Annual Report 2019

of the Certified Lung Cancer Centres

Audit year 2018 / Indicator year 2017

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

	Indicator definition	All clinical sites 2014	
		Median	Range
Numerator	Primary cases with stages IB-IIIB after surgical therapy that were presented at the tumour conference	73*	28 - 256
Denominator	Primary cases with stages IB-IIIB after surgical therapy	76*	33 - 266
Rate	Target value ≥ 90%	97.30%	59.57% - 100%

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.
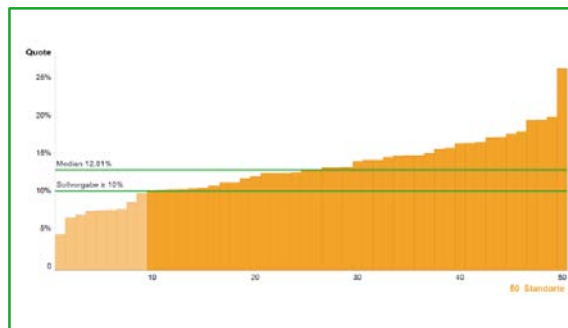
Diagram:

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.

General information

		2011	2012	2013	2014
•	Max	39,90%	85,57%	65,77%	60,22%
	95. Perzentil	27,96%	58,83%	46,22%	45,85%
	75. Perzentil	18,15%	17,67%	19,54%	33,51%
	Median	11,18%	12,19%	12,98%	17,00%
	25. Perzentil	8,11%	8,68%	10,49%	9,09%
	5. Perzentil	2,51%	2,94%	3,47%	3,18%
•	Min	0,82%	0,00%	0,00%	1,06%
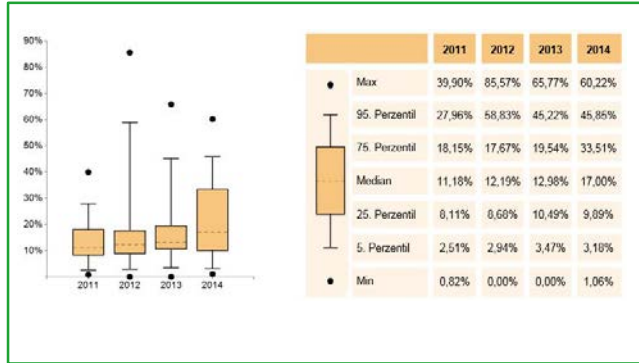
Cohort development:

The **cohort development** in the years **2013, 2014, 2015, 2016** and **2017** is presented in a box plot diagram.
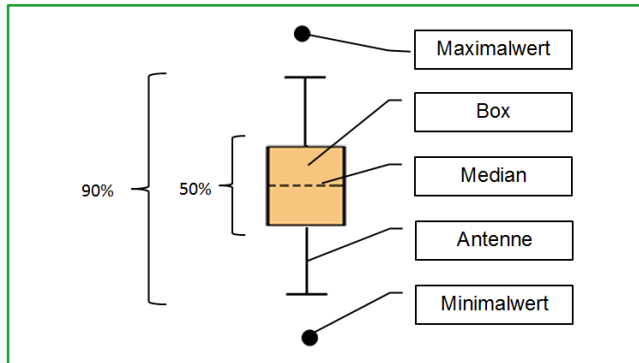
Box plot:

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 2015

DKG
GERMAN CANCER SOCIETY

Certification

	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014	31.12.2013
Ongoing procedures	8	3	5	2	2	0
Certified Centres	52	49	45	42	38	38
Certified clinical sites	66	63	53	49	44	42
Lung Cancer Centres 1 clinical site	42	39	37	35	32	34
2 clinical sites	7	7	8	7	6	4
3 clinical sites	2	2	0	0	0	0
4 clinical sites	1	1	0	0	0	0

General information

	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014	31.12.2013
Centres included in the Annual Report	50	46	42	41	37	35
Equivalent to	96.2%	93.9%	93.3%	97.6%	97.4%	92.1%
Primary cases total*	19,361	18,483	17,343	16,362	14,623	13,483
Primary cases per Centre (mean)*	387.2	401.8	412.9	399.1	395.2	385.2
Primary cases per Centre (median)*	335.5	344	351	348	329	344

* The figures refer to all certified Centres.

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 50 of the 52 Lung Cancer Centres. 2 Lung Cancer Centres, certified for the first time in 2018, are not included (data depiction of a full calendar year is not mandatory for initial certifications). In all 52 Cancer Centres a total amount of 19,813 patients has been treated. www.oncomap.de provides an updated overview of all certified centres.

The indicators published here refer to the indicator year 2017. They are the assessment basis for the audits conducted in 201.

Tumour documentation systems in the Centre's clinical sites

GTDS: 18 (39,13%)

CREDOS: 2 (4,35%)

KIS-Erweiterung: 3 (6,52%)

Alcedis MED: 2 (4,35%)

Ondis: 3 (6,52%)

c37.CancerCenter: 2 (4,35%)

ONKOSTAR: 2 (4,35%)

ODSeasy / ODSeasy Net: 4 (8,70%)

Andere: 4 (8,70%)

ORBIS-ODOK: 3 (6,52%)

Eigenentwicklung (MS Excel, MS Access etc.): 3 (6,52%)
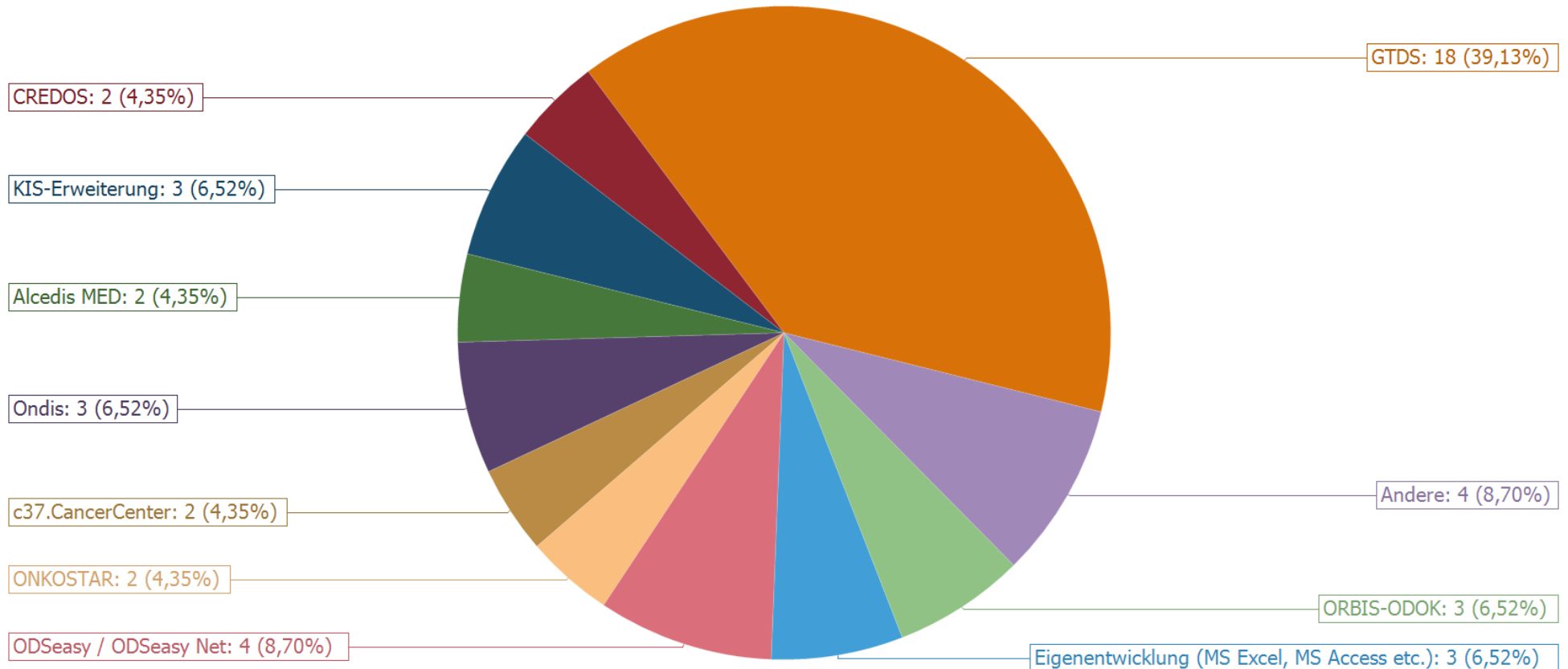
Legend:	
Other	Systems only used at one clinical site

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.

![DKG GERMAN CANCER SOCIETY - Certification]

Basic data – Stage distribution primary cases lung carcinoma

Primary cases total
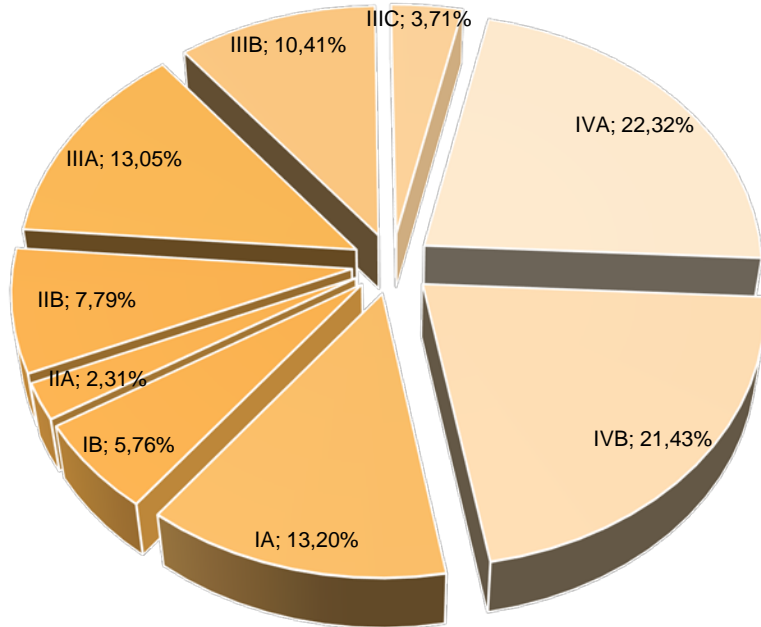
Surgical / non-surgical primary cases

■ Surgically primary cases   ■ Non-surgical primary cases
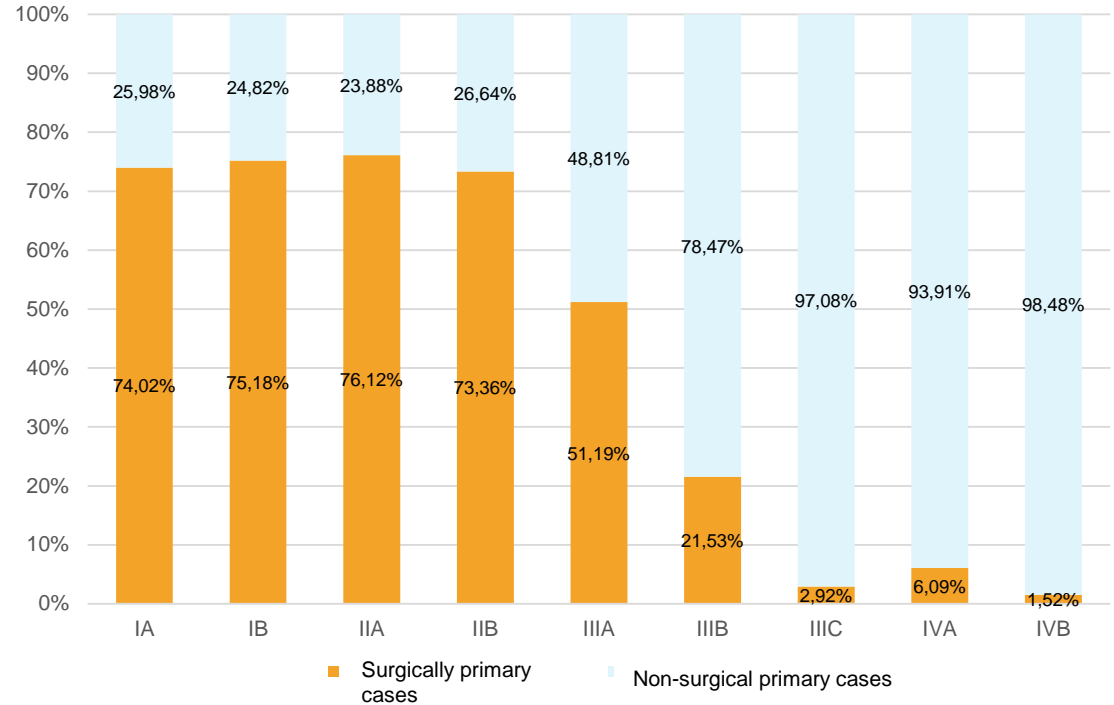
		IA	IB	IIA	IIB	IIIA	IIIB	IIIC	IVA	IVB	Gesamt
Surgical primary cases with anatomical lung resection		1,892 (74.02%)	839 (75.18%)	341 (76.12%)	1,107 (73.36%)	1,293 (51.19%)	434 (21.53%)	21 (2.92%)	263 (6.09%)	63 (1.52%)	6,253
Non-surgical primary cases		664 (25.98%)	277 (24.82%)	107 (23.88%)	402 (26.64%)	1.233 (48.81%)	1.582 (78.47%)	697 (97.08%)	4.059 (93.91%)	4.087 (98.48%)	13,108
Primary cases total		2,556 (13,20%)	1,116 (5,76%)	448 (2,31%)	1,509 (7,79%)	2,526 (13,05%)	2,016 (10,41%)	718 (3,71%)	4,322 (22,32%)	4,150 (21,43%)	19,361

