Annual Report 2021

of the Certified Lung Cancer Centres

Audit year 2020 / Indicator year 2019

DKG
GERMAN CANCER SOCIETY
Certification

Table of Contents

General information

Quallity indicators of the guidelines (GL QI):

In the table of contents and in the respective headings the indicators, which correspond to the quality indicators of the evidence-based guidelines are specifically identified. The quality indicators identified in this way are based on the strong recommendations of the guidelines and were derived from the guidelines groups of the guidelines programme oncology. Further information: www.leitlinienprogramm-onkologie.de

The quality indicators (QI's) refer to version 1.0 of the S3-LL for prevention, diagnosis, therapy and aftercare of lung cancer (2018).

	Definition of indicator	All clinical sites 2019		
		Median	Range	Patients Total
Numerator	Primary cases with stages IB-IIIB after surgical therapy that were presented at the tumour conference	62*	20 - 227	4,142
Denominator	Primary cases with stages IB-IIIB after surgical therapy with anatomic lung resection	63.5*	22 - 248	4,268
Rate	Target value ≥ 90%	98.50%	90.63% - 100%	97.05%**

Basic data indicator:

The definitions of **numerator**, **population (=denominator)** and **target value** are taken from the Data Sheet.

The **medians** for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.

The values for the numerators, populations and rates of all Centres are given under range.

The column Patients Total shows the sum of all patients treated according to the QI and the corresponding quota.
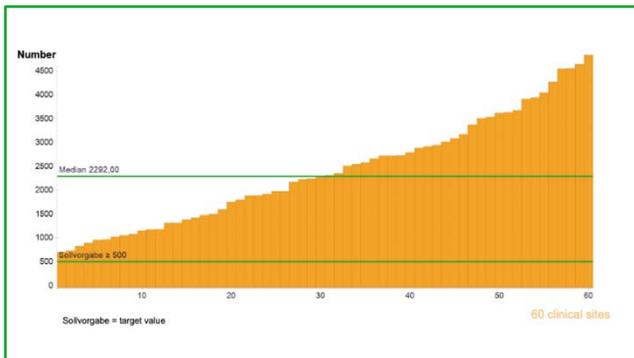
Diagram:

The x-axis indicates the number of Centres, the y-axis gives the values in percent or number (e.g. primary cases). The target value is depicted as a horizontal green line. The median, which is also depicted as a green horizontal line, divides the entire group into two equal halves.

Number
Median 2292,00
Sollvorgabe ≥ 500
Sollvorgabe = target value
60 clinical sites

General information
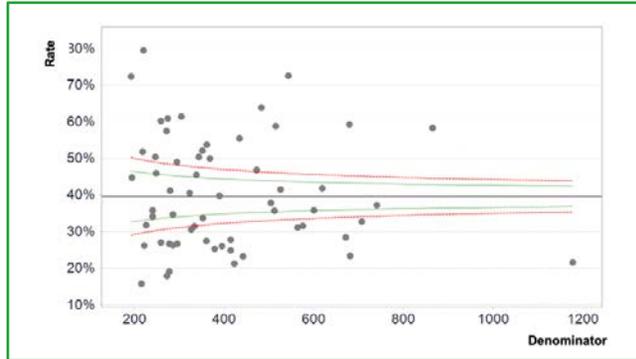
Funnel plots:

The funnel plots indicate the ratio of the number of patients included and the indicator result for the indicators, which are presented as a quotient. The x-axis represents the population of the indicator (numerical value of the denominator), the y-axis the result of the indicator for the respective center. The target value is shown as a blue solid line. The mean value, shown as a black solid line, divides the group into two halves. The green dotted lines represent the 95% confidence intervals (2 standard deviations of the mean value), the red dotted lines the 99.7% confidence intervals (3 standard deviations of the mean value).

		2015	2016	2017	2018	2019
•	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	94,20%	95,91%	100%	97,17%	97,80%
	Median	90,59%	91,95%	92,45%	93,75%	94,12%
	25th percentile	83,33%	87,69%	90,78%	90,91%	92,00%
	5th percentile	46,72%	72,32%	83,96%	78,94%	84,48%
•	Min	26,32%	59,26%	76,67%	72,73%	70,21%

Cohort development:

The **cohort development** in the years **2015, 2016, 2017, 2018** and **2019** is presented in a box plot diagram.

Maximalwert = Maximum value
Antenne = Antenna
Minimalwert = Minimum value
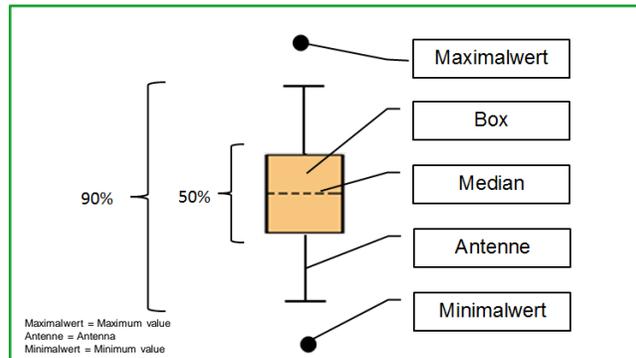
Box plot:

A box plot consists of a **box with median**, **whiskers** and **outliers**. 50 percent of the Centres are within the box. The median divides the entire available cohort into two halves with an equal number of Centres. The whiskers and the box encompass a 90th percentile area/range. The extreme values are depicted here as dots.

Status of the certification system for Lung Cancer Centres 2020

DKG
GERMAN CANCER SOCIETY
Certification

	31.12.2020	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015
Ongoing procedures	6	4	8	3	5	2
Certified centres	64	59	52	49	45	42
Certified clinical sites	78	75	66	63	53	49
Lung cancer centres 1 clinical site	52	48	42	39	37	35
2 clinical sites	10	7	7	7	8	7
3 clinical sites	2	3	2	2	0	0
4 clinical sites	0	1	1	1	0	0

Included certified sites

	31.12.2020	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015
Centres included in the Annual Report	60	55	50	46	42	41
Equivalent to	93.8%	93.2%	96.2%	93.9%	93.3%	97.6%
Primary cases total*	22,712	21,364	19,361	18,483	17,343	16,362
Primary cases per centre (mean)*	378.5	388.4	387.2	401.8	412.9	399.1
Primary cases per centre (median)*	333.0	338.0	335.5	344	351	348

* The figures refer to all certified centres in the Annual Report.

This Annual Report looks at the Lung Cancer Centres in the Certification System of the German Cancer Society. The indicator sheet is the basis for the diagrams.

The Annual Report contains the data of 60 of the 64 Lung Cancer Centres. 4 Lung Cancer Centres, certified for the first time in 2020, are not included (data depiction of a full calendar year is not mandatory for initial certifications). In all 64 Cancer Centres a total amount of 23,590 patients has been treated. www.oncomap.de provides an updated overview of all certified centres.

The indicators published here refer to the indicator year 2019. They are the assessment basis for the audits conducted in 2020.

Tumour documentation systems in the Centre's clinical sites

DKG
GERMAN CANCER SOCIETY
Certification

- Andere: 4 (6,67 %)
- Tudok (Tumorzentrum Regensburg): 2 (3,33 %)
- ORBIS-ODOK: 3 (5,00 %)
- Eigenentwicklung (MS Excel, MS Access etc.): 2 (3,33 %)
- ODSeasy / ODSeasy Net: 7 (11,67 %)
- c37.CancerCenter: 6 (10,00 %)
- Ondis: 4 (6,67 %)
- ONKOSTAR: 6 (10,00 %)
- KIS-Erweiterung: 4 (6,67 %)
- CREDOS: 4 (6,67 %)
- GTDS: 18 (30,00 %)
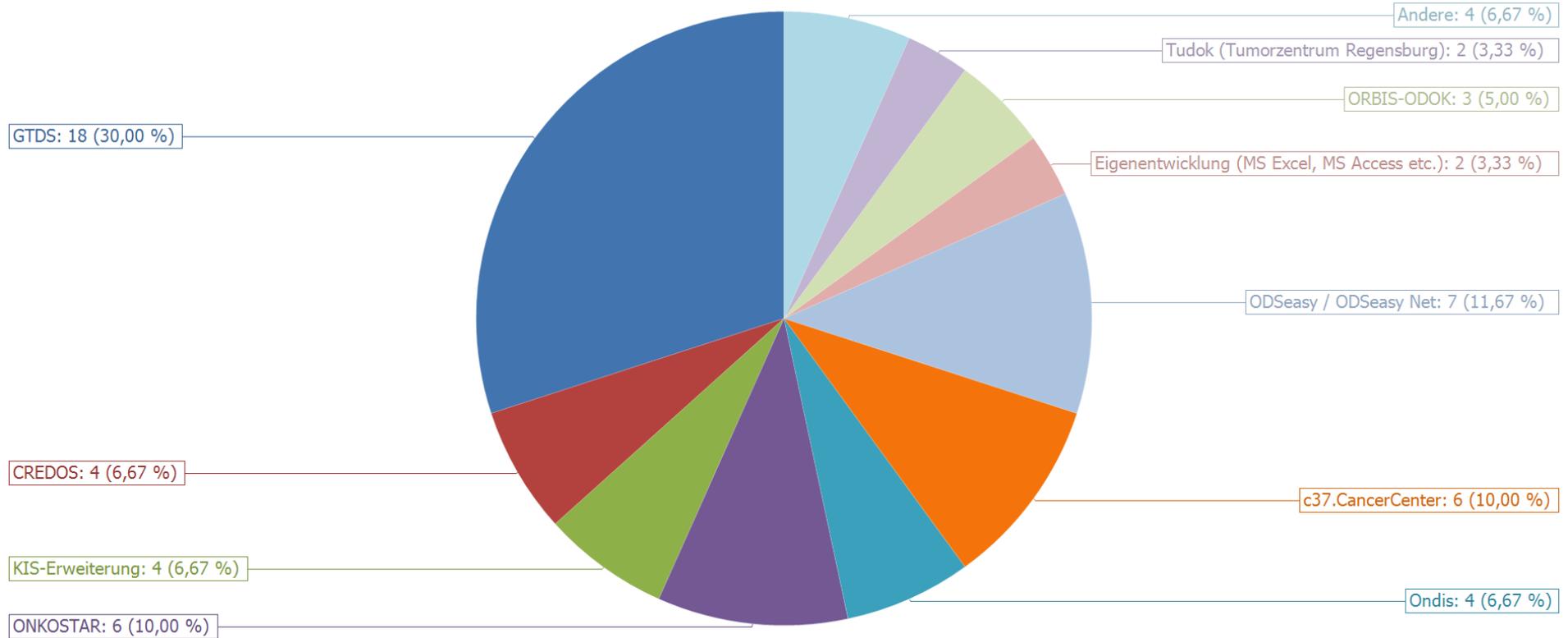
Andere = other
Eigenentwicklung = intrinsic development
KIS-Erweiterung = KIS enlargement
Tumorzentrum = tumour centre

Legend:	
Other	Systems only used at one clinical site

The details on the tumour documentation system were taken from the EXCEL annex to the Data Sheet (spreadsheet basic data). It is not possible to depict several systems. In many cases support is provided by the cancer registers or there may be a direct connection to the cancer register via a specific tumour documentation system.

Basic data – Stage distribution primary cases lung carcinoma

DKG
GERMAN CANCER SOCIETY

Certification

Primary cases total

IIIB; 9.02%
IIIC; 3.86%
IIIA, 12.00%
IVA; 18.85%
IIB; 7.51%
IIA; 2.02%
IB; 5.50%
IVB; 26.69%
IA; 14.56%
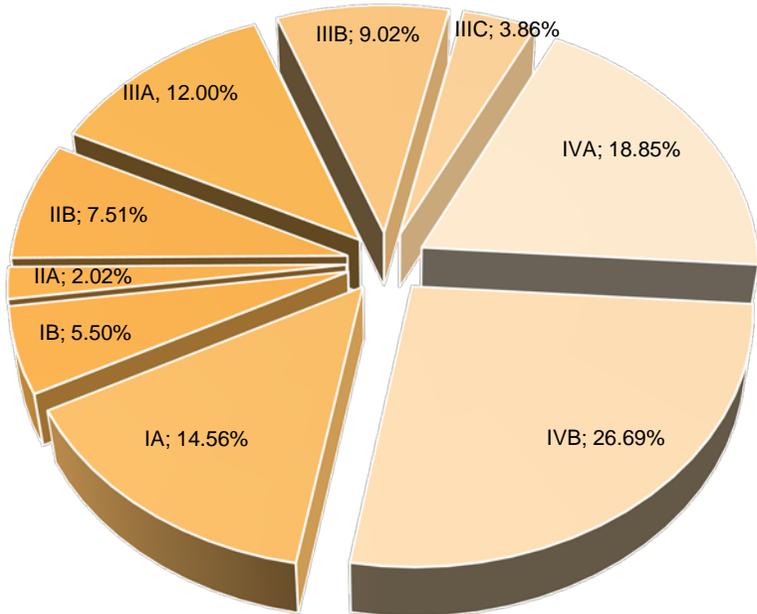
Surgical / non-surgical primary cases

	IA	IB	IIA	IIB	IIIA	IIIB	IIIC	IVA	IVB
Non-surgical	32.27%	25.84%	29.85%	29.27%	49.50%	78.66%	97.03%	92.60%	98.73%
Surgical	67.73%	74.16%	70.15%	70.73%	50.50%	21.34%	2.97%	7.40%	1.27%

■ Operative Primärfälle   ■ Nicht-operative Primärfälle

cases   Non-surgical primary cases
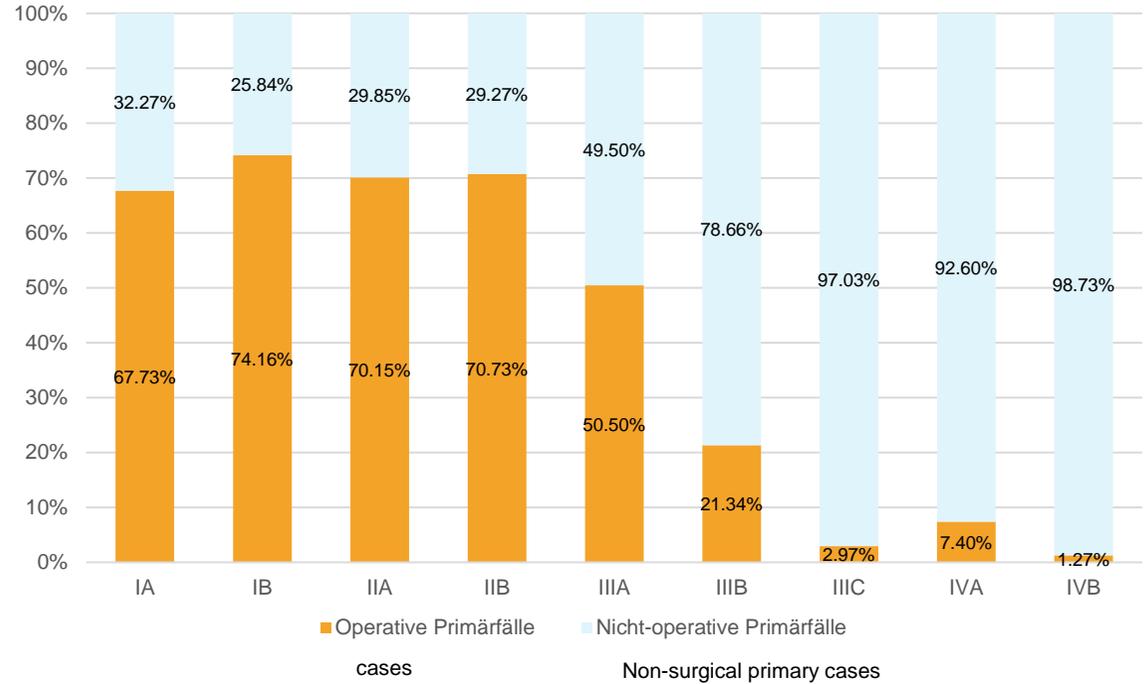
	IA	IB	IIA	IIB	IIIA	IIIB	IIIC	IVA	IVB	Total
Surgical primary cases with anatomical lung resection		2,239 (67.73%)	927 (74.16%)	322 (70.15%)	1.206 (70.73%)	1.376 (50.50%)	437 (21.34%)	26 (2.97%)	317 (7.40%)	6,670
Non-surgical primary cases		1,067 (32.27%)	323 (25.84%)	137 (29.85%)	499 (29.27%)	1,349 (49.50%)	1,611 (78.66%)	850 (97.03%)	3,965 (92.60%)	14,694
Primary cases total		3,306 (14.56%)	1,250 (5.50%)	459 (2.02%)	1,705 (7.51%)	2,725 (12.00%)	2,048 (9.02%)	876 (3.86%)	4,282 (18.85%)	21,364 (100%)

