

Annual Report 2020

of the Certified Breast Cancer Centres (BCCs)

Audit year 2019 / indicator year 2018



Deutsche Gesellschaft für Senologie

(German Society for Senology)



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General information

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Quality indicators of the guidelines (GL QI):

In the table of contents and in the respective headings the indicators, which correspond to the quality indicators of the evidence-based guidelines are specifically identified. The quality indicators identified in this way are based on the strong recommendations of the guidelines and were derived from the guidelines groups in the context of the guideline programme oncology. Further information: www.leitlinienprogramm-onkologie.de

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator in which radiotherapy was recommended	97*	26 - 566	30,659
Denominator	Primary cases with an invasive mammary carcinoma and BCS (without primary M1 pat.)	100*	26 - 578	31,602
Rate	Target value $\geq 90\%$	97.73%	86.32% - 100%	97.02%**

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.

Under **Patients Total**, the percentage of the total number of patients treated in the centres according to the key figure is given.

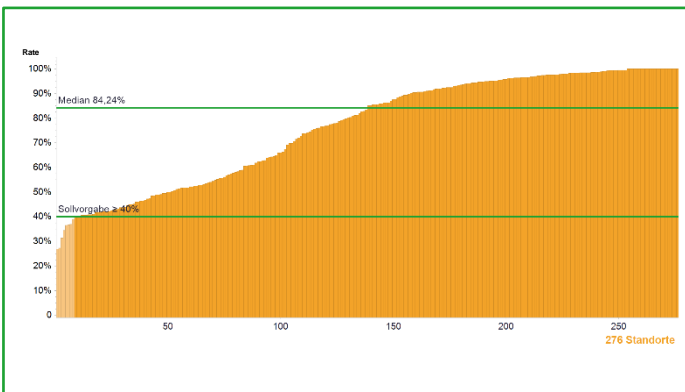
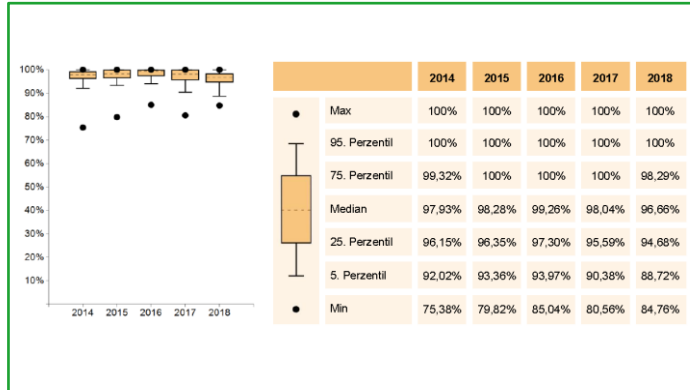


Diagram:

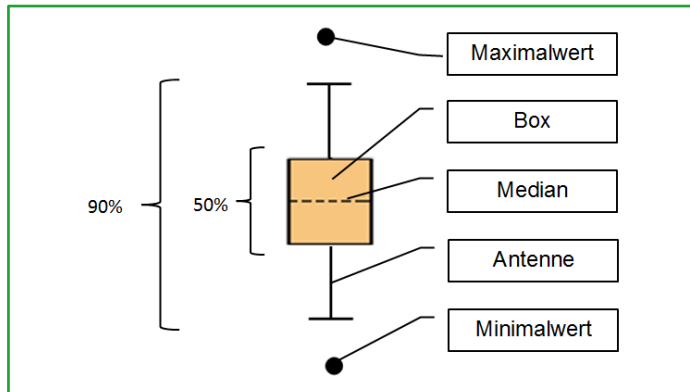
The x-axis indicates the number of Centres, the y-axis gives the values in percent or number (e.g. primary cases). The target value is depicted as a horizontal green line. The median, which is also depicted as a green horizontal line, divides the entire group into two equal halves.

General information



Cohort development:

The cohort development in the years 2014, 2015, 2016, 2017 and 2018 is presented in a box plot diagram.



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: Breast Cancer Centres 2019

	31.12.2019	31.12.2018	31.12.2017	31.12.2016	31.12.2015	31.12.2014
Ongoing procedures	2	4	2	4	2	4
Certified centres	243	237	234	230	228	224
Certified clinical sites	282	280	280	280	279	277
BCC with 1 clinical site	209	199	193	186	183	177
2 clinical sites	31	35	38	40	41	43
3 clinical sites	1	1	1	2	2	2
4 clinical sites	2	2	2	2	2	2

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	276	278	275	275	275	273
Equivalent to	97,9%	99,3%	98,2%	98,2%	98,6%	98,6%
Primary cases total*	57.589	55.715	54.385	53.837	52.965	52.904
Primary cases per centre (median)*	209	200	198	196	193	194
Primary cases per centre (median)*	180,5	178	175	177	169	172

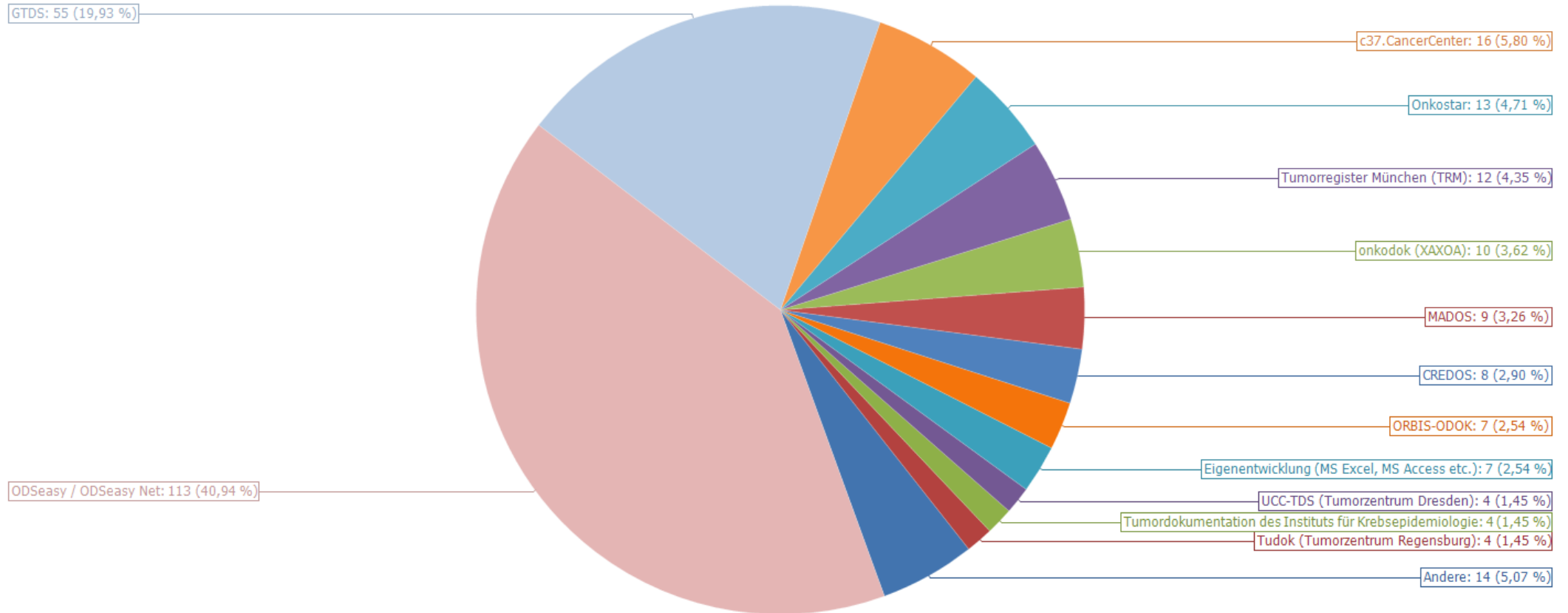
*The figures are based on the clinical sites listed in the Annual Report.

This Annual Report looks at the Breast Cancer Centres certified in the Certification System of the German Cancer Society (DKG). The Data Sheet, which is part of the Catalogue of Requirements, is the basis for the diagrams in the Annual Report.

The Annual Report includes 276 of the 282 certified center sites. 6 clinical sites, which were certified for the first time in 2019 (complete data submission of calendar year for initial certifications not obligatory). In all 282 locations, a total of 58,685 primary cases of breast cancer were treated. An up-to-date overview of all certified locations is shown at www.oncomap.de.

The indicators published here refer to the indicator year 2018. They are the basis for the audits conducted in 2019.

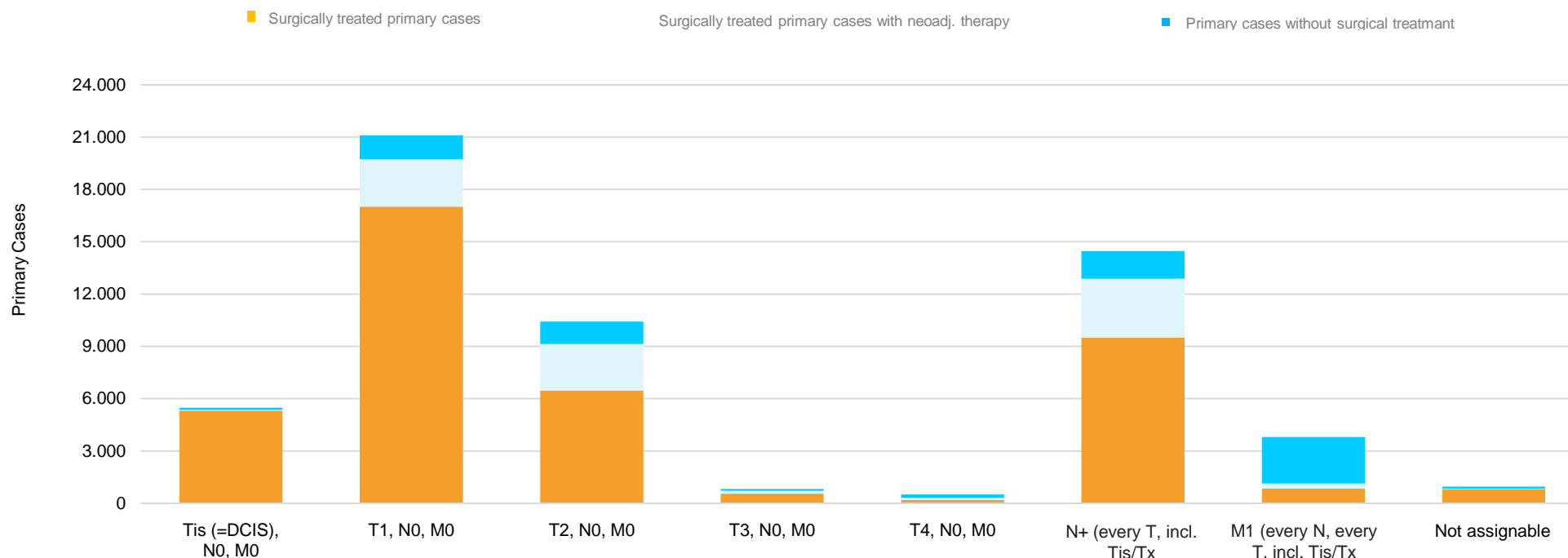
Tumour documentation systems used in Breast Cancer Centres



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 indicate 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.

