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# Cancer Centre Certification Programme

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German Cancer Society  
Berlin – Germany

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# Quality assurance and improvement in oncology

## - National Cancer Plan in Germany -

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German Cancer Society  
Berlin – Germany

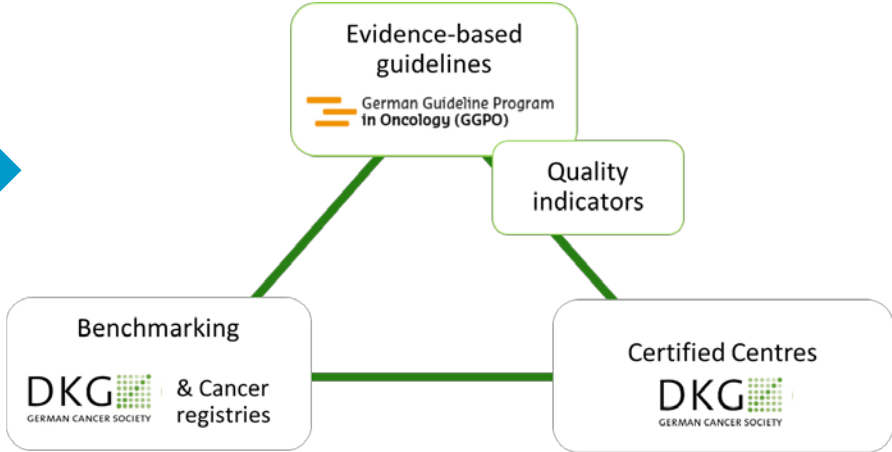
# Quality assurance and improvement in oncology: The National Cancer Plan



2008

National Cancer Plan

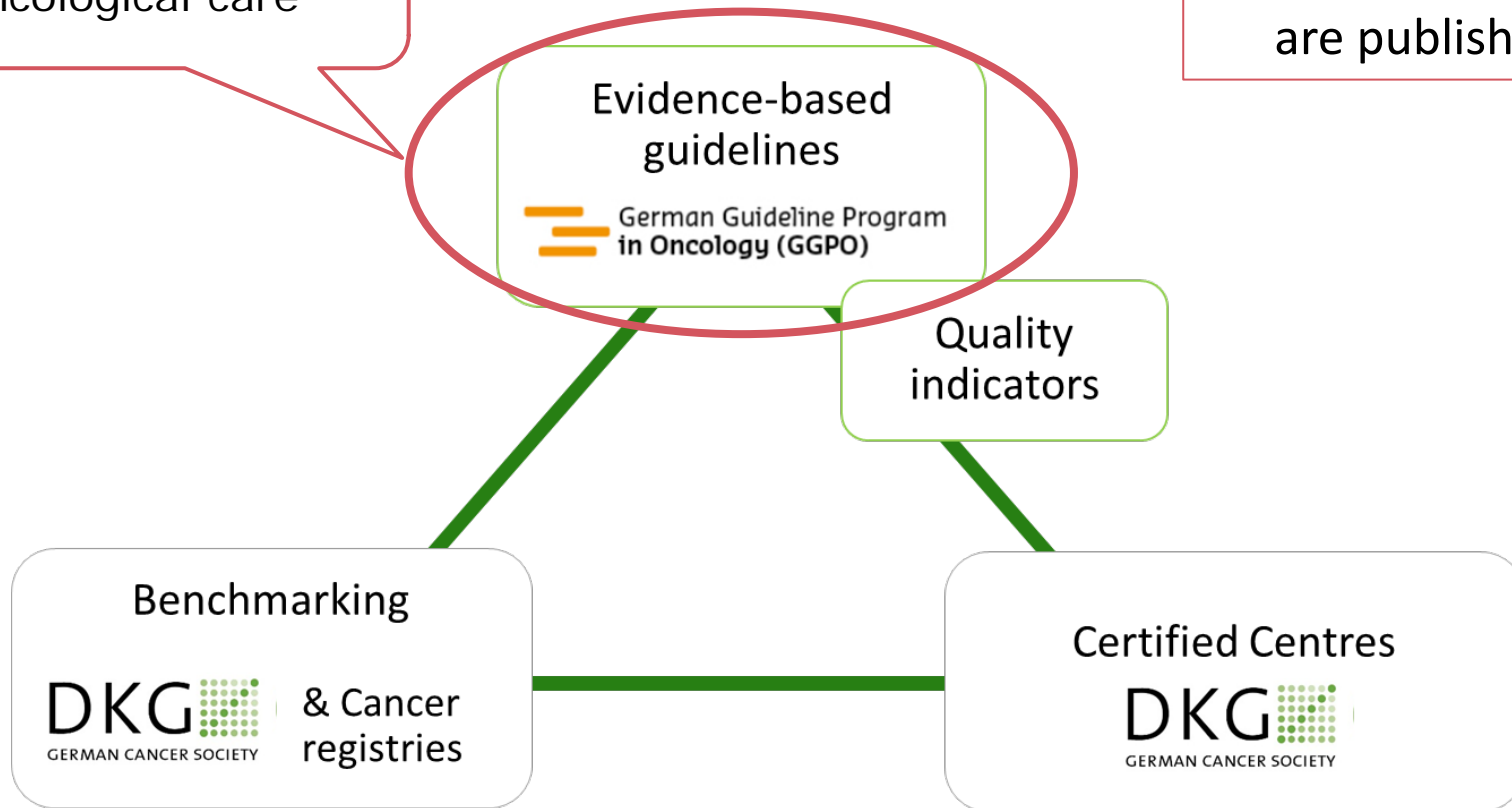
## Quality cycle in oncology



# Quality cycle in oncology

Definition of standard of oncological care


- 31 evidence-based medical guidelines are published



# Quality cycle in oncology

180 QI are derived

Evidence-based guidelines

 German Guideline Program  
in Oncology (GGPO)

Quality indicators

Measurable quality indicators (QI) are derived from strong recommendations of the guidelines

Benchmarking

 **DKG** & Cancer registries  
GERMAN CANCER SOCIETY


Certified Centres

 **DKG**  
GERMAN CANCER SOCIETY

# Quality cycle in oncology

- 1.778 certified cancer centres in 6 countries
- > 275.000 patients with a first diagnosis of cancer are treated annually in certified centres

Evidence-based guidelines

 German Guideline Program  
in Oncology (GGPO)

Quality indicators

Implementation of guideline content and quality indicators in the certified centres

Benchmarking

 **DKG** & Cancer registries  
GERMAN CANCER SOCIETY

Certified Centres


 **DKG**  
GERMAN CANCER SOCIETY

as of: 31.03.2022

# Quality cycle in oncology

Analysis and publication of the results in annual benchmarking reports

Evidence-based guidelines

 German Guideline Program  
in Oncology (GGPO)

Quality indicators

Benchmarking

 & Cancer registries  
GERMAN CANCER SOCIETY

Certified Centres

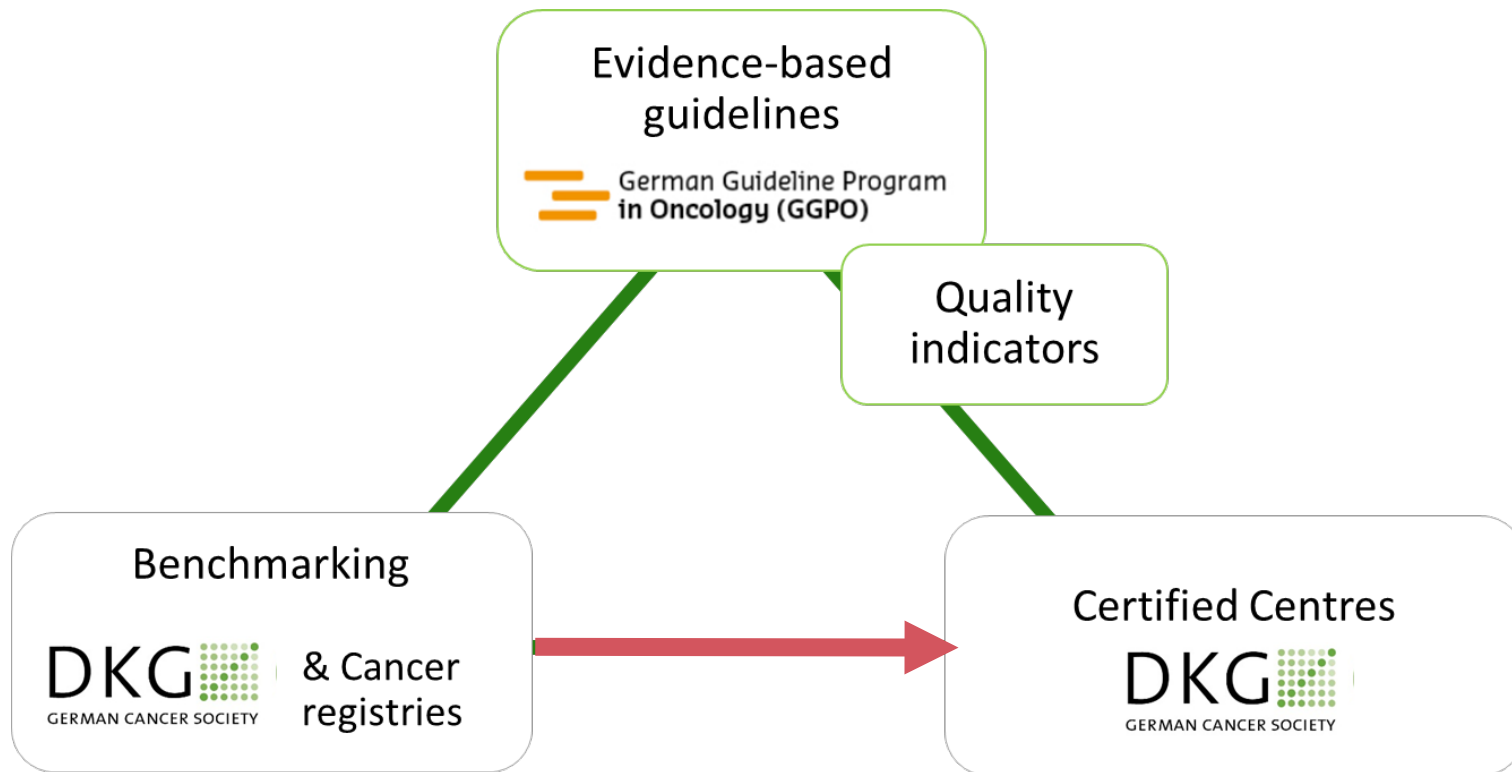
  
GERMAN CANCER SOCIETY

2021:

13 tumor specific benchmarking reports have been published with the results of > 275.000 patients

# Quality cycle in oncology

## Quality improvement





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**Certification of Cancer Centres**  
**- The Certification Programme initiated by the German**  
**Cancer Society -**

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German Cancer Society  
Berlin – Germany

# Certification of cancer centres

- The certification programme initiated by the German Cancer Society -

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1. German Cancer Society
2. Starting point of the certification programme
3. Definition of certified cancer centres
4. Organisation and implementation of certified cancer centres
5. Which criteria must be met for a certification?
6. Analysis and presentation of the results
7. Validation of the collected Data
8. How is the audit organised?
9. How does certification improve the quality of care for oncological patients?

