



Annual Report 2023

of the Certified Skin Cancer Centres

Audit year 2022 / Indicator year 2021

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General information

Indicator No. 14: Melanoma: Safety margin (1 cm) in the case of radical excision (GL QI).....
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 Indicator No. 16: Melanoma: Lymphadenectomy (GL QI).....
 Indicator No. 17: Melanoma: Mutation analysis for BRAF.....
 Indicator No. 18: Melanoma: LDH determination (GL QI).....

Quality indicators of the guidelines (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. These quality indicators are based on the strong recommendations of the guidelines and were derived from the guidelines groups in the context of the German Guideline Programme in Oncology (GGPO). Further information: www.leitlinienprogramm-onkologie.de *

	Kennzahldefinition	Alle Standorte 2019		
		Median	Range	Patienten Gesamt
Zähler	Patienten des Nenners, die in der Tumorkonferenz vorgestellt wurden	29,5*	2 - 290	2869
Nenner	Melanom-Patienten mit Stadienshift/Rezidive und Primärfälle mit extrakutanen Melanomen	30*	2 - 299	3031
Quote	Sollvorgabe ≥ 95%	96,95%	72,09% - 100%	94,66%**

Basic data indicator:

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

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

Range specifies the value range for the numerator, denominator and ratio of all centres.

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

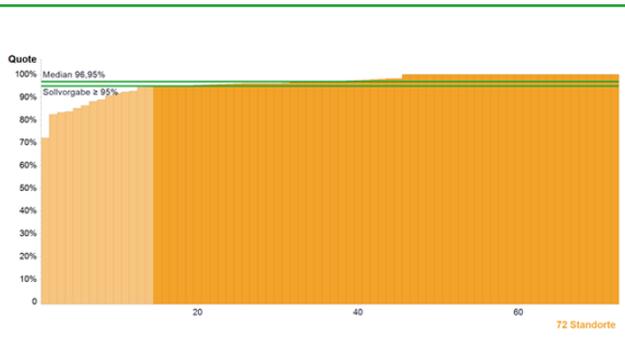


Diagram:

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

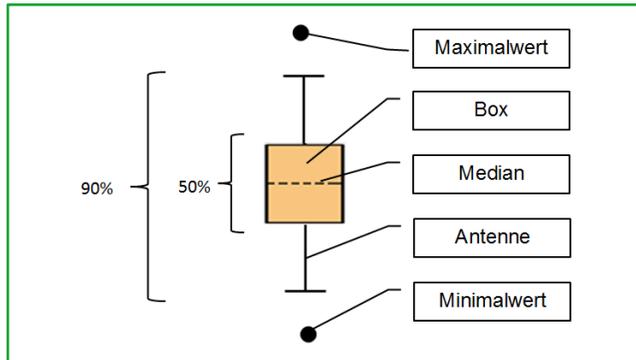
*For further information on the methodological approach see „Development of guideline-based quality indicators“ (https://www.leitlinienprogramm-onkologie.de/fileadmin/user_upload/Downloads/Methodik/QIEP_OL_Version2_english.pdf)

General information



Cohort development:

The **Cohort development** in the years **2017, 2018, 2019, 2020** and **2021** is presented in a box plot diagram.



Boxplot:

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 Skin Cancer Centres 2022

	31.12.2022	31.12.2021	31.12.2020	31.12.2019	31.12.2018	31.12.2017
Ongoing Procedures	1	3	3	3	4	2
Certified Centres	78	75	71	70	63	61
Certified Clinical Sites	80	77	73	70	63	61

Clinical sites taken into account

	31.12.2022	31.12.2021	31.12.2020	31.12.2019	31.12.2018	31.12.2017
Clinical sites included in the Annual Report	78	76	72	67	26	54
Equivalent to	97.50%	98.70%	98.63%	95.71%	41.27%	88.52%
Primary cases total*	15,838	14,442	14,665	13,740	5,423	11,584
Primary cases per clinical site (mean)*	203,0	190,0	203,7	205,1	208,6	215
Primary cases per clinical site (median)*	168,5	157,0	181,5	176,0	163,5	179,5

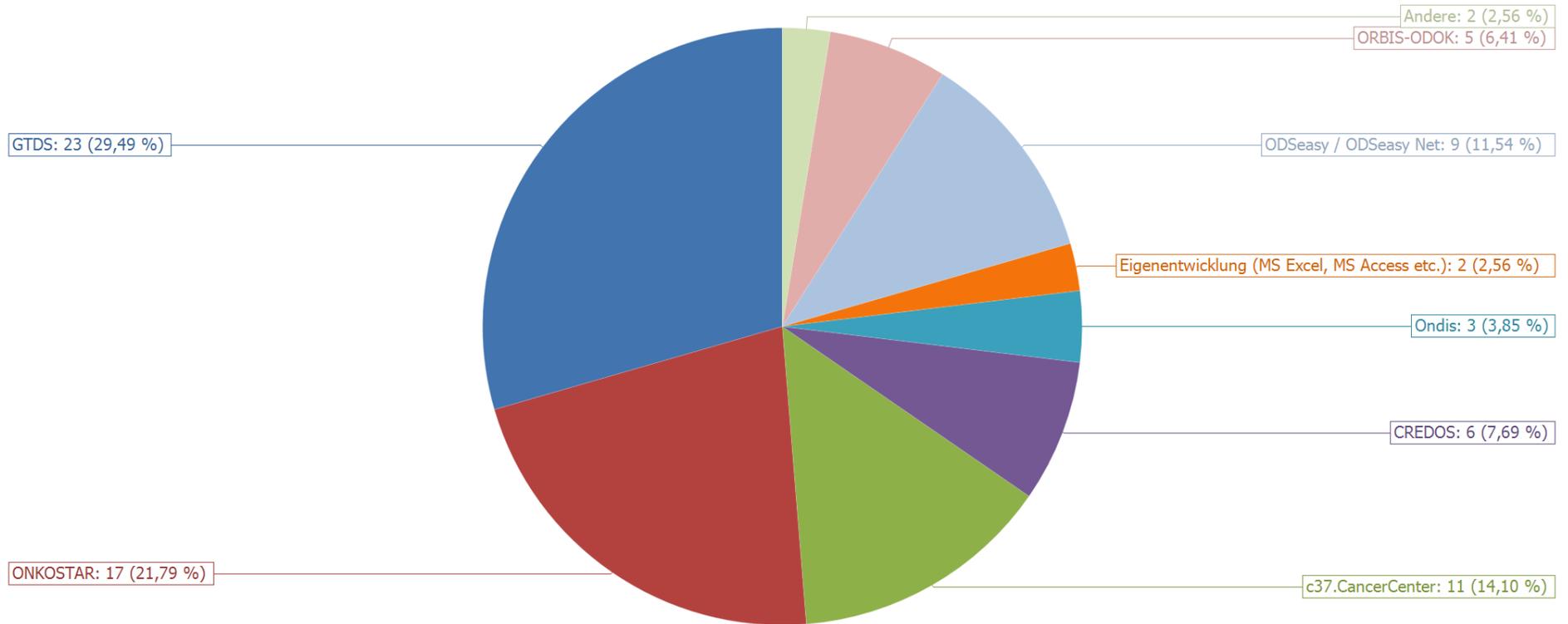
* The numbers refers to the malignant melanomas treated in the clinical sites included in the Annual Report

This Annual Report looks at the Skin Cancer Centres 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 78 of 80 certified centre sites. One clinical site was excluded because it got certified for the first time in 2022 (data mapping of complete calendar year not mandatory for initial certification) and one clinical site could not be taken into account because no final Data Sheet was available as of 31.01.2023. A total of 16,099 primary cases of malignant melanoma were treated at all 80 clinical sites. An up-to-date overview of all certified sites is available at www.oncomap.de.

The indicators published here refer to the Indicator Year 2021 and represent the evaluation basis for the audits conducted in 2022.

Tumour documentation systems in the Centre's clinical sites



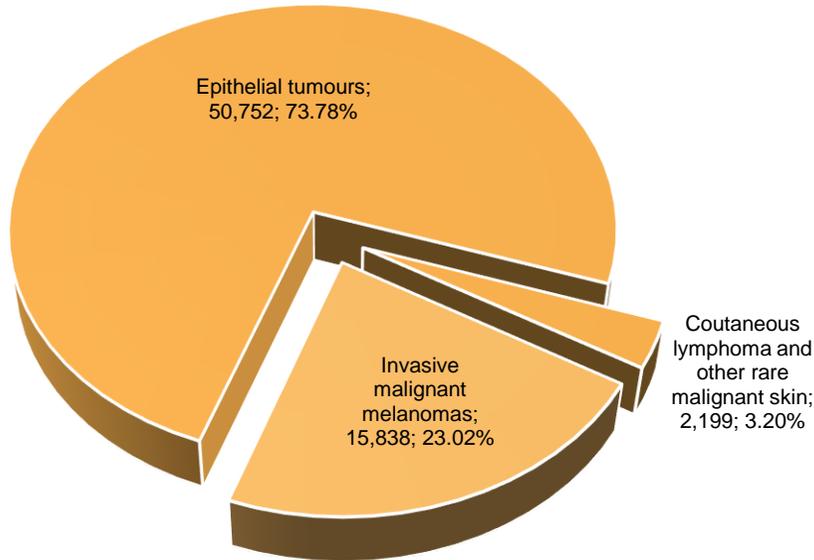
Andere = other
Eigenentwicklung = Intrinsic development

Legende:	
Other	Systems only used at one clinical site

The details on the tumour documentation system was taken from the Data Sheet (Basic Data Sheet). It is not possible to use more than one system. 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.

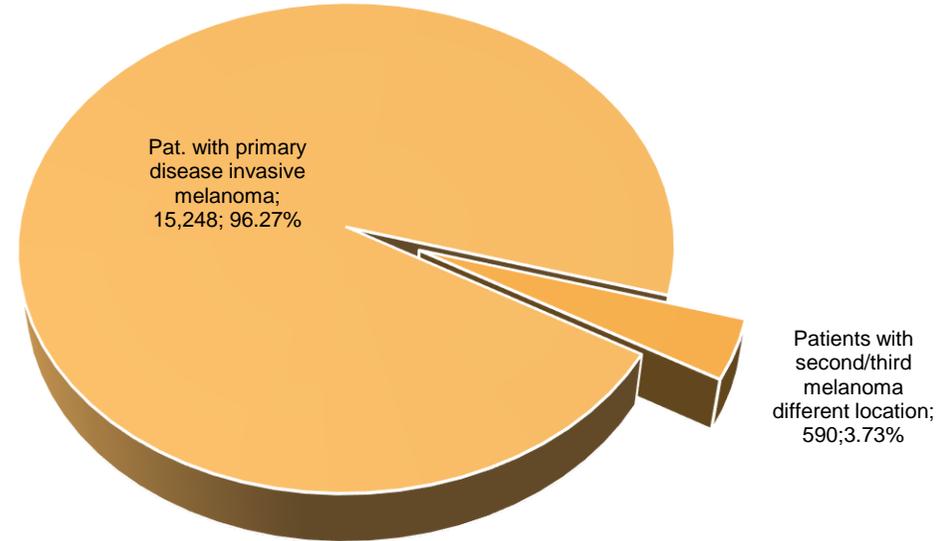
Basic data – Stage distribution primary cases

