

Indicator Analysis 2020

Annual Report of the Certified Neuro-oncology Cancer Centres

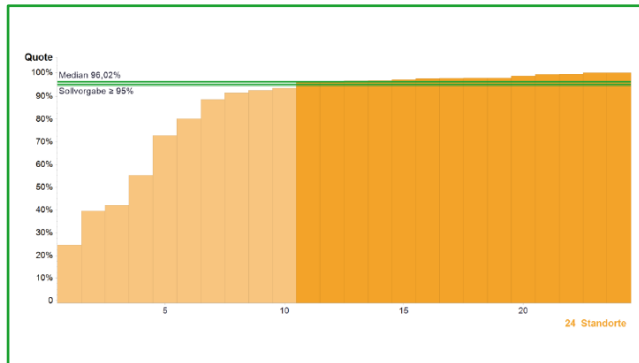
Audit year 2019 / Indicator year 2018

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General information

	Indicator definition	All clinical sites 2016	
		Median	Range
Numerator	Primary cases (elective patients: pre-intervention, emergency patients: post-intervention) who were presented in the tumour conference	202.5*	24 - 442
Denominator	Primary cases (= Indicator 1)	214*	110 - 613
Rate	Target value $\geq 95\%$	96.36%	20.87% - 100%



Basic data indicator:

The definition of the numerator, denominator and the target value are taken from the key figure 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.

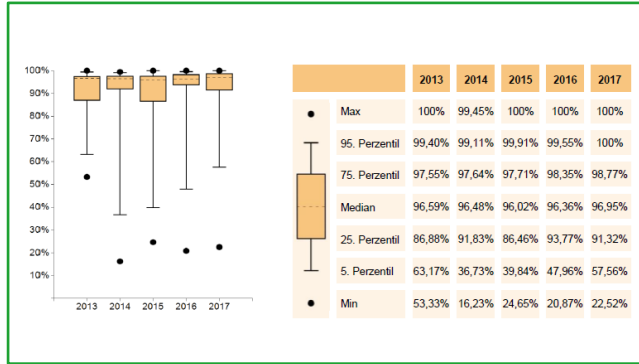
Under Range, the value range for the numerator, denominator and ratio of all centers is specified.

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

Diagram:

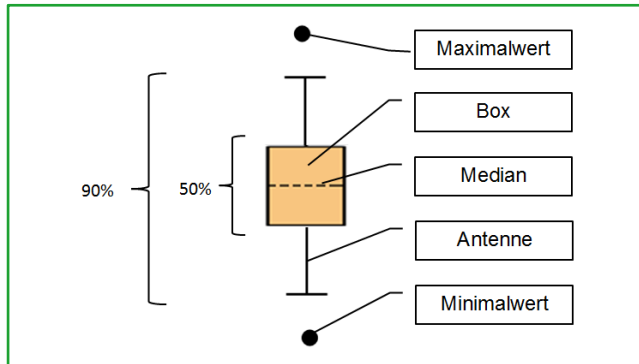
The x-axis indicates the number of Centres, the y-axis gives the values in percent or number (e.g. primary cases). The target value is depicted as a horizontal green line. The median, which is also depicted as a green horizontal line, divides the entire group into two equal halves.

General information



Cohort development:

The **cohort development** in the years **2014**, **2015**, **2016**, **2017** and **2018** 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 Neuro-oncology Cancer Centres 2016

	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014
Ongoing procedures	2	2	5	8	4	5
Certified Centres	42	38	32	26	21	15
Certified clinical sites	43	39	33	27	22	16
Neuro-oncology Cancer Centres with						
1 clinical site	41	37	31	25	20	14
2 clinical sites	1	1	1	1	1	1
3 clinical sites	0	0	0	0	0	0
4 clinical sites	0	0	0	0	0	0

Clinical sites taken into account

	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014
Clinical sites included in the Annual Report	40	38	30	24	19	12
equivalent to	93.0%	97.4%	90.9%	88.9%	86.4%	75.0%
Primary cases total*	9,254	8,820	7,219	5,067	3,952	2,498
Primary cases per clinical site (mean)*	231.4	232.1	240.6	211.1	208	208.2
Primary cases per clinical site (median)*	201.5	192.5	214	202.5	213	196.5

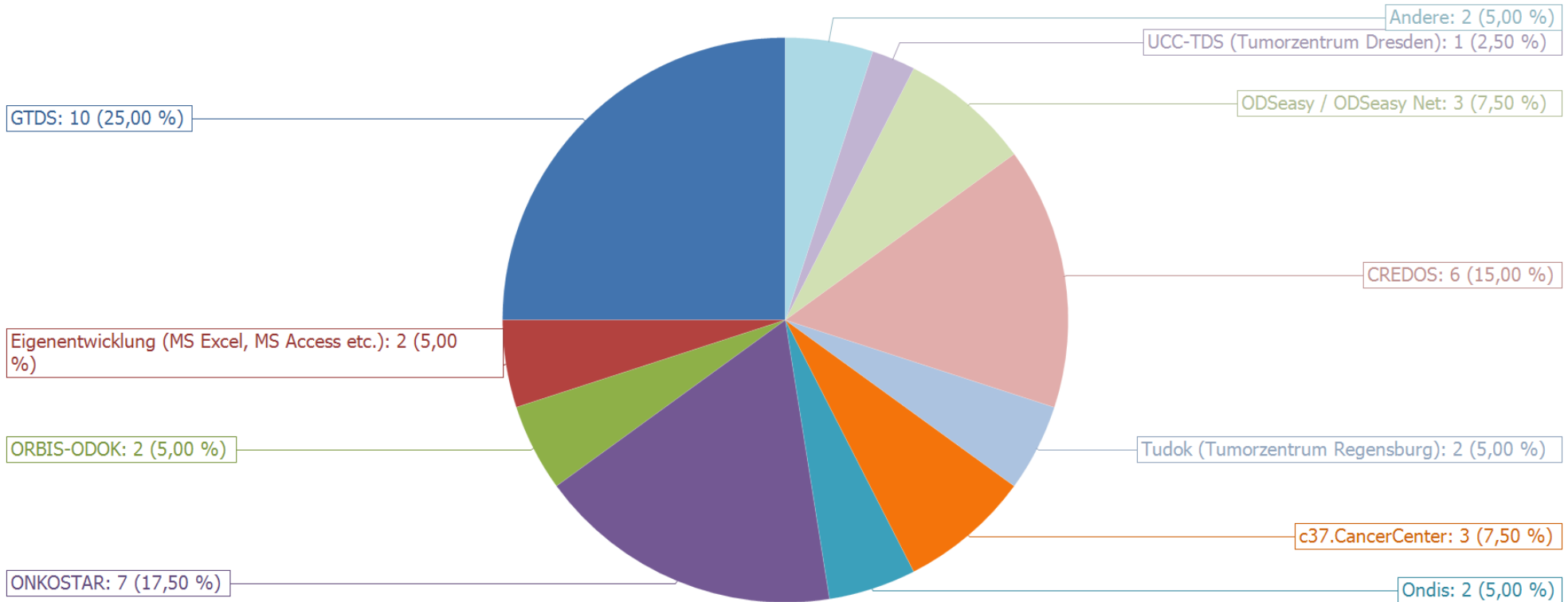
*The figures are based on the clinical sites listed in the Annual Report.

