenberg, Prof. Dr. Bernd Wullich

The two best evaluated study groups were awarded with a prize:

1st Prize €10,000

Sarcomas under the leadership of Prof. Dr. Lars Lindner, LMU University Hospital Munich (not pictured)

2nd Prize €5,000

Prostate Carcinoma under the leadership of Prof. Dr. Bernd Wullich, University Hospital Erlangen (pictured on the right)

The interim evaluation of the following study groups was successful in July 2023, and the groups have already received funding of up to €250,000 for the second term:

- » **Liver tumors**
- » **Malignant melanoma**
- » **Multiple myeloma**
- » **Renal cell carcinoma**
- » **Ovarian carcinoma**
- » **Sarcomas**
- » **Prostate carcinoma**
- » **Relapsed/refractory acute lymphoblastic leukemia (R/R ALL)**

BZKF trial and study groups An excerpt



bzkf.de/studienregister/

MONTBLANC Trial

The MONTBLANC trial started at LMU University Hospital in Munich in 2023. This phase-II trial is investigating the efficacy and safety of the three-stage treatment of unresectable hepatocellular carcinoma with durvalumab, tremelimumab, and bevacizumab. Patients are randomized into two treatment arms. Arm A: Initial treatment with durvalumab and tremelimumab, followed by bevacizumab in case of radiological progression or lack of response. Arm B: Immediate treatment with all three drugs. Other recruiting centers in the BZKF are the TU Munich (PD Dr. Ursula Ehmer), University Hospital Würzburg (Dr. Florian Reiter) and University Hospital Ulm (Dr. Thomas Ettrich), which is also participating.

Durvalumab, a PD-L1 checkpoint inhibitor, and **tremelimumab**, a CTLA-4 checkpoint inhibitor, activate immune cells (T cells) to strengthen the anti-tumor immune response. Both preparations are already in use to treat hepatocellular carcinoma.

Bevacizumab is a monoclonal antibody used to treat various types of cancer such as colorectal cancer, lung cancer, or breast cancer. Bevacizumab inhibits the formation of blood vessels that supply the tumor.

Principal investigator:

Dr. Najib Ben Khaled
LMU University Hospital Munich,
Medical Clinic II
studien@bzkf.de

PiR-hoP Registry Study

As part of the diagnosis and treatment of prostate cancer, a large number of patient data are collected and biosamples obtained. The BZKF Prostate Cancer Study Group, headed by Prof. Dr. Bernd Wullich, University Hospital Erlangen, will store these data in a registry and store the biosamples in the Central Biobank of University Hospital Erlangen (CeBE). The BZKF registry study "PiR-hoP" (Prospective integrated Registry—high-risk & oligometastatic Prostate cancer) aims to establish a cross-site, central database to record comprehensively the disease progression of patients with prostate cancer.

Despite advances in prostate cancer treatment, patients with oligometastatic or high-risk prostate cancer remain a challenge. The central database collects and analyzes data from patients in these groups for scientific purposes.

The extensive data collection and storage of biosamples as part of the PiR-hoP Study at the six Bavarian University Hospitals of the BZKF will make it possible to obtain findings that will further improve the treatment of patients with prostate cancer in the future. The launch of the PiR-hoP Registry Study lays the foundation for this major project.

Principal investigator:

Prof. Dr. Bernd Wullich,
University Hospital Erlangen,
Department of Urology
studien@bzkf.de

BZKF OVAR1 Study

Ovarian cancer is the fifth most common cause of death in women in the Western world. The standard treatment of the usually advanced primary disease is radical surgery aiming to achieve macroscopic complete resection of the tumor, followed by adjuvant combination chemotherapy. For some years now, so-called PARP inhibitors (inhibitors of poly-(ADP-ribose) polymerase) have also been used to treat advanced ovarian cancer. Initially employed only in recurrent cases, they are now also used in first-line maintenance therapy as of 2018. An international drug trial revealed that some patients benefit from renewed maintenance therapy with a PARP inhibitor, while others do not.