Distribution primary case patients



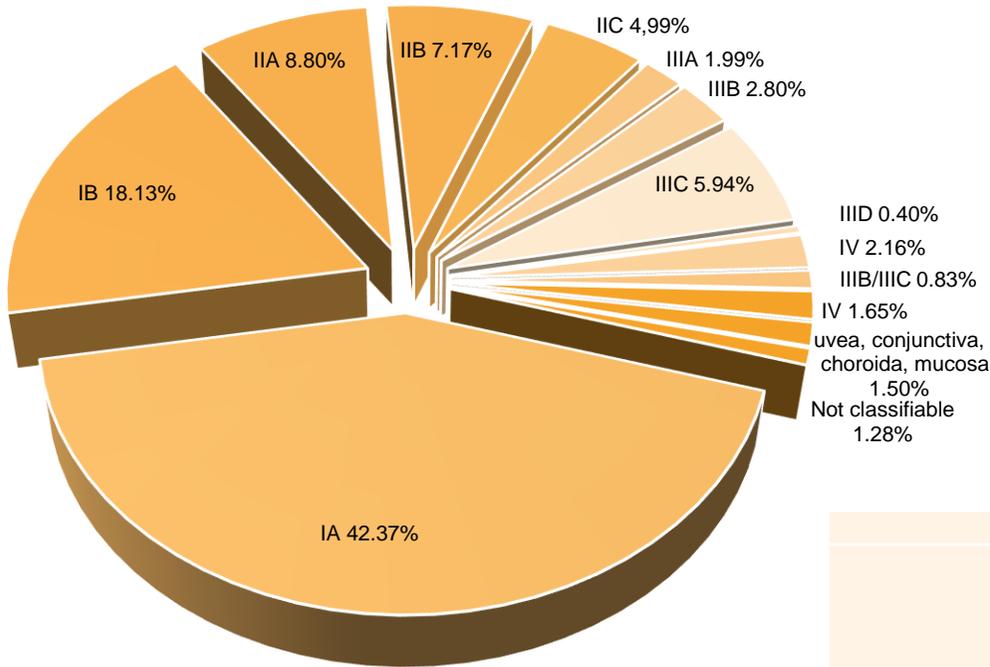
Invasive malignant melanomas	15,838 (23.02%)
Epithelial tumours (excl. <i>in situ</i>)	50,752 (73.78%)
Cutaneous lymphomas and other rare malignant skin tumours (angiosarcoma, Merkel, DFSP, etc.)	2,199 (3.20%)
Total	68,789 (100%)

Distribution primary case patients invasive melanoma



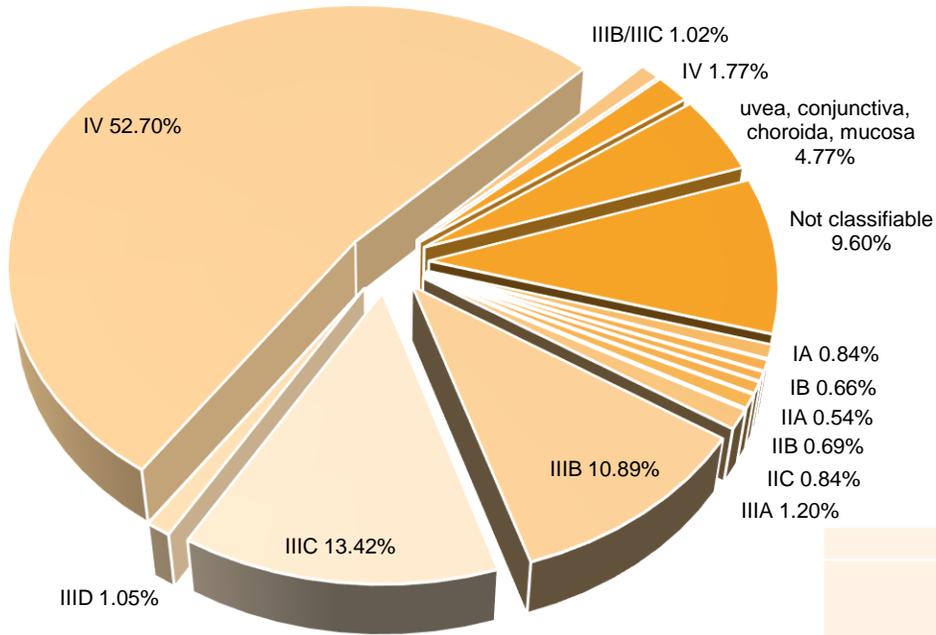
Patients with primary disease invasive melanoma	15,248 (96.27%)
Patients with second/third melanoma different location	590 (3.73%)
Total	15,838 (100%)

Basic data – Stage distribution primary cases invasive melanoma



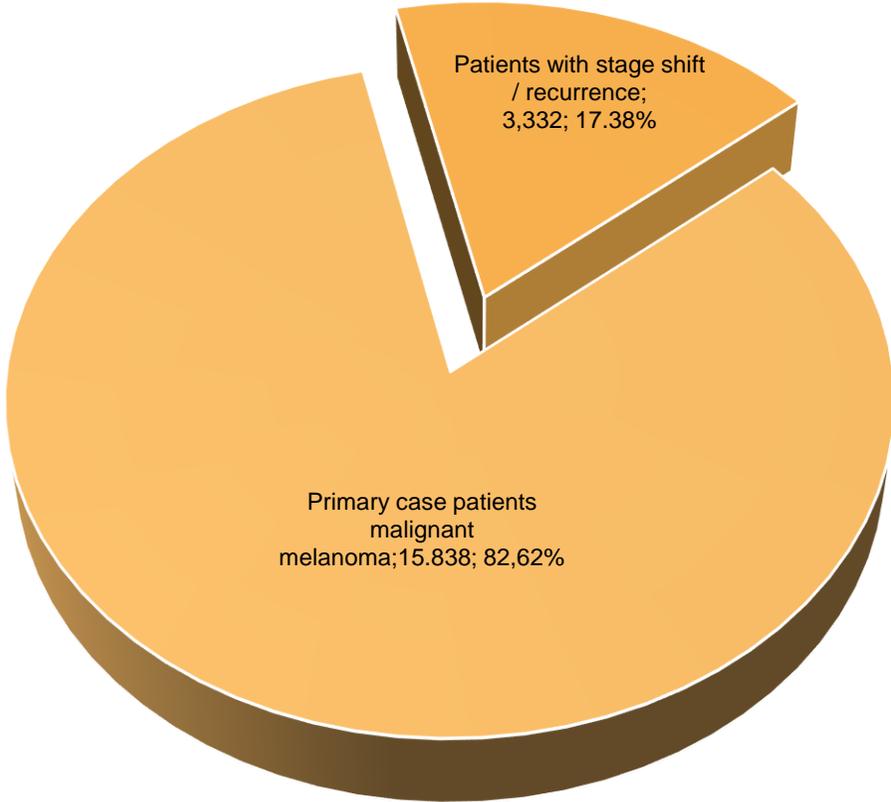
		Audit Year 2022	Audit Year 2021	Audit Year 2020	Audit Year 2019
With primary tumour	IA	6,710 (42.37%)	6,197 (42.91%)	6,730 (45.89%)	6,036 (43.93%)
	IB	2,872 (18.13%)	2,577 (17.84%)	2,606 (17.77%)	2,718 (19.78%)
	IIA	1,393 (8.80%)	1,227 (8.50%)	1,208 (8.24%)	1,117 (8.13%)
	IIB	1,135 (7.17%)	1,041 (7.21%)	976 (6.66%)	948 (6.90%)
	IIC	791 (4.99%)	721 (4.99%)	585 (3.99%)	570 (4.15%)
	IIIA	315 (1.99%)	289 (2.00%)	301 (2.05%)	291 (2.12%)
	IIIB	444 (2.80%)	403 (2.79%)	483 (3.29%)	409 (2.98%)
	IIIC	941 (5.94%)	916 (6.34%)	823 (5.61%)	763 (5.55%)
	IIID	64 (0.40%)	60 (0.42%)	55 (0.38%)	52 (0.38%)
	IV	342 (2.16%)	284 (1.97%)	282 (1.92%)	262 (1.91%)
without primary tumour	IIIB/IIIC	131 (0.83%)	154 (1.07%)	117 (0.80%)	113 (0.82%)
	IV	261 (1.65%)	237 (1.64%)	222 (1.51%)	195 (1.42%)
	uvea, conjunctiva, choroida, mucosa	237 (1.50%)	199 (1.38%)	168 (1.15%)	181 (1.32%)
	not classifiable	202 (1.28%)	137 (0.95%)	109 (0.74%)	85 (0.62%)
	Total	15,838 (100%)	14,442 (100%)	14,665 (100%)	13,740 (100%)

Basic data – Stage distribution stage shift / recurrence in melanoma



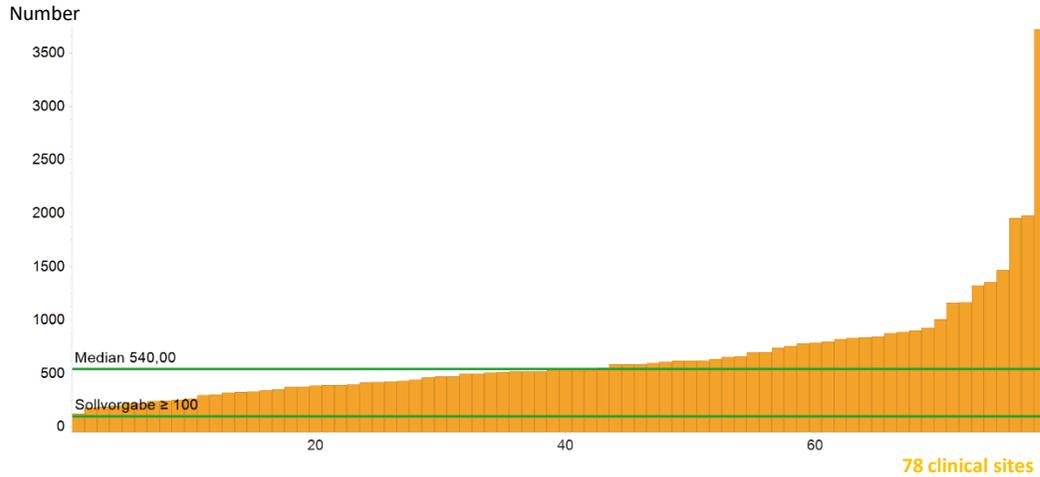
		Audit Year 2022	Audit Year 2021	Audit Year 2020	Audit Year 2019
with primary tumour	IA	28 (0.84%)	27 (0.85%)	33 (1.15%)	19 (0.67%)
	IB	22 (0.66%)	27 (0.85%)	25 (0.87%)	13 (0.46%)
	IIA	18 (0.54%)	28 (0.88%)	17 (0.59%)	18 (0.64%)
	IIB	23 (0.69%)	21 (0.66%)	30 (1.05%)	21 (0.74%)
	IIC	28 (0.84%)	28 (0.88%)	28 (0.98%)	18 (0.64%)
	IIIA	40 (1.20%)	32 (1.01%)	52 (1.82%)	43 (1.52%)
	IIIB	363 (10.89%)	321 (10.13%)	281 (9.81%)	220 (7.78%)
	IIIC	447 (13.42%)	445 (14.04%)	392 (13.69%)	318 (11.24%)
	IIID	35 (1.05%)	34 (1.07%)	41 (1.43%)	17 (0.60%)
	IV	1,756 (52.70%)	1,503 (47.41%)	1,216 (42.47%)	1,574 (55.64%)
without primary tumour	IIIB/IIIC	34 (1.02%)	81 (2.56%)	99 (3.46%)	127 (4.49%)
	IV	59 (1.77%)	241 (7.60%)	386 (13.48%)	171 (6.04%)
	uvea, conjunctiva, choroida, mucosa	159 (4.77%)	157 (4.95%)	122 (4.26%)	110 (3.89%)
	not classifiable	320 (9.60%)	225 (7.10%)	141 (4.92%)	160 (5.66%)
	Total	3,332 (100%)	3,170 (100%)	2,863 (100%)	2,829 (100%)

Basic data – Centre patients melanoma



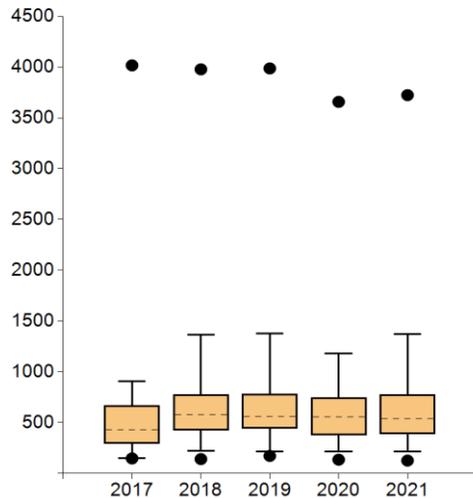
Primary case patients malignant melanoma	Patients with stage shift / recurrence	Centre patients
15,838 (82.62%)	3,332 (17.38%)	19,170 (100%)

