Indicator Analysis 2021

Annual Report of the Certified Neuro-oncology Cancer Centres

Audit year 2020 / Indicator year 2019

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General information

	Indicator definition	All clinical sites 2019		
		Median		**Range**
Numerator	Primary cases (elective patients:pre-intervention. emergency patients: post-intervention) who were presented in the tumour conference	172*	74 - 588	9,366
Denominator	Primary cases (= Indicator 1)	184.5*	109 - 607	9,914
Rate	Target value ≥ 95%	96.81%	39.36% - 100%	94.47%**

Sollvorgabe = target value
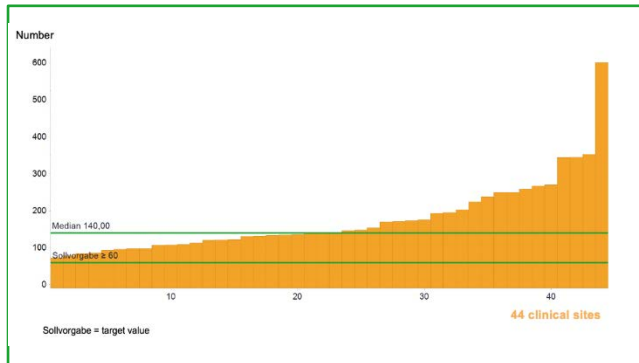
Basic data indicator:

The definition of the numerator, denominator and the target value are taken from the indicator sheet.

The specification of 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.

Under Range, the value range for the numerator, denominator and ratio of all centers is specified.

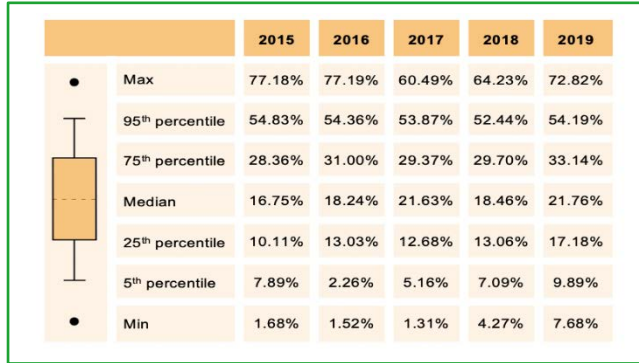The Total Patients column displays the total of all patients treated according to the indicator and the corresponding quota.

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.

General information

		2015	2016	2017	2018	2019
•	Max	77.18%	77.19%	60.49%	64.23%	72.82%
	95th percentile	54.83%	54.36%	53.87%	52.44%	54.19%
	75th percentile	28.36%	31.00%	29.37%	29.70%	33.14%
	Median	16.75%	18.24%	21.63%	18.46%	21.76%
	25th percentile	10.11%	13.03%	12.68%	13.06%	17.18%
	5th percentile	7.89%	2.26%	5.16%	7.09%	9.89%
•	Min	1.68%	1.52%	1.31%	4.27%	7.68%

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
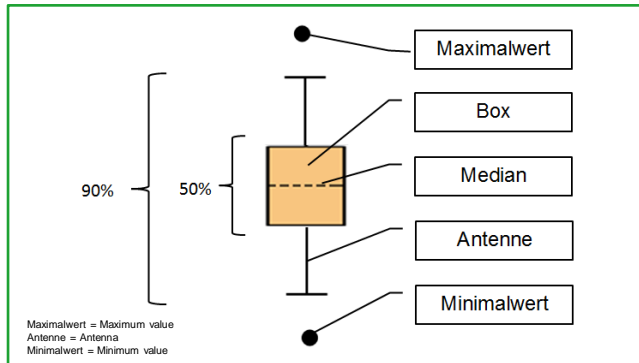
Box plot:

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 Neuro-oncology Cancer Centres 2020

	31.12.2020	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015
Ongoing procedures	5	2	2	5	8	4
Certified Centres	46	42	38	32	26	21
Certified clinical sites	47	43	39	33	27	22
Neuro-oncology Cancer Centres with						
1 clinical site	45	41	37	31	25	20
2 clinical sites	1	1	1	1	1	1
3 clinicial sites	0	0	0	0	0	0
4 clinical sites	0	0	0	0	0	0

Clinical sites taken into account

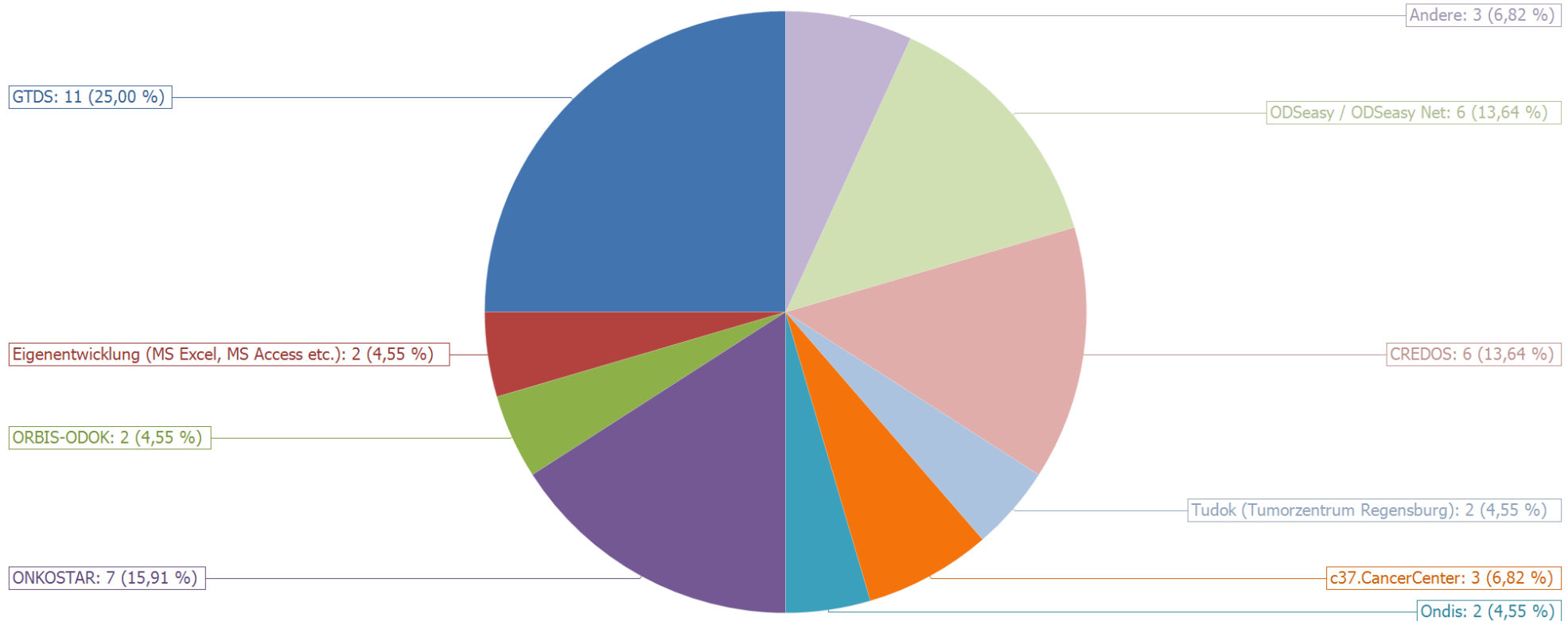|	31.12.2020	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015
Clinical sites included in the Annual Report	44	40	38	30	24	19
equivalent to	93.6%	93.0%	97.4%	90.9%	88.9%	86.4%
Primary cases total*	9,914	9,254	8,820	7,219	5,067	3,952
Primary cases per clinical site (mean)*	225.3	231.4	232.1	240.6	211.1	208
Primary cases per clinical site (median)*	184.5	201.5	192.5	214	202.5	213