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 40 of the 43 certified center locations. Excluded are 3 sites that were certified for the first time in 2019 (data mapping of the complete calendar year is not mandatory for initial certifications). In all 43 sites 9,529 primary neuro-oncological cases were treated. An up-to-date overview of all certified sites is available at www.oncomap.de

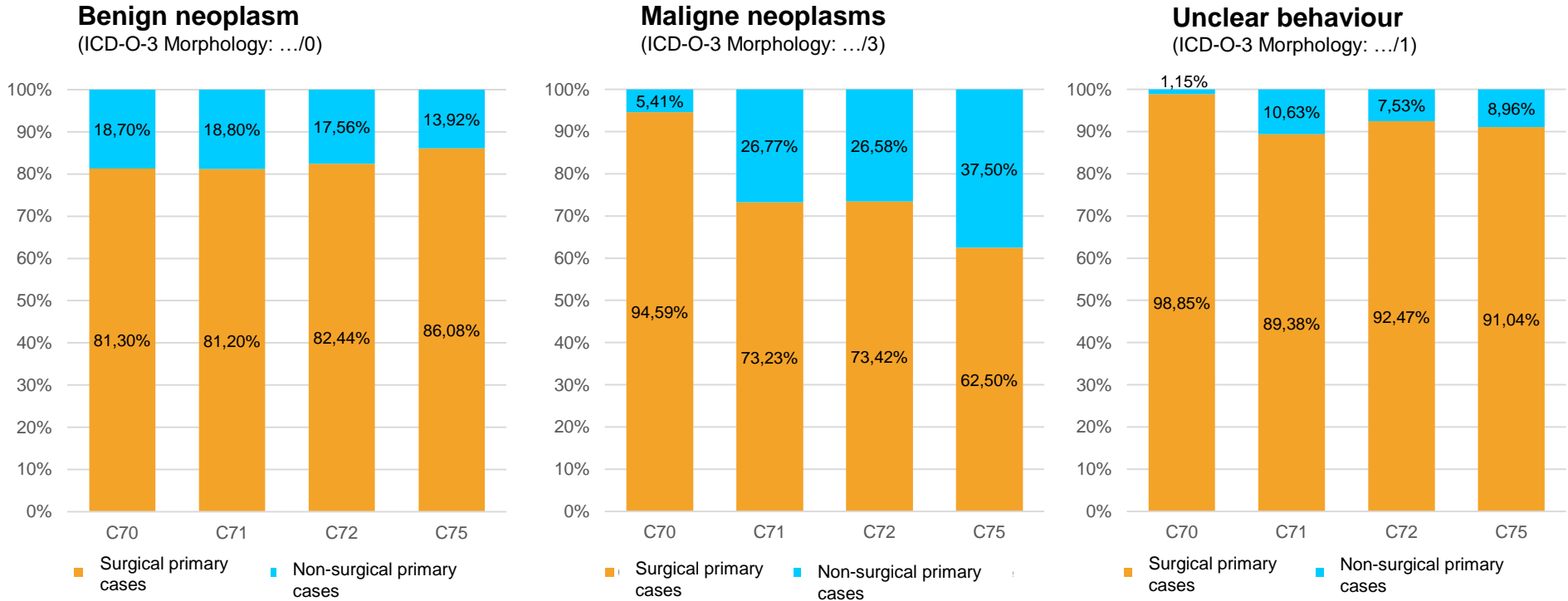
The indicators published here relate to the indicator year 2018 and provide the basis for the audits conducted in 2019.

Tumour documentation systems in the Centre's clinical sites



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.

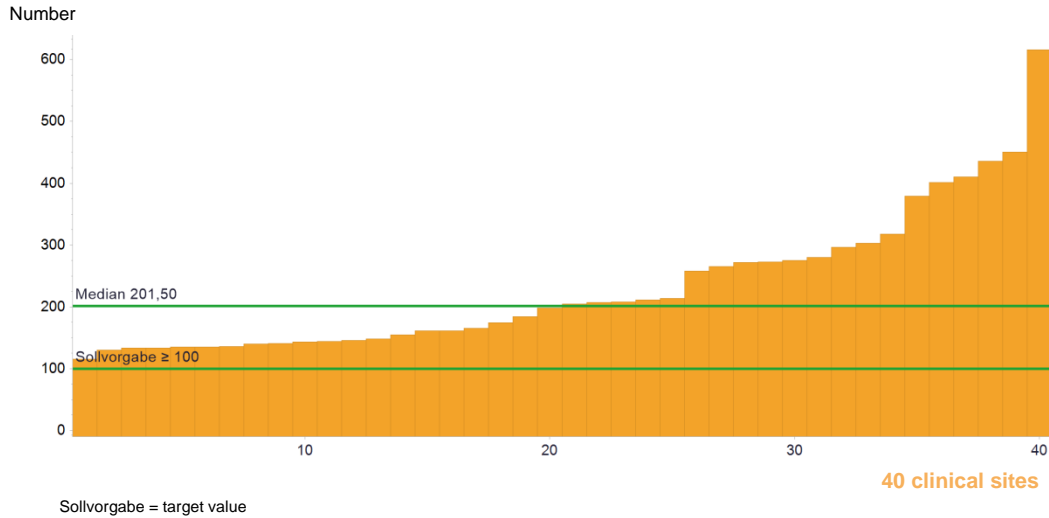
Basic data – Stage distribution primary cases