With the BZKF OVAR1 Study, the BZKF trial and study groups aims to map the reality of care in Bavaria at the participating centers with regard to PARPi reinduction in platinum-sensitive ovarian cancer recurrence.

Principal investigator:

PD Dr. Holger Bronger,
University Hospital rechts der Isar,
TU Munich, Department of
Gynecology and Obstetrics
studien@bzkf.de

BZKF trial and study group on breast cancer in cooperation with breast-cancer self-help groups

The WAVES Study has been using an interdisciplinary questionnaire to record existing patient care structures for breast cancer patients, with a particular focus on doctor-patient communication, since April 2022. Prof. Dr. Nina Ditsch, Department of Gynecology and Obstetrics, and Head of the Breast Center at University Hospital Augsburg, is responsible for the management and central coordination of the WAVES Study in close cooperation with regional and national patient organizations. Prof. Dr. Matthias W. Beckmann, Director of the Clinic for Gynecology and Obstetrics at University Hospital Erlangen, is head of the BZKF Breast Cancer Study Group.

The first full publication is currently about to be submitted. Further results of the WAVES Studies will be presented at the "Best of the Best" session during the BGGF Congress in 2024. Recruitment for the study is ongoing.

The acronym "**WAVES**", may be translated as standing for the "Mutual patient-doctor Exchange in breast cancer Care with the aim of jointly Developing new patient-oriented Structures".

Results of the first phase of funding:

- Significantly greater satisfaction with longer initial consultation duration on communication of diagnosis
- Evidence of the need for an appropriate time frame to communicate the diagnosis

Principal investigator and coordinator:

Prof. Dr. Nina Ditsch,
University Hospital Augsburg,
Department of Gynecology and Obstetrics
waves@ukaugsburg.de





BZKF Lighthouse structures

The development and permanent establishment of lighthouse structures was one of the first specific goals of the BZKF. What initially took place gradually at the individual BZKF locations has now established itself throughout Bavaria. Five lighthouse structures currently connect all the BZKF locations with their expertise and assume a wide range of service functions for the entire BZKF.

The first lighthouse structures founded in 2021—the Theranostics lighthouse and the Cellular Immunotherapies lighthouse—received an extension of their funding period and additional funding of €250,000 each for a further six months until the end of 2024. The lighthouses "AI and Bioinformatics" and "Omics, Genomics, Liquid Biopsy", which were newly established in 2022, underwent their first evaluation by the BZKF's External Advisory Board in September 2023 and were approved for a second funding period with a maximum funding volume of €950,000 each for a further 24 months.



[bzkf.de/
standortspezifische-
leuchttuerme](https://bzkf.de/standortspezifische-leuchttuerme)

From January 2024, a fifth lighthouse will be funded, which represents a new focus at the BZKF:

Preclinical Models Lighthouse

In 2023, the BZKF approved funding of around €950,000 for the Preclinical Models lighthouse from 1 January 2024. The aim of the Preclinical Models lighthouse, headed by Prof. Dr. Armin Wiegner, University Hospital Würzburg, is to accelerate translational research by creating (infra-) structural measures, to facilitate dealings with the regulatory authorities, and to create a robust proof-of-concept platform with a particular focus on testing new approaches.

The resulting findings will help to narrow the gap between basic (preclinical) science and early clinical application and reduce the number of animal experiments. A further aim is to establish a central contact point for preclinical study projects and a central unit for target validation (target: binding point or location for new drugs) for previously "undruggable targets". These measures will improve the quality of clinical trials/studies and promote innovative solutions to previously unsolved problems in cancer research.

One of the main objectives of the lighthouse is to set up organ-specific organoid units (so-called 3D models). These central units will enable researchers in the BZKF network to develop and test preclinical models at an unprecedented level of detail.

