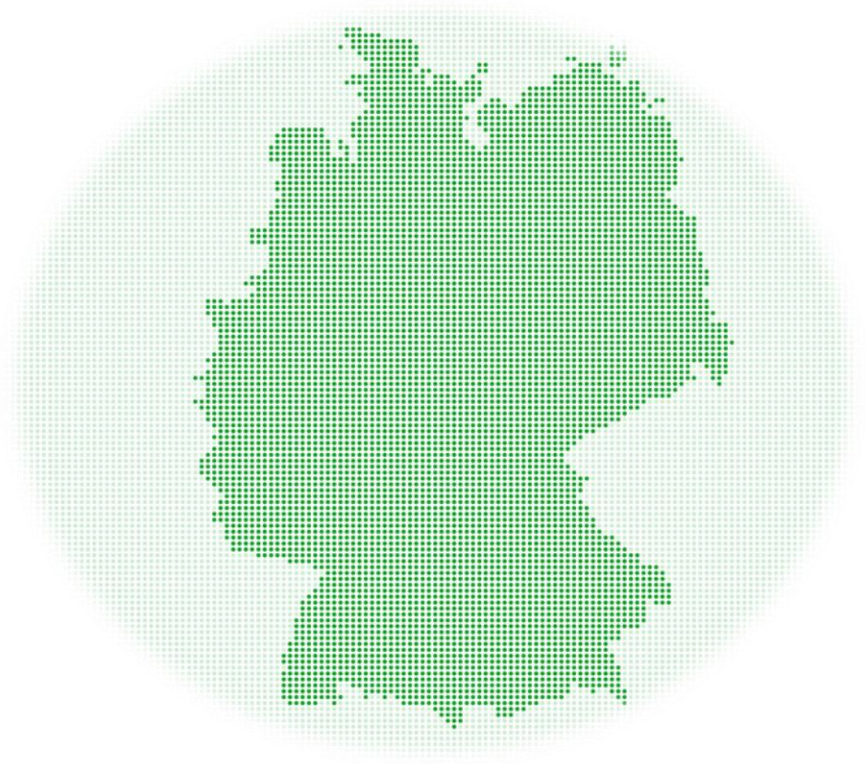

Annual Report 2020

of the Certified Colorectal Cancer Centres (CRCCs)

Audit year 2019 / Indicator year 2018

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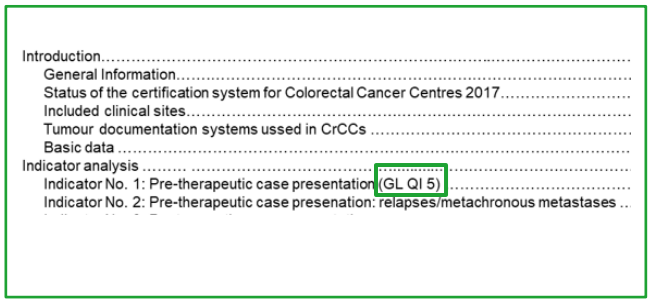
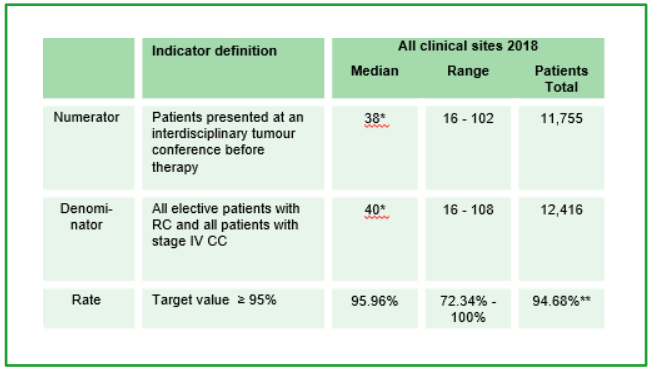
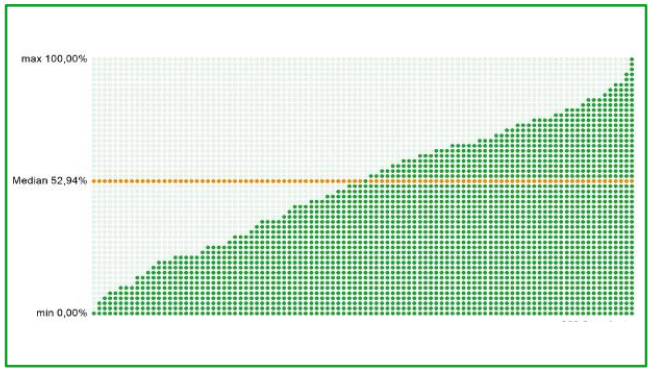
General information





	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients presented at an interdisciplinary tumour conference before therapy	38*	16 - 102	11,755
Denomi-nator	All elective patients with RC and all patients with stage IV CC	40*	16 - 108	12,416
Rate	Target value ≥ 95%	95.96%	72.34% - 100%	94.68%**



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. The quality indicators identified in this way are based on the strong recommendations of the guidelines and were derived from the guidelines groups in the context of the guideline programme oncology. Further information: www.leitlinienprogramm-onkologie.de *
The Quality Indicators (QI's) refer to the version 2.1 of the S3 GGPO Guideline Colorectal Cancer.

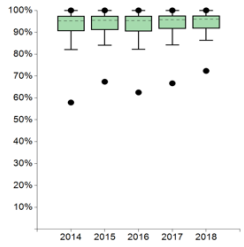
Basic data indicator:

The definitions of **numerator**, **population (=denominator)** and **target value** are taken from the Data Sheet.
The **medians** for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
The values for the numerators, populations and rates of all Centres are given under range.
The **Patients Total** column shows 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 organe line. The median, which is also depicted as a orange horizontal line, divides the entire group into two equal halves.

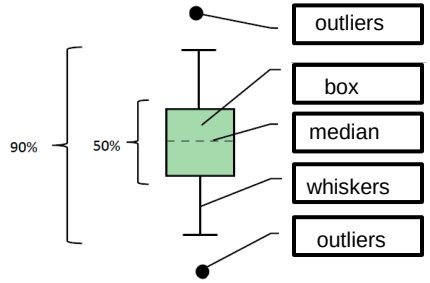
General information



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	97.46%	97.44%	97.47%	97.50%	97.61%
Median	95.12%	95.45%	95.35%	95.70%	95.96%
25th percentile	90.59%	91.11%	90.48%	91.67%	91.77%
5th percentile	82.03%	84.05%	82.15%	84.17%	86.36%
Minimum	57.89%	67.39%	62.50%	66.67%	72.34%

Cohort development:

Cohort development in **2014, 2015, 2015, 2016, 2017 and 2018** is graphically represented with box plots.



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.

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Status of the certification system for Colorectal Cancer Centres 2018

		31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014
Ongoing procedures		9	4	6	7	13	11
Certified centres		285	283	281	280	265	267
Certified clinical sites		292	291	290	288	274	276
CRCCs with	1 clinical site	280	278	275	275	259	261
	2 clinical sites	3	3	4	3	4	4
	3 clinical sites	2	1	1	1	1	1
	4 clinical sites	0	1	1	1	1	1

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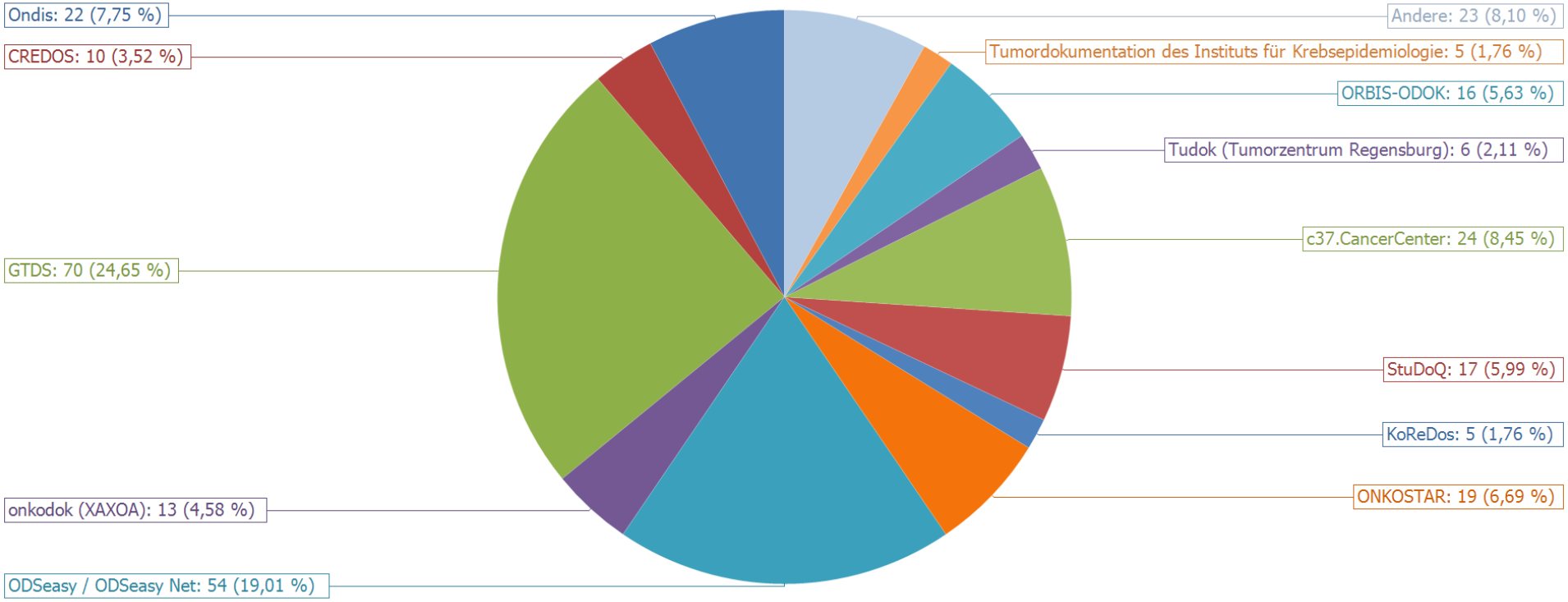
Included clinical sites

	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	284	284	283	273	261	257
Equivalent to	97.3%	97.6%	97.6%	94.8%	95.3%	93.1%
Primary cases total*	27,802	26,804	26,285	25,214	24,277	23,842
Primary cases per centre (mean)*	98	94	93	92	93	93
Primary cases per centre (Median)*	90	88	87	87	87	87

* The figures refer to all certified centres

This annual report looks at the colorectal cancer 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 284 of the 292 certified center locations. Exceptions are 2 sites that were certified for the first time in 2019 (data mapping of the complete calendar year is not mandatory for initial certifications), 3 sites due to a pending suspension of the certificate, 2 sites for which the verification of the data could not be completed on schedule for internal clinic reasons and one site in a non-European country (connection to OncoBox not mandatory).
In 291 sites with this data sheet, a total of 29,353 primary cases were treated. An up-to-date overview of all certified sites is available at www.oncomap.de.
The indicators published here refer to the indicator year 2018 and represent the evaluation basis for the audits conducted in 2019.

Tumour documentation systems used in CRCCs

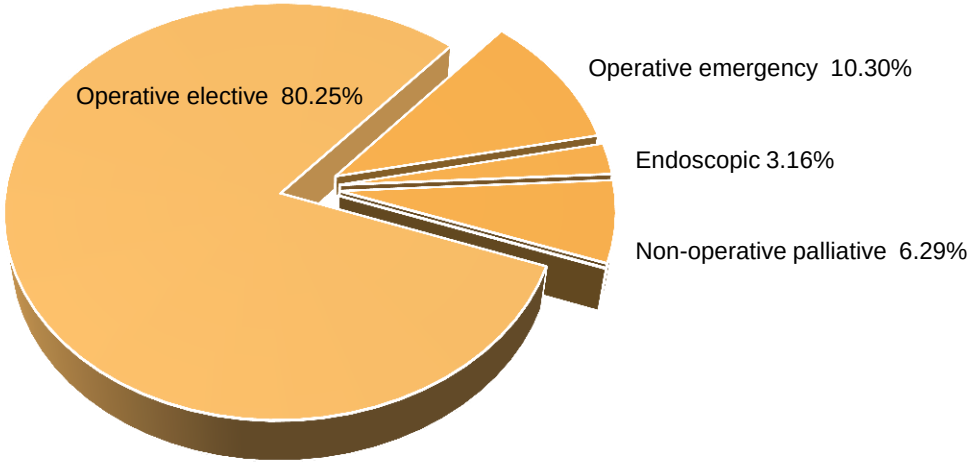


Legend:	
Other	System used in less than 4 clinical sites

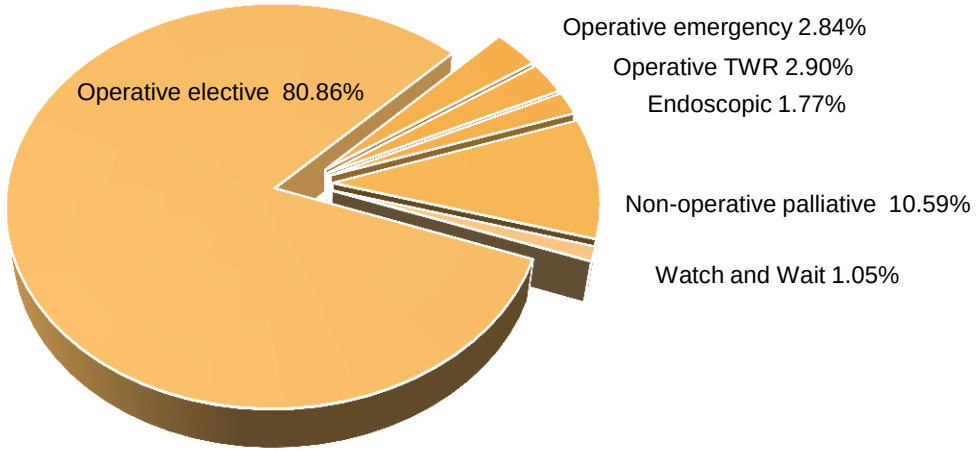
The details on the tumour documentation system were taken from the EXCEL annex to the Data Sheet (spreadsheet basic data). It is not possible to depict several systems. In many cases support is provided by the cancer registries or there may be a direct connection to the cancer registry via a specific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

Basic data

Colon



Rectum



	Operative elective	Operative emergency	Operative TWR*	Endoscopic	Non-operative palliative **	Watch and Wait (Non-operative/ non-endoscopic curative) ***	Total
Colon	14,494 (80.25%)	1,861 (10.30%)	---	570 (3.16%)	1,137 (6.29%)	0 (0.00%)	18,062 (100%)
Rectum	7,876 (80.86%)	277 (2.84%)	282 (2.90%)	172 (1.77%)	1,031 (10.59%)	102 (1.05%)	9,740 (100%)
Primary Cases Total	22,370	2,138	282	742	2,168	102	27,802

* Operative transanal wall resection (TWR)
** Non-operative palliative: no tumour resection; palliative radiotherapy/chemotherapy or best supportive care
*** Watch and Wait (non-operative/non-endoscopic curative): complete tumour remission after planned neoadjuvant therapy and patient‘s foregoing of surgery

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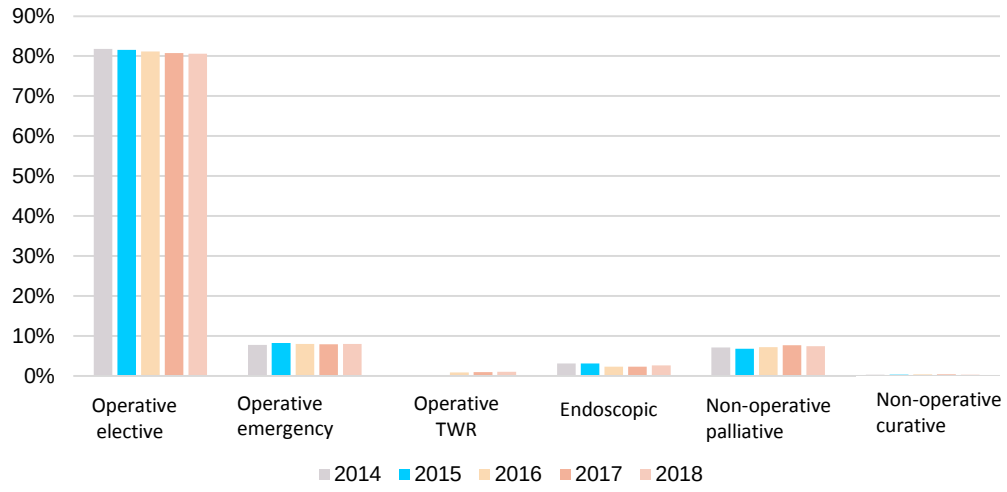
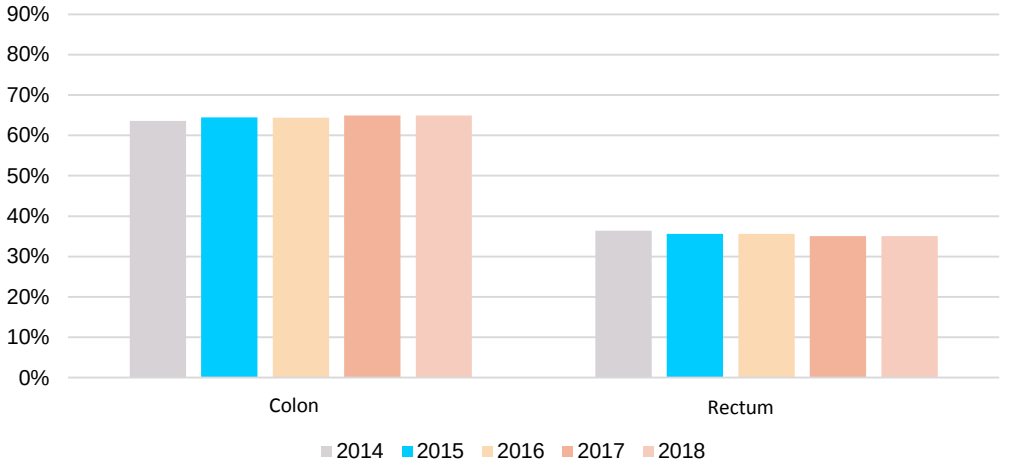
Basic data – Development 2014-2018

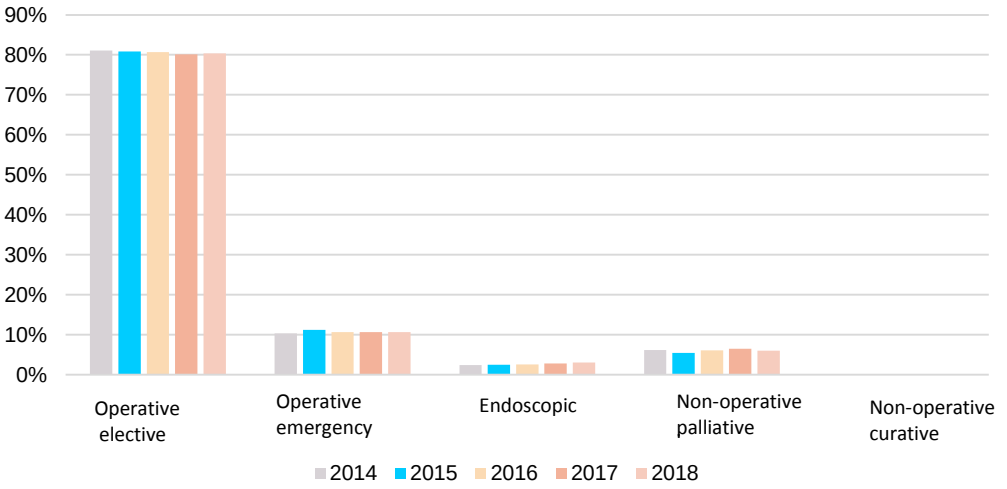
Primary cases colon and rectum by therapy 2014-2018