1.1. Epithelial tumours (excl. *in situ*, incl. *inter alia* basal cell carcinomas, squamous cell carcinomas)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Primary cases (Def. see 1.1.3)	540	127 - 3724	50752
	Target value ≥ 100			

Sollvorgabe = target value



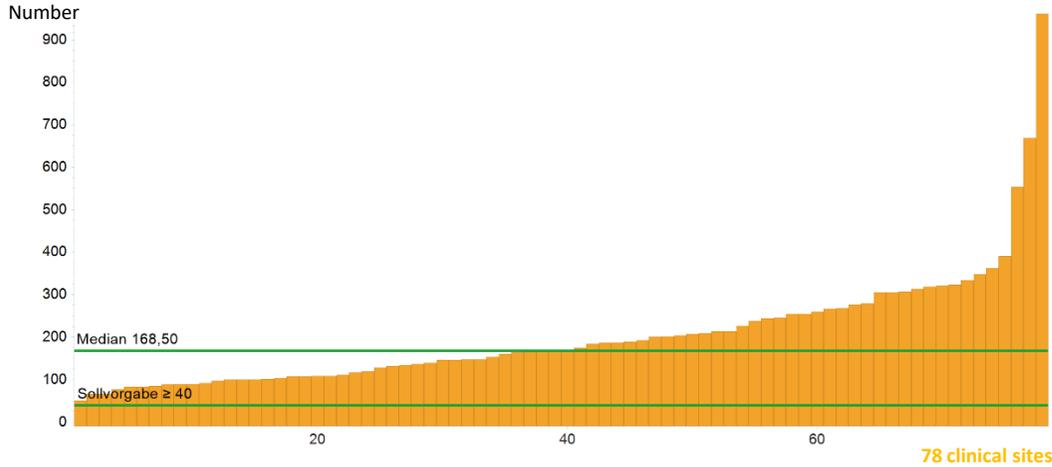
	2017	2018	2019	2020	2021
Max	4017,00	3978,00	3987,00	3658,00	3724,00
95 th percentile	908,75	1367,30	1378,85	1182,00	1373,25
75 th percentile	671,75	778,50	783,50	745,50	777,75
Median	432,00	577,00	564,00	557,50	540,00
25 th percentile	296,75	425,50	443,00	377,75	388,75
5 th percentile	153,75	223,40	216,45	217,50	215,30
Min	148,00	142,00	173,00	136,00	127,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

Comments:

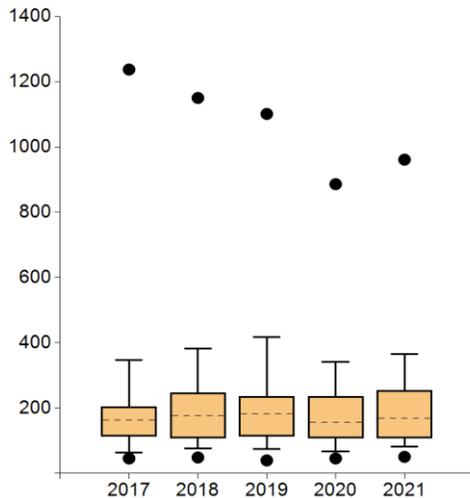
As in the previous year, all centres easily achieved the target value of at least 100 epithelial tumours. With a lower median, the total number of cases treated in the centres increased by 4.78%. This is probably due in particular to the fact that two additional clinical sites were included in the evaluation compared to the previous year.

1.2. Invasive malignant melanomas (incl. malignant uveal, conjunctival, choroidal and mucosal melanomas)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Primary cases (Def. see 1.1.3)	168.5	51 - 961	15838
	Target value ≥ 40			

Sollvorgabe = target value



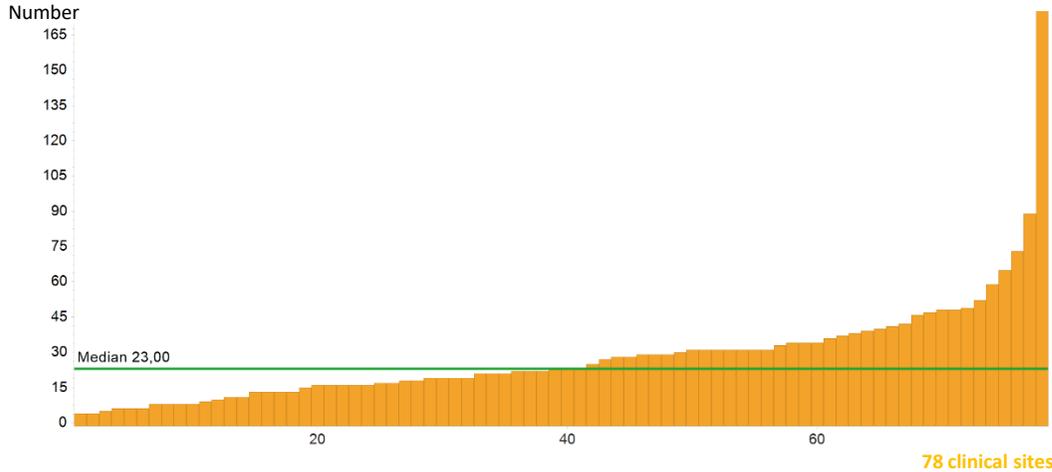
	2017	2018	2019	2020	2021
Max	1237,00	1150,00	1101,00	886,00	961,00
95 th percentile	346,25	381,40	416,70	341,25	366,20
75 th percentile	204,25	246,50	236,00	236,25	255,00
Median	163,50	176,00	181,50	157,00	168,50
25 th percentile	112,75	108,00	113,75	107,75	108,00
5 th percentile	63,75	77,00	74,75	68,00	82,10
Min	46,00	49,00	40,00	46,00	51,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

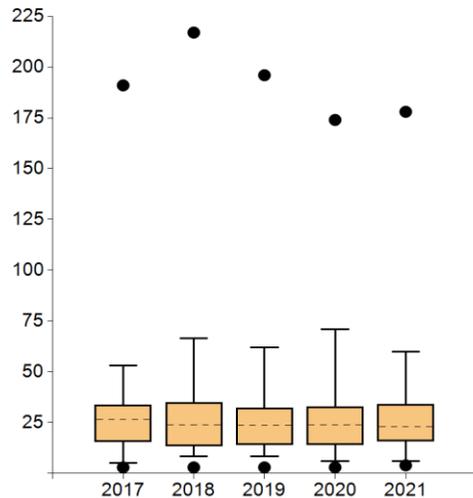
Comments:

In contrast to the epithelial tumours (see Indicator 1.1), the median has increased slightly. The total number of cases at the centres increased by 9.67% to 15,838. None of the centres had difficulties with the minimum number of cases of at least 40.

1.3. Cutaneous lymphoma and other rare, malignant skin tumours (angiosarcoma, Merkel cell carcinoma, etc.)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Primary cases (Def. see 1.1.3)	23	4 - 178	2199
	No target value			



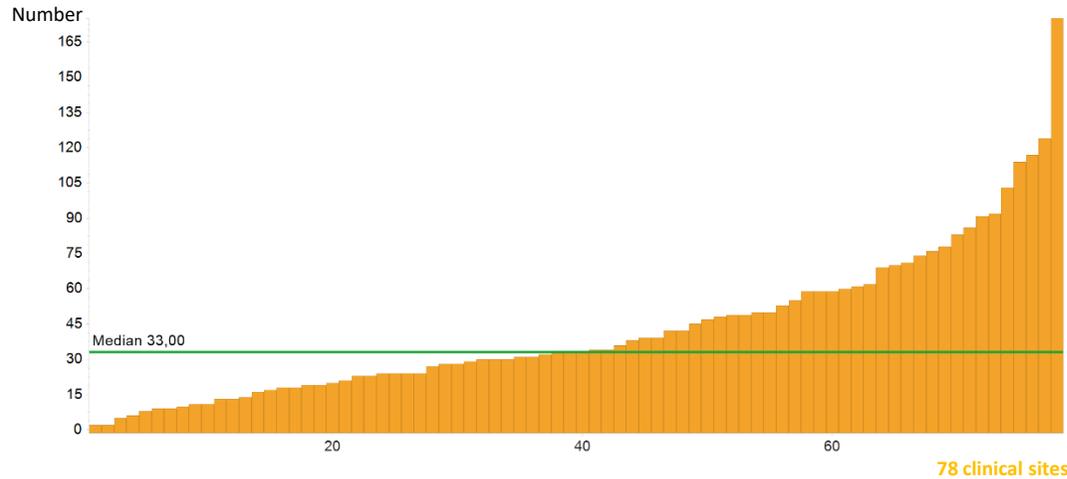
	2017	2018	2019	2020	2021
Max	191,00	217,00	196,00	174,00	178,00
95 th percentile	53,00	66,40	62,00	71,00	59,90
75 th percentile	33,75	35,00	32,25	33,00	34,00
Median	26,50	24,00	23,50	24,00	23,00
25 th percentile	15,50	13,50	14,00	14,00	16,00
5 th percentile	5,25	8,30	8,55	6,00	6,00
Min	3,00	3,00	3,00	3,00	4,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	----	----

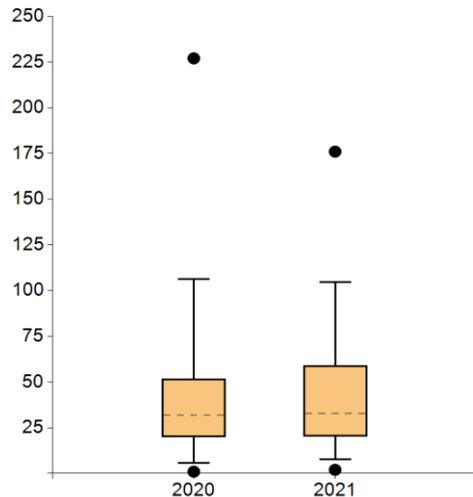
Comments:

For rare skin tumours, the numbers have remained comparatively constant. There were 50 more rare skin tumours treated in the centres than in the previous year, which corresponds to an increase of 2.33%.

1.4. Patients with melanoma and stage shift / recurrence



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Patients with stage shift / recurrence	33	2 - 176	3332
	No target value			



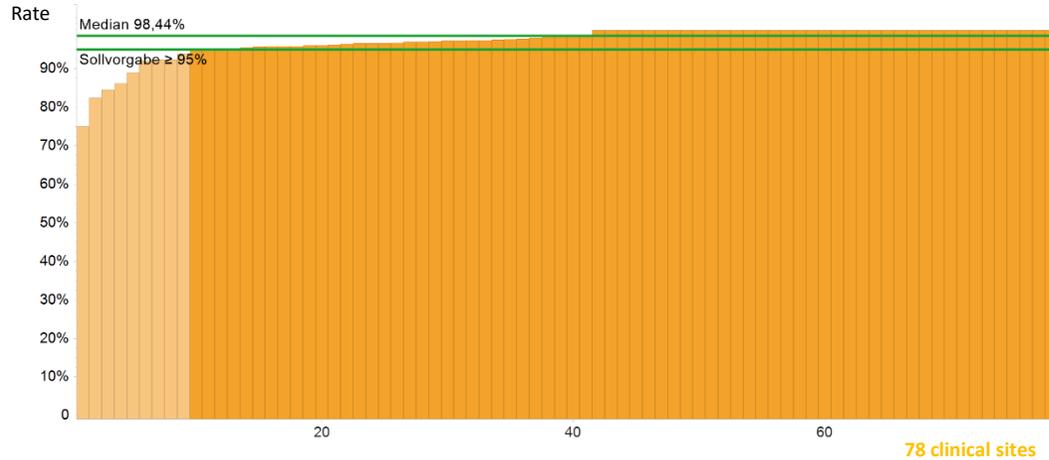
	2017	2018	2019	2020	2021
● Max	----	----	----	227,00	176,00
95 th percentile	----	----	----	106,25	104,65
75 th percentile	----	----	----	51,75	59,00
Median	----	----	----	32,00	33,00
25 th percentile	----	----	----	20,00	20,25
5 th percentile	----	----	----	5,75	7,70
● Min	----	----	----	1,00	2,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	----	----

Comments:

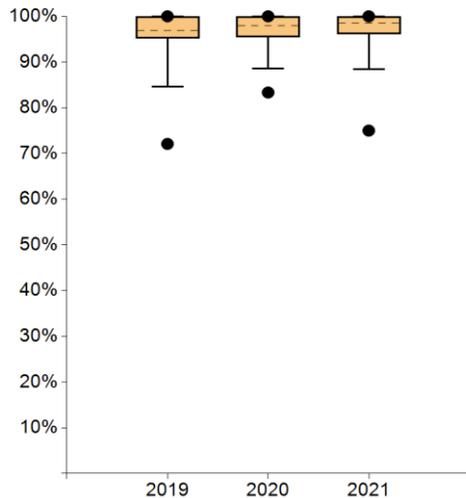
There is no target value for the number of melanoma patients with stage shift or recurrence. The numbers per centre are approximately at the previous year's level, whereby the range in the indicator year 2021 is slightly smaller than in the previous year.