Basic data – Development 2015-2019

Stage distribution primary cases 2015-2019
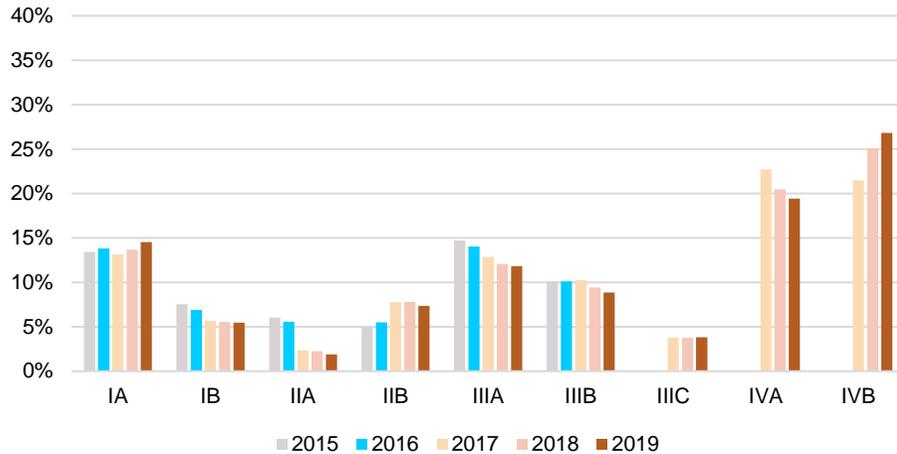
Stage distribution surgical primary cases 2015-2019
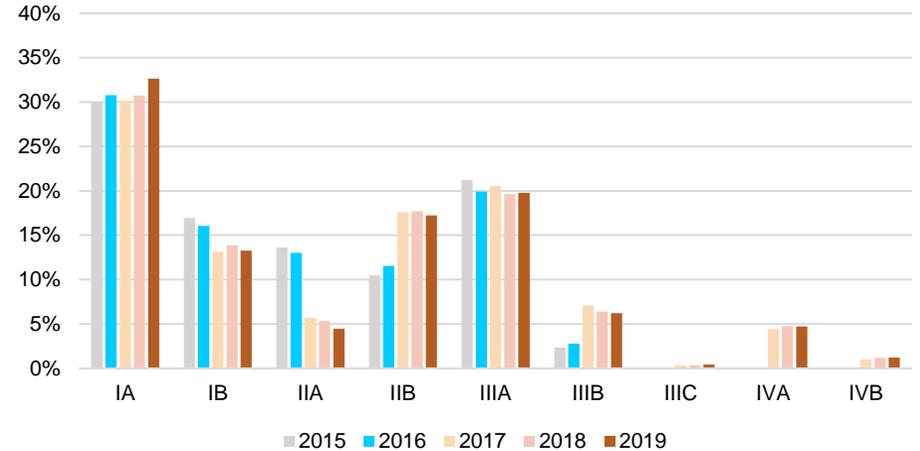
Stage distribution non-surgical primary cases 2015-2019

Stage distribution surgical and non-surgical primary cases 2015-2019
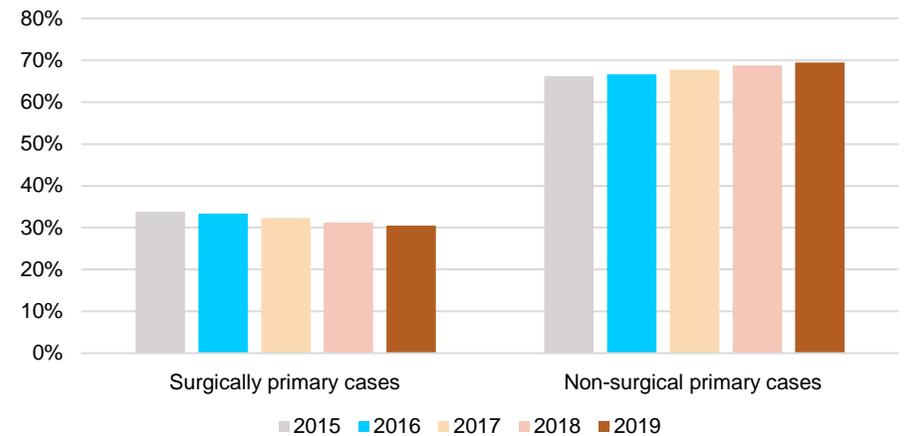
Since the update of the TNM classification (8th edition), stage IIIC and stage IV are also recorded separately for stage IVA and IVB.

DKG GERMAN CANCER SOCIETY

Certification

1. Primary cases of the LCCC

Sollvorgabe = target value
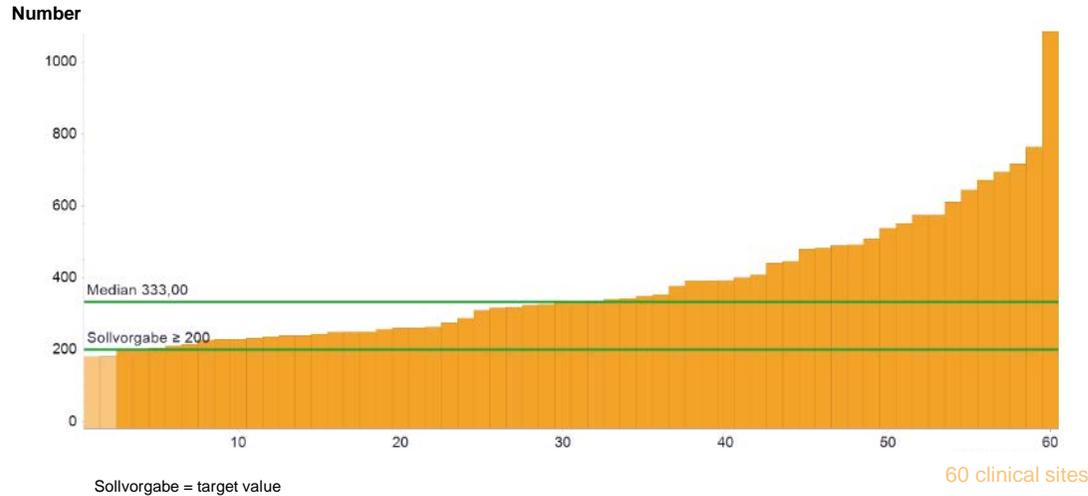
	Definition of indicator	All clinical sites 2019		
		Median	Range	Patients Total
Number	Total number of primary cases of the LCC (definition primary case: Catalogue of requirements 1.2.1)	333	181 – 1,085	22,712
	Target value ≥ 200			

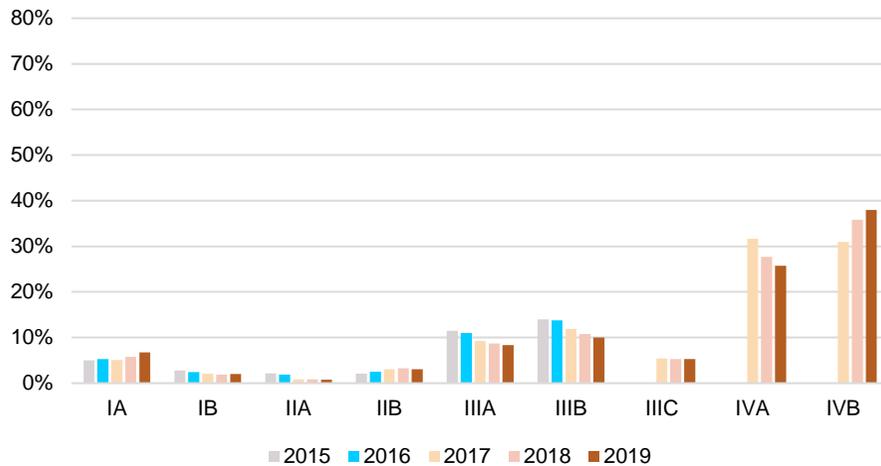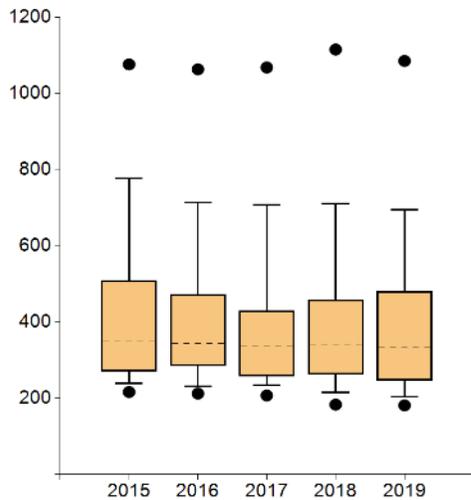|		2015	2016	2017	2018	2019
●	Max	1,076.00	1,063.00	1,068.00	1,115.00	1,085.00
	95th percentile	777.00	713.50	707.40	709.80	695.10
	75th percentile	508.50	472.25	429.50	458.00	480.75
	Median	351.00	344.00	335.50	338.00	333.00
	25th percentile	270.75	285.25	258.50	262.50	247.00
	5th percentile	239.15	231.00	233.80	215.40	203.95
●	Min	216.00	212.00	207.00	183.00	181.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	58	96.67%

Comments:
As in the previous year, only 2 centres did not reach the minimum primary case number of 200. One of the centres had missed the number in 2018 and 2019. As both centres were in the (second) surveillance audit, the shortfall was possible. In the repeat audit, the primary case numbers must then be achieved on average over the last 3 years. Compared to the incidence in Germany in 2017 (56,740; www.krebsdaten.de), the German centres treated 40% of the newly diagnosed lung carcinomas in 2019.

2a. Pretherapeutic tumour board
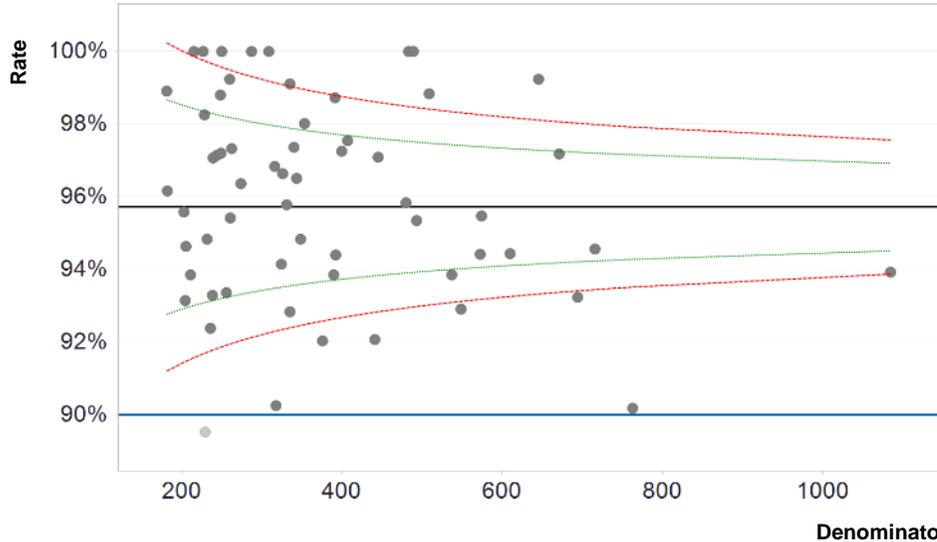
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases presented in the pretherapeutic conference	316*	175 – 1,019	21,738
Denominator	Primary cases of the LCC (= indicator 1)	333*	181 – 1,085	22,712
Rate	Target value ≥ 90%	95.99%	89.52% - 100%	95.71%**
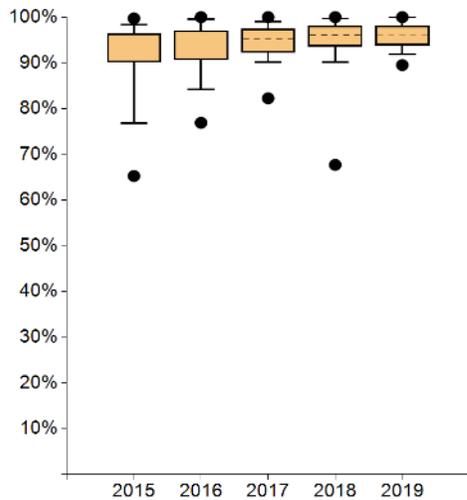
		2015	2016	2017	2018	2019
●	Max	99.72%	100%	100%	100%	100%
	95th percentile	98.39%	99.48%	98.96%	99.68%	100%
	75th percentile	96.39%	97.04%	97.40%	98.05%	98.08%
	Median	94.03%	93.94%	95.14%	96.12%	95.99%
	25th percentile	90.15%	90.69%	92.22%	93.59%	93.90%
	5th percentile	76.73%	84.15%	90.11%	90.21%	91.93%
●	Min	65.25%	76.90%	82.25%	67.69%	89.52%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	59	98.33%

Comments:
The target of presenting at least 90% of primary cases pre-therapeutically in the tumour board is only just missed by 1 centre (previous year: 2). The centre conducted a quality circle to achieve the target in the future. Overall, it can be seen over the years that the presentation rate has risen continuously and that the centres are now implementing the indicator very well.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

DKG GERMAN CANCER SOCIETY

Certification

2b. Presentation of new recurrence and/or distant metastases the tumour board
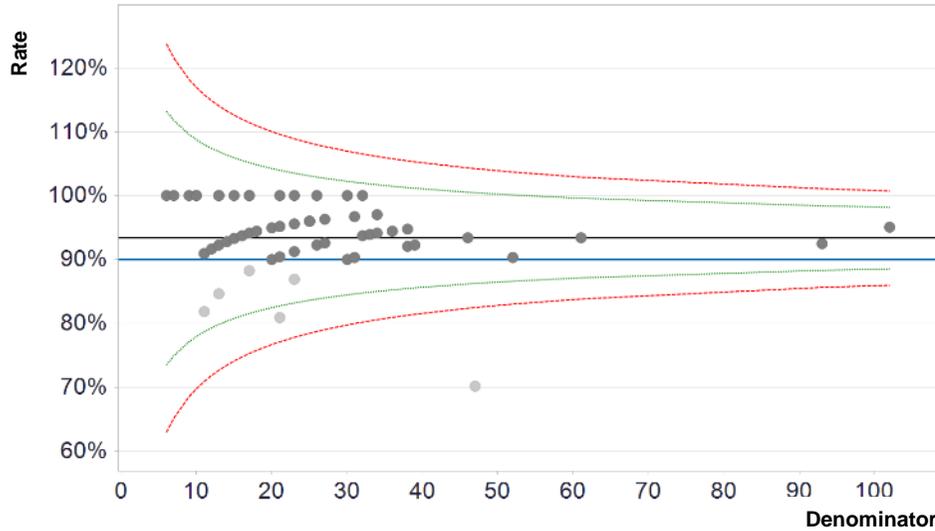
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Patients with recent recurrence and/or distant metastases after previous curative treatment (R0 resection) presented in tumour board	20.5*	6 - 97	1,454
Denominator	Patients with new recurrence and/or distant metastases after previous curative treatment (R0 resection)	22*	6 - 102	1,557
Rate	Target value ≥ 90%	94.12%	70.21% - 100%	93.38%**

		2015	2016	2017	2018	2019
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	94.20%	95.91%	100%	97.17%	97.80%
	Median	90.59%	91.95%	92.45%	93.75%	94.12%
	25th percentile	83.33%	87.69%	90.78%	90.91%	92.00%
	5th percentile	46.72%	72.32%	83.96%	78.94%	84.48%
●	Min	26.32%	59.26%	76.67%	72.73%	70.21%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	54	90.00%

Comments:
With a further increase in the median, 1 centre less than in the previous year (7) failed to meet the target for the presentation of new recurrences or distant metastases. This was either due to omissions in the individual case (e.g. in the case of exclusively palliative therapy), the urgent need for treatment, death before the conference date or errors in the documentation. These cases were dealt with in quality circles, training courses and morbidity conferences in order to ensure consistent presentation in future.