Theranostics Lighthouse

The Theranostics lighthouse, headed by Prof. Dr. Matthias Eiber, University Hospital rechts der Isar, TU Munich, is working to improve the supply of innovative diagnostic and therapeutic radiolabeled drugs to the Bavarian population. In addition, central facilities will facilitate the participation of Bavarian centers in prospective studies and scientific evaluations. The work of the lighthouse has made further progress overall in the area of patient care in 2023:

In 2023, work continued on establishing a competence center (IMPD office), which has already supported a number of studies at Bavarian centers in its service function. For example, documents for various trials/studies involving radiolabeled drugs for patients with lung tumors, prostate cancer, and underlying hematological diseases were created and shared with other centers. In addition, the extension of existing approvals in Munich for the use of radioactive drugs has already enabled patients with early stages of prostate cancer to be included in a new drug trial.

The BZKF radiopharmaceutical network also achieved further improvements in the provision of innovative drugs to Bavarian patients in 2023. The supply of 18F-PSMA at Bayreuth Hospital is continuing and has also been extended to patients with neuroendocrine tumors through the supply of 68Ga-Dotatoc. Furthermore, University Hospital Augsburg is now also directly involved by Munich with a drug to improve the diagnosis of prostate cancer.

The Dosimetry Competence Center, which is located at the University of Würzburg as the central institution for all Bavarian centers, was also successfully expanded. In a first step, commercial software solutions for dosimetry were tested for their suitability and licensing for use in a competence center. The test was based on practical ease of use, reproducibility and reliability of the results, as well as the possibility of uniform procurement for all Bavarian centers, which will be completed in the near future.

The BZKF would like to thank Prof. Dr. Wolfgang Weber, University Hospital rechts der Isar, TU Munich, who has led the Theranostics lighthouse with great commitment as spokesperson since its foundation. Prof. Dr. Wolfgang Weber was appointed as a member of the BZKF Board of Directors in 2023 and passes on the function of lighthouse spokesperson to Prof. Dr. Matthias Eiber, University Hospital rechts der Isar, TU Munich.

Cellular Immunotherapy Lighthouse

The Cellular Immunotherapies lighthouse, headed by Prof. Dr. Wolfgang Herr, University Hospital Regensburg, is developing innovative immune cell therapeutics for clinical use in patients with advanced cancer. Particular attention is being paid to chimeric antigen receptor (CAR) and T-cell receptor (TCR) gene-modified T cells, which are being investigated in early clinical trials in hematological and, above all, solid tumor diseases. The advanced therapy medicinal products (ATMPs) required for this are being jointly developed and tested at the six Bavarian University Hospitals.

Based on a synergistic division of labor, each site contributes its specific expertise and unique technologies, which creates considerable benefit and avoids the costly duplication of structures. Furthermore, the jointly coordinated approach leads to a considerable acceleration of the development work. The successes of the lighthouse are evident in the first clinical CAR-T cell trial (GD2-IL18), which was developed across all sites and in which the first patients will be treated in 2024, as well as in five other jointly

developed CAR-T cell trials and in numerous cross-site publications. In the Cellular Immunotherapy lighthouse, five closely interlinked project groups have been working together across sites since 1 July 2021, providing the following essential modules:

Module 1: Preclinical development

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

Module 2: Regulatory issues

Prof. Dr. Martin Hildebrandt and Prof. Dr. Florian Bassermann (University Hospital rechts der Isar, TU Munich)

Module 3: GMP-Manufacture and ATMPs

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

Module 4: Toxicity management

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

Module 5: Immunomonitoring

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

University Hospital Augsburg (Prof. Dr. Christoph Schmid and Prof. Dr. Martin Trepel) participates in the lighthouse meetings, has unrestricted access to the five modules, and supports the recruitment of patients in clinical CAR-T cell trials.

AI and Bioinformatics Lighthouse

In the field of oncology, real-world data (RWD) are of great importance, as they provide insights into the actual effectiveness of treatments and therapies that go beyond randomized clinical trials.

RWD make it possible to test oncological therapies in real clinical settings, identify adverse events, and reduce healthcare expenditure. It can also identify rare subgroups of patients who may potentially benefit from certain therapies. By integrating RWD into clinical decision making and research, informed decision making can be reinforced and personalized treatment strategies can be developed. It also increases the understanding of patient populations. This can ultimately help to improve treatment outcomes and the quality of life of cancer patients.