Legend	
Others	System used in < 4 clinical sites

Basic data – Primary Cases Breast Cancer



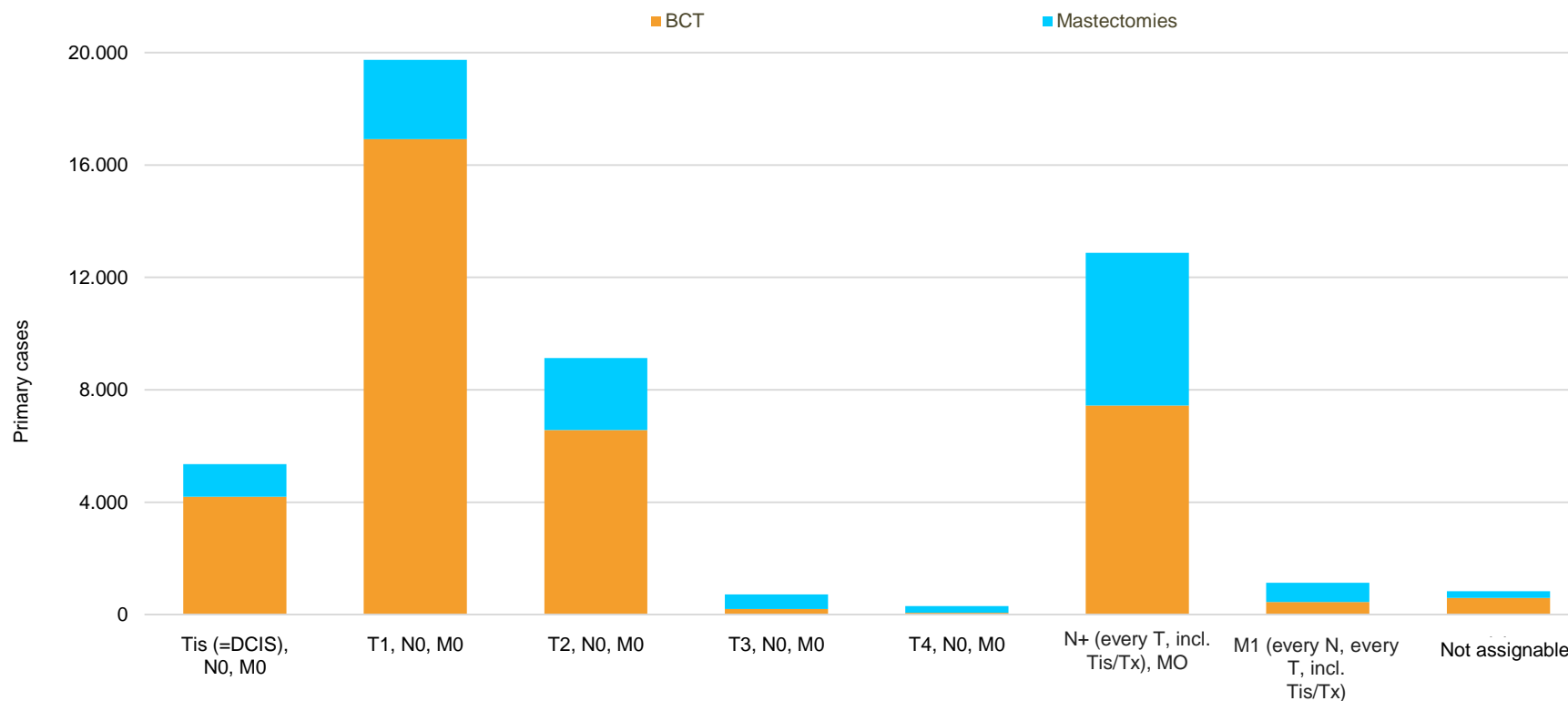
	Tis (=DCIS), N0, M0	T1, N0, M0	T2, N0, M0	T3, N0, M0	T4, N0, M0	N+ (every T incl. Tis/Tx), M0)	M1 (jedes N, every T incl. Tis/Tx)	Not varifiable*	Total
Non-surgical primary cases	133 (2.42%)	1,366 (6.47%)	1,284 (12.33%)	109 (13.16%)	206 (40.00%)	1,599 (11.05%)	2,663 (70.08%)	119 (12.42%)	7,479
Primary cases Surgery with neoadj. Th.**	36 (0.66%)	2,723 (12.90%)	2,667 (25.60%)	169 (20.41%)	117 (22.72%)	3,383 (23.37%)	291 (7.66%)	30 (3.13%)	9,416
Primary cases without neoadj. Th.***	5,319 (96.92%)	17,019 (80.63%)	6,466 (62.07%)	550 (66.43%)	192 (37.28%)	9,493 (65.58%)	846 (22.26%)	809 (84.45%)	40,694
Primary cases Total	5,488	21,108	10,417	828	515	14,475	3,800	958	57,589

*others: e.g. T1, N0, Mx

** primary cases operated with neo-adjuvant or pre-operative systemic therapy

*** primary cases operated without neo-adjuvant or pre-operative systemic therapy

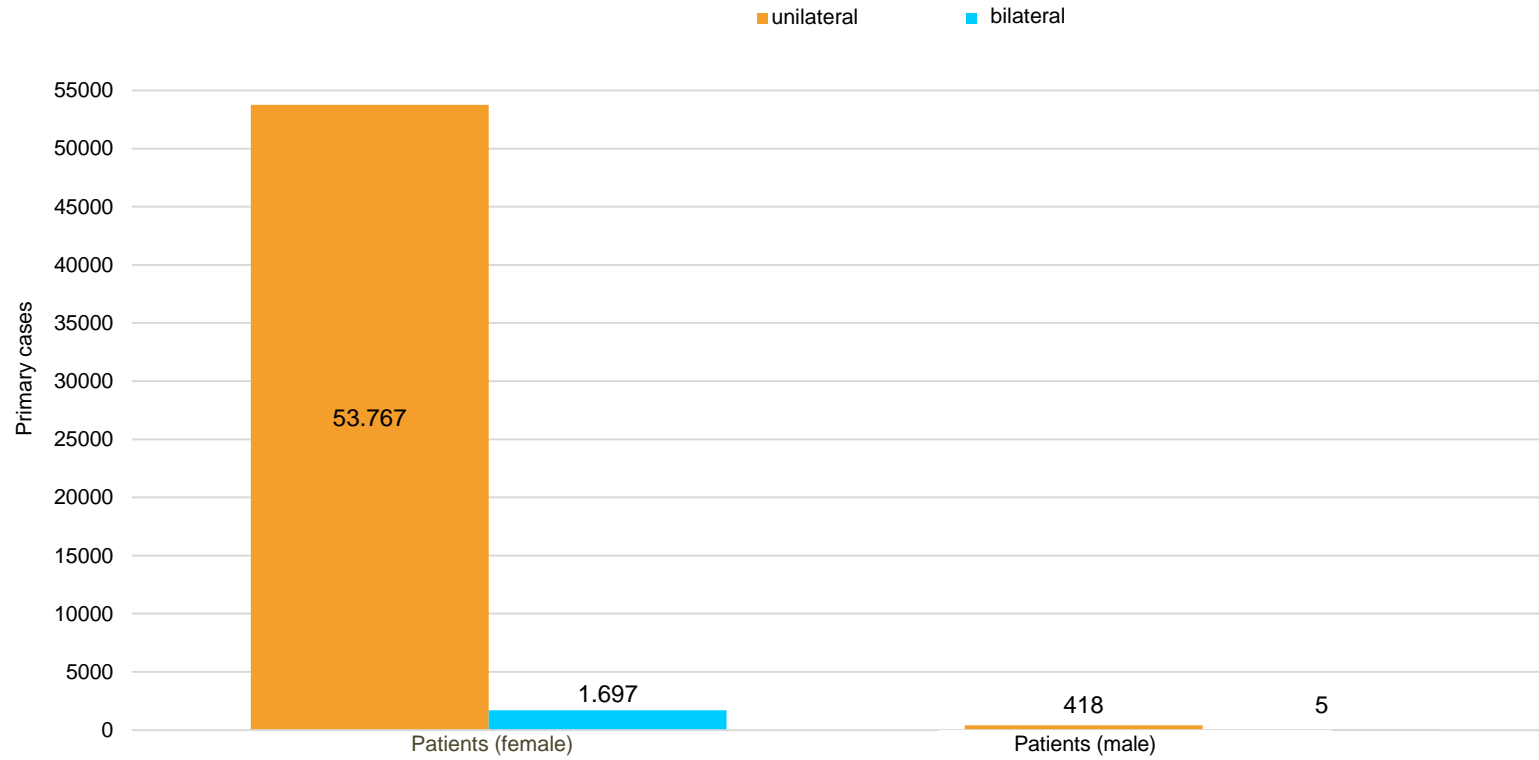
Basic data – Distribution of surgically treated primary cases



	Tis (=DCIS), NO, MO	T1, NO, MO	T2, NO, MO	T3, NO, MO	T4, NO, MO	N+ (every T incl. Tis/Tx), MO)	M1 (every N, every T incl. Tis/Tx)	Not classifiable*	Total
Mastectomies	1,156 (21.59%)	2,826 (14.31%)	2,562 (28.05%)	517 (71.91%)	244 (78.96%)	5,432 (42.19%)	685 (60.25%)	242 (28.84%)	13,664
BCT	4,199 (78.41%)	16,916 (85.69%)	6,571 (71.95%)	202 (28.09%)	65 (21.04%)	7,444 (57.81%)	452 (39.75%)	597 (71.16%)	36,446
Surgically treated Primary cases Total	5,355	19,742	9,133	719	309	12,876	1,137	839	50,110