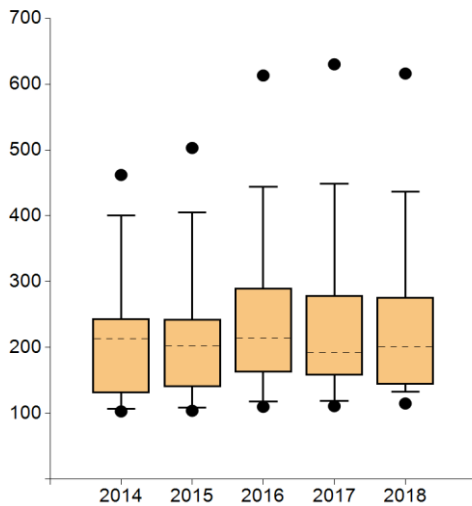
	Benign neoplasms (ICD-O-3 Morphology: .../0)				Malignant neoplasms (ICD-O-3 Morphology: .../3)				Uncertain growth behaviour (ICD-O-3 Morphology: .../1)				Total
	C70	C71	C72	C75	C70	C71	C72	C75	C70	C71	C72	C75	
Non-surgical	529 (18.70%)	50 (18.80%)	157 (17.56%)	151 (13.92%)	2 (5.41%)	841 (26.77%)	42 (26.58%)	6 (37.50%)	4 (1.15%)	34 (10.63%)	7 (7.53%)	6 (8.96%)	1,829
Surgical	2,300 (81.30%)	216 (81.20%)	737 (82.44%)	934 (86.08%)	35 (94.59%)	2,301 (73.23%)	116 (73.42%)	10 (62.50%)	343 (98.85%)	286 (89.38%)	86 (92.47%)	61 (91.04%)	7,425
Primary cases total	2,829 (100%)	266 (100%)	894 (100%)	1,085 (100%)	37 (100%)	3,142 (100%)	158 (100%)	16 (100%)	347 (100%)	320 (100%)	93 (100%)	67 (100%)	9,254

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

1. Number of primary cases



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Number	Primary cases def. in line with 1.2.1	201.5	115 - 616	9,254
	Target value ≥ 100			



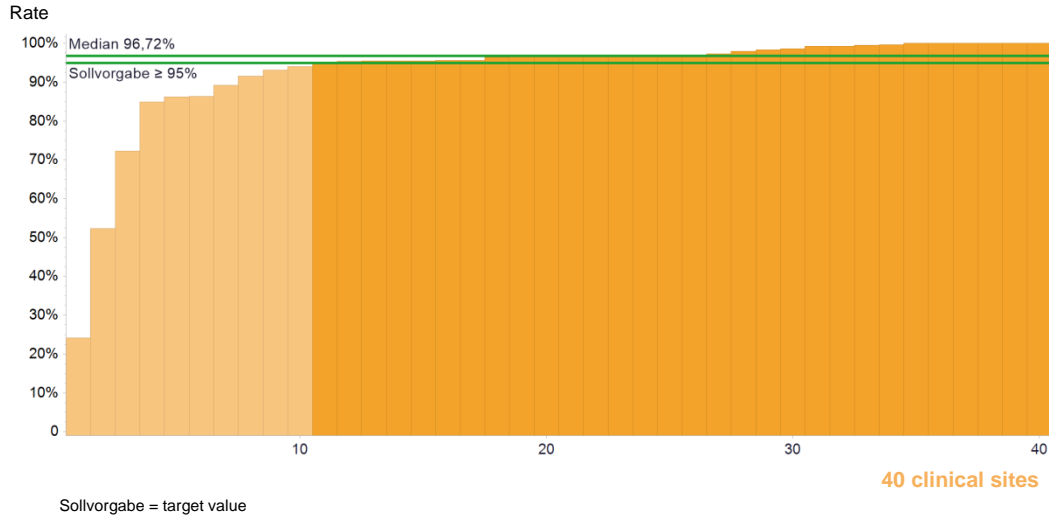
	2014	2015	2016	2017	2018
● Max	462.00	503.00	613.00	630.00	616.00
95 th percentile	400.80	405.20	444.25	448.35	436.70
75 th percentile	243.50	243.25	290.25	279.50	276.25
Median	213.00	202.50	214.00	192.50	201.50
25 th percentile	130.50	139.75	162.00	158.00	143.75
5 th percentile	106.60	108.75	118.15	118.65	132.85
● Min	103.00	104.00	110.00	111.00	115.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
40	100.00%	40	100.00%

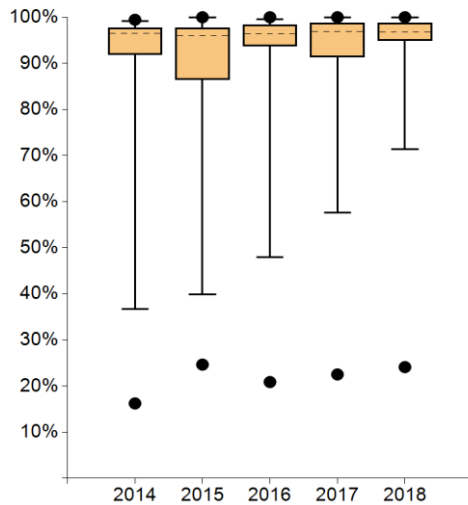
Comments:

As in the previous year, the target of at least 100 primary cases per year is met by all centres, and the median number of primary cases rises again to over 200. Of the 9,254 primary cases treated in 2018, 8,524 were treated in German centres. In addition, a further 275 primary cases from German centres have not yet been included in the annual report.