8

Basic data – Development 2013-2017

Stage distribution primary cases 2013-2017

2013 · 2014 · 2015 · 2016 · 2017
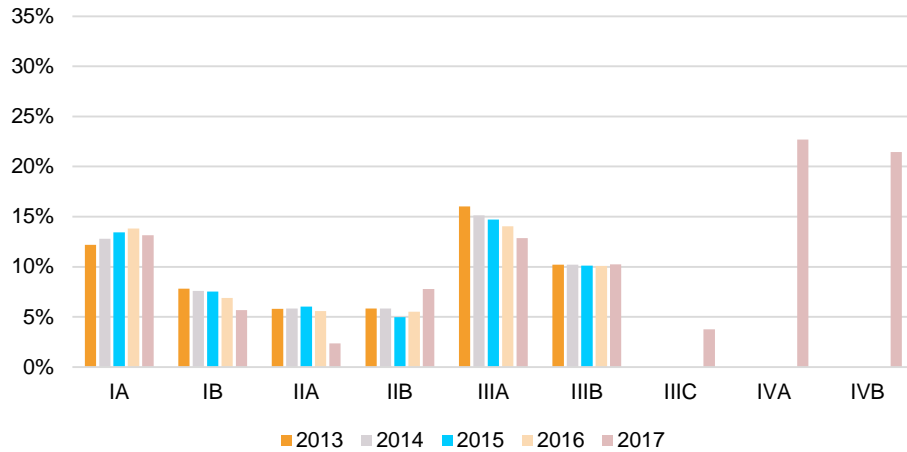
Stage distribution surgical primary cases 2013-2017

2013 · 2014 · 2015 · 2016 · 2017
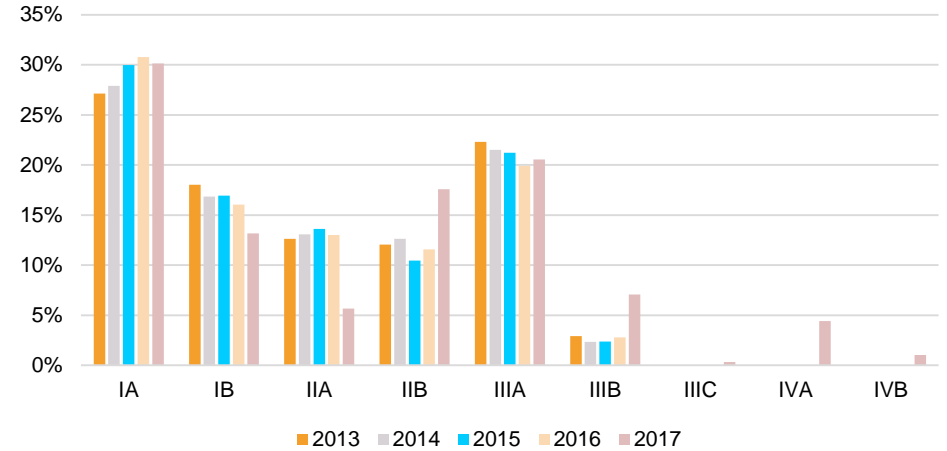
Stage distribution non-surgical primary cases 2013-2017

2013 · 2014 · 2015 · 2016 · 2017
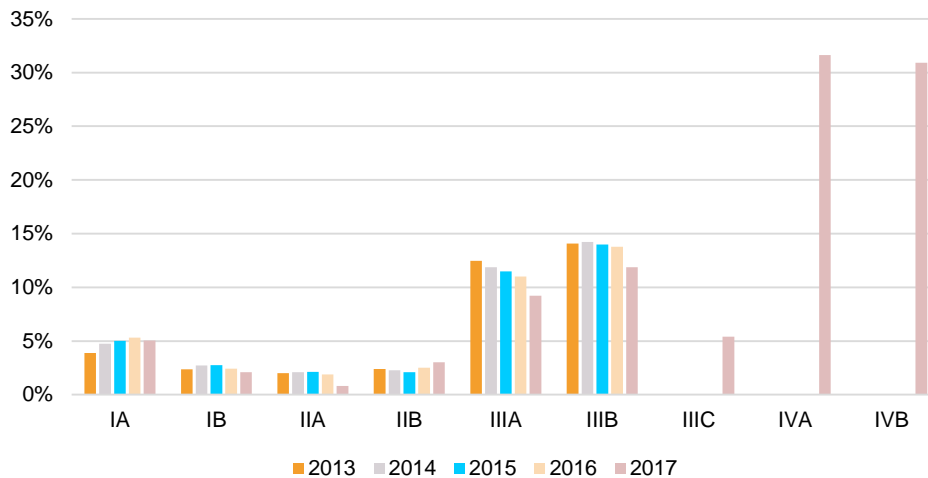
Stage distribution surgical and non-surgical primary cases 2013-2017
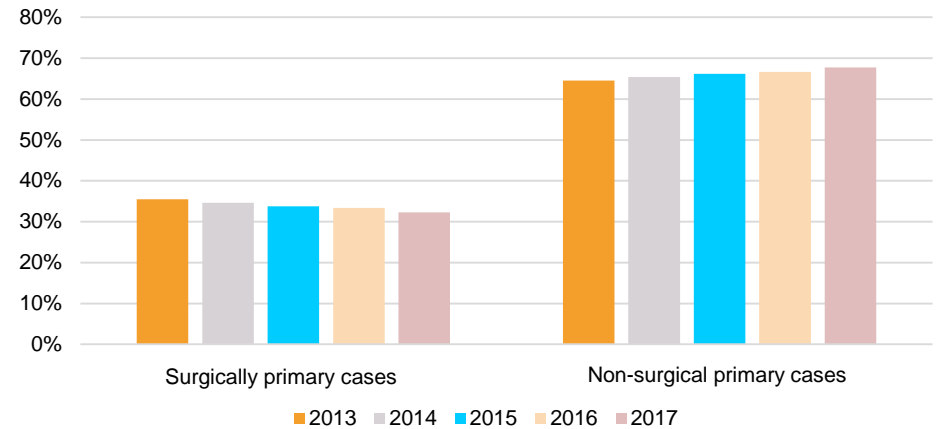
2013 · 2014 · 2015 · 2016 · 2017

DKG GERMAN CANCER SOCIETY

Certification

1. Primary cases of the LCCC

Number

Sollvorgabe = target value
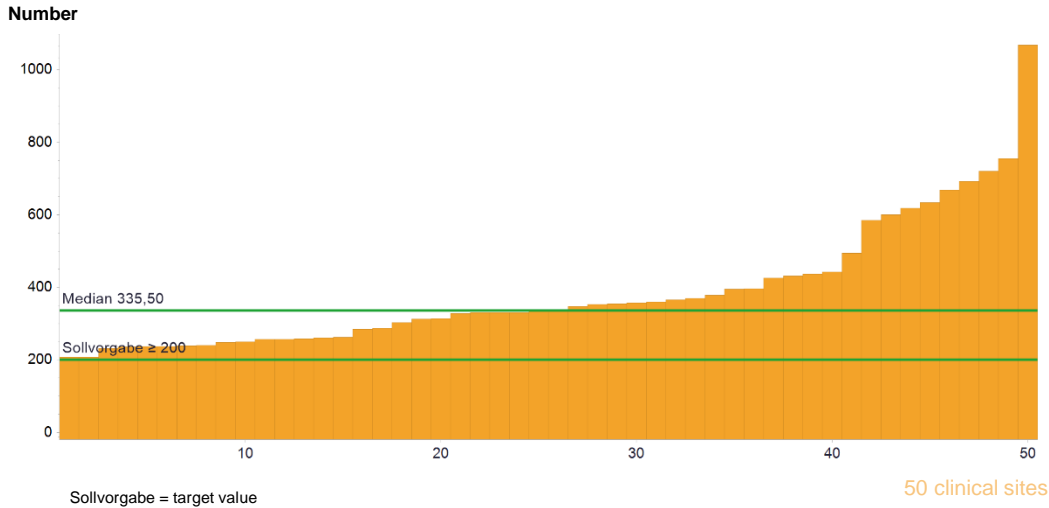
50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Total number of primary cases of the LCC (definition primary case: Catalogue of requirements 1.2.1)	335.5	207 – 1,068	19,361
	Target value ≥ 200			
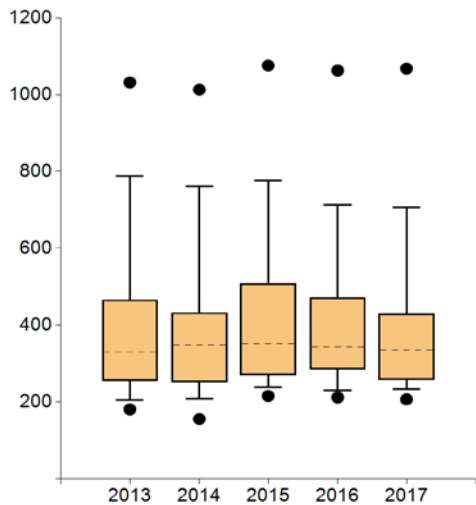
		2013	2014	2015	2016	2017
●	Max	1032.00	1013.00	1076.00	1063.00	1068.00
	95th percentile	787.80	761.00	777.00	713.50	707.40
	75th percentile	465.00	433.00	508.50	472.25	429.50
	Median	329.00	348.00	351.00	344.00	335.50
	25th percentile	255.00	251.00	270.75	285.25	258.50
	5th percentile	205.20	209.00	239.15	231.00	233.80
●	Min	181.00	156.00	216.00	212.00	207.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100,00%	50	100.00%

Comments:
The median and the 75th and 25th percentiles of the number of primary cases fell compared to the previous year. As in indicator year (IY) 2016, all Centres met the target value. 19,227 of the total number of primary cases (19,813) were treated in German Centres. In relation to total incidence in Germany (53,72 in 2014, www.krebsdaten.de), 35.8% of patients with an initial diagnosis of a malignant lung tumour were, therefore, treated in a certified Centre.

10

2a. Pretherapeutic tumour conference
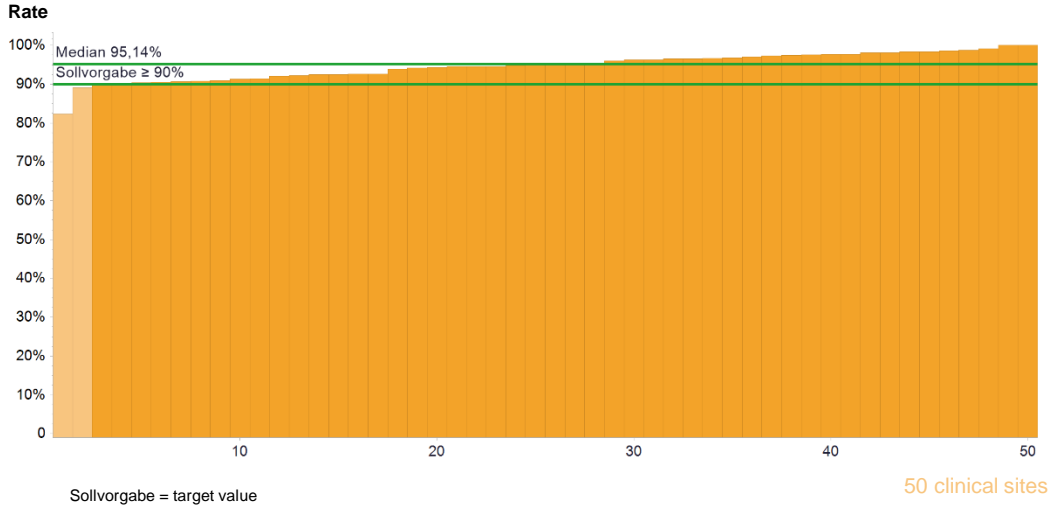
Rate

Median 95,14%
Sollvorgabe ≥ 90%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases presented in the pretherapeutic conference	319.5*	187 - 962	18,221
Denominator	Primary cases of the LCCC (= indicator 1)	335.5*	207 – 1,068	19,361
Rate	Target value ≥ 90%	95.14%	82.25% - 100%	94.11%**
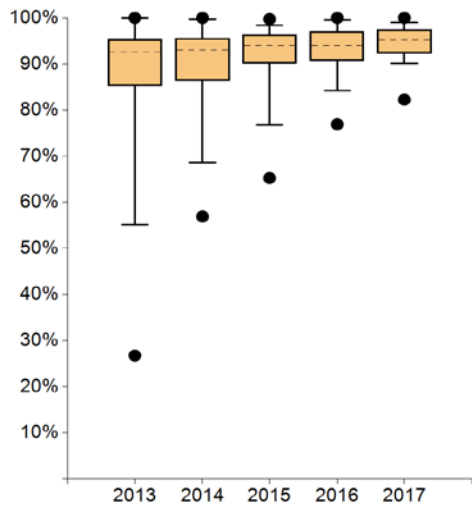
		2013	2014	2015	2016	2017
●	Max	100%	100%	99.72%	100%	100%
	95th percentile	100%	99.68%	98.39%	99.48%	98.96%
	75th percentile	95.36%	95.61%	96.39%	97.04%	97.40%
	Median	92.53%	93.08%	94.03%	93.94%	95.14%
	25th percentile	85.24%	86.27%	90.15%	90.69%	92.22%
	5th percentile	55.09%	68.58%	76.73%	84.15%	90.11%
●	Min	26.75%	56.90%	65.25%	76.90%	82.25%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	50	100.00%

Comments:
The indicator for the pre-therapeutic conference was implemented very well in the Centres. Over the previous 5 years there has also been a positive development with a steadily rising median, 25th percentile, 5th percentile and minimum value. 2 Centres did not reach the target value in indicator year 2017. They wish to further increase the rate by raising the frequency of tumour conferences or more consistent pre-therapeutic presentation of non-histologically confirmed cases.