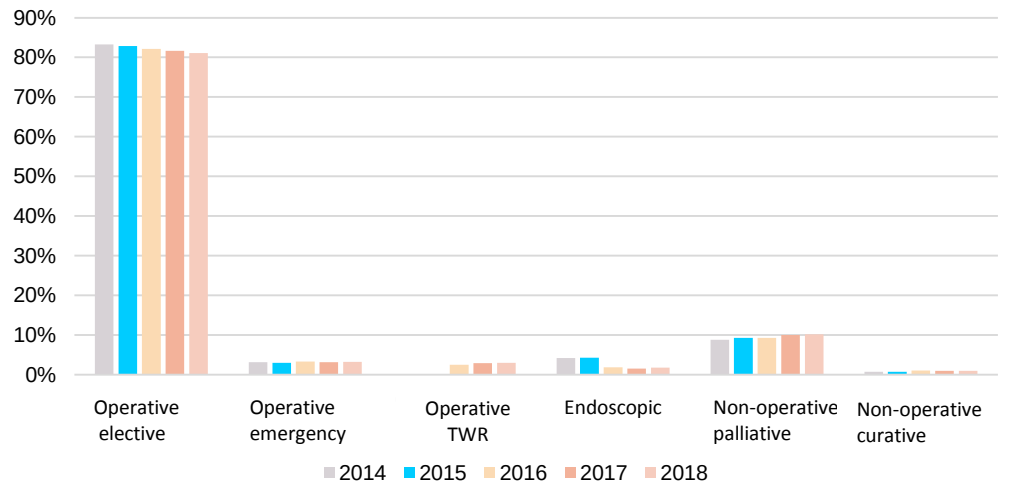
Distribution between primary cases colon and rectum 2014-2018



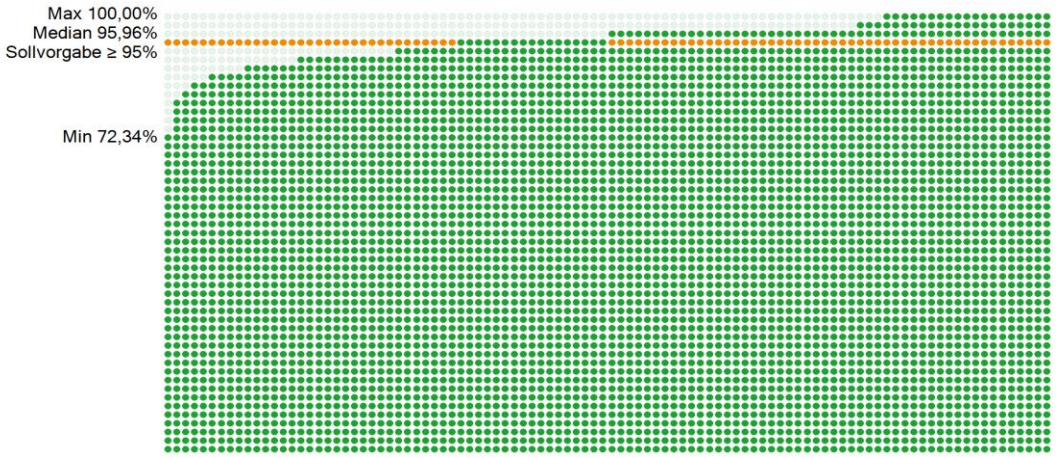
Primary cases colon by therapy 2014-2018



Primary cases rectum by therapy 2014-2018



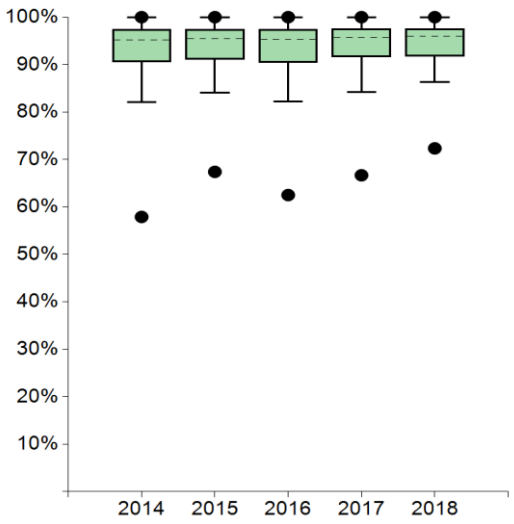
1. Pre-therapeutic case presentation (GL QI 7)



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients presented at an interdisciplinary tumour conference before therapy	38*	16 - 102	11,755
Denomi-nator	All elective patients with RC and all patients with stage IV CC	40*	16 - 108	12,416
Rate	Target value ≥ 95%	95.96%	72.34% - 100%	94.68%**



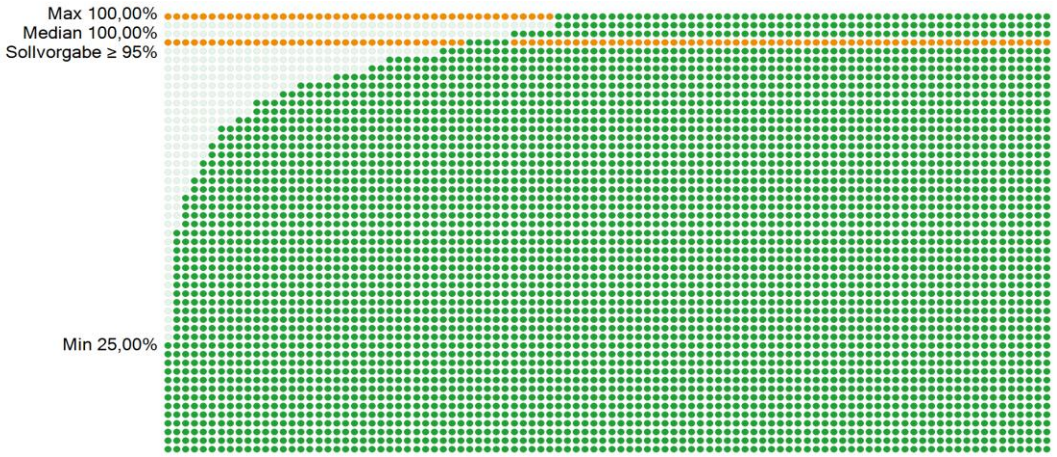
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	97.46%	97.44%	97.47%	97.50%	97.61%
Median	95.12%	95.45%	95.35%	95.70%	95.96%
25th percentile	90.59%	91.11%	90.48%	91.67%	91.77%
5th percentile	82.03%	84.05%	82.15%	84.17%	86.36%
Minimum	57.89%	67.39%	62.50%	66.67%	72.34%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	172	60.56%

Comments:
The development of this indicator continues to be positive: 6 more Centres than in the previous year meet the target value, 132 Centres have improved their quota. The spread of values continues to narrow. The Centres that achieve a pre-therapeutic referral rate of less than 95% explain this by the fact that the definitive diagnosis (especially the degree of metastasis and localisation) was only made intra- or postoperatively. Also, many operations without pre-therapeutic presentation were performed as an emergency, e.g. in case of threatening ileus. In the case of unjustifiable omissions of presentation, e.g. in the Centre with the lowest presentation rate, in the audits the consistent enforcement (instructions) of this central requirement was emphasised.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

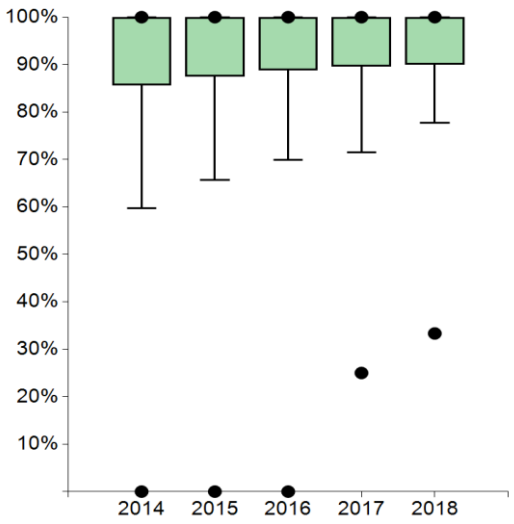
2. Pre-therapeutic case presentation: recurrences/meta-chronous metastases



Sollvorgabe = target value

281 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients with relapse or new metastases presented at the pre-therapeutic conference	11*	1 - 121	4,291
Denomi-nator	Patients with relapse or new metastases	21*	1 - 121	4,579
Rate	Target value ≥ 95%	100%	33.33% - 100%	93.71%**



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25th percentile	85.71%	87.50%	88.89%	89.66%	90.00%
5th percentile	59.67%	65.65%	69.85%	71.43%	77.78%
Minimum	0.00%	0.00%	0.00%	25.00%	33.33%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
281	98.94%	178	61.92%

Comments:
As the spread of quotas narrowed, 4 more Centres than in the previous year missed the target value. The majority of the Centres with a presentation rate lower than 95% could plausibly explain the failure to meet the target value in the audit. Frequent reasons were emergency interventions that did not allow for a pre-therapeutic presentation. Also, recurrence or newly occurring metastases only turned out to be such during surgery. If the presentation in the tumour board was missed, this was often due to interface problems with the cooperation partners and/or oncological practices. Awareness-raising measures, such as quality circles, were agreed here. In the Centre with the lowest rate of 33.3%, the denominator consists of only 3 patients (1 emergency, 1 patient died shortly after admission).

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** Percentage of centre patients who were treated according to the indicator.

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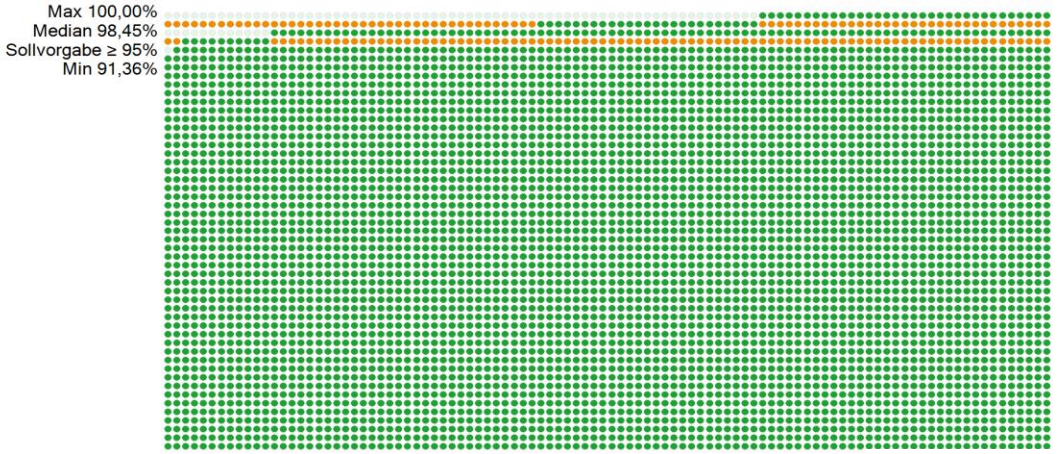
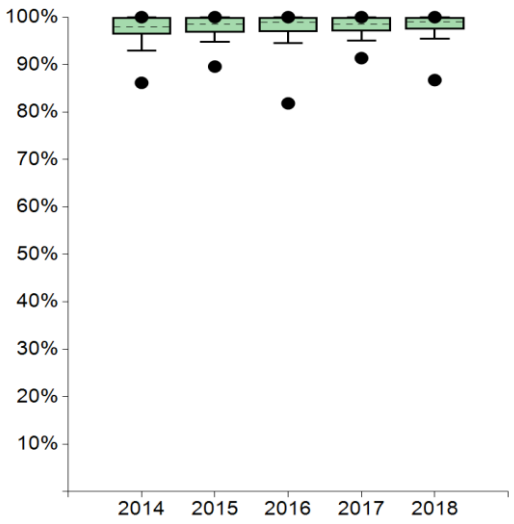
3. Post-operative presentation of all primary-case patients



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Operative and endoscopic primary cases presented at the post-operative conference	82.5*	42 - 237	25,137
Denomi-nator	Operative and endoscopic primary cases	83*	42 - 242	25,532
Rate	Target value ≥ 95%	98.97%	86.73% - 100%	98.45%**



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	97.97%	98.51%	98.84%	98.45%	98.08%
25th percentile	96.36%	96.73%	96.86%	97.01%	97.45%
5th percentile	92.96%	94.81%	94.50%	95.01%	95.49%
Minimum	86.15%	89.58%	81.82%	91.36%	86.73%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	276	97.18%

Comments:
The degree of implementation of this indicator, already excellently implemented in previous years, further improved. Only 8 Centres (previous year: 14) fell slightly short of the target value. Only one of them fell short of the target value already in the previous year. In the vast majority of cases, a lack of presentation was due to the fact that the patients had died post-operatively. In some cases patients were mistakenly not presented after endoscopic resections. In the audits, it was pointed out that these patients must also be presented at the tumour board.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

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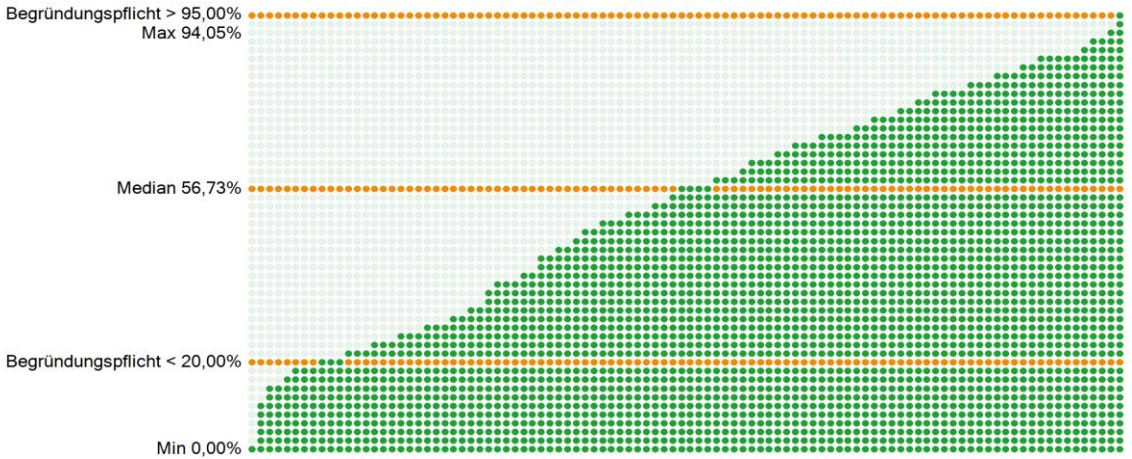
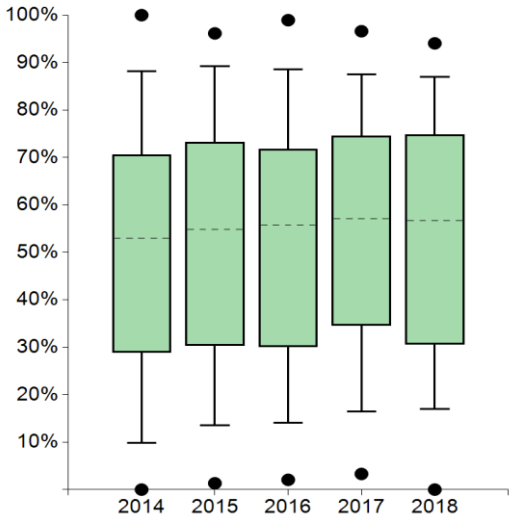
4. Psycho-oncological counselling



Begründungspflicht = mandatory statement of reasons

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients given inpatient or outpatient psycho-oncological counselling (length of session ≥ 25 min)	56*	0 - 184	16,739
Denomi-nator	Total primary cases + patients with relapse/new metastases	106*	46 - 291	32,381
Rate	Explanation mandatory*** <20% and >95%	56.73%	0.00% - 94.05%	51.69%**



	2014	2015	2016	2017	2018
Maximum	100%	96.15%	98.94%	96.61%	94.05%
95th percentile	88.17%	89.21%	88.58%	87.50%	86.96%
75th percentile	70.60%	73.28%	71.73%	74.49%	74.75%
Median	52.94%	54.88%	55.71%	57.11%	56.73%
25th percentile	28.83%	30.41%	30.13%	34.58%	30.67%
5th percentile	9.86%	13.57%	14.03%	16.51%	16.92%
Minimum	0.00%	1.33%	2.06%	3.30%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	258	90.85%

Comments:
The indicator continues to be implemented very well. Quotas < 20% required a statement of reasons. The Centres frequently cited staff shortages and low patient demand as reasons. Some Centres also advised patients for less than 25 minutes or only by telephone. The Centre without a single patient with psycho-oncological care could not plausibly explain this, whereupon a deviation was pronounced. In the audits, the auditors regularly pointed out the importance of standard and low-threshold psycho-oncological services.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

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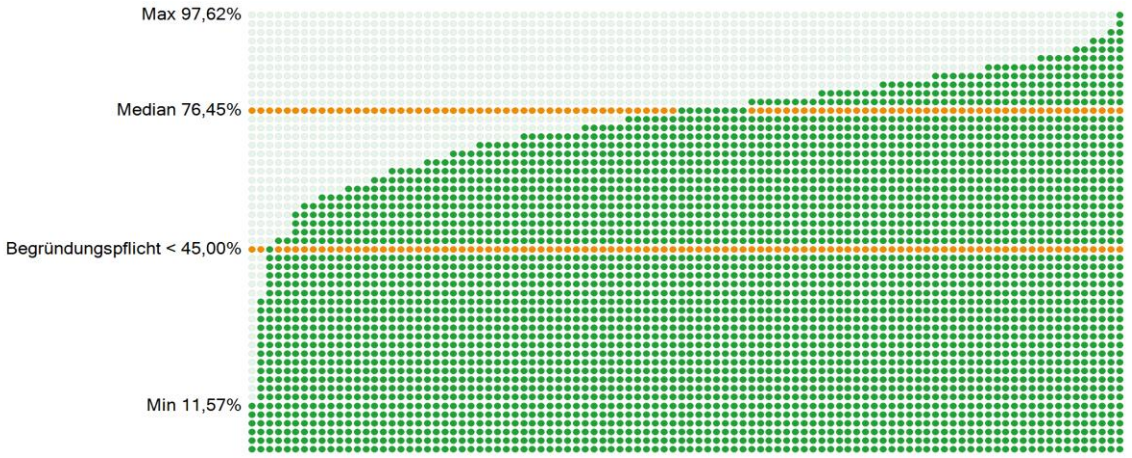
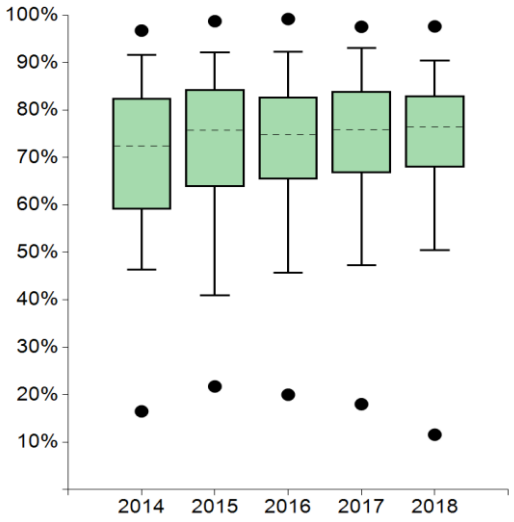
5. Social service counselling