2. Interdisciplinary case reviews



	Indicator definition	All clinical sites 2018		
		Median	Range	
Numerator	Primary cases (elective patients: pre-intervention. emergency patients: post-intervention) who were presented in the tumour conference	185.5*	34 - 598	8,587
Denominator	Primary cases (= Indicator 1)	201.5*	115 - 616	9,254
Rate	Target value ≥ 95%	96.72%	24.11% - 100%	92.79%**



	2014	2015	2016	2017	2018
● Max	99.45%	100%	100%	100%	100%
95 th percentile	99.11%	99.91%	99.55%	100%	100%
75 th percentile	97.64%	97.71%	98.35%	98.77%	98.71%
Median	96.48%	96.02%	96.36%	96.95%	96.72%
25 th percentile	91.83%	86.46%	93.77%	91.32%	94.91%
5 th percentile	36.73%	39.84%	47.96%	57.56%	71.30%
● Min	16.23%	24.65%	20.87%	22.52%	24.11%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
40	100.00%	30	75.00%

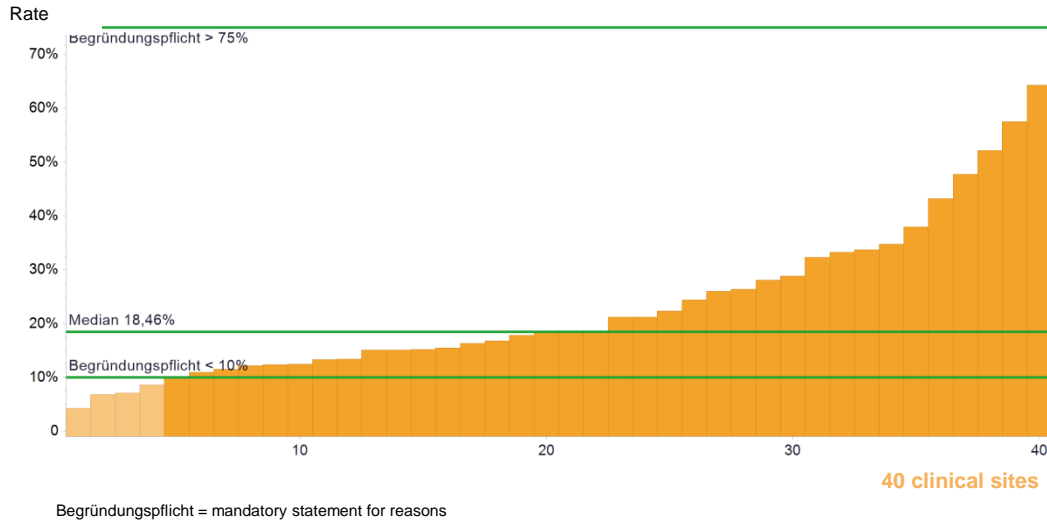
Comments:

Especially in the lower percentage ranges, the presentation rate in interdisciplinary case discussions increases. 21 centers are improving their score, 15 are deteriorating. 6 of the 10 centers below the target already fell short of it in the previous year. The main reason for the shortfall was organisational problems (little communication with other departments, insufficient IT solutions, postoperative presentation due to the tumour conference taking place only once a week), which were countered by measures, some of which were interdepartmental, such as consistent communication, formulation of SOPs and the establishment of short-term presentations of urgent cases. The auditors formulated numerous indications in the audits.

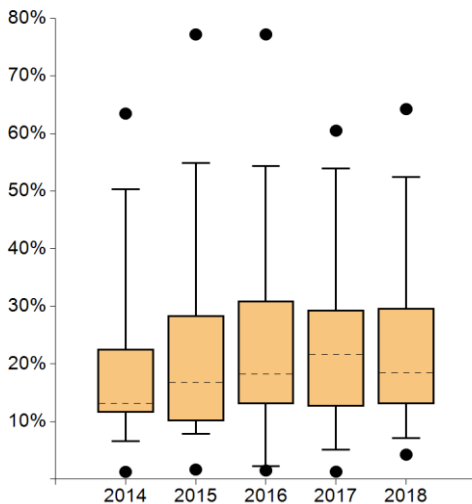
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

** Percentage of total patients treated in centers according to the numerator.

3. Psycho-oncological care



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases who received psycho-oncological care in an inpatient or outpatient setting (consultation ≥ 25 min)	45*	7 - 228	2,542
Denominator	Primary cases (= Indicator 1) and patients with recurrence	234*	121 - 762	11,281
Rate	Mandatory statement of reasons*** < 10% and >75%	18.46%	4.27% - 64.23%	22.53%**



	2014	2015	2016	2017	2018
● Max	63.45%	77.18%	77.19%	60.49%	64.23%
95 th percentile	50.31%	54.83%	54.36%	53.87%	52.44%
75 th percentile	22.60%	28.36%	31.00%	29.37%	29.70%
Median	13.19%	16.75%	18.24%	21.63%	18.46%
25 th percentile	11.60%	10.11%	13.03%	12.68%	13.06%
5 th percentile	6.58%	7.89%	2.26%	5.16%	7.09%
● Min	1.28%	1.68%	1.52%	1.31%	4.27%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
40	100.00%	36	90.00%

Comments:

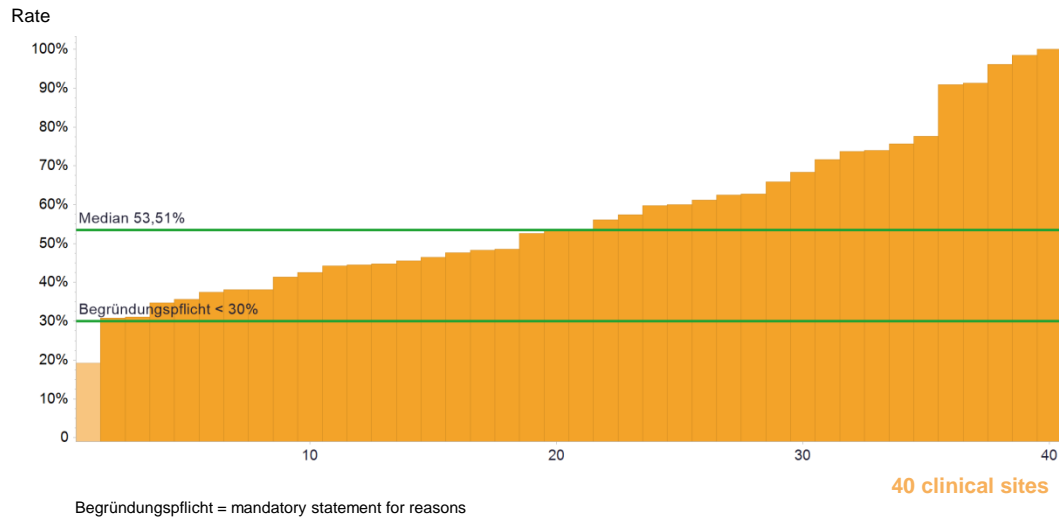
Due to an extension of the upper plausibility limit from 50 to 75%, only centres below a care rate of 10% fell under the obligation to provide justification. Their number has also decreased from 7 in the previous year to 4. These centres explained their low rates with low personnel resources or problems in filling vacancies as well as low care requirements on the part of the patients (curative treatment, psycho-oncological care close to home). They planned to counter this with new hires, low-threshold care services and cooperation in supra-regional networks. The centre with the lowest rate already improved to 10% in the first half of 2019.