*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.
** If value is outside the plausability corridor. centres have to give an explanation.

11

2b. Presentation of new recurrence or remote metastasis in the tumour conference

DKG
GERMAN CANCER SOCIETY
Certification

Rate

Median 92,45%

Sollvorgabe ≥ 90%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Patients with new recurrence and/or remote metastasis after previous curative treatment who were presented in the tumour conference	24*	5 - 104	1,430
Denominator	Patients with new recurrence and/or remote metastasis after previous curative treatment	26*	5 - 127	1,552
Rate	Target value ≥ 90%	92.45%	76.67% - 100%	92.14%**
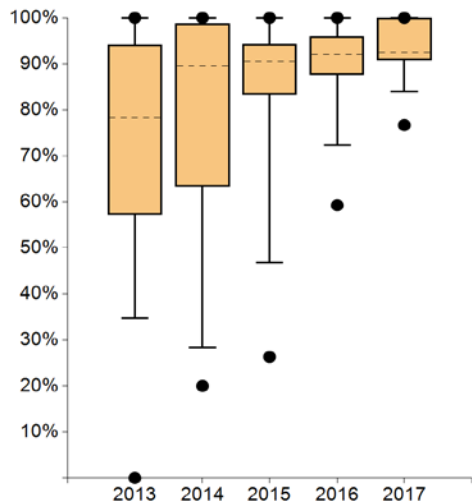
		2013	2014	2015	2016	2017
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	94.07%	98.71%	94.20%	95.91%	100%
	Median	78.24%	89.45%	90.59%	91.95%	92.45%
	25th percentile	57.14%	63.24%	83.33%	87.69%	90.78%
	5th percentile	34.68%	28.35%	46.72%	72.32%	83.96%
●	Min	0.00%	20.00%	26.32%	59.26%	76.67%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	42	84.00%

Comments:
The case presentation of recurrences in the tumour conference was very well implemented in the Centres. The median and the percentiles increased compared to the previous year. The proportion of Centres that met the target value likewise increased (2016: 67.39%). One of the reasons given by the Centres with overly low presentation rates in 2017 was the early death of patients. To improve the rate they had updated SOPs and carried out staff training.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

3. Tumour conference after surgical therapy of primary cases stages IB-IIIB
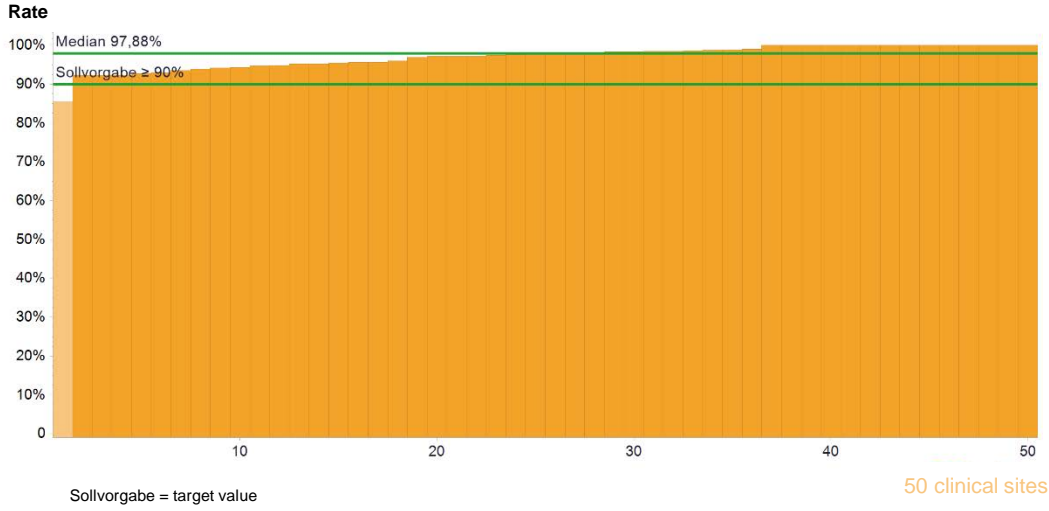
DKG
GERMAN CANCER SOCIETY

Certification

Rate

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with stages IB-IIIB after surgical therapy that were presented at the tumour conference	68*	23 - 207	3,868
Denominator	Primary cases with stages IB-IIIB after surgical therapy	69.5*	23 - 239	4,014
Rate	Target value ≥ 90%	97.88%	85.36% - 100%	96.36%**
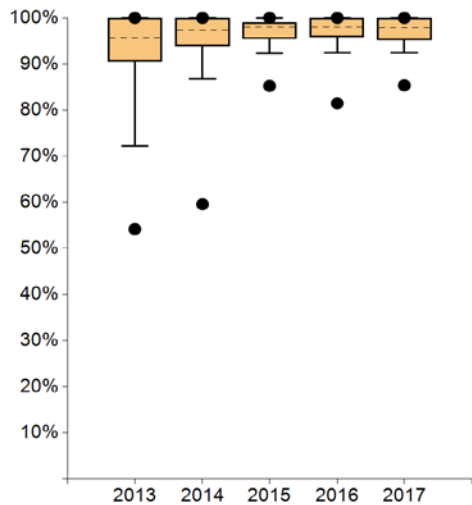
		2013	2014	2015	2016	2017
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	100%	100%	99.04%	100%	100%
	Median	95.71%	97.30%	97.99%	97.96%	97.88%
	25th percentile	90.56%	93.86%	95.39%	95.86%	95.24%
	5th percentile	72.16%	86.75%	92.27%	92.39%	92.34%
●	Min	54.17%	59.57%	85.23%	81.45%	85.36%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	49	98.00%

Comments:
As in previous years, this indicator was likewise very well implemented by the Centres. The same Centre as in 2016 failed to meet the target value although the rate had increased in this Centre compared to the previous year. The reason given by the Centre for failing to meet the target value was that certain patients in stage IB were not presented because of their age and comorbidities. The auditor pointed out that further improvements had to be made to the SOPs.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

13

4. Psycho-oncological care
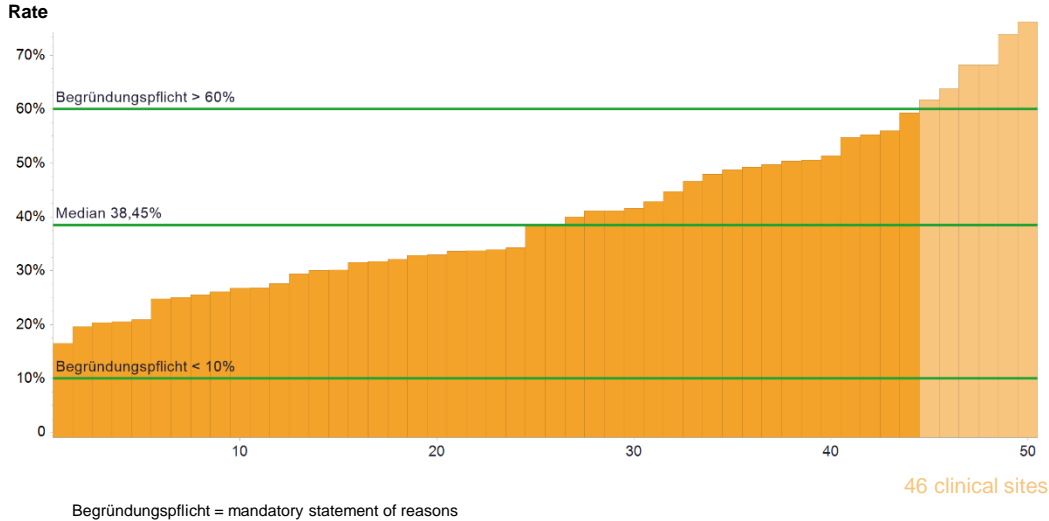
Rate

Begründungspflicht > 60%

Median 38,45%

Begründungspflicht < 10%

46 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Patients who received psycho-oncological care in an inpatient or outpatient setting (duration of consultation ≥ 25 min)	141.5*	49 - 463	8,351
Denominator	Primary cases of the LCC (= indicator 1) + patients with a new recurrence and/or remote metastasis after previous curative treatment	363*	228 – 1,159	20,913
Rate	Explanation mandatory*** <10% and >60%	38.45%	16.50% - 76.22%	39.93%**
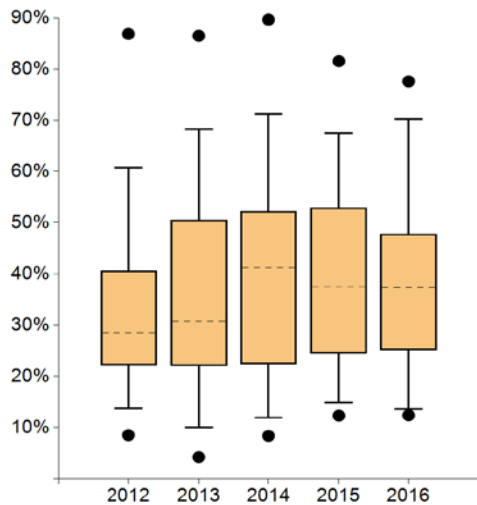
		2012	2013	2014	2015	2016
●	Max	86.86%	86.49%	89.64%	81.54%	77.60%
	95th percentile	60.80%	68.30%	71.22%	67.41%	70.21%
	75th percentile	40.64%	50.58%	52.22%	52.91%	47.76%
	Median	28.47%	30.81%	41.24%	37.41%	37.37%
	25th percentile	22.17%	22.04%	22.41%	24.47%	25.12%
	5th percentile	13.72%	10.00%	12.00%	14.90%	13.65%
●	Min	8.54%	4.25%	8.40%	12.35%	12.42%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
46	100.00%	41	89.13%

Comments:
The rate of psycho-oncological counselling increased compared to the previous year: the median and the 25th and 75th percentiles rose. The majority of Centres (25/44) were able to maintain or increase their counselling rate compared to the previous year. The 10 Centres with the lowest rates in indicator year 2016 were all able to increase their rate. None of the Centres was obliged to provide substantiation for a rate that was too low