Begründungspflicht = mandatory statement of reasons

284 clinical sites

	Indicator definition	All clinical sites 2018 Median	Range	Patients Total
Numerator	Patients of the denominator who have received inpatient or outpatient advice from the social services	77*	15 - 227	23,765
Denomi-nator	Total primary cases + patients with relapse/new metastases	106*	46 - 291	32,381
Rate	Explanation mandatory*** <45%	76.45%	11.57% - 97.62%	73.39%**



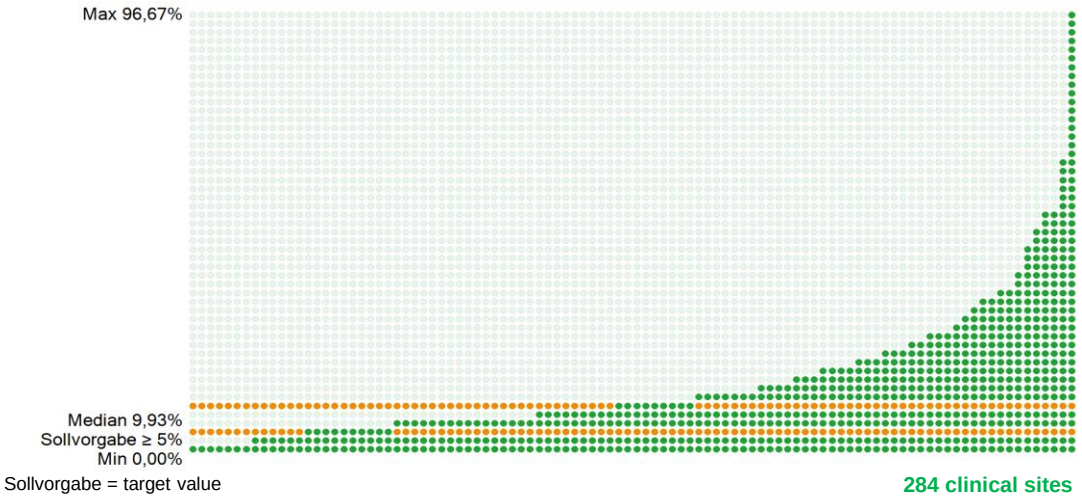
	2014	2015	2016	2017	2018
Maximum	96.74%	98.72%	99.18%	97.54%	97.62%
95th percentile	91.67%	92.09%	92.25%	93.12%	90.37%
75th percentile	82.47%	84.31%	82.76%	83.90%	83.04%
Median	72.37%	75.74%	74.77%	75.84%	76.45%
25th percentile	59.12%	63.86%	65.46%	66.78%	67.95%
5th percentile	46.34%	40.95%	45.67%	47.29%	50.43%
Minimum	16.49%	21.74%	20.00%	18.00%	11.57%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	277	97.54%

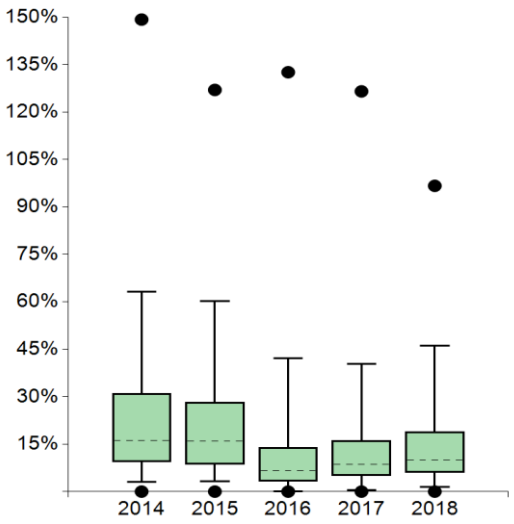
Comments:
In the course of the last few years, a consistently high rate of counselling by the social services has been observed. Almost all Centres meet the target value of at least 45%, 135 of them can further increase the previous year's value. Of the 7 Centres that fail to meet the quota, 5 are located in German-speaking countries abroad, where the social service is usually provided by the nursing staff. In the two German Centres with a low rate of care provided by the social service, it was agreed to include the option of a social service consultation as part of the treatment pathway and to increase the personnel capacities of the social service.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

6. Study participation



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients of the CrCC included in a study or colorectal prevention study	9*	0 - 96	4,012
Denomi-nator	Total primary cases	90*	44 - 256	27,802
Rate	Target value ≥ 5%	9.93%	0.00% - 96.67%	14.43%**



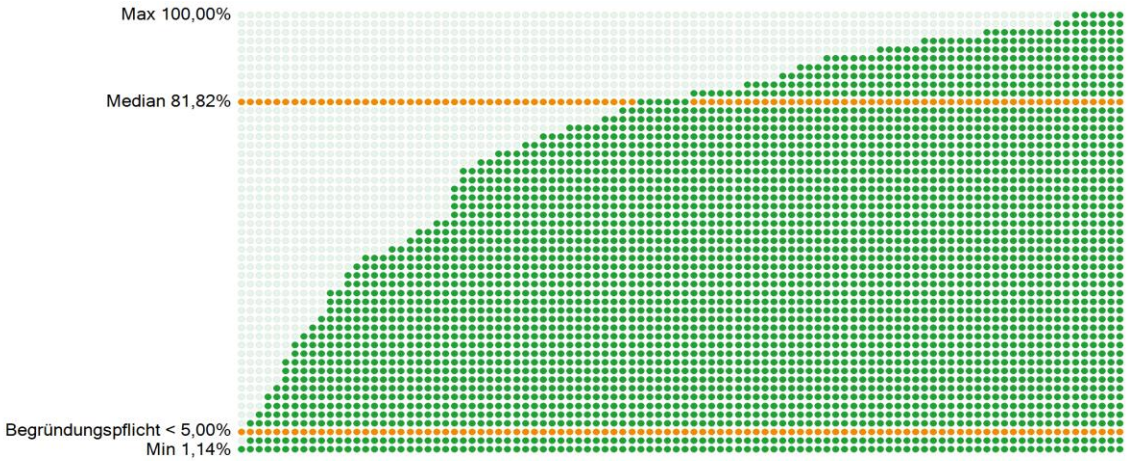
	2014	2015	2016	2017	2018
Maximum	149.23%	126.98%	132.58%	126.53%	96.67%
95th percentile	63.10%	60.18%	42.24%	40.33%	46.19%
75th percentile	31.07%	28.21%	14.00%	16.18%	18.85%
Median	16.22%	16.00%	6.58%	8.53%	9.93%
25th percentile	9.35%	8.70%	3.23%	5.10%	5.97%
5th percentile	3.09%	3.18%	0.00%	0.48%	1.49%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	230	80.99%

Comments:
The study ratio has continued to improve, but has not yet reached the level of year 2015. Following the mandatory introduction of the StudyBox, the ratio fell studiessharply, as with regard to the Colorectal Cancer Centres only listed there count for the indicator. The figures, which have been rising again since then, speak for the increasing establishment of the StudyBox. The Centres that are unable to include a sufficiently large number of patients in studies often stated that they did not treat patients suitable for the respective studies or were unable to identify recruiting studies. Organisational reasons (delayed start of a study, restructuring in the study secretariat) were also mentioned. In many cases it was expected in the audits that participation in the EDIUM study would make it probable or certain that the indicator would be met in indicator year 2019.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

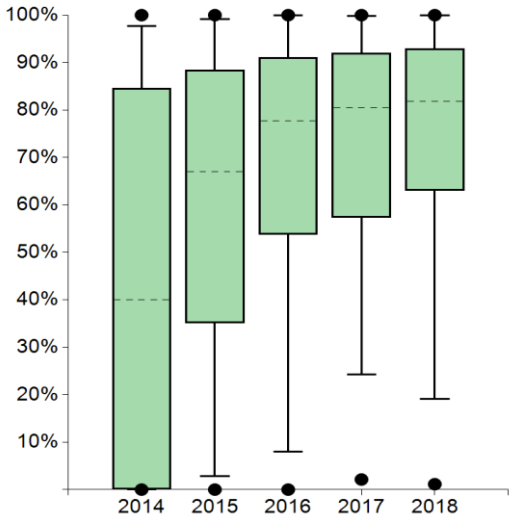
7. Colorectal carcinoma patients with a recorded family history



Begründungspflicht = mandatory statement of reasons

284 clinical sites

	Indicator definition	All clinical sites 2018 Median	Range	Patients Total
Numerator	Primary-case patients with a CRC and a completed patient questionnaire (http://www.krebsgesellschaft.de/deutsche-krebsgesellschaft-wtrl/deutsche-krebsgesellschaft/zertifizierung/erhebungsboegen/organkrebszentren.html in the colorectal cancer section)	70*	1 - 248	20,508
Denominator	Total primary cases	90*	44 - 256	27,802
Rate	Explanation mandatory*** <5%	81.82%	1.14% - 100%	73.76%**



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	97.63%	99.12%	100%	99.87%	100%
75th percentile	84.57%	88.46%	91.07%	91.99%	92.99%
Median	40.00%	66.98%	77.78%	80.55%	81.82%
25th percentile	0.00%	35.14%	53.82%	57.35%	62.97%
5th percentile	0.00%	2.87%	7.96%	24.22%	19.10%
Minimum	0.00%	0.00%	0.00%	2.13%	1.14%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	282	99.30%

Comments:
The indicator continues to develop very well, with more than half of the Centres (153) able to maintain or further increase their quota. 20,508 questionnaires were thus completed in the Centres. The 2 Centres with a low rate requiring a statement of reasons stated that the family history sheet was distributed but was usually not completed by the patients or that it was only handed out if a suspicion of a genetic disposition was formulated in the anamnesis interview. In both cases, the auditors encouraged to complete the questionnaire as part of the anamnesis and with all patients. The problems should therefore be resolved in the foreseeable future.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

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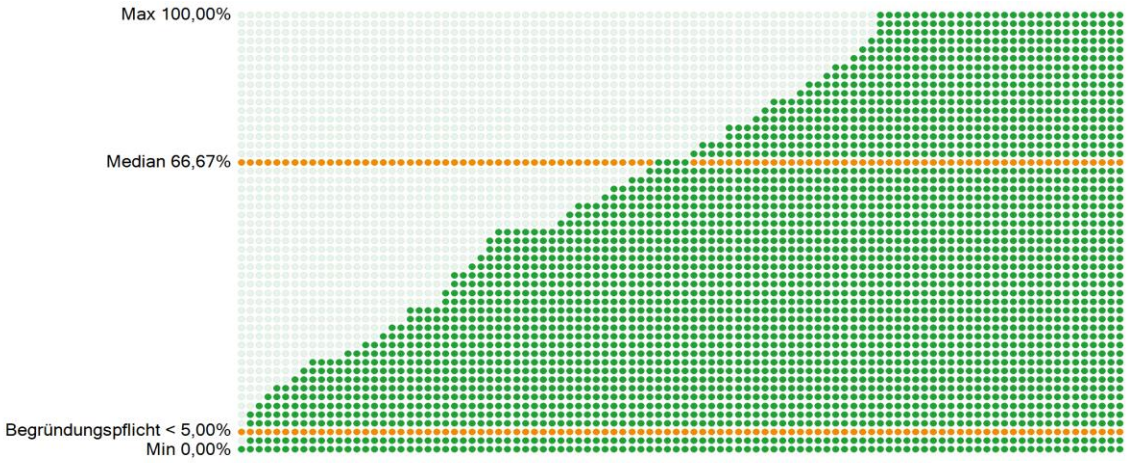
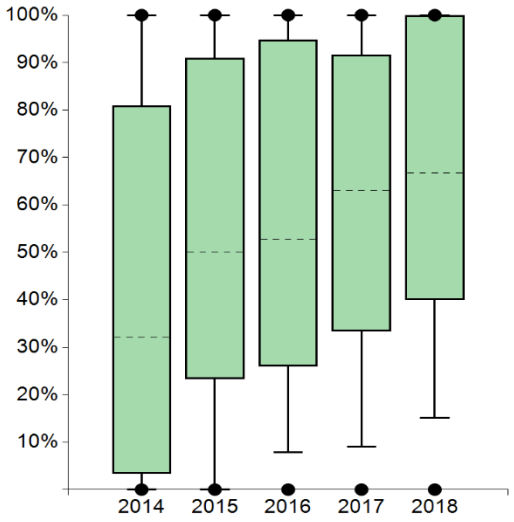
8. Genetic counselling



Begründungspflicht = mandatory statement of reasons

276 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary-case patients with a positive patient questionnaire advised to visit a centre for familial colorectal cancer	5*	0 - 42	1,977
Denomi-nator	Primary cases with a positive patient questionnaire	11*	1 - 47	3,337
Rate	Explanation mandatory*** <5%	66.67%	0.00% - 100%	59.24%**



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	80.83%	90.91%	94.78%	91.58%	100%
Median	32.05%	50.00%	52.66%	63.01%	66.67%
25th percentile	3.41%	23.30%	25.95%	33.33%	40.00%
5th percentile	0.00%	0.00%	7.85%	9.10%	15.11%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	97.18%	275	99.64%

Comments:
In contrast to indicator year 2017, it was no longer necessary to justify the 100% implementation of this indicator. Accordingly, the number of Centres within the plausibility limits has risen sharply (from 73.36% to 99.64%). The only Centre requiring a statement of reasons was able to identify a documentation error as the cause: although all patients of the denominator were offered genetic counselling, this was not documented. The problem could already be remedied by instructions in the audit.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

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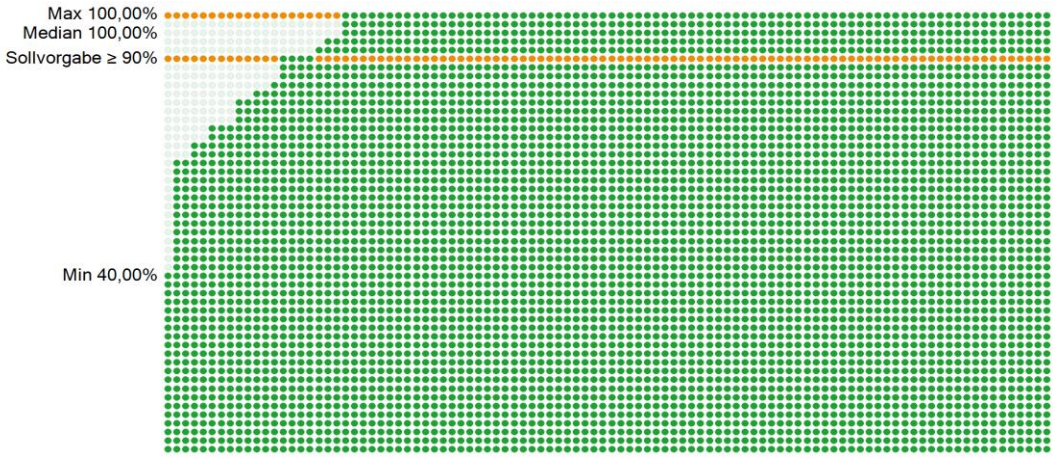
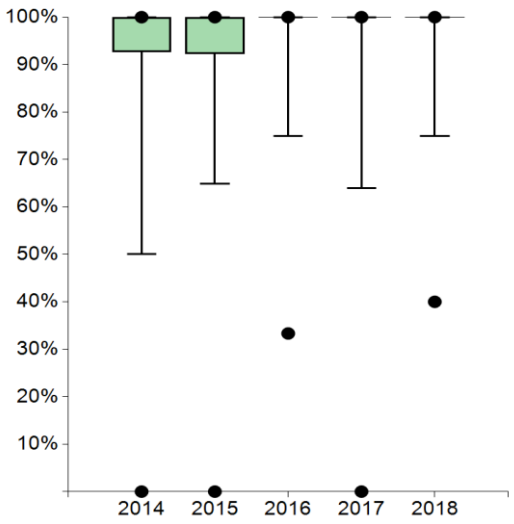
9. MMR assessment



Sollvorgabe = target value

278 clinical sites

	Indicator definition	All clinical sites 2017		
		Median	Range	Patients Total
Numerator	Patients with immunohisto-chemical assessment of mismatch repair (MMR) proteins	4*	0 - 20	1,485
Denomi-nator	Patients with initial CRC diagnosis < 50 years old	5*	1 - 21	1,562
Rate	Target value ≥ 90%	100%	40.00% - 100%	95.07%**



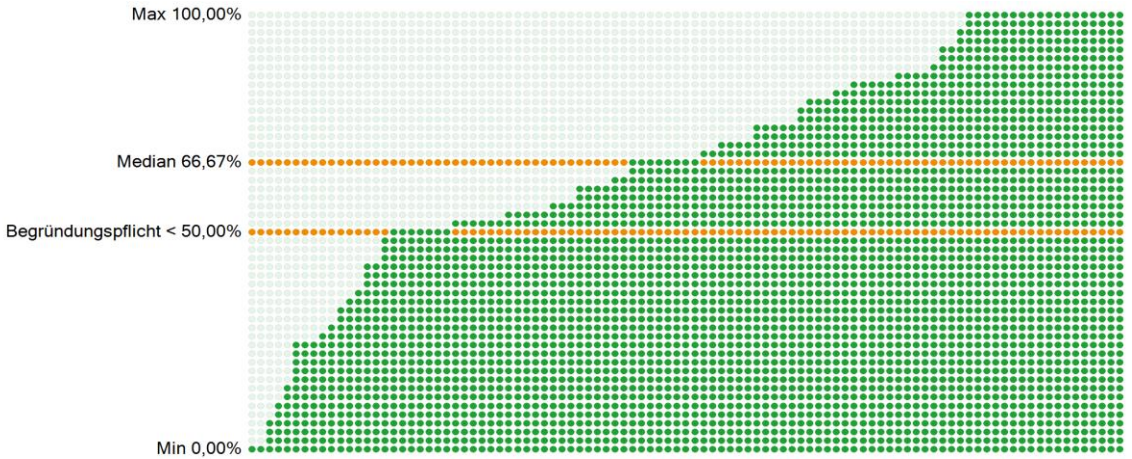
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25th percentile	92.67%	92.31%	100%	100%	100%
5th percentile	50.00%	64.85%	75.00%	64.00%	75.00%
Minimum	0.00%	0.00%	33.33%	0.00%	40.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
278	97.89%	241	86.69%

Comments:
The results of the indicator for the immunohistochemical determination of MMR proteins continue to develop positively. 218 Centres maintain or improve their ratio and 223 of the 278 Centres meet the ratio 100%. The reason for failing to determine MMR proteins was post-operatively deceased patients or palliative patients for whom the determination would have had no therapeutic consequence. In some cases the request for determination was omitted. These cases were reviewed according to the instructions in the audits, in quality circles or in exchange with the pathology department.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