* The median for numerator and denominator does not refer to an existing center but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

3. Tumour board after surgical treatment of primary cases stages IB-IIIB
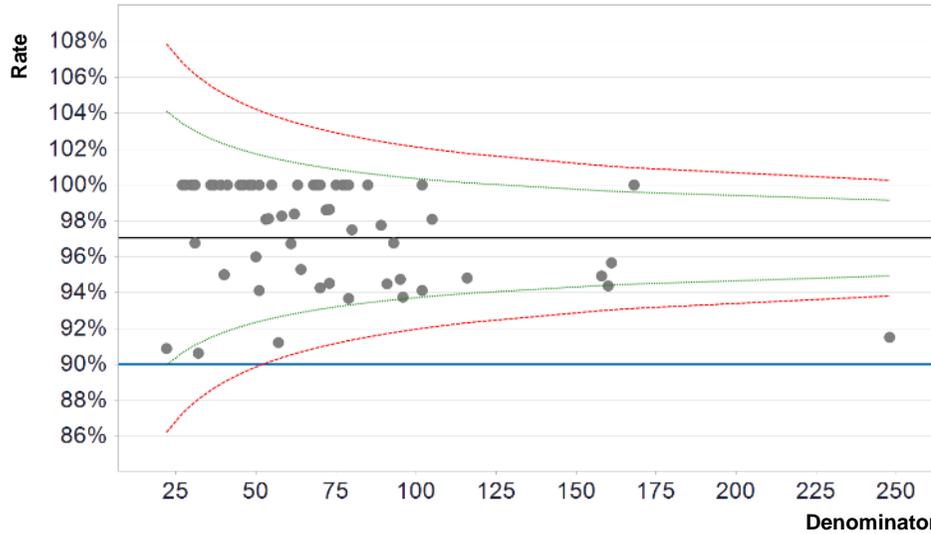
DKG GERMAN CANCER SOCIETY
Certification

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with stages IB-IIIB after surgical therapy that were presented at the tumour board	62*	20 - 227	4,142
Denominator	Primary cases with stages IB-IIIB after surgical therapy with anatomic lung resection	63.5*	22 - 248	4,268
Rate	Target value ≥ 90%	98.50%	90.63% - 100%	97.05%**
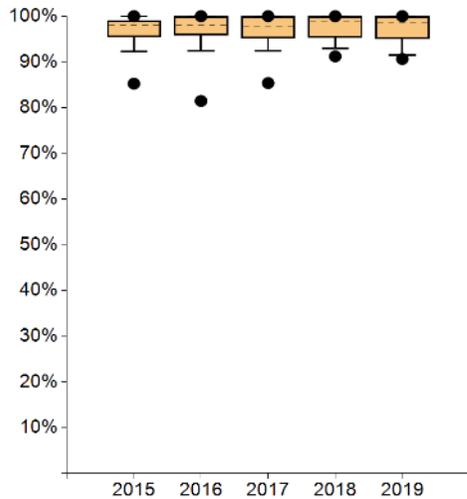
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	99.04%	100%	100%	100%	100%
	Median	97.99%	97.96%	97.88%	98.73%	98.50%
	25th percentile	95.39%	95.86%	95.24%	95.28%	94.99%
	5th percentile	92.27%	92.39%	92.34%	92.96%	91.52%
●	Min	85.23%	81.45%	85.36%	91.20%	90.63%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	60	100.00%

Comments:
As in the previous year, all centres succeeded in achieving a rate of at least 90% in the postoperative presentation of patients with stage IB-IIIB. The improvements in the lower percentage ranges of the last years can thus be considered sustainable, as even the centre with the lowest rate is above 90%. 28 centres even managed a complete presentation of all patients of the denominator.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

4. Psycho-oncological care
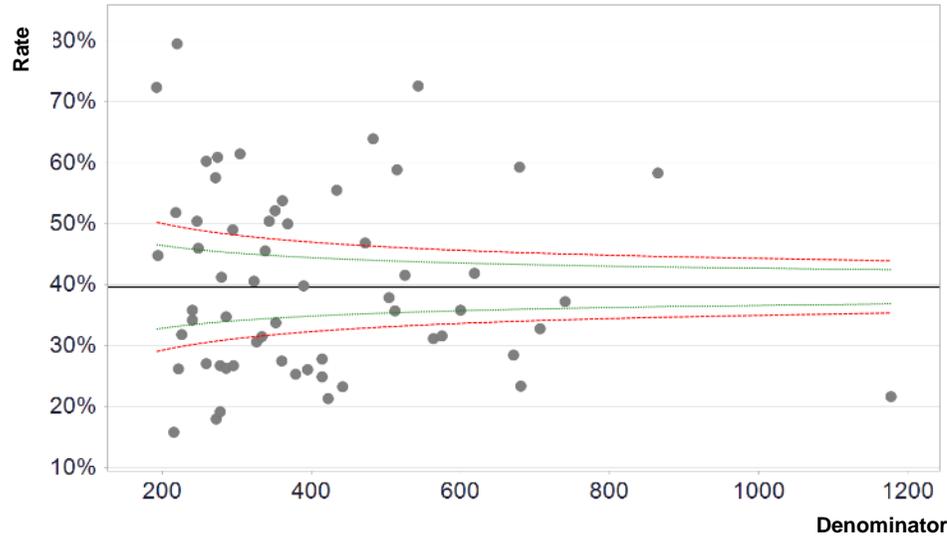
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Patients who received psycho-oncological care in an inpatient or outpatient setting (duration of consultation ≥ 25 min)	149*	34 - 505	9,628
Denominator	Primary cases of the LCC (= indicator 1) + patients with a new recurrence and/or remote metastasis after previous curative treatment	351.5*	192 - 1178	24,269
Rate	Explanation mandatory*** <10% and >60%	36.54%	15.81% - 79.55%	39.67%**
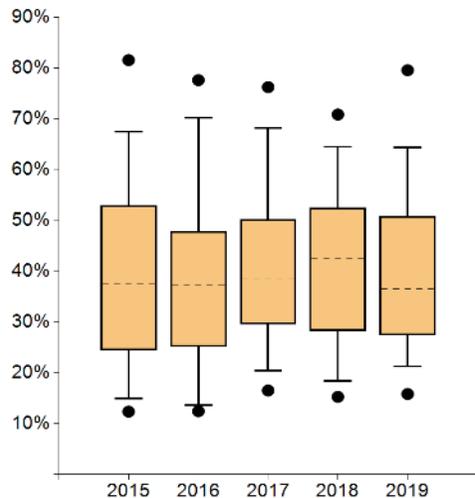
		2015	2016	2017	2018	2019
●	Max	81.54%	77.60%	76.22%	70.83%	79.55%
	95th percentile	67.41%	70.21%	68.21%	64.46%	64.40%
	75th percentile	52.91%	47.76%	50.21%	52.48%	50.79%
	Median	37.41%	37.37%	38.45%	42.49%	36.54%
	25th percentile	24.47%	25.12%	29.55%	28.32%	27.38%
	5th percentile	14.90%	13.65%	20.42%	18.40%	21.22%
●	Min	12.35%	12.42%	16.50%	15.25%	15.81%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	53	88.33%

Comments:
The overall rate of psycho-oncological care fell slightly from 41.70% to 39.67%. The centres outside the plausibility limits are all above a rate of 60% and thus have a comparatively high care rate. None of the centres has fallen below a rate of 10%. This speaks for a very good counselling offer by the certified lung cancer centres.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

14

DKG GERMAN CANCER SOCIETY
Certification

5. Counselling social services
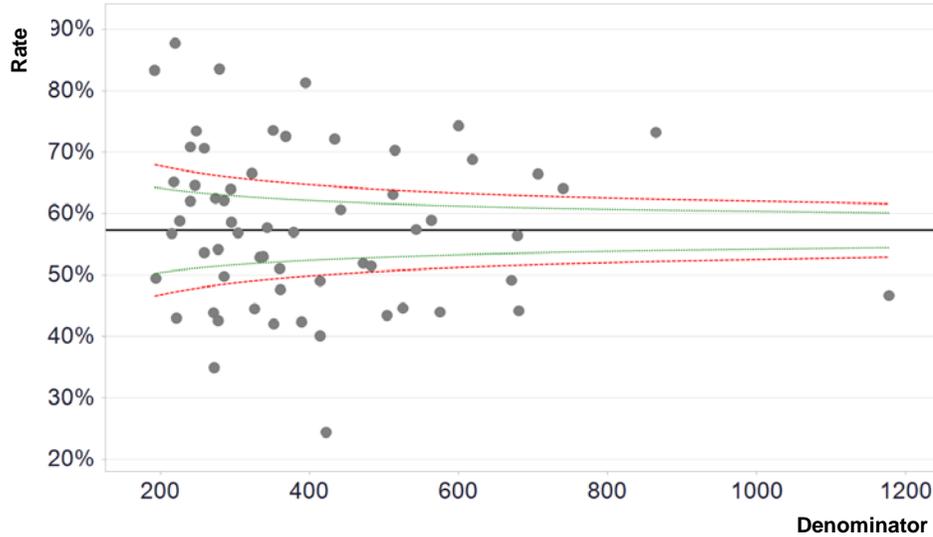
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Patients who received counselling by the social services in an inpatient or outpatient setting	186*	95 - 633	13,902
Denominator	Primary cases of the LCC (= indicator 1) + patients with a new recurrence and/or remote metastasis after previous curative treatment	351.5*	192 – 1,178	24,269
Rate	Explanation mandatory*** <40% and >90%	57.23%	24.41% - 87.73%	57.28%**

		2015	2016	2017	2018	2019
●	Max	89.23%	92.00%	85.60%	87.44%	87.73%
	95th percentile	80.41%	79.15%	79.40%	78.30%	81.37%
	75th percentile	68.99%	67.73%	66.07%	70.41%	66.50%
	Median	59.93%	55.51%	53.65%	56.91%	57.23%
	25th percentile	49.48%	47.47%	47.17%	45.60%	48.69%
	5th percentile	39.60%	37.17%	39.58%	37.88%	41.95%
●	Min	24.21%	25.71%	34.96%	31.93%	24.41%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	58	96.67%

Comments:
With a slightly improved overall counselling rate, only 2 centres (previous year: 6) still provided social services to less than 40% of the denominator's patients. Both centres are located in German-speaking countries, where other care structures, responsibilities and service entitlements apply in this area. Overall, the lung cancer centres with their stable high consultation rates show a well-established interdisciplinary - also non-medical - support of the patients.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
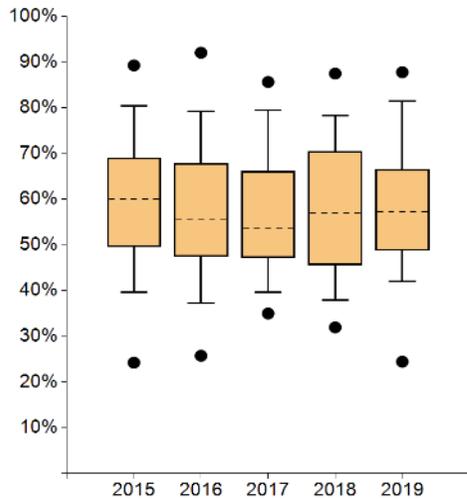** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

6. Study participation
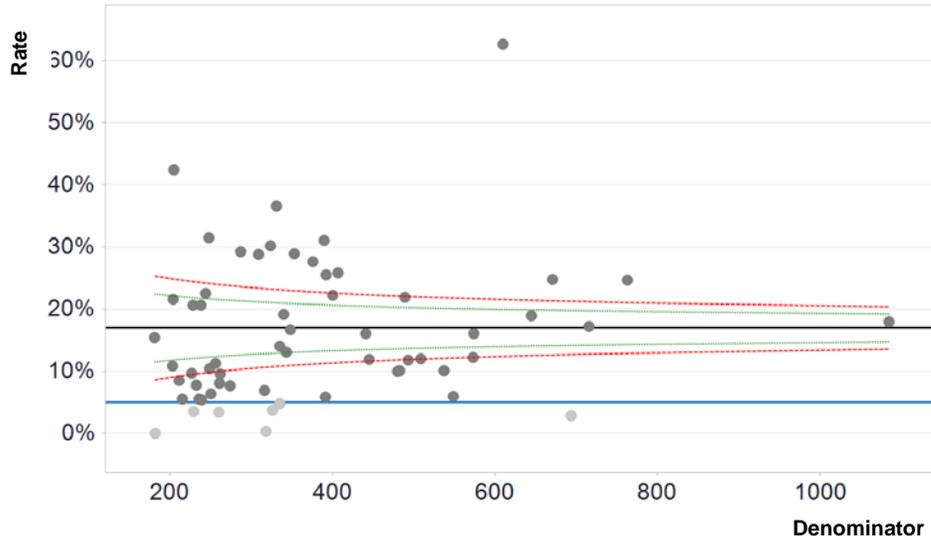
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Patients included in a study	49*	0 - 382	3,855
Denominator	Primary cases of the LCC (= indicator 1)	333*	181 – 1,085	22,712
Rate	Target value ≥ 5%	12.67%	0.00% - 62.62%	16.97%**

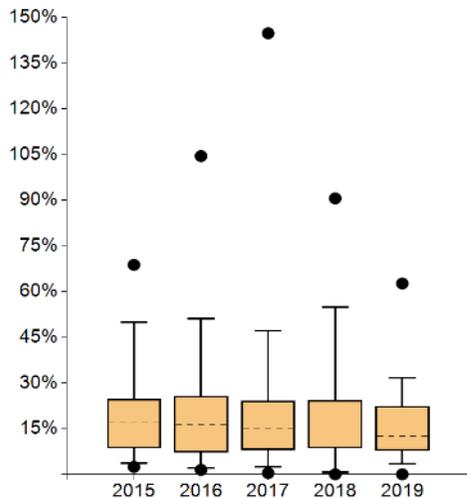|		2015	2016	2017	2018	2019
●	Max	68.73%	104.42%	144.71%	90.54%	62.62%
	95th percentile	49.93%	51.09%	47.10%	54.85%	31.71%
	75th percentile	24.69%	25.72%	24.05%	24.22%	22.32%
	Median	16.97%	16.44%	15.08%	13.57%	12.67%
	25th percentile	8.69%	7.12%	8.06%	8.65%	7.74%
	5th percentile	3.63%	2.10%	2.48%	0.64%	3.43%
●	Min	2.43%	1.47%	0.40%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	53	88.33%