# 1. German Cancer Society (Deutsche Krebsgesellschaft, DKG)



Headquarter  
of the German Cancer Society in Berlin

- **Largest scientific society in oncology** in German-speaking countries
- Our aim is high quality of oncological care and our focus is on:
  - the certification of cancer centers,
  - the development of evidence-based, independent treatment guidelines and patient guidelines,
  - knowledge development and knowledge transfer in oncology and
  - reliable patient information
- DKG represents Germany in international organizations (i.e. UICC, ECL and EU) and is the **co-founder of the National Cancer Plan**

## 2. Starting point of the Certification Programme

### Starting point:

Differences in survival rates of (breast) cancer patients in the member states of the European Union



2003  
Certification of  
Breast Cancer  
Centres



Cancer care is provided in certified cancer centres

2008  
National Cancer Plan

### 3. What are certified cancer centres?

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Definition:

“A network of qualified and jointly certified interdisciplinary [...] institutions that [...] if possible represent the entire chain of health care for those affected [...] ”

National Cancer Plan

[http://www.bmg.bund.de/fileadmin/dateien/Downloads/N/Nationaler\\_Krebsplan/Ziel\\_5-Nationaler\\_Krebsplan.pdf](http://www.bmg.bund.de/fileadmin/dateien/Downloads/N/Nationaler_Krebsplan/Ziel_5-Nationaler_Krebsplan.pdf)

# Certified Cancer Centres: “interdisciplinary [...] institutions”

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## The Breast Cancer Centre as an example:

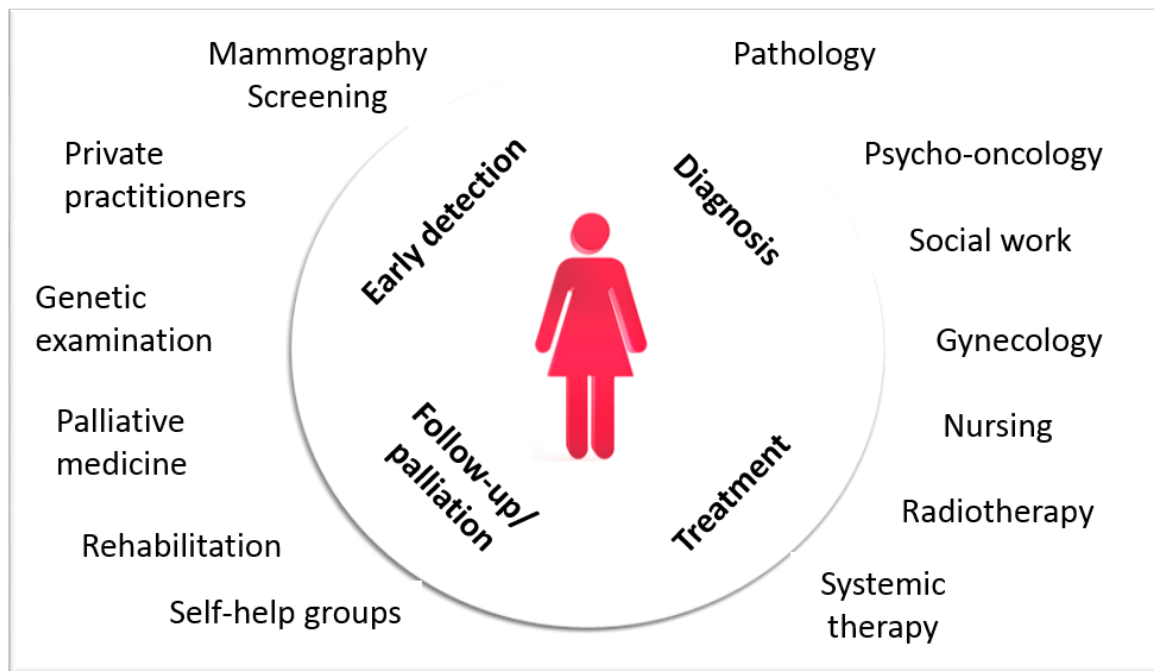
### *Obligatory members of the centre*

Gynecology, radiotherapy, pathology, radiology, medical oncology, nursing, physicians in private practice, genetic counseling, psycho-oncology, social services, physiotherapy, genetics, palliative medicine, pain therapy, rehabilitation, cancer registry and self-help group

⇒ **Cooperation** between **medical specialties** (= interdisciplinarity),  
**professional groups** (= inter-professionalism), and (if needed) **hospitals**

# Certified Cancer Centres: “that [...] if possible represent the entire chain of health care”

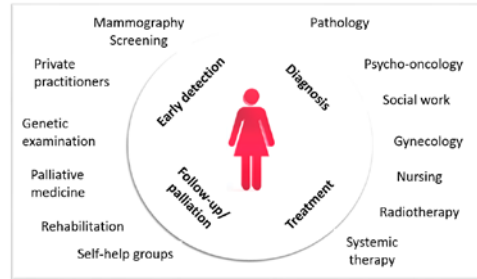
## The Breast Cancer Centre as an example:



= building a **Network**  
with all partners  
with

- tumorboards
- unified standards and processes
- defined guidelines
- joint data management
- ....

# Network of a Certified Cancer Centre



## Example 1:

The partners of the certified centre are localised in 1 hospital



## Example 2:

The partners of the certified centre are localised in more than 1 hospital





# Certified Cancer Centers: “A network of qualified and jointly certified ... institutions”



**Certificate:**  
guarantees high quality of  
oncological care and  
serves as a decision-  
making aid for patients

## 4. Organisation and implementation of certified cancer centres

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**Note:**

An **Organ Cancer Centre** is a centre specializing in one tumour entity

Colorectal

Breast

Lung

Gynecological

Skin

Prostate

Haematological Neoplasms

**Organ Cancer  
Centres**

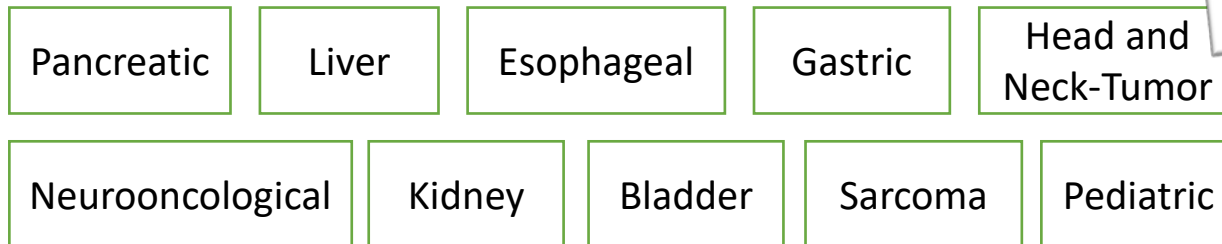
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## 4. Organisation and implementation of certified cancer centres

**Note:**

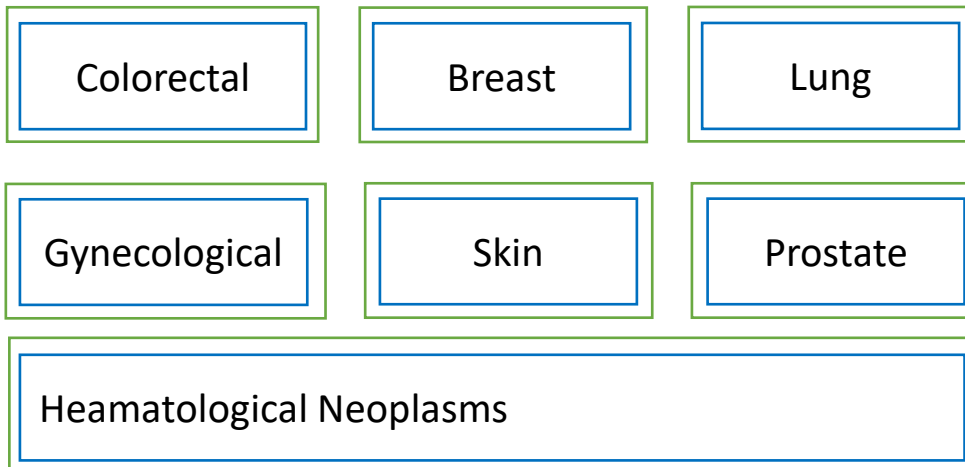
An **Oncology Centre** extends to several organs, particularly for not common cancers