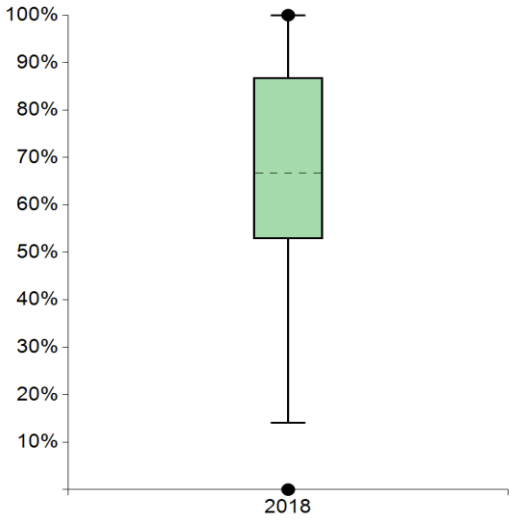
10. RAS- and BRAF-determination at the start of first-line treatment for metastasized CRC (GL QI 3)



Sollvorgabe = target value

120 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients of the denominator with RAS (= KRAS and NRAS mutations) and BRAF mutations at the start of first-line therapy	7*	0 - 103	1,103
Denomi-nator	Patients with metastatic CRC and first-line therapy	11.5*	1 - 103	1,741
Rate	Target value <50%	66.67%	0.00% - 100%	63.35%**



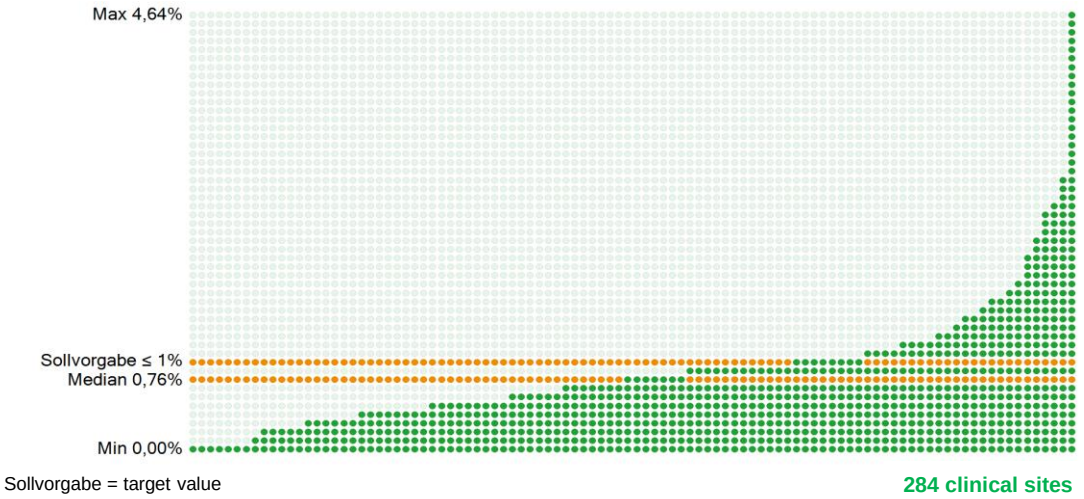
	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	100%
95th percentile	-----	-----	-----	-----	100%
75th percentile	-----	-----	-----	-----	86.88%
Median	-----	-----	-----	-----	66.67%
25th percentile	-----	-----	-----	-----	52.80%
5th percentile	-----	-----	-----	-----	14.08%
Minimum	-----	-----	-----	-----	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
120	42.25%	100	83.33%

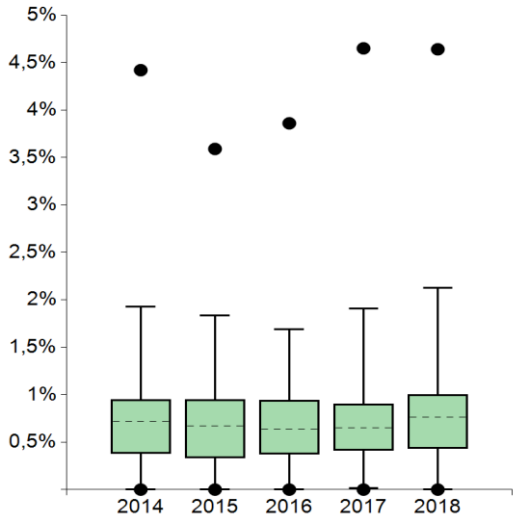
Comments:
The indicator was first measured in 2018 and was therefore not yet mandatory. 120 Centres provided evaluable data. 22 Centres achieve a quota of 100%. The 20 Centres with rates below 50% used the first-time collection of data to discuss or remedy deficits in this area in the audit. For example, some doctors in the Centres missed or did not document the RAS/BRAF determination. In some cases, it was possible to check the plausibility of the rates, for example by the explanation that oncological practices carry out the test.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

11. Complication rate therapeutic colonoscopies



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Therapeutic colonoscopies with complications (bleeding requiring re-intervention (recolonoscopy. operation) or a transfusion and/or perforation)	3*	0 - 43	1,082
Denominator	Therapeutic colonoscopies with loop polypectomies per colonoscopic unit (not only patients CrCC	408*	80 – 2,999	134,384
Rate	Target value ≤ 1%	0.76%	0.00% - 4.64%	0.81%**



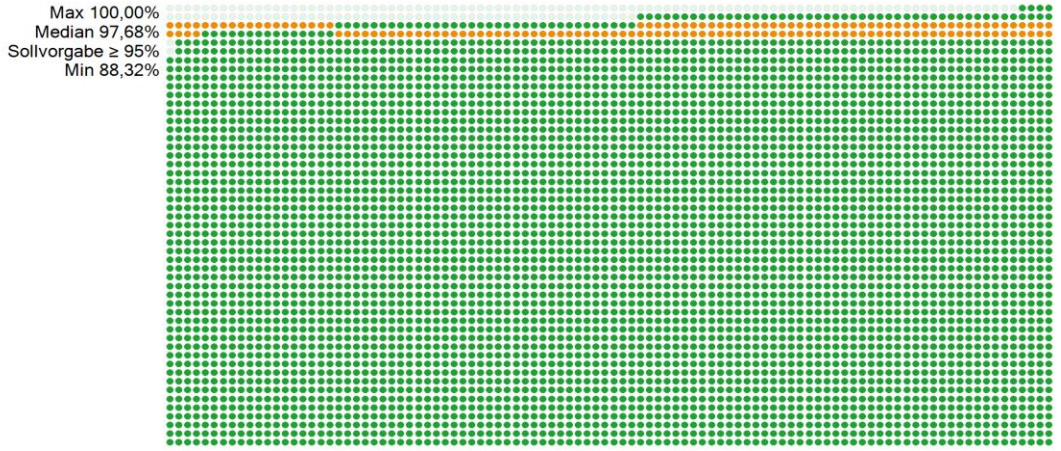
	2014	2015	2016	2017	2018
Maximum	4.42%	3.59%	3.86%	4.65%	4.64%
95th percentile	1.93%	1.83%	1.69%	1.91%	2.12%
75th percentile	0.95%	0.95%	0.95%	0.90%	1.00%
Median	0.72%	0.67%	0.64%	0.65%	0.76%
25th percentile	0.38%	0.33%	0.38%	0.41%	0.43%
5th percentile	0.00%	0.00%	0.00%	0.02%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	215	75,70%

Comments:
21 Centres less than in the previous year (236) meet the target value. Overall, with more Centres (150), the complication rates increase rather than improve (115). Centres that exceed the target value were generally able to explain this plausibly. The dominant cause is the comparatively complex patient population treated in the Centres (e.g. difficult to remove broad-based polyps, anticoagulation, emergency interventions). For this reason, the audits revealed virtually no systematic errors. Nevertheless, improvement measures were discussed, such as the early inclusion of visceral surgery in the case of a high risk of complications to discuss primary surgery.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

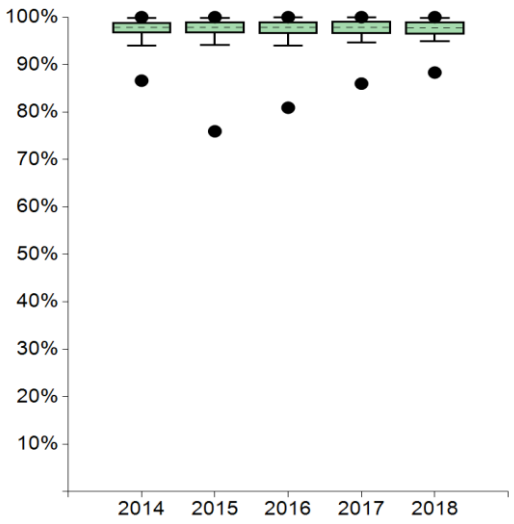
12. Complete elective colonoscopies



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Complete elective colonoscopies	1,415.5*	501 – 12,992	476,649
Denomi-nator	Elective colonoscopies for each colonoscopy unit of the CrCC (not only CrCC patients) (Are counted: intention: complete colonoscopy)	1,459.5*	503 – 13,032	487,164
Rate	Target value ≥ 95%	97.68%	88.32% - 100%	97.84%**



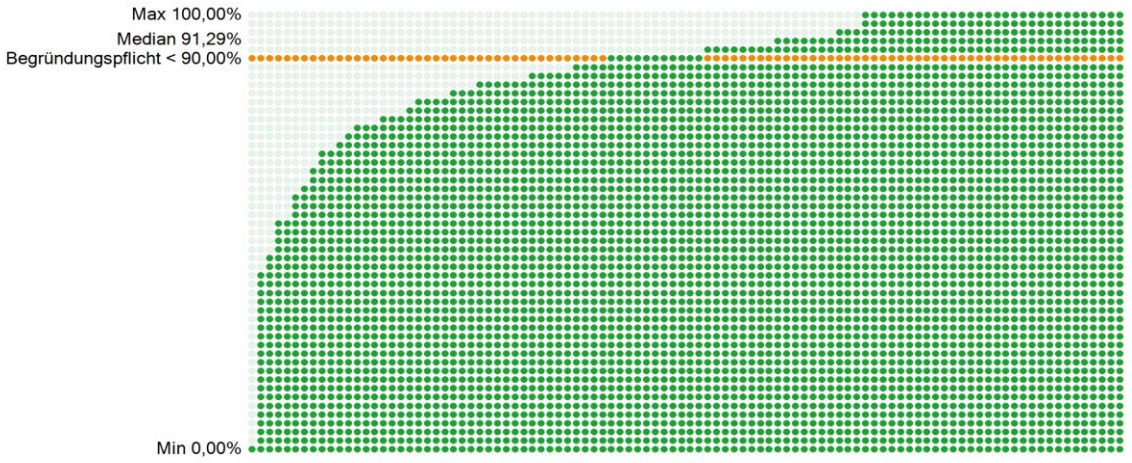
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	99.83%	99.81%	99.89%	99.88%	99.86%
75th percentile	98.92%	99.04%	99.07%	99.17%	99.04%
Median	97.80%	97.87%	97.86%	97.89%	97.68%
25th percentile	96.64%	96.69%	96.53%	96.48%	96.35%
5th percentile	93.96%	94.12%	94.02%	94.71%	94.91%
Minimum	86.61%	75.94%	80.91%	85.99%	88.32%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	269	94.72%

Comments:
The results of this indicator continue to improve slightly at a high level, in particular the dispersion decreases. 15 Centres miss the target value, but 14 Centres reach at least 90%. According to the information provided by the Centres in the audits, the dominant causes for incomplete elective colonoscopies are contamination, highly pronounced flexures (with the risk of perforation) and inflammatory stenoses or stenosing carcinomas. In general, the Centres claim to treat a pre-selected group of patients through outpatient referrals who tend to be more susceptible to complications. In the audits, it was agreed, among other things, that nursing staff should be informed about the importance of colonoscopy-preparatory measures (especially laxative measures).

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

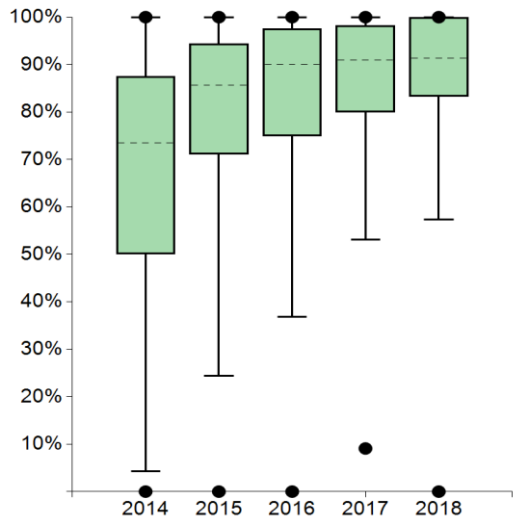
13. Information on distance to mesorectal fascia of the lower and middle third (GL QI 5)



Begründungspflicht = mandatory statement of reasons

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients with information on distance to mesorectal fascia in the diagnostic report	15*	0 - 59	4,811
Denomi-nator	Patients with RC of the middle and lower third and MRI or thin-slice CT of the pelvis	17*	1 - 64	5,482
Rate	Explanation mandatory*** <90%	91.29%	0,00% - 100%	87.76%**



	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	87.50%	94.33%	97.56%	98.25%	100%
Median	73.53%	85.71%	90.00%	90.91%	91.29%
25th percentile	50.00%	71.07%	75.00%	80.00%	83.33%
5th percentile	4.28%	24.34%	36.84%	53.08%	57.32%
Minimum	0.00%	0.00%	0.00%	9.09%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	167	58.80%

Comments:
The very positive development of this guideline indicator continues. By restricting the obligation to give reasons to Centres that achieve a quota of less than 90% (no more obligation to give reasons at 100%), the majority of Centres now achieve a quota within the plausibility limits. 84 Centres reach 100%, 178 Centres maintain or improve their value. Centres with low rates requiring substantiation stated that due to tumour localisation (e.g. rectosigmoidal transition) or poor representability (e.g. artefacts caused by metal implants, poorly definable tumour) it was not possible to give information on distance. In some cases, the information was omitted, especially in the case of external imaging. In the audits, measures such as quality circles, sensitisation of the radiology department and follow-up of external images were agreed upon.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor. centres have to give an explanation.

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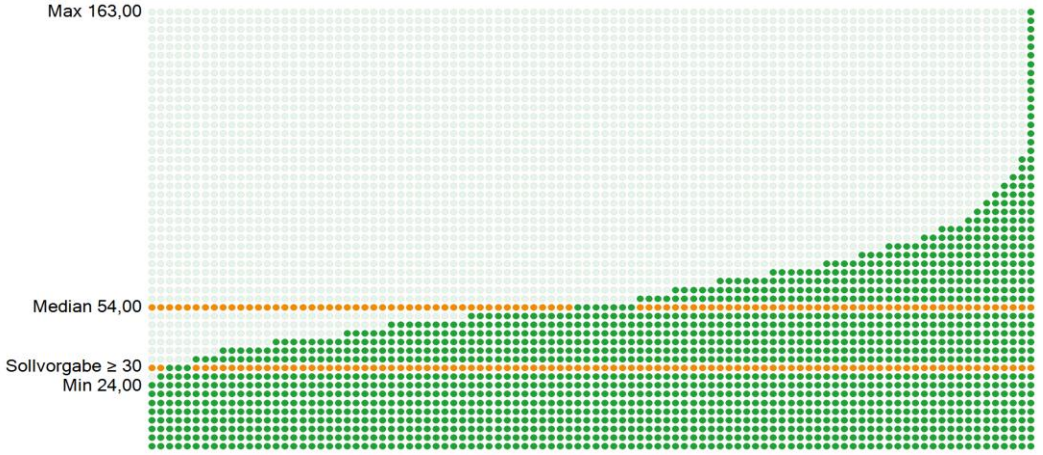
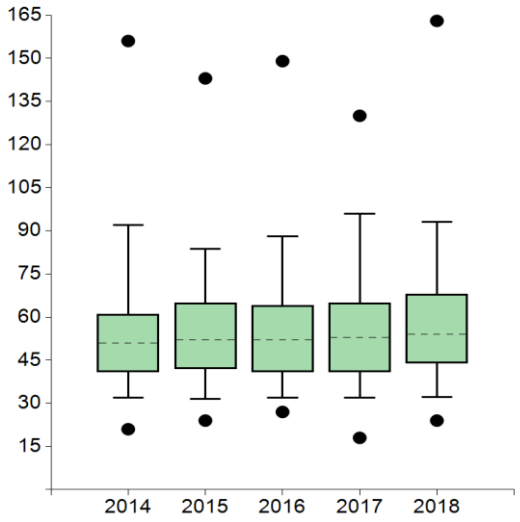
14. Operative primary cases: colon



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Number	Operative primary cases: colon	54	24 - 163	16,355
	Target value ≥ 30			

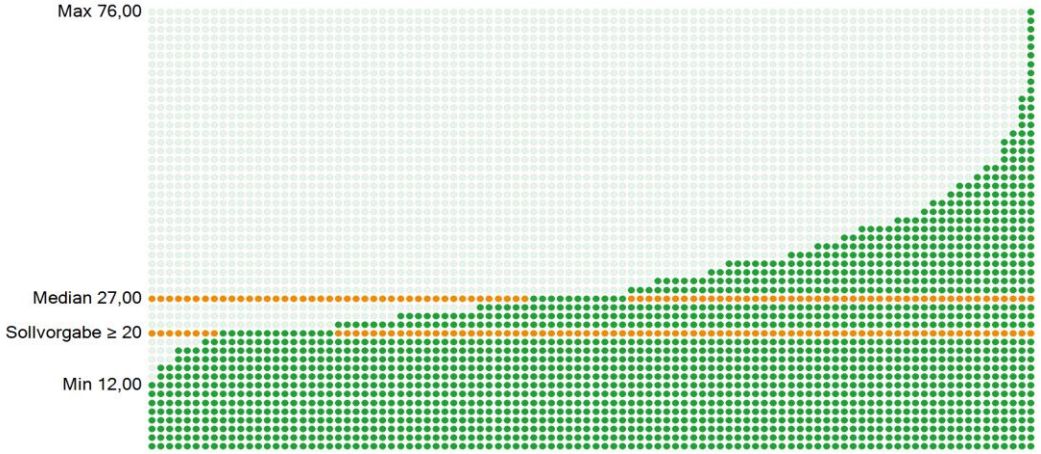


	2014	2015	2016	2017	2018
Maximum	156.00	143.00	149.00	130.00	163.00
95th percentile	92.00	83.80	88.00	95.85	93.00
75th percentile	61.00	65.00	64.00	65.00	68.00
Median	51.00	52.00	52.00	53.00	54.00
25th percentile	41.00	42.00	41.00	41.00	44.00
5th percentile	32.00	31.60	32.00	32.00	32.15
Minimum	21.00	24.00	27.00	18.00	24.00

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	277	97.54%

Comments:
The total number of primary surgical cases of the colon increases by 3.9%. The box-plot diagram also shows a slight median increase in the number of cases per Centre. 7 Centres fell short of the target value of at least 30 primary surgical colon cases. In 4 of these Centres, the figures were discussed in the context of a surveillance audit. Reasons for the shortfall were in particular personnel changes. 3 Centres had to prove the operative primary case numbers in a re-audit. This was possible because the required case numbers were achieved on average over the last 3 years.