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.

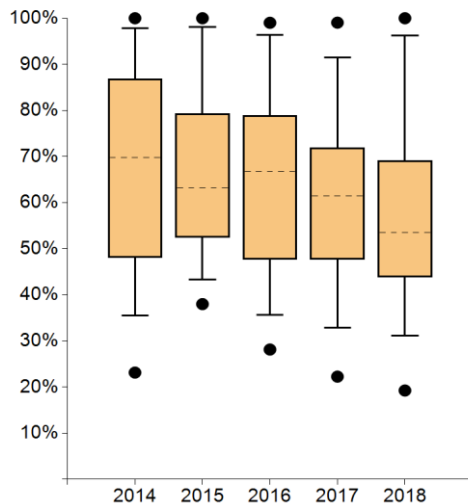
*** For values outside the plausibility limit(s), the centers are required to provide a justification.

4. Counselling social services



Begründungspflicht = mandatory statement for reasons

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases who received counselling by social services in an inpatient or outpatient setting	135.5*	31 - 732	6,403
Denominator	Primary cases (= Indicator 1) and patients with recurrence	234*	121 - 762	11,281
Rate	Mandatory statement of reasons*** < 30%	53.51%	19.25% - 100%	56.76%**



	2014	2015	2016	2017	2018
● Max	100%	100%	99.01%	99.04%	100%
95 th percentile	97.89%	98.06%	96.35%	91.51%	96.18%
75 th percentile	86.91%	79.37%	78.87%	71.95%	69.13%
Median	69.77%	63.22%	66.75%	61.47%	53.51%
25 th percentile	48.03%	52.49%	47.72%	47.74%	43.81%
5 th percentile	35.54%	43.33%	35.70%	32.92%	31.11%
● Min	23.14%	37.99%	28.14%	22.26%	19.25%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
40	100.00%	39	97.50%

Comments:

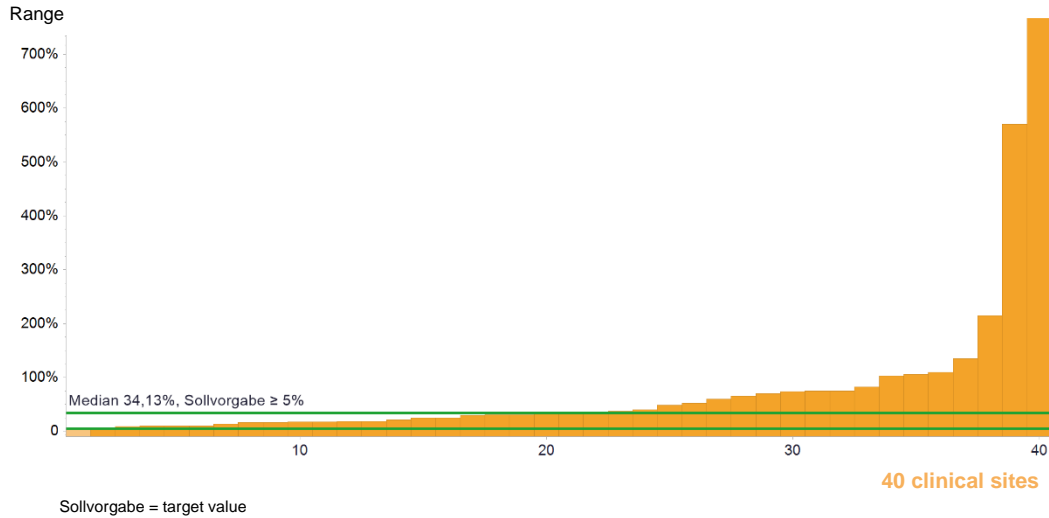
This indicator continues to be met to a large extent by the centres, with a considerable spread. At the same time, both the median and the total number of consultations will decrease slightly (2017: 60.86%). As in the previous year, only 1 centre is below the rate of 30% which is associated with the obligation to provide a justification. However, these are different centres. The centre concerned in the key figure year 2018 claimed to fulfil the quota in relation to inpatients. In the audit, reference was again made to the specified recording of outpatients advised on an outpatient basis.

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.

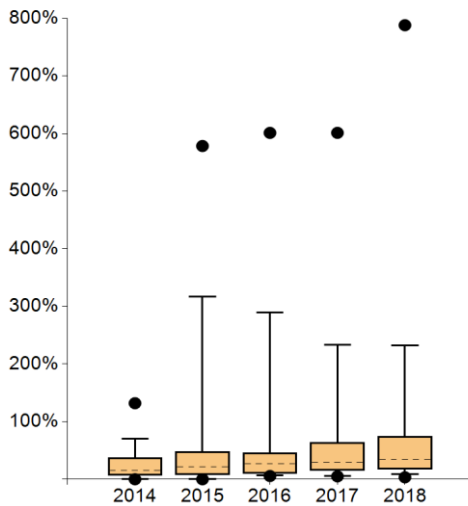
** Percentage of total patients treated in centers according to the numerator.

*** For values outside the plausibility limit(s), the centers are required to provide a justification.

5. Study participation



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	All patients (malignant and benign) included in a study with an ethic vote	23*	2 – 1,300	3,496
Denominator	Malignant primary cases	68.5*	33 - 166	3,353
Rate	Target value ≥ 5%	34.13%	3.39% - 787.88%	104.26%**



	2014	2015	2016	2017	2018
● Max	131.94%	578.26%	601.06%	601.09%	787.88%
95 th percentile	70.11%	316.37%	288.98%	233.18%	232.51%
75 th percentile	37.51%	47.95%	46.20%	63.76%	74.11%
Median	14.89%	21.75%	26.87%	29.22%	34.13%
25 th percentile	6.51%	8.14%	9.62%	14.95%	17.39%
5 th percentile	0.00%	0.33%	6.44%	6.19%	8.51%
● Min	0.00%	0.00%	5.61%	5.04%	3.39%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
40	100.00%	39	97.50%