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

5. Counselling social services
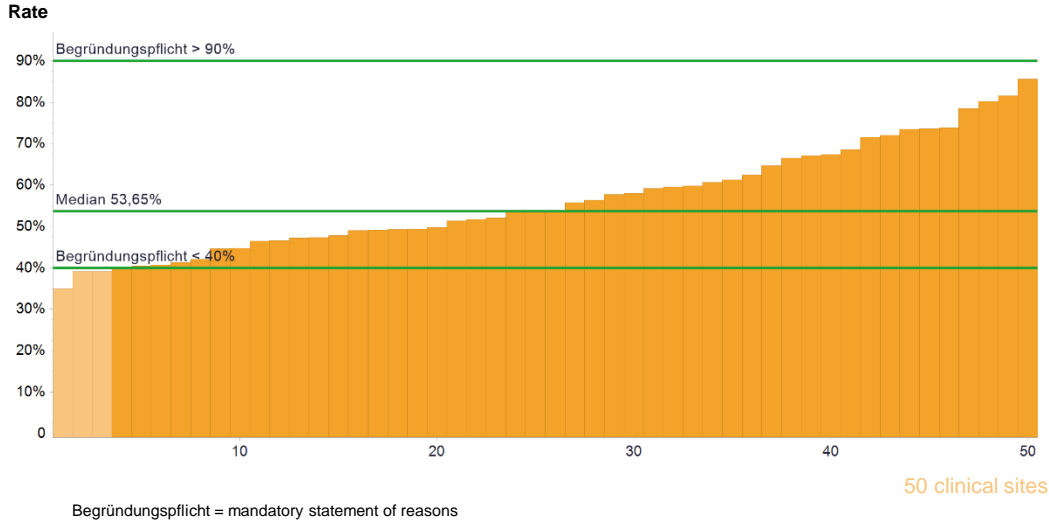
Rate

Begründungspflicht > 90%
Median 53,65%
Begründungspflicht < 40%

50 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Patients who received counselling by the social services in an inpatient or outpatient setting	201*	105 - 929	12,137
Denominator	Primary cases of the LCC (= indicator 1) + patients with a new recurrence and/or remote metastasis after previous curative treatment	363*	228 – 1,159	20,913
Rate	Explanation mandatory*** <40% and >90%	53.65%	34.96% - 85.60%	58.04%**
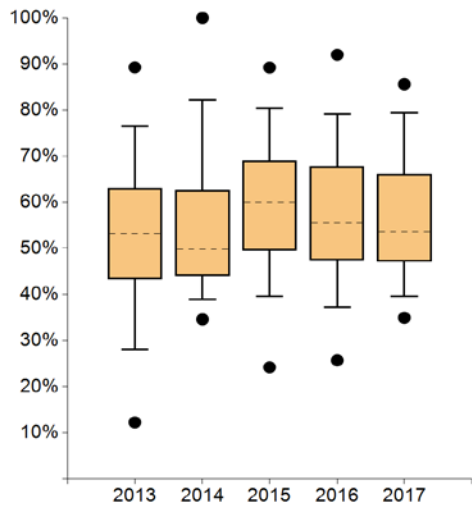
		2013	2014	2015	2016	2017
●	Max	89.27%	100%	89.23%	92.00%	85.60%
	95th percentile	76.48%	82.24%	80.41%	79.15%	79.40%
	75th percentile	63.02%	62.61%	68.99%	67.73%	66.07%
	Median	53.23%	49.75%	59.93%	55.51%	53.65%
	25th percentile	43.33%	43.97%	49.48%	47.47%	47.17%
	5th percentile	28.16%	38.90%	39.60%	37.17%	39.58%
●	Min	12.26%	34.61%	24.21%	25.71%	34.96%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	47	94.00%

Comments:
The indicator for social services counselling was almost unchanged. The median fell slightly. The reason given by the 3 Centres with the lowest rate was short-term staff bottlenecks which had since been remedied by restructuring and new recruitments.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

15

DKG GERMAN CANCER SOCIETY
Certification

6. Study participation
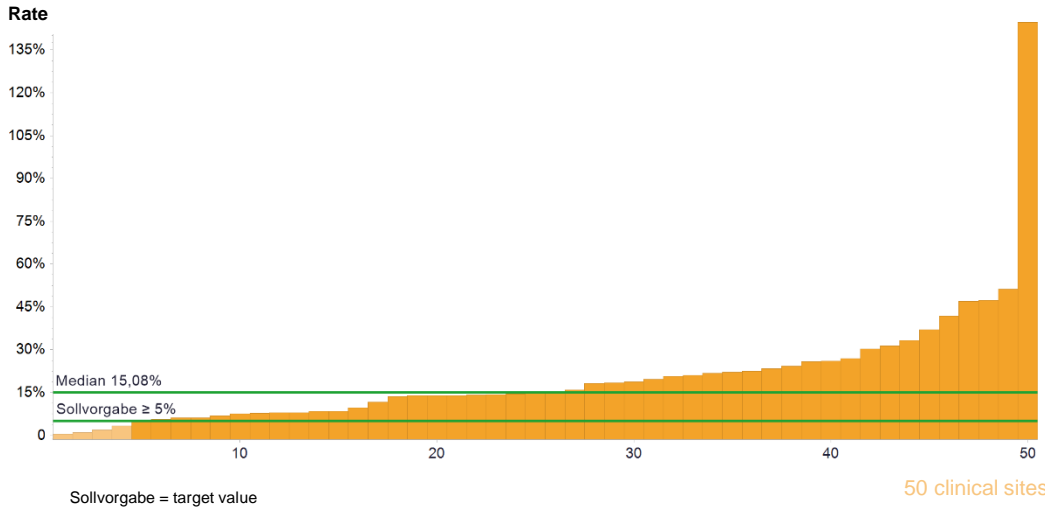
Rate

Median 15,08%
Sollvorgabe ≥ 5%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Patients included in a study	56*	1 - 501	4,209
Denominator	Primary cases of the LCC (= indicator 1)	335.5*	207 – 1,068	19,361
Rate	Target value ≥ 5%	15.08%	040% - 144.71%	21.74%**
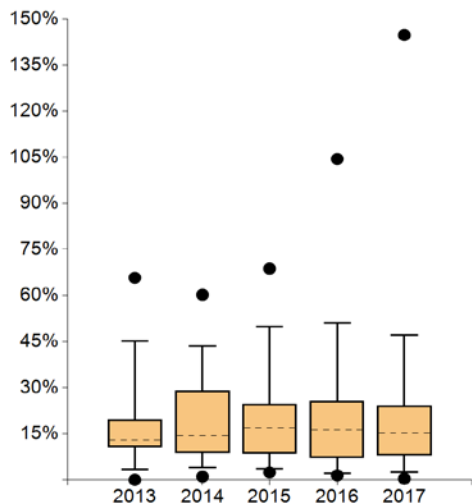
		2013	2014	2015	2016	2017
●	Max	65.77%	60.22%	68.73%	104.42%	144.71%
	95th percentile	45.22%	43.50%	49.93%	51.09%	47.10%
	75th percentile	19.54%	29.06%	24.69%	25.72%	24.05%
	Median	12.98%	14.40%	16.97%	16.44%	15.08%
	25th percentile	10.49%	8.80%	8.69%	7.12%	8.06%
	5th percentile	3.47%	4.09%	3.63%	2.10%	2.48%
●	Min	0.00%	1.06%	2.43%	1.47%	0.40%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	46	92.00%

Comments:
The study rate over the last 3 years was almost unchanged. The median in indicator year (IY) 2017 was slightly lower than in IY 2016. The proportion of Centres that met the target value was higher than the previous year (82.61%). In IY 2017 4 Centres failed to meet the target value. The reasons given by them were the lack of available studies and the unsuitability of patients. The auditors pointed out that the study activity had to be increased. The Centre with the highest rate included several patients in a registry study.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

16

7. Flexible bronchoscopy

Number

Sollvorgabe = target value
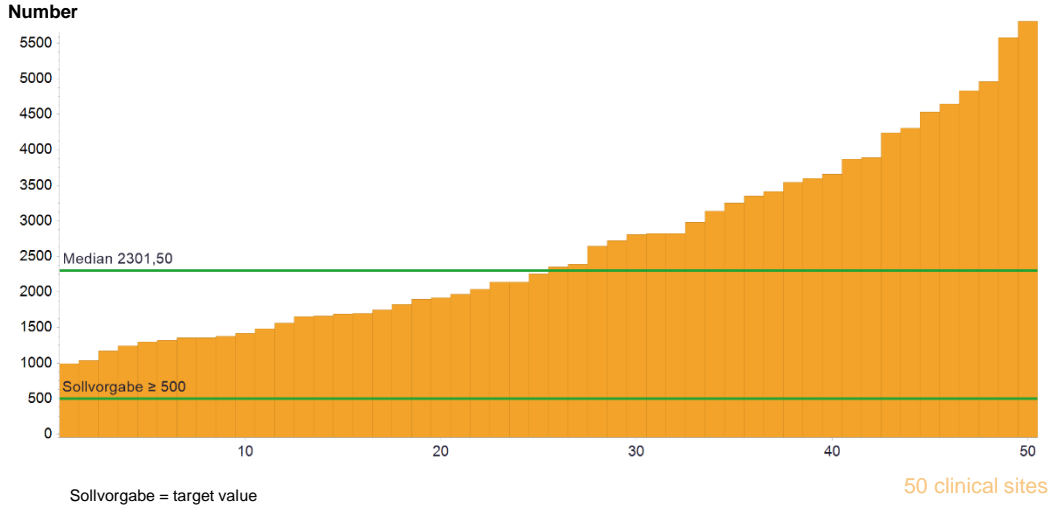
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Flexible bronchoscopies for each service provider	2301.5	991 – 5,807	13,2271
	Target value ≥ 500			
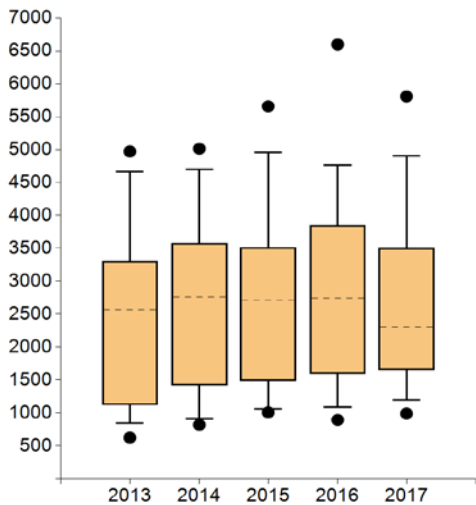
		2013	2014	2015	2016	2017
●	Max	4971.00	5014.00	5657.00	6597.00	5807.00
	95th percentile	4660.00	4701.00	4953.85	4761.00	4009.95
	75th percentile	3304.00	3581.00	3515.00	3846.50	3507.25
	Median	2567.00	2764.00	2705.50	2742.00	2301.00
	25th percentile	1128.00	1421.00	1482.50	1592.50	1625.50
	5th percentile	843.20	912.00	1060.75	1083.00	1199.75
●	Min	625.00	822.00	1009.00	896.00	991.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	50	100.00%

Comments:
As was the case the previous year, all Centres met the target value for flexible bronchoscopies for each service provider.

8. Interventional bronchoscopy (thermal procedures and stenting)

Sollvorgabe = target value
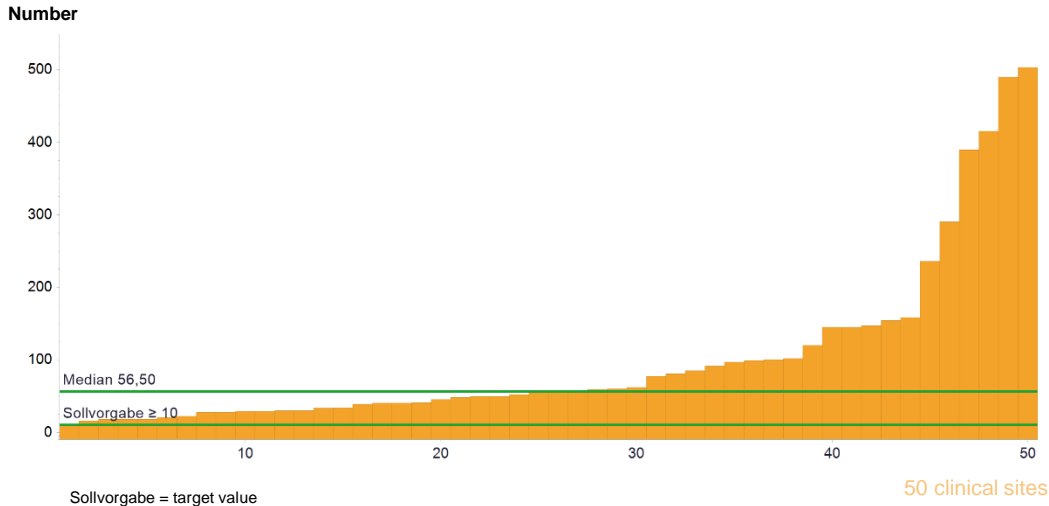
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Interventional surgery (thermal procedures and stenting) for each service provider	56.5	10 - 503	5,043
	Target value ≥ 10			

		2013	2014	2015	2016	2017
●	Max	490.00	493.00	1224.00	400.00	503.00
	95th percentile	352.40	361.00	427.80	270.75	403.30
	75th percentile	106.00	109.00	129.00	125.75	101.50
	Median	55.00	61.00	57.50	63.50	56.50
	25th percentile	32.00	36.00	38.50	33.50	30.75
	5th percentile	20.80	17.00	29.05	17.00	18.00
●	Min	20.00	12.00	23.00	13.00	10.00

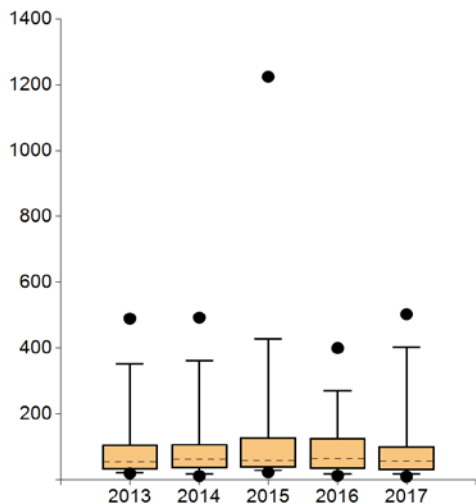| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	49	98.00%

Comments:
The median of interventional bronchoscopies fell compared to the previous year. In indicator year (IY) 2017 5,043 interventions were carried out at 50 clinical sites (IY 2016: 4,306 interventions at 46 clinical sites). One Centre did not meet the target value. The Centre consists of 2 cooperation partners for pneumology whereby 1 partner carried out less than 10 interventions (n=4). The reason given was staff bottlenecks in anaesthetics. They are to be remedied by cooperating with other surgical disciplines in-house.