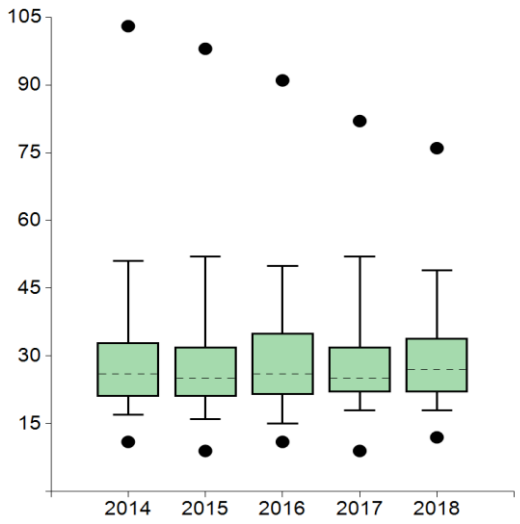
15. Operative primary cases: rectum



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Number	Operative primary cases: rectum (incl. trans anal wall resection)	27	12 - 76	8,435
	Target value ≥ 20			

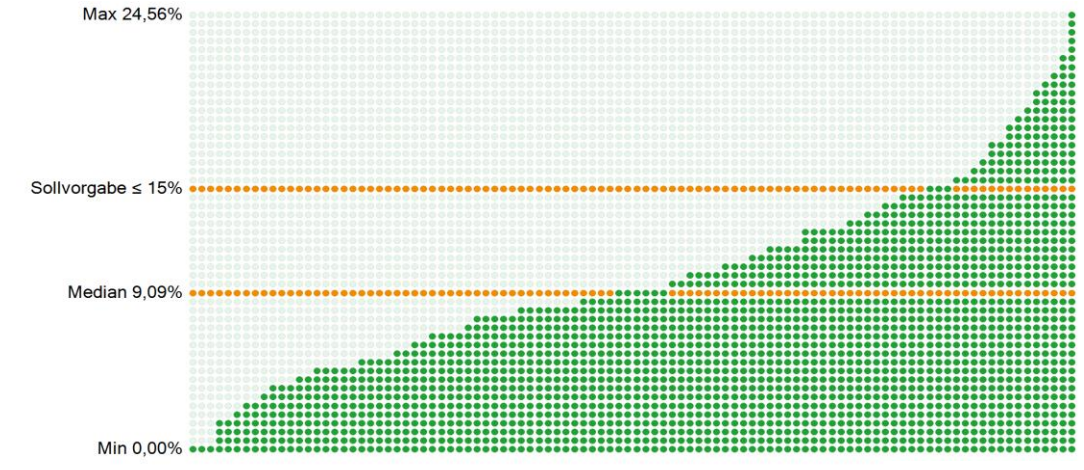


	2014	2015	2016	2017	2018
Maximum	103.00	98.00	91.00	82.00	76.00
95th percentile	51.00	52.00	49.90	52.00	49.00
75th percentile	33.00	32.00	35.00	32.00	34.00
Median	26.00	25.00	26.00	25.00	27.00
25th percentile	21.00	21.00	21.50	22.00	22.00
5th percentile	17.00	16.00	15.10	18.00	18.00
Minimum	11.00	9.00	11.00	9.00	12.00

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	261	91.90%

Comments:
Similar to the operative primary cases for colon cancer, the figures for rectal cancer have also risen slightly both overall (+3.24%) and per Centre, to a median of 27 operative primary cases per Centre. 23 Centres miss the target value. 22 of these Centres were in surveillance audits in which the case numbers are not mandatory to be met. Nevertheless, the Centres in the audits substantiated the shortfall with changes in personnel and the general decline in the number of rectal cancers caused by a higher number of preventive colonoscopies. As measures they announced increased public relations work (e.g. in the form of lectures) and a strengthening of the exchange with referring physicians. The remaining Centre, which was in a re-audit, was able to demonstrate the required figures on average over the last 3 years.

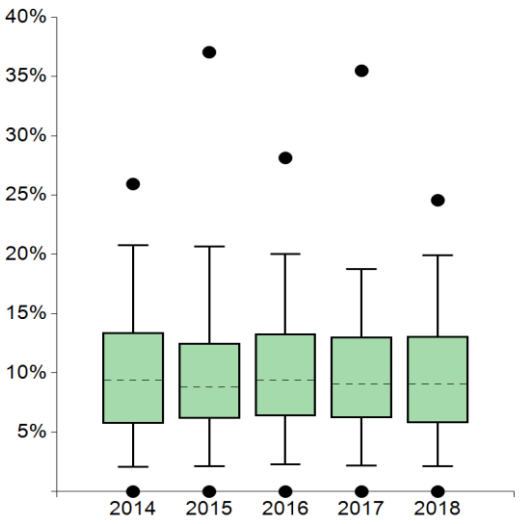
16. Revision surgery: colon



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Revision surgery due to perioperative complications within 30d of elective surgery	4*	0 - 14	1,404
Denominator	Elective colon surgery	48*	21 - 141	14,494
Rate	Target value ≤ 15%	9.09%	0.00% - 24.56%	9.69%**



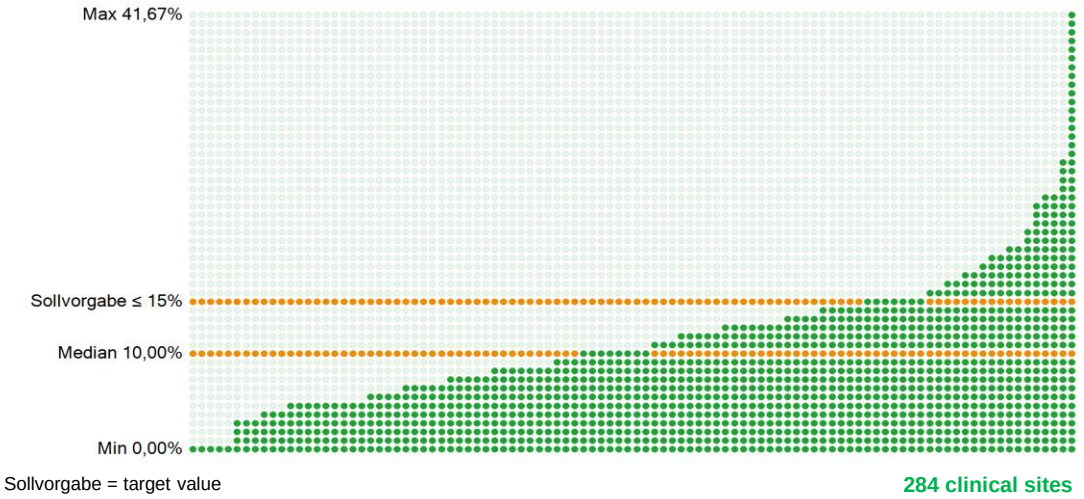
	2014	2015	2016	2017	2018
Maximum	25.93%	37.04%	28.13%	35.48%	24.56%
95th percentile	20.78%	20.67%	20.00%	18.75%	19.92%
75th percentile	13.41%	12.50%	13.29%	13.04%	13.07%
Median	9.38%	8.82%	9.38%	9.09%	9.09%
25th percentile	5.71%	6.15%	6.40%	6.22%	5.79%
5th percentile	2.08%	2.15%	2.29%	2.18%	2.14%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	242	85.21%

Comments:
The implementation of the indicator remains at a consistently good level. 42 Centres (previous year: 44) exceed the quota of revision surgeries for elective colon surgery of 15%. 16 of them were already conspicuous in the previous year. The Centres with an excess often explained their quotas by the fact that the patients they treated suffered from more or more severe comorbidities. Numerous complications such as bleeding, wound infections and anastomosis insufficiencies could be verified for plausibility in the audits without a systematic error being detected. In many Centres, the cases in question were discussed in quality circles, sometimes with the consequence that checklists/SOPs were drawn up or supplemented.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

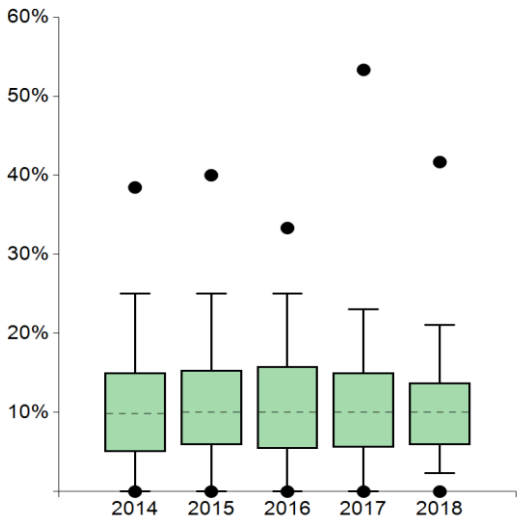
17. Revision surgery: rectum



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Revision surgery after perioperative complications within 30d of elective surgery	3*	0 - 10	816
Denominator	Elective rectum surgery (without transanal wall resection)	25*	10 - 73	7,876
Rate	Target value ≤ 15%	10.00%	0.00% - 41.67%	10.36%**



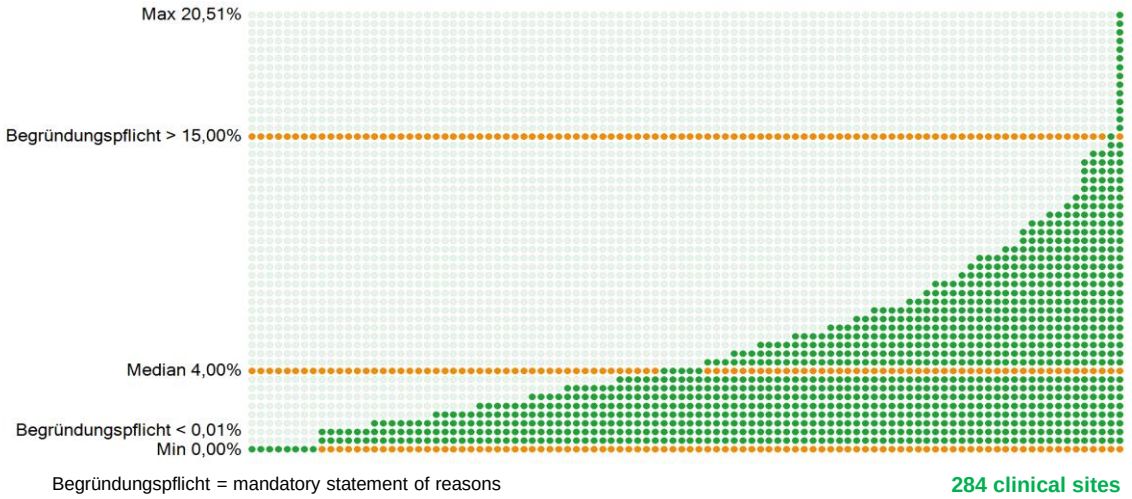
	2014	2015	2016	2017	2018
Maximum	38.46%	40.00%	33.33%	53.33%	41.67%
95th percentile	25.00%	25.00%	25.00%	23.03%	21.05%
75th percentile	15.00%	15.38%	15.79%	15.00%	13.79%
Median	9.86%	10.00%	10.00%	10.00%	10.00%
25th percentile	5.00%	5.88%	5.43%	5.56%	5.88%
5th percentile	0.00%	0.00%	0.00%	0.00%	2.31%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	236	83.10%

Comments:
At a constant median, the dispersion of this indicator decreases. 17 Centres more than in the previous year (then 219) met the target value. 48 Centres had to substantiate an increased rate of revision surgeries in the audit. As reasons given, the affected Centres partly state similar complications as with colon surgery (anastomosis insufficiencies, wound healing disorders, postoperative ileus). In addition, stoma complications (stoma rupture, stoma necrosis) are often mentioned. Overall, the Centres assess the patient population treated by them as more susceptible to complications (more comorbidities, sometimes very deep-seated carcinomas). In most cases, no systematic error was detected in the audits. Many cases had previously been discussed by the Centres themselves in quality circles. Measures included in particular protective stomas, the introduction of the 4-eyes principle, better preparation of the patient and changing the stacker.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

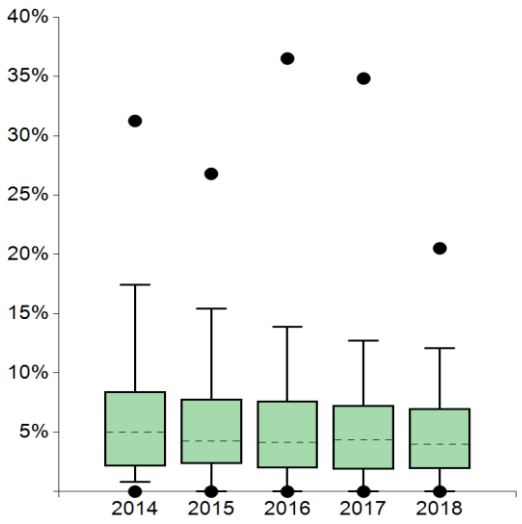
18. Post-operative wound infection



Begründungspflicht = mandatory statement of reasons

284 clinical sites

	Indicator definition	All clinical sites 2018 Median	Range	Patients Total
Numerator	Post-operative wound infection within 30 d of elective surgery requiring surgical wound revision (rinsing. spreading. VAC bandage)	3*	0 - 24	1,110
Denomi-nator	Operations of the CrCC (without transanal wall resection)	73*	36 - 214	22,370
Rate	Explanation mandatory*** <0.01% and >15%	4.00%	0.00% - 20.51%	4.96%**



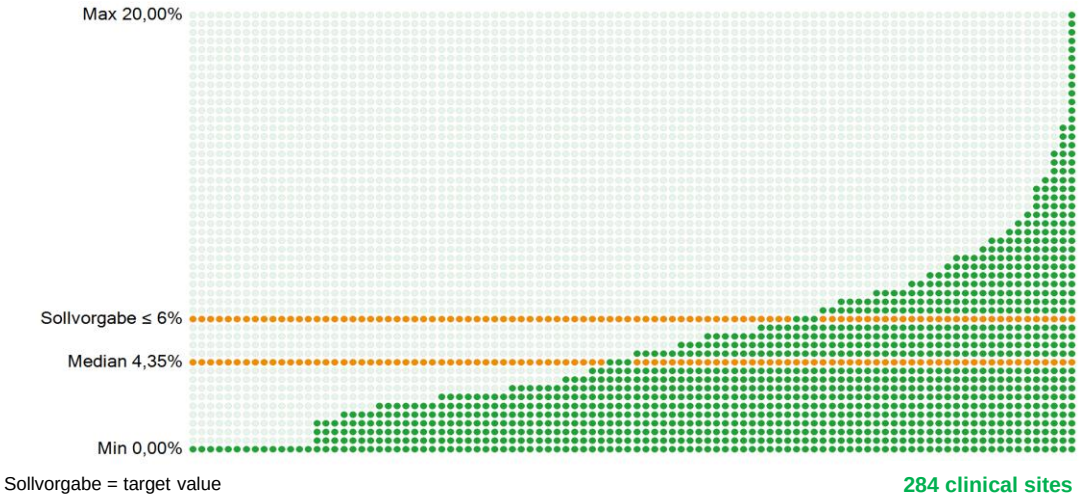
	2014	2015	2016	2017	2018
Maximum	31.25%	26.79%	36.51%	34.83%	20.51%
95th percentile	17.44%	15.41%	13.89%	12.75%	12.06%
75th percentile	8.45%	7.81%	7.64%	7.27%	7.00%
Median	5.00%	4.26%	4.17%	4.35%	4.00%
25th percentile	2.13%	2.33%	1.97%	1.88%	1.95%
5th percentile	0.82%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	258	90.85%

Comments:
14 Centres more than in the previous year (244) are within the plausibility corridor. 30 Centres achieve a rate of less than 1%. The 4 Centres with rates above 15% stated in the audits that many patients treated were in poor general condition. In addition, multivisceral operations with partially intraperitoneal chemotherapy were blamed for the increased rate of postoperative wound infections. If the individual cases could not be plausibly explained in the audits, measures for hygiene training of the staff and for surgical preparation (e.g. oral antibiotics) were recommended.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor, centres have to give an explanation.

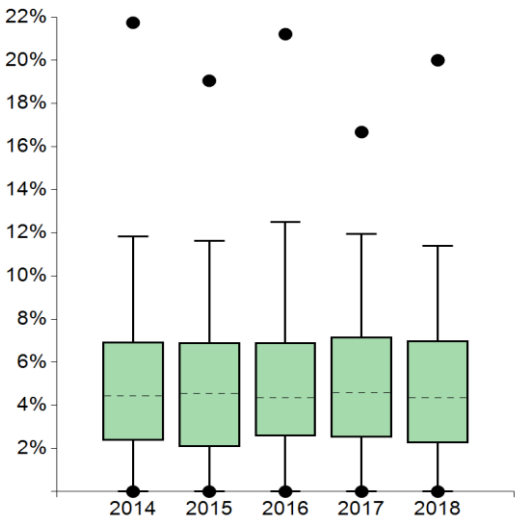
19. Anastomotic insufficiencies: colon (GL QI 10)



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Colon anastomotic insufficiencies requiring re-intervention after elective surgery	2*	0 - 10	675
Denominator	Patients with CC in whom anastomosis was performed in an elective tumour resection	46*	18 - 133	13,875
Rate	Target value ≤ 6%	4.35%	0.00% - 20.00%	4.86%**



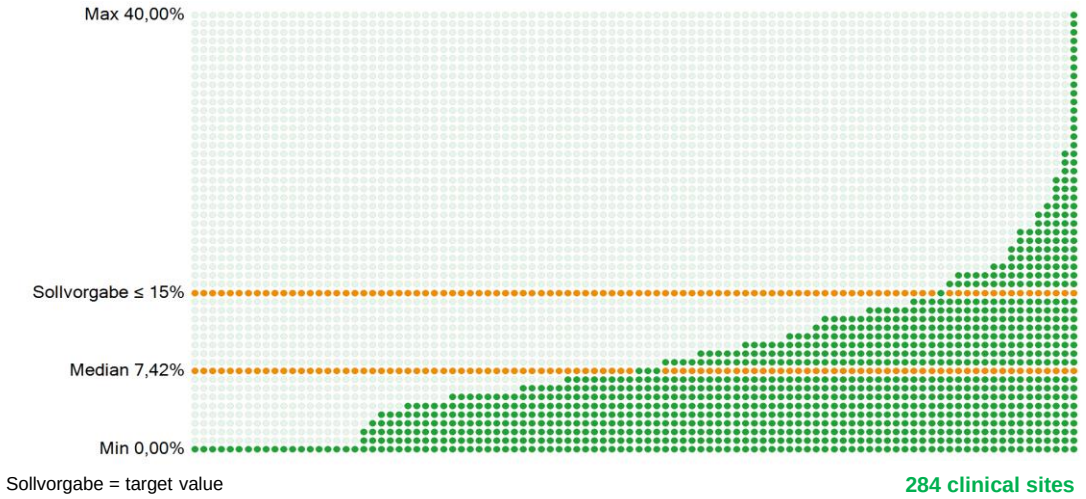
	2014	2015	2016	2017	2018
Maximum	21.74%	19.05%	21.21%	16.67%	20.00%
95th percentile	11.83%	11.63%	12.50%	11.94%	11.38%
75th percentile	6.94%	6.90%	6.90%	7.19%	7.00%
Median	4.44%	4.55%	4.35%	4.59%	4.35%
25th percentile	2.38%	2.08%	2.56%	2.50%	2.24%
5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	194	68.31%