*The figures are based on the clinical sites listed in the Annual Report.

This annual report looks at the neuro-oncological centers certified in the certification system of the German Cancer Society. The basis for the diagrams in the annual report is the data sheet.

The annual report includes 44 of the 47 certified center locations. Excluded are 3 sites that were certified for the first time in 2020 (data mapping of the complete calendar year is not mandatory for initial certifications). In all 47 sites 10278 primary neuro-oncological cases were treated. An up-to-date overview of all certified sites is available at www.oncomap.de

The indicators published here relate to the indicator year 2019 and provide the basis for the audits conducted in 2020.
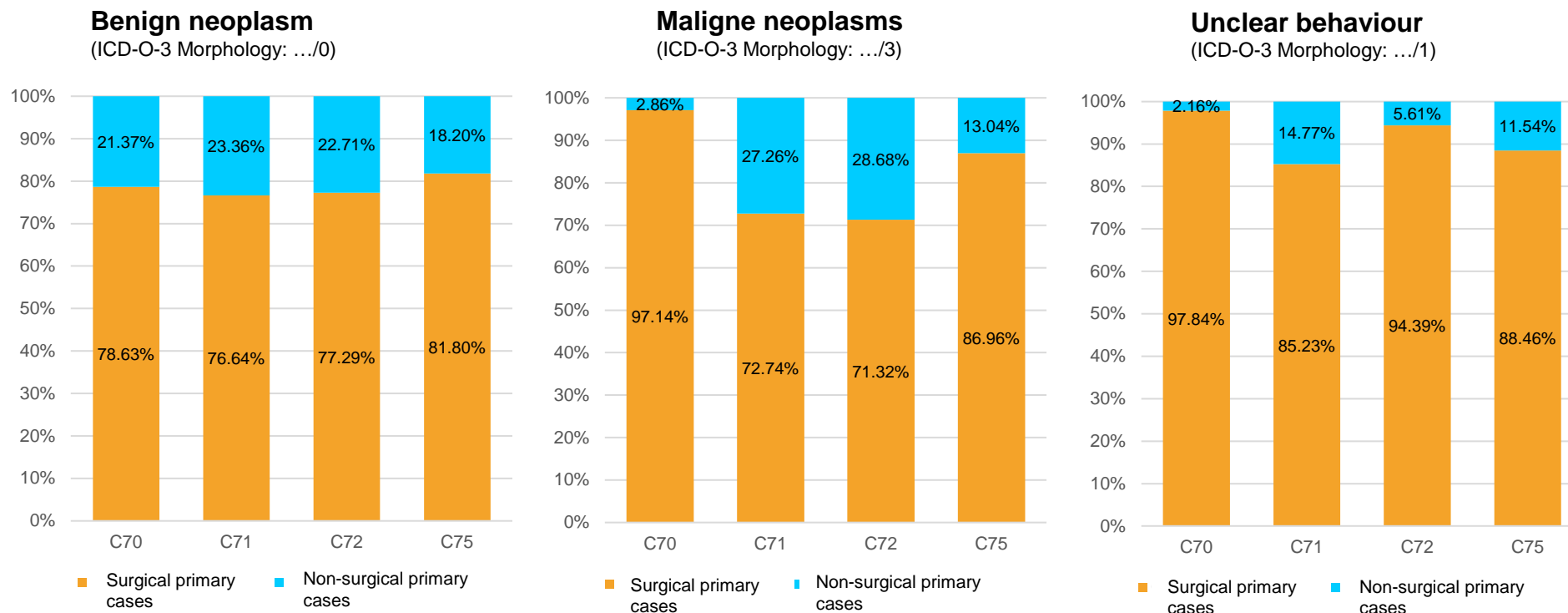
Tumour documentation systems in the Centre's clinical sites

Andere: 3 (6,82 %)

ODSeasy / ODSeasy Net: 6 (13,64 %)

CREDOS: 6 (13,64 %)

Tudok (Tumorzentrum Regensburg): 2 (4,55 %)

c37.CancerCenter: 3 (6,82 %)

Ondis: 2 (4,55 %)

ONKOSTAR: 7 (15,91 %)

ORBIS-ODOK: 2 (4,55 %)

Eigenentwicklung (MS Excel, MS Access etc.): 2 (4,55 %)

GTDS: 11 (25,00 %)

Andere = other
Eigenentwicklung = intrinsic development
Tumorzentrum = tumour centre