Comments:
The overall downward trend in study rates continued in the 2019 indicator year, although only 7 centres (previous year: 8) failed to meet the target. Only 1 centre was unable to include a single patient. Reasons for low quotas were, on the one hand, changes at head physician or clinic management level, which is why no new studies were initiated, as well as the delayed start or expiry of studies. Efforts to increase the quota consisted, for example, in discussing new studies in the quality circle or asking the tumour documentalists to point out potential study patients in the context of the tumour board.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

7. Flexible bronchoscopy

Sollvorgabe = target value
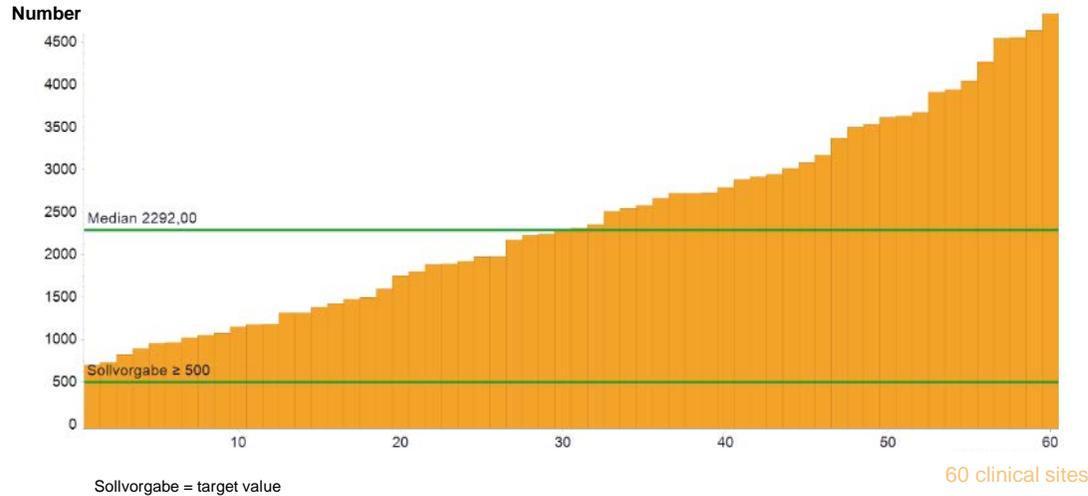
60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Flexible bronchoscopies for each service provider	2,292	700 – 4,890	143,921
	Target value ≥ 500			
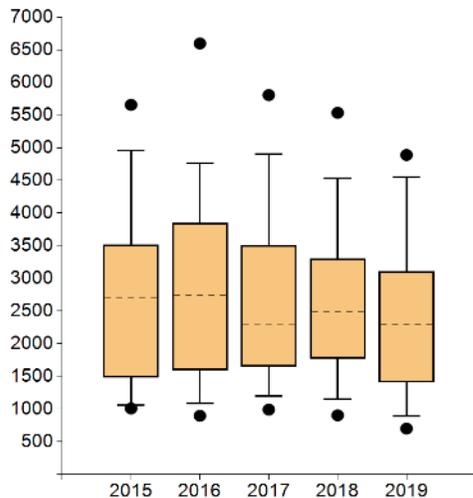
		2015	2016	2017	2018	2019
●	Max	5,657.00	6,597.00	5,807.00	5,535.00	4,890.00
	95th percentile	4,953.85	4,761.00	4,900.95	4,530.60	4,551.10
	75th percentile	3,515.00	3,846.50	3,507.25	3,300.00	3,108.00
	Median	2,705.50	2,742.00	2,301.50	2,482.00	2,292.00
	25th percentile	1,482.50	1,592.50	1,652.50	1,775.50	1,414.25
	5th percentile	1,060.75	1,083.00	1,199.75	1,148.00	892.15
●	Min	1,009.00	896.00	991.00	904.00	700.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	60	100.00%

Comments:
The minimum number of flexible bronchoscopies is clearly achieved by all centres.

8. Interventional bronchoscopy (thermal procedures and stenting)

Sollvorgabe = target value

60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Interventional bronchoscopic procedures for tumour closure or stenosis (thermal procedures and stent placement) per service provider (OPS: 5-319.14. 5-319.15, 5-320.0)	35	9 - 477	4,256
	Target value ≥ 10			
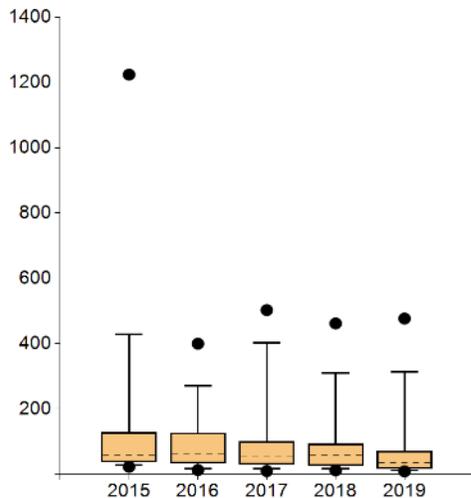
		2015	2016	2017	2018	2019
●	Max	1,224.00	400.00	503.00	462.00	477.00
	95th percentile	427.80	270.75	403.30	309.90	313.25
	75th percentile	129.00	125.75	101.50	93.00	71.25
	Median	57.50	63.50	56.50	58.00	35.00
	25th percentile	38.50	33.50	30.75	27.00	17.00
	5th percentile	29.05	17.00	18.00	17.70	10.95
●	Min	23.00	13.00	10.00	12.00	9.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	57	95.00%

Comments:
3 sites failed to meet the target of at least 10 interventional bronchoscopic procedures for tumour occlusion or stenoses. This was justified by the centres with a change of chief physician and the pending establishment of a new stent system as well as a general decline in indications. The latter was taken as an opportunity to initiate a short-term interdisciplinary indication review.

9a. Lung resections – surgical primary cases

DKG
GERMAN CANCER SOCIETY
Certification

Number

Median 99,50
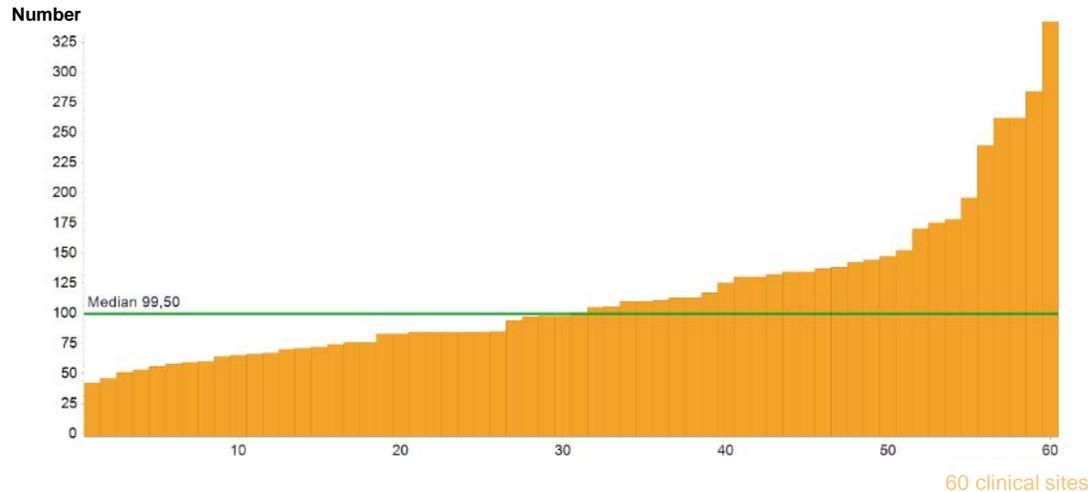
60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Primary surgical cases anatomical lung resections (OPS: 5-323 to 5-328, 6-digit, exclusively with ICD-10 C34)	99.5	42 - 346	6,927
	No target value defined			
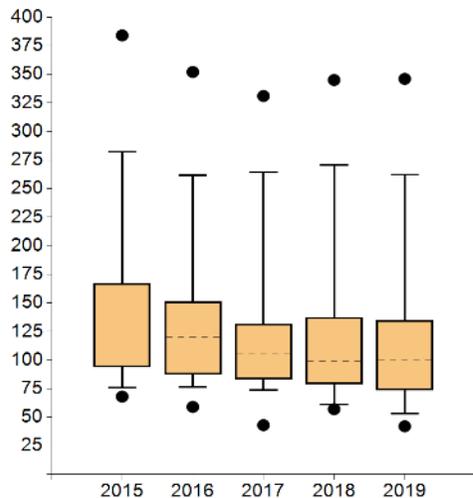
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	384.00	352.00	331.00	345.00	346.00
	95th percentile	282.15	261.75	264.05	270.40	262.00
	75th percentile	166.75	151.25	131.50	137.50	134.75
	Median	115.00	120.00	106.00	99.00	99.50
	25th percentile	94.00	87.25	83.25	79.00	73.50
	5th percentile	76.05	76.25	73.90	61.00	52.90
●	Min	68.00	59.00	43.00	57.00	42.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	-----	-----

Comments:
The number of operative primary cases increased by 3.9% to now 6,927. The median has stabilised after a decline in recent years. This development is typical for certification systems that have existed for a longer period of time, because comparatively small centres often only become certified over time. Overall, a high degree of stability has now been achieved in the performance figures of the lung cancer centres.

19

9b. Lung resections – surgical expertise

DKG
GERMAN CANCER SOCIETY
Certification

Number

Sollvorgabe = target value
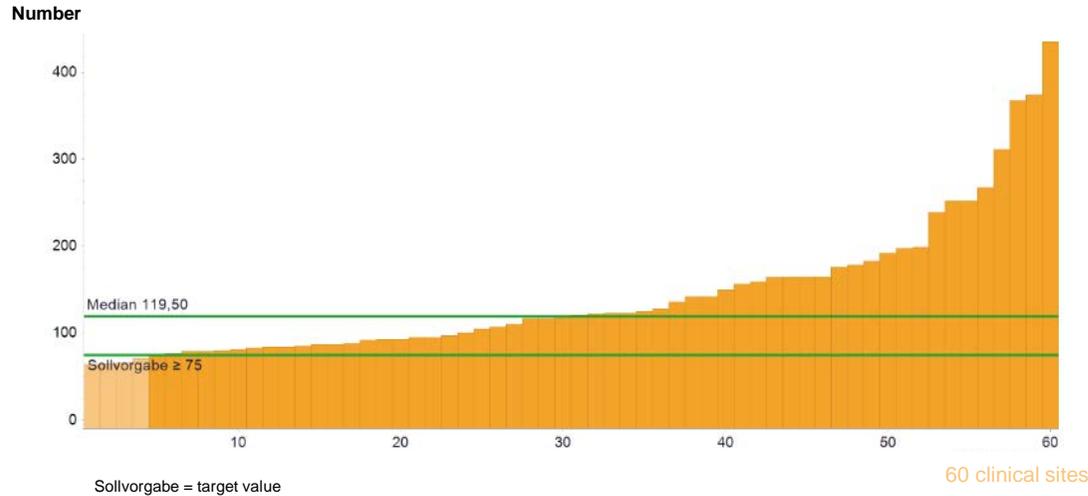
60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Operative expertise - number of anatomical resections (OPS: 5-323 to 5-328, for each ICD-10 C diagnosis, incl. ICD-10 C34)	119.5	64 - 435	8,583
	Target value ≥ 75			

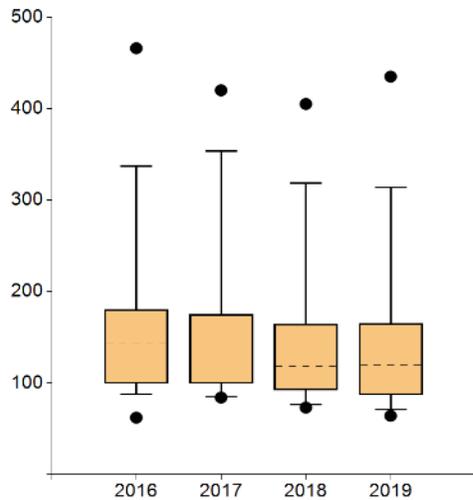|		2015	2016	2017	2018	2019
●	Max	-----	466.00	420.00	405.00	435.00
	95th percentile	-----	337.00	353.80	318.20	313.80
	75th percentile	-----	180.00	174.75	164.00	165.00
	Median	-----	142.50	130.00	118.00	119.50
	25th percentile	-----	99.25	99.25	92.00	87.00
	5th percentile	-----	87.25	85.00	76.10	70.75
●	Min	-----	62.00	84.00	73.00	64.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	56	93.33%

Comments:
After a 100% implementation in indicator year 2017, 3 Centres fell slightly short of the target value of at least 75 anatomical lung resections for all malignant lung tumours in 2018. These Centres were in the surveillance audit (the proof of case numbers for re-certification in the re-audit - every 3 years - is required). The German certified Centres performed a total of 7,697 interventions, which corresponds to 56.6% (previous year: 49.9%) of the anatomical lung resections performed in Germany (N=13,592, according to hospital statistics of the Federal Statistical Office).

10. Ratio of broncho-/ angioplasty operations to pneumonectomies

	Definition of indicator	All clinical sites 2019		
		Median	Range	Patients Total
Numerator	Primary cases with bronchoplasty / angioplasty procedures	10.5*	1 - 58	768
Denominator	Primary cases with pneumonectomy and primary cases with broncho-/angioplasty	14.5*	4 - 67	1,160
Rate	Explanation mandatory*** <50	60.56%	20.00% - 100%	66.21%**
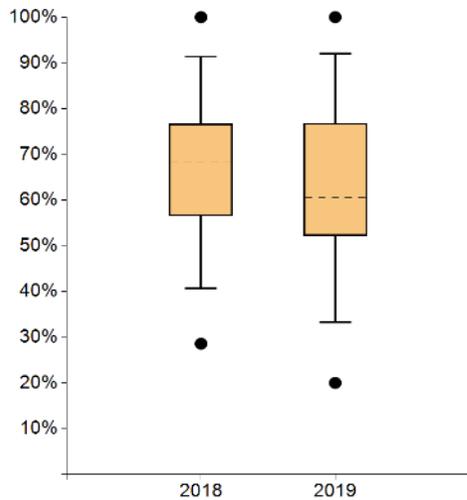
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95. Perzentil	-----	-----	-----	91.30%	92.00%
	75. Perzentil	-----	-----	-----	76.70%	76.76%
	Median	-----	-----	-----	68.18%	60.56%
	25. Perzentil	-----	-----	-----	56.57%	52.17%
	5. Perzentil	-----	-----	-----	40.73%	33.20%
●	Min	-----	-----	-----	28.57%	20.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	51	85.00%

Comments:
2 more centres than in the previous year had to justify in the audit why the number of pneumonectomies outweighed the number of broncho-/angioplasty operations. Often these had comparatively small numbers of patients in the numerator and denominator. The centres argued that despite intensive examination of the indication, a pneumonectomy had been necessary, especially in advanced tumour stages. Frequently, the centres saw no other chance of an R0 resection. This could be plausibilised in the audits.