Comments:
The results of this indicator are at the level of the previous years. Just under a third of the Centres (90) fell short of the target value and thus less than in the previous year. In the audits, the majority of the increased rates could be validated, mostly by a patient population with serious comorbidities and/or old age. The various individual case analyses showed that measures to improve outcomes are justified. Among other things, adjustments of the anastomosis technique (side-to-side or end-to-side anastomoses), further training, external observations, replacement of surgeons with high complication rates as well as the establishment of uniform standards for the performance of surgery were suggested.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

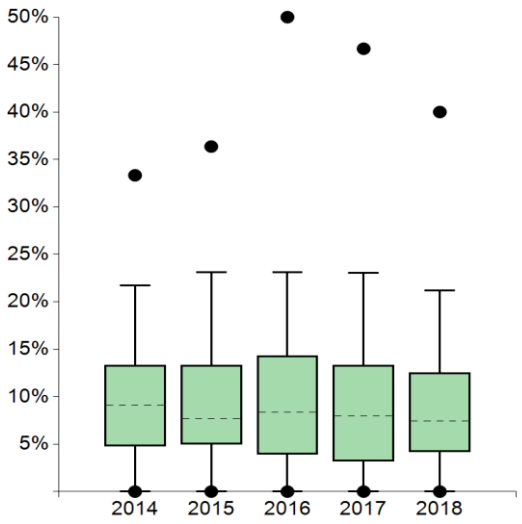
20. Anastomotic insufficiencies: rectum (GL QI 9)



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients with grade B (requiring antibiotic administration or interventional drainage or transanal lavage/drainage) or grade C ((re-)laparotomy) anastomotic insufficiency	1*	,	485
Denominator	Patients with RC in whom anastomosis was performed in an elective tumour resection (without transanal wall resection)	18*	5 - 62	5,818
Rate	Target value ≤ 15%	7.42%	0.00% - 40.00%	8.34%**



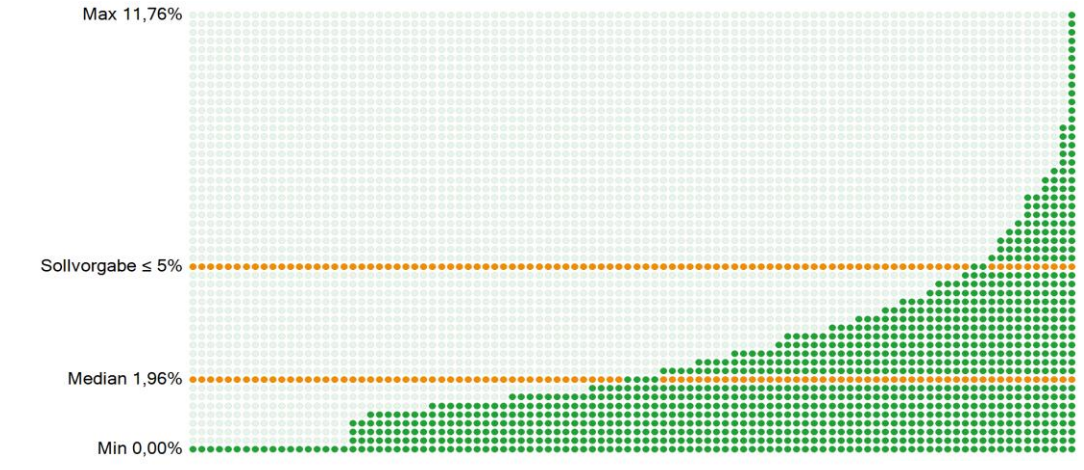
	2014	2015	2016	2017	2018
Maximum	33.33%	36.36%	50.00%	46.67%	40.00%
95th percentile	21.74%	23.08%	23.08%	23.03%	21.22%
75th percentile	13.33%	13.33%	14.29%	13.33%	12.50%
Median	9.09%	7.69%	8.33%	7.95%	7.42%
25th percentile	4.76%	5.00%	3.94%	3.21%	4.17%
5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	242	85.21%

Comments:
The results of this indicator are similar to the analogous indicator for colon surgeries: 5 Centres more than in the previous year meet the target value of maximum 15% rectal surgeries with anastomosis insufficiency. 42 Centres exceed this quota. Centres with rates of over 30% exceeded in this scale for the first time in 2018 (with low patient numbers in the denominator). In general, the reasons given by the Centres for increased rates of anastomosis insufficiency are similar to those given for indicator 19, particularly with regard to the tendency towards more challenging patients with numerous comorbidities. At the same time, improvement measures have been implemented in some Centres, such as the generous indication of a protective stoma in multimorbid patients, the establishment of the "4-eyes principle" for complex interventions or checklists.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

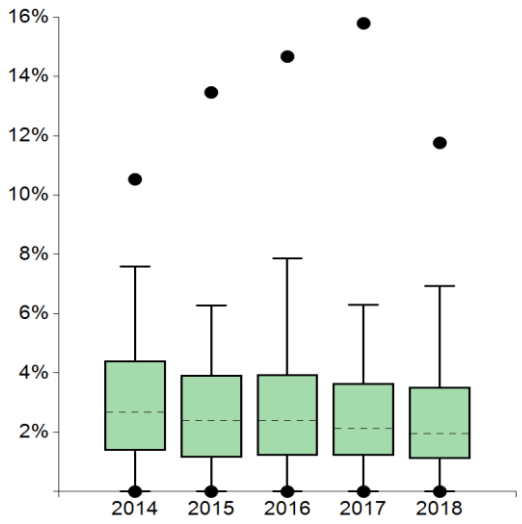
21. Post-operative mortality



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2019		
		Median	Range	Patients Total
Numerator	Post-operative patient deaths within 30d of elective surgery	2*	0 - 11	540
Denomi-nator	Electively operated patients (without transanal wall resection)	73*	36 - 214	22,370
Rate	Target value ≤ 5%	1.96%	0.00% - 11.76%	2.41%**



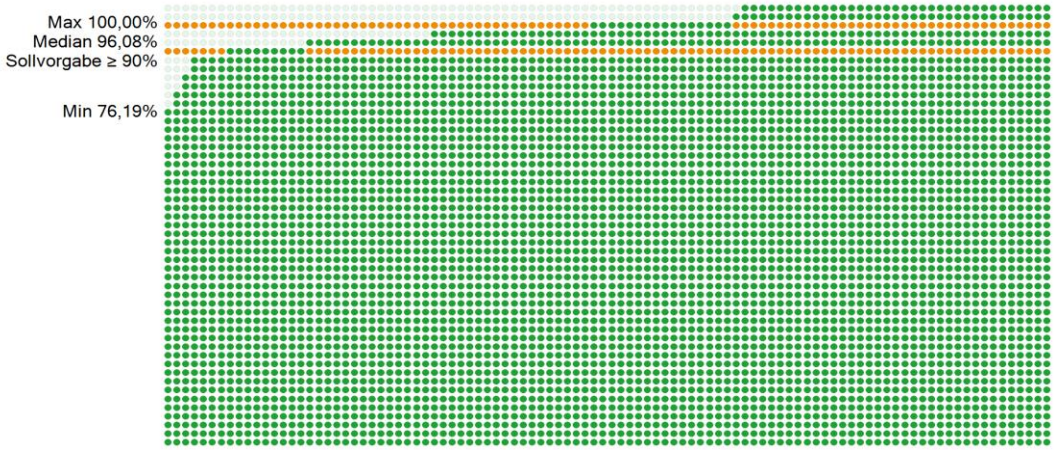
	2014	2015	2016	2017	2018
Maximum	10.53%	13.46%	14.67%	15.79%	11.76%
95th percentile	7.58%	6.27%	7.87%	6.30%	6.93%
75th percentile	4.41%	3.92%	3.94%	3.64%	3.53%
Median	2.68%	2.41%	2.41%	2.13%	1.96%
25th percentile	1.39%	1.15%	1.21%	1.22%	1.11%
5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	256	90.14%

Comments:
The values of this indicator continue to improve overall, and the degree of implementation is now very good at over 90%. 28 Centres are failing to meet the target value, 16 of which remain below a mortality rate of 7%. The Centres frequently cite cardiac and pulmonary complications and sepsis in elderly and/or multimorbid patients as causes of death. Due to the relevance of this indicator, an intensive individual case analysis was carried out in the audits. Among other things, it was suggested that the indication for surgery in multimorbid, metastasized and non-curatively treatable patients should be made rather cautiously or that surgery with palliative intention should be planned. The development of algorithms for the standardisation of procedures was also discussed. In the majority of cases, no systematic error could be detected in the audits. In the remaining cases, a careful assessment of the surgical indication for multimorbidity was requested.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

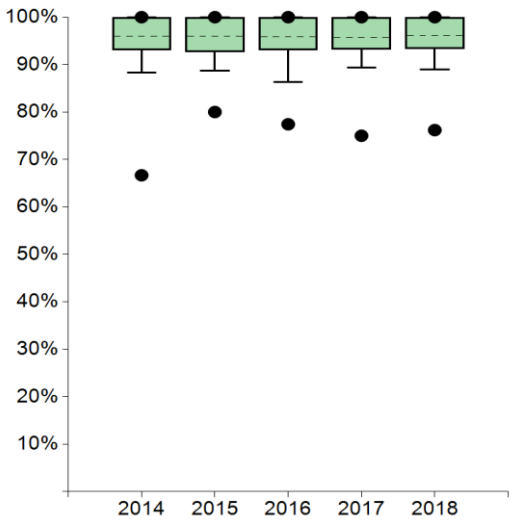
22. Local R0 resections: rectum



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Local R0 resections - colon - after completion of surgical treatment	24*	10 - 71	7,540
Denom i-nator	Colon operations according to primary case definition (operative)	25*	10 - 73	7,876
Rate	Target value ≥ 90%	96.08%	76.19% - 100%	95.73%**



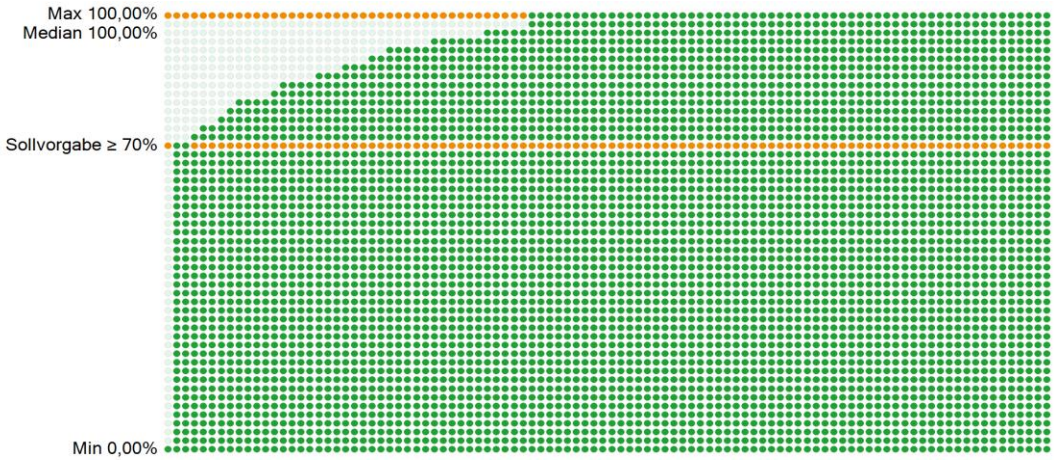
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	97.30%	97.47%	97.70%	97.56%	96.08%
25th percentile	95.00%	95.35%	95.24%	95.29%	93.29%
5th percentile	91.67%	91.22%	91.95%	91.69%	88.95%
Minimum	83.33%	85.42%	82.26%	85.71%	76.19%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	264	92.96%

Comments:
The rate of local R0 resections in rectal cancer remains very high. 170 Centres are able to maintain or improve their value compared to the previous year. The reasons given by the Centres for not meeting the target value are similar: infiltrative tumour growth and palliative surgery.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

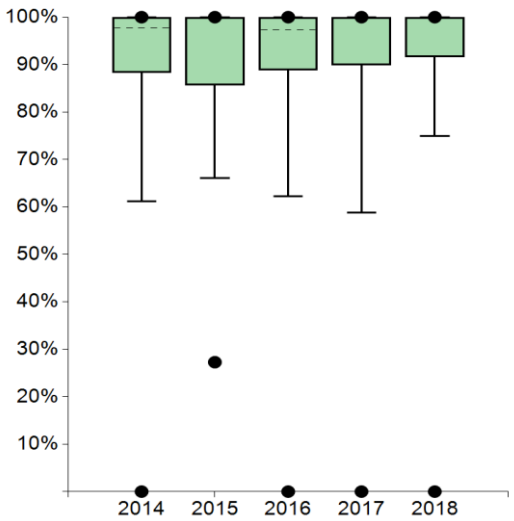
23. Marking of stoma position (GL QI 11)



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Patients of the denominator with preoperative marking of the stoma position	18*	0 - 68	5,614
Denom i-nator	Patients with RC who have undergone elective surgery with stoma system (without TWR)	19*	5 - 70	5,950
Rate	Target value ≥ 70%	100%	0.00% - 100%	94.35%**



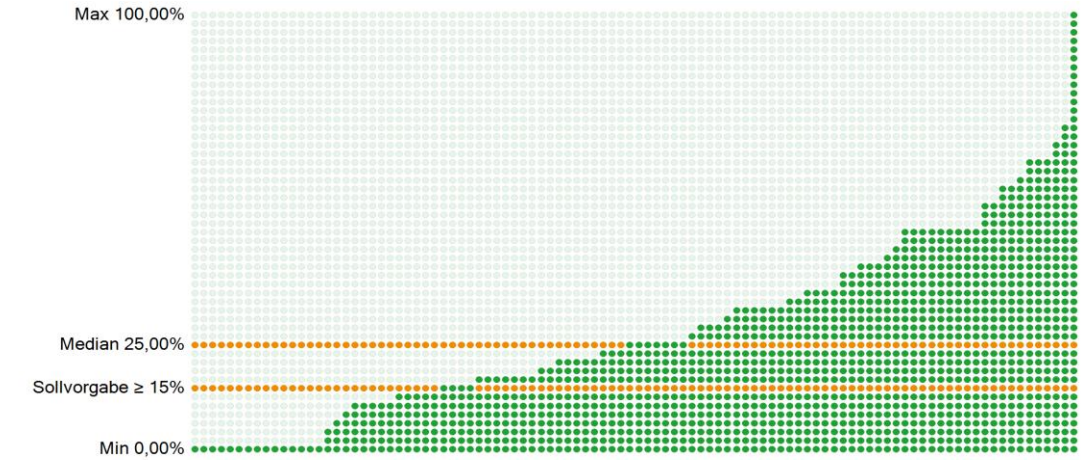
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	97.73%	100%	97.30%	100%	100%
25th percentile	88.24%	85.71%	88.89%	89.87%	91.67%
5th percentile	61.11%	66.02%	62.23%	58.81%	75.00%
Minimum	0.00%	27.27%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	281	98.94%

Comments:
In indicator year 2018, instead of an obligation to give reasons for quotas below 40% or 100%, a target value of at least 70% was introduced for patients whose stoma position was marked preoperatively. The rates achieved by the Centres are still excellent. Only 3 Centres failed to meet the target value. In these cases a documentation deficiency was the cause. Accordingly, the Centres were required in the audits to ensure complete documentation in the future.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

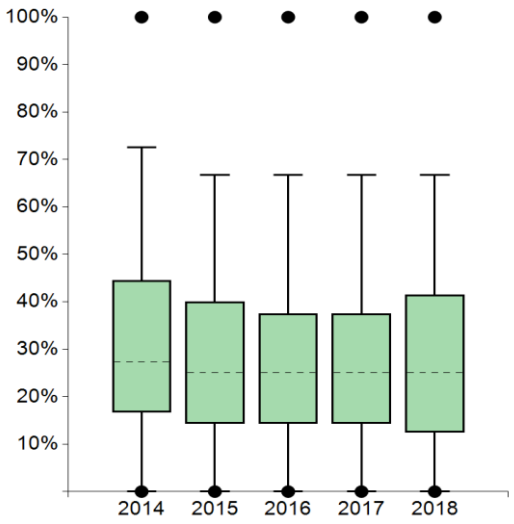
24a. Primary resection of liver metastases (UICC stage IV CRC)



Sollvorgabe = target value

283 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary-case patients with UICC stage IV CRC who underwent resection of liver metastases	2*	0 - 10	628
Denom i-nator	Primary-case patients with UICC stage IV CRC who only have liver metastases (without TWR)	8*	1 - 24	2,401
Rate	Target value ≥ 15%	25.00%	0.00% - 100%	26.16%**



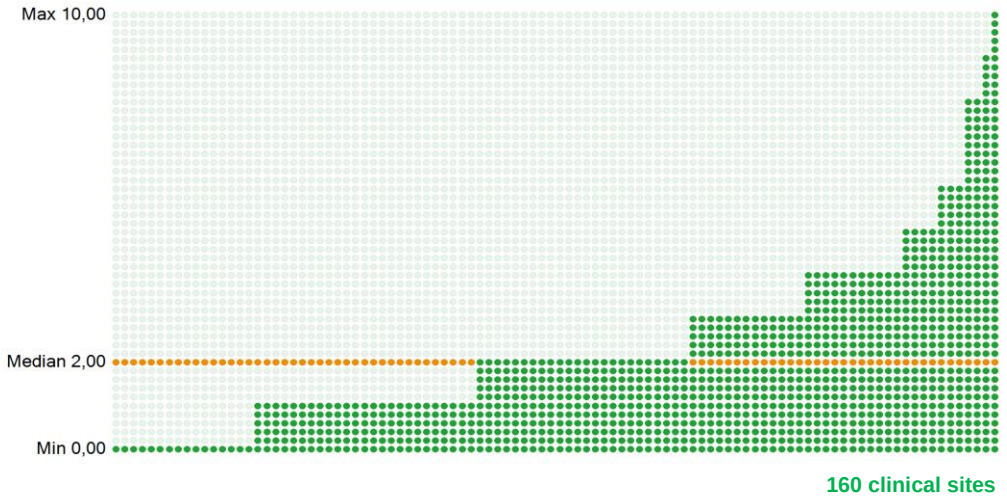
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	72.50%	66.67%	66.67%	66.67%	66.67%
75th percentile	44.44%	40.00%	37.50%	37.50%	41.43%
Median	27.27%	25.00%	25.00%	25.00%	25.00%
25th percentile	16.67%	14.29%	14.29%	14.29%	12.50%
5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
283	99.65%	195	68.90%

Comments:
The indicator shows hardly any change compared to the previous year, with 88 Centres, 12 Centres more failing to meet the target value. 30 of these Centres already missed it in the previous year. The affected Centres tend to have lower case numbers in the denominator, which increases the weight of individual cases. 43 Centres did not perform primary liver metastases resections in the indicator year. Low rates are due to multiple and/or non-resectable liver metastases, multimorbidity and rejection by patients.