* Not classifiable: e.g. T1, N0, Mx

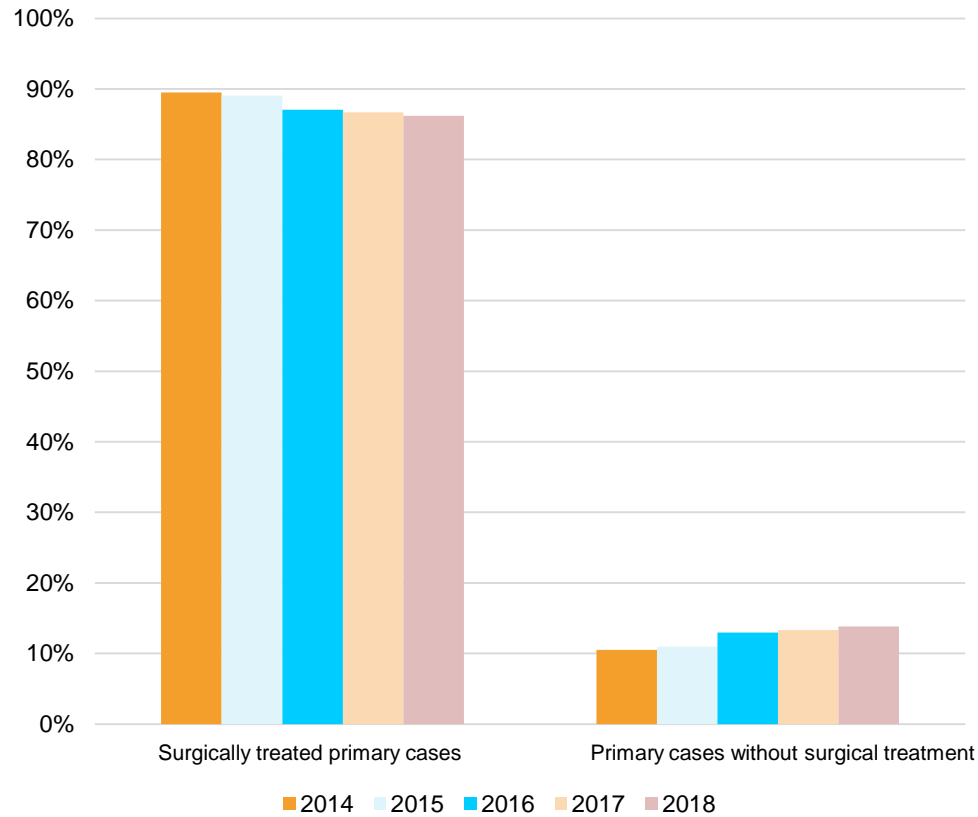
Basic data – Gender distributuon



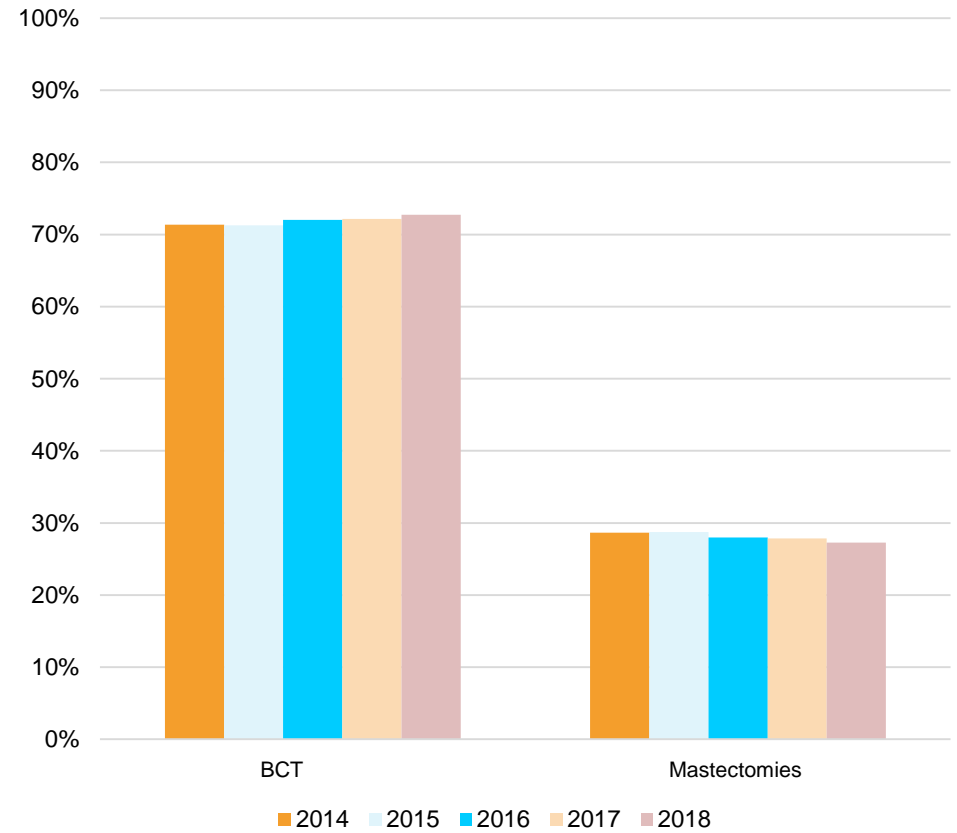
	Female patients	Male patients	Primary cases Total
unilateral	53.767 (96,94%)	418 (98,82%)	54.185
Bilateral (simultaneous)	1.697 (3,06%)	5 (1,18%)	3.404
			57.589
Total	55.464	423	

Basic data – Development 2014 - 2018

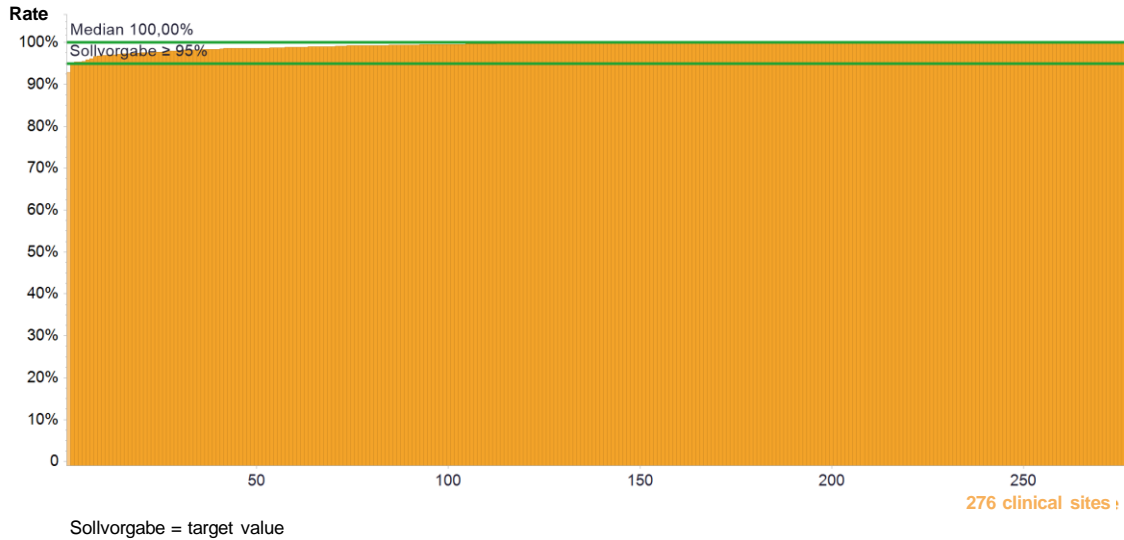
Distribution of primary cases with surgical vs. non-surgical treatment 2014-2018



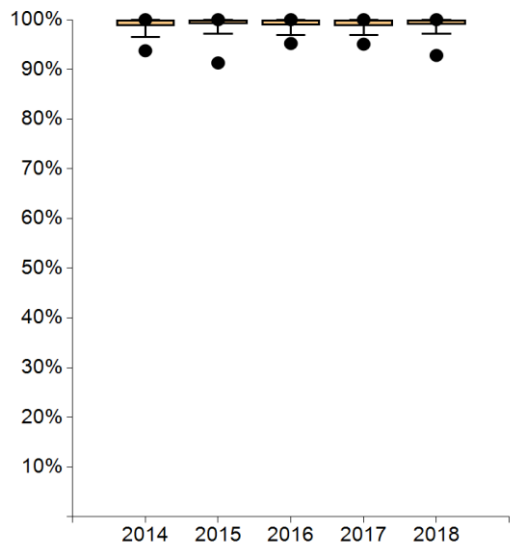
Distribution of primary cases with surgical treatment 2014 - 2018



1. Post-operative case review



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of denominator presented in the tumour conference	154.5*	41 - 844	49,792
Denominator	Surgical primary cases	155.5*	42 - 845	50,110
Rate	Target value ≥ 95%	100%	92.81% - 100%	99.37%**



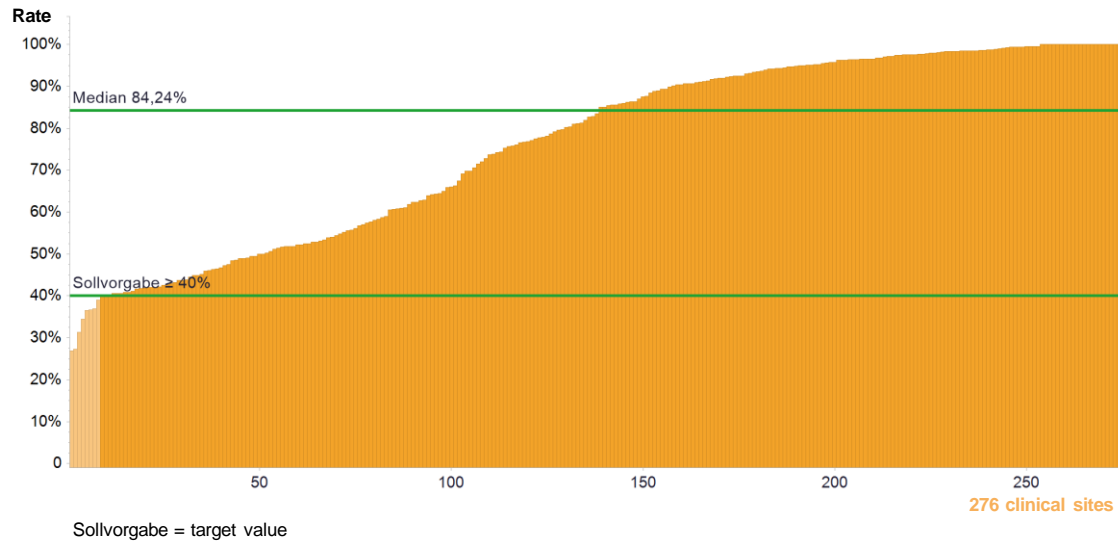
	2014	2015	2016	2017	2018
● Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25. perzentile	98.76%	99.11%	98.82%	98.73%	99.01%
5. perzentile	96.55%	97.20%	96.95%	96.85%	97.21%
● Min	93.75%	91.30%	95.21%	95.07%	92.81%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	275	99.64%

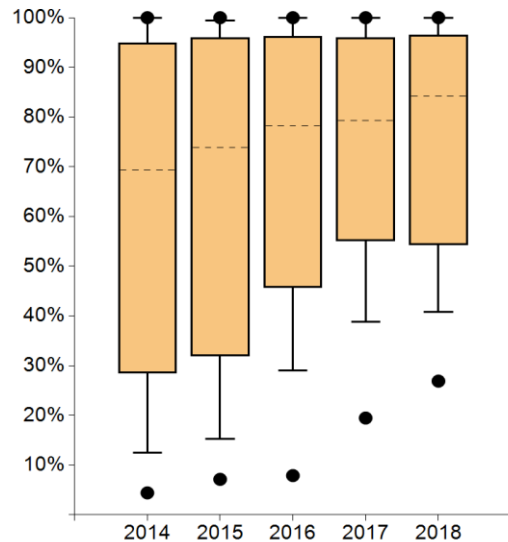
Comment
 Almost all centres meet the target of presenting at least 95% of the operated primary cases in the tumour conference. Only 1 center fails to meet the target. It justified the shortfall with problems and uncertainties in reporting to the tumour conference. As a measure, additional completeness checks and comparisons with the patients in the consultation hours were initiated. An additional documentation staff member was assigned to complete the registration. All Centres met the target value of at least a 95% presentation rate of all operated primary cases in the tumour conference.

*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.
 ** Percentage of total patients treated in centers according to the numerator.