* The median for numerator and denominator does not refer to an existing center. but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

11. Videothoracoscopic (VATS) and robot-assisted (RATS) anatomical resections

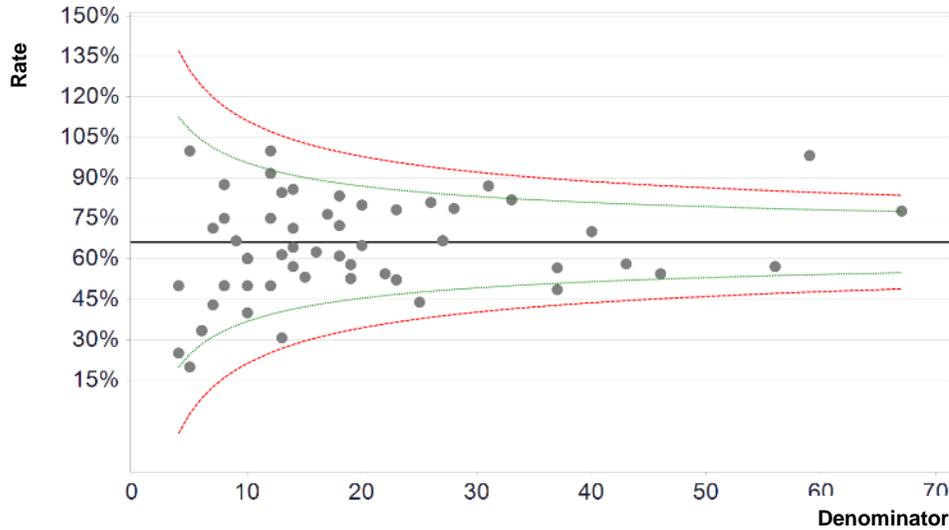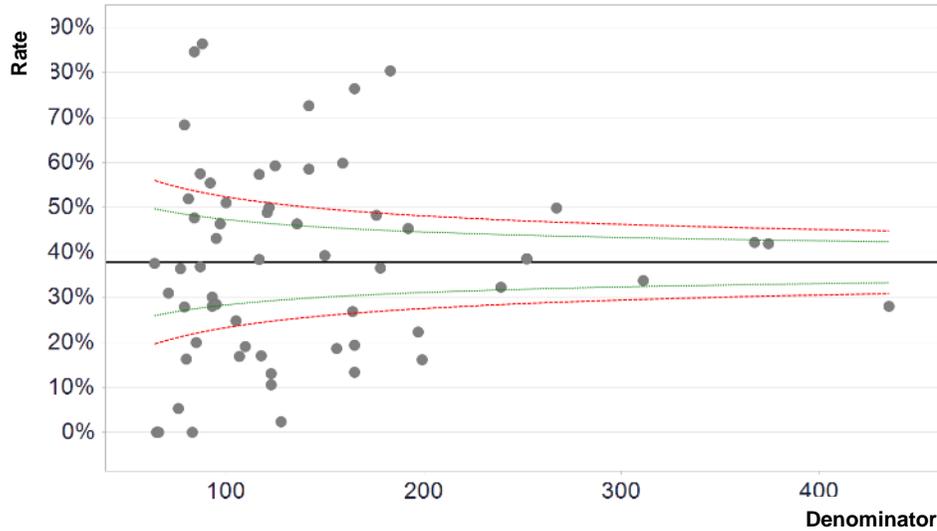|	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Video thoracoscopic (VATS) and robot-assisted (RATS) performed anatomical resections	44.5*	0 - 157	3,246
Denominator	Operative expertise - number of anatomical resections(OPS: 5-323 to 5-328 for each ICD-10 C diagnosis, incl. ICD-10 C34)	119.5*	64 - 435	8,583
Rate	No target value	37.14%	0.00% - 86.36%	37.82%**
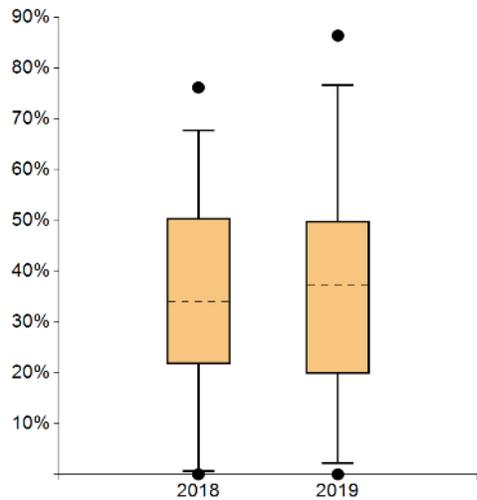
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	76.14%	86.36%
	95. Perzentil	-----	-----	-----	67.72%	76.56%
	75. Perzentil	-----	-----	-----	50.41%	49.86%
	Median	-----	-----	-----	34.01%	37.14%
	25. Perzentil	-----	-----	-----	21.72%	19.85%
	5. Perzentil	-----	-----	-----	0.66%	2.22%
●	Min	-----	-----	-----	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	-----	-----

Comments:
The proportion of videothoracoscopic and robot-associated anatomical resections has increased slightly. The overall impression of the pre-indicator year, in particular the wide dispersion of the individual values, is confirmed. High proportions of this type of anatomical resection can be observed in particular at centres with a comparatively low number of operations.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

12. 30d Lethality after resections
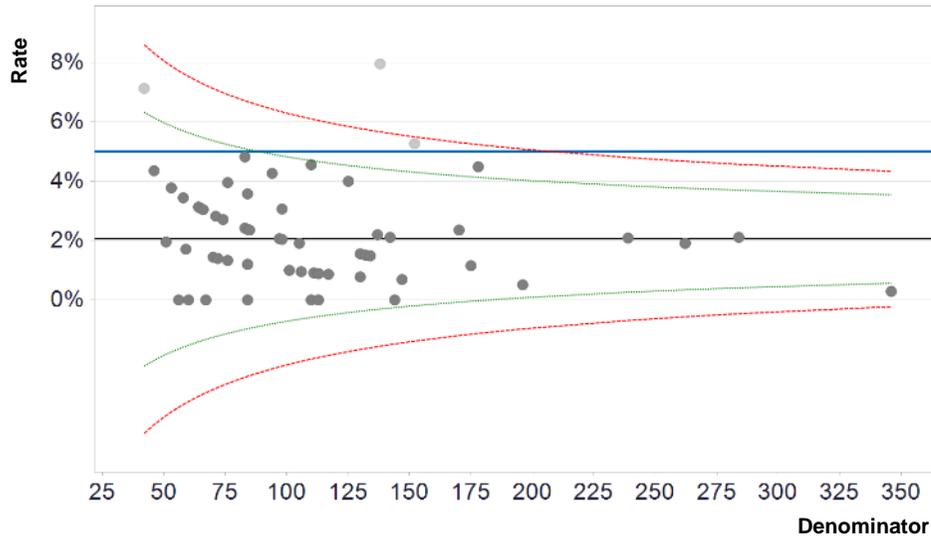
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Post-operative deceased patients after resection within 30d	2*	0 - 11	142
Denominator	Primary cases with lung resection per department (= indicator 9a)	99.5*	42 - 346	6,927
Rate	Target value ≤ 5%	1.94%	0.00% - 7.97%	2.05%**

		2015	2016	2017	2018	2019
●	Max	5.00%	4.49%	6.67%	5.26%	7.97%
	95th percentile	4.53%	4.12%	4.13%	4.16%	4.84%
	75th percentile	2.77%	2.50%	3.23%	2.74%	3.07%
	Median	2.02%	1.65%	1.64%	1.65%	1.94%
	25th percentile	1.18%	1.01%	0.89%	0.87%	0.98%
	5th percentile	0.00%	0.11%	0.00%	0.00%	0.00%
●	Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	57	95.00%

Comments:
The 30d lethality rate increased slightly overall, although only 3 centres (previous year: 2) failed to meet the target of 5%. One of the centres had already been conspicuous in the previous year. The analysis of the values for the first half of 2020 showed an effectiveness of the measures implemented. The centre will have a WA in 2021 in which the surgical indicators are the focus. Common causes were infectious complications (pneumonia, abscess with resulting sepsis), cardiopulmonary decompression and pulmonary embolism. These cases were discussed in individual case analyses and M&M conferences. If systematic errors were identified, further targeted analyses resulted, e.g. together with the intensive care unit.
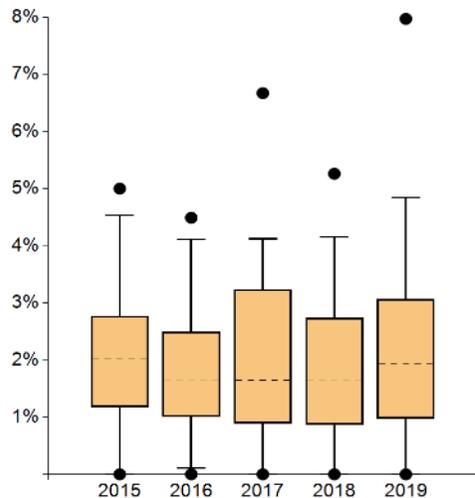
* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

13. Post-operative bronchial stump/anastomosis insufficiency

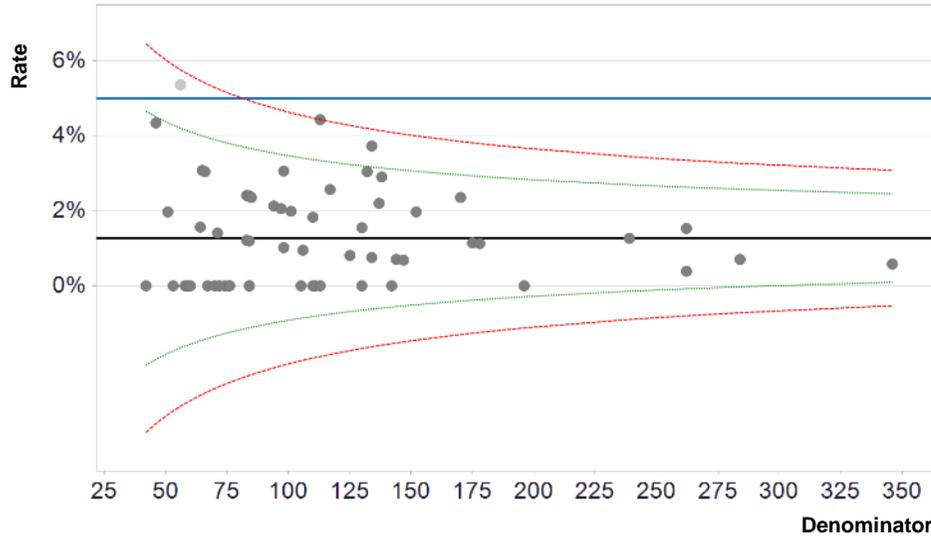|	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Post-operative bronchial stump/anastomosis insufficiency	1*	0 - 5	88
Denominator	Primary cases with lung resection per department (= indicator 9a)	99.5*	42 - 346	6,927
Rate	Target value ≤ 5%	1.13%	0.00% - 5.36%	1.27%**
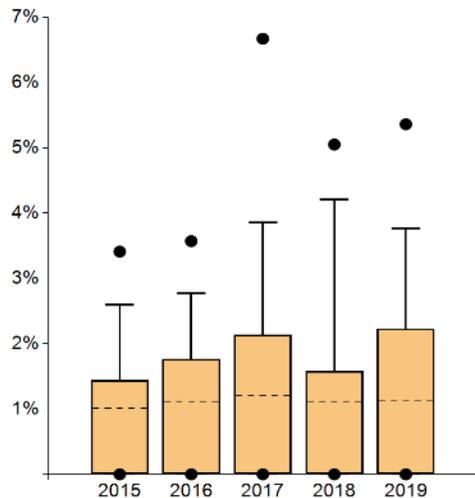
		2015	2016	2017	2018	2019
●	Max	3.41%	3.57%	6.67%	5.05%	5.36%
	95th percentile	2.59%	2.77%	3.86%	4.21%	3.76%
	75th percentile	1.44%	1.77%	2.14%	1.58%	2.23%
	Median	1.01%	1.11%	1.21%	1.11%	1.13%
	25th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
	5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
●	Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	59	98.33%

Comments:
As in the previous year, only 1 centre fell just short of the target for postoperative bronchial stump or anastomosis insufficiencies. However, this is a different centre than in the previous year. In the 3 cases concerned, there was an increased risk of ischaemia, and the insufficiencies could all be treated conservatively. This was checked for plausibility by the technical expert in the audit.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

14. Revision surgeries
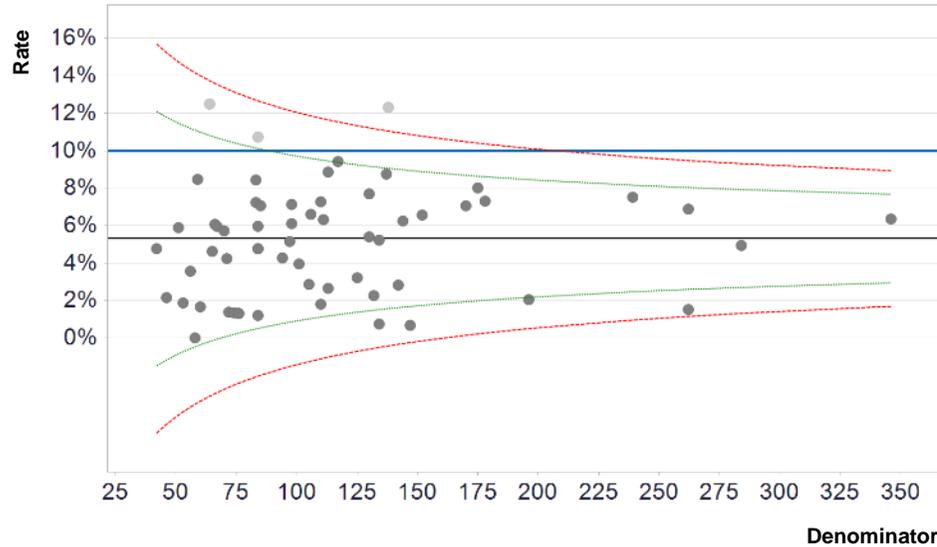
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Revision surgeries resulting from perioperative complications	4*	0 - 22	368
Denominator	Primary cases with lung resection per department (= indicator 9a)	99.5*	42 - 346	6,927
Rate	Target value ≤ 10%	5.30%	0.00% - 12.50%	5.31%**
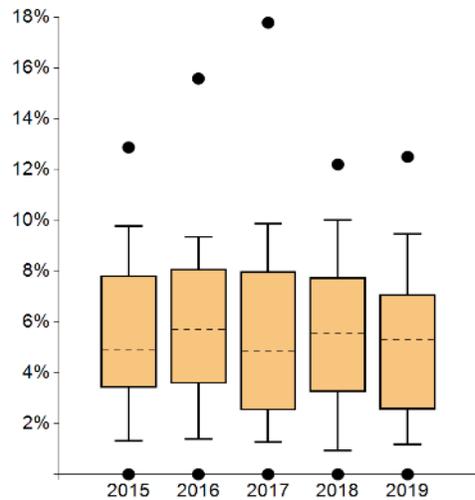
	2015	2016	2017	2018	2019
● Max	12.87%	15.58%	17.78%	12.20%	12.50%
95th percentile	9.78%	9.34%	9.88%	10.00%	9.47%
75th percentile	7.82%	8.09%	7.99%	7.75%	7.08%
Median	4.93%	5.70%	4.85%	5.56%	5.30%
25th percentile	3.43%	3.59%	2.54%	3.25%	2.56%
5th percentile	1.31%	1.40%	1.27%	0.94%	1.17%
● Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	57	95.00%