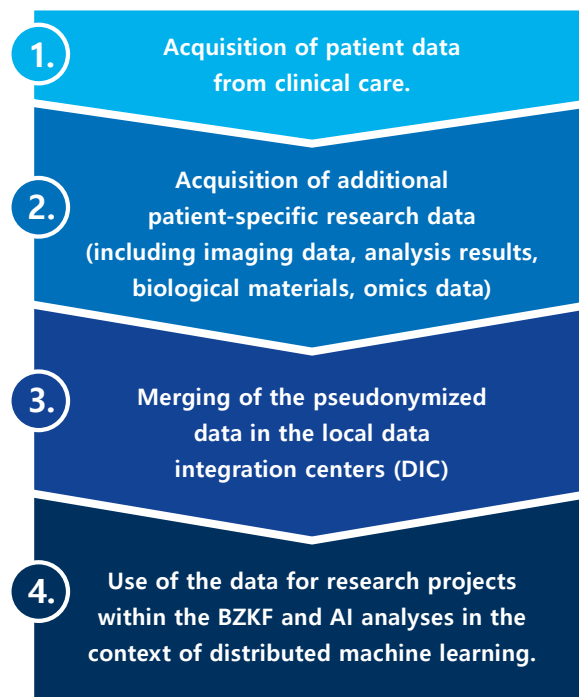
In the AI and Bioinformatics lighthouse, we are pursuing the goal of combining basic oncological data from cancer patients at all six sites with data generated during the treatment of cancer in routine clinical practice, and integrating these into an oncological real-world-data platform (oRWD). This comprehensive database will be used for a variety of supported analyses as well as serve to develop algorithms for AI models. This will build on IT infrastructure already available from other contexts, e.g. the Medical Informatics Initiative (MII) funded by the Federal Ministry of Education and Research, as well as local data integration centers (DICs) and independent trustee offices.

With the aid of a feasibility portal, it should be possible for researchers to search across BZKF sites for available data and biosamples on specific cancers. Here, pseudonymized data are harmonized and can be accessed without storing them centrally. This ensures the protection of privacy and confidentiality of patient data, as no data leave their place of origin. The integrated database is only processed locally in order to minimize the risk of unauthorized access or data misuse.

Distributed concepts are also being tested to evaluate this database, allowing an evaluation or algorithm to be applied to the data, which is then distributed horizontally across the six BZKF sites. This means that there is no need to merge data. As part of the four-day BZKF Summer School at Seeon Monastery (July 2023), the skills for distributed machine learning were taught at the six BZKF locations and a preliminary evaluation was carried out with real data from three locations (as proof of concept).

Thanks to the close collaboration within the BZKF with information technology specialists and other stakeholders, the extraction and harmonization of the uniform oncological basic dataset (oBDS) at all six sites was successful for the first time. Distributed analysis of the data using the data-protection-compliant DataSHIELD platform requires a careful methodological approach in order to ensure the highest possible data quality. This is why data quality validations of the results of the distributed queries are currently taking place. The findings of this evaluation are gradually being transferred into a data quality strategy with continuous quality checks. A follow-up event to the summer school will take place in July 2024.

The BZKF thus plays a central role in supporting evidence-based cancer therapy that bases on sound data and findings. By using real-world data, treatment outcomes can be improved, patients' quality of life enhanced, and the efficiency of the healthcare system increased. The BZKF strives to exploit fully the potential of real-world data to enable personalized and effective therapy for every cancer patient.



Structure of the BZKF Real-World-Data integration platform

Omics, Genomics, Liquid Biopsy Lighthouse

The aim of the lighthouse, headed by Prof. Dr. Rainer Claus, University Hospital Augsburg, is to provide multi-omics analyses with a focus on proteogenomics and liquid biopsy methodology as an important component of innovative translational research and clinical care for all members of the BZKF network at a central location. In the long term, the lighthouse's specific expertise in this area will make it available to the BZKF trial and study groups as a partner in scientific projects.