The information on the tumour documentation system was taken from the data sheet (Basic Data Sheet). It is not possible to specify several systems. In many cases, support is provided by the cancer registries or there may be a direct link to the cancer registry via a specific tumor documentation system.
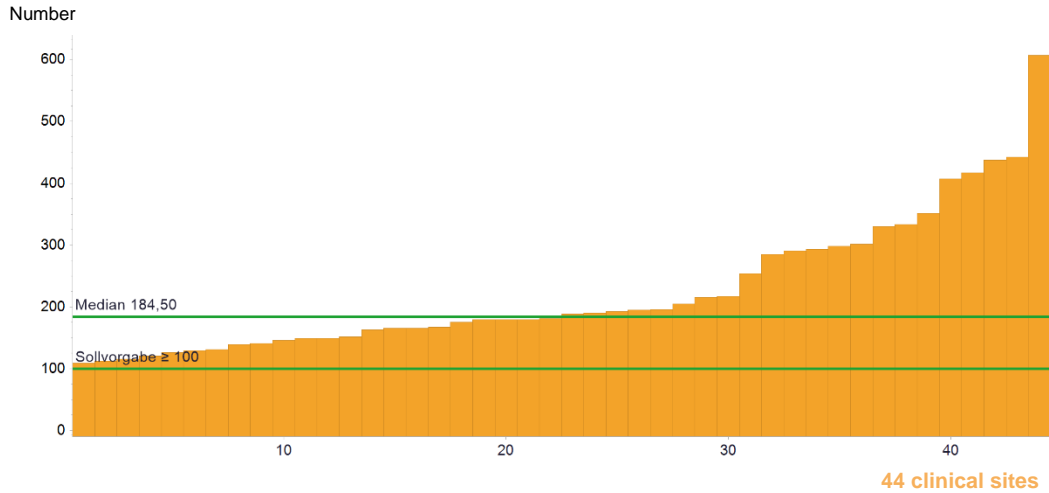
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Basic data – Stage distribution primary cases

Benign neoplasm
(ICD-O-3 Morphology: …/0)

Maligne neoplasms
(ICD-O-3 Morphology: …/3)

Unclear behaviour
(ICD-O-3 Morphology: …/1)

|	Benign neoplasms (ICD-O-3 Morphology: …/0)				Malignant neoplasms (ICD-O-3 Morphology: …/3)				Uncertain growth behaviour (ICD-O-3 Morphology: …/1)				Total
	C70	C71	C72	C75	C70	C71	C72	C75	C70	C71	C72	C75	
Non-surgical	666 (21.37%)	64 (23.36%)	213 (22.71%)	227 (18.20%)	1 (2.86%)	926 (27.26%)	39 (28.68%)	3 (13.04%)	7 (2.16%)	39 (14.77%)	6 (5.61%)	6 (11.54%)	2,197
Surgical	2,451 (78.63%)	210 (76.64%)	725 (77.29%)	1,020 (81.80%)	34 (97.14%)	2.471 (72.74%)	97 (71.32%)	20 (86.96%)	317 (97.84%)	225 (85.23%)	101 (94.39%)	46 (88.46%)	7,717
Primary cases total	3,117 (100%)	274 (100%)	938 (100%)	1,247 (100%)	35 (100%)	3,397 (100%)	136 (100%)	23 (100%)	324 (100%)	264 (100%)	107 (100%)	52 (100%)	9,914

C70: neoplasm of meninges; **C71**: neoplasm of brain; **C72**: neoplasm of medulla and cerebral nerves; **C75**: Other endocrine glands and related structures
in line with ICD-O-3 topography

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1. Number of primary cases

Number

Median 184,50

Sollvorgabe ≥ 100

44 clinical sites

Sollvorgabe = target value

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Primary cases def. in line with 1.2.1	184.5	109 - 607	9,914
	Target value ≥ 100			
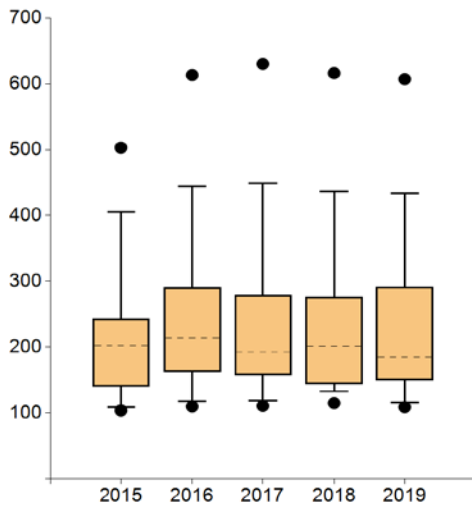
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	503.00	613.00	630.00	616.00	607.00
	95th percentile	405.20	444.25	448.35	436.70	434.00
	75th percentile	243.25	290.25	279.50	276.25	291.50
	Median	202.50	214.00	192.50	201.50	184.50
	25th percentile	139.75	162.00	158.00	143.75	149.00
	5th percentile	108.75	118.15	118.65	132.85	115.75
●	Min	104.00	110.00	111.00	115.00	109.00

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
44	100.00%	44	100.00%

Comments:
All centres achieve the target of at least 100 primary cases. A total of 9,384 primary cases were treated in the German centres. Overall, the number of primary cases treated in certified centres (also outside Germany) increases by 7.13% compared to the pre-indicator year.

2. Interdisciplinary case reviews

Rate

Median 96,81%

Sollvorgabe ≥ 95%

44 clinical sites

Sollvorgabe = target value

	Indicator definition	All clinical sites 2019		
		Median		**Range**
Numerator	Primary cases (elective patients:pre-intervention. emergency patients: post-intervention) who were presented in the tumour board	172*	74 - 588	9,366
Denominator	Primary cases (= Indicator 1)	184.5*	109 - 607	9,914
Rate	Target value ≥ 95%	96.81%	39.36% - 100%	94.47%**
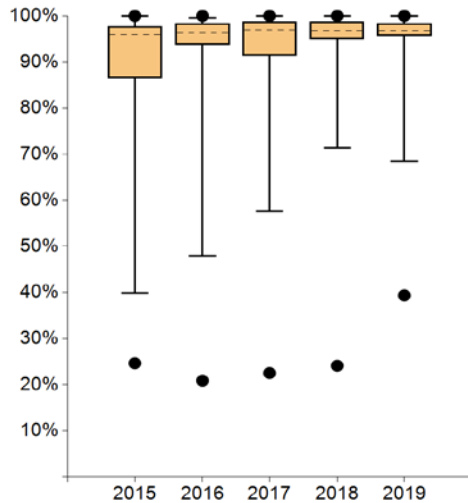
		2015	2016	2017	2018	2019
●	Max	100%	100%	100%	100%	100%
	95th percentile	99.91%	99.55%	100%	100%	100%
	75th percentile	97.71%	98.35%	98.77%	98.71%	98.35%
	Median	96.02%	96.36%	96.95%	96.72%	96.81%
	25th percentile	86.46%	93.77%	91.32%	94.91%	95.67%
	5th percentile	39.84%	47.96%	57.56%	71.30%	68.52%
●	Min	24.65%	20.87%	22.52%	24.11%	39.36%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
44	100.00%	36	81.82%