Comments:
Although the overall revision rate is declining compared to the previous year, 1 centre more than in the previous year failed to meet the target. The 3 centres concerned referred to post-operative bleeding, anastomosis/ bronchial stump insufficiencies, fistulas and more. They reacted by discussing complications and modifying surgical techniques and procedures (e.g. skin disinfection in the operating theatre). Overall, the complication rate tends to decrease with a higher number of primary surgical cases.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

15. Local R0 resections in stages IA/B and IIA/B
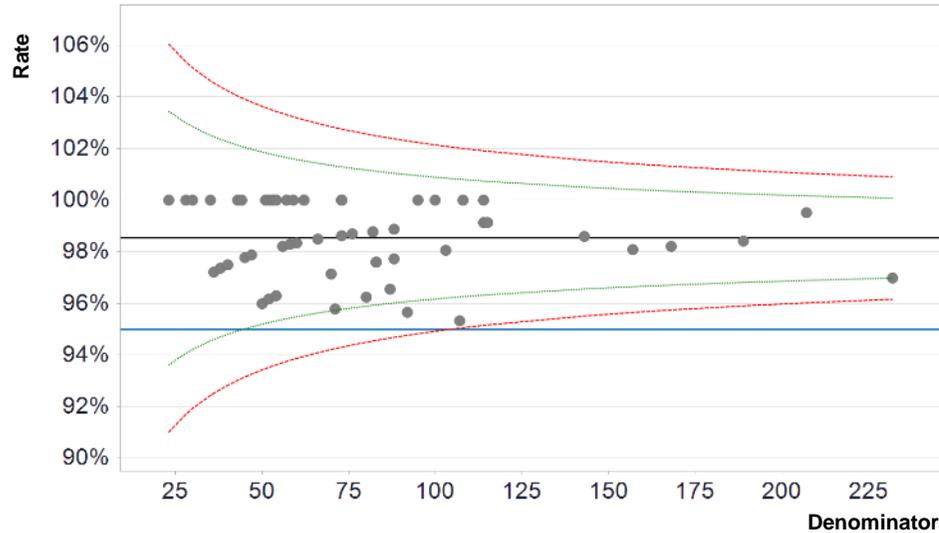
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with local R0 resections in stages IA/B and IIA/B after conclusion of surgical therapy	66.5*	23 - 225	4,625
Denominator	Operated primary cases with anatomical lung resection in stage IA/B and IIA/B	68*	23 - 232	4,694
Rate	Target value ≥ 95%	98.78%	95.33% - 100%	98.53%**
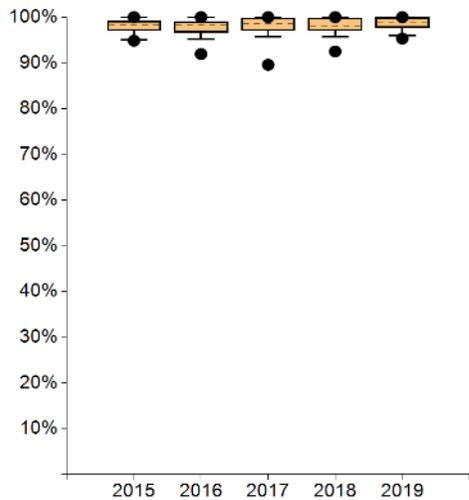
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	99.20%	99.01%	99.83%	99.77%	100%
	Median	98.29%	98.29%	98.60%	98.04%	98.78%
	25th percentile	97.06%	96.64%	96.98%	97.01%	97.70%
	5th percentile	95.04%	95.15%	95.77%	95.75%	95.99%
●	Min	94.85%	91.94%	89.58%	92.50%	95.33%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	60	100.00%

Comments:
The R0 rate for resections of stage IA/B and IIA/B lung carcinomas has risen further, so that all centres now meet the target of at least 95%. In the previous year, 2 centres failed to meet this target. In the lower percentage ranges, the past years show improvements.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

16. Local R0 resections in stages IIIA/B
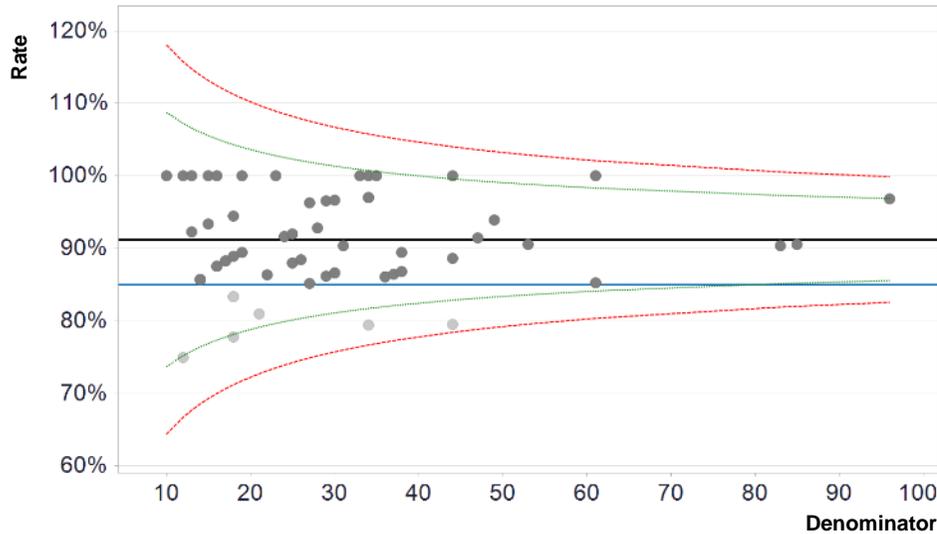
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with local R0 resections in stages IIIA/B after conclusion of surgical therapy	23*	9 - 93	1,654
Denominator	Operated primary cases with stage IIIA/B anatomical lung resection	26.5*	10 - 96	1,813
Rate	Target value ≥ 85%	90.34%	75.00% - 100%	91.23%**
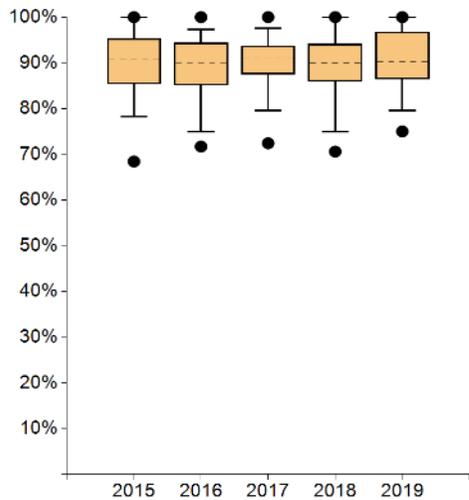
		2015	2016	2017	2018	2019
●	Max	100%	100%	100%	100%	100%
	95th percentile	99.94%	97.29%	97.58%	100%	100%
	75th percentile	95.32%	94.40%	93.70%	94.12%	96.72%
	Median	90.70%	89.83%	90.91%	90.00%	90.34%
	25th percentile	85.37%	85.15%	87.50%	85.96%	86.46%
	5th percentile	78.26%	75.00%	79.53%	75.00%	79.54%
●	Min	68.42%	71.70%	72.41%	70.59%	75.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	53	88.33%

Comments:
The overall R0 rate in stage IIIA/B also improved compared to the previous year. Only 7 centres (previous year: 10) failed to meet the target of at least 85%. These were often advanced tumour stages with infiltrative growth in the area of the vessels, nerves or pericardium. Sometimes a second focus was discovered intraoperatively or the frozen section was initially negative, which was subsequently revised. In most cases, the reasons given in the audits were plausible. Some centres conducted quality circles and optimised the frozen section processes.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.

17. Thoracic radiotherapy

Number

Sollvorgabe = target value
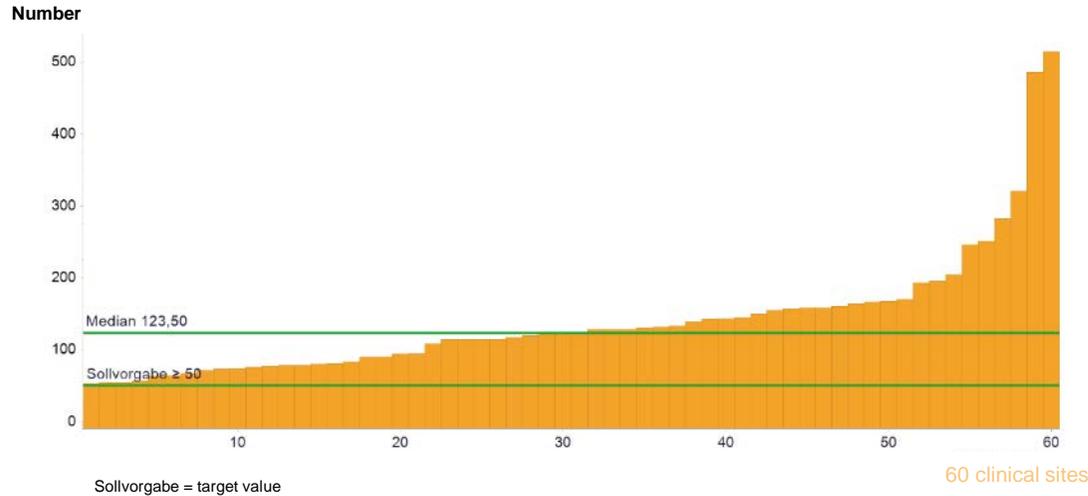
60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Thoracic radiotherapy (not just referring to primary cases)	123.5	53 - 514	8,362
	Target value ≥ 50			

		2015	**2016**	**2017**	**2018**	**2019**
●	Max	639.00	688.00	499.00	549.00	514.00
	95th percentile	271.85	452.50	335.70	354.80	283.90
	75th percentile	181.75	170.00	175.25	171.50	158.00
	Median	135.00	114.50	128.00	126.00	123.50
	25th percentile	85.25	87.50	83.00	89.50	80.75
	5th percentile	63.15	52.25	53.70	56.10	55.90
●	Min	45.00	49.00	42.00	38.00	53.00

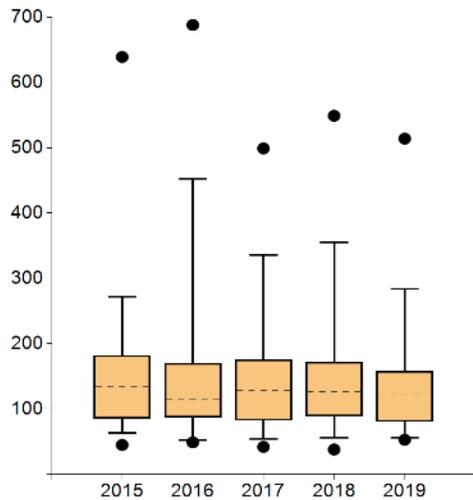| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	55	91.67%

Comments:
Most centres easily meet the minimum number of thoracic radiotherapy treatments. With 5 locations, one less than in the previous year missed the minimum target of 50. However, it should be noted that these 5 locations are part of a network structure where a minimum target of only 10 per location applies. In this context, some centres planned structural adjustments in order to be able to offer irradiation close to home.

DKG GERMAN CANCER SOCIETY
Certification

18. Pathology reports

Number

Median 684,00

Sollvorgabe ≥ 200 maligne Lungenfälle (je Facharzt 100 L.)
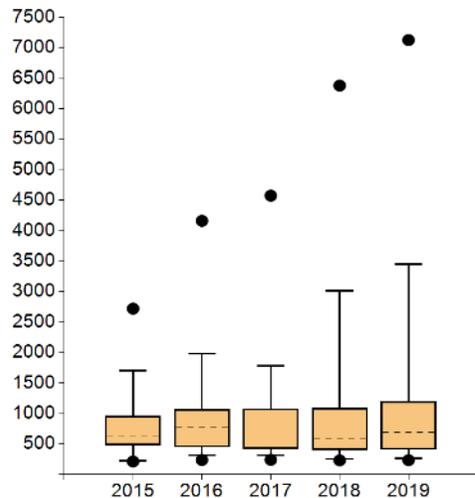
10 20 30 40 50 60

60 clinical sites

Sollvorgabe = target value
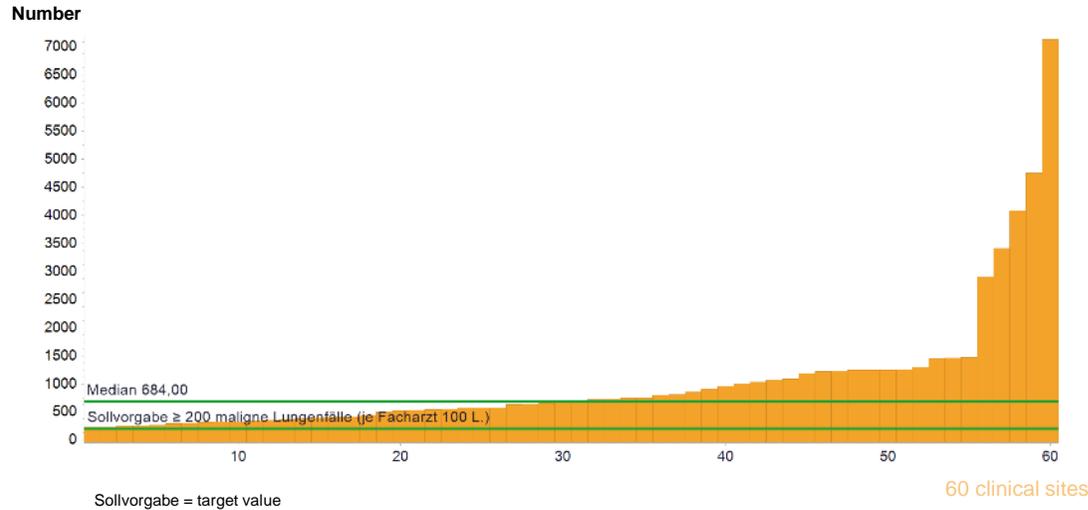
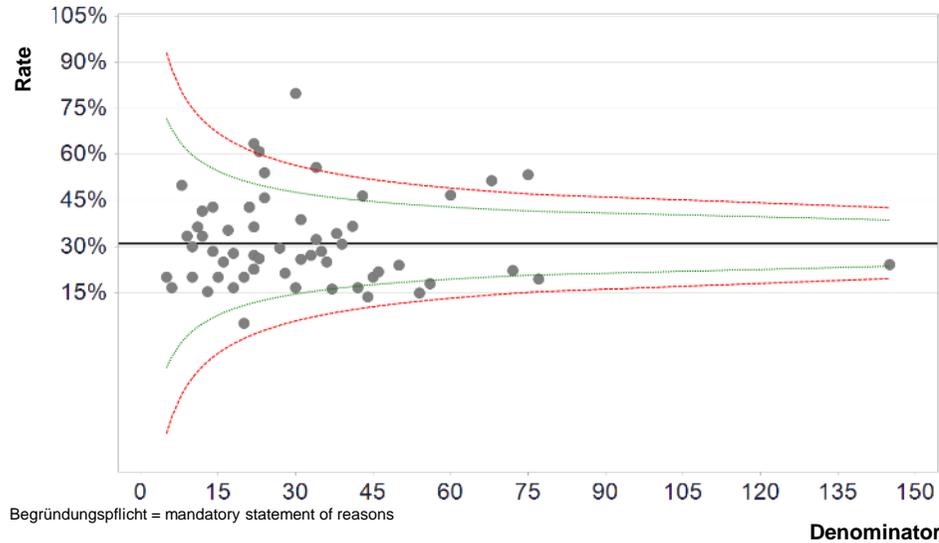|	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Assessed malignant lung cases	684	232 - 7124	6,1642
	Target value ≥ 200 malignant lung cases (100 L. per specialist)			

		2015	2016	2017	2018	2019
●	Max	2,718.00	4,158.00	4,572.00	6,377.00	7,124.00
	95th percentile	1,698.60	1,976.75	1,781.10	3,005.50	3,443.45
	75th percentile	958.00	1,061.00	1,074.50	1,081.00	1,191.50
	Median	620.50	773.50	678.50	583.00	684.00
	25th percentile	475.50	447.00	423.25	400.00	411.25
	5th percentile	217.55	313.00	313.75	254.00	256.70
●	Min	211.00	235.00	238.00	229.00	232.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	59	98.33%

Comments:
While in the previous year all centres had met the minimum target for pathological assessments, in 2019 one of two pathologies belonging to a centre failed to meet the target. This was due to merger plans of 2 pathologies, which is why fewer preparations were temporarily assessed this year. For 2020, the centre announced that the targets would be met again. The assessments will then be concentrated in one pathology.