The lighthouse is working on the innovative refinement of personalized tumor medicine, which is primarily implemented by the local molecular tumor boards (MTBs) at the Bavarian University Hospitals, and on adding new aspects to the corresponding diagnostics. This is done by adding further multi-omics analyses to genomics, such as proteomics and phosphoproteomics, as well as liquid biopsy and, in particular, functional tests such as drug testing.

In a project on rare and difficult-to-treat metastatic salivary gland tumors, the corresponding complex logistics between the individual sites were already set up in 2023 and the first analyses were successfully tested on pilot samples. For two patients, we generated spheroids from circulating tumor cells from the liquid biopsy and carried out (phospho)proteome analyses and drug tests.

By integrating bioinformatics expertise, impressive results and potential therapy recommendations have already been achieved with corresponding analyses. This means that it will be possible in future to carry out individualized testing of specific drugs on spheroids from liquid biopsies, with the result directly benefiting MTB patients as a treatment option. The aim of this project is the ability to improve individual treatment decisions for patients with salivary gland carcinomas and to transfer this concept to other difficult-to-treat or rare types of cancer. The start of the main study on salivary gland cancer is planned for the current year 2024. A second project of the lighthouse is concerned with measuring the disease burden and in particular the minimal residual disease (MRD) from bone marrow and peripheral blood in multiple myeloma.

The lighthouse works closely with the BZKF Multiple Myeloma Study Group. The task here is to provide specific expertise in the form of the quantification of circulating multiple myeloma cells (CMMCs) in peripheral blood and the proteogenomic analysis of these cells. The results and analyses of minimally invasive blood sampling will be compared with the previously established method of bone marrow biopsy. The project is supported by the industrial cooperation partner Menarini Silicon Biosystems. The concept, the study protocol, and the organizational and legal details for the start of the study were defined in 2023. The pilot study is about to begin and the launch of the main study is planned for 2024.

Simultaneously, the lighthouse makes all contact persons, protocols, and details of existing methods and expertise available to the BZKF trial and study groups on one platform. By providing this information, future projects within the BZKF are facilitated and thus projects and trials/studies can be implemented more quickly.

Multi-omics analyses: Simultaneous analysis of multiple "omics" data, such as genes, RNA, proteins, and metabolites, to gain comprehensive insight into complex biological systems.

Proteogenomics: Combining information from an organism's genome and proteins to understand how genetic variations affect proteins.

Liquid biopsy: Analysis of tumor cells or genetic material found in blood or other body fluids to obtain information on cancers without having to perform a tissue biopsy.

Spheroids: Geometric bodies that have a similar shape to a sphere but are not perfectly round. They are elliptical and can have different dimensions in three dimensions.

Committees and Structures

The BZKF promotes patient-oriented cancer research in Bavaria across universities in a uniform center-based structure, aiming to achieve a new dimension of cutting-edge medicine through optimal networking for the benefit of patients throughout Bavaria.



bzkf.de/bz kf-organe



The Board of Directors

from left to right:

Prof. Dr. A. Mackensen,
Prof. Dr. T. Pukrop, Prof. Dr. M. Trepel,
Prof. Dr. Dr. M. Frühwald,
Prof. Dr. R. C. Bargou, Prof. Dr. C. Belka,
Prof. Dr. J. Mayerle, Prof. Dr. W. Weber,
Prof. Dr. H. J. Schlitt,
Prof. Dr. M. W. Beckmann,
Prof. Dr. H. Einsele, Prof. Dr. M. Schoenberg
(not pictured: Prof. Dr. F. Bassermann,
Prof. Dr. T. Bein)

Steering Committee

The Steering Committee is the strategic control 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 one representative from the hospital management board (medical and commercial directors), respectively.