### Modules



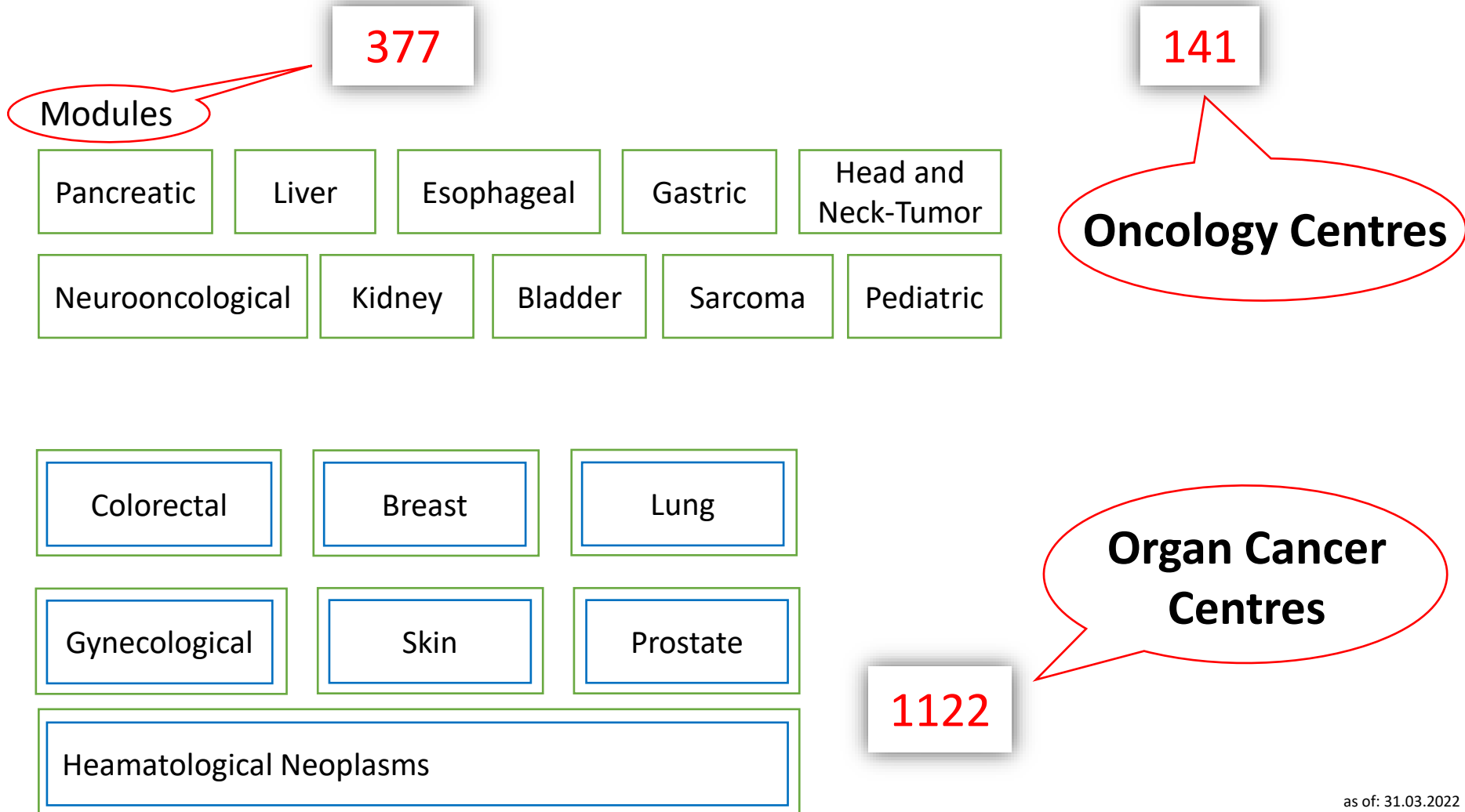
### Oncology Centres

- = including
- modules and
- Organ Cancer Centres

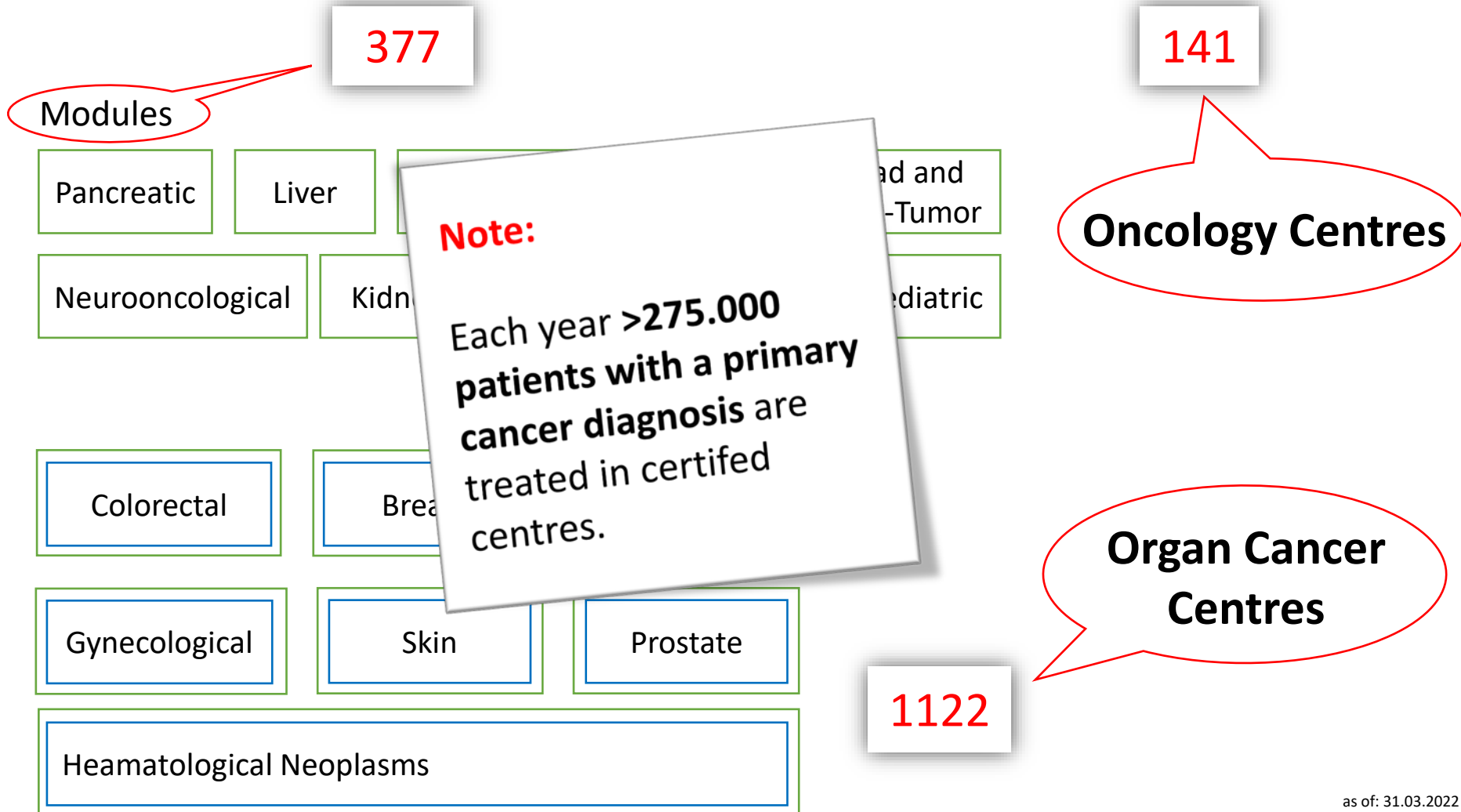


### Organ Cancer Centres

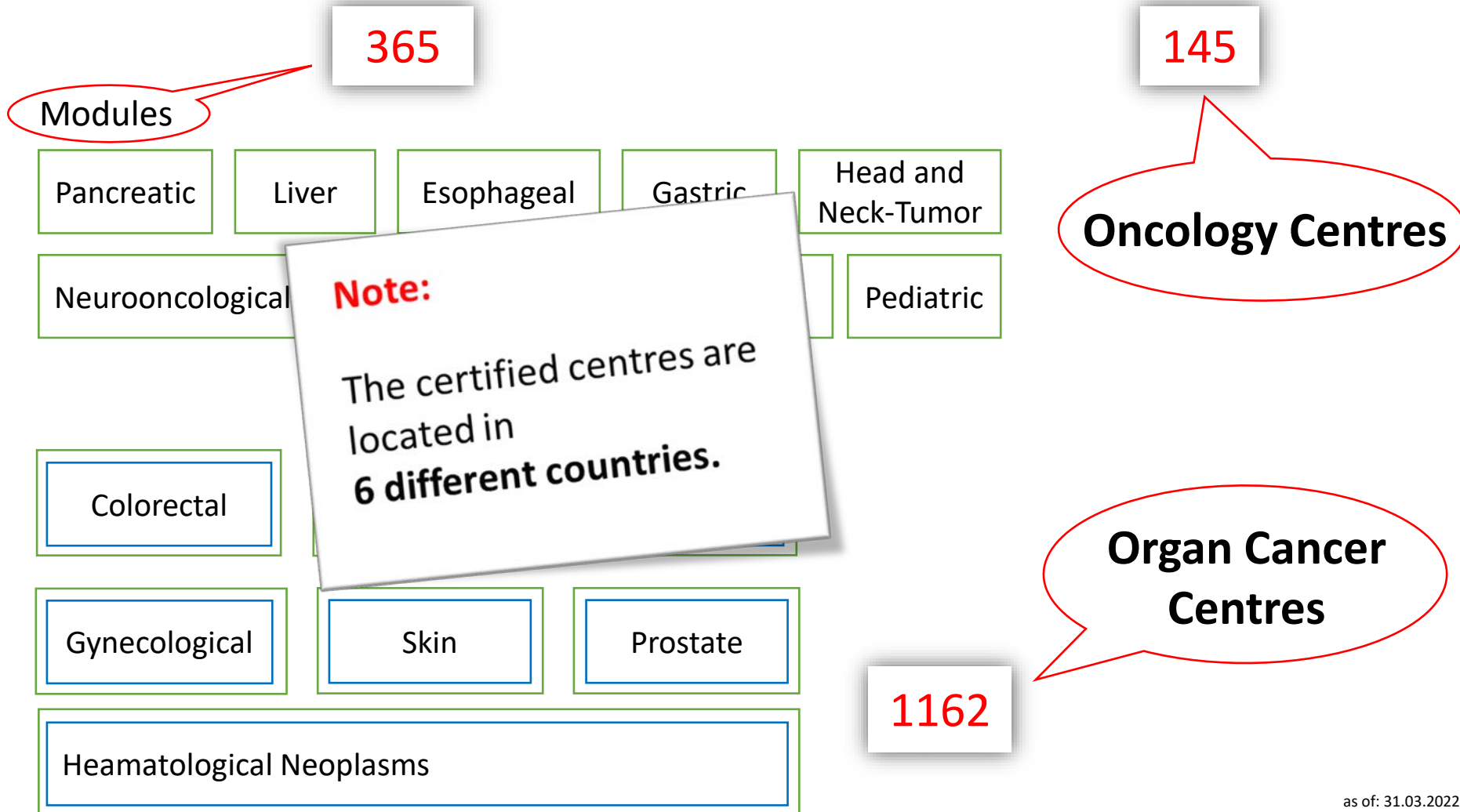
## 4. Organisation and implementation of certified cancer centres