9a. Lung resections – surgical primary cases

Number
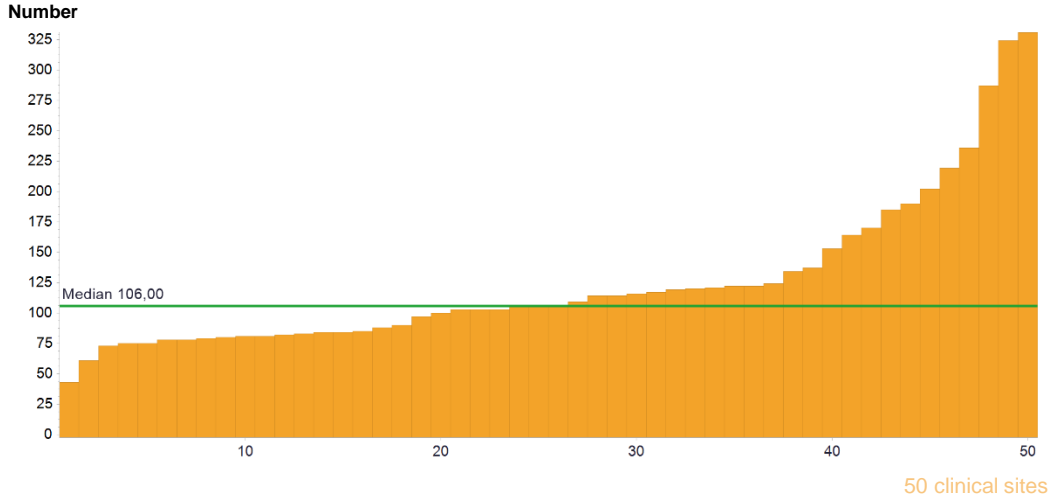
50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Surgical primary cases anatomical lung resections	106	43 - 331	6,253
	No target value defined			
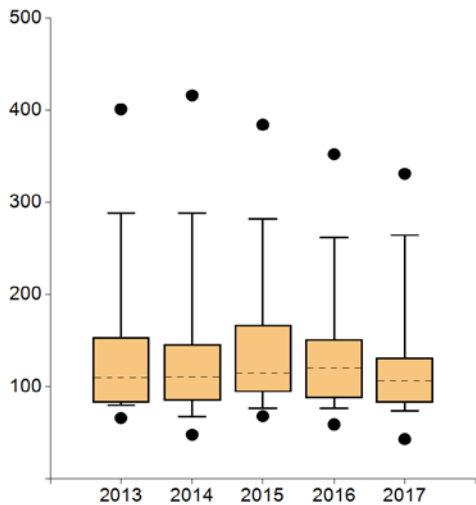
		2013	2014	2015	2016	2017
●	Max	401.00	416.00	384.00	352.00	331,.00
	95th percentile	288.00	288.00	282.15	261.75	264.05
	75th percentile	154.00	146.00	166.75	151.25	131.50
	Median	110.00	111.00	115.00	120.00	106.00
	25th percentile	83.00	85.00	94.00	87.25	83.25
	5th percentile	79.80	68.00	76.05	76.25	73.90
●	Min	66.00	48.00	68.00	59.00	43.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	-----	-----

Comments:
The median of lung resections in the case of lung cancer fell compared to the previous year. Consequently, the majority of Centres recorded a lower number of surgical primary cases than in indicator year 2017. Furthermore, the Centres that were included for the first time in the annual report, carried out fewer surgical interventions (mean: 83.6). The German Centres performed 6,159 surgical lung resections in conjunction with lung cancer in IY 2017. This corresponded to 49.9% of resections carried out throughout Germany (n=12,348, according to hospital statistics).

19

9b. Lung resections – surgical expertise

DKG GERMAN CANCER SOCIETY

Certification

Number

Sollvorgabe = target value
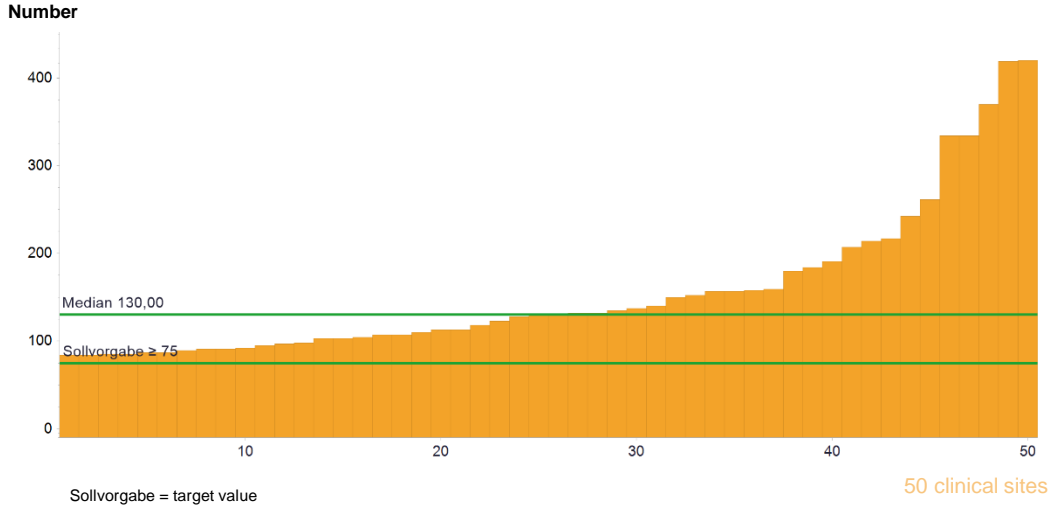
50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Number anatomical resections (OPS: 5-323 to 5-328, 6-digits; exclusively with ICD-10 C34)	130	84 - 420	7,836
	Target value ≥ 75			
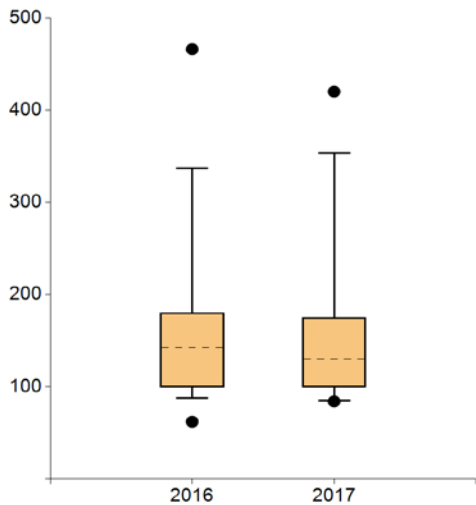
		2013	2014	2015	2016	2017
●	Max	-----	-----	-----	466.00	420.00
	95th percentile	-----	-----	-----	337.00	353.80
	75th percentile	-----	-----	-----	180.00	174.75
	Median	-----	-----	-----	142.50	130.00
	25th percentile	-----	-----	-----	99.25	99.25
	5th percentile	-----	-----	-----	87.25	85.00
●	Min	-----	-----	-----	62.00	84.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	50	100.00%

Comments:
Since 2016, surgical expertise has been recorded on the basis of the number of anatomical lung resections for all malignant tumours. It is done in addition to recording the resections of malignant primary tumours of the lung (Indicator 9a). All Centres met the target value for surgical expertise. As in the case of Indicator 9a, the median was lower.

Back to Table of Contents

10. Share of pneumonectomies in lung resections
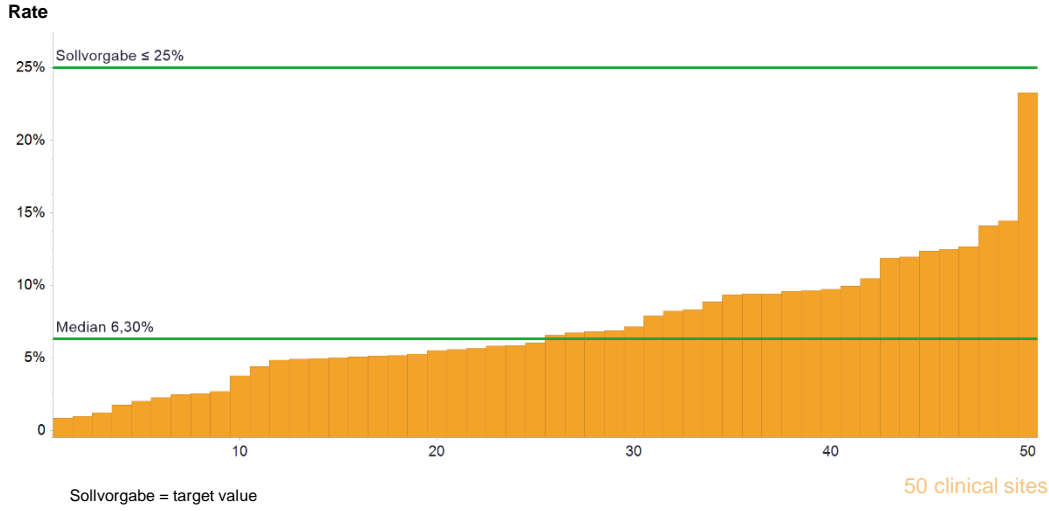
Rate

Sollvorgabe ≤ 25%

Median 6,30%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with pneumonectomies	7*	1 - 41	452
Denominator	Primary cases with lung resection per department (= indicator 9a)	106*	43 - 331	6,253
Rate	Target value ≤ 25%	6.30%	0.82% - 23.26%	7.23%**

.
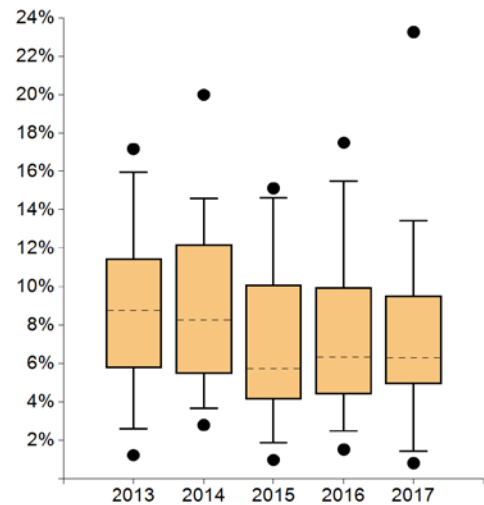
	2013	2014	2015	2016	2017
Max	17.18%	20.00%	15.13%	17.50%	23.26%
95th percentile	15.94%	14.58%	14.60%	15.52%	13.45%
75th percentile	11.49%	12.20%	10.11%	9.94%	9.55%
Median	8.78%	8.27%	5.73%	6.35%	6.30%
25th percentile	5.75%	5.48%	4.13%	4.39%	4.93%
5th percentile	2.63%	3.66%	1.89%	2.49%	1.45%
Min	1.23%	2.80%	0.99%	1.53%	0.82%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	50	100.00%

Comments:
The indicator was unchanged compared to the previous year. As in indicator year 2016, all Centres met the target value. Centres with high rates of pneumonectomies did not also have simultaneous low rates of bronchioplastic/angioplastic resections. Since indicator year 2018, the ratio of pneu-monectomies and bronchioplastic/angioplastic resections has been recorded in a joint indicator.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