Dr. Albrecht Bender, University Hospital Erlangen
Prof. Dr. Stephanie Combs, TU Munich
Prof. Dr. Sabine Doering-Manteuffel, University of Augsburg
PD Dr. Tim von Oertzen, University Hospital Würzburg
Prof. Dr. Matthias Frosch, JMU Würzburg
(Vice Chairperson of the Steering Committee)
Prof. Dr. Thomas Gudermann, LMU University Hospital Munich
(Chairperson of the Steering Committee)
Prof. Dr. Dirk Hellwig, University Hospital Regensburg
Prof. Dr. Oliver Kölbl, University Hospital Regensburg
Prof. Dr. Klaus Markstaller, University Hospital Augsburg
Prof. Dr. Markus F. Neurath, University Hospital Erlangen
Dr. Martin Siess, University Hospital rechts der Isar, TU Munich
Markus Zendler, LMU University 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 central BZKF projects and measures. The Board of Directors has twelve members with a direct connection to patient-oriented oncological research and elects a president from among its members. Current BZKF Active President: 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. Thomas Bein (patient representative)
Prof. Dr. Claus Belka, LMU University Hospital Munich
Prof. Dr. Hermann Einsele, University Hospital Würzburg
Prof. Dr. Dr. Michael Frühwald, University Hospital Augsburg
Prof. Dr. Frederik Klauschen, LMU University Hospital Munich
Prof. Dr. Andreas Mackensen, University Hospital Erlangen
Prof. Dr. Tobias Pukrop, University Hospital Regensburg
Prof. Dr. Hans J. Schlitt, University Hospital Regensburg
Prof. Dr. Michael H. Schoenberg (patient representative)
Prof. Dr. Martin Trepel, University Hospital Augsburg
Prof. Dr. Wolfgang Weber, University Hospital rechts der Isar, TU Munich
Prof. Dr. Wilko Weichert († 10.07.2023), TU 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. Florian Greten,

Institute of Tumorbiology and Experimental Therapy, 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, Self-help group bladder cancer
(patient representative), D

Local coordination teams

The local coordination teams advise in particular on IT and infrastructure measures, start-up projects, profile-building measures and cross-site translational groups as well as studies at the site and monitor their implementation. The local coordination teams comprise representatives of the clinics, departments and institutes involved in the research, diagnosis and treatment of cancer, as well as representatives from the hospital management board and the hospital administration at each of the six BZKF sites.

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.

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.



From left to right, first row: Katrin Dietzel, Corinna van der Heyd, Dr. Marlen Thiere, Kerstin Roßmann / Second row: Franziska Klein, Dr. Anne Herrmann, Dr. Thomas Ramming, Nina Vaughn, Dr. Katrin Faber, Dr. Mandy Wahlbuhl-Becker (not pictured: Rebekka Kiser)

BZKF: Further key figures in 2023

Entries in the contact database	715
"Confluence" users (document management system)	800
Members of sponsored trial/study groups	385
Members of funded lighthouses	115
Members of working groups	200
Meetings of all working groups	20
Number of appointments	150
Number of board of directors meetings	10
Number of meetings with the legal offices	20
Number of activity reports by the data protection lawyer for the data protection officer of the BZKF cooperation partners:	11

Dr. Mandy Wahlbuhl-Becker (Managing Director)

Nina Vaughn, M.A. (Deputy Managing Director)

Dr. Anne Herrmann (Scientific Coordination)

Dr. Marlen Thiere (Trials/Studies Coordination)

Franziska Klein (Public Relations)

Katrin Dietzel (Public Relations)

Dr. Katrin Faber (Finances)

Rebekka Kiser (Data Protection)

Dr. Thomas Ramming (IT Coordination)

Kerstin Roßmann (IT Coordination)

Corinna van der Heyd (Assistance and Scheduling)