Comments:
The presentation rate in the tumour board continues to increase at a high level. Only 8 centres (previous year: 10) failed to meet the target of at least 95%, which was mainly due to organisational problems (e.g. SOP not followed) and missing processes for the post-interventional presentation of emergency patients. The auditors worked on adjustments to the processes (e.g. through training, SOP) and issued a remark if necessary.
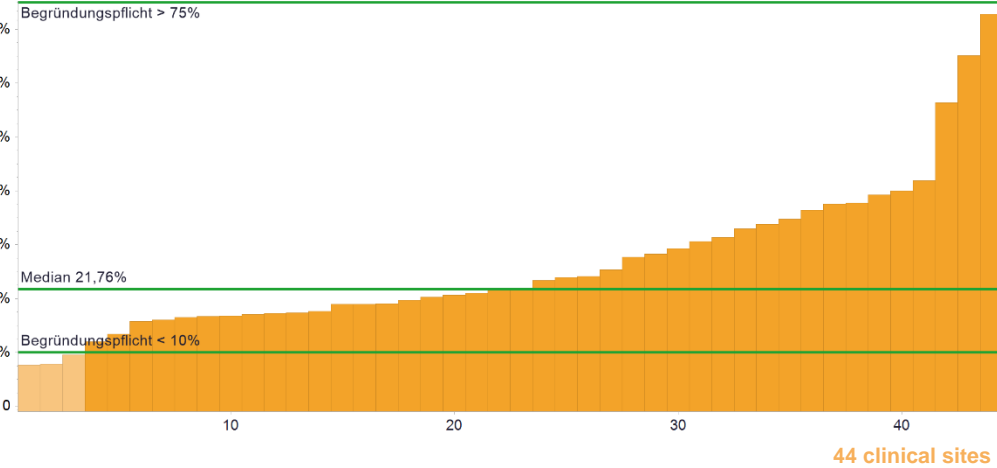
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
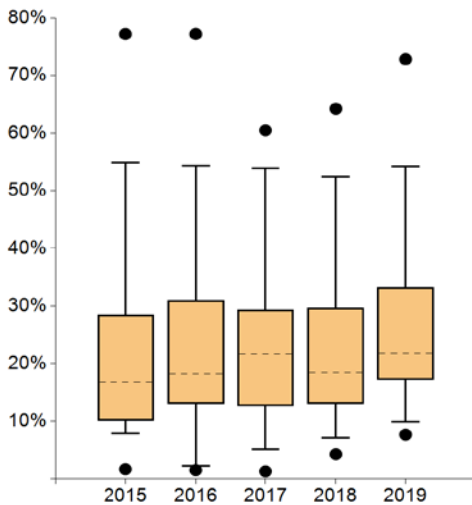
3. Psycho-oncological care

Rate

Begründungspflicht > 75%

Median 21,76%

Begründungspflicht < 10%

10   20   30   40

44 clinical sites

Begründungspflicht = mandatory statement for reasons

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases who received psycho-oncological care in an inpatient or outpatient setting (consultation ≥ 25 min)	53*	12 - 199	3,060
Denominator	Primary cases (= Indicator 1) and patients with recurrence	234.5*	123 - 732	12,483
Rate	Mandatory statement of reasons*** < 10% and >75%	21.76%	7.68% - 72.82%	24.51%**

		2015	2016	2017	2018	2019
●	Max	77.18%	77.19%	60.49%	64.23%	72.82%
	95th percentile	54.83%	54.36%	53.87%	52.44%	54.19%
	75th percentile	28.36%	31.00%	29.37%	29.70%	33.14%
	Median	16.75%	18.24%	21.63%	18.46%	21.76%
	25th percentile	10.11%	13.03%	12.68%	13.06%	17.18%
	5th percentile	7.89%	2.26%	5.16%	7.09%	9.89%
●	Min	1.68%	1.52%	1.31%	4.27%	7.68%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
44	100.00%	41	93.18%

Comments:
The overall attendance rate has increased slightly compared to the previous year. Also, only 3 centres (previous year: 4) are still below the 10% limit, which goes hand in hand with an obligation to provide consultation. The centres concerned referred to staff shortages, a high proportion of benign findings with a correspondingly low need for counselling, as well as consultations with external psychooncologists. The centres reacted by increasing staff, approaching patients more often and better integrating their own and external psychooncologists.

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.
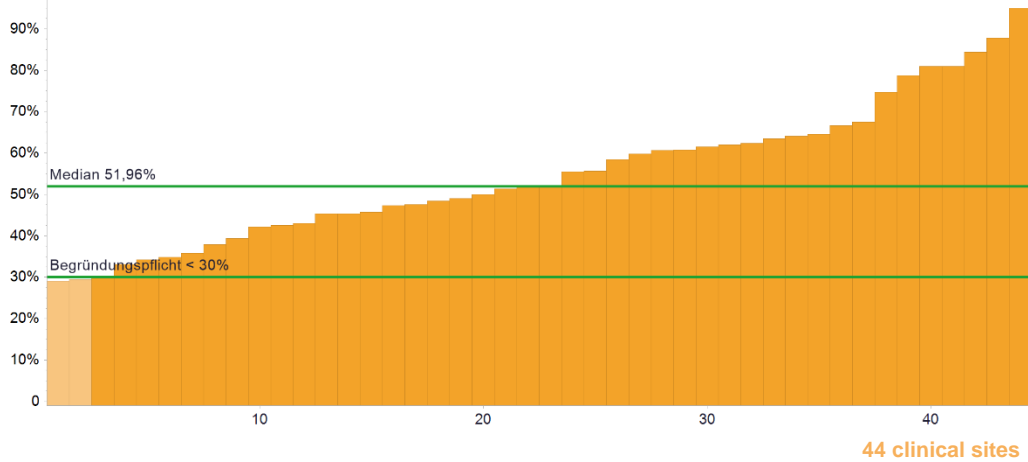** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