21

11. Share of bronchoplasty/angioplasty procedures in lung resections
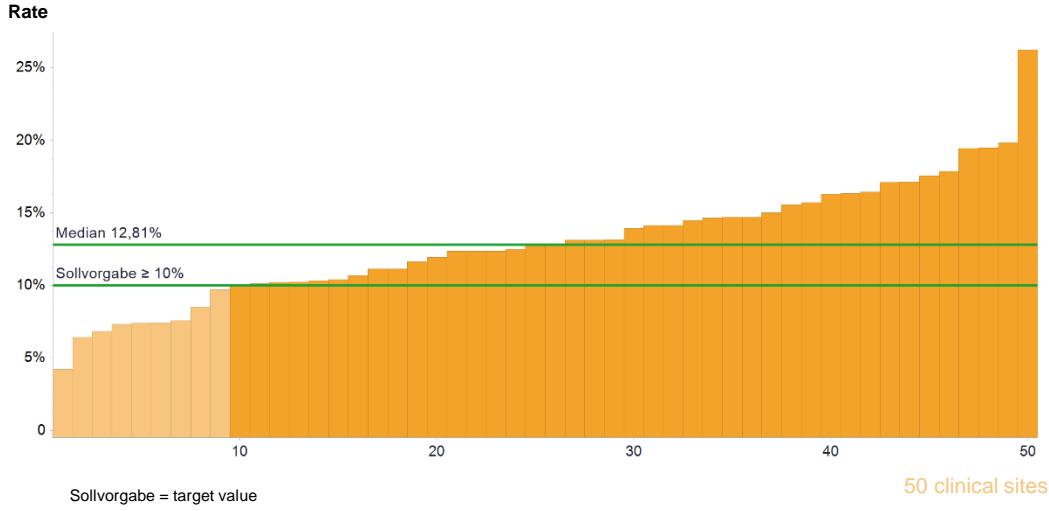
Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with bronchoplasty / angioplasty procedures	13,5*	5 - 52	801
Denominator	Primary cases with lung resection per department (= indicator 9a)	106*	43 - 331	6,253
Rate	Target value ≥ 10%	12.81%	4.20% - 26.23%	12.81%**
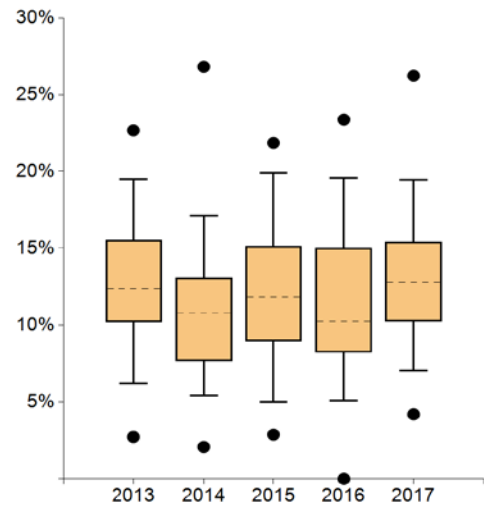
		2013	2014	2015	2016	2017
●	Max	22.68%	26.82%	21.86%	23.38%	26.23%
	95th percentile	19.50%	17.14%	19.89%	19.59%	19.45%
	75th percentile	15.53%	13.08%	15.15%	15.04%	15.42%
	Median	12.35%	10.83%	11.85%	10.25%	12.81%
	25th percentile	10.21%	7.69%	8.96%	8.23%	10.24%
	5th percentile	6.22%	5.41%	5.01%	5.11%	7.05%
●	Min	2.73%	2.08%	2.88%	0.00%	4.20%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	41	82.00%

Comments:
The median of the indicator increased. Most of the Centres were able to increase their rate compared to the previous year. The proportion of Centres that met the target value was also higher compared to the previous year (2016: 56.52%). The main reason given by the Centres for failing to meet the target value was the low number of central tumours. The auditors examined the indication and watched out for low rates of pneumonectomies. Since indicator year 2018, the ratio of pneumonectomies and bronchioplastic/angioplastic resections has been recorded in a joint indicator.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

22

DKG GERMAN CANCER SOCIETY

Certification

12. 30d lethality after resections
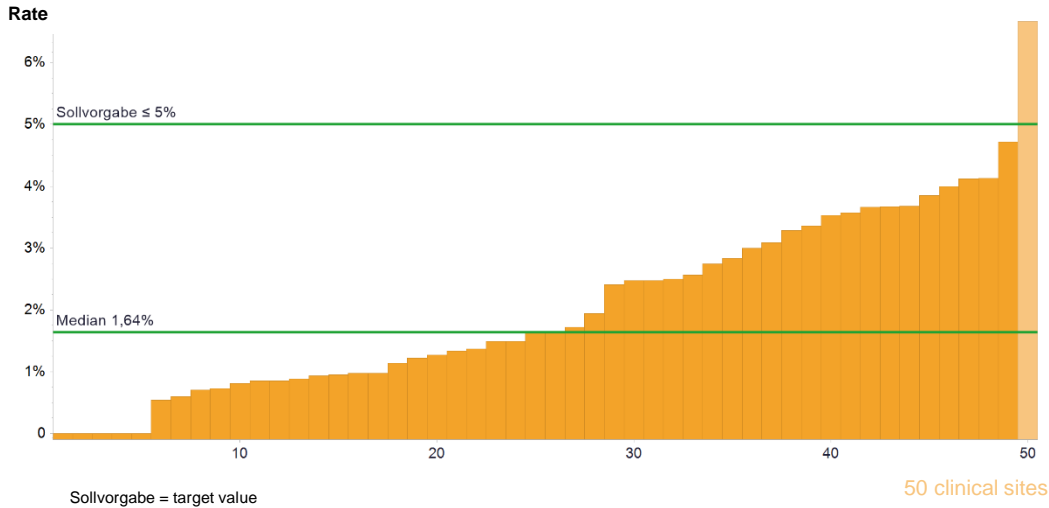
Rate

Sollvorgabe ≤ 5%

Median 1,64%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Post-operative deceased patients after resection within 30d	2*	0 - 7	120
Denominator	Primary cases with lung resection per department (= indicator 9a)	106*	43 - 331	6,253
Rate	Target value ≤ 5%	1.64%	0.00% - 6.67%	1.92%**
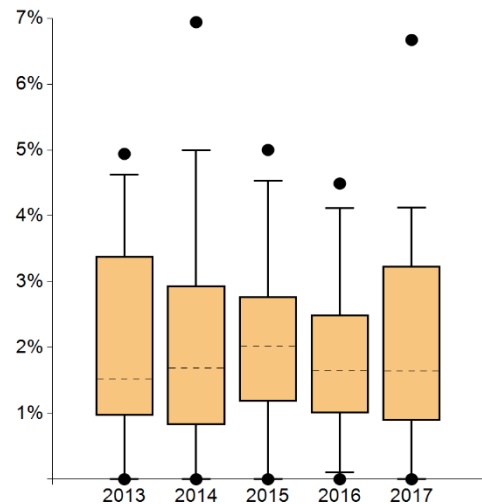
		2013	2014	2015	2016	2017
●	Max	4.94%	6.94%	5.00%	4.49%	6.67%
	95th percentile	4.63%	5.00%	4.53%	4.12%	4.13%
	75th percentile	3.38%	2.94%	2.77%	2.50%	3.23%
	Median	1.52%	1.69%	2.02%	1.65%	1.64%
	25th percentile	0.97%	0.83%	1.18%	1.01%	0.89%
	5th percentile	0.00%	0.00%	0.00%	0.11%	0.00%
●	Min	2013	2014	2015	2016	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	49	98.00%

Comments:
The indicator was again very well implemented in the Centres. The median of post-operative 30-d lethality remained the same as the previous year. One Centre exceeded the target value in indicator year 2017. During the audit individual cases were examined. In the case of the indication for surgery, the Centre will, in future, pay increased attention to comorbidities. A clear improvement in the rate could already be documented for the first quarter of 2018.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

Back to Table of Contents

13. Post-operative bronchial stump/anastomosis insufficiency

Rate

Sollvorgabe ≤ 5%

Median 1,21%

Sollvorgabe = target value
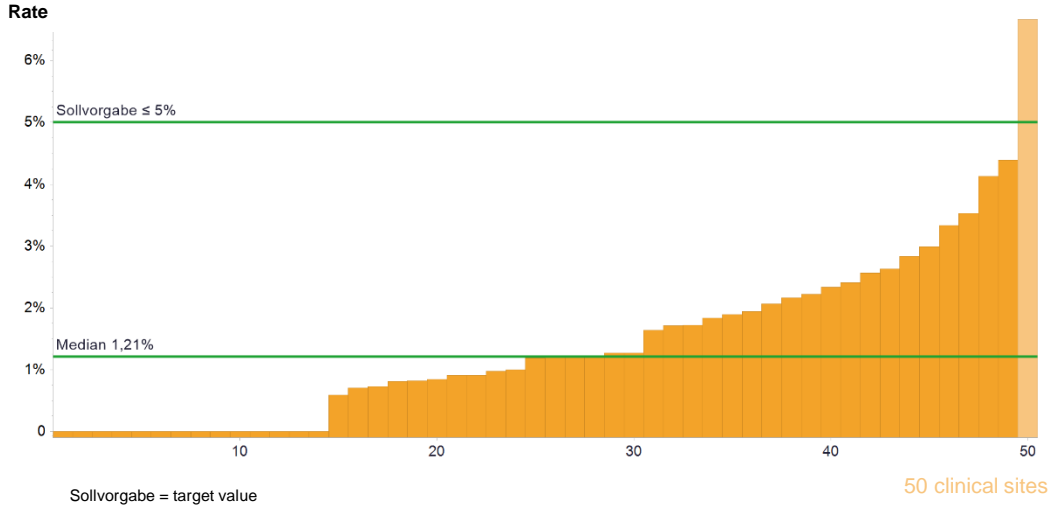
50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	Range	Patients Total
Numerator	Post-operative bronchial stump/anastomosis insufficiency	1*	0 - 7	83
Denominator	Primary cases with lung resection per department (= indicator 9a)	106*	43 - 331	6,253
Rate	Target value ≤ 5%	1.21%	0.00% - 6.67%	1.33%**

.
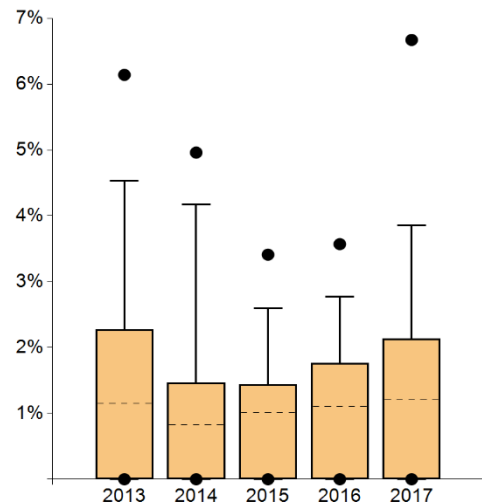
		2013	2014	2015	2016	2017
●	Max	6.14%	4.96%	3.41%	3.57%	6.67%
	95th percentile	4.53%	4.17%	2.59%	2.77%	3.86%
	75th percentile	2.27%	1.47%	1.44%	1.77%	2.14%
	Median	1.15%	0.83%	1.01%	1.11%	1.21%
	25th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
	5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
●	Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	49	98.00%

Comments:
Compared to the previous year the median and the 75th and 95th percentiles of the indicator increased. One Centre exceeded the target value. This was a different Centre from the Centre with the highest rate for Indicators 12 and 14. During the audit individual case analysis was undertaken and the auditor was able to verify the plausibility of the complication cases.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

14. Revision surgeries
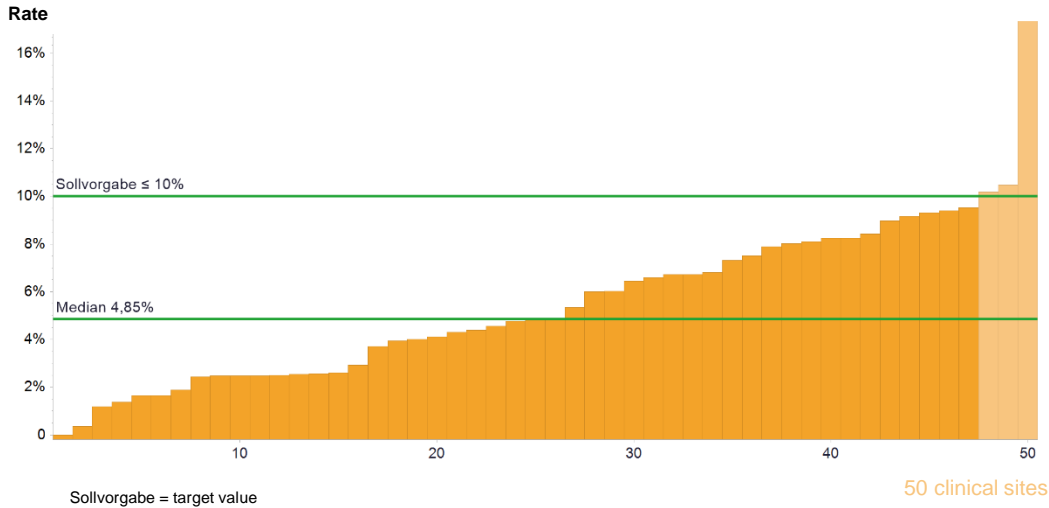
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Revision surgeries resulting from perioperative complications	5*	0 - 26	345
Denominator	Primary cases with lung resection per department (= indicator 9a)	106*	43 - 331	6,253
Rate	Target value ≤ 10%	4.85%	0.00% - 17.78%	5.52%**