2. Pretherapeutic case discussion



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of denominator presented in the pretherapeutic conference	137*	28 - 750	43,700
Denominator	Primary cases	180.5*	51 - 893	57,589
Rate	Target value: $\geq 40\%$	84.24%	26.89% - 100%	75.88%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25. perzentile	98.76%	99.11%	98.82%	98.73%	99.01%
5. perzentile	96.55%	97.20%	96.95%	96.85%	97.21%
Min	93.75%	91.30%	95.21%	95.07%	92.81%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	268	97.10%

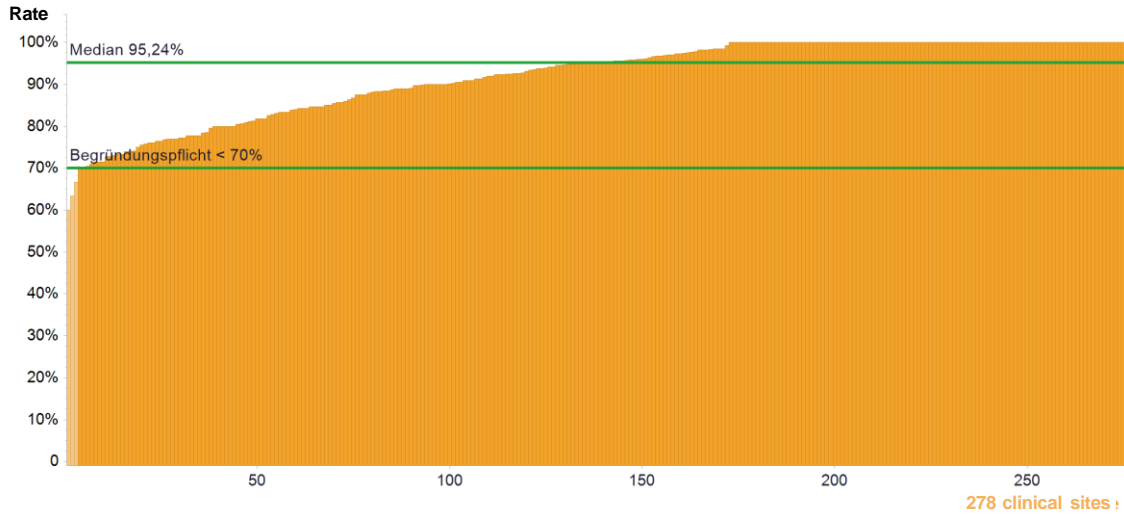
Comment

The indicator continues to develop positively, in particular the spread of results is significantly reduced. 103 centres achieve a presentation rate of 100%. 3 centres (previous year: 5) fall short of a staff representation rate of 70% in the 2018 indicator year. All 3 centres had still exceeded this figure in the previous year. In the audits, these centres were required to inform their cooperation partners (referring physicians, consultation partners, oncological outpatient clinic) that they will submit patients who meet the criteria of the denominator to a case review.

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

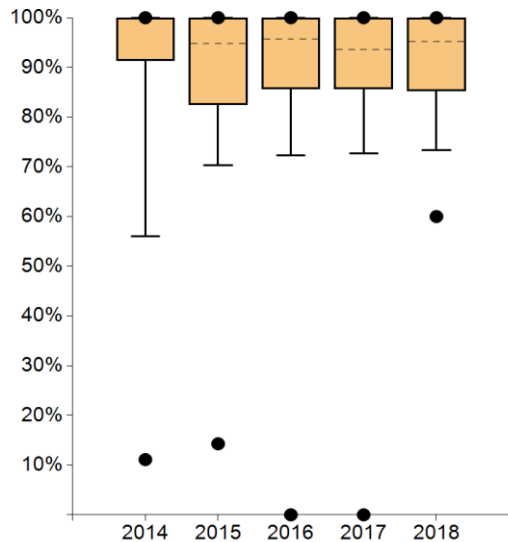
** Percentage of total patients treated in centers according to the numerator.

3. Discussions of cases involving local recurrence/metastases



Begründungspflicht = mandatory statement for reason

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Nominator	Patients of the dimoniator presented in the tumour board	27*	2 - 180	9,118
Denominator	Patients with first local recurrence and/or first remote metastasis (without primary M1 pat.)	30*	2 - 190	9,915
Rate	Mandatory statement of reasons*** <70%	95.24%	60.00% - 100%	91.96%**



	2014	2015	2016	2017	2018
Max	-----	100%	100%	100%	100%
95. perzentile	-----	100%	100%	100%	100%
75. perzentile	-----	100%	100%	100%	100%
Median	-----	100%	94.80%	95.74%	93.56%
25. perzentile	-----	91.37%	82.42%	85.71%	85.71%
5. perzentile	-----	56.04%	70,34%	72,29%	72.67%
Min	-----	11.11%	14.29%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the plausibility limit	
Number	%	Number	%
278	100.00%	179	64.39%

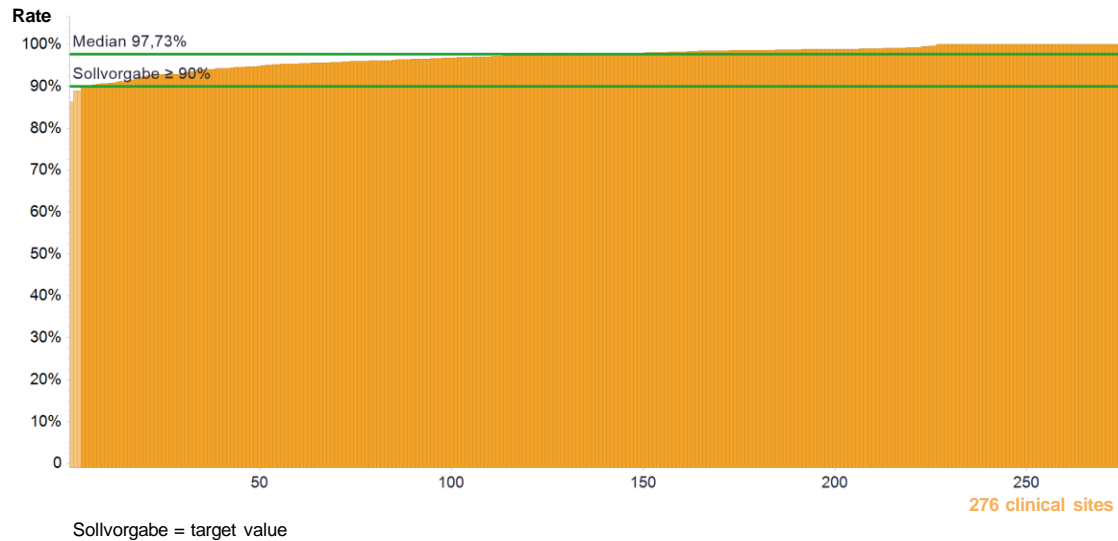
Comment
The indicator continues to develop positively, in particular the spread of results is significantly reduced. 103 centres achieve a presentation rate of 100%. 3 centres (previous year: 5) fall short of a staff representation rate of 70% in the 2018 indicator year. All 3 centres had still exceeded this figure in the previous year. In the audits, these centres were required to inform their cooperation partners (referring physicians, consultation partners, oncological outpatient clinic) that they will submit patients who meet the criteria of the denominator to a case review.

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

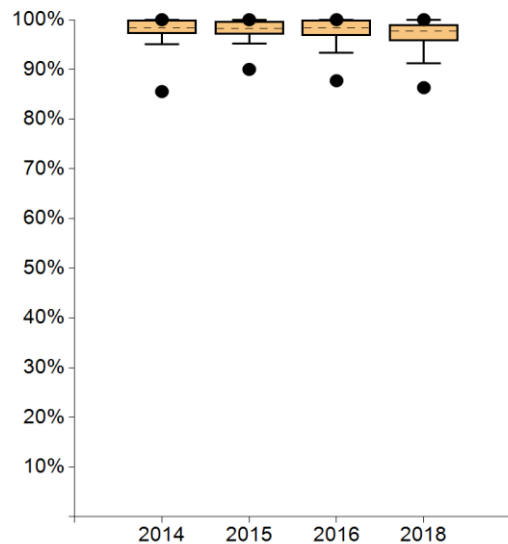
** Percentage of total patients treated in centers according to the numerator

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

4. Radiotherapy after BCT in the case of invasive mammary carcinoma (GL QI 8)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator in which radiotherapy was recommended	97*	26 - 566	30,659
Denominator	Primary cases with an invasive mammary carcinoma and BCS (without primary M1 pat.)	100*	26 - 578	31,602
Rate	Target value ≥ 90%	97.73%	86.32% - 100%	97.02%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	-----	100%
95. perzentile	100%	100%	100%	-----	100%
75. perzentile	100%	99.67%	100%	-----	98,97%
Median	98.33%	98.20%	98.39%	-----	97.73%
25. perzentile	97.11%	97.08%	96.76%	-----	95.71%
5. perzentile	95.05%	95.18%	93.33%	-----	91.17%
Min	85.54%	90.00%	87.72%	-----	86.32%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100,00%	273	98.91%

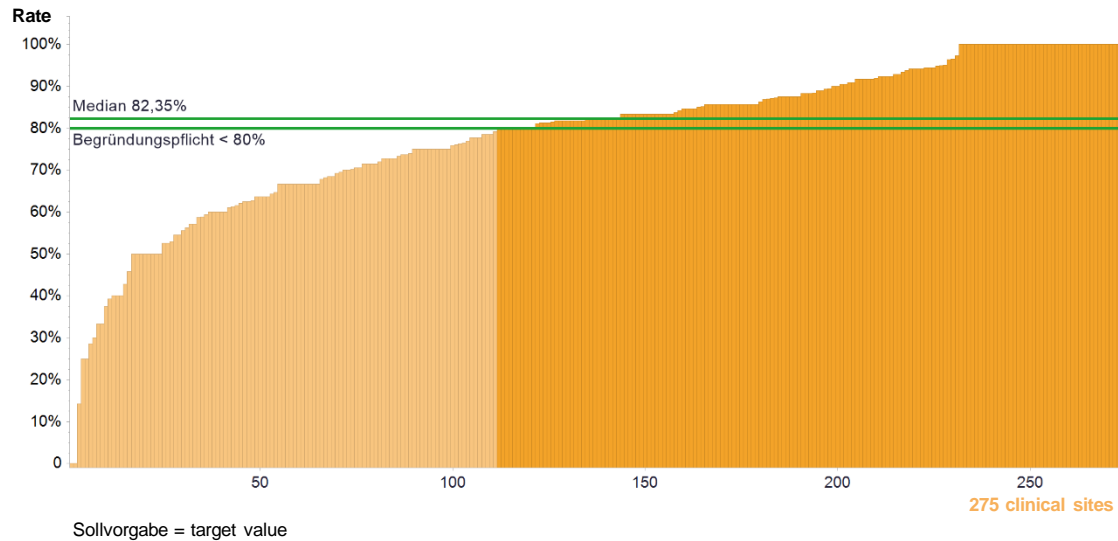
Comment

The numerator definition of the indicator year 2017 covered radiations actually carried out, so that according to the current definition (recommended radiations) it is not used for comparison. Compared to the years 2014 to 2016, the fulfilment of the indicator continues to be very good with only a slightly lower median. Only 3 centres fall below the target value. The individual case examinations in the audits made these cases plausible: The reason why radiotherapy was not (yet) recommended was because other oncological therapies were still in progress or multimorbid patients.