4. Counselling social services

Rate

44 clinical sites

Begründungspflicht = mandatory statement for reasons

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Primary cases who received counselling by social services in an inpatient or outpatient setting	125.5*	58 - 695	6,755
Denominator	Primary cases (= Indicator 1) and patients with recurrence	234.5*	123 - 732	12,483
Rate	Mandatory statement of reasons*** < 30%	51.96%	29.10% - 94.95%	54.11%**
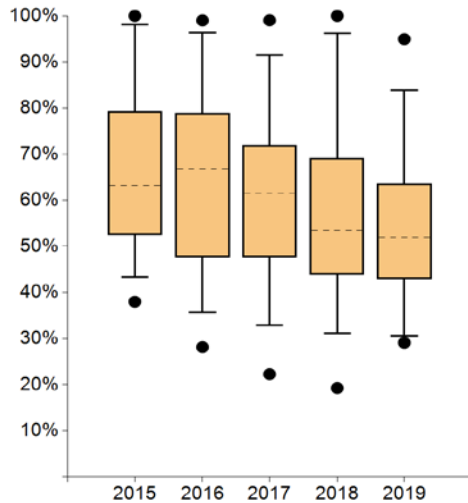
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	100%	99.01%	99.04%	100%	94.95%
	95th percentile	98.06%	96.35%	91.51%	96.18%	83.80%
	75th percentile	79.37%	78.87%	71.95%	69.13%	63.62%
	Median	63.22%	66.75%	61.47%	53.51%	51.96%
	25th percentile	52.49%	47.72%	47.74%	43.81%	42.93%
	5th percentile	43.33%	35.70%	32.92%	31.11%	30.65%
●	Min	37.99%	28.14%	22.26%	19.25%	29.10%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
44	100.00%	42	95.45%

Comments:
Social work counselling services are very well implemented in the centres. The two centres below the 30% limit fall just short of it. Both could not name any concrete reasons for the comparatively low counselling rate, but announced more intensive efforts to offer low-threshold counselling.

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.

5. Study participation

Rate

Median 40,67%, Sollvorgabe ≥ 5%

44 clinical sites

Sollvorgabe = target value
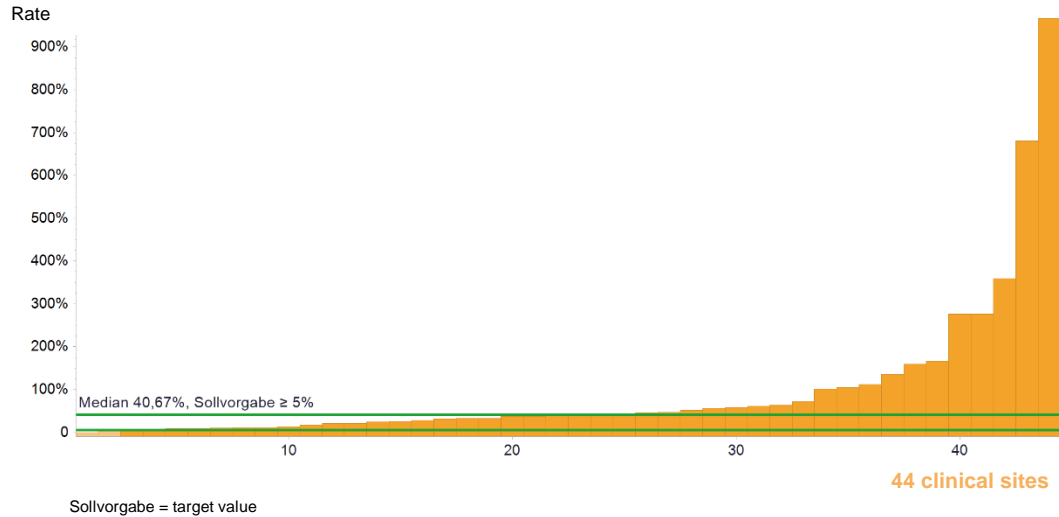
	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	All patients (malignant and benign) included in a study with an ethic vote	25*	0 – 1,430	4,276
Denominator	Malignant primary cases	63*	34 - 148	3,591
Rate	Target value ≥ 5%	40.67%	0.00% - 966.22%	119.08%**

.
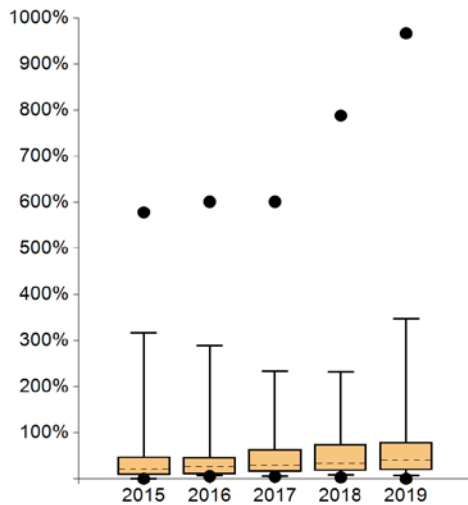
		2015	2016	2017	2018	2019
●	Max	578.26%	601.06%	601.09%	787.88%	966.22%
	95th percentile	316.37%	288.98%	233.18%	232.51%	346.81%
	75th percentile	47.95%	46.20%	63.76%	74.11%	79.34%
	Median	21.75%	26.87%	29.22%	34.13%	40.67%
	25th percentile	8.14%	9.62%	14.95%	17.39%	19.55%
	5th percentile	0.33%	6.44%	6.19%	8.51%	6.46%
●	Min	0.00%	5.61%	5.04%	3.39%	0.00%

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
44	100.00%	42	95.45%

Comments:
The overall study quota has risen further, which is mainly due to individual centres with extraordinarily high values. Two centres (previous year: one) failed to meet the target of at least 5% study enrolment measured against the number of primary cases. In one case, a planned study was delayed in starting. The centre with a quota of 0% initiated its own study, for which, however, the ethics vote was still pending. In the audits, both centres expected significantly higher rates in the following year. Due to the prospective exclusion of pure biobank collections, a lower dispersion of the individual values can also be expected for the 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.
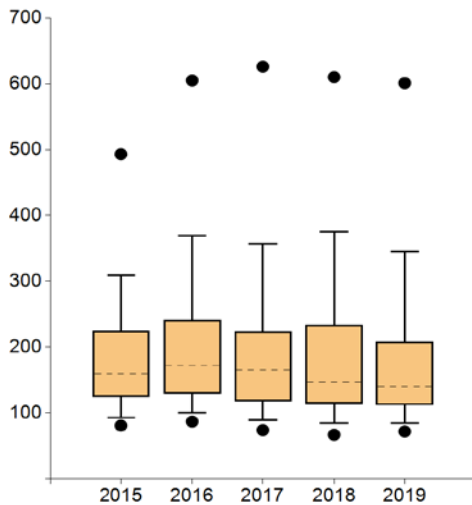** Percentage of total patients treated in centers according to the numerator.