Finances

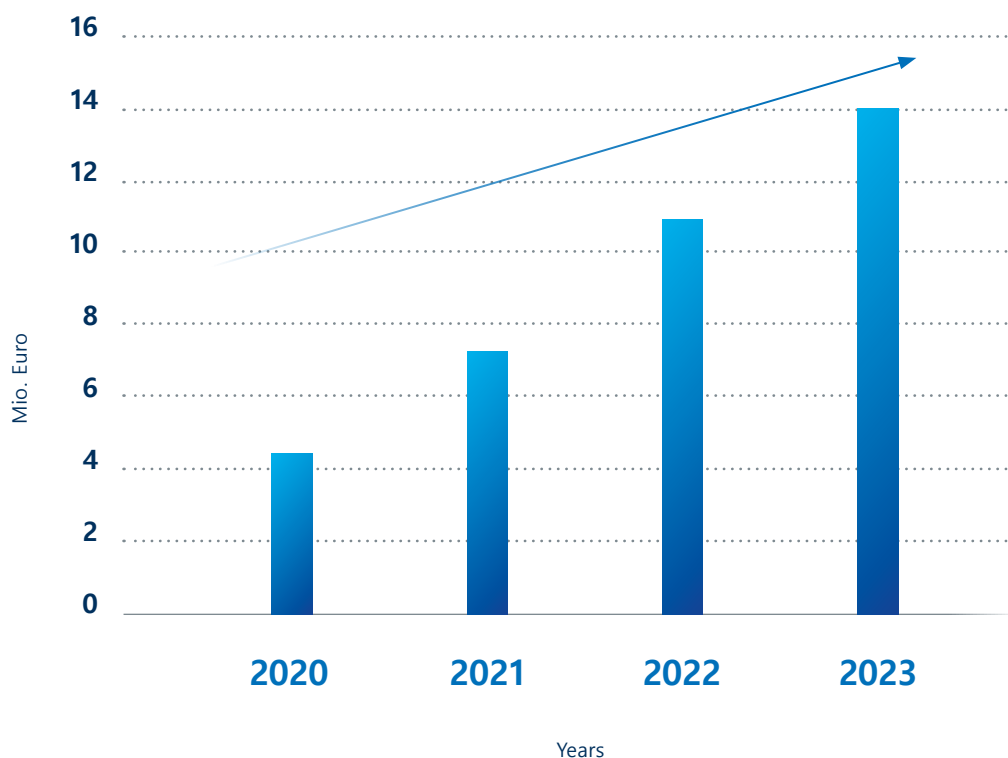
The BZKF is an association of the six Bavarian University Hospitals and the six Universities in accordance with Article 16 (2) of the Bavarian Higher Education Act (Bay-HSchG) in conjunction with Article 15 of the Bavarian University Hospitals Act (BayUniKlinG).

The aim of the BZKF is to promote patient-oriented cancer research in Bavaria across universities in a uniform centralized structure.

The cooperation and use of the facilities as well as the distribution of tasks are regulated in the BZKF cooperation agreement between the twelve partners and described in detail in the BZKF rules of procedure.

The development of the BZKF to full operation was anchored in the BZKF concept paper from 2019. Despite the challenges posed by the ongoing consequences of the coronavirus pandemic and the war in Ukraine, among other things, the Bavarian State Ministry of Science and the Arts continues to provide the BZKF with funding to pursue the BZKF's goals stringently. We are happy to report another highly encouraging increase in the funding provided.