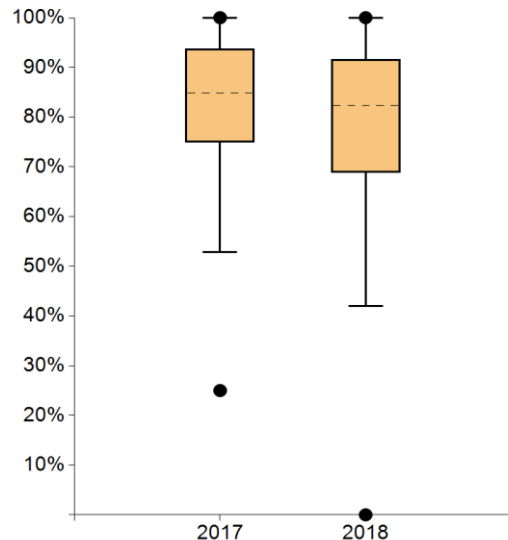
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

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

5. Radiotherapy after BCT in the case of DCIS



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator in which radiotherapy was recommended	10*	0 - 66	3,303
Denominator	Primary cases with DCIS and BCT	13*	1 - 76	4,200
Rate	Mandatory statement of reasons*** <80%	82.35%	0.00% - 100%	78.64%**



	2014	2015	2016	2017	2018
Max	----	----	----	100%	100%
95. perzentile	----	----	----	100%	100%
75. perzentile	----	----	----	93.75%	91.67%
Median	----	----	----	84.93%	82.35%
25. perzentile	----	----	----	75.00%	68.83%
5. perzentile	----	----	----	52.82%	42.00%
Min	----	----	----	25.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
275	100.00%	164	59.64%

Comment

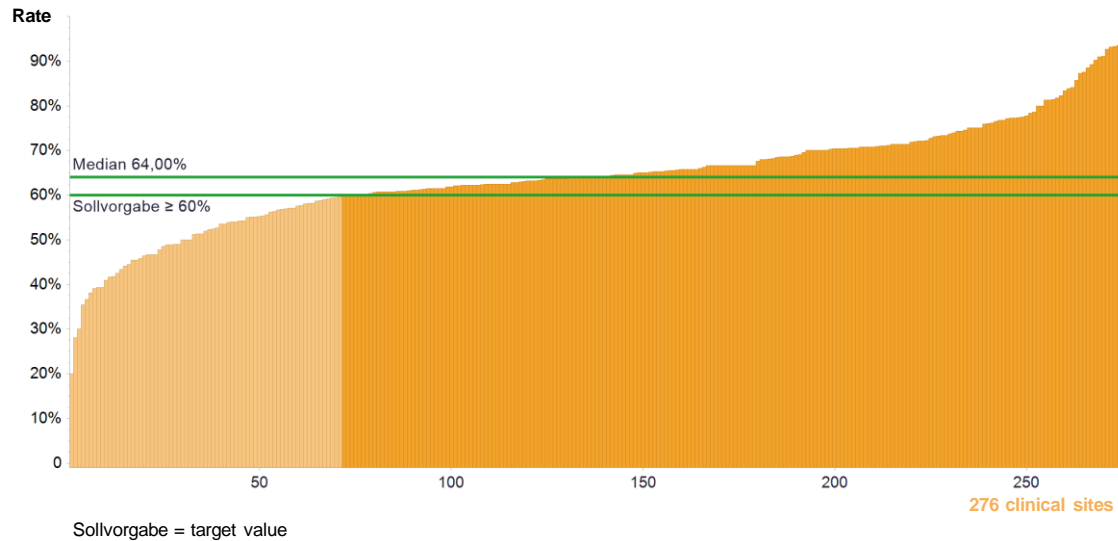
The degree to which this indicator is fulfilled has fallen compared to the previous year (69.78%), whereby the partly low number of female patients must be taken into account in the denominator. 111 centres had to justify the fact that 80% of the patients with DCIS and BCT who started radiation treatment fell short of the quota. This was plausibly possible in almost all cases. The most frequent reasons given were rejection by the patient, low grade DCIS, multimorbidity, old age, irradiation outside the centre, contact loss or lack of information about further treatment, no longer detectable DCIS in the surgical specimen and invasive tumours on the opposite side or other malignancies that were leading to therapy.

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

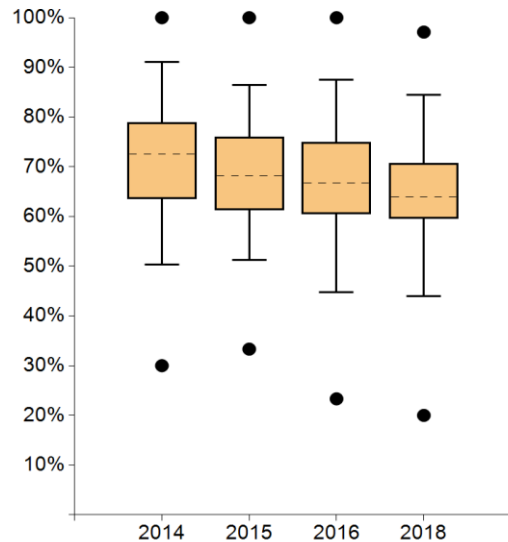
** Percentage of total patients treated in centers according to the numerator

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

6. Chemotherapy in the case of rec. pos. and nodal pos. result



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator in which chemotherapy was recommended	24*	3 - 133	7,632
Denominator	Primary cases with invasive mammary carcinoma with rec. pos. and nodal positive result (without primary M1 pat.)	37*	8 - 194	11,849
Rate	Target value ≥ 60%	64.00%	20,00% - 97.10%	64,41%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	-----	97.10%
95. perzentile	91.07%	86.43%	87.50%	-----	84.50%
75. perzentile	78.87%	76.06%	75.00%	-----	70.76%
Median	72.55%	68.18%	66.67%	-----	64.00%
25. perzentile	63.55%	61.36%	60.52%	-----	59.54%
5. perzentile	50.37%	51.26%	44.79%	-----	43.92%
Min	30.00%	33.33%	23.33%	-----	20.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	205	74.28%

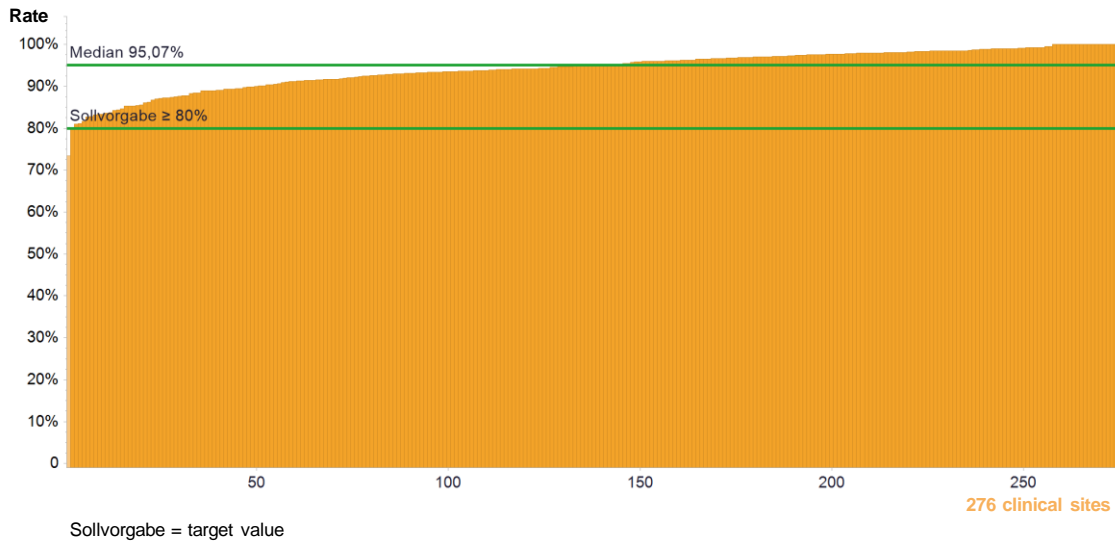
Comment

Due to the different definition of the numerator (chemotherapy administered instead of recommended), the results for 2017 are not suitable for comparison. In 2018, 71 centers (2016: 57) miss the target. 116 centers were able to increase their rate compared to 2016. The centres justified low rates mainly with comorbidities, favourable tumour-biological characteristics, only individual lymph nodes affected, rejection by patients, renunciation of chemotherapy in the context of participation in a trial and old age. In almost all cases, these justifications were found to be plausible in the audits after individual case examinations. One audit suggested that older patients with a life expectancy of >5 years should undergo a geriatric assessment as an aid to decision-making.

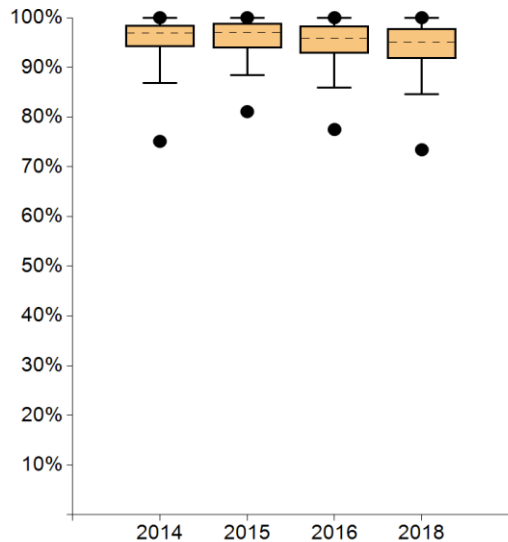
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

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

7. Endocrine therapy in the case of steroid rec. positive result (QI GL 9)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator in which endocrine therapy was recommended	119*	31 - 640	38,367
Denominator	Primary cases with invasive mammary carcinoma in the case of steroid rec positive result (without primary M1 pat.)	127*	33 - 662	40,668
Rate	Target value ≥ 80%	95.07%	73.43% - 100%	94,34%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	-----	100%
95. perzentile	100%	100%	100%	-----	100%
75. perzentile	98.48%	98.85%	98.42%	-----	97.87%
Median	96.94%	97.06%	95.89%	-----	95.07%
25. perzentile	94.07%	93.85%	92.86%	-----	91.70%
5. perzentile	86.81%	88.49%	85.97%	-----	84.61%
Min	75.12%	81.10%	77.51%	-----	73.43%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	275	99.64%

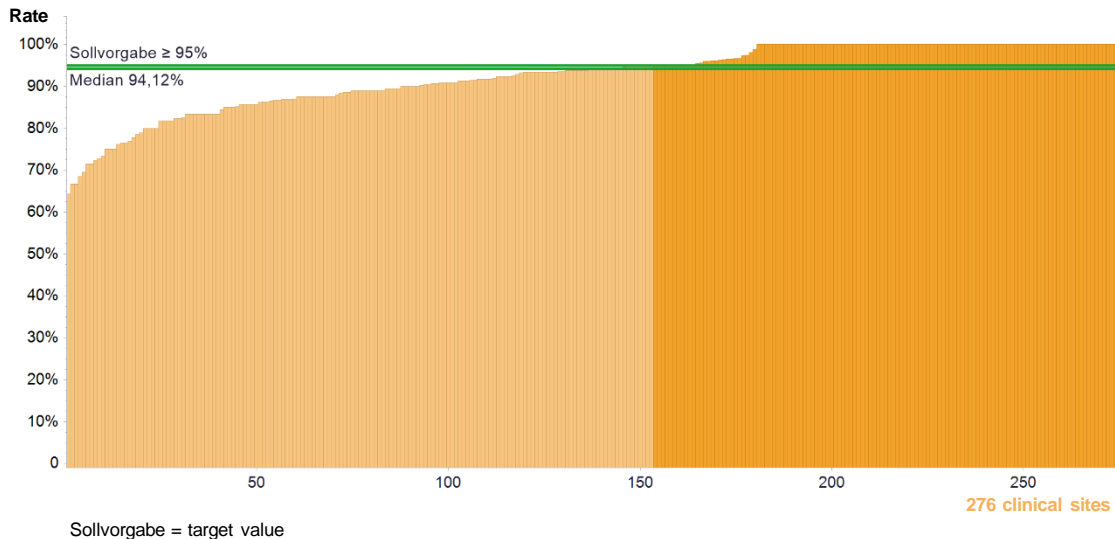
Comment

As only the endocrine therapies actually carried out were counted in the numerator for the indicator year 2017, the evaluation for the comparison with the previous year is not applicable here. With the exception of 1 centre, the target is achieved by all other centres. This centre already missed the target in 2016, but was able to justify the shortfall in the audit. Thus, the majority of patients would not have benefited from endocrine therapy without recommendation of endocrine therapy due to an excellent prognosis (calculated on the basis of the Nottingham Prognosis Index). Furthermore, the centre referred to unfinished therapies/operations, external implementation of the therapy and rejection by the patient.