6a. Surgical primary cases
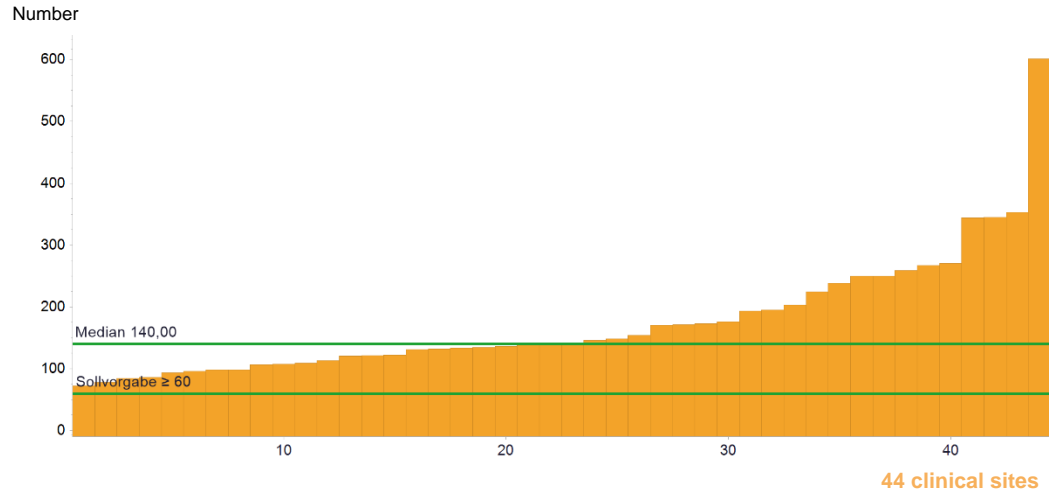
44 clinical sites

Sollvorgabe = target value

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Surgical primary cases def. in line with 5.2.3.a	140	72 - 601	7,717
	Target value ≥ 60			

		2015	2016	2017	2018	2019
●	Max	493.00	605.00	626.00	610.00	601.00
	95th percentile	308.35	368.75	356.75	375.70	344.85
	75th percentile	224.50	241.00	223.50	233.75	208.25
	Median	159.50	171.50	165.00	147.00	140.00
	25th percentile	124.25	129.00	118.00	114.25	112.00
	5th percentile	92.90	100.35	89.00	85.00	84.30
	Min	81.00	87.00	74.00	67.00	72.00

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
44	100.00%	44	100.00%

Comments:
As in the previous year, all centres easily meet the minimum requirement of 60 primary surgical cases. Despite a further decline in the median, which is often observed with the increasing establishment of a certification system, the overall picture is stable. The number of primary surgical cases shown in the annual report increased by 3.93%.

6b. Biopsy

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Number

Median 22,00
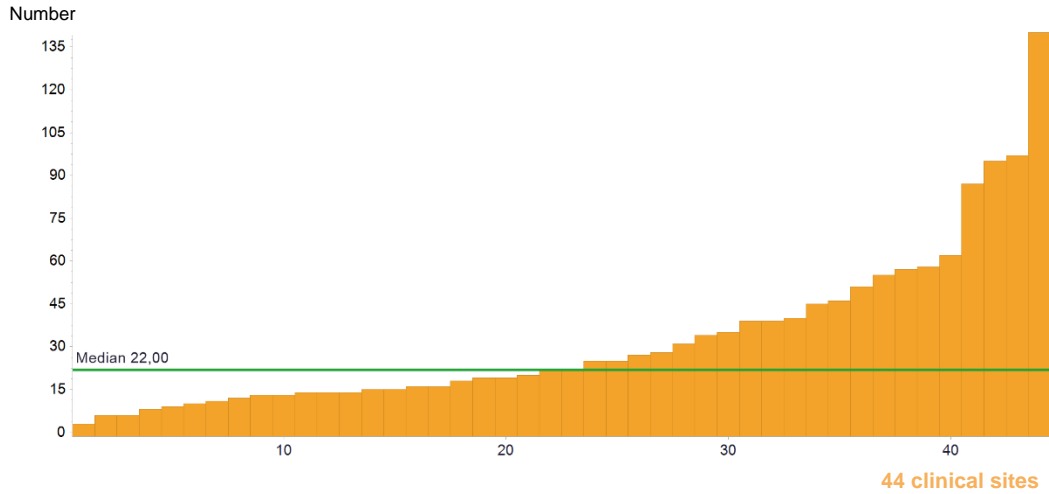
44 clinical sites

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Number	Biopsies def. in line with 5.2.3b	22	3 - 140	1,431
	No target value			
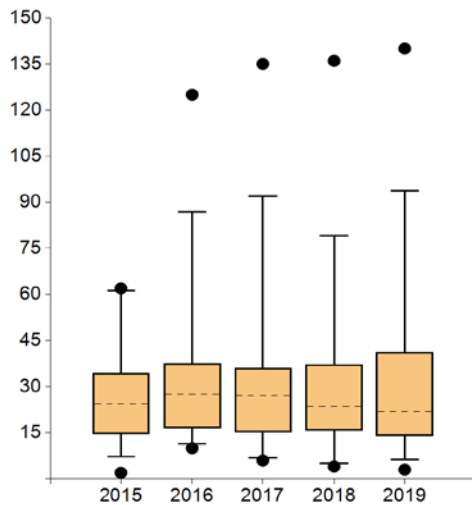
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	62.00	125.00	135.00	136.00	140.00
	95th percentile	61.25	86.80	91.90	79.00	93.80
	75th percentile	34.50	37.50	36.00	37.25	41.25
	Median	24.50	27.50	27.00	23.50	22.00
	25th percentile	14.50	16.50	15.25	15.75	14.00
	5th percentile	7.15	11.45	6.85	5.00	6.30
	Min	2.00	10.00	6.00	4.00	3.00

| Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
44	100.00%	-----	-----

Comments:
The number of biopsies increased quite significantly by 16.15% compared to the previous year. The spread of the individual values has increased further. Since there is no target for this indicator, there are no explanations from the centres as to the reasons for these differences.