2. Melanoma: Discussion of cases (GL Melanoma QI)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients of the denominator who were presented at the tumour board	36,5*	2 - 174	3445
Denomintor	Patients with stage shift / recurrence and primary cases with extracutaneous melanoma	36,5*	2 - 179	3569
Rate	Target value ≥ 95%	98.44%	75.00% - 100%	96.53%**

Sollvorgabe = target value



	2017	2018	2019	2020	2021
● Max	----	----	100%	100%	100%
95 th percentile	----	----	100%	100%	100%
75 th percentile	----	----	100%	100%	100%
Median	----	----	96.95%	98.00%	98.44%
25 th percentile	----	----	95.24%	95.40%	96.10%
5 th percentile	----	----	84.56%	88.52%	88.48%
● Min	----	----	72.09%	83.33%	75.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	69	88.46%

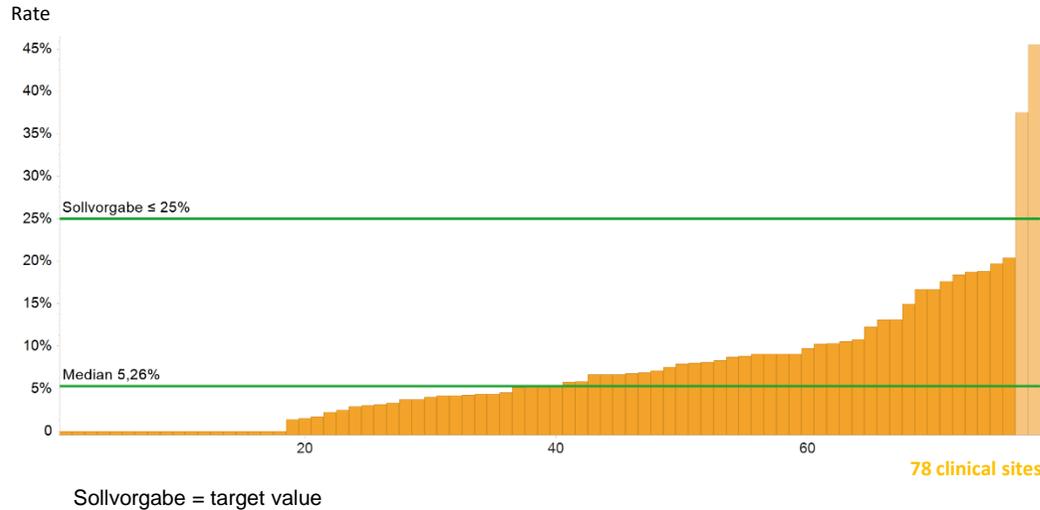
Comments:

The number of centres that failed to meet the target value in the case discussion falls from 14 to 9, with the median remaining almost unchanged. The most frequent reasons (4 mentions each) for falling short off the target value were patients presented in other departments/clinics (e.g. ophthalmology) or omissions in individual cases. The centres reacted with quality circles, among other things. In some cases, agreements on interdisciplinary cooperation were concluded or specified.

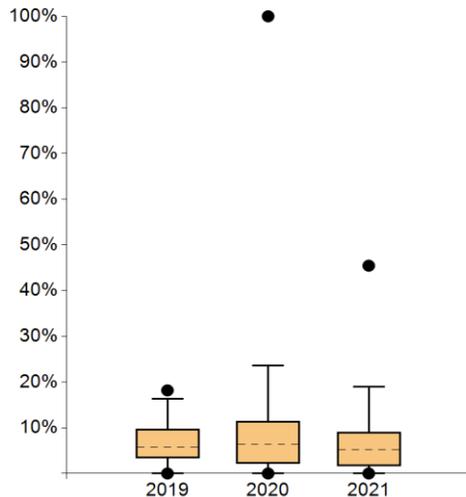
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

** Percentage of total patients treated in centres according to the indicator.

3. Melanoma: Therapy deviation from tumour board recommendation



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients of the denominator in whom a treatment deviation was made	2*	0 - 32	259
Denominator	Patients with stage shift / recurrence and primary cases with extracutaneous melanoma which were presented in the tumour board (= numerator Indicator 2)	36.5*	2 - 174	3445
Rate	Target value ≤ 25%	5.26%	0.00% - 45.45%	7.52%**



	2017	2018	2019	2020	2021
Max	----	----	18.18%	100%	45.45%
95 th percentile	----	----	16.30%	23.60%	18.96%
75 th percentile	----	----	9.69%	11.43%	9.09%
Median	----	----	5.75%	6.46%	5.26%
25 th percentile	----	----	3.38%	2.15%	1.58%
5 th percentile	----	----	0.00%	0.00%	0.00%
Min	----	----	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	76	97.44%

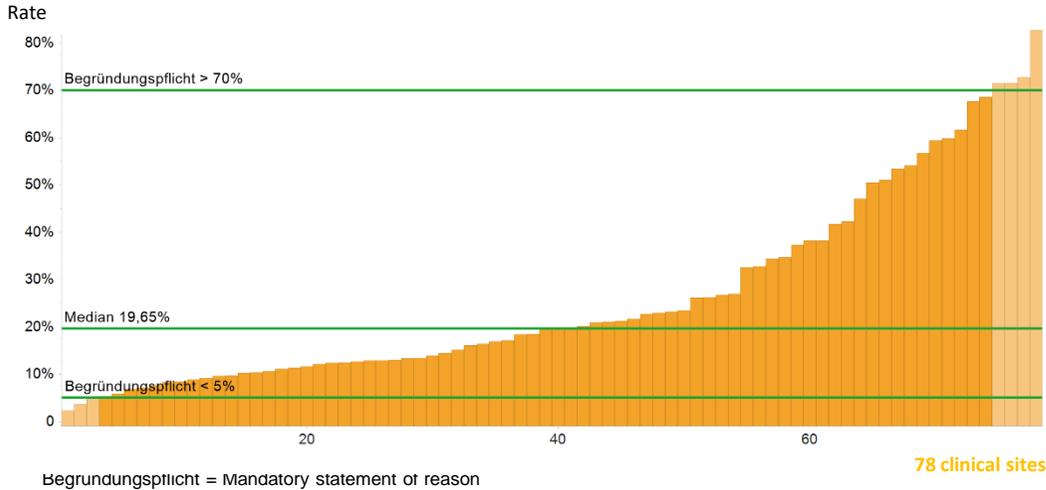
Comments:

As in the previous year, 2 centres failed to meet the target value. One of these centres already failed to meet the target in the previous year. The centres claimed in each case that the deviation in therapy was due to the wish or premature death of patients. These reasons were considered plausible by the auditors.

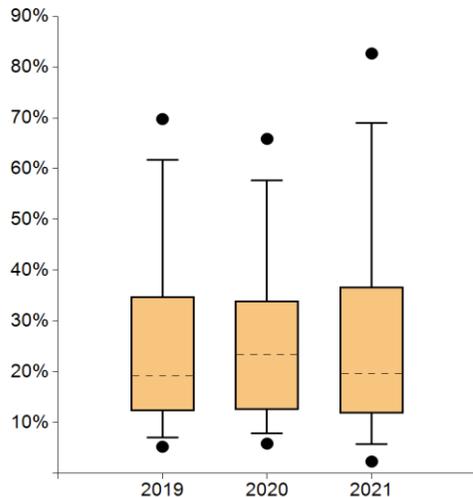
* The indication of the median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

** Percentage of total patients treated in centres according to the indicator.

4. Melanoma: Psycho-oncological counselling



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients of the denominator that received psycho-oncological counselling in an inpatient or outpatient setting (duration of consultation ≥ 25 min)	43,5*	2 - 424	4879
Denomintor	Primary cases (= Indicator 1.2) + patients with stage shift / recurrence (=basic data R34)	213*	57 - 1044	19170
Rate	Mandatory statement of reason*** <5% and >70%	19.65%	2.35% - 82.67%	25.45%**



	2017	2018	2019	2020	2021
Max	----	----	69.77%	65.87%	82.67%
95 th percentile	----	----	61.73%	57.68%	68.99%
75 th percentile	----	----	34.83%	33.97%	36.76%
Median	----	----	19.20%	23.38%	19.65%
25 th percentile	----	----	12.26%	12.50%	11.80%
5 th percentile	----	----	7.06%	7.87%	5.81%
Min	----	----	5.26%	5.88%	2.35%

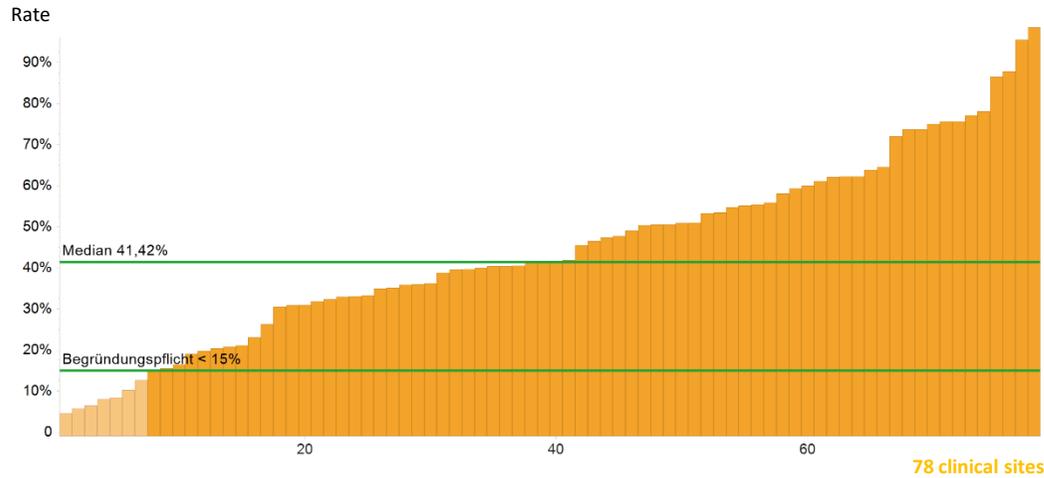
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100.00%	71	91.03%

Comments:

Of the 7 centres outside the plausibility limits, 4 were even above a rate of 70%. In contrast, 3 centres had to justify why the counseling rate was < 5%. These referred to staff shortages, after-effects of the Covid pandemic, and short layover times. In the audits, the centres were encouraged to introduce measures to increase the counseling rate. In some cases, positive trends were already evident at the time of the audit.