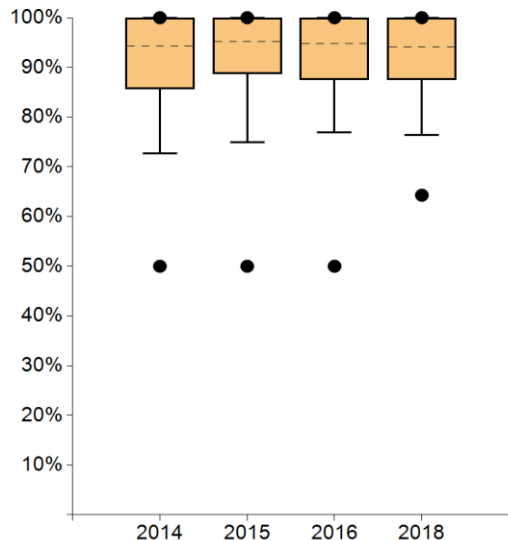
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

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

8. Trastuzumab therapy over 1 year in the case of HER-2 pos. result (GL QI 10)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator for which trastuzumab therapy over 1 year was recommended	15*	2 - 82	4,799
Denominator	Primary cases with invasive mammary carcinoma with HER- 2 positive result (without primary M1 pat.)	18*	4 - 83	5,721
Rate	Target value ≥ 95%	85.19%	38.89% - 100%	83.88%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	-----	100%
95. perzentile	100%	100%	100%	-----	100%
75. perzentile	100%	100%	100%	-----	100%
Median	94.28%	95.24%	94.74%	-----	94.12%
25. perzentile	85.71%	88.73%	87.50%	-----	87.50%
5. perzentile	72.73%	75.00%	76.92%	-----	76.40%
Min	50.00%	50.00%	50.00%	-----	64.29%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	123	44.57%

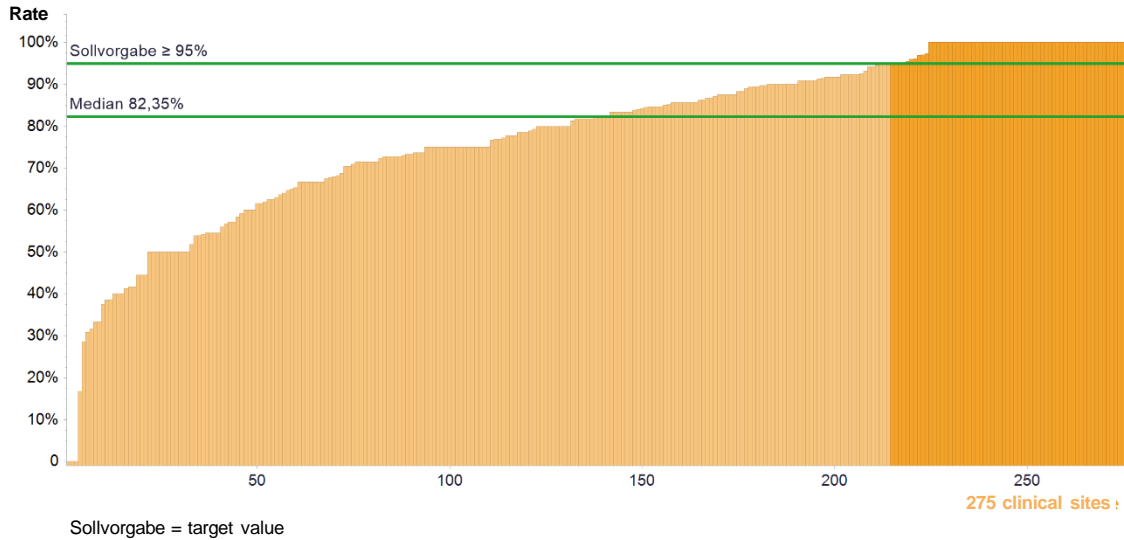
Comment

The fulfilment of the ratio in 2018 is at a similar level as in the years 2014 to 2016 with a decreasing spread. Since the definition of the indicator was adjusted for the indicator year 2017, this is excluded from the comparison. 96 of the 123 centres that meet the target reach 100%. At the same time, 153 centres recommend one-year trastuzumab therapy in less than 95% of the patients in the denominator. Predominant reasons were microinvasive or pT1a carcinomas for which trastuzumab therapy is not generally recommended according to the guideline. In addition, in many cases trastuzumab therapy was not recommended due to age, multimorbidity, secondary tumor and/or in consideration of the patients' wishes.

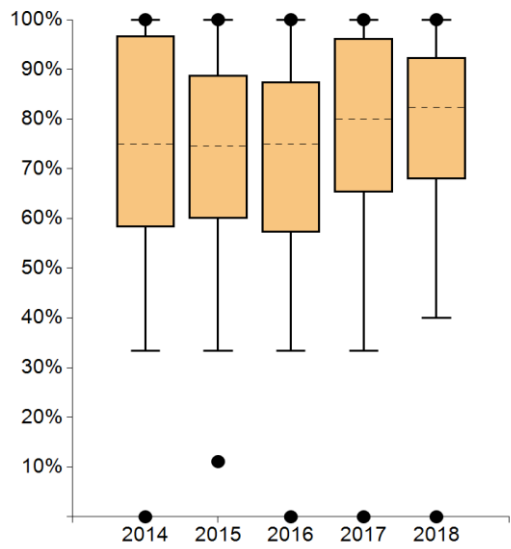
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

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

9. Endocrine therapy for metastasis (GL QI 5)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients of the denominator who were started on endocrine based therapy in the metastasised stage as first-line therapy	10*	0 - 64	3,399
Denominator	Patients with steroid rec. pos. and HER2-negative inv. mammary carcinoma with 1st Remote metastasis (incl. primary M1 pat.)	13*	1 - 78	4,288
Rate	Target value $\geq 95\%$	82.35%	0.00% - 100%	79.27%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	96,77%	88,89%	87,50%	96,30%	92.45%
Median	75,00%	74,54%	75,00%	80,00%	82.35%
25. perzentile	58,28%	60,00%	57,14%	65,22%	67.87%
5. perzentile	33,33%	33,33%	33,33%	33,33%	40.00%
Min	0,00%	11,11%	0,00%	0,00%	0.00%

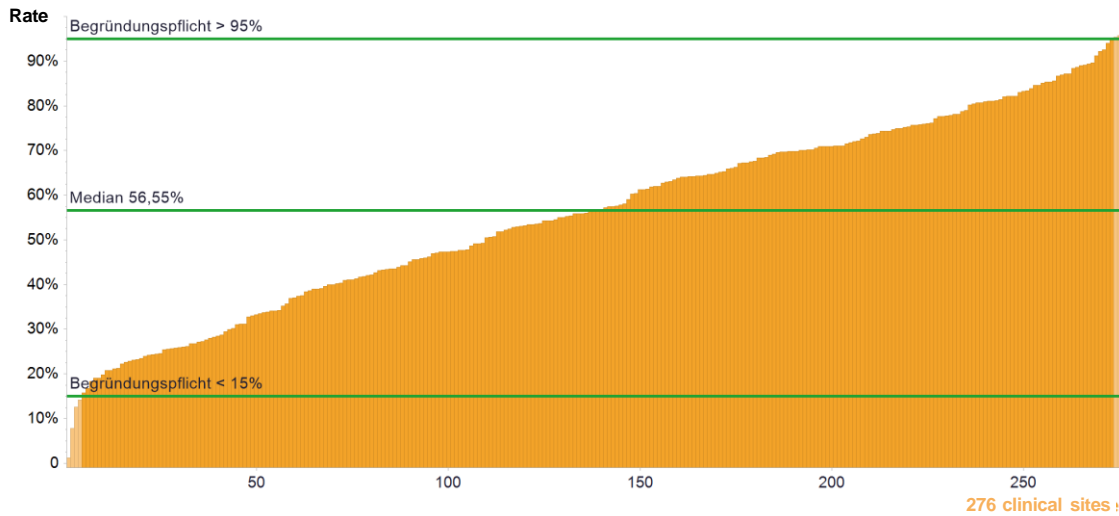
Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
275	100.00%	61	22.18%

Comment
 Despite a further increase in the median, the proportion of centres meeting the target is declining (previous year: 28.52%). 51 centres reach 100%, 150 centres can maintain or improve their quota. The 3 centres with rates below 30% have only between 1 and 7 patients in the denominator. Many of the 214 centres with below-target rates justified their decision to forego endocrine therapy by the fact that chemotherapy was given in cases of high therapy pressure, low HR status or receptor-negative metastases. Also high age, severe comorbidities, prognostic second malignancies and rejection on the part of the patient were frequently cited reasons. These were discussed in the audits and in some cases discussed by the centres in quality circles.

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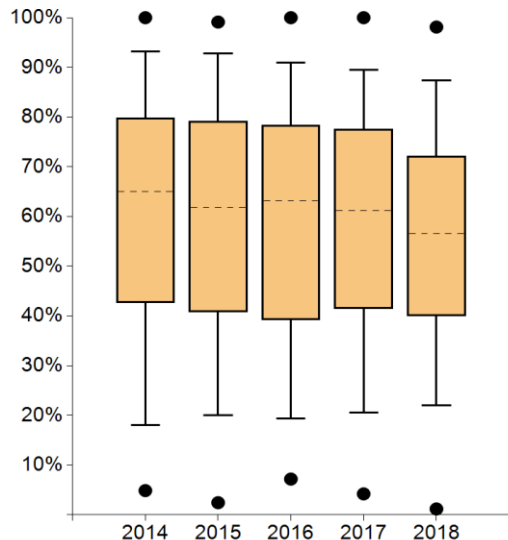
** Percentage of total patients treated in centers according to the numerator.

10. Psycho-oncological care (Consulation >25 min)



Begründungspflicht = mandatory statement for reason

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients who received psycho-oncological care in an inpatient or outpatient setting (duration of consultation > 25 Min.)	117*	3 - 900	37,663
Denominator	Primary case patients + patients with 1st local recurrence and/or remote metastasis (without primary M1 pat as they are already included in primary cases)	210.5*	61 – 1,073	67,504
Rate	Mandatory statement of reasons*** <15% and >95%	56.55%	1.18% - 98.11%	55.79%**



	2014	2015	2016	2017	2018
Max	100%	99,12%	100%	100%	98.11%
95. perzentile	93.20%	92.81%	90.90%	89.54%	87.44%
75. perzentile	79.84%	79.18%	78.38%	77.60%	72.20%
Median	65.06%	61.82%	63.14%	61.23%	56.55%
25. perzentile	42.67%	40.82%	39.15%	41.46%	40.00%
5. perzentile	18.04%	20.05%	19.31%	20.60%	22.01%
Min	4.87%	2.44%	7.19%	4.21%	1.18%

Clinical sites with evaluable data		Clinical sites meeting the plausibility limit	
Number	%	Number	%
276	100.00%	269	97.46%