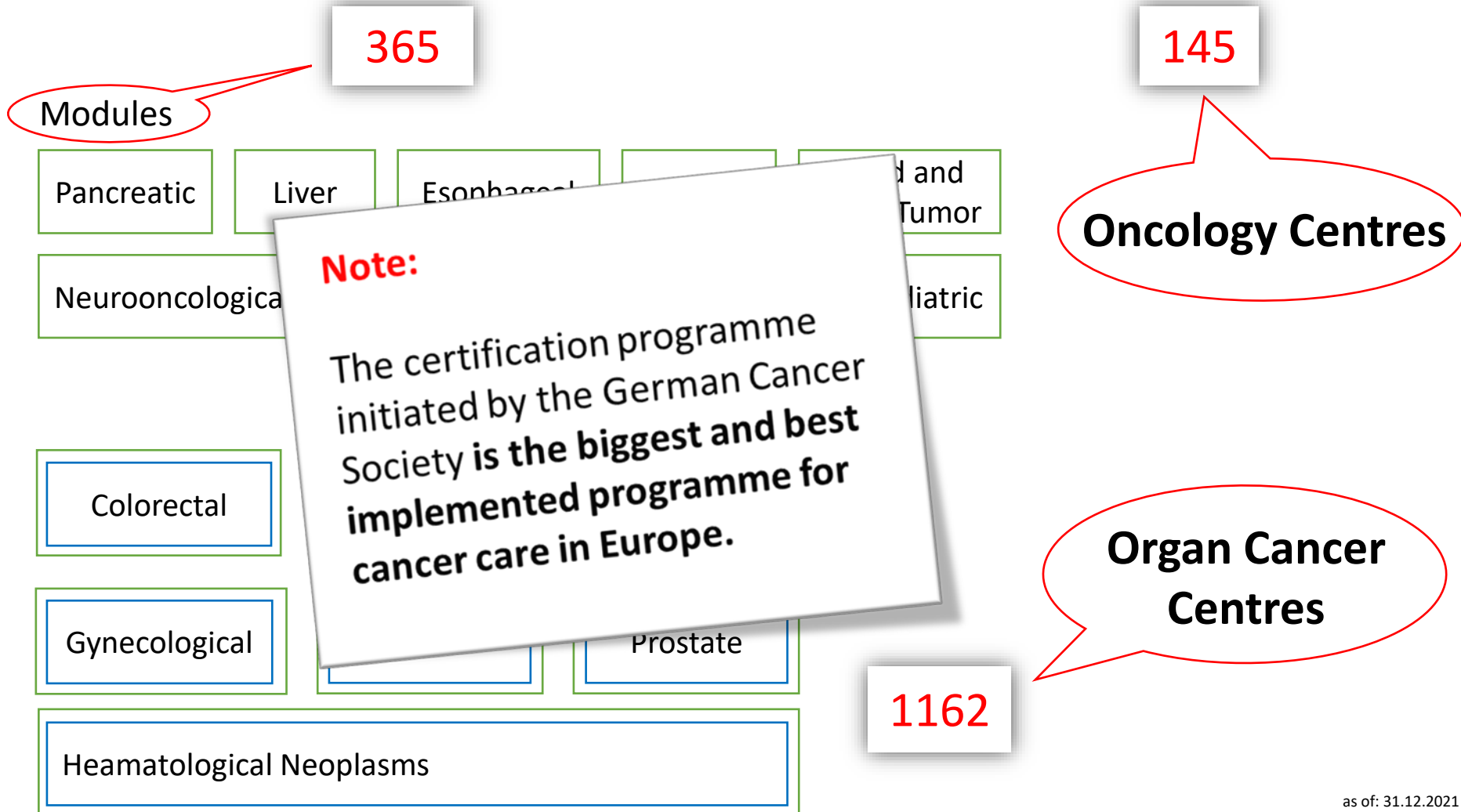
## 4. Organisation and implementation of certified cancer centres



## 4. Organisation and implementation of certified cancer centres



## 4. Organisation and implementation of certified cancer centres



# 4. Organisation and implementation of Certified Cancer Centres

Overview of the certified centres:

**OncoMap** **DKG**  
KREBSGESELLSCHAFT

CENTRE | ORGAN GROUP (i.a. Oncology Centres) | SPECIALTY | FAQ | English

COUNTRY: Any | ZIP/LOCATION: Not specified | TUMORS: Any | 1951 RESULTS

FEDERAL STATE: Any | RADIUS: 100 km | TO MAP VIEW

High quality of care. in one of **1300** certified Cancer Centres throughout Europe

TUMOR	REG.-NR.	CENTRE	CLINIC / LOCATION	ZIP	CITY	km	WEBSITE	ADD-ONS
Breast	FAB-Z001 G	Brustzentrum Stuttgart am Marienhospital	Marienhospital Stuttgart	70199	Stuttgart	5		
Breast	FAB-Z007-1 G	Universitäts-Brustzentrum Tübingen	Department für Frauengesundheit Tübingen	72076	Tübingen	18		
Breast	FAB-Z010-1 G	Interdisziplinäres Brustkrebszentrum der Charité (IBZ) im Charité Comprehensive Cancer Center	Charité - Campus Mitte	10117	Berlin	21		
Breast	FAB-Z012-1	Kooperatives Brustzentrum Klinikum Region Hannover	KRH Klinikum Siloah	30459	Hannover	12		
Breast	FAB-Z016 G	Brustzentrum Robert-Bosch-Krankenhaus	Robert-Bosch-Krankenhaus	70376	Stuttgart	10		
Breast	FAB-Z017 G	Brustzentrum Halle des Universitätsklinikums Halle (Saale)	Universitäts-Klinikum Halle (Saale)	06120	Halle (Saale)	16		
Breast	FAB-Z020 G	Brustzentrum im Sana Klinikum Lichtenberg	Sana Klinikum Lichtenberg	10365	Berlin	6		
Breast	FAB-Z021 G	Interdisziplinäres Brustzentrum der ALB FILS KLINIKEN	Klinik am Eichert Göppingen	73035	Göppingen	6		
Breast	FAB-Z022	Kooperatives Brustzentrum Landshut	Klinikum Landshut	84034	Landshut	4		
Breast	FAB-Z023	Brustzentrum Saar Mitte	CaritasKlinikum Saarbrücken St. Theresia	66113	Saarbrücken	13		



# 5. Which criteria must be met for a certification?

## 1. Catalogue of requirements:



### Catalogue of Requirements for Breast Cancer Centres of the German Cancer Society

Developed by the DKG/DGS (German Cancer Society/German Society for Senology)  
Certification Commission for Breast Cancer Centres

Chairmen Prof. Dr. J. Blohmer, Prof. A. Sobal

#### Members (in alphabetical order):

ADT – Working Group on German Tumour Centres  
 AET – Working Group on Genetic Tumour Diseases  
 AGO – Gynaecological Oncology Working Group  
 AIO – Working Group on Medical Oncology  
 PSO – Working Group on Psychological Oncology  
 ARO – Working Group on Radiological Oncology  
 ASD – Working Group on Social Work  
 ASORS – Working Group for Supportive Care in Oncology, Rehabilitation and Social Medicine  
**AG ZBZ – Working Group of Certified Breast Cancer Centres**  
 BVP - Professional Association of German Pathologists  
 BVF - Professional Association of Gynaecologists  
 BNHO - Professional Association of Haematologists and Oncologists  
 FSH - National Association for Women's Self-Help after Cancer  
 BHGO – Association of Gynaecological Oncologists  
 DGPRAC - German Society of Plastic, **Reconstructive** and Aesthetic Surgery  
 DGCh – German Society of Surgery  
 DGGG – German Society for Gynaecology and Obstetrics  
 DGN – German Society for Nuclear Medicine  
 DGP – German Society for Palliative Medicine  
 DGP – German Society of Pathology  
 DGRÖ – German Society of Radiation Oncology  
 DGS – German Society of **Oncology**  
 DRG – German Radiology Society  
 DVSG – German Association of Social Work in Health Care  
 KOK – Conference of Oncological Nurses and Children's Nurses  
 Mammography Screening  
 Chairman of Certification Commission for Gynaecological Cancer Centres  
 Rep. of group of auditors (Oncological Experts conducting the audits)  
 Rep. of Guideline for the Early Detection of Breast Cancer



Effective as of **28 November 2017**

This Catalogue of Requirements (CR) is binding for all audits conducted from 1 January 2017. The changes made to this version valid in audit year 2017 are highlighted in **turquoise** in this Catalogue of Requirements.

The following were incorporated:

- Interdisciplinary S3 Guidelines for the diagnosis, therapy and aftercare of breast carcinomas
- Level 3 Guidelines on Early Breast Cancer Detection

**This Catalogue of Requirements is based on the TNM classification of malignant tumours, 8th edition 2017, and the ICD classification ICD-10-GM 2017, ICD-M3 and the OHS classification OHS 2017, ICD-M3.**

Important notice: These translations are for your convenience only; in the event of any discrepancy or divergence of interpretation, the German text shall prevail.

Annex CR Version I1.1 (audit year 2018 / indicator year 2017)  
**Indicator Sheet Breast**

Centre: \_\_\_\_\_ Date recorded: \_\_\_\_\_

Reg. No.: \_\_\_\_\_

**Data quality indicators**

The numerator is always a subset of the denominator (exception: indicator 12 - Share studies patients).  
 The details in "red" are new in the audit year 2018 (changes via-a-via audit year 2017).

IN No.	CR	Indicator definition	Indicator target	Numerator	Population (= denominator)	Plausibility unclear	Target value	Plausibility unclear	Current value		If target value / plausibility border is not met (min. 30 characters / max)
									Numerator	Denominator	
1	110	Post-operative case review	Post-operative presentation of as many primary cases as possible in the tumour conference	Operated primary cases presented in the tumour conference	Operated primary cases (primary case definition see 5.2.1)		≥ 95%		Numerator	Denominator	
19									%	#DIV/0!	
20									Numerator	Denominator	
21	123	Pretherapeutic case discussion	Adequate rate of pretherapeutic case discussions	Primary cases presented in the pretherapeutic conference	Primary cases		≥ 40%	100%	Numerator	Denominator	
22									%	#DIV/0!	
23									Numerator	Denominator	
24	124	Discussions of cases involving local recurrence/metastases	Presentation of all patients with 1st local recurrence and/or 1st remote metastasis in the tumour conference	Patients with 1st local recurrence and/or 1st remote metastasis presented in the tumour conference	Patients with 1st local recurrence and/or 1st remote metastasis (without primary M1 pat.)		~ 70%	No details if present	100%	Numerator	Denominator
25									%	#DIV/0!	
26	126	<b>recommended</b> radiotherapy after BET in the case of <b>new</b> invasive mammary carcinoma	<b>Adequate rate of radiotherapy after BET in the case of as many primary cases as possible with invasive mammary carcinoma after and BET</b>	Primary cases with inv. Mammary carcinoma and BET, <b>in which radiotherapy was recommended</b>	Primary cases with an invasive mammary carcinoma and BET (without primary M1 pat.)		≥ 90%		Numerator	Denominator	
27	127								%	#DIV/0!	