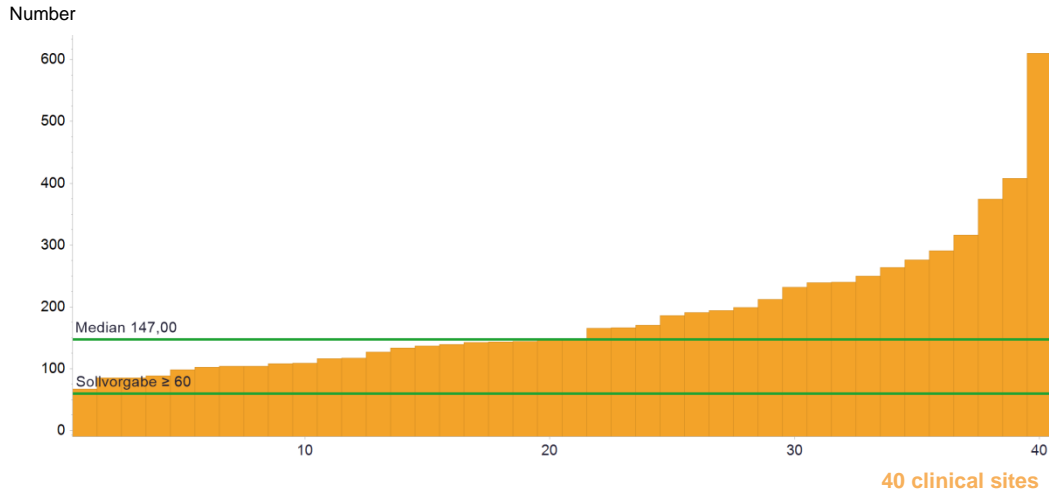
Comments:

Note: Quotas above 100% are possible for this indicator due to the possible participation in several studies. If the maximum value increases significantly, only 1 center will miss the target value of at least 5%. In the previous year, the target was achieved by all centers. In the centre concerned, 2 planned studies had not yet been started. Centres with a very high study rate achieve this in particular by participating in biobank collections.

*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.

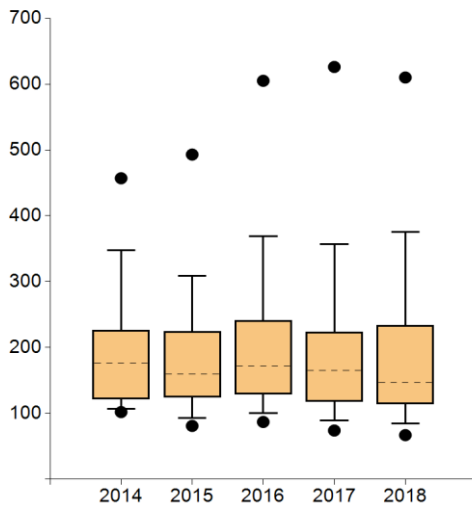
** Percentage of total patients treated in centers according to the numerator.

6a. Surgical primary cases



Sollvorgabe = target value

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Number	Surgical primary cases def. in line with 5.2.3.a	147	67 - 610	7,425
	Target value \geq 60			



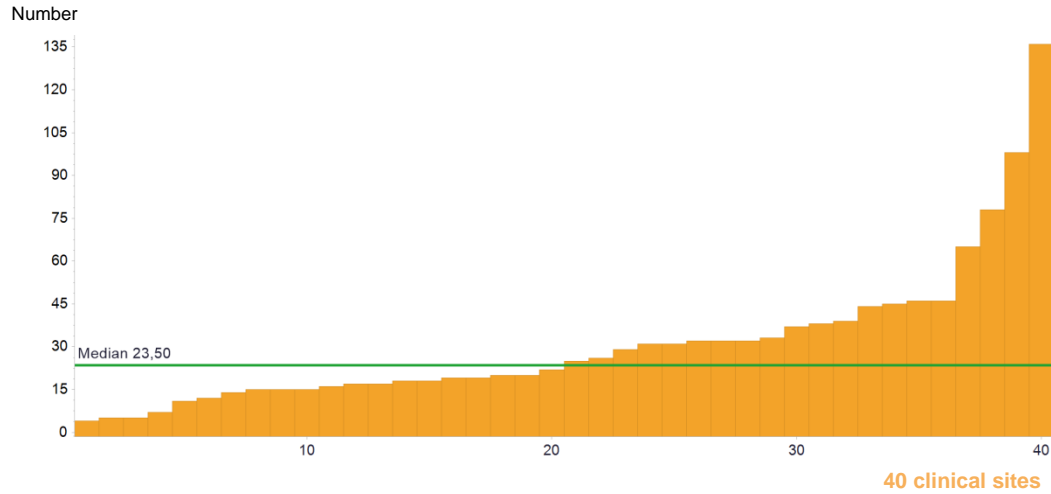
	2014	2015	2016	2017	2018
● Max	457.00	493.00	605.00	626.00	610.00
95 th percentile	348.10	308.35	368.75	356.75	375.70
75 th percentile	226.00	224.50	241.00	223.50	233.75
Median	176.00	159.50	171.50	165.00	147.00
25 th percentile	121.50	124.25	129.00	118.00	114.25
5 th percentile	106.50	92.90	100.35	89.00	85.00
● Min	102.00	81.00	87.00	74.00	67.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
40	100.00%	40	100.00%

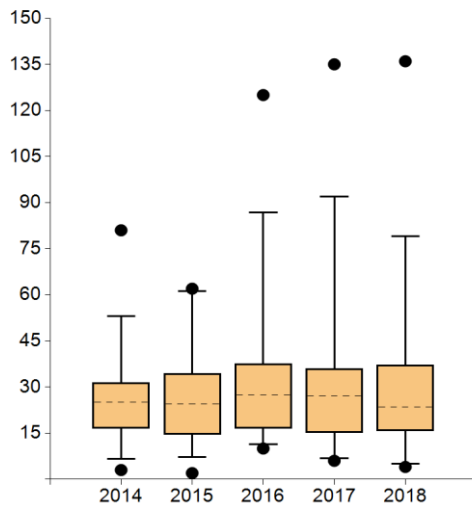
Comments:

The number of primary cases operated on in the certified centres has increased by 2.51% to 7,425 and, as in the previous year, all centres easily reach the minimum number of 60 primary surgical cases. The tendency for the median to decrease over time is a phenomenon frequently observed with the increasing establishment of certification systems. This can be explained by the fact that large centres strive for certification at an earlier stage than smaller ones.