Comment

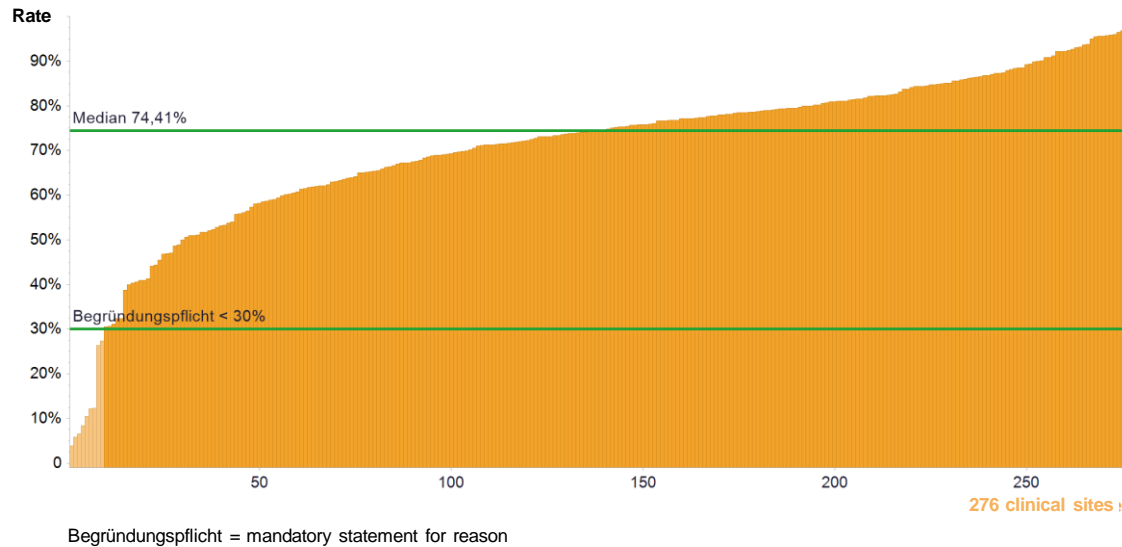
The slightly declining trend of previous years will continue in the indicator year 2018. With the exception of 7, all centers are within the plausibility limits. 4 of them fall below a quota of 15%, 3 of which are located in German-speaking countries. The reasons given for the shortfall were personnel fluctuations or scarce personnel resources as well as (in the case of centres in German-speaking countries outside Germany) the typical local assumption of psycho-oncological care by pastoral workers and breast cancer nurses, who in turn are in close contact with psycho-oncology. In the audits, it was particularly recommended to expand the personnel resources in psycho-oncology when necessary, e.g. by shifting to the outpatient sector.

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

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

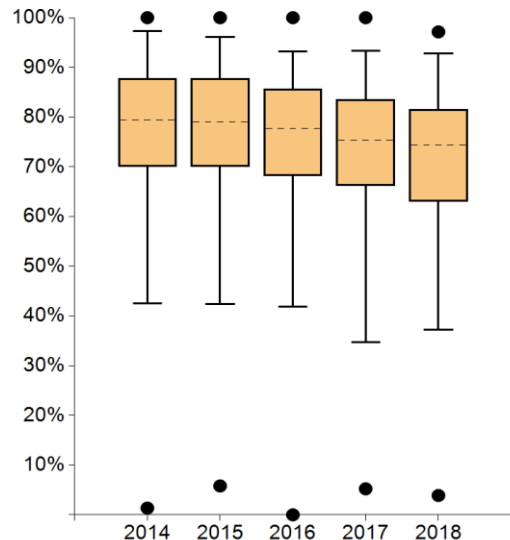
*** For values outside the plausibility limit(s), the centers are required to provide a justification..

11. Counselling social services



Begründungspflicht = mandatory statement for reason

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients who received counselling by social services in an inpatient or outpatient setting	151.5*	7 - 989	47,752
Denominator	Primary case patients + patients with 1st local recurrence and/or with 1st remote metastasis (without primary M1 pat as they are already included in primary cases)	210.5*	61 – 1,073	67,504
Rate	Mandatory statement of reasons*** <30%	74.41%	3.89% - 97.14%	70.74%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	97.14%
95. percentile	97.31%	96.12%	93.21%	93.32%	92.79%
75. percentile	87.81%	87.72%	85.67%	83.60%	81.61%
Median	79.37%	78.99%	77.75%	75.29%	74.41%
25. percentile	69.99%	70.02%	68.22%	66.16%	63.07%
5. percentile	42.56%	42.33%	41.86%	34.66%	37.20%
Min	1.35%	5.81%	0.00%	5.23%	3.89%

Clinical sites with evaluable data		Clinical sites meeting the plausibility limit	
Number	%	Number	%
276	100.00%	267	96.74%

Comment

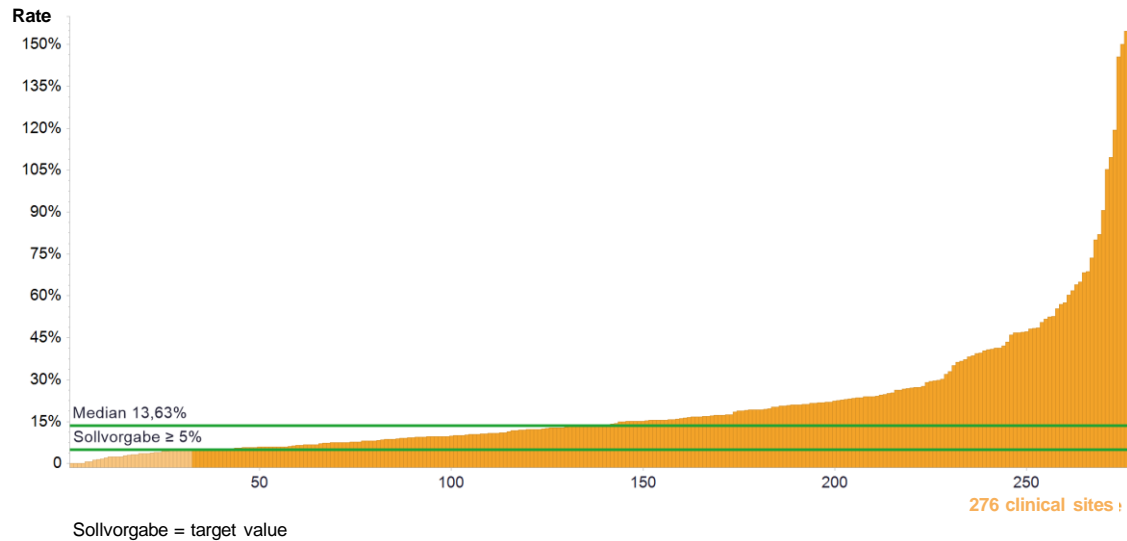
The indicator is still being met very well and is at the level of previous years. 9 centres fall below 30% in terms of advice provided by the social services. 8 of these are located abroad, where social service provision is regulated differently from that in Germany (assumption by ward personnel, transitional care or breast cancer nurses) and where there is no legal entitlement in this respect. Nevertheless, measures have been taken in these centres to increase the counselling rate, such as a consistent evaluation of the need for counselling for all patients. In the meantime, the German centre has been able to eliminate the personnel bottlenecks that were the main reason for the shortfall.

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

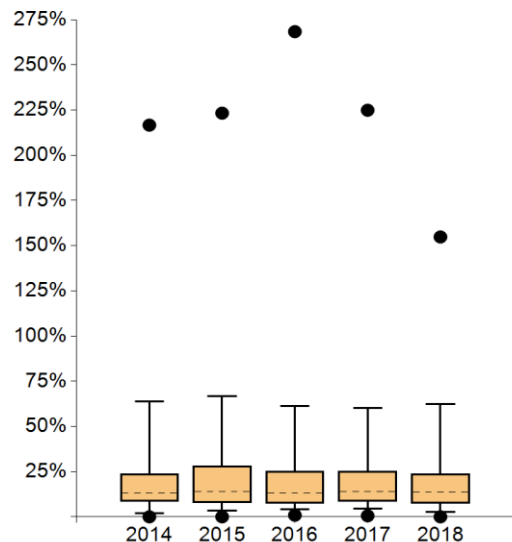
** Percentage of total patients treated in centers according to the numerator

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

12. Share of study patients



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Patients who were included in a study with an ethical vote	26*	0 - 839	13,418
Denominator	Primary cases	180.5*	51 - 893	57,589
Rate	Target value ≥ 5%	13.63%	0.00% - 154.80%	23.30%**



	2014	2015	2016	2017	2018
Max	216.67%	223.28%	268.38%	224.90%	154.80%
95. perzentile	63.65%	66.65%	61.16%	60.09%	62.39%
75. perzentile	23.80%	28.18%	25.36%	25.12%	23.61%
Median	13.33%	13.95%	13.24%	13.99%	13.63%
25. perzentile	8.54%	7.92%	7.43%	8.39%	7.49%
5. perzentile	1.84%	3.31%	4.08%	4.35%	2.72%
Min	0.00%	0.00%	0.88%	0.56%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	244	88.41%

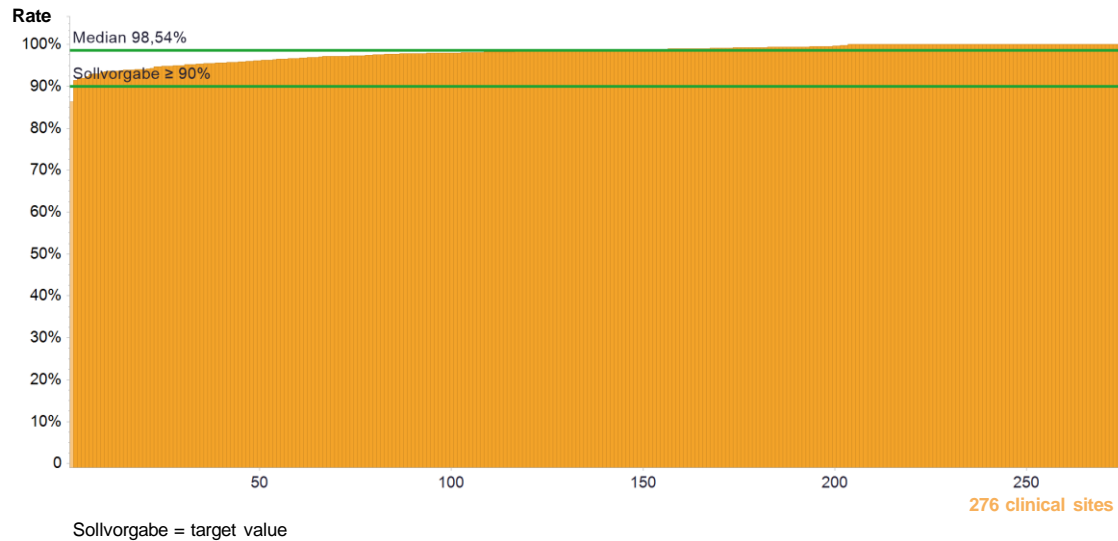
Comment

The proportion of female study patients in primary cases shows a slightly declining trend compared to the previous year. 108 centres are able to increase their inclusion rate, while 164 centres have seen a decline. 32 centres missed the target, only 10 of them had already done so the previous year. Patients who did not meet the inclusion criteria, recruitment stop or delayed start of recruitment, rejection by the patients and/or personnel fluctuations were the dominant reasons given by the centres. In the audits, various measures to increase the study rate were discussed, such as the initiation of own studies, targeted patient approach, cooperation with university hospitals or the establishment of study offices.

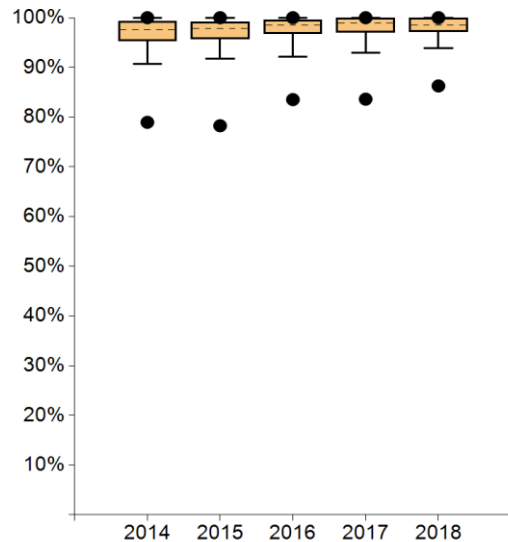
*The median for numerator and denominator does not refer to an existing center, but reflects the median of all numerators of the cohort and the median of all denominators of the cohort.