19. Adjuvant cisplatin-containing chemotherapy stages II-IIIA1/2 (GL QI 6)

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Cisplatin-based chemotherapy to treat primary cases of R0 and lymph node resected NSCLCC stages II-IIIA1/2 with ECOG 0/1	8*	1 - 40	588
Denominator	R0- and LN-resected NSCLC primary cases with anastomic lung resection Stad. II-IIIA1/2 with ECOG 0/1	24*	5 - 145	1,887
Rate	Explanation mandatory*** <15% and >70%	28.18%	5.00% - 80.00%	31.16%**
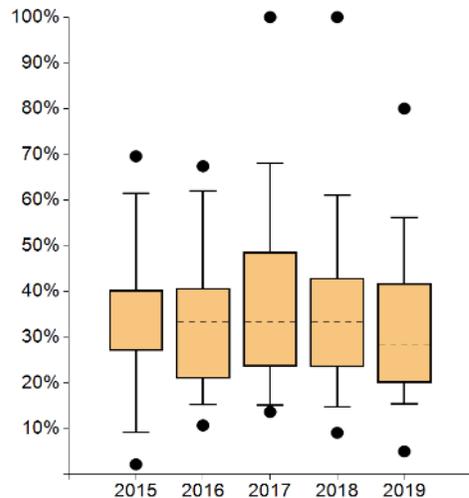
		2015	2016	2017	2018	2019
●	Max	69.57%	67.39%	100%	100%	80.00%
	95. Perzentil	61.39%	61.94%	67.99%	60.99%	56.13%
	75. Perzentil	40.32%	40.66%	48.67%	42.86%	41.67%
	Median	34.25%	33.33%	33.33%	33.33%	28.18%
	25. Perzentil	27.01%	20.96%	23.57%	23.45%	20.00%
	5. Perzentil	9.19%	15.26%	15.07%	14.79%	15.35%
●	Min	2.17%	10.71%	13.64%	9.09%	5.00%

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	56	93.33%

Comments:
The rate of this guideline QI decreased slightly from 34.48% in the previous year. 4 centres (previous year: 5) were outside the plausibility corridor, of which 1 centre was above 70% and 3 below 15%. Some of the latter had administered carboplatin instead of cisplatin. In some cases, the chemotherapy was administered externally, the patients refused the therapy or had already died before the start of therapy. One of the centres tried to increase the proportion of cisplatin with protocols with split function or dose reduction. Overall, the reasons given by the centres could be understood in the audits.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

20. Combined radio-chemotherapy in stages IIIA4/IIIB/IIIC (GL QI 7)
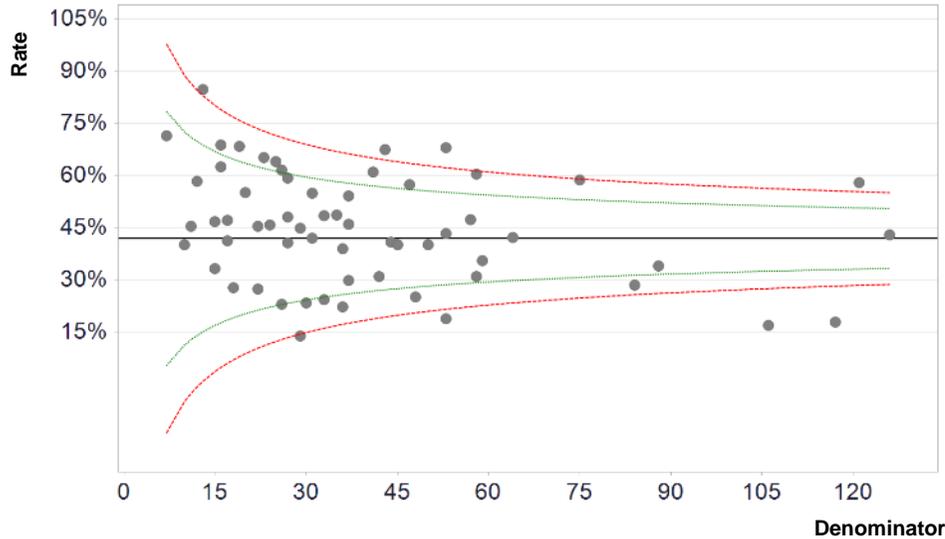
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Combined radio-chemotherapies for NSCLCC primary cases stages IIIA4/IIIB with ECOG 0/1	13.5*	4 - 70	1,014
Denominator	NSCLC primary cases Stad. IIIA4/IIIB/IIIC with ECOG 0/1	33*	7 - 126	2,421
Rate	Explanation mandatory*** <15% and >70%	45.14%	13.79% - 84.62%	41.88%**
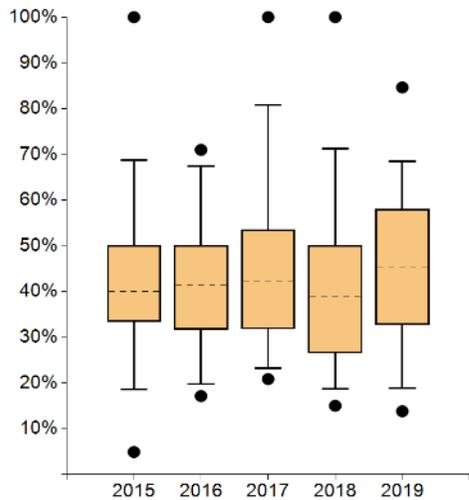
		2015	2016	2017	2018	2019
●	Max	100%	70.97%	100%	100%	84.62%
	95th percentile	68.72%	67.40%	80.74%	71.29%	68.44%
	75th percentile	50.00%	50.00%	53.55%	50.00%	57.97%
	Median	40.00%	41.38%	42.08%	38.78%	45.14%
	25th percentile	33.33%	31.65%	31.77%	26.51%	32.76%
	5th percentile	18.55%	19.75%	23.22%	18.70%	18.82%
●	Min	4.88%	17.12%	20.83%	15.00%	13.79%

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
60	100.00%	57	95.00%

Comments:
A plausibility corridor is also applied to this LL-QI, with 2 centres above 70% and 1 below 15%. The centre with an unusually high rate contained many patients suitable for combined radiochemotherapy. In the group below the corridor, there were comparatively many patients who refused therapy or were not eligible for combined radiochemotherapy due to comorbidities, contraindications or other special constellations.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

21. Molecular path. examination NSCLC Stad. IV with Adeno-Ca. o. adenosquamous Ca. (GL QI 1)
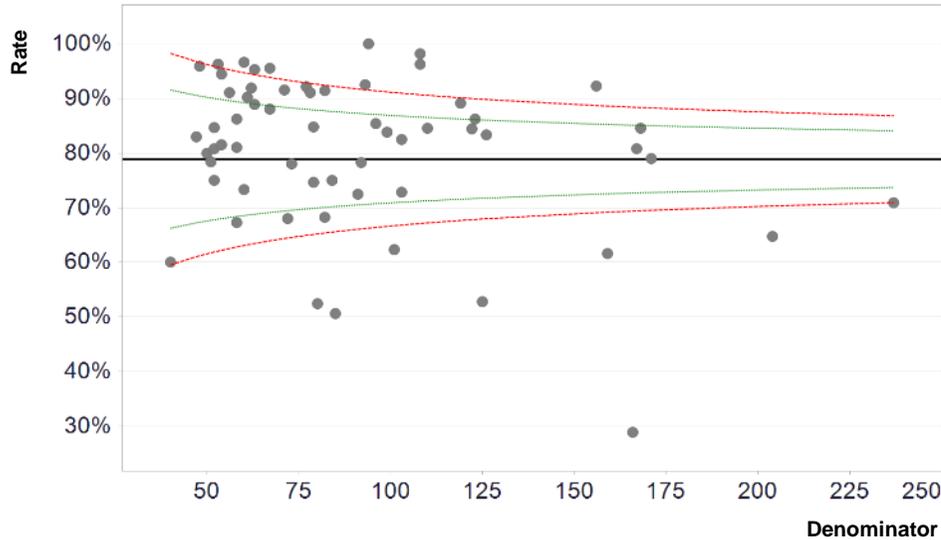
	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with examination of at least EGFR mutations in exons 18-21 and/or ALK fusions and/or ROS1 fusions and/or BRAF mutation	63*	24 - 168	4,315
Denominator	Primary cases with adenocarcinoma or adenosquamous carcinoma of the lung stage IV	79.5*	40 - 237	5,469
Rate	Explanation mandatory*** <50	83.59%	28.92% - 100%	78.90%**
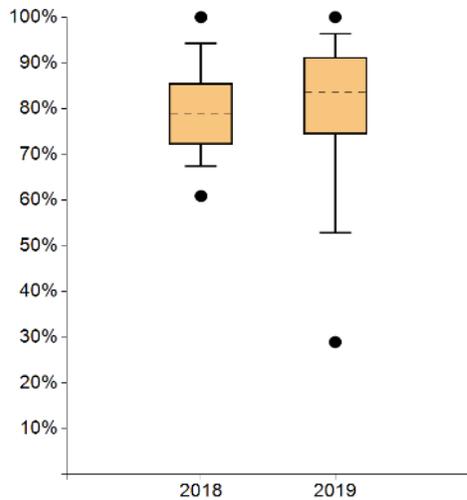
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95th percentile	-----	-----	-----	94.22%	96.32%
	75th percentile	-----	-----	-----	85.48%	91.17%
	Median	-----	-----	-----	78.72%	83.59%
	25th percentile	-----	-----	-----	72.22%	74.34%
	5th percentile	-----	-----	-----	67.45%	52.79%
●	Min	-----	-----	-----	60.87%	28.92%

| Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
60	100.00%	59	98.33%

Comments:
With this QI of the guideline being mandatory for the first time, the picture is still quite mixed. In 2019, one of the centres fell below the threshold for the obligation to provide justification. It referred to documentation errors in the audit. However, within the framework of the planned cooperation with the national network Genomic Medicine (nNGM), the centre expected that this problem should be resolved for the following years.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

DKG GERMAN CANCER SOCIETY
Certification

22. First-line therapy with EGFR TKI b. NSCLC Stad. IV with activating EGFR mutation and ECOG 0-2 (GL QI 2)
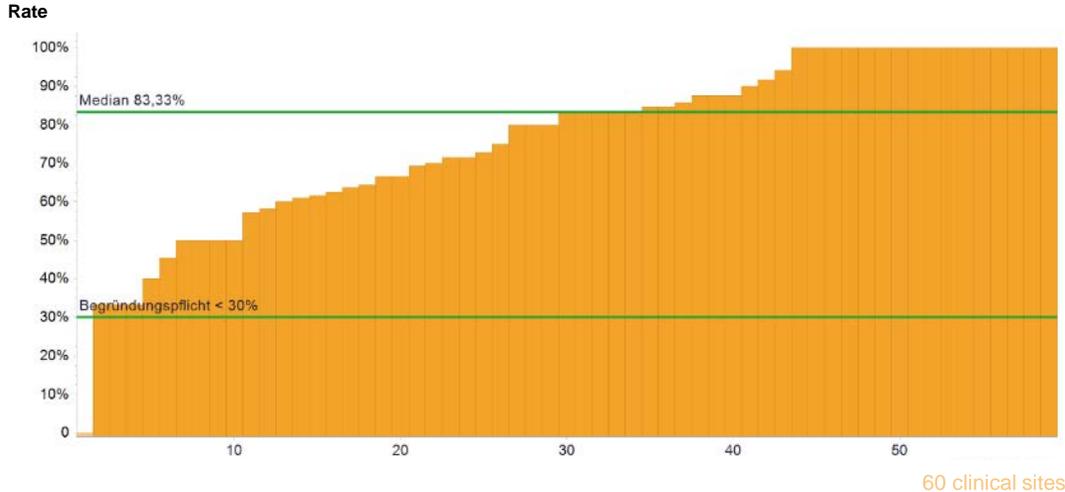
Rate

Median 83,33%

Begründungspflicht < 30%

60 clinical sites

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with the start of a first-line therapy with EGFR TKI	6*	0 - 22	406
Denominator	Primary cases with NSCLC stage IV, activating EGFR mutation and ECOG 0-2	8*	1 - 36	549
Rate	Explanation mandatory*** <30%	83.33%	0.00% - 100%	73.95%**
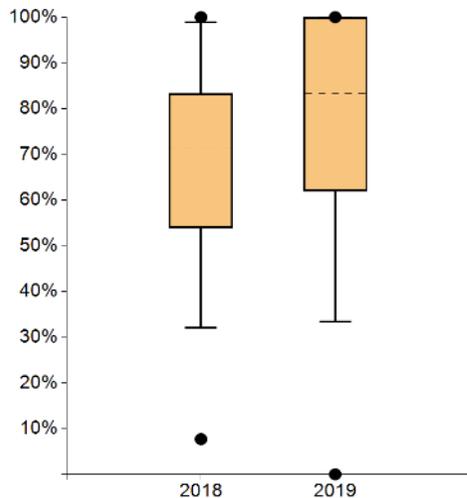
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95th percentile	-----	-----	-----	98.95%	100%
	75th percentile	-----	-----	-----	83.33%	100%
	Median	-----	-----	-----	71.43%	83.33%
	25th percentile	-----	-----	-----	53.85%	62.02%
	5th percentile	-----	-----	-----	32.12%	33.33%
●	Min	-----	-----	-----	7.69%	0.00%

| Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
59	98.33%	58	98.31%

Comments:
For this indicator on targeted therapy with an EGFR TKI, data from all centres are also available for the first time. 1 centre carried out the therapy in less than 30% of the eligible cases. The centre explained its rate of 0% by the fact that the patients received the therapy at the oncologist's practice because the centre was not authorised to provide outpatient system therapy. Follow-up reports were not available to the centre. For 2020, it announced that it would provide the services itself.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