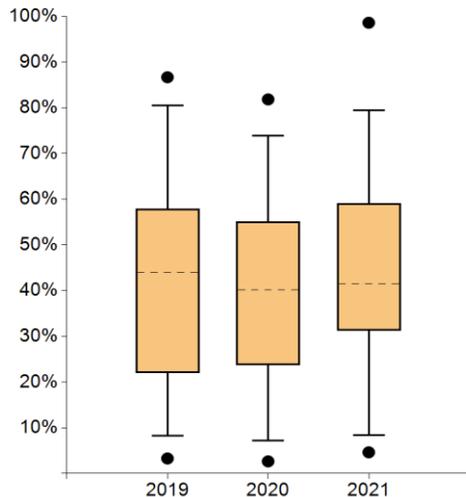
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

5. Melanoma: Social service counselling (GL Melanoma QI)



Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients of the denominator who received counselling from social services on an inpatient or outpatient setting	84*	6 - 334	8011
Denominator	Primary cases (= Indicator 1.2) + patients with stage shift / recurrence (=basic data R34)	213*	57 - 1044	19170
Rate	Mandatory statement for reason*** <15%	41.42%	4.63% - 98.59%	41.79%**



	2017	2018	2019	2020	2021
Max	----	----	86.67%	81.82%	98.59%
95 th percentile	----	----	80.49%	73.83%	79.40%
75 th percentile	----	----	57.91%	55.12%	59.04%
Median	----	----	44.02%	40.12%	41.42%
25 th percentile	----	----	22.04%	23.68%	31.21%
5 th percentile	----	----	8.26%	7.18%	8.41%
Min	----	----	3.28%	2.65%	4.63%

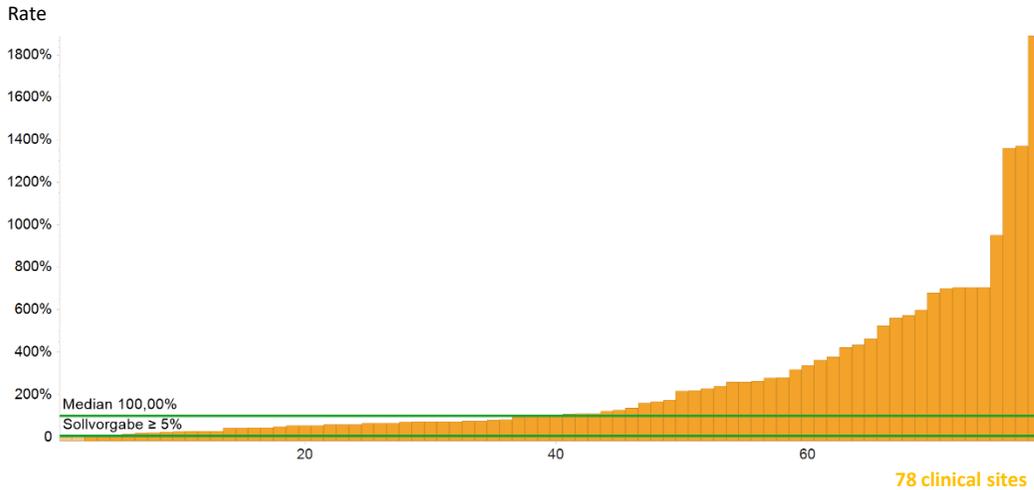
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100.00%	71	91.03%

Comments:

The overall counselling rate and the median have increased slightly. Of the 7 centres with a counselling rate below 15%, 6 were located in German-speaking countries, where other legal bases and responsibilities apply. The remaining centre indicated a low need for counselling on the part of the patients.

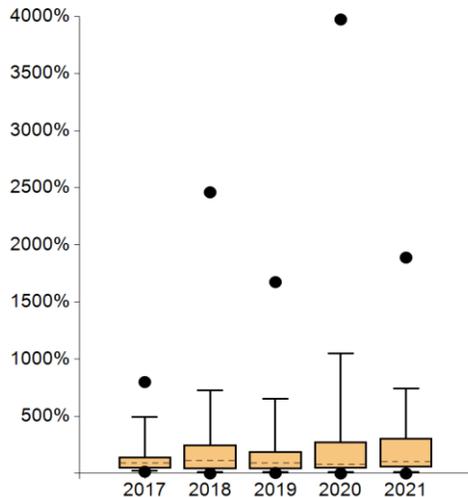
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

6. Melanoma: Patients enrolled in a study



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients with a melanoma who were included in a study with an ethical vote	29*	0 - 850	5672
Denominator	Primary cases with a melanoma stages III - IV	27,5*	6 - 170	2593
Rate	Target value \geq 5%	100%	0.00% - 1.888,89%	218.74%**

Sollvorgabe = target value



	2017	2018	2019	2020	2021
Max	800.00%	2.460.00%	1.674.60%	3.972.00%	1.888.89%
95 th percentile	491.67%	728.80%	655.00%	1.051.04%	741.97%
75 th percentile	146.43%	249.22%	192.94%	277.52%	308.21%
Median	93.90%	112.00%	89.68%	80.75%	100%
25 th percentile	44.10%	37.27%	36.71%	44.23%	54.71%
5 th percentile	22.70%	14.47%	12.46%	10.70%	12.07%
Min	15.38%	0.00%	4.76%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	76	97.44%

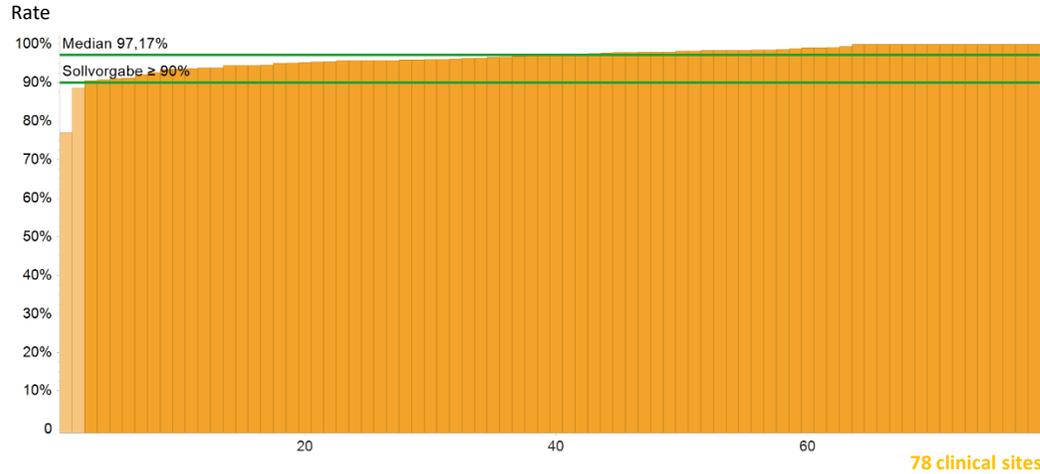
Comments:

After what was probably a Covid-related slump in 2020, the median has risen again significantly to 100%. Only 2 centres (previous year: 1) failed to meet the target value. These had still achieved the quota in the previous year. They referred to the patients' negative attitude, unfulfilled inclusion criteria and a small selection of studies. In both cases, the auditors gave remarks and agreed on measures to increase the study quota (routine discussion in tumour board, expansion of cooperations).

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

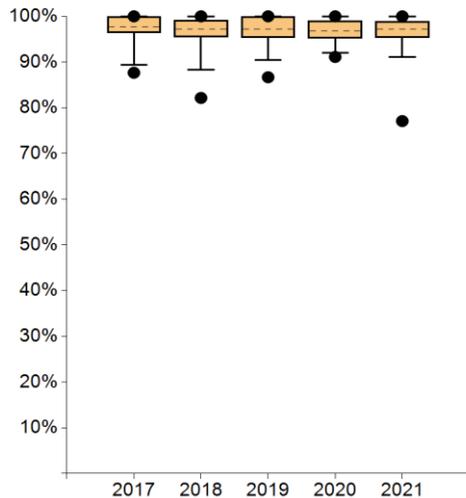
** Percentage of total patients treated in centres according to the indicator.

7. Sentinel node biopsy (SNB)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	SNB surgeries of the denominator with sentinel lymph node confirmed intraoperatively	78*	20 - 368	7247
Denominator	SNB surgeries (multiple mentioning per patient possible)	81,5*	22 - 382	7496
Rate	Target value ≥ 90%	97.17%	77.08% - 100%	96.68%**

Sollvorgabe = target value



	2017	2018	2019	2020	2021
● Max	100%	100%	100%	100%	100%
95 th percentile	100%	100%	100%	100%	100%
75 th percentile	100%	99.18%	100%	99.08%	98.90%
Median	97.66%	97.22%	97.22%	96.76%	97.17%
25 th percentile	96.42%	95.40%	95.32%	95.17%	95.30%
5 th percentile	89.34%	88.25%	90.44%	91.96%	91.14%
● Min	87.65%	82.14%	86.67%	91.11%	77.08%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	76	97.44%

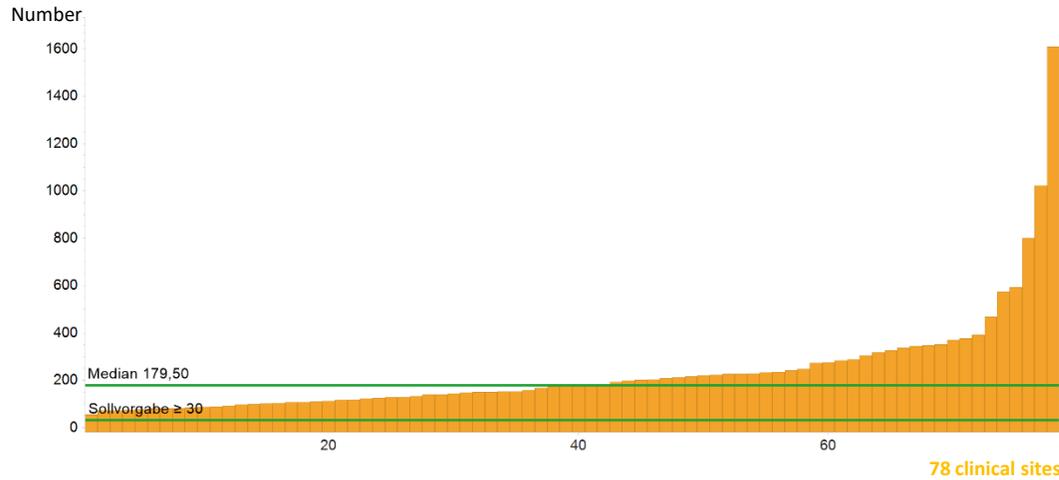
Comments:

The median number of SNB operations with a detected sentinel lymph node continued to rise at a high level. However, 2 centres were below the target value of 90%. These referred to sentinels that could not be displayed intraoperatively as well as frustrated extirpation attempts. The centre with the lowest rate received a deviation: it was agreed to submit process analyses and action plans separately for the areas of dermatology and plastic surgery.

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

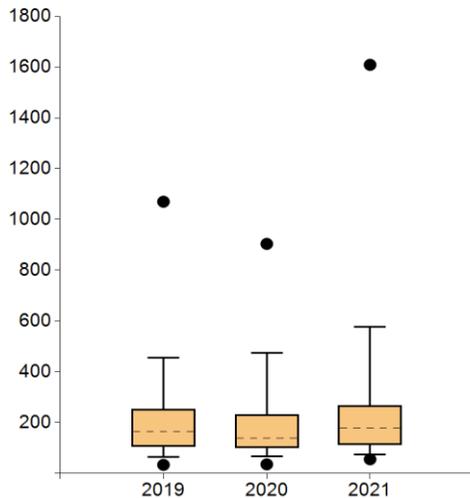
** Percentage of total patients treated in centres according to the indicator.