6b. Biopsy



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Number	Biopsies def. in line with 5.2.3b	23.5	4 - 136	1,232
	No target value			



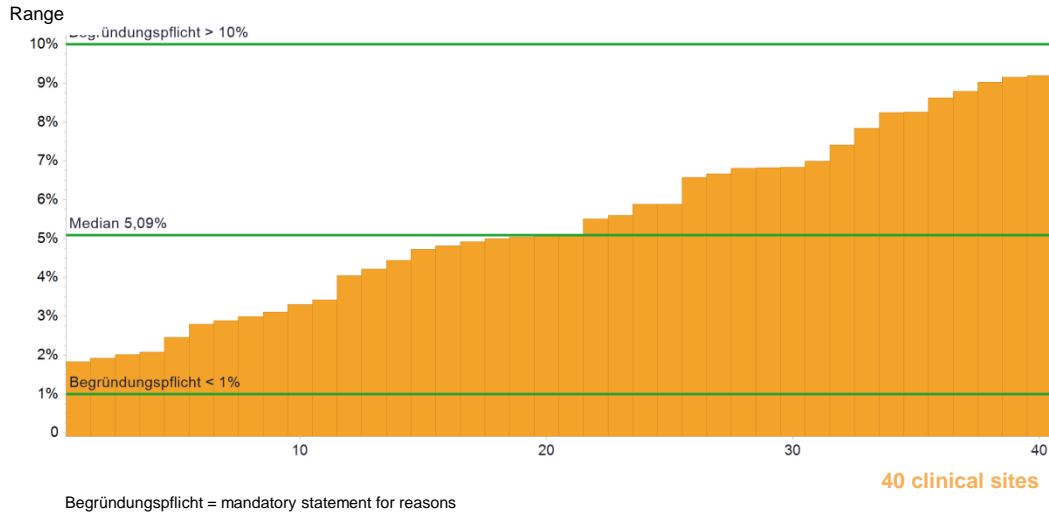
	2014	2015	2016	2017	2018
● Max	81.00	62.00	125.00	135.00	136.00
95 th percentile	53.10	61.25	86.80	91.90	79.00
75 th percentile	31.50	34.50	37.50	36.00	37.25
Median	25.00	24.50	27.50	27.00	23.50
25 th percentile	16.50	14.50	16.50	15.25	15.75
5 th percentile	6.60	7.15	11.45	6.85	5.00
● Min	3.00	2.00	10.00	6.00	4.00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
40	100.00%	-----	-----

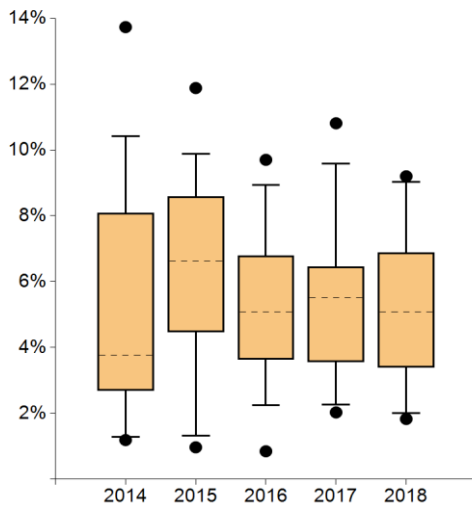
Comments:

The total number of biopsies performed remained at the previous year's level (1,230). Due to the additional 2 centres in the annual report, the median falls. Despite a range of primary cases between 115 and 616 (cf. indicator 1), the large variation in the number of biopsies cannot be explained on this basis alone, although 9 of the 10 centres with a maximum of 15 biopsies treated fewer than 175 primary cases. As there is no target figure for this indicator, the centres did not have to justify their figures.

7a. Revision surgeries



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Revision surgeries as a consequence of post-surgical complications within 30d after surgery (for surgical primary cases)	8.5*	2 - 23	385
Denominator	Surgical primary cases (= Indicator 6a)	147*	67 - 610	7,425
Rate	Mandatory statement of reasons*** < 1% and >10%	5.09%	1.83% - 9.20%	5.19%**



	2014	2015	2016	2017	2018
● Max	13.73%	11.88%	9.70%	10.81%	9.20%
95 th percentile	10.42%	9.87%	8.94%	9.59%	9.03%
75 th percentile	8.08%	8.58%	6.79%	6.45%	6.88%
Median	3.76%	6.63%	5.09%	5.51%	5.09%
25 th percentile	2.70%	4.47%	3.64%	3.57%	3.39%
5 th percentile	1.28%	1.31%	2.26%	2.28%	2.01%
● Min	1.19%	0.97%	0.85%	2.03%	1.83%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
40	100.00%	40	100.00%

Comments:

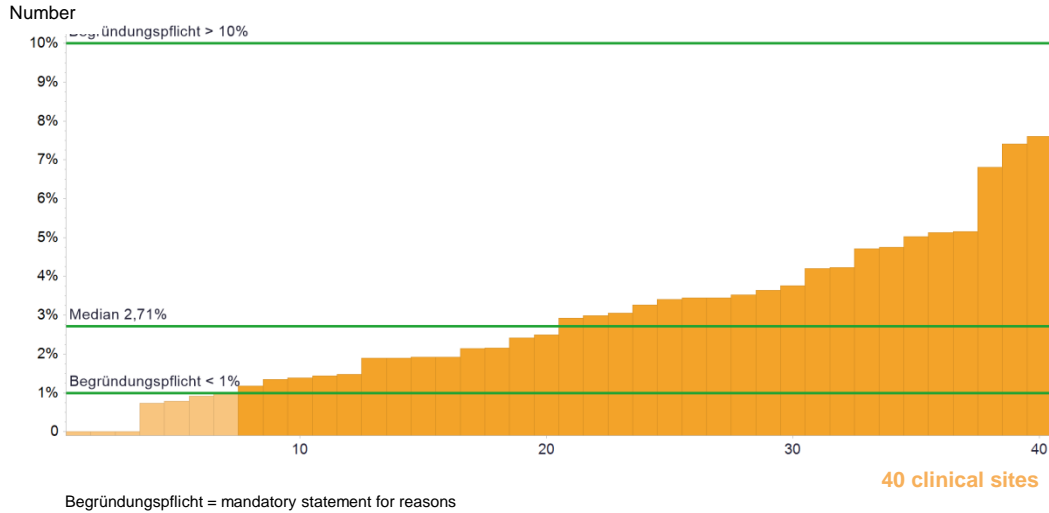
The median of the share of revision operations in primary operative cases is slightly lower compared to the previous year. All centres are within the plausibility limits. In the previous year, one centre had been at just under 11%, but this ratio fell to below 7% in the key figure year 2018. Overall, the rate of revision operations fell at 23 centres, while it rose at 15.