# Catalogue of Requirements and....



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### 3 Radiology

Chart	Requirements	
3.1	<b>Specialists</b> <ul style="list-style-type: none"> <li>• At least 2 specialists with experience in the diagnosis of breast diseases</li> <li>• Specialists are to be designated by name</li> </ul> <p>All of the specialists named for the Breast Cancer Centre must participate in the TB (preoperative, at least 12 x per year).</p>	Structure/ Personnel qualification
3.2	<b>Radiology technicians</b> <p>At least 2 qualified radiology technicians must be available and designated by name.</p>	Technical equipment
3.3	<b>Mammography equipment</b> <ul style="list-style-type: none"> <li>• The X-Ray Ordinance and the guidelines for quality assurance laid down by the German Medical Association for x-ray diagnostics and/or the corresponding European guidelines (European guidelines for quality assurance in mammography screening, ISBN 92-894-1145-7) must be fulfilled.</li> <li>• Equipment for enlargement must be available</li> </ul>	Technical equipment
3.4	<b>Mammography results</b> <p>Mandatory indication of the results category 0-6 and assessability (4-stage, A-D)</p>	
3.5	<b>Descriptions of radiological processes (SOP's)</b> <ul style="list-style-type: none"> <li>• The imaging and marking procedures must be described and assessed once a year to ensure that they are up to date</li> </ul>	Processes
3.6	<b>Further/additional training.</b> <ul style="list-style-type: none"> <li>• At least one breast disease-specific further/additional training measure per staff member per year (duration &gt; 0.5 days), to the extent that the staff member performs tasks relevant to the quality of the Breast cancer centre.</li> </ul>	Education

# ....Data sheet

Annex CR Version K1.1 (Audit year 2022 / Indicator year 2021)

## Indicator Sheet Breast



Centre

Reg. No.  Date of initial certification

IN	CRI GL	Indicator definition	Indicator target	Numerator	Population (= denominator)	Plausibility	Target value	Plausibility	Current value		Data quality	Verification
									Numerator	Denominator		
1		Post-operative tumour board	Post-operative presentation of as many primary cases as possible in the tumour board	Primary cases of the denominator presented in the postoperative tumour board	Surgical primary cases		≥ 95%		Numerator	0	Incomplete	If target value / plausibility border is not met please give reasons / cause (min. 30 characters / max. 500 characters)
								Denominator	0	Incomplete		
								%	n.d.	Incomplete		
2	1,2,2	Pretherapeutic tumour board	Adequate rate of pretherapeutic tumour board	Primary cases of the denominator presented in the pretherapeutic tumour board	Primary cases		≥ 40%		Numerator	0	Incomplete	
								Denominator	0	Incomplete		
								%	n.d.	Incomplete		
3		Tumour board local recurrence/metastases	Presentation of all patients with 1st local recurrence and/or 1st distant metastasis in the tumour board	Patients of the denominator presented in the tumour board	Patients with 1st (local) recurrence and/or with 1st remote metastasis (= indicator 14b) (without	< 70%	No target value		Numerator		Incomplete	
								Denominator		Incomplete		
4	01,01	Radiotherapy after BCS in the case of invasive breast cancer	Adequate rate of radiotherapy primary cases with invasive breast cancer and BCS						Numerator		Incomplete	
								Denominator		Incomplete		
5		Radiotherapy after BCS in the case of DCIS	Adequate rate of radiotherapies of primary cases with DCIS and BCS						Numerator		Incomplete	
								Denominator		Incomplete		
6		Chemotherapy in the case of receptor	Chemotherapy of as many receptor positive and nodal						Numerator		Incomplete	
								Denominator		Incomplete		

- The centres have to present their results annually on a data sheet
- There are separate indicators for each type of cancer (ca. 25)
- Indicators for:
  - 1. Presentation of the certified network**  
Indicators: e.g., tumour board, psycho-oncology, social work, research
  - 2. Presentation of main treatment partners' expertise**  
Indicators: e.g., results for operations/interventions, post-op./post-intervention complications
  - 3. Presentation of guideline-appropriate treatment**  
Quality indicators from evidence-based oncological guidelines

## 6. Analysis and presentation of the results

### Presentation of treatment quality:



The indicator results are presented annually as:

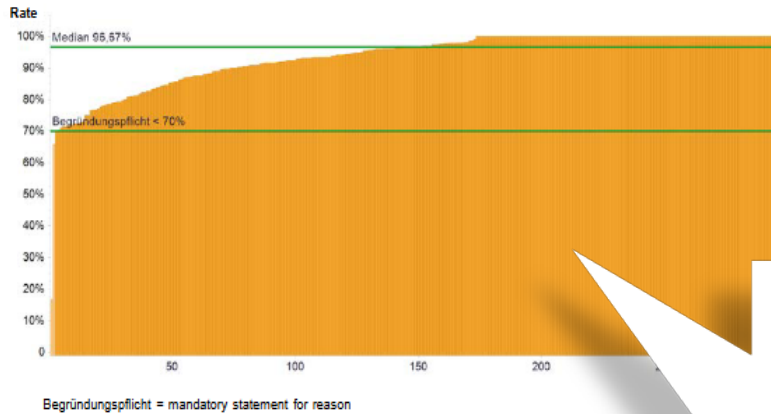
1. An anonymized annual report per cancer type
2. An individual annual report for each centre

# Anonymized Annual Report per Cancer Type

Annual Report BCCs 2021 (audit year 2020 / indicator year 2019)



## 3. Discussions of cases involving local recurrence/metastases

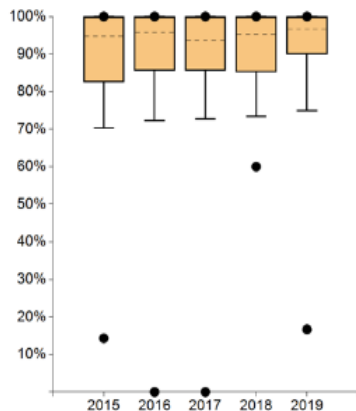


	Definition of indicator	All clinical sites 2019		
		Median	Range	Patients Total
Nominator	Patients of the dimoniator presented in the tumour board	27*	1 - 191	10,113
Denominator	Patients with first local	29*	2 - 194	10,863

### Example:

anonymized annual report for all certified prostate cancer centres, 2021


- Contains the results for 284 certified breast cancer locations in 2019
- Contains the aggregated data for around 335,000 patients with a first diagnosis of prostate cancer
- Contains the results for 23 indicators
- Shows the development of the results for 2015–2019



	2015	2016
Max	100%	100%
95. percentile	100%	100%
75. percentile	100%	100%
Median	94.80%	95.74%
25. percentile	82.42%	85.71%
5. percentile	70.34%	72.29%
Min	14.29%	0.00%

# 8. How is the Audit organised?

**Audit Plan**



Independent certification institute of the  
 German Cancer Society (DKG)  
 Gartenstraße 24, D-89231 Neu-Ulm  
 Tel. +49 (0)731/70 51 10 - 0  
 Fax +49 (0)731/70 51 10 - 10  
 www.onkoziert.de, info@onkoziert.de

Centre designations \_\_\_\_\_  
 Director \_\_\_\_\_  
 Location Klinikum Beispielhausen  
 Centre coordinators \_\_\_\_\_  
 Audit period \_\_\_\_\_

Status FA audit

<input checked="" type="checkbox"/> First certification GC	<input checked="" type="checkbox"/> Repeat audit OC / HNC
<input checked="" type="checkbox"/> 1 <sup>st</sup> follow-up audit BC / NOC	<input type="checkbox"/> Control audit
<input checked="" type="checkbox"/> 2 <sup>nd</sup> follow-up audit CRC / PM	<input type="checkbox"/> Extended audit

Audit team

Title, first name, surname	Audit basis	Function		
		1 <sup>st</sup> expert (E)	2 <sup>nd</sup> expert	OnkoZert staff members
Prof. Dr. med. M. Müller	FAO	OC		
Dr. med. M. Maier	FAO		OC	
Dr. med. B. Beispielhaft	FAD/ FAO	CRC/ PM	OC	
Dr. med. M. Mustermann	FAB/ FAG	BC/ GC		
Dr. med. M. Mayer	FAO	HNCM		
Prof. Dr. med. M. Meier	FAO	NOCM		

Date \_\_\_\_\_ Signature OnkoZert \_\_\_\_\_

## Auditors:

oncology specialists with specific further training for conducting audits

**Duration on-site-audit: 1 day – 3 days**

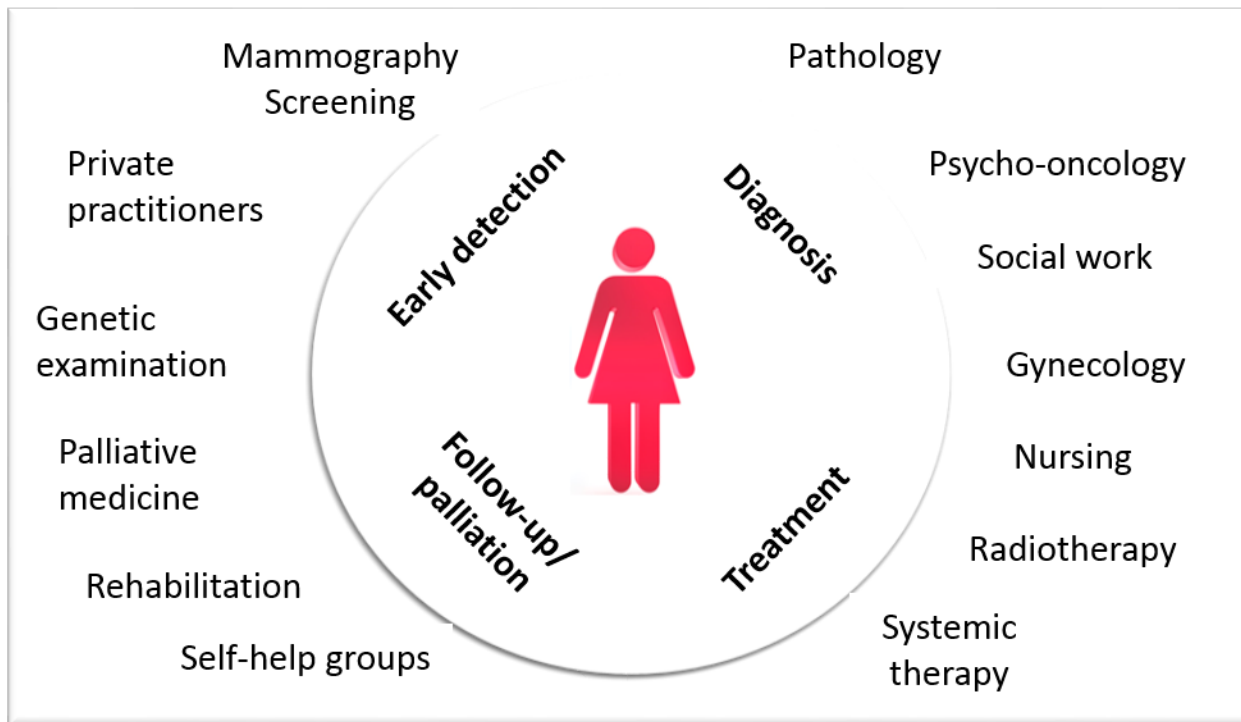
**Number of auditors per audit: 1 – 8**

## Tasks of the auditors:

- Before audit: plausibility checking of the completed catalogue/data sheet
- During audit:
  - verify the provided informations of the centers (resp structures, processes, results of the quality indicators etc) on site/with randomly chosen patient files
  - discuss measures for quality improvement if needed
- After audit: audit report

# 9. How does certification improve the quality of care for oncological patients?

1. By setting up **networks** where health care providers treat patients with verified high-quality medical expertise



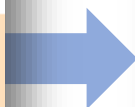
# How does certification improve the quality of care for oncological patients?