8. Surgical interventions with safety margins defined in the guideline



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Surgeries with a safety margin for primary cases (= malignant melanomas, merkel cell cancers, sarcomas and other rare, malignant skin tumours)	179,5	56 - 1609	18224
	Target value ≥ 30			

Sollvorgabe = target value



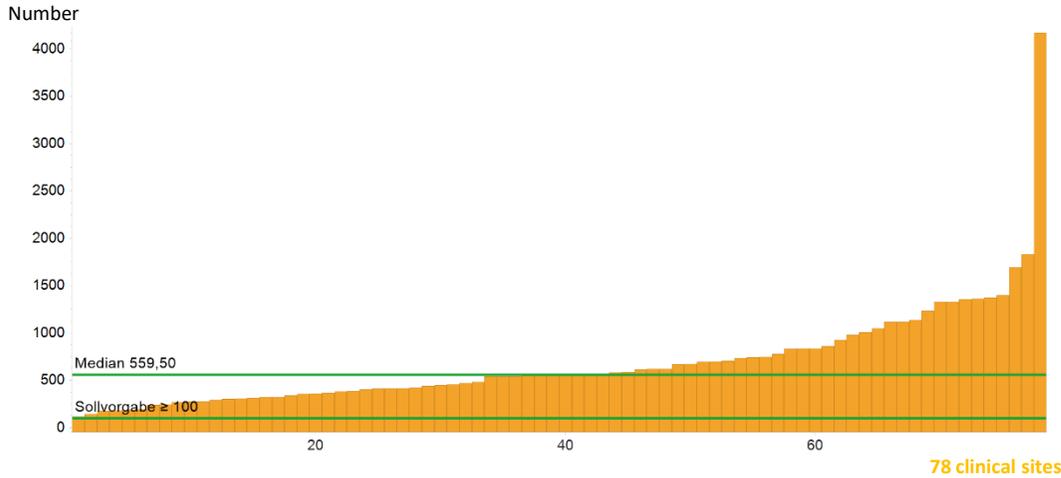
	2017	2018	2019	2020	2021
Max	----	----	1070,00	904,00	1609,00
95 th percentile	----	----	455,90	475,75	576,85
75 th percentile	----	----	253,50	232,00	267,25
Median	----	----	164,50	140,00	179,50
25 th percentile	----	----	106,00	100,75	113,25
5 th percentile	----	----	65,30	67,75	75,70
Min	----	----	34,00	36,00	56,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

Comments:

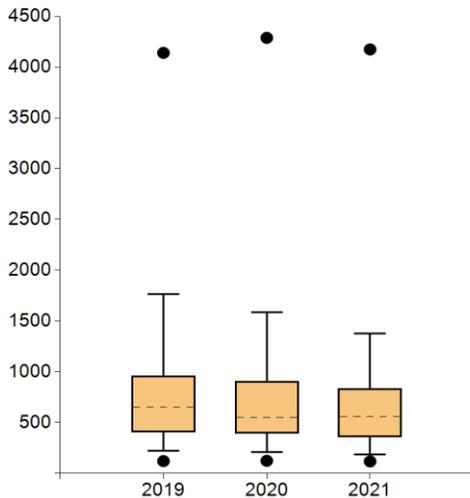
The target value is once again easily achieved by all centres. The median has increased significantly. In all centres, 18,224 operations were performed with the safety margin defined in the guideline for primary cases (+23.15%).

9. Surgical interventions with histological margin control (= epithelial tumours)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Number	Surgical interventions with histological margin control in primary cases (= epithelial tumours)	559,5	119 - 4174	53482
	Target value ≥ 100			

Sollvorgabe = target value



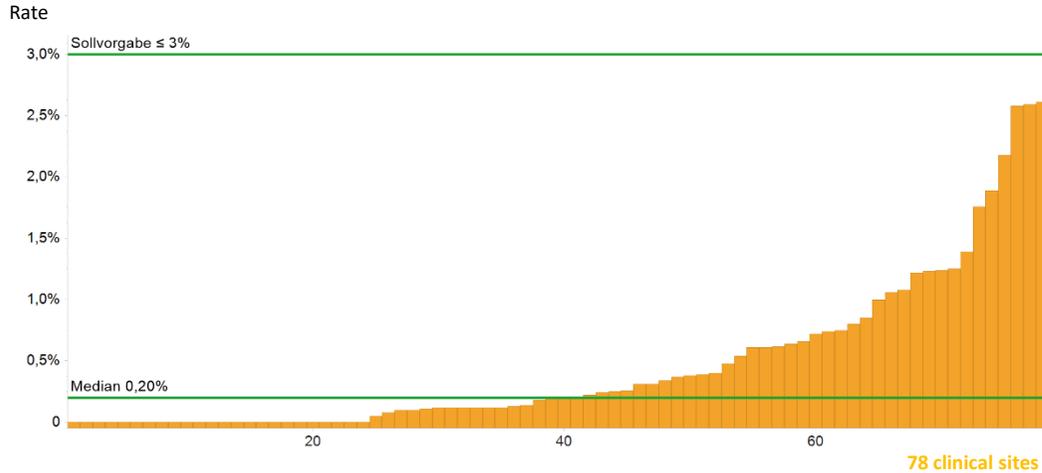
	2017	2018	2019	2020	2021
Max	----	----	4140,00	4288,00	4174,00
95 th percentile	----	----	1766,55	1586,00	1375,20
75 th percentile	----	----	963,00	906,50	835,25
Median	----	----	653,50	551,50	559,50
25 th percentile	----	----	408,25	395,25	360,00
5 th percentile	----	----	223,70	212,25	186,50
Min	----	----	122,00	125,00	119,00

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

Comments:

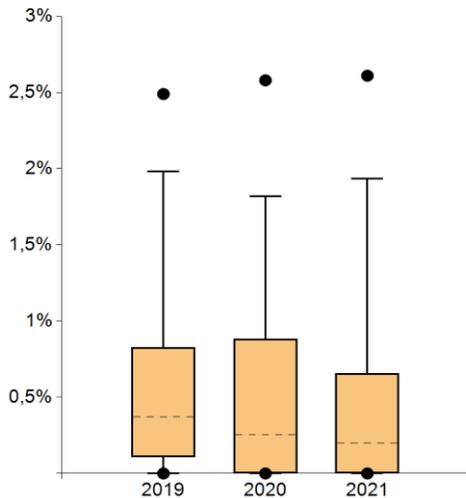
The median and total number of surgical interventions with histological margin control have changed only slightly compared to the previous year. Here, too, the target value of at least 100 procedures is easily achieved by all centres.

10. Revision surgery after secondary bleeding



Sollvorgabe = target value

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Revision surgery (OPS: 5-983) because of intra- or post-operative secondary bleeding (T81.0) after surgeries of the denominator	2*	0 - 56	368
Denominator	Sum numerators Indicators 8 + 9	805*	198 - 5197	71706
Rate	Target value ≤ 3%	0.20%	0.00% - 2.61%	0.51%**



	2017	2018	2019	2020	2021
Max	----	----	2.49%	2.58%	2.61%
95 th percentile	----	----	1.98%	1.82%	1.93%
75 th percentile	----	----	0.83%	0.88%	0.66%
Median	----	----	0.37%	0.26%	0.20%
25 th percentile	----	----	0.11%	0.00%	0.00%
5 th percentile	----	----	0.00%	0.00%	0.00%
Min	----	----	0.00%	0.00%	0.00%

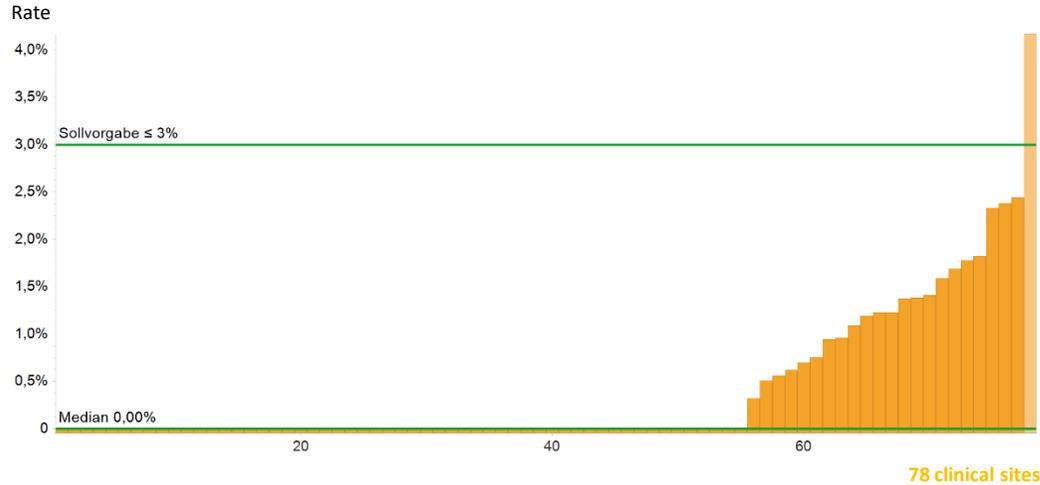
Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

Comments:

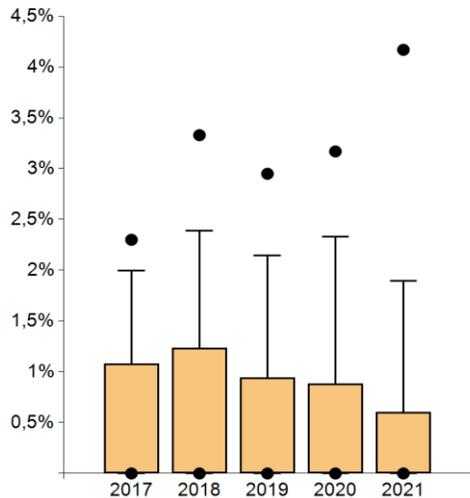
Revision procedures for resections due to bleeding remain at a low level. All centres remain below the maximum threshold of 3%. 24 centres did not record a single bleeding-related revision surgery.

* The median for numerator and denominator does not refer to an existing centre, 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 centres according to the indicator.

11. Revision surgery in the case of secondary bleeding after SNB and Lymphadenectomy (LAD)



Sollvorgabe = target value



	2017	2018	2019	2020	2021
Max	2.30%	3.33%	2.95%	3.17%	4.17%
95 th percentile	2.00%	2.39%	2.15%	2.33%	1.90%
75 th percentile	1.08%	1.24%	0.94%	0.89%	0.61%
Median	0.00%	0.00%	0.00%	0.00%	0.00%
25 th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
5 th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Min	0.00%	0.00%	0.00%	0.00%	0.00%

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Revision surgery (OPS: 5-893) because of post-operative secondary bleeding (T81.0) after surgeries of the denominator	0*	0 - 5	35
Denominator	SNB surgeries (= denominator indicator 7) + therapeutic LADs for stages III (multiple mentioning per patient possible)	83,5*	24 - 406	8052
Rate	Target value ≤ 3%	0.00%	0.00% - 4.17%	0.43%**

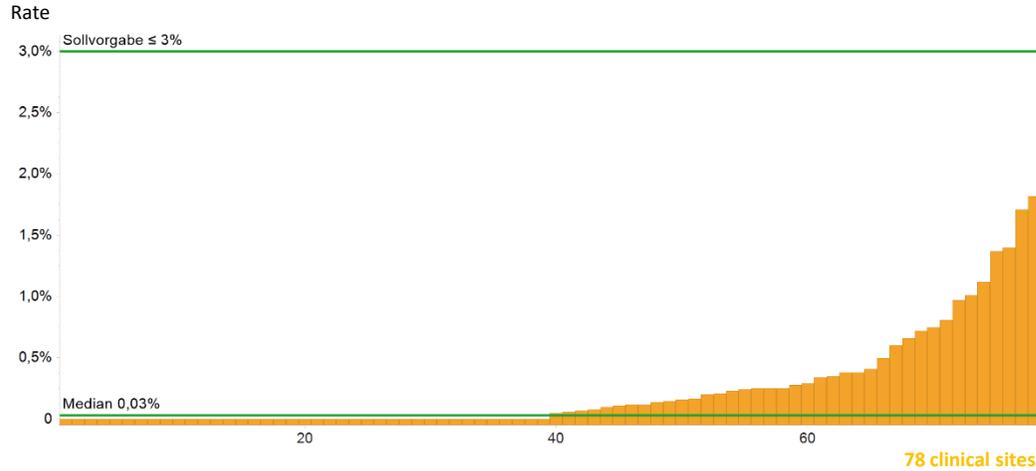
Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	77	98.72%

Comments:

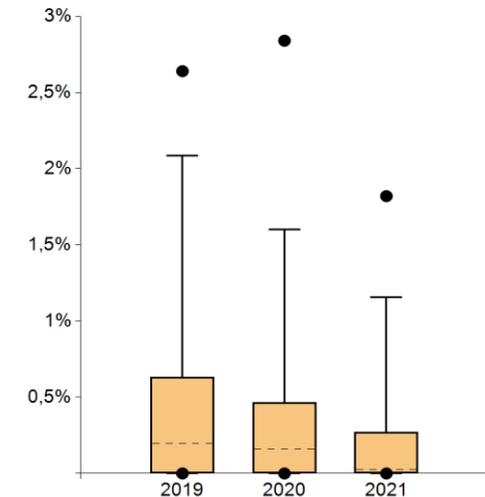
With a constant overall rate, as in the previous year, one centre failed to meet the target value for bleeding-related revision procedures after SNB or LAD operations. However, these are different centres in each case. In this specific case, 1 out of 24 patients required a revision because of a postoperative increase in axillary haematoma during long-term ASA therapy.