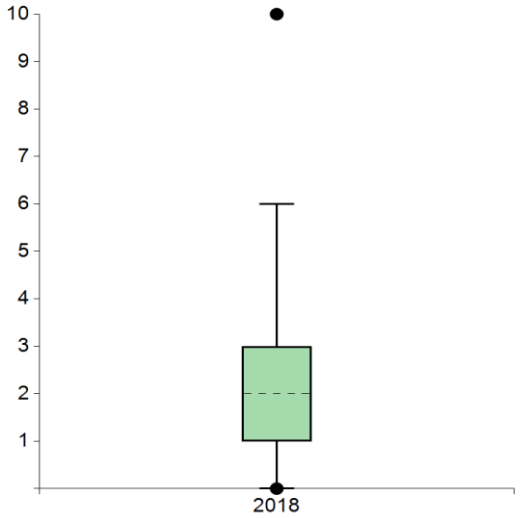
*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

24b. Primary liver metastasis resection (UICC stage IV CRC) at the surgical site of the CRCC



160 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary cases of denominator 24a, which receive a primary liver metastasis resection internally (= at the surgical site of the colorectal cancer center) (= subset of numerator 24a)	0	0 - 10	361
	No target value			



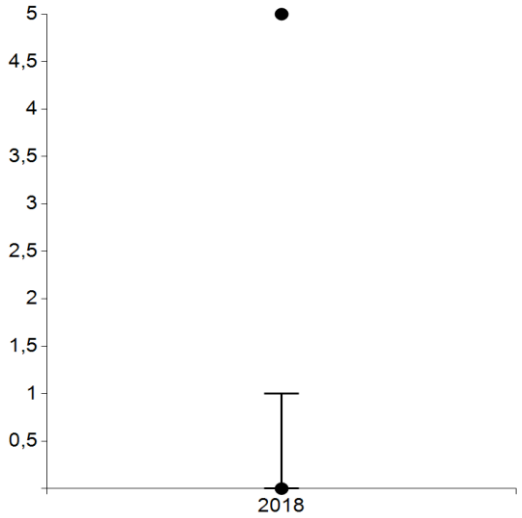
	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	10.00
95th percentile	-----	-----	-----	-----	6.00
75th percentile	-----	-----	-----	-----	3.00
Median	-----	-----	-----	-----	2.00
25th percentile	-----	-----	-----	-----	1.00
5th percentile	-----	-----	-----	-----	0.00
Minimum	-----	-----	-----	-----	0.00

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
160	56,34%	-----	-----

Comments:
This subset of the numerator of the indicator 24a, collected for the first time (and thus voluntarily) in indicator year 2018, describes the primary liver metastases resections performed at the surgical site of the Colorectal Cancer Centre. Of the total 628 patients operated on, this applies to 361 patients (corresponding to 57.48%). Valid conclusions can be expected from indicator year 2019 onwards.

24c. Primary liver metastasis resection (UICC stage IV CRC) outside the surgical site the CRCC

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary cases of denominator 24a that receive a primary liver metastasis resection externally (= outside the surgical site of the colorectal cancer center) (= subset of numerator 24a)	0	0 - 5	17
	No target value			

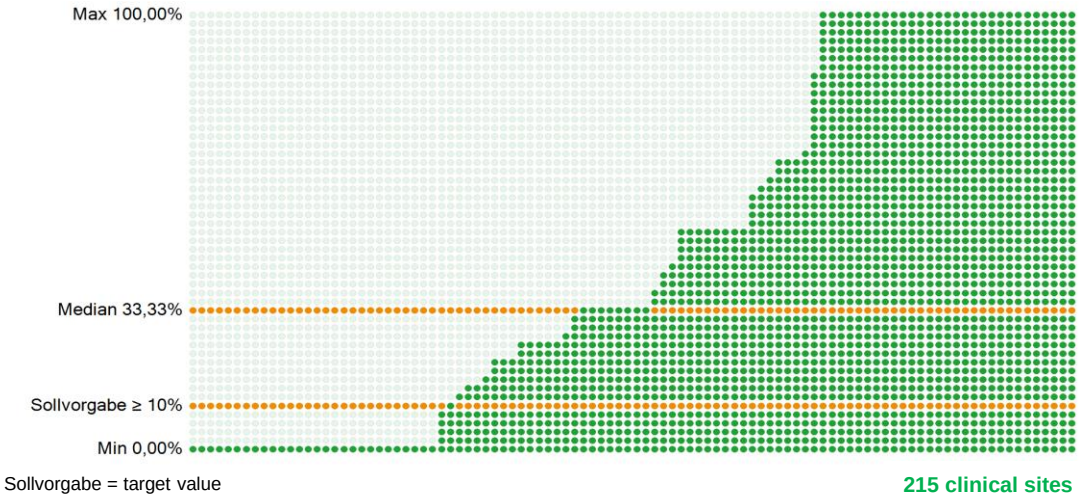


	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	5.00
95th percentile	-----	-----	-----	-----	1.00
75th percentile	-----	-----	-----	-----	0.00
Median	-----	-----	-----	-----	0.00
25th percentile	-----	-----	-----	-----	0.00
5th percentile	-----	-----	-----	-----	0.00
Minimum	-----	-----	-----	-----	0.00

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
160	56,34%	-----	-----

Comments:
This indicator is a mirror image of indicator 24b and records the proportion of primary liver metastasis resections performed outside the surgical site of the Colorectal Cancer Centre. This indicator was also collected for the first time and is therefore voluntary. It was reported for only 17 patients (2.7%) from 11 Centres. The figures for the coming indicator year will allow us to gain an overview of the distribution of interventions performed internally and externally.

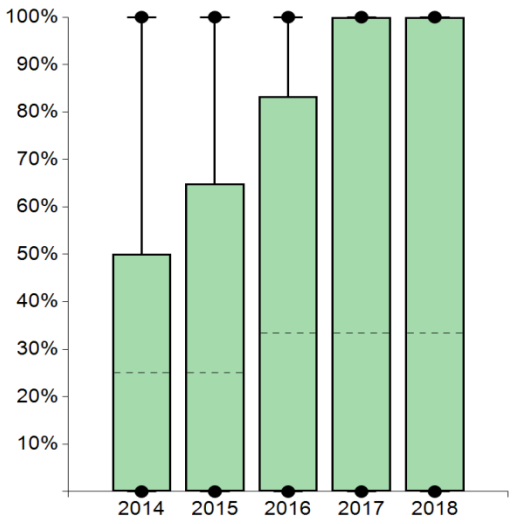
25a. Secondary resection of liver metastases (UICC stage IV CRC)



Sollvorgabe = target value

215 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary cases of the denominator in which a secondary liver metastasis resection was performed after chemotherapy	1*	0 - 9	312
Denom i-nator	Primary cases with KRK UICC Stad. IV with primarily non-resectable, exclusive liver metastases that have received chemotherapy	3*	1 - 13	847
Rate	Target value ≥ 10%	33.33%	0.00% - 100%	36.84%**



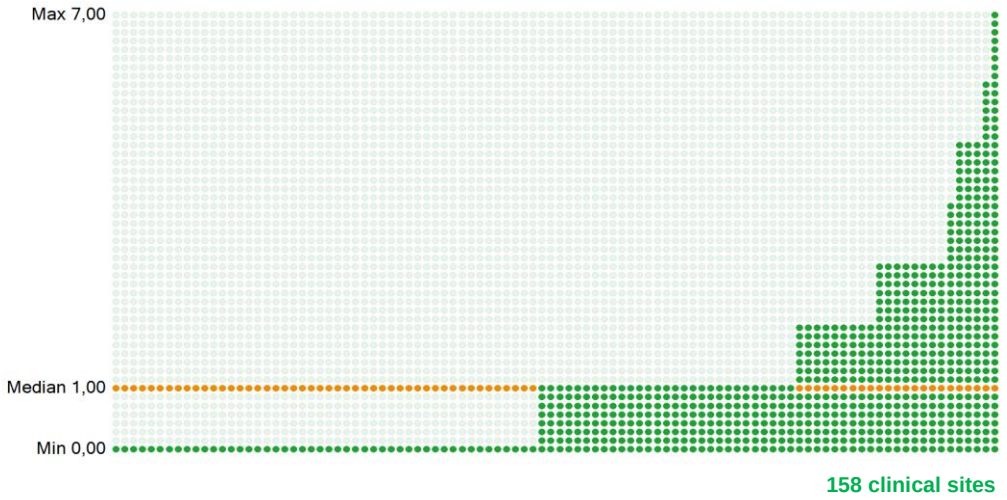
	2015	2016	2017	2017	2017
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	64.92%	83.33%	100%	100%	100%
Median	25.00%	33.33%	33.33%	33.33%	33.33%
25th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
5th percentile	0.00%	0.00%	0.00%	0.00%	0.00%
Minimum	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
215	75.70%	152	70.70%

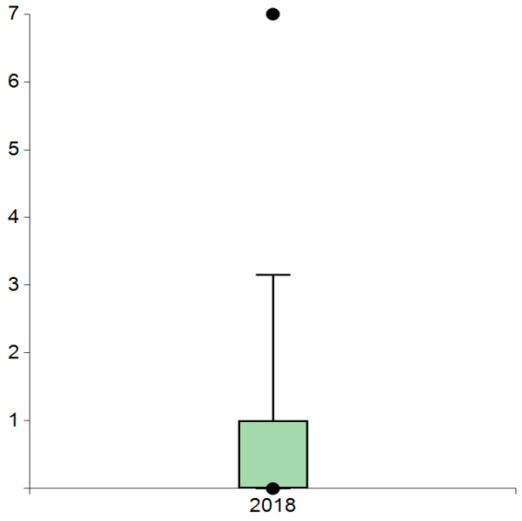
Comments:
The values of this indicator remain at a constant level. Due to the low values of the denominator, the dispersion is, as expected, very large. 69 Centres did not perform any secondary liver metastases resections. 63 of the Centres that did, failed to meet the target value of at least 10%. These Centres were able to plausibly explain the shortfall in the audits, citing in particular secondary non-operable liver metastases, death of the patient during chemotherapy, complete remission under chemotherapy and the rejection of the operation by the patients as the dominant reasons.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

25b. Secondary resection of liver metastases (UICC stage IV CRC) at the surgical site of the CRCC



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary cases of denominator 25a, which receive a secondary liver metastasis resection internally (= at the surgical site of the colorectal cancer center) (= subset of numerator 25a)	0	0 - 7	157
	No target value			

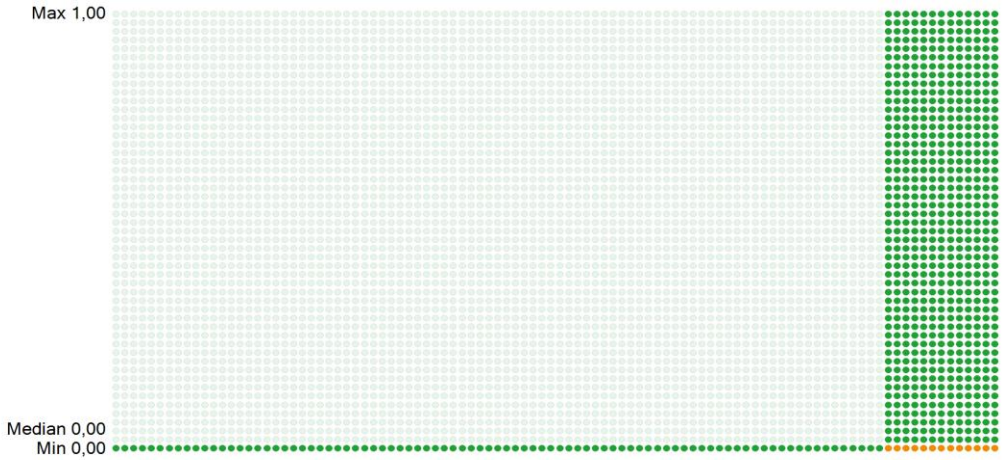


	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	7.00
95th percentile	-----	-----	-----	-----	3.15
75th percentile	-----	-----	-----	-----	1.00
Median	-----	-----	-----	-----	1.00
25th percentile	-----	-----	-----	-----	0.00
5th percentile	-----	-----	-----	-----	0.00
Minimum	-----	-----	-----	-----	0.00

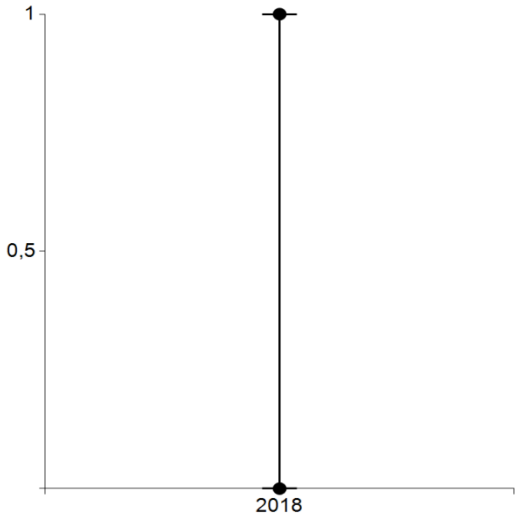
Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
158	55.63%	-----	-----

Comments:
Half (50.32%) of the secondary liver metastases resections were performed internally, according to the data provided by 158 of the 215 eligible Centres (corresponding to 73.48%). A total of 82 Centres performed interventions according to this indicator internally. 70 of the 154 Centres that performed secondary liver metastasis resections according to indicator 25a did not submit data for indicators 25b and 25c.

25c. Secondary resection of liver metastases (UICC stage IV CRC) outside the surg. site of CRCC



	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Primary cases of denominator 25a that receive a secondary liver metastasis resection externally (= outside the surgical site of the colorectal cancer center) (= subset counter 25a)	0	0 - 1	20
	No target value			

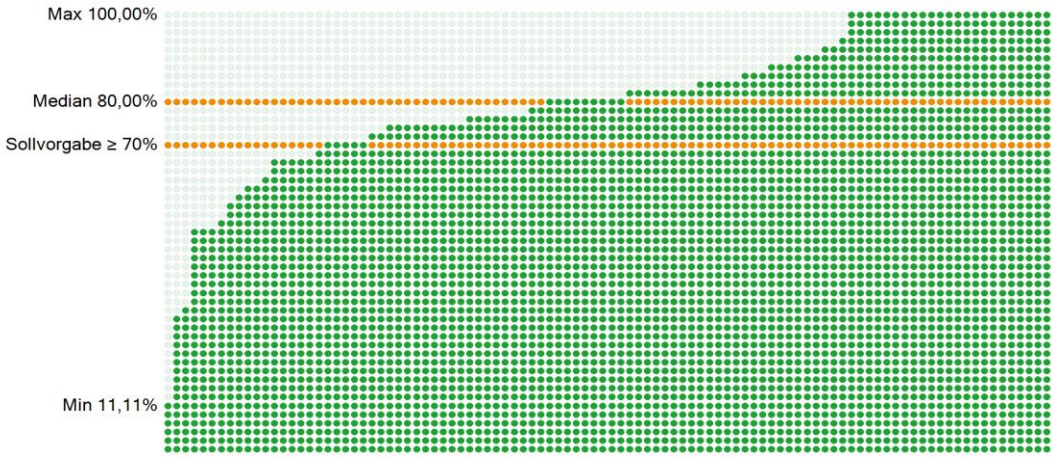


	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	1.00
95th percentile	-----	-----	-----	-----	1,.00
75th percentile	-----	-----	-----	-----	0.00
Median	-----	-----	-----	-----	0.00
25th percentile	-----	-----	-----	-----	0.00
5th percentile	-----	-----	-----	-----	0.00
Minimum	-----	-----	-----	-----	0.00

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
158	55.63%	-----	-----

Comments:
Similar to indicator 24c, the number of secondary liver metastasis resections performed as external operations appears to be extremely low. This may be explained by the fact that many Centres did not yet have to submit figures in indicator year 2018. 135 operations (43.27%) can therefore not yet be allocated. 138 Centres state that they have not transferred any patients to an external hospital, 20 Centres did so for a single patient.

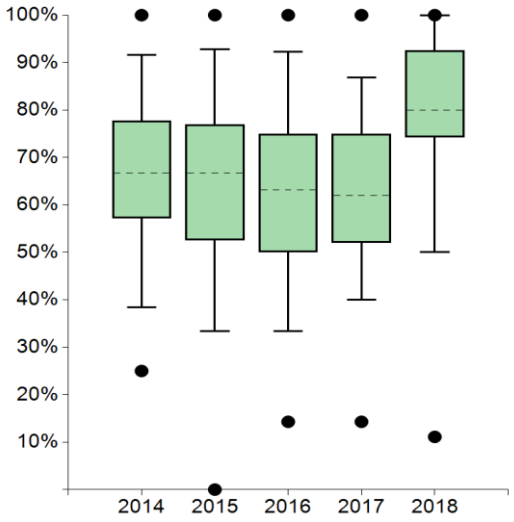
26. Adjuvant chemotherapies: colon (UICC stage III) (GL QI 8)



Sollvorgabe = target value

283 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Patients of the denominator who have received adjuvant chemotherapy	6*	1 - 18	1,908
Denom i-nator	Patients ≤ 75 years with a colon carcinoma UICC Stad. III, in whom an R0 resection of the primary tumour was performed	8*	1 - 26	2,385
Rate	Target value ≥ 70%	80.00%	11.11% - 100%	80.00%**



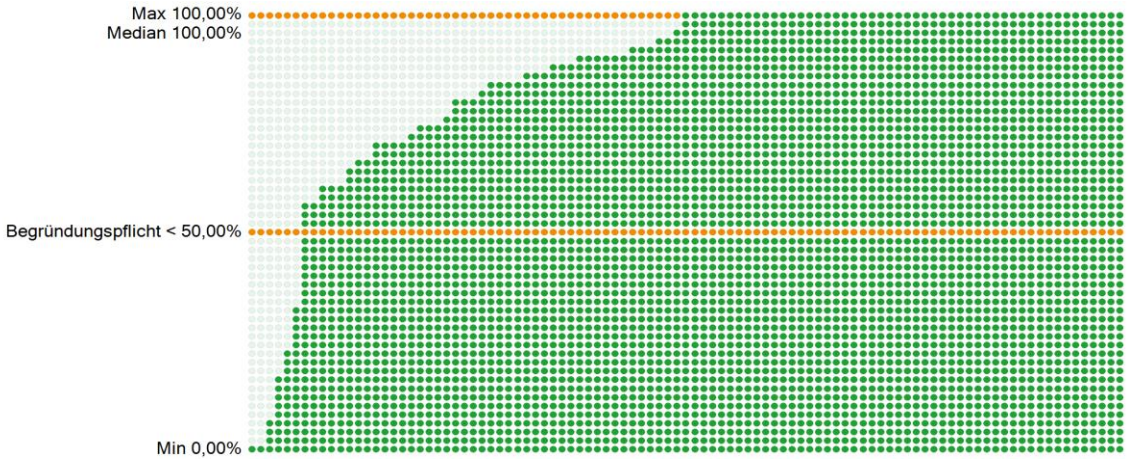
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	91.67%	92.86%	92.25%	86.87%	100%
75th percentile	77.78%	76.92%	75.00%	75.00%	92.59%
Median	66.67%	66.67%	63.16%	62.02%	80.00%
25th percentile	57.14%	52.63%	50.00%	52.03%	74.34%
5th percentile	38.46%	33.33%	33.33%	40.00%	50.00%
Minimum	25.00%	0.00%	14.29%	14.29%	11.11%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
283	99.65%	232	81.98%

Comments:
In contrast to previous years, there was a sharp increase in the implementation of this indicator from 36.27% to 81.98% due to the restriction of the denominator to patients ≤ 75 years. 227 Centres improved their indicator results. Nevertheless, the spread of values remains high, which may at least partly be explained by the relatively low patient numbers in the denominator. 51 Centres achieved rates of less than 70%. In the audits, these Centres gave the following reasons for the shortfall in particular: rejection by patients, postoperative death before the start of chemotherapy, second malignancy determining the therapy, externally administered chemotherapy and contraindications against chemotherapy (e.g. severe renal insufficiency, poor general condition, multiple comorbidities).