DKG GERMAN CANCER SOCIETY
Certification

23. First-line therapy with ALK specific TKI therapy for pat. with ALK pos. NSCLC in stage IV (GL QI 3)

Rate
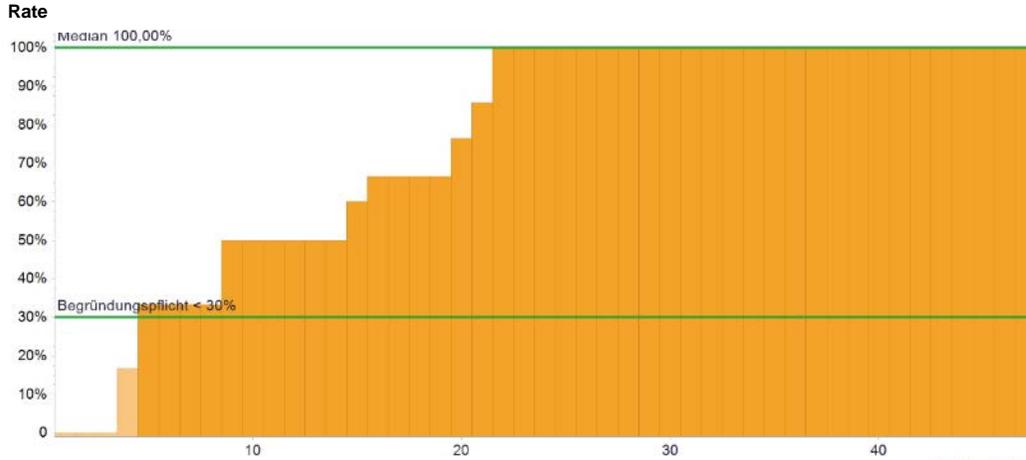
47 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with start of ALK specific TKI therapy	1*	0 - 13	108
Denominator	Primary cases with NSCLC stage IV, ALK pos.	2*	1 - 17	141
Rate	Explanation mandatory*** <30	100%	0.00% - 100%	76.60%**
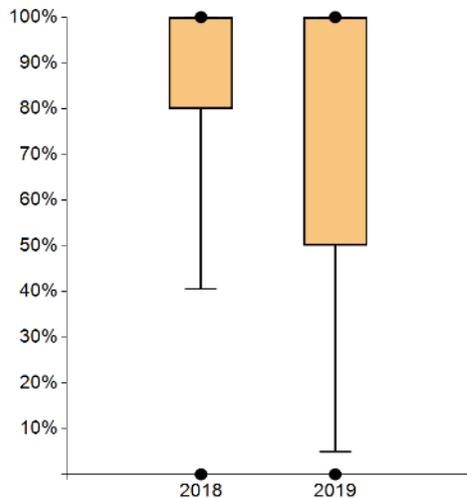
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95th percentile	-----	-----	-----	100%	100%
	75th percentile	-----	-----	-----	100%	100%
	Median	-----	-----	-----	100%	100%
	25th percentile	-----	-----	-----	80.00%	50.00%
	5th percentile	-----	-----	-----	40.50%	5.00%
●	Min	-----	-----	-----	0.00%	0.00%

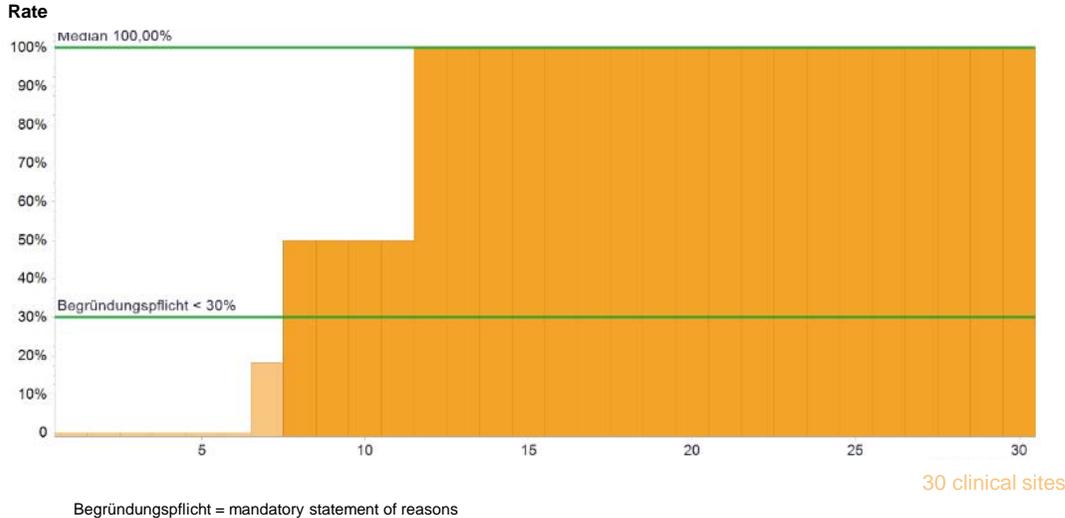| Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
47	78.33%	43	91.49%

Comments:
Information on the quality indicator was voluntary in audit year 2019. The maximum number of patients in the denominator that could be considered was 5 patients. Only one of the Centres that had submitted data for this indicator was required to give reasons at a rate of 0% (only 1 patient in the denominator). The Centre explained that this patient was re-biopsied after initially being ALK negative and subsequently tested ALK positive. TKI therapy was initiated as a result.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

24. First-line therapy with ROS1 specific TKI therapy for pat. with ROS1 pos. NSCLC in stadium IV (GL QI 4)

Rate

30 clinical sites

Begründungspflicht = mandatory statement of reasons

Begründungspflicht < 30%

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with start of ROS1-specific TKI therapy	1*	0 - 3	32
Denominator	Primary cases with NSCLC stage IV, ROS1- positive	1*	1 - 11	54
Rate	Explanation mandatory*** <30	100%	0.00% - 100%	59.26%**
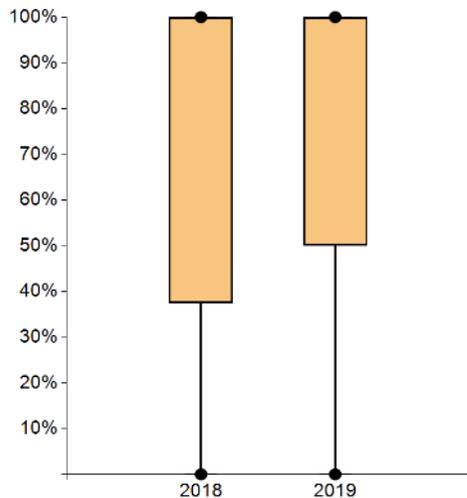
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95th percentile	-----	-----	-----	100%	100%
	75th percentile	-----	-----	-----	100%	100%
	Median	-----	-----	-----	100%	100%
	25th percentile	-----	-----	-----	37.50%	50.00%
	5th percentile	-----	-----	-----	0.00%	0.00%
●	Min	-----	-----	-----	0.00%	0.00%

| Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
30	50.00%	23	76.67%

Comments:
The small numbers of patients in the denominator also lead to a high dispersion of the rates here. 30 centres did not treat any patients with ROS1 mutation in stad. IV in NSCLC. 7 centres were below the 30% mark and justified this, among other things, with the death of patients prior to the arrival of the findings or the start of TKI therapy, documentation errors and in each case plausible individual case decisions.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

DKG GERMAN CANCER SOCIETY
Certification

25. Combined radio-chemotherapy for SCLC Stad. IIB - IIIB (GL QI 8)
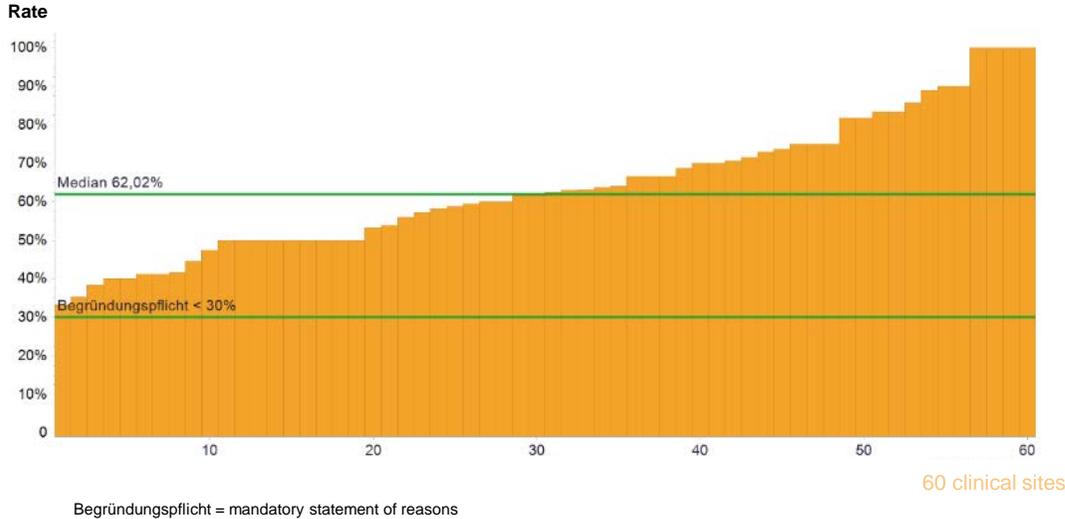
Rate

60 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with radiochemotherapy	8*	1 - 28	526
Denominator	Primary cases SCLC stage IIB [T3] - IIIC [TNM: cT1/2 N2-3 M0, cT3/4 N0-3 M0] and ECOG 0/1	12*	2 - 48	853
Rate	Explanation mandatory*** <30%	62.02%	33.33% - 100%	61.66%**
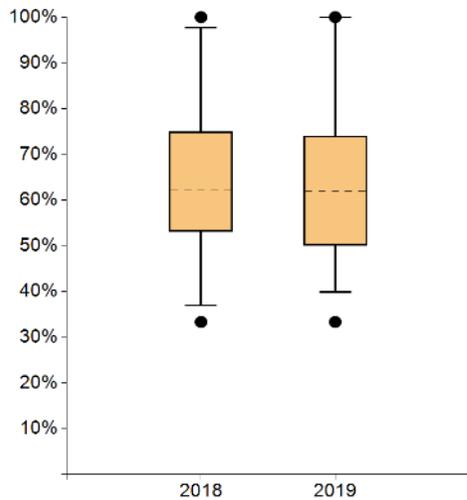
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	100%	100%
	95th percentile	-----	-----	-----	97.71%	100%
	75th percentile	-----	-----	-----	75.00%	74.01%
	Median	-----	-----	-----	62.15%	62.02%
	25th percentile	-----	-----	-----	53.13%	50.00%
	5th percentile	-----	-----	-----	37.00%	39.92%
●	Min	-----	-----	-----	33.33%	33.33%

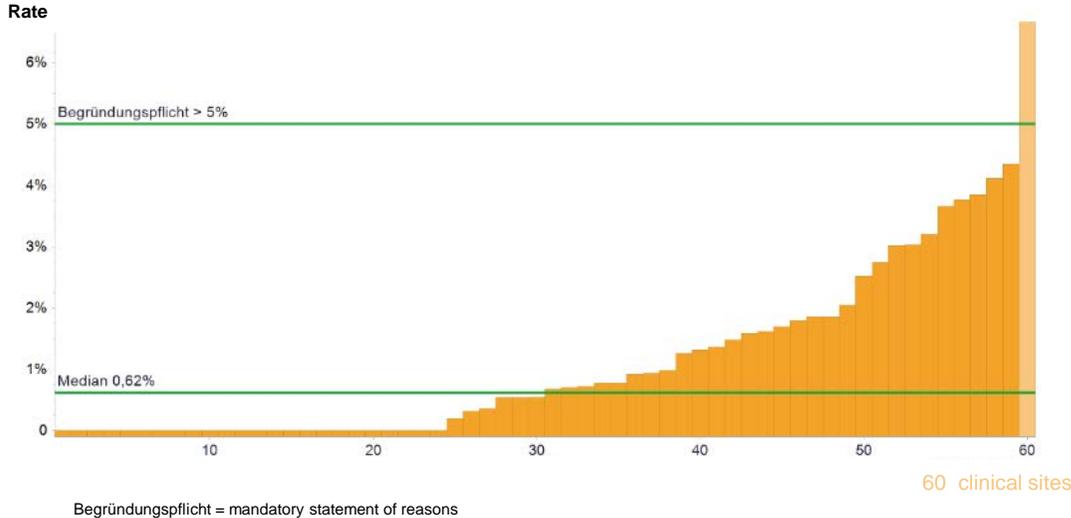| Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
60	100.00%	60	100.00%

Comments:
Even with the first obligatory survey of this QI of the guideline, all centres are above the rate of 30% that goes hand in hand with an obligation to justify. In the median, even 62% were achieved. In the future, the plausibility limit will be replaced by a (possibly stricter) target.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

26. CTCAE grade V on systemic therapy

DKG GERMAN CANCER SOCIETY
Certification

Rate

Begründungspflicht > 5%

Median 0,62%

60 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with CTCAE grade V under systemic therapy	1*	0 - 7	100
Denominator	Primary cases stage III or IV with systemic therapy	154.5*	18 - 497	10,777
Rate	Explanation mandatory*** >5%	0.62%	0.00% - 6.90%	0.93%**
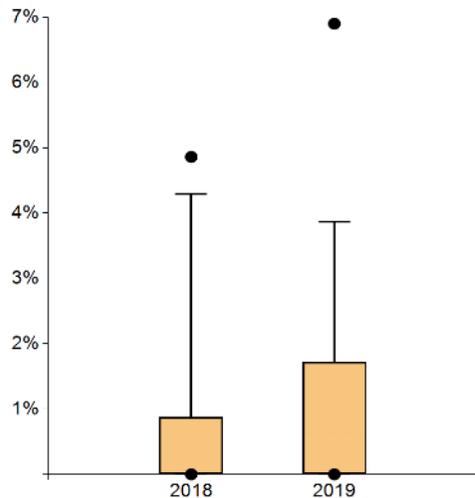
		2015	2016	2017	2018	2019
●	Max	-----	-----	-----	4.86%	6.90%
	95th percentile	-----	-----	-----	4.29%	3.86%
	75th percentile	-----	-----	-----	0.87%	1.72%
	Median	-----	-----	-----	0.00%	0.62%
	25th percentile	-----	-----	-----	0.00%	0.00%
	5th percentile	-----	-----	-----	0.00%	0.00%
●	Min	-----	-----	-----	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites within the plausibility corridor	
Number	%	Number	%
60	100.00%	59	98.33%

Comments:
Within the scope of the voluntary survey in the pre-indicator year, no centre had exceeded the rate of 5%. Now 1 centre had to explain a lethality rate of 6.9% under system therapy in patients in stage III/IV. Here, 6 of 87 patients had died due to sepsis in neutropenia or pneumonitis with consecutive respiratory insufficiency. A connection to the system therapy was partly probable, partly could not be excluded. The centre reacted with stricter blood count controls and a more intensive consideration of the indication in the case of a far advanced stage and comorbidities.

* The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

WISSEN AUS ERSTER HAND (FIRST-HAND KNOWLEDGE)

DKG GERMAN CANCER SOCIETY
Certification

Find out more on www.krebsgesellschaft.de

Authors

German Cancer Society (DKG)
German Respiratory Society (DGP)
German Society of Thoracic Surgery (DGT)
Certification Committee Lung Cancer Centres
Hans Hoffmann, Spokesman Certification Committee
Dieter Ukena, Deputy Spokesman Certification Committee
Simone Wesselmann, German Cancer Society (DKG)
Johannes Rückher, German Cancer Society (DKG)
Ellen Griesshammer, German Cancer Society (DKG)
Agnes Bischofberger, OnkoZert
Florina Dudu, OnkoZert
Julia Ferencz, OnkoZert