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7a. Revision surgeries

Rate

Begründungspflicht > 10%
10%
9%
8%
7%
6%
Median 5,45%
5%
4%
3%
2%
1% Begründungspflicht < 1%
0

10   20   30   40

44 clinical sites

Begründungspflicht = mandatory statement for reasons
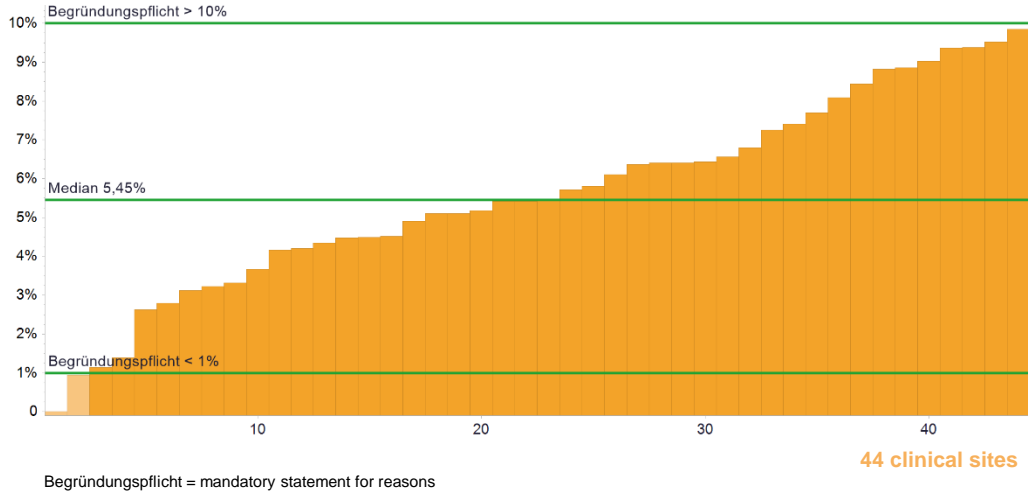
	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Revision surgeries as a consequence of post-surgical complications within 30d after surgery (for surgical primary cases)	9*	0 - 25	423
Denominator	Surgical primary cases (= Indicator 6a)	140*	72 - 601	7,717
Rate	Mandatory statement of reasons*** < 1% and >10%	5.45%	0.00% - 9.85%	5.48%**
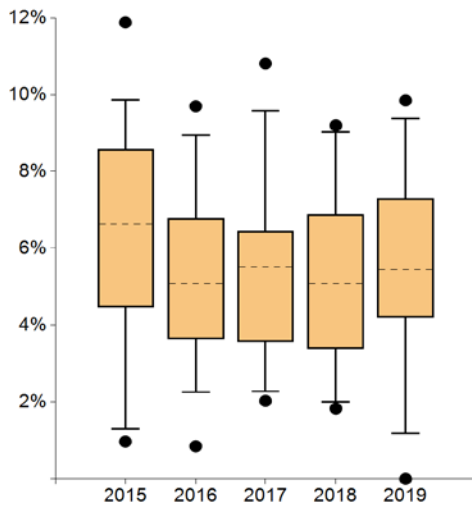
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	11.88%	9.70%	10.81%	9.20%	9.85%
	95th percentile	9.87%	8.94%	9.59%	9.03%	9.38%
	75th percentile	8.58%	6.79%	6.45%	6.88%	7.29%
	Median	6.63%	5.09%	5.51%	5.09%	5.45%
	25th percentile	4.47%	3.64%	3.57%	3.39%	4.19%
	5th percentile	1.31%	2.26%	2.28%	2.01%	1.18%
●	Min	0.97%	0.85%	2.03%	1.83%	0.00%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
44	100.00%	42	95.45%

Comments:
The two centres outside the plausibility limits had no or only one revision procedure below the lower plausibility limit of 1%, i.e. they had an extraordinarily low revision rate. These excellent results could be confirmed with populations of 120 and 106 primary surgical cases in the audits. Overall, the revision rate is at a consistently good level.
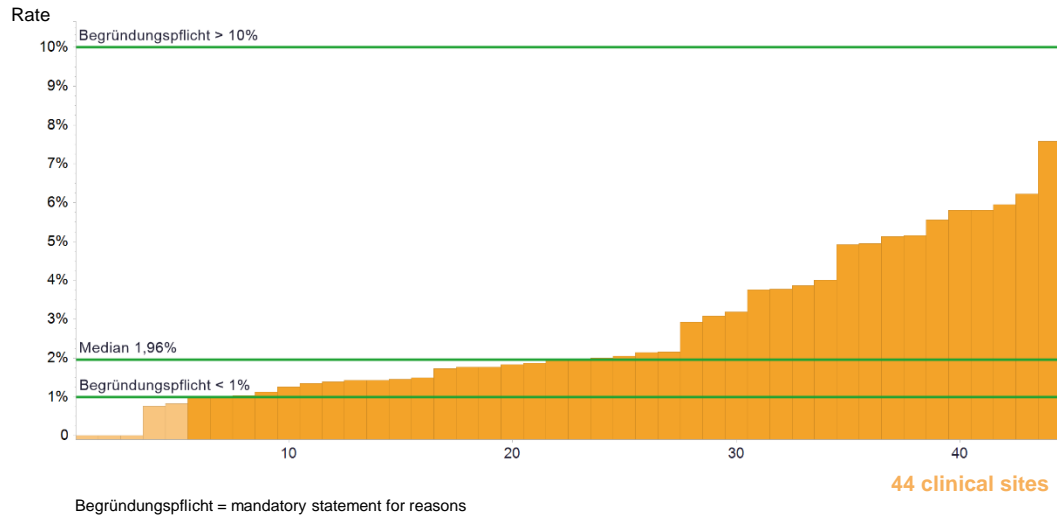
The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
** Percentage of total patients treated in centers according to the numerator.
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