Sollvorgabe = target value

		2013	2014	2015	2016	2017
●	Max	18.85%	13.48%	12.87%	15.58%	17.78%
	95th percentile	10.59%	11.11%	9.78%	9.34%	9.88%
	75th percentile	7.98%	7.46%	7.82%	8.09%	7.99%
	Median	6.38%	4.24%	4.93%	5.70%	4.85%
	25th percentile	5.00%	2.80%	3.43%	3.59%	2.54%
	5th percentile	1.81%	1.37%	1.31%	1.40%	1.27%
●	Min	1.23%	0.24%	0.00%	0.00%	0.00%

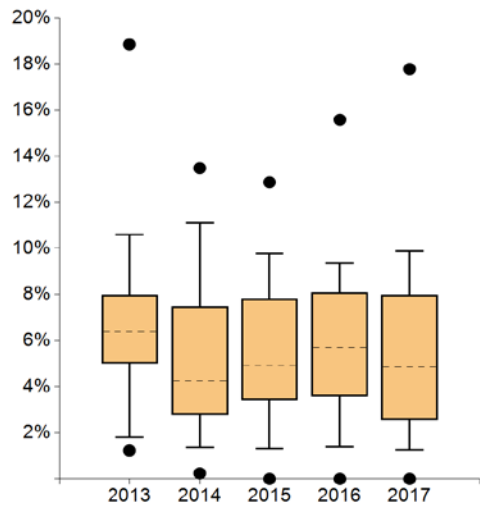| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	47	94.00%

Comments:
The median of the rate of revision surgeries was lower compared to the previous year. The overall rate in the Centres in indicator year (IY) 2017 was 5.52% and was, therefore, lower than in IY 2016 (5.95%). 3 Centres failed to meet the target value in IY 2017. The previous year they had all met the target value. The most frequent reasons for the revisions were bleeding, infections and anastomosis insufficiencies. Here, too, the auditors verified the plausibility of the individual cases and improvement measures were agreed, for instance: stricter indication with a view to comorbidities and comedications

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

15. Local R0 resections in stages IA/B and IIA/B
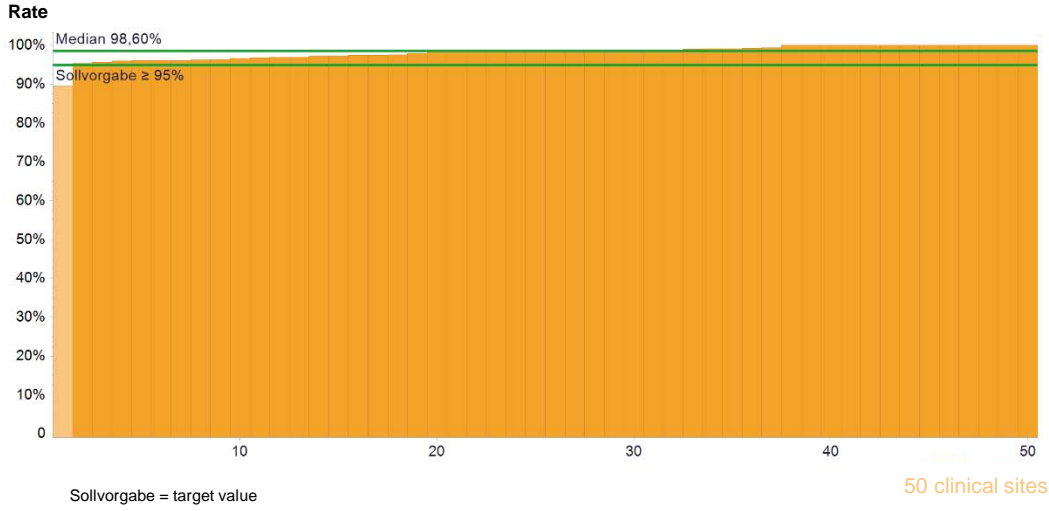
Rate

Median 98,60%

Sollvorgabe ≥ 95%

Sollvorgabe = target value

50 clinical sites

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with local R0 resections in stages IA/B and IIA/B after conclusion of surgical therapy	71.5*	19 - 229	4,098
Denominator	Operated primary cases patients in stages IA/B and IIA/B	73*	19 - 238	4,179
Rate	Target value ≥ 95%	98.60%	89.58% - 100%	98.06%**
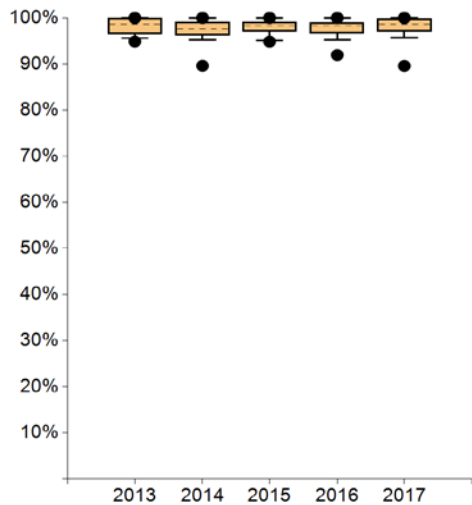
		2013	**2014**	**2015**	**2016**	**2017**
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	100%	100%	100%
	75th percentile	100%	99.12%	99.20%	99.01%	99.83%
	Median	98.59%	97.59%	98.29%	98.29%	98.60%
	25th percentile	96.55%	96.20%	97.06%	96.64%	96.98%
	5th percentile	95.61%	95.14%	95.04%	95.15%	95.77%
●	Min	94.87%	89.61%	94.85%	91.94%	89.58%

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	49	98.00%

Comments:
The indicator for the R0 resection rate for stages I and II was very well implemented in the Centres. As was the case in previous years, the median was >98%. 1 Centre failed to meet the target value. The Centre analysed the individual cases with R1 resections in an interdisciplinary exchange between pathology and thoracic surgery in order to increase the R0 resection rate in future.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

16. Local R0 resections in stages IIIA/B
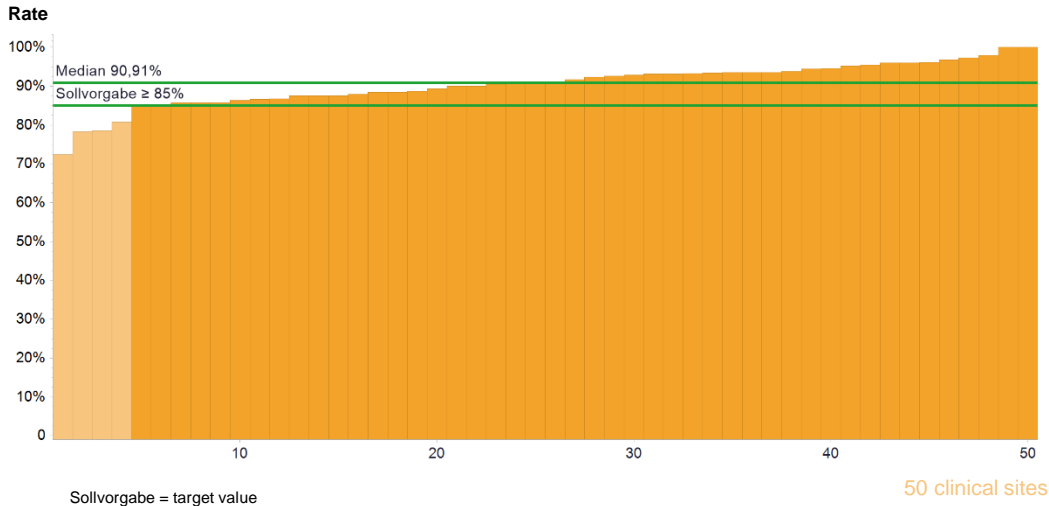
Sollvorgabe = target value

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Primary cases with local R0 resections in stages IIIA/B after conclusion of surgical therapy	27*	11 - 95	1,554
Denominator	Operated primary cases in stages IIIA/B	29*	12 - 121	1,727
Rate	Target value ≥ 85%	90.91%	72.41% - 100%	89.98%**
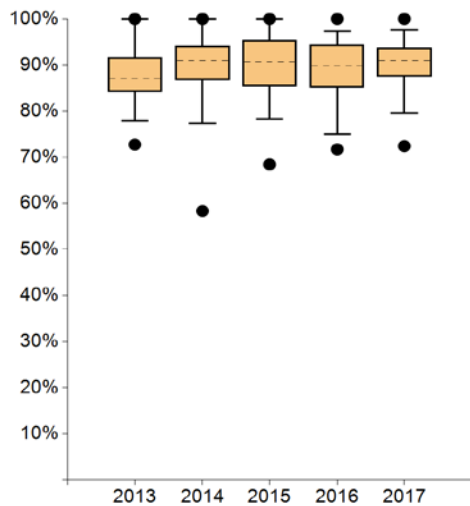
		2013	2014	2015	2016	2017
●	Max	100%	100%	100%	100%	100%
	95th percentile	100%	100%	99.94%	97.29%	97.58%
	75th percentile	91.67%	94.12%	95.32%	94.40%	93.70%
	Median	87.04%	90.91%	90.70%	89.83%	90.91%
	25th percentile	84.21%	86.67%	85.37%	85.15%	87.50%
	5th percentile	77.89%	77.34%	78.26%	75.00%	79.53%
●	Min	72.73%	58.33%	68.42%	71.70%	72.41%

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	46	92.00%

Comments:
The indicator for R0 resections in stage III was also very successfully implemented in the Centres. The proportion of Centres that met the target value was far higher compared to the previous year (2016: 78.26%). All the Centres that failed to meet the target value in indicator year (IY) 2016, were able to increase their rate in IY 2017. The main reasons given by the Centres for failing to meet the target value in IY 2017 were resections with palliative intention or renunciation of frozen section after macroscopic assessment. One improvement measure amongst others entailed the more consistent performance of frozen sections.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.

17. Thoracic radiotherapy

Sollvorgabe = target value
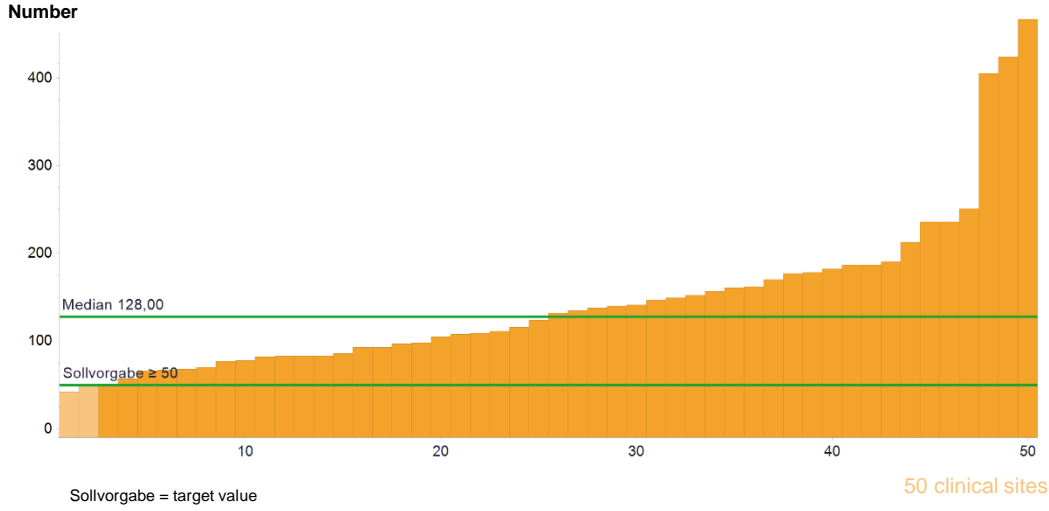
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Thoracic radiotherapy (not just referring to primary cases)	128	42 - 499	7,244
	Target value ≥ 50			
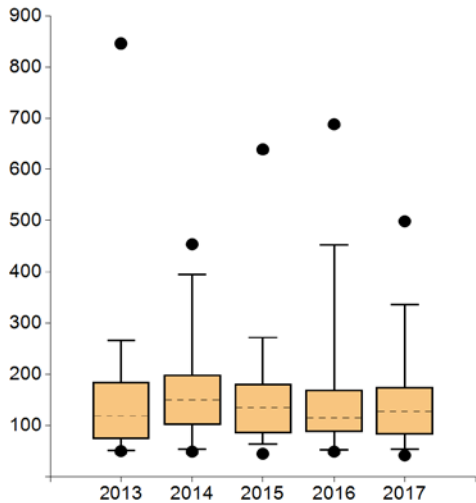
		2013	2014	2015	2016	2017
●	Max	846.00	454.00	639.00	688.00	499.00
	95th percentile	265.40	394.00	271.85	452.50	335.70
	75th percentile	185.00	199.00	181.75	170.00	175,.25
	Median	118.00	151.00	135.00	114.50	128.00
	25th percentile	74.00	102.00	85.25	87.50	83.00
	5th percentile	52.00	54.00	63.15	52.25	53.70
●	Min	50.00	49.00	45.00	49.00	42.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	42	84.00%

Comments:

Overall, the indicator for thoracic radiotherapy was implemented well by the Centres. In total, 8 Centres failed to meet the target value whereby 6 Centres listed several cooperation partners for the radiotherapy. When added together they met the target value but not when regarded separately. The reasons given for failing to meet the target value were the specific features of regional care structures and the lack of opportunities to guide patients as the health insurance funds only covered the travel costs to the nearest radiotherapy facility. This subject will be discussed at the next meeting of the Certification Committee.