* The median for numerator and denominator does not refer to an existing centre, 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 centres according to the indicator.

12. Revision surgery after post-operative wound infections



Sollvorgabe = target value



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Revision surgery (OPS: 5-893) because of post-operative wound infections (T81.4) after surgeries of the denominator	0,5*	0 - 16	139
Denomintor	Sum numerators Indicators 8 + 9	805*	198 - 5197	71706
Rate	Target value ≤ 3%	0.03%	0.00% - 1.82%	0.19%**

	2017	2018	2019	2020	2021
Max	----	----	2.64%	2.84%	1.82%
95 th percentile	----	----	2.09%	1.60%	1.16%
75 th percentile	----	----	0.63%	0.47%	0.27%
Median	----	----	0.20%	0.16%	0.03%
25 th percentile	----	----	0.00%	0.00%	0.00%
5 th percentile	----	----	0.00%	0.00%	0.00%
Min	----	----	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	78	100.00%

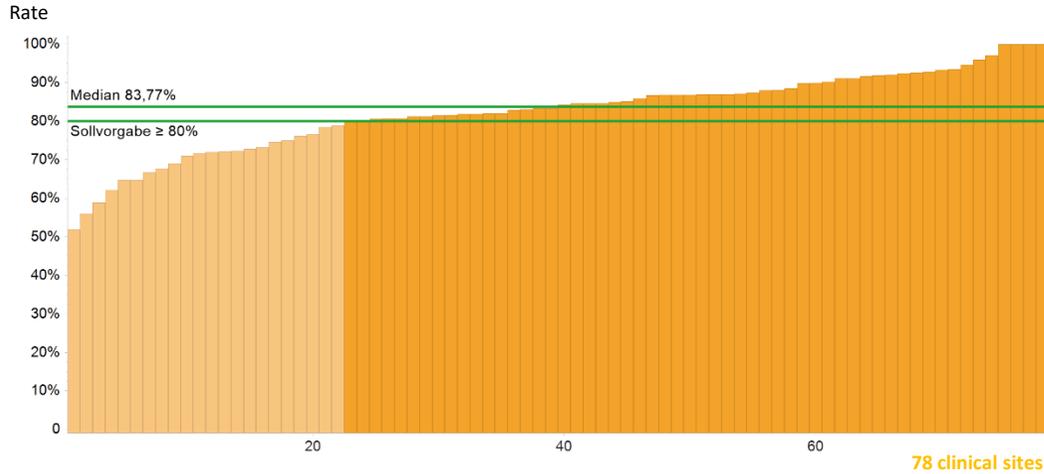
Comments:

Revision interventions due to postoperative wound infections according to the definition of the numerator in the indicator continue to decline. The median falls from 0.16% to 0.03%. All centres remain well below the 3% mark. Half of the centres (39) did not perform a single revision operation in the year.

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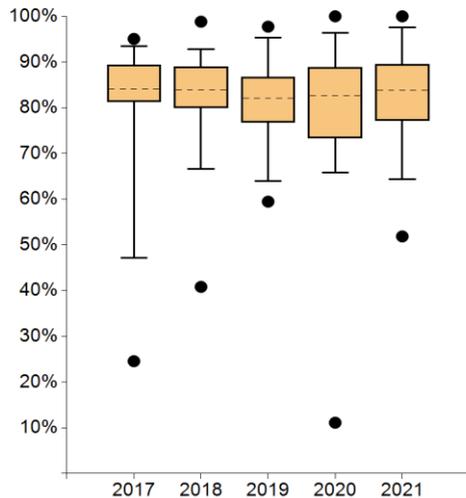
** Percentage of total patients treated in centres according to the indicator.

13. Melanoma: Sentinel node biopsy (GL Melanoma QI)



	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Primary cases of the denominator where SNB is carried out	55*	7 - 253	5025
Denominator	Primary cases cutaneous melanoma with a tumour density ≥ pT2a and no sign of locoregional or distant metastasis (cN0, cM0)	72*	7 - 292	6096
Rate	Target value ≥ 80%	83.77%	51.85% - 100%	82.43%**

Sollvorgabe = target value



	2017	2018	2019	2020	2021
Max	95.06%	98.82%	97.73%	100%	100%
95 th percentile	93.40%	92.86%	95.37%	96.31%	97.57%
75 th percentile	89.36%	89.02%	86.71%	88.85%	89.52%
Median	84.08%	83.96%	82.02%	82.56%	83.77%
25 th percentile	81.25%	80.00%	76.73%	73.29%	77.12%
5 th percentile	47.15%	66.59%	63.92%	65.77%	64.30%
Min	24.56%	40.82%	59.46%	11.11%	51.85%

Clinical sites with evaluable data		Clinical sites meeting the target value	
Number	%	Number	%
78	100.00%	56	71.79%

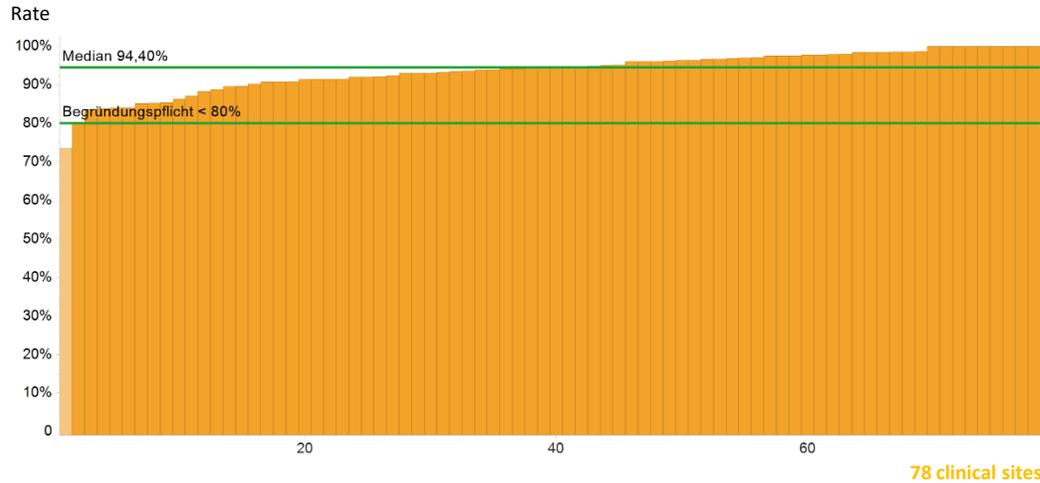
Comments:

With 22 centres, 3 fewer than in the previous year failed to meet the target value of at least 80%. Overall, the fulfilment of the indicator is roughly at the previous year's level. All centres below the target referred to patients who had refused the SNB. Further, possibly related, frequent reasons were multimorbidity (12 mentions), old age (11x), sentinel nodes that could not be displayed (6x) and previous operations in the sentinel area (4x). Most of the justifications could be plausibilised in the audits. In some cases, the auditors demanded that patients and doctors should be more thoroughly informed about the importance of the SNB.

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

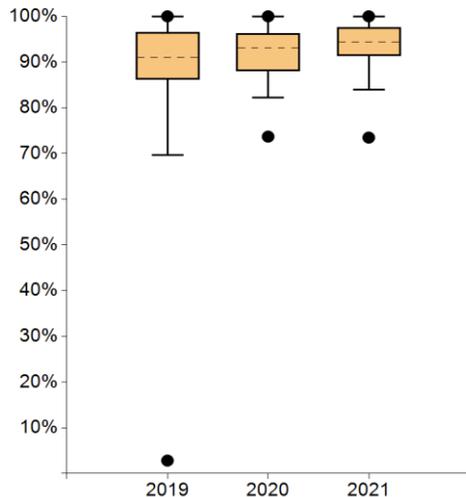
** Percentage of total patients treated in centres according to the indicator.

14. Melanoma: Safety margin (1 cm) in the case of radical excision (GL Melanoma QI)



Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Primary cases of the denominator with radical excision with a safety margin of 1 cm	106*	6 - 509	9131
Denominator	Primary cases cutaneous melanoma with a curative radical excision in case of a tumour density ≤ 2 mm	114*	6 - 551	9740
Rate	Mandatory statement for reason***<80%	94.40%	73.47% - 100%	93.75%**



	2017	2018	2019	2020	2021
Max	----	----	100%	100%	100%
95 th percentile	----	----	100%	100%	100%
75 th percentile	----	----	96.56%	96.29%	97.55%
Median	----	----	90.98%	93.10%	94.40%
25 th percentile	----	----	86.15%	88.10%	91.38%
5 th percentile	----	----	69.64%	82.20%	83.93%
Min	----	----	2.82%	73.68%	73.47%

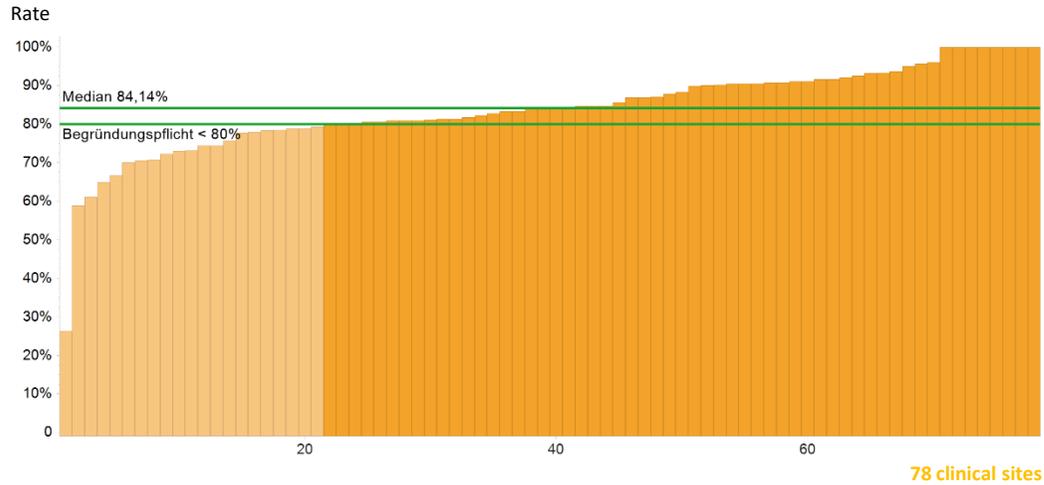
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100.00%	77	98.72%

Comments:

This indicator continues to be met very well by the centres. As in the previous year, only one centre was below the 80% limit and had to provide a justification accordingly. This was one and the same centre. The centre pointed out that the affected cases could usually be resected. In addition, some cases had been excised by outpatient referrers.