- By implementing **evidence-based medical guidelines** and thus ensuring a broad application

German Guideline Program in Oncology (GGPO)

Evidence-based Guideline for Breast Cancer

Guideline (Long Version)



Annual Report BCCs 2021 (audit year 2020 / indicator year 2019)

DKG GERMAN CANCER SOCIETY Certification

### 3. Discussions of cases involving local recurrence/metastases

	Definition of indicator	All clinical sites 2019		
		Median	Range	Patients Total
Nominator	Patients of the nominator presented in the tumour board	27*	1 - 191	10,113
Denominator	Patients with first local recurrence and/or first remote metastasis (without primary M1 pat.)	29*	2 - 194	10,863
Rate	Mandatory statement of reasons*** <70%	96.67%	16.67% - 100%	93.10%**

Begründungspflicht = mandatory statement for reason

	2015	2016	2017	2018	2019
Max	100%	100%	100%	100%	100%
95. percentile	100%	100%	100%	100%	100%
75. percentile	100%	100%	100%	100%	100%
Median	94.80%	95.74%	93.56%	95.24%	96.67%
25. percentile	82.42%	85.71%	85.71%	85.27%	90.00%
5. percentile	70.34%	72.29%	72.67%	73.33%	75.00%
Min	14.29%	0.00%	0.00%	60.00%	16.67%

Clinical sites with evaluable data		Clinical sites meeting the plausibility limit	
Number	%	Number	%
296	99.00%	294	99.32%

**Comment**  
The median shows a further positive development in the case review of local recurrences and metastases. 123 centres succeeded in a complete presentation. Only 2 centres were below the plausibility limit. They stated that patients were inadvertently not presented by a cooperation partner and that some patients presented were not mapped in the TuDok system. These problems were countered with quality circles and regular exchanges between the documentalist and the centre.



# How does certification improve the quality of care for oncological patients?

3. The **quality of care** in the individual centre is
- recorded and analyzed,
  - reflected and
  - (if necessary) improved by applying suitable measures

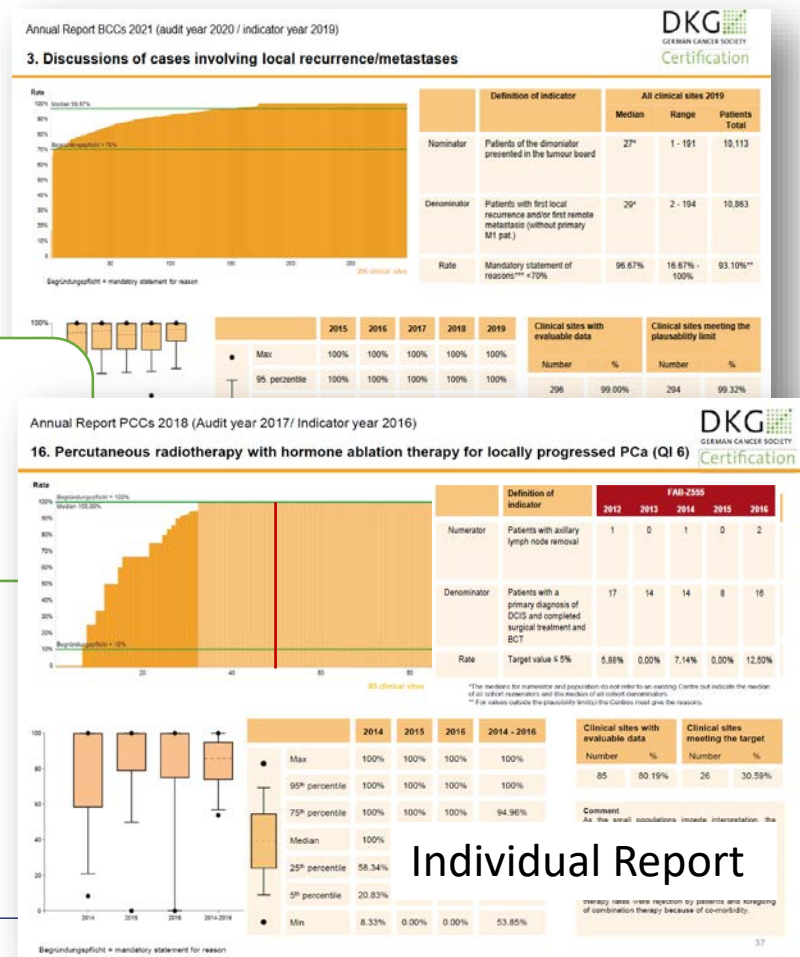
Certified network



Data Sheet:  
Recorded quality

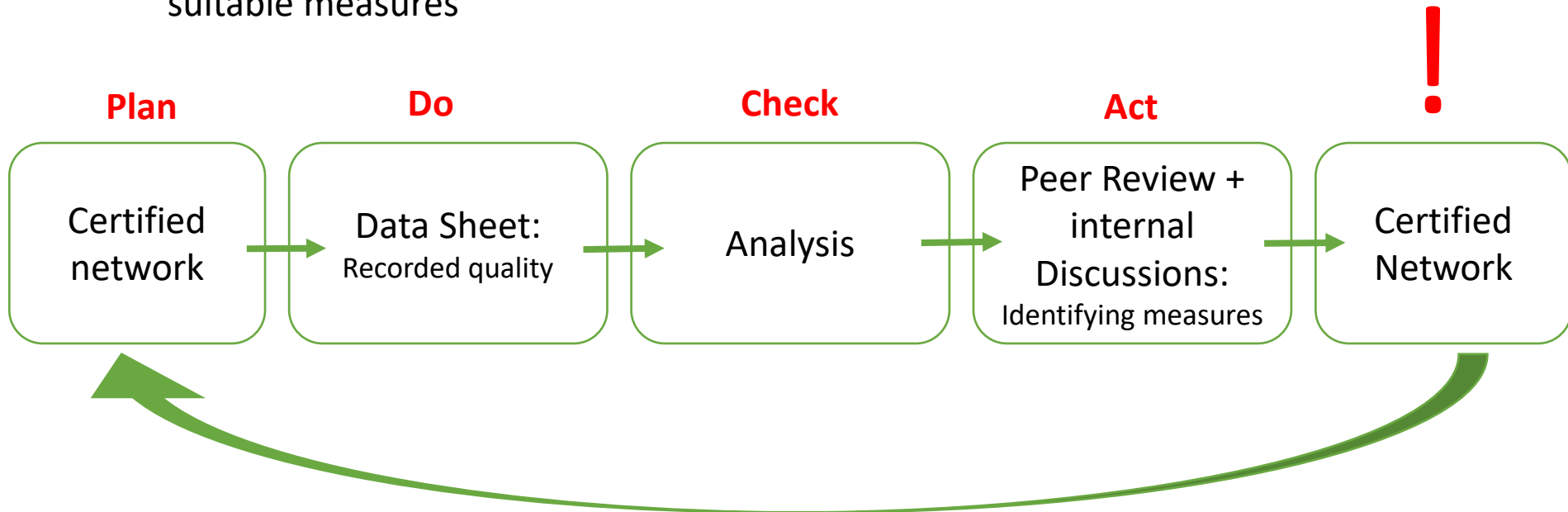


Analysis



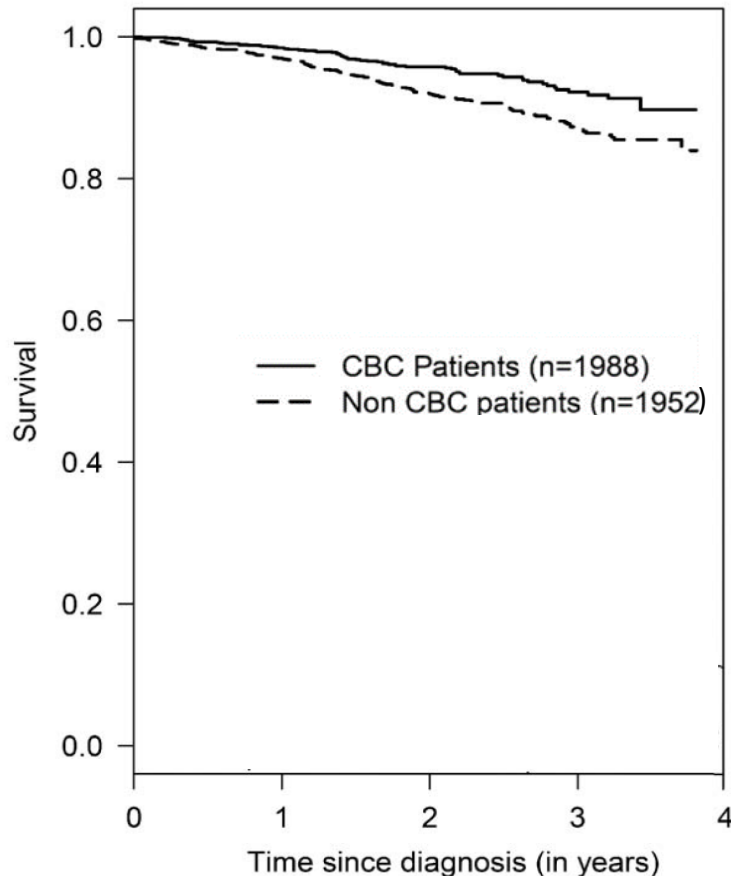
# How does certification improve the quality of care for oncological patients?