7b. Clinically symptomatic secondary bleeding

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Rate

Begründungspflicht > 10%

Median 1,96%

Begründungspflicht < 1%

44 clinical sites

Begründungspflicht = mandatory statement for reasons

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Surgical primary cases with clinically symptomatic secondary bleeding (= new onset or worsening of an existing neurological disorder)	3*	0 - 17	213
Denominator	Surgical primary cases (= Indicator 6a)	140*	72 - 601	7,717
Rate	Mandatory statement of reasons*** < 1% and >10%	1.96%	0.00% - 7.58%	2.76%**
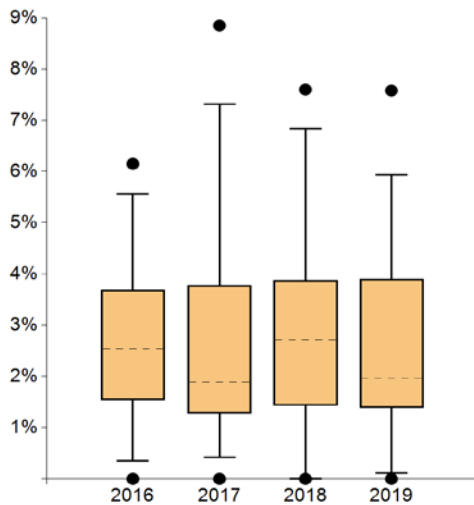
		2015	2016	2017	2018	2019
●	Max	-----	6.15%	8.85%	7.60%	7.58%
	95th percentile	-----	5.56%	7.32%	6.84%	5.93%
	75th percentile	-----	3.68%	3.78%	3.87%	3.90%
	Median	-----	2.54%	1.88%	2.71%	1.96%
	25th percentile	-----	1.54%	1.28%	1.43%	1.38%
	5th percentile	-----	0.35%	0.43%	0.00%	0.11%
●	Min	-----	0.00%	0.00%	0.00%	0.00%

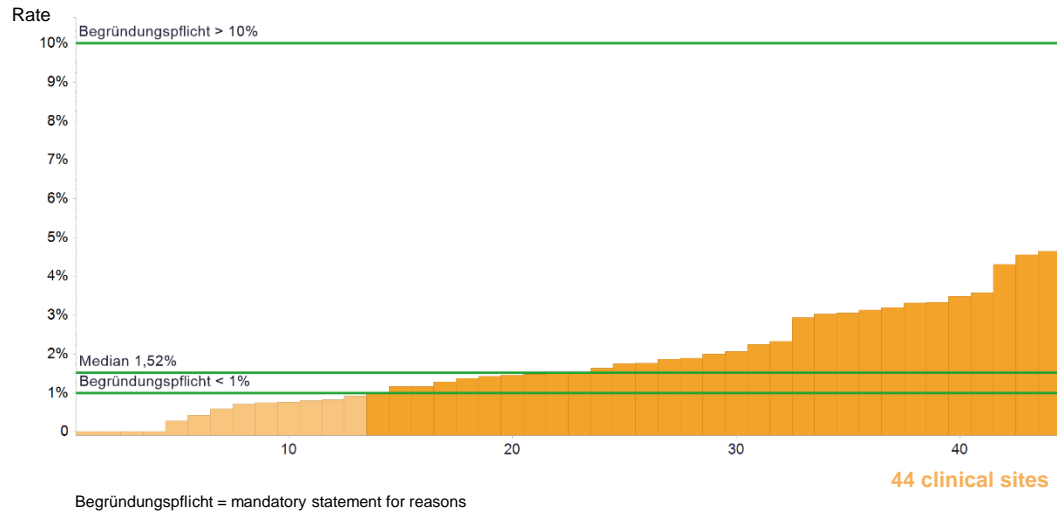| Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
44	100.00%	39	88.64%

Comments:
Similar to indicator 7a, the 5 centres outside the plausibility limits show extraordinarily good values, in this case related to clinically symptomatic rebleeding. Even after checking the values, the audits showed that 3 of these centres had no post-operative bleeding and 2 only one. The overall post-bleeding rate also decreased slightly, both on average and in the median.

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.

8. Post-surgical wound infections

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Rate

Begründungspflicht > 10%

Median 1,52%
Begründungspflicht < 1%

10
20
30
40

44 clinical sites

Begründungspflicht = mandatory statement for reasons

	Indicator definition	All clinical sites 2019		
		Median	**Range**	**Patients Total**
Numerator	Surgical primary cases with post-surgical meningitis confirmed by laboratory tests and/or a wound infection requiring surgical revision within 30d of surgery	2*	0 - 16	137
Denominator	Surgical primary cases (= Indicator 6a)	140*	72 - 601	7,717
Rate	Mandatory statement of reasons*** < 1% and >10%	1.52%	0.00% - 4.64%	1.78%**
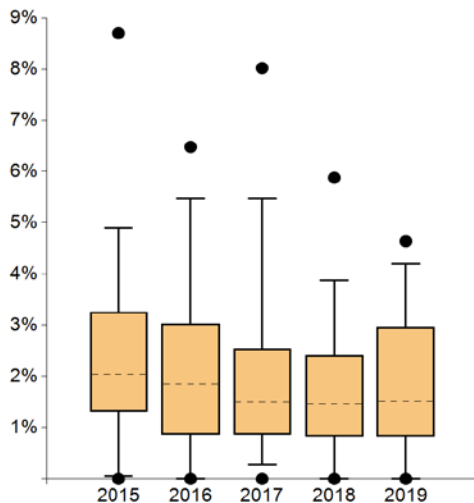
		2015	**2016**	**2017**	**2018**	**2019**
●	Max	8.70%	6.48%	8.02%	5.88%	4.64%
	95th percentile	4.90%	5.47%	5.47%	3.88%	4.19%
	75th percentile	3.26%	3.03%	2.54%	2.41%	2.96%
	Median	2.04%	1.85%	1.51%	1.47%	1.52%
	25th percentile	1.32%	0.86%	0.86%	0.82%	0.82%
	5th percentile	0.05%	0.00%	0.28%	0.00%	0.00%
●	Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
44	100.00%	31	70.45%

Comments:
Both the median and the upper percentage ranges show further improvements compared to the previous year. Here, too, 13 centres stood out with particularly good values of less than 1%. These are often the result of many years of efforts by the centres to optimise surgical procedures and regular evaluation of the indicators.

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)

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