Growth of funding

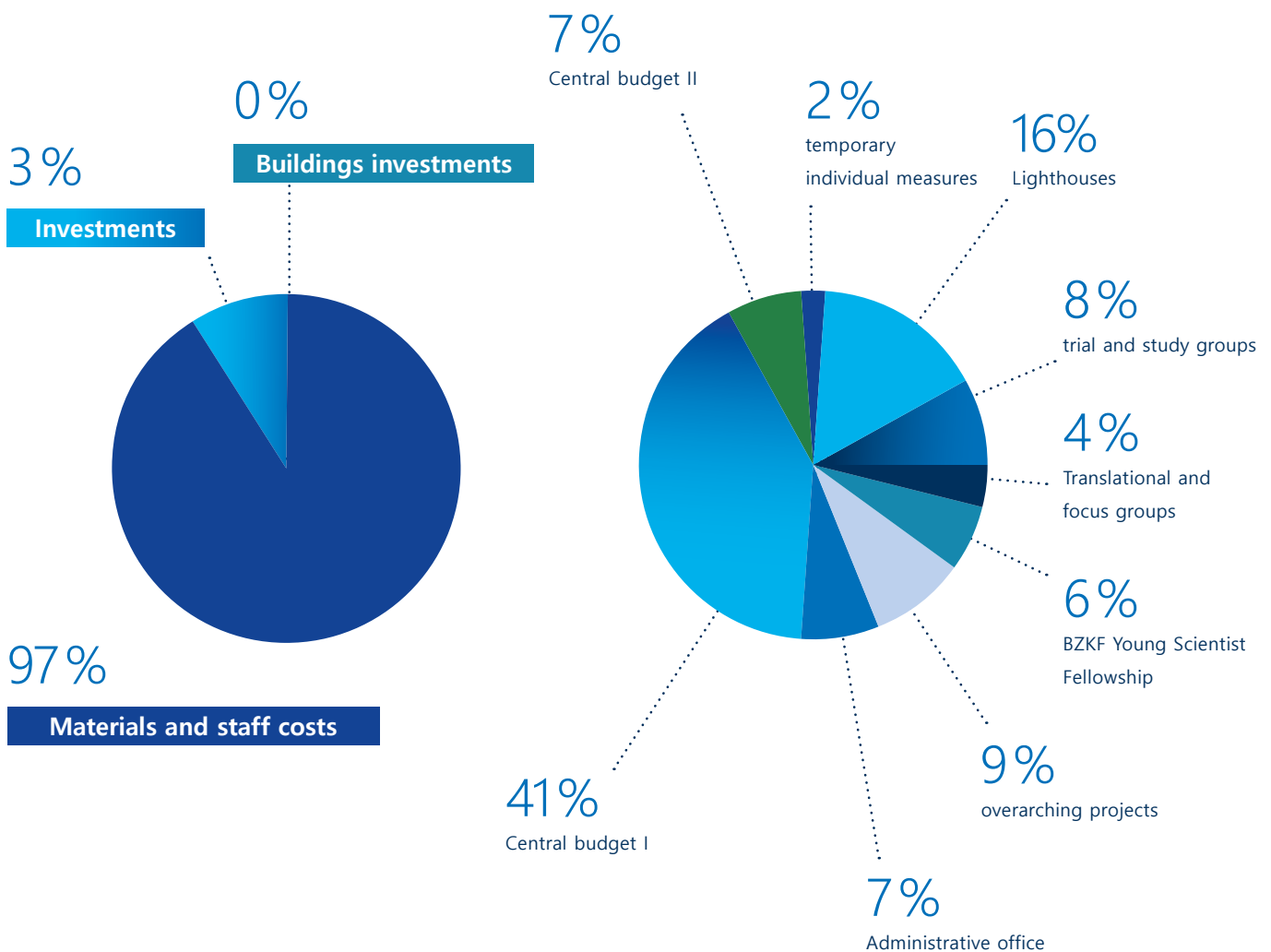


In 2023, the Bavarian State Ministry of Science and the Arts provided the BZKF with €13,822,015, which corresponds to an increase of around 30% compared to the previous year 2022.

This funding will be used to continue the development of the BZKF as a nationally and internationally recognized oncology research center. The aim is to strengthen the structures at the sites and promote collaboration

within the network in accordance with the motto **“Strengthening excellence—sharing knowledge”**. The distribution of the funding reveals that 81.76% will be allocated to the six BZKF sites, with investments amounting to 334,992 € and material and personnel costs amounting to 10,924,974 € for 2023.

Funding was allocated to the following areas



Outlook 2024



The BZKF will intensify and expand its activities in order to continue strengthening the Bavarian network and promote joint cancer research. The following measures (excerpt) will be taken in 2024:

- » With the establishment of the Wilko Weichert Young Scientist Academy, the BZKF will continue to expand its support for young scientists.
- » The BZKF will promote research into tertiary prevention, in order to improve the understanding of disease and treatment consequences and their therapeutic options.
- » The BZKF relies on the active involvement of patient experts and relatives to gain their experience and perspectives when assessing research proposals. The BZKF Patient Expert Pool is being set up for this purpose.
- » Cooperation between the BZKF and medical technology companies in Bavaria will be initiated and cooperation with the pharmaceutical industry will continue to be intensified

The BZKF ...

- 1. ... continues to develop into the hub of cooperation 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 comprehensive access to cutting-edge medicine in the treatment of tumor diseases through the free PublicCancerHotline.**

Imprint

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