The median of 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.

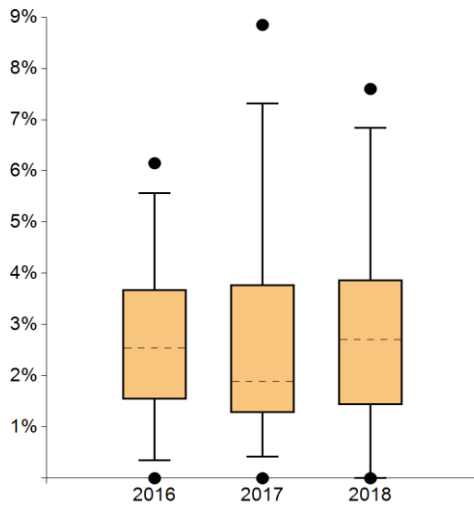
** Percentage of total patients treated in centers according to the numerator.

*** For values outside the plausibility limit(s), the centers are required to provide a justification.

7b. Clinically symptomatic secondary bleeding



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	If possible low rate of clinically symptomatic secondary bleeding Surgical primary cases with clinically symptomatic secondary bleeding (= new onset or worsening of an existing neurological disorder)	4*	0 - 19	212
Denominator	Surgical primary cases (= Indicator 6a)	147*	67 - 610	7,425
Rate	Mandatory statement of reasons*** < 1% and >10%	2.71%	0.00% - 7.60%	2.86%**



	2014	2015	2016	2017	2018
Max	----	----	6.15%	8.85%	7.60%
95 th percentile	----	----	5.56%	7.32%	6.84%
75 th percentile	----	----	3.68%	3.78%	3.87%
Median	----	----	2.54%	1.88%	2.71%
25 th percentile	----	----	1.54%	1.28%	1.43%
5 th percentile	----	----	0.35%	0.43%	0.00%
Min	----	----	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
40	100.00%	33	82.50%

Comments:

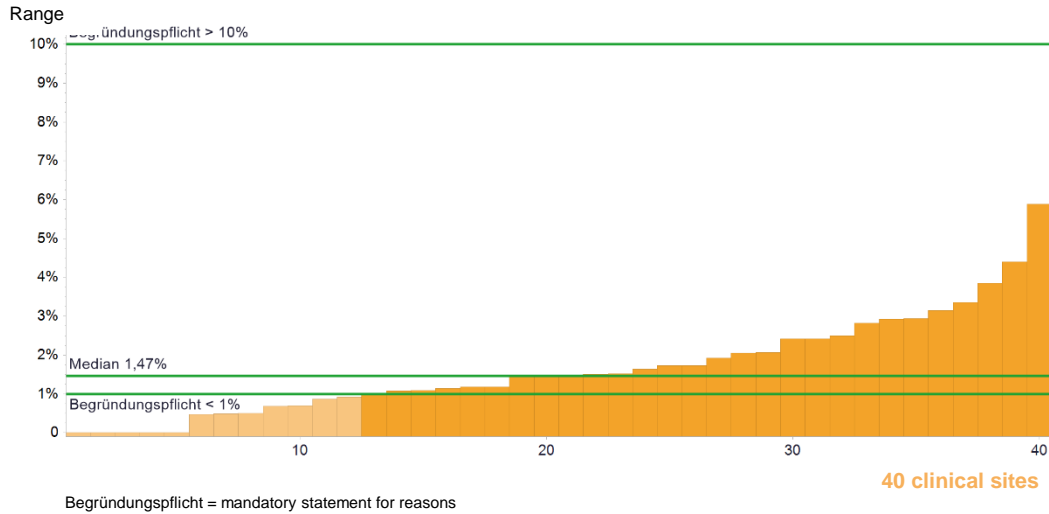
With a rising median, the overall rate of clinically symptomatic secondary bleeding in primary surgical cases remains at about the same level as the previous year (2.90%). As in the previous year, 7 centres were able to plausibly establish a rate of less than 1% with an actually very low rate of symptomatic secondary bleeding. This was positively highlighted 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.

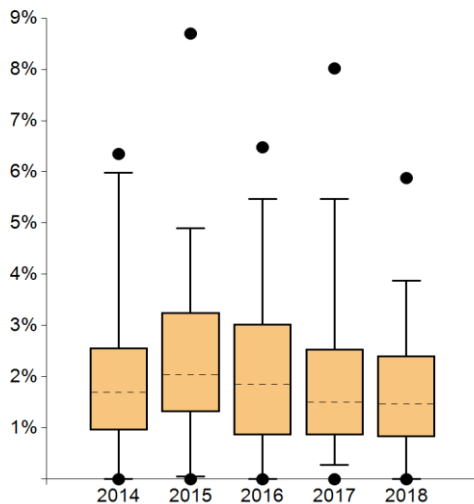
** Percentage of total patients treated in centers according to the numerator.

*** For values outside the plausibility limit(s), the centers are required to provide a justification.

8. Post-surgical wound infections



	Indicator definition	All clinical sites 2018		
		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 - 11	119
Denominator	Surgical primary cases (= Indicator 6a)	147*	67 - 610	7,425
Rate	Mandatory statement of reasons*** < 1% and >10%	1.47%	0.00% - 5.88%	1.60%**



	2014	2015	2016	2017	2018
● Max	6.35%	8.70%	6.48%	8.02%	5.88%
95 th percentile	5.98%	4.90%	5.47%	5.47%	3.88%
75 th percentile	2.57%	3.26%	3.03%	2.54%	2.41%
Median	1.70%	2.04%	1.85%	1.51%	1.47%
25 th percentile	0.96%	1.32%	0.86%	0.86%	0.82%
5 th percentile	0.00%	0.05%	0.00%	0.28%	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	%
40	100.00%	28	70.00%

Comments:

Especially in the upper percentage ranges the rate of postoperative wound infections decreases: 3 of the 4 centres which had rates of at least 5% in the previous year were able to reduce them. The overall rate drops from 2.20% to now 1.60%. 5 of the 12 centres below the plausibility limit of 1% did not record any postoperative wound infection within 30 days after surgery in the key figure year 2018. A total of 21 centres reduced their rate, 17 increased it.

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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