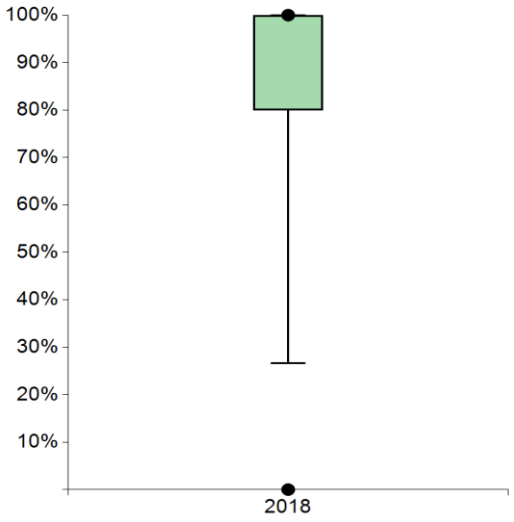
*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

27. Combination chemotherapy for metastasised CRC with systemic first-line treatment (GL QI 4)



109 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Patients of the denominator with combination chemotherapy	6*	0 - 31	761
Denom i-nator	Patients with metastatic CRC, ECOG 0-1 and systemic first-line therapy	7*	1 - 35	928
Rate	Explanation mandatory*** <50%	100%	0.00% - 100%	82.00%**



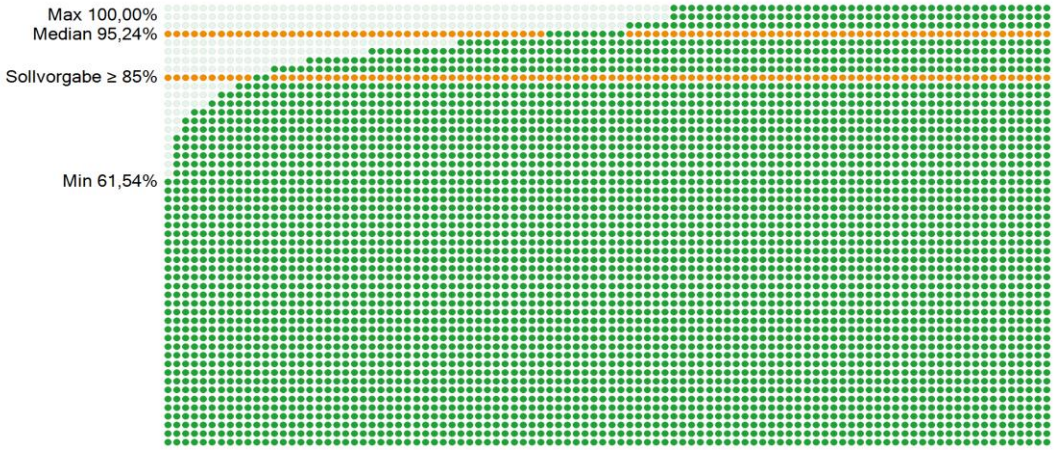
	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	100%
95th percentile	-----	-----	-----	-----	100%
75th percentile	-----	-----	-----	-----	100%
Median	-----	-----	-----	-----	100%
25th percentile	-----	-----	-----	-----	80.00%
5th percentile	-----	-----	-----	-----	26.66%
Minimum	-----	-----	-----	-----	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
109	38.38%	101	92.66%

Comments:
109 Centres voluntarily provided data for this indicator, which was first collected in 2018. Only 8 Centres fell short of the quota under which substantiation of the indicator result of the respective Centre is requested. In the audits, these Centres stated that patients had died before initiating combination chemotherapy, that the therapy was rejected by the patients and that treatment was continued outside the Centre. In some cases, deficiencies in the documentation were also responsible for the low rates. In the audits, the reasons given were discussed in the context of an individual case analysis.

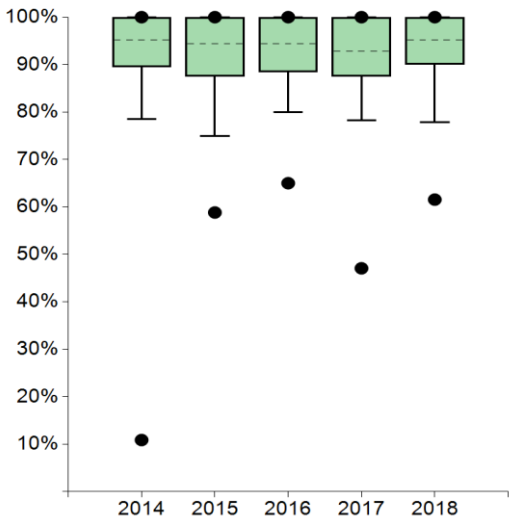
*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator
*** If value is outside the plausablilty corridor. centres have to give an explanation.

28. Quality of the TME rectum specimen (information from pathology) (GL QI 6)



284 clinical sites

	Indicator definition	All clinical sites 2018		
		Median	Range	Patients Total
Numer-ator	Patients with good-to-moderate quality (grade 1: mesorectal fascia or grade 2: intramesorectal excisions) TME	15.5*	3 - 59	4,891
Denom i-nator	Patients with elective radically operated RC (without TWR)	17*	3 - 63	5,225
Rate	Target value ≥ 85%	95.24%	61.54% - 100%	93.61%**



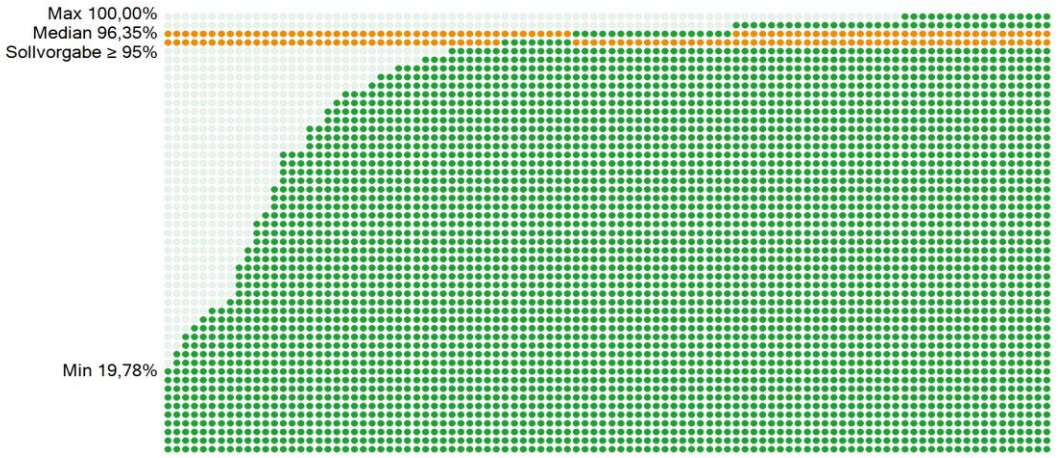
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	100%	100%	100%	100%	100%
Median	95.24%	94.44%	94.44%	92.86%	95.24%
25th percentile	89.47%	87.50%	88.46%	87.50%	90.00%
5th percentile	78.57%	75.00%	80.00%	78.31%	77.90%
Minimum	10.87%	58.82%	65.00%	47.06%	61.54%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	253	89.08%

Comments:
The Centres continue to implement this indicator very well. As the median increases, 129 Centres improve their ratio, 122 Centres reach 100%. 31 Centres miss the target value of at least 85% of high-quality TME rectal preparations. The underlying causes were discussed with these Centres in the audits. Often, surgically demanding procedures (large tumours, local infiltration, difficult extirpations, deep-seated carcinomas) were the reason for failure to meet the target. In some cases, the pathology department omitted the information. In the audit, measures for training and further education of surgeons were recommended in the context of the individual case analysis on the one hand, and on the other hand, consultation with the pathology department was suggested for complete documentation.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

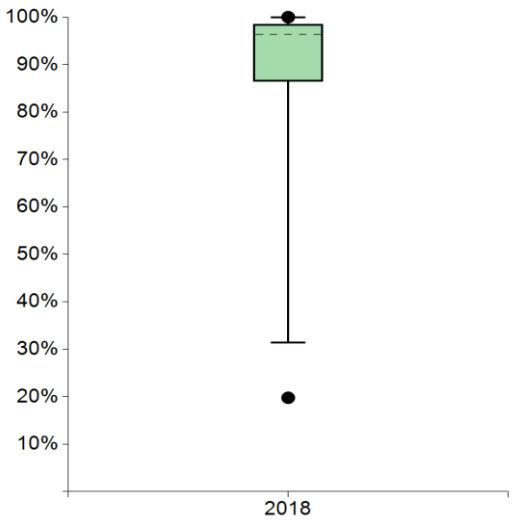
29. Diagnostic report after surgical resection of colorectal carcinoma (GL QI 2)



Sollvorgabe = target value

190 clinical sites

	Indicator definition	All clincal sites 2018		
		Median	Range	Patients Total
Numerator	Patients of the denominator with complete reports	70.5*	14 - 170	13,788
Denomi-nator	Patients with CRC and surgical resection	78.5*	44 - 175	15,972
Rate	Target value ≥ 95%	96.35%	19.78% - 100%	86.33%**



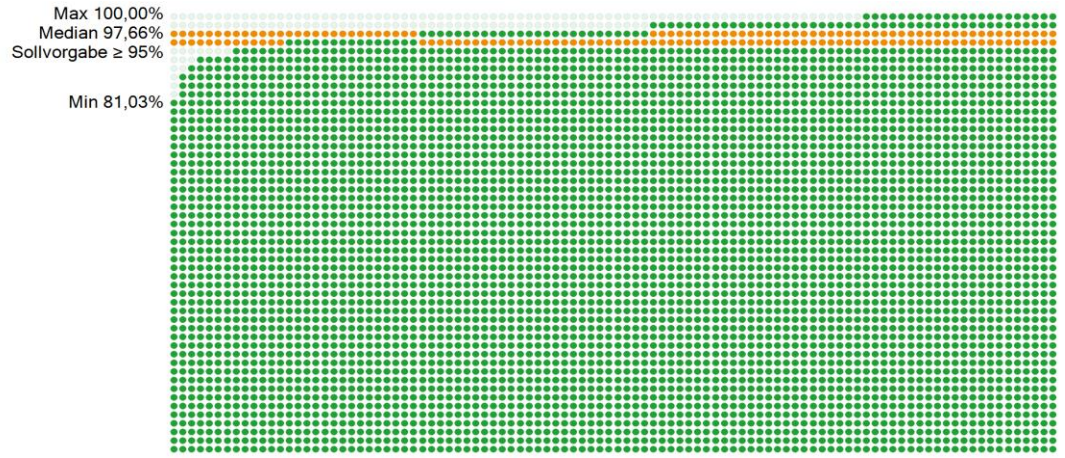
	2014	2015	2016	2017	2018
Maximum	-----	-----	-----	-----	100%
95th percentile	-----	-----	-----	-----	100%
75th percentile	-----	-----	-----	-----	98.53%
Median	-----	-----	-----	-----	96.35%
25th percentile	-----	-----	-----	-----	86.45%
5th percentile	-----	-----	-----	-----	31.35%
Minimum	-----	-----	-----	-----	19.78%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
190	66.90%	112	58.95%

Comments:
This indicator was collected for the first time in indicator year 2018, so the provision of data was voluntary. Of the 190 Centres with evaluable data, 112 Centres achieved a rate of at least 95% surgical resections with complete diagnostic reports. 37 Centres achieved a rate of at least 99%. The 72 Centres that missed the target value mainly indicated that some elements (often aboral distance from the resection margin in colon cancer) were missing in the pathology report. In many cases, this could be counteracted with quality circles with the pathology or also follow-up reports. Furthermore, some data (especially Gx in neoadjuvant radiochemotherapy) could not be transmitted via the OncoBox, which was evaluated as an incomplete diagnostic report.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

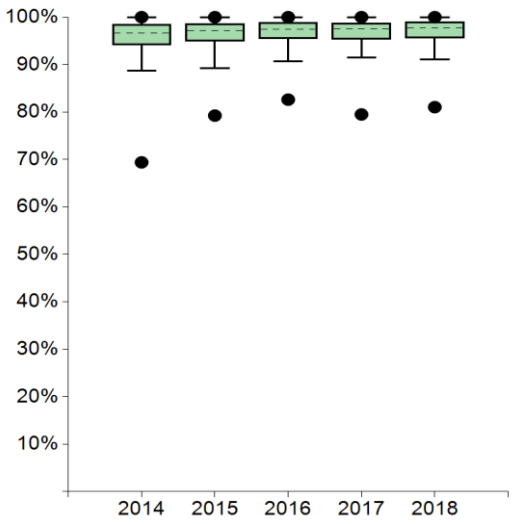
30. Lymph node examination (GL QI 2)



Sollvorgabe = target value

284 clinical sites

	Indicator definition	All clincal sites 2018		
		Median	Range	Patients Total
Numerator	Patients with pathological examination of lymph nodes ≥ 12	70*	35 - 207	21,555
Denomi-nator	Patients with CRC who underwent an lymphadenectomy (without TWR)	73*	36 - 213	22,254
Rate	Target value ≥ 95%	97.66%	81.03% - 100%	96.86%**



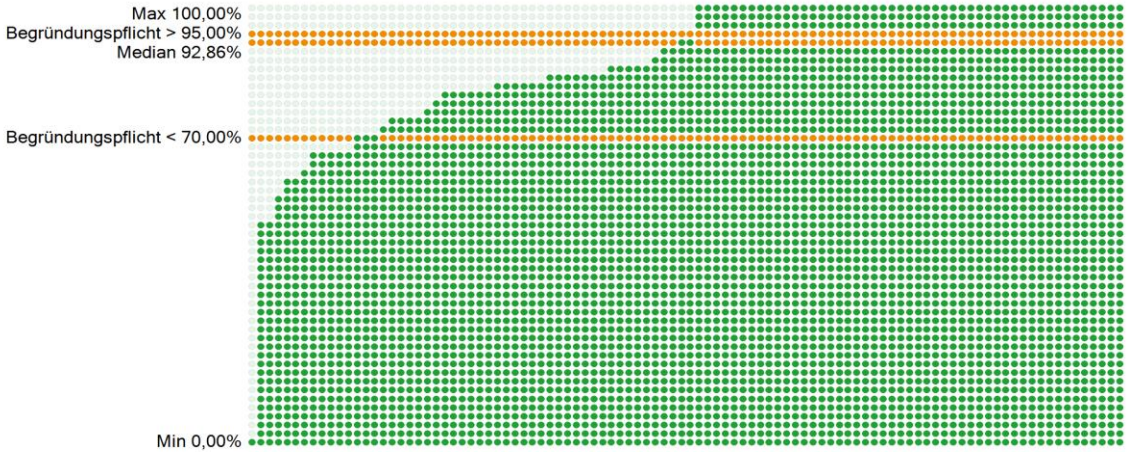
	2014	2015	2016	2017	2018
Maximum	100%	100%	100%	100%	100%
95th percentile	100%	100%	100%	100%	100%
75th percentile	98.48%	98.61%	98.91%	98.78%	99.00%
Median	96.61%	97.18%	97.47%	97.58%	97.66%
25th percentile	94.12%	94.92%	95.45%	95.34%	95.56%
5th percentile	88.64%	89.18%	90.66%	91.44%	91.13%
Minimum	69.39%	79.25%	82.61%	79.49%	81.03%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
284	100.00%	234	82.39%

Comments:
The continued good implementation of this indicator has further slightly improved in 2018. 157 Centres maintain or improve their level. 50 Centres (previous year: 61) are falling short of the target value, 21 of them already did so in the previous year. The vast majority of shortfalls were checked for plausibility during the audits. Especially in patients pretreated with neoadjuvant therapy, often no large numbers of lymph nodes are found. Less radical or palliatively intended operations as well as operations in early tumour stages lead to similar results. In some Centres, the auditors recommended that the preparation procedure of resectates in pathology be reviewed and that individual cases be discussed in quality circles.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.

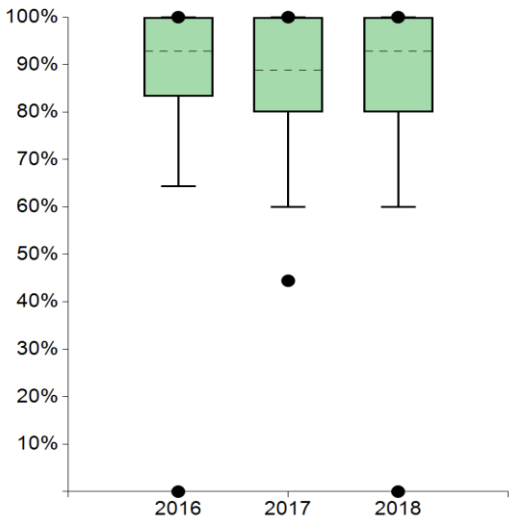
31. Start of adjuvant chemotherapy



Begründungspflicht = mandatory statement of reasons

283 clinical sites

	Indicator definition	All clincal sites 2018		
		Median	Range	Patients Total
Numerator	Patients with beginning of chemotherapy within 8 weeks after surgery	6*	0 - 17	1,674
Denomi-nator	Patients with UICC stage III colon carcinoma who had received adjuvant chemotherapy	6*	1 - 18	1,908
Rate	Explanation mandatory*** <70% and >95%	92.86%	0.00% - 100%	87.74%**



	2014	2015	2016	2017	2018
Maximum	-----	-----	100%	100%	100%
95th percentile	-----	-----	100%	100%	100%
75th percentile	-----	-----	100%	100%	100%
Median	-----	-----	92.86%	88.89%	92.86%
25th percentile	-----	-----	83.33%	80.00%	80.00%
5th percentile	-----	-----	64.38%	60.00%	60.00%
Minimum	-----	-----	0.00%	44.44%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
283	99.65%	112	39.58%

Comments:
Only just under 40% of the Centres are within the plausibility limits. However, 138 of the 171 Centres outside the plausibility range achieve a rate of 100%. Only the remaining 33 were asked to substantiate their low rate of patients to whom chemotherapy was administered within 8 weeks after surgery. In the audits, they explained that chemotherapy could only be started with a delay, among other things, because of follow-up treatment that had been carried out in the meantime or because of the priority therapy of secondary carcinoma/metastases, perioperative complications (e.g. anastomosis insufficiency) or other concomitant diseases. In some cases, the patients also wished to start at a later date. The reasons were verified in the individual case analysis.

*The medians for numerator and population do not refer to an existing Centre but indicate the median of all cohort numerators and the median of all cohort denominators.
** Percentage of centre patients who were treated according to the indicator.
*** If value is outside the plausablilty corridor. centres have to give an explanation.

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