3. The **quality of care** in the individual centre is
- recorded and analyzed,
  - reflected and
  - (if necessary) improved by applying suitable measures



# How does certification improve the quality of care for oncological patients?

4. By improving overall survival and reducing **hospital lethality** and **follow-up-resection rate**:



⇒ **Breast Cancer:**

Analysis with data from cancer registries; 3,940 patients with non-metastatic breast cancer

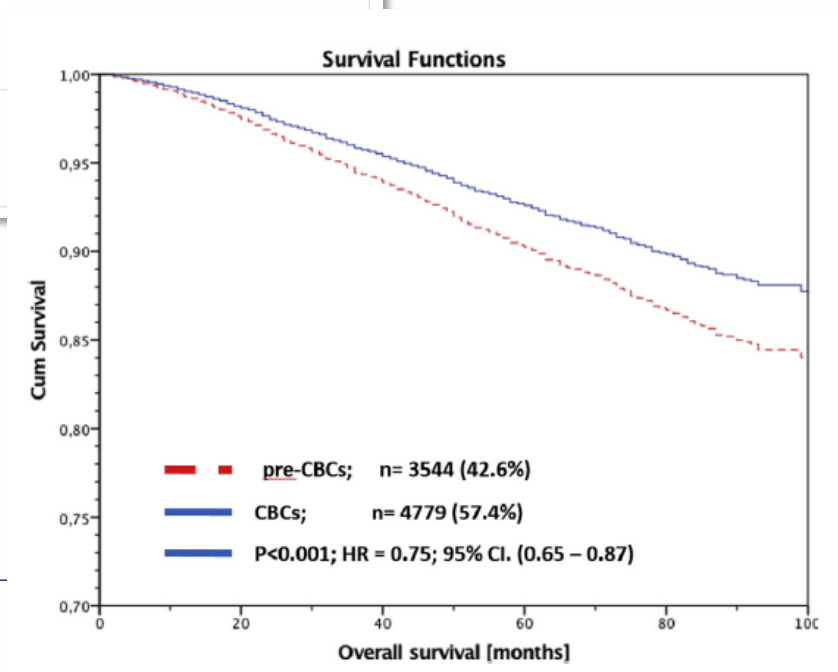
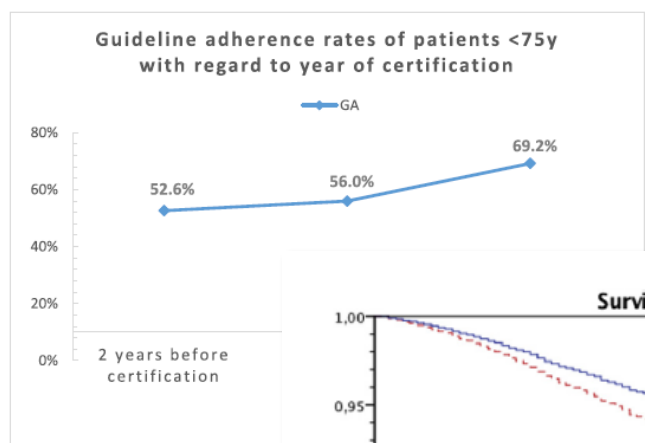
⇒ Summary:

“Patients treated at a CBC had a hazard ratio of 0,70 (95% confidence interval 0,52–0,93) in the adjusted Cox model. Independent from common prognostic factors, diagnosis and **treatment of breast cancer at a CBC improves the prognosis of patients.**”

# How does certification improve the quality of care for oncological patients?

Highly significant improvement in guideline adherence, relapse-free and overall survival in breast cancer patients when treated at certified breast cancer centres: An evaluation of 8323 patients

Rolf Kreienberg <sup>a,1</sup>, Achim Wöckel <sup>b,\*,1</sup>, Manfred Wischnewsky <sup>c</sup>



## ⇒ Breast Cancer:

Analysis of 17 breast cancer centres (certified between 2003-2007), comparison of before (n=3.544) and after (n=4.779) certification, Endpoints: guideline adherent therapy, overall survival; Cox-Regression with adjustment for: systemic therapy, molecular subtypes and prognostic index NPI

## ⇒ Summary:

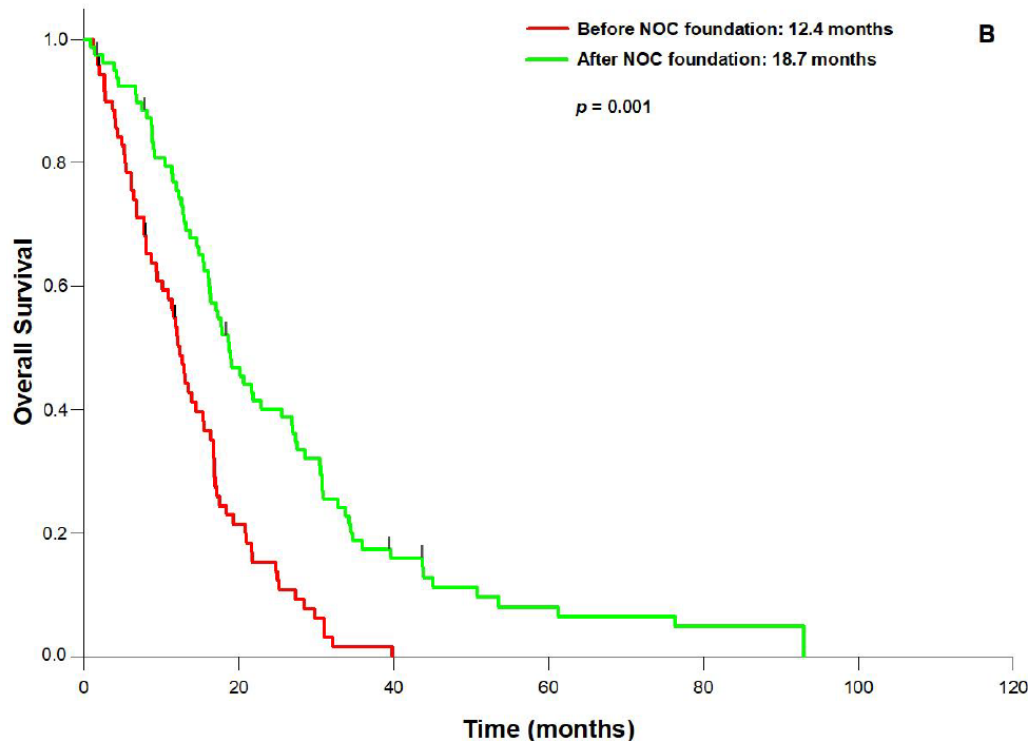
**Significant higher guideline adherent therapy after certification;** 5 year-overall survival:  
before certification: 85,4%, after certification: 89,5% (p=0,0001)

# How does certification improve the quality of care for oncological patients?

Article

## Extent of Resection in Newly Diagnosed Glioblastoma: Impact of a Specialized Neuro-Oncology Care Center

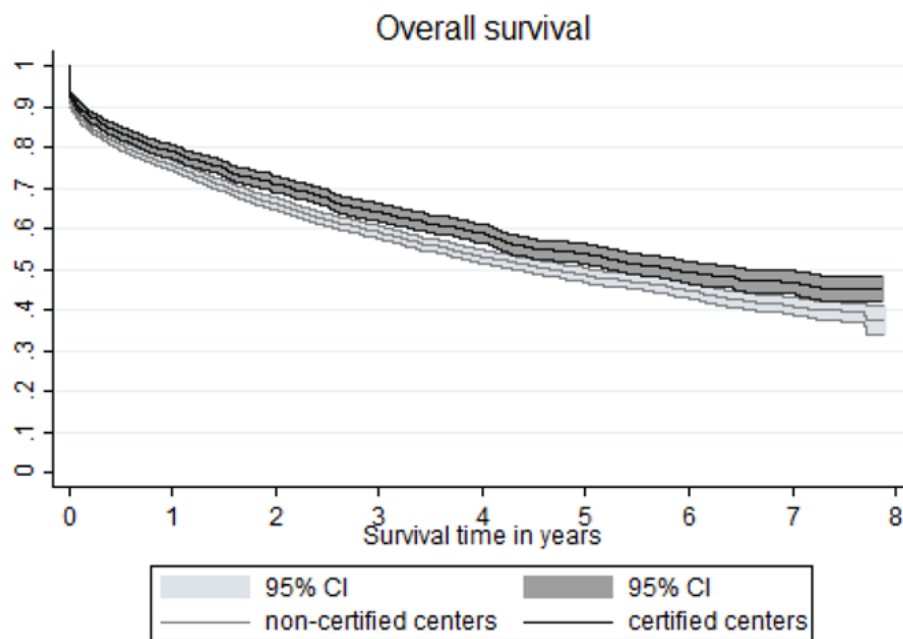
Amer Haj<sup>1,2</sup>, Christian Doenitz<sup>1,2</sup>, Karl-Michael Schebesch<sup>1,2</sup>, Denise Ehrensberger<sup>1,2</sup>,



- ⇒ **Analysis:** retrospective cohort study of the university clinic Regensburg **149** patients with glioblastoma, group comparison **before** (2005-2009) and **after** (2009-2013) certification, adjustment for: Age, Karnofsky index, methylation and resection status.
- ⇒ **Result: Median overall survival** before certification: 12.4 months after certification: 18.7 months ( $p=0.001$ )

# How does certification improve the quality of care for oncological patients?

## 4. By improving overall survival:



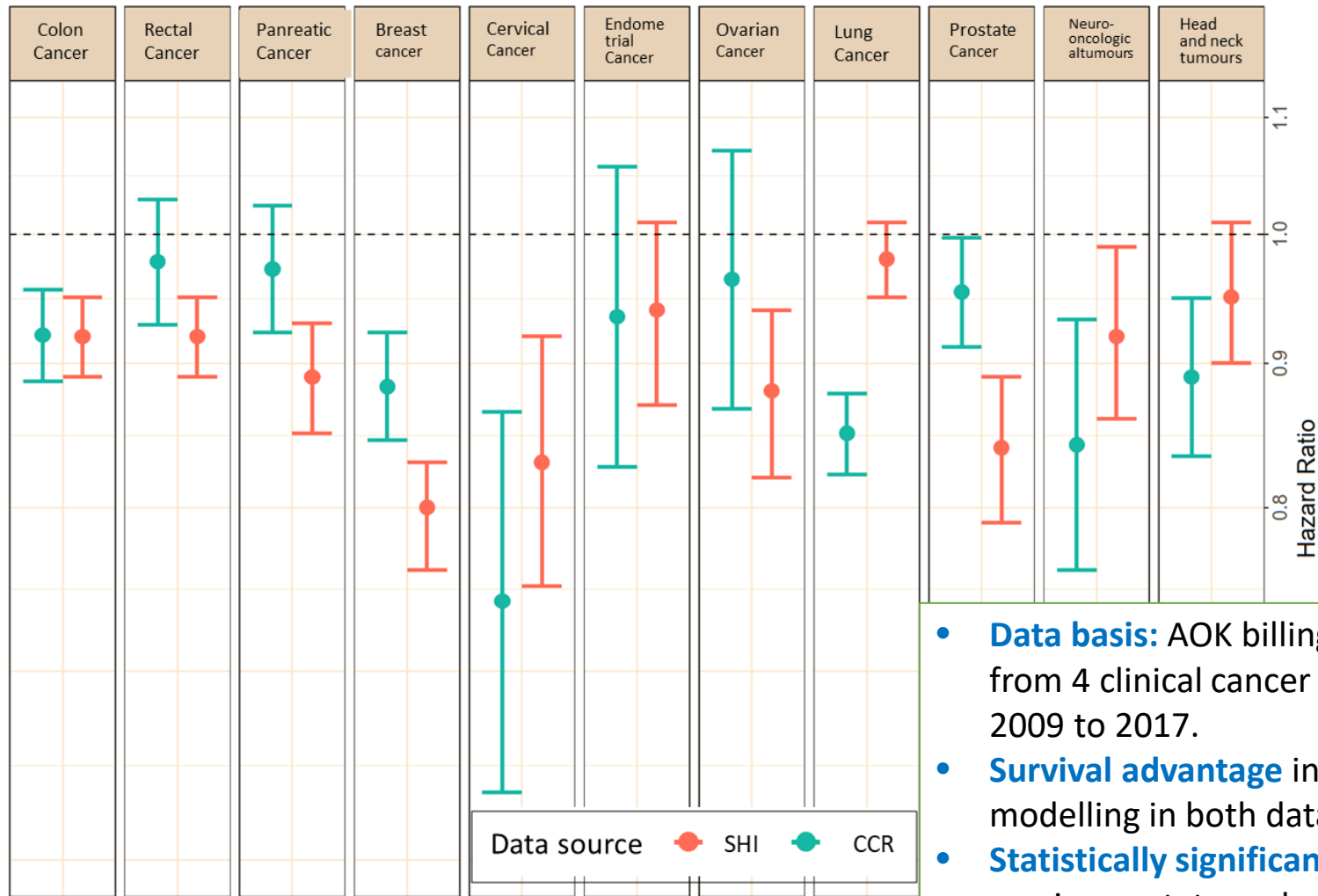
### ⇒ Colon Cancer:

Analysis with data from the biggest health insurance provider in Germany (AOK); 6,186 patients with surgically treated colon carcinoma

### ⇒ Summary:

**1-5 year survival rates were higher** in certified centers;  
**30-day mortality was 5.2 percentage points lower** in cases resected in certified centers (7.4%) than non-certified centers (12.6%) and **rate of follow-up-resection was lower (OR 0.51)**”

# How does certification improve the quality of care for oncological patients?



- **Data basis:** AOK billing data (SHI) and data from 4 clinical cancer registries (CCR) from 2009 to 2017.
- **Survival advantage** in all risk-adjusted modelling in both data sources,
- **Statistically significant** for colon, breast, cervix, prostate and neuro-oncological tumours

# How does certification improve the quality of care for oncological patients?

## 4. By improving overall survival:

Cumulative survival

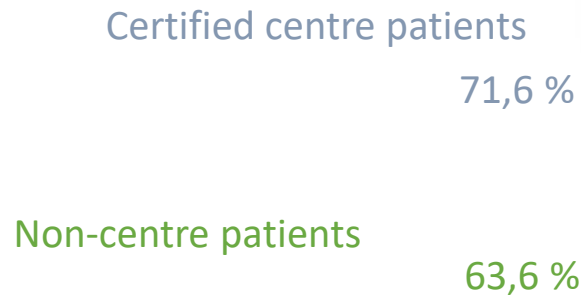


Abb. 2 3-Jahres-Überleben, Kaplan-Meier-Kurven

Time (years)

Figure: 3-year-survival, Kaplan-Meier-curve

Originalarbeit

Thieme

**Langzeitüberleben von Patienten mit Kolon- und Rektumkarzinomen: Ein Vergleich von Darmkrebszentren und nicht zertifizierten Krankenhäusern**

**Long-Term Survival of Patients with Colon and Rectum Carcinomas: Is There a Difference Between Cancer Centers and Non-Certified Hospitals?**

### ⇒ **Colorectal Cancer:**

Analysis from the cancer registry, 4.856 Pat. with colorectal cancer, first diagnosis 2004-2013; endpoint: 3year survival; adjustment for: age, stage, sex, grading, localisation

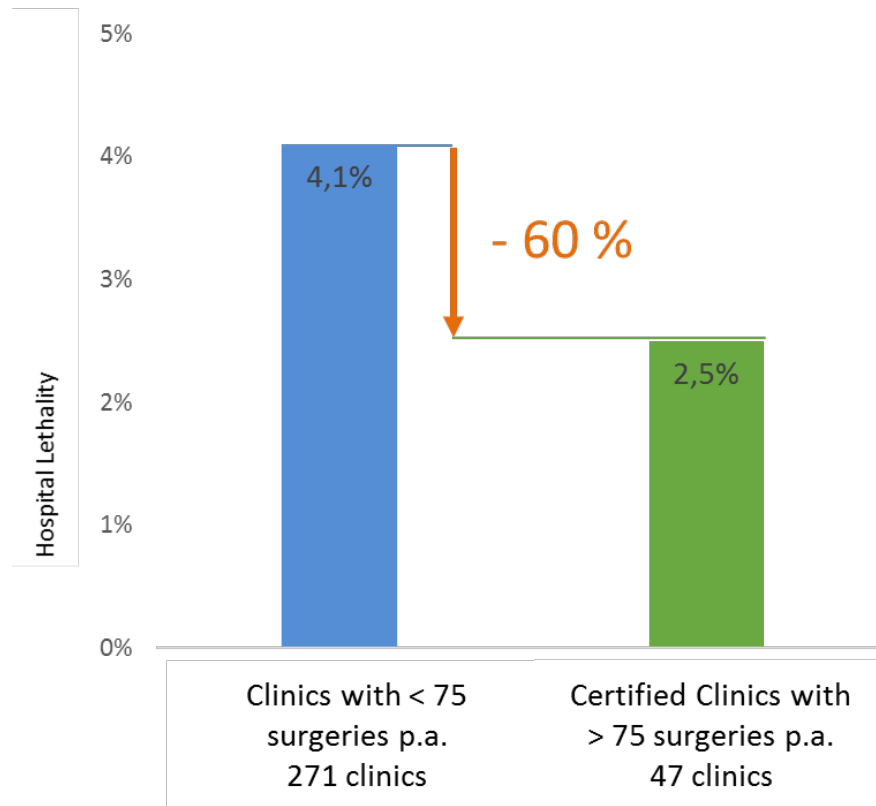
=> Summary:

**3year survival** 71,6% vs 63,6%,  
( $p=0,001$ ; after adjustment: HR 0,808,  
KI: 0,665-0,982,  $p= 0,032$ )



# How does certification improve the quality of care for oncological patients?

## 4. By reducing hospital lethality:

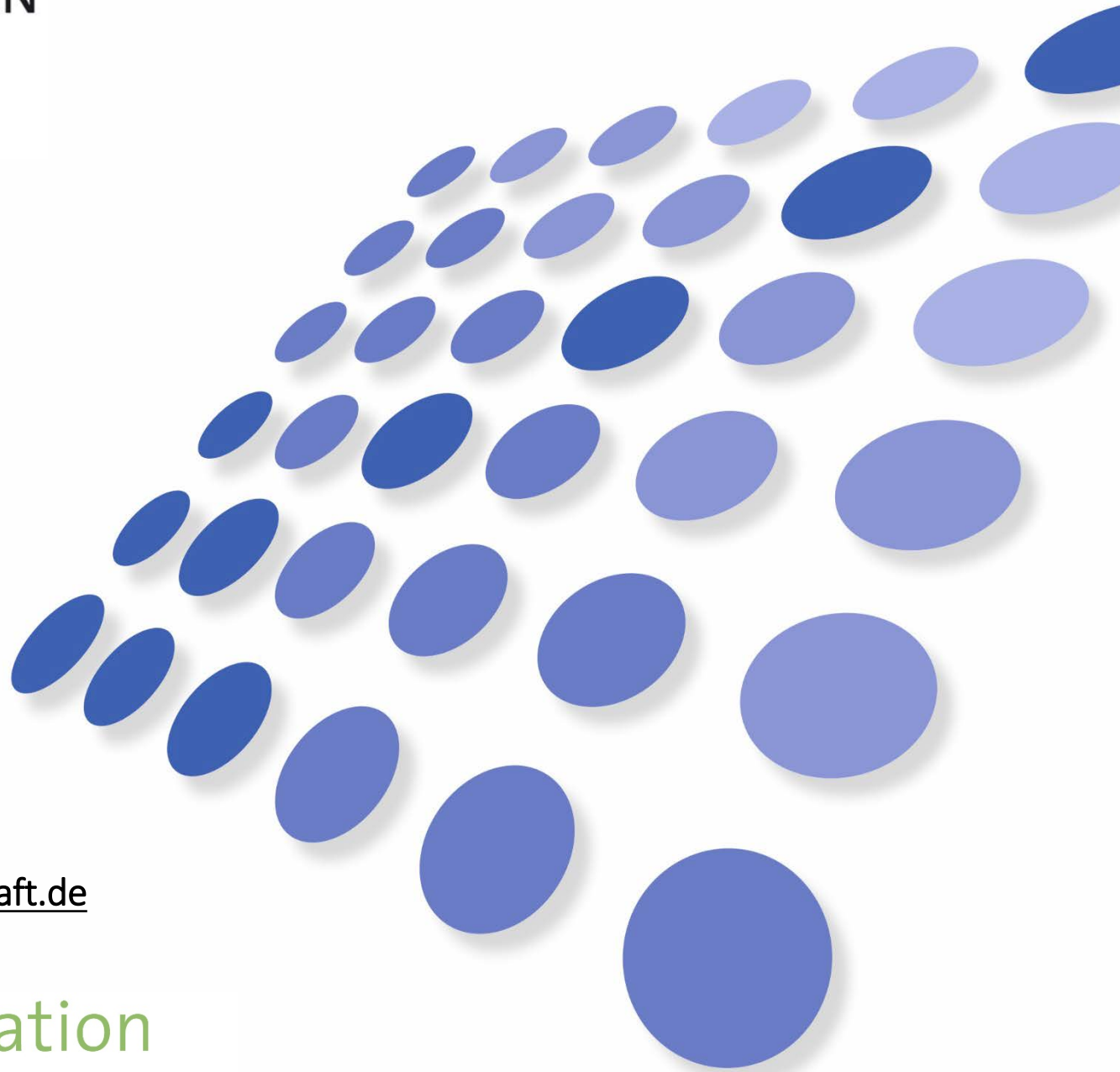


### => Lung Cancer:

Analysis with data from the DRG-statistic of all hospitals (= §21 social security statute book V);  
11,614 anatomic resections in patients with lung cancer in 2015

### ⇒ Summary:

**Hospital lethality was significant less** in these high-volume (>=75/year) certified centres



For more information:

[www.ecc-cert.org](http://www.ecc-cert.org)

<https://www.krebsgesellschaft.de>

E-Mail: [info@ecc-cert.org](mailto:info@ecc-cert.org)

DKG  Certification

GERMAN CANCER SOCIETY