18. Pathology reports

Number

Sollvorgabe = target value
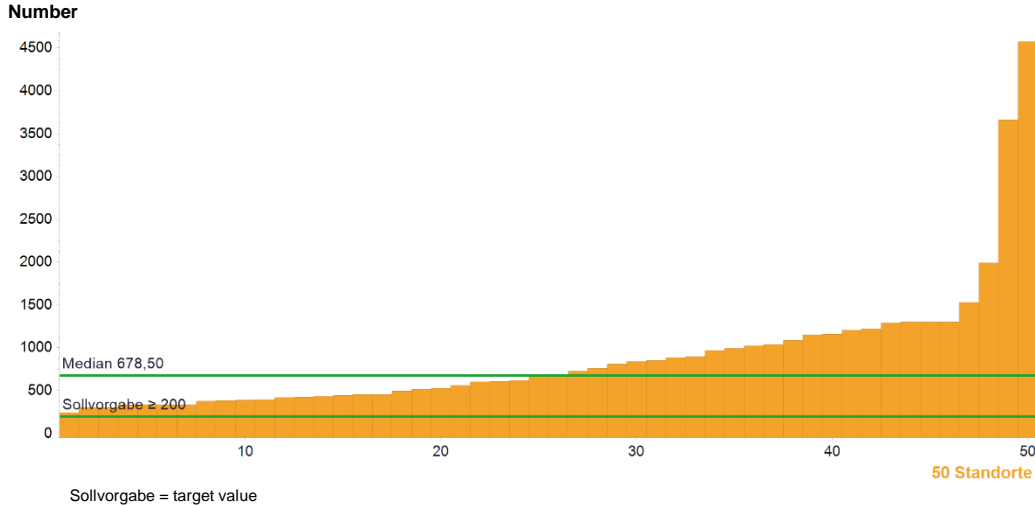
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Number	Assessed malignant lung cases	678.5	238 – 4,572	44,106
	Target value ≥ 200			
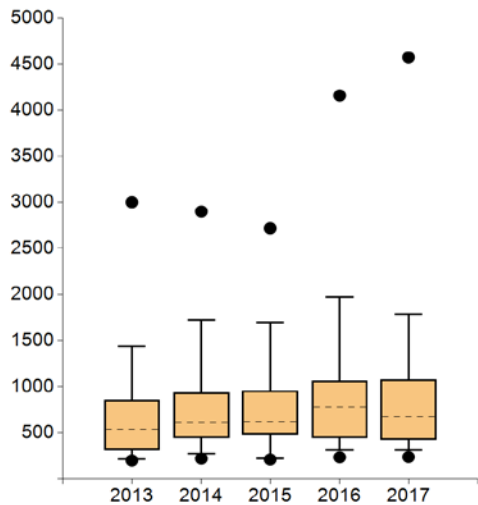
		2013	**2014**	**2015**	**2016**	**2017**
●	Max	3000.00	2900.00	2718.00	4158.00	4572.00
	95th percentile	1440.00	1724.00	1698.60	1976.75	1781.10
	75th percentile	854.00	936.00	958.00	1061.00	1074.50
	Median	536.00	613.00	620.50	773.50	678.50
	25th percentile	314.00	445.00	475.50	447.00	423.25
	5th percentile	213.40	275.00	217.55	313.00	313.75
●	Min	200.00	221.00	211.00	235.00	238.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	50	100.00%

Comments:
All Centres met the target value for the number of pathological reports on malignant lung cases.

DKG GERMAN CANCER SOCIETY
Certification

19. Adjuvant cisplatin-containing chemotherapy stages II-IIIA1/2 (GL QI 3)

Rate

Begründungspflicht > 70%

Median 33,33%

Begründungspflicht < 15%

10   20   30   40   50

50 Standorte

Begründungspflicht = mandatory statement of reasons
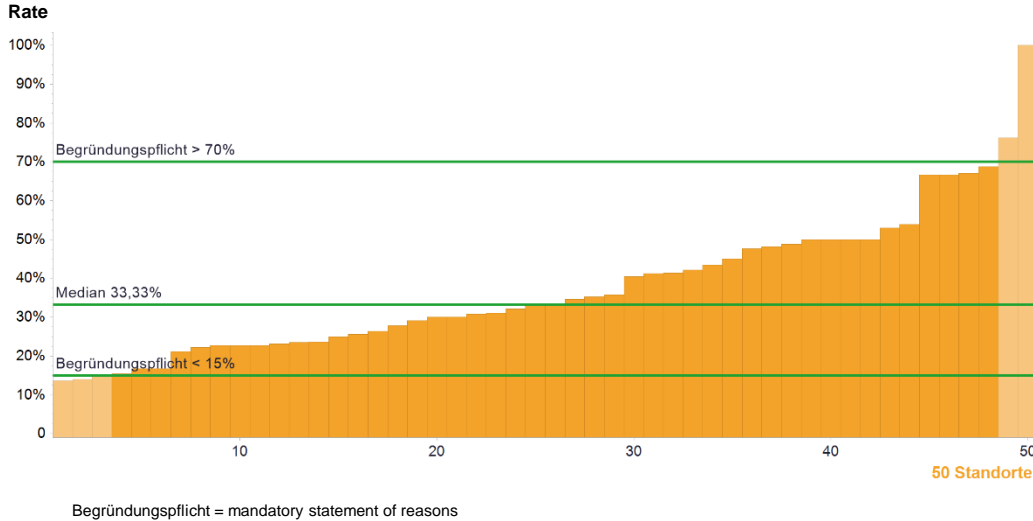
	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Cisplatin-based chemotherapy to treat primary cases of R0 and lymph node resected NSCLCC stages II-IIIA1/2 with ECOG 0/1	10*	2 - 57	664
Denominator	R0 and lymph node NSCLCC primary cases stage II-IIIA1/2	29.5*	6 - 136	1,828
Rate	Explanation mandatory*** <15% and >70%	33.33%	13.64% - 100%	36.32%**
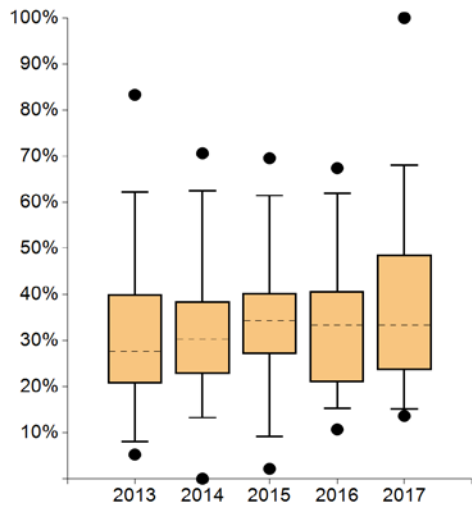
		2013	**2014**	**2015**	**2016**	**2017**
●	Max	83.33%	70.59%	69.57%	67.39%	100%
	95th percentile	62.23%	62.50%	61.39%	61.94%	67.99%
	75th percentile	40.00%	38.46%	40.32%	40.66%	48.67%
	Median	27.68%	30.23%	34.25%	33.33%	33.33%
	25th percentile	20.69%	22.82%	27.01%	20.96%	23.57%
	5th percentile	8.16%	13.25%	9.19%	15.26%	15.07%
●	Min	5.26%	0.00%	2.17%	10.71%	13.64%

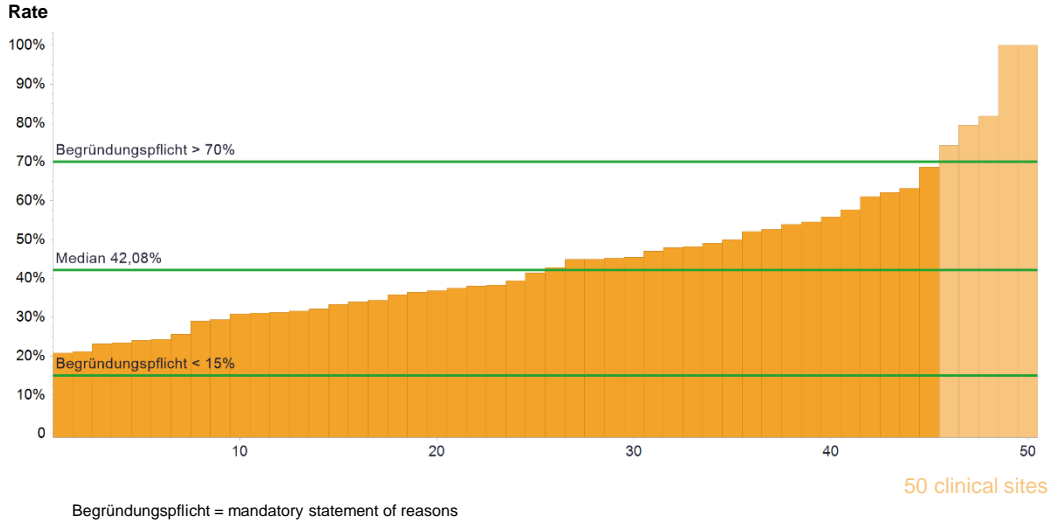| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	100.00%	45	90.00%

Comments:
The median remained constant and the 75th and 95th percentiles of the quality indicator from the Guideline increased. Most of the Centres increased their rate compared to the previous year. What was particularly noticeable over the years was a broad scattering of the rates in the Centres. The main reasons given by the Centres with the low rates were contraindications for the administration of cisplatin and the alternative administration of carboplatin. The improvement measures that were agreed included the systematic discussion of adjuvant cisplatin therapy in the post-operative tumour conference.

*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.
** If value is outside the plausablilty corridor. centres have to give an explanation.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

30

20. Combined radio-chemotherapy in stages IIIA4/IIIB (GL QI 4)

Rate

Begründungspflicht > 70%

Median 42,08%

Begründungspflicht < 15%

50 clinical sites

Begründungspflicht = mandatory statement of reasons

	Definition of indicator	All clinical sites 2017		
		Median	**Range**	**Patients Total**
Numerator	Combined radio-chemotherapies for NSCLCC primary cases stages IIIA4/IIIB with ECOG 0/1	18,5*	5 - 85	1,086
Denominator	NSCLCC primary cases stages IIIA4/IIIB	41*	6 - 181	2,574
Rate	Explanation mandatory*** <15% and >70%	42.08%	20.83% - 100%	42.19%**
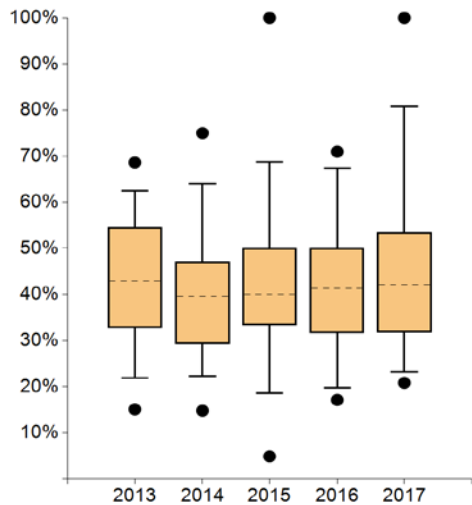
		2013	2014	2015	2016	2017
●	Max	68.63%	75.00%	100%	70.97%	100%
	95th percentile	62.47%	64.00%	68.72%	67.40%	80,74%
	75th percentile	54.55%	47.06%	50.00%	50.00%	53,55%
	Median	42.86%	39.58%	40.00%	41.38%	42,08%
	25th percentile	32.69%	29.29%	33.33%	31.65%	31,77%
	5th percentile	21.82%	22.22%	18.55%	19.75%	23,22%
●	Min	15.09%	14.81%	4.88%	17.12%	20,83%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
50	97.83%	45	90.00%

Comments:
For this quality indicator from the Guideline, too, the median remained the same compared to the previous year and the 75th and 95th percentiles increased. The 5 Centres with the lowest rates in indicator year (IY) 2016 were all able to increase their rate in IY 2017. As was the case for Indicator 19, there was a broad scattering of the rates in the Centres.

* 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.
** If value is outside the plausablilty corridor. centres have to give an explanation.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

31

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)
Christoph Kowalski, German Cancer Society (DKG)
Ellen Griesshammer, German Cancer Society (DKG)
Henning Adam, German Cancer Society (DKG)
Agnes Bischofberger, OnkoZert
Orsolya Penzes, OnkoZert
Julia Ferencz, OnkoZert

9 783948 226060