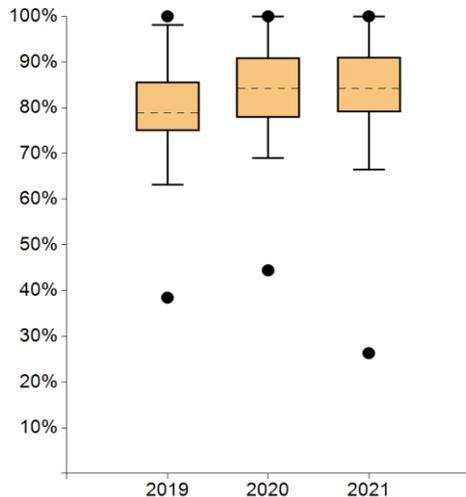
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

15. Melanoma: Safety margin (2 cm) in the case of radical excision (GL Melanoma QI)



Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Primary cases of the denominator with radical excision with a safety margin of 2 cm	38,5*	2 - 165	3284
Denominator	Primary cases cutaneous melanoma with a curative radical excision in case of a tumour density > 2 mm	46*	2 - 185	3896
Rate	Mandatory statement for reason***<80%	84.14%	26.32% - 100%	84.29%**



	2017	2018	2019	2020	2021
Max	----	----	100%	100%	100%
95 th percentile	----	----	98.11%	100%	100%
75 th percentile	----	----	85.65%	90.91%	91.02%
Median	----	----	78.95%	84.14%	84.14%
25 th percentile	----	----	74.89%	77.88%	79.04%
5 th percentile	----	----	63.22%	69.02%	66.42%
Min	----	----	38.46%	44.44%	26.32%

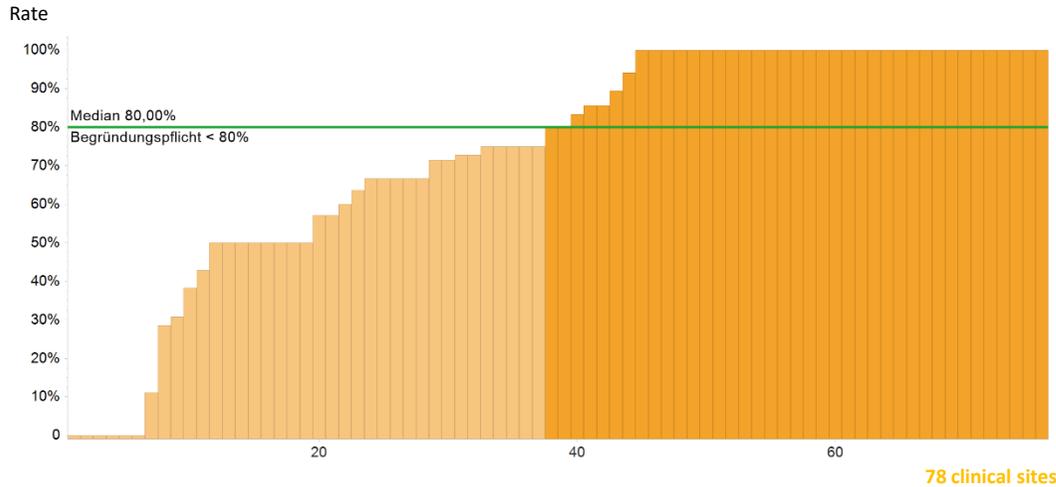
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100.00%	57	73.08%

Comments:

This QI of the guideline is also at the previous year's level. 21 centres (previous year: 22) had to justify in the audits if they had not maintained a safety distance of 2 cm during resection in less than 80% of the cases of the denominator. 17 centres referred to a localisation-related smaller distance (face, acras, perianal, vulva). 9 centres reported that patients had refused the resection. These and other reasons were mostly plausible in the audits.

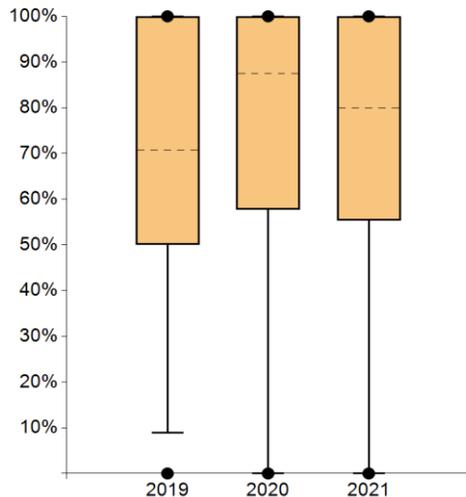
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

16. Melanoma: Therapeutic Lymphadenectomy (GL Melanoma QI)



Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Primary cases of the denominator with therapeutic LAD	3*	0 - 18	288
Denominator	Primary cases with melanoma with each pT and c/pN1b or c/pN2b or c/pN3b and M0	4*	1 - 47	430
Rate	Mandatory statement for reason***<80%	80.00%	0,00% - 100%	66.98%**



	2017	2018	2019	2020	2021
Max	----	----	100%	100%	100%
95 th percentile	----	----	100%	100%	100%
75 th percentile	----	----	100%	100%	100%
Median	----	----	70.75%	87.50%	80.00%
25 th percentile	----	----	50.00%	57.78%	55.36%
5 th percentile	----	----	8.89%	0.00%	0.00%
Min	----	----	0.00%	0.00%	0.00%

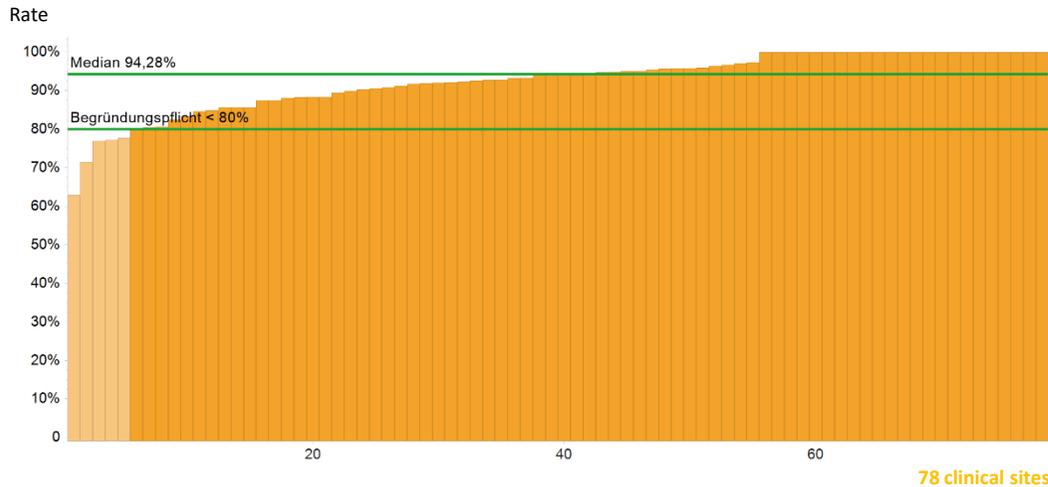
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
76	97.44%	39	51.32%

Comments:

The median and overall rate have decreased significantly compared to the previous year. Almost half of the centres (37) are below the 80% mark. 21 centres reported patients who had refused LAD. Other frequent reasons were alternatively applied adjuvant therapies (8x) or lack of indications based on recent study results (4x). The reasons could be plausibilised in the audits.

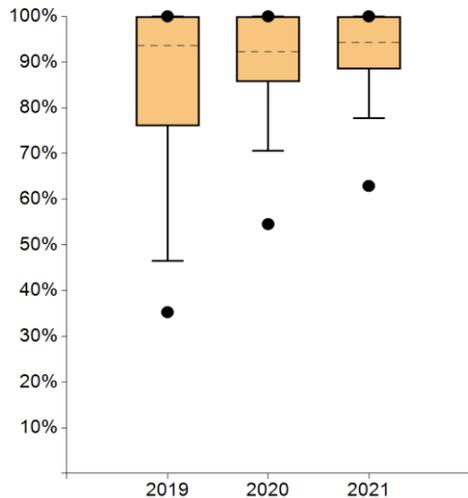
* The median for numerator and denominator does not refer to an existing centre, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

17. Melanoma: Mutation analysis for BRAF



Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Primary cases of the denominator with mutation analysis for BRAF	25*	5 - 128	2276
Denominator	Primary cases with cutaneous melanoma from stage III	27,5*	5 - 159	2498
Rate	Mandatory statement for reason***<80%	94.28%	62.90% - 100%	91.11%**



	2017	2018	2019	2020	2021
Max	----	----	100%	100%	100%
95 th percentile	----	----	100%	100%	100%
75 th percentile	----	----	100%	100%	100%
Median	----	----	93.54%	92.21%	94.28%
25 th percentile	----	----	75.94%	85.71%	88.37%
5 th percentile	----	----	46.43%	70.56%	77.69%
Min	----	----	35.29%	54.55%	62.90%

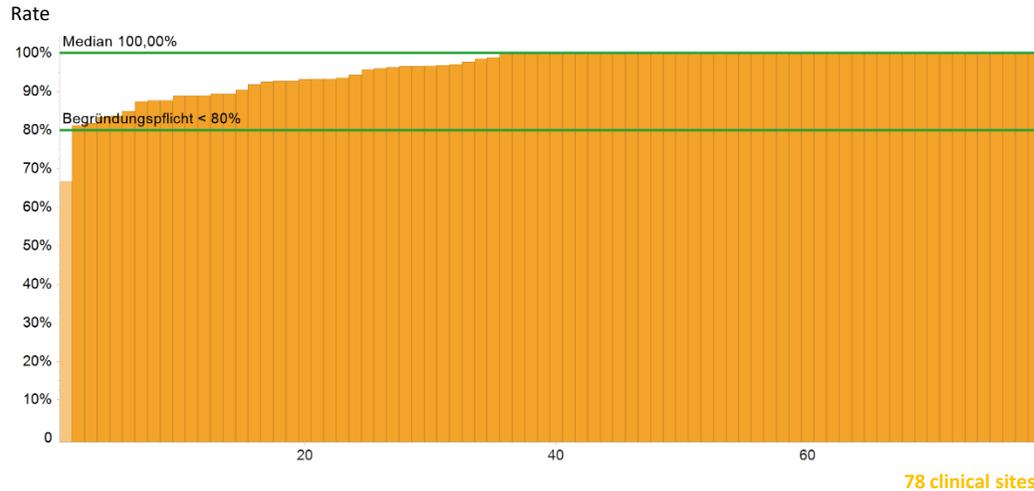
Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100,00%	73	93.59%

Comments:

The mutation analysis for BRAF is increasingly being implemented better in the centres. Compared to the previous year, significant improvements can be seen in the lower percentage ranges. 5 centres (previous year: 6) **required a statement of reasons** with a rate < 80%. 3 of the centres referred to insufficient quantities of tumour material. Other reasons were only given in isolated cases (e.g. findings still pending, determination of patients rejected). In one case, the audit suggested adapting the procedure for BRAF determination.

* The median for numerator and denominator does not refer to an existing centre, 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 centres according to the indicator.
 *** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

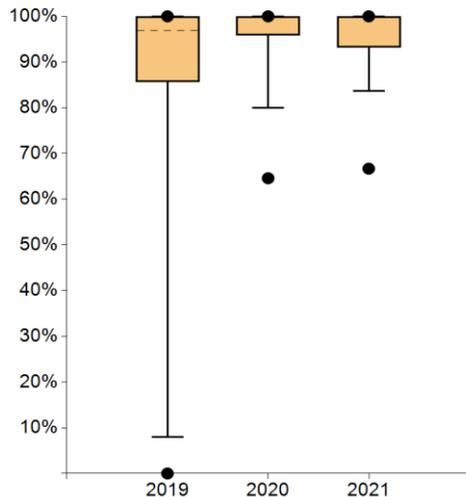
18. Melanoma: LDH determination (GL Melanoma)



78 clinical sites

Begründungspflicht = Mandatory statement for reason

	Indicator definition	All Clinical sites 2021		
		Median	Range	Patients total
Numerator	Patients of the denominator with LDH determination	29*	1 - 98	2329
Denominator	Primary cases and patients with a stage shift/recurrence with melanoma developing into stage IV	29*	1 - 99	2418
Rate	Mandatory statement for reason***<80%	100%	66.67% - 100%	96.32%**



	2017	2018	2019	2020	2021
Max	----	----	100%	100%	100%
95 th percentile	----	----	100%	100%	100%
75 th percentile	----	----	100%	100%	100%
Median	----	----	96.92%	100%	100%
25 th percentile	----	----	85.71%	95.85%	93.25%
5 th percentile	----	----	8.00%	80.00%	83.62%
Min	----	----	0.00%	64.58%	66.67%

Clinical sites with evaluable data		Clinical sites within the plausibility limits	
Number	%	Number	%
78	100.00%	77	98.72%

Comments:

The positive trend continues for this QI of the guideline. Only one centre (previous year: 3) was below a rate of 80% for LDH determination. This centre had only 3 patients in the denominator. Here, one patient refused the LDH determination.

* The median for numerator and denominator does not refer to an existing centre, 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 centres according to the indicator.

*** In the case of values outside the plausibility limit(s), the centres are obliged to provide justification.

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More information at www.krebsgesellschaft.de

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