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

13. Pretherapeutic histological confirmation (GL QI 2)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator with pretherapeutic histological diagnosis confirmation by punch or vacuum-assisted biopsy	148.5*	47 - 836	47,802
Denominator	Primary cases with initial surgery and histology of invasive mammary carcinoma or DCIS	150*	52 - 858	48,754
Rate	Target value ≥ 90%	98.89%	8.,61% - 100%	98.05%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	99,23%	99,21%	99,55%	100%	100%
Median	97,55%	97,89%	98,53%	98,89%	98,54%
25. perzentile	95,34%	95,73%	96,79%	97,04%	97,11%
5. perzentile	90,69%	91,74%	92,08%	92,95%	93,81%
Min	78,95%	78,26%	83,52%	83,61%	86,27%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	275	99.64%

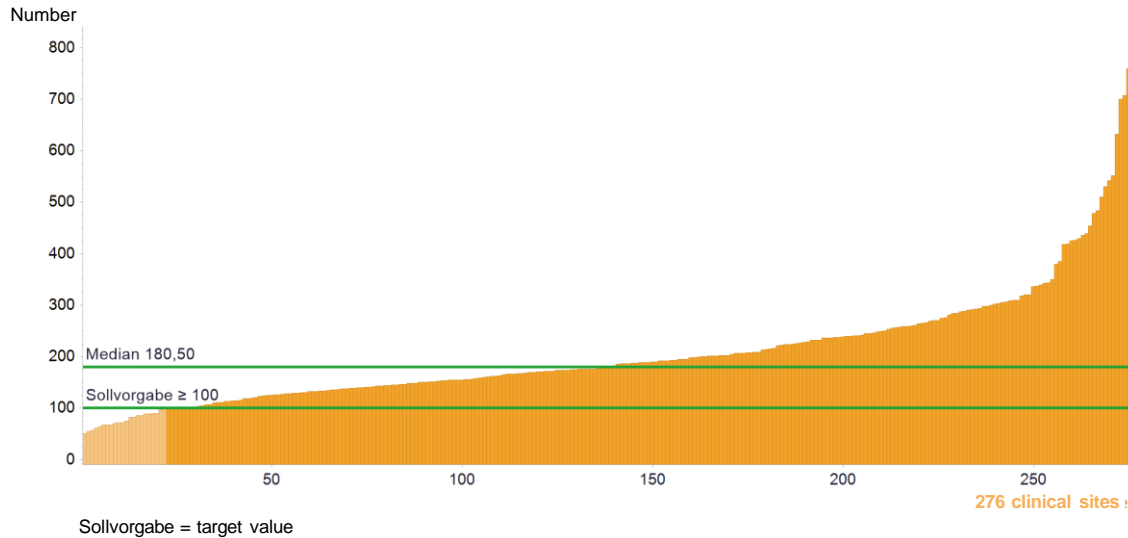
Comment

The indicator for pre-therapeutic histological safety is being implemented excellently by the centres, so that in the indicator year 2018 only 1 centre (previous year: 2) will miss the target figure. This centre had already been conspicuous in previous years. This centre explained that the majority of patients without pretherapeutic histological backup would have rejected it. In addition, two patients with intramammary second malignoma (e.g. melanoma) were erroneously assigned to the denominator.

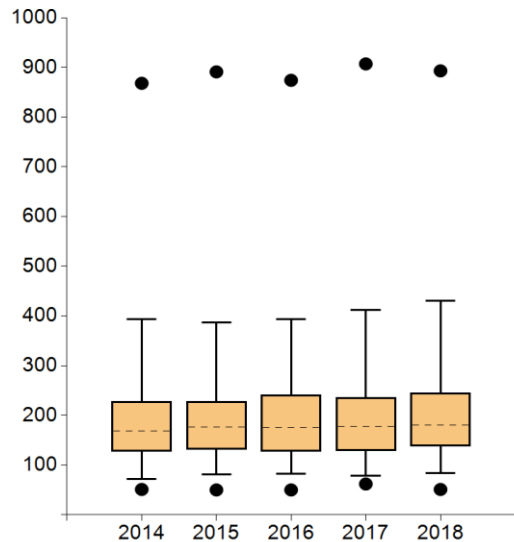
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** Percentage of total patients treated in centers according to the numerator.

14. Primary cases mammary carcinoma



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Number	Primary Cases	180,5	51 - 893	57589
	Target value ≥ 100			



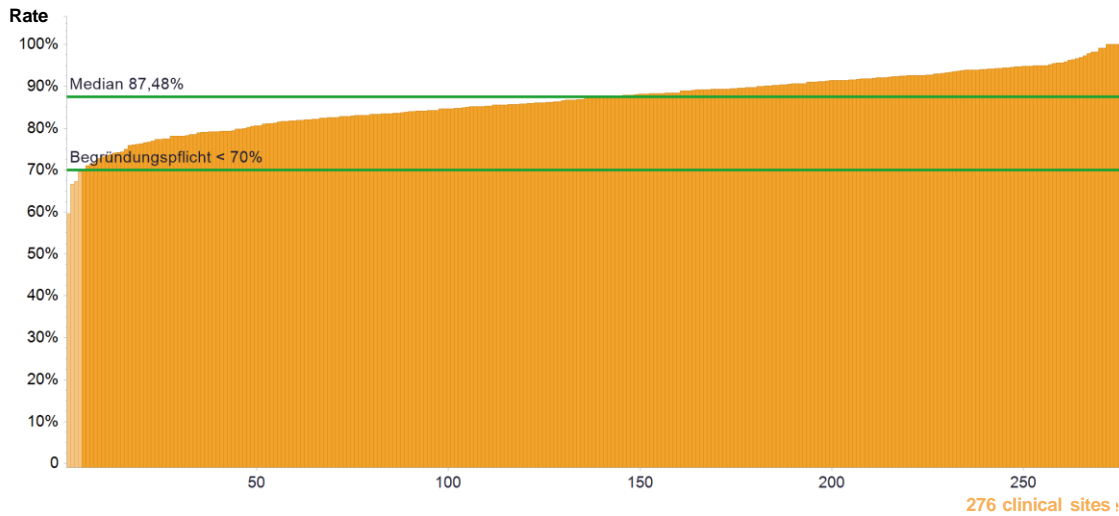
	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25. perzentile	98.76%	99.11%	98.82%	98.73%	99.01%
5. perzentile	96.55%	97.20%	96.95%	96.85%	97.21%
Min	93.75%	91.30%	95.21%	95.07%	92.81%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	254	92.03%

Comment

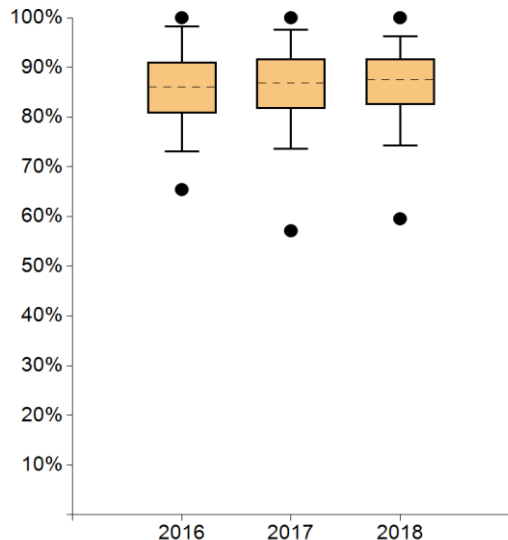
Primary case numbers are rising by a total of 3.4%, and the median number of cases per centre also continues the slightly rising trend of previous years. 22 locations miss 100 primary cases, in some cases significantly. 19 of these are part of a cooperation (target: at least 50 primary cases per location and at least 150 primary cases in total) and are protected. In 2 centres, the reason for the shortfall was the relocation of the gynaecological department or the loss of personnel/referring doctors. As these were surveillance audits, no deviation was granted. 1 centre failed to meet the specified primary case number in the repeat audit, but was able to demonstrate this on average over the past 3 years.

15. Number of surgical procedures for R0 resection for BCT



Begründungspflicht = mandatory statement for reason

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases of the denominator with only one surgical procedure up to final surgical condition BCS	100.5*	18 - 603	31,282
Denominator	Surgical primary cases with BCS and RO	114.5*	27 - 657	36,031
Rate	Mandatory statement of reasons*** < 70%	87.48%	59.55% - 100%	86.82%**



	2014	2015	2016	2017	2018
Max	-----	-----	100%	100%	100%
95. percentile	-----	-----	98.17%	97.62%	96.30%
75. percentile	-----	-----	91.10%	91.79%	91.70%
Median	-----	-----	86.02%	86.83%	87.48%
25. percentile	-----	-----	80.81%	81.73%	82.52%
5. percentile	-----	-----	73.02%	73.64%	74.27%
Min	-----	-----	65.43%	57.14%	59.55%

Clinical sites with evaluable data		Clinical sites meeting the plausibility limit	
Number	%	Number	%
276	100.00%	272	98.55%

Comment

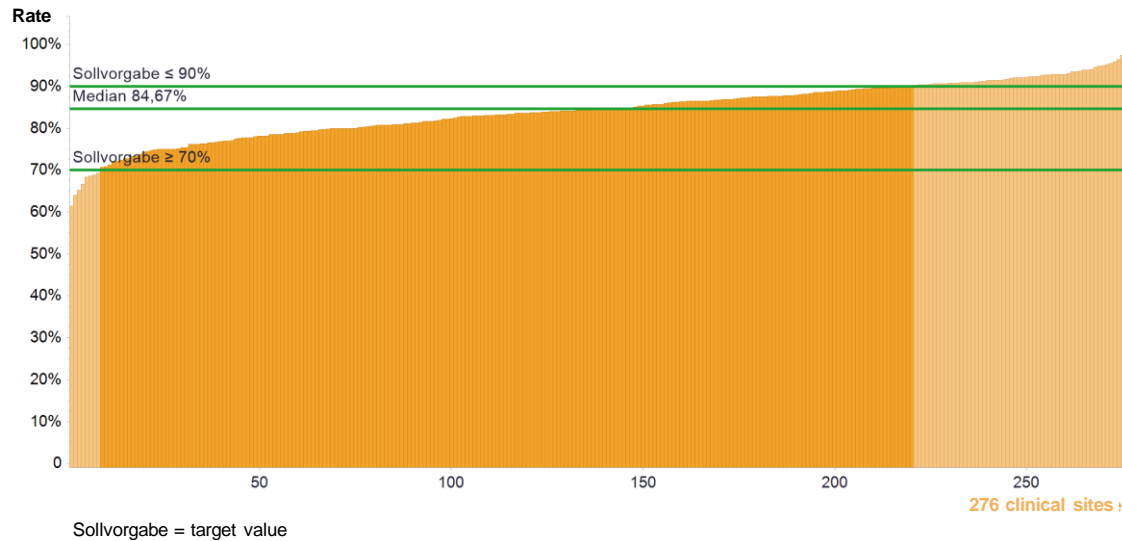
The overall very good fulfilment of this indicator will continue to develop positively in the indicator year 2018. 4 centers (previous year: 6) were asked to explain why less than 70% of the operated primary cases with BCT achieved R0 status with the first intervention. These 4 centres were not required to give reasons in the previous year. As far as reasons could be found, they explained the low rate among others with incorrect incision of the pathologies, which would have falsely resulted in an R1-resection, with benign histology despite malignant punch biopsy and corresponding re-operation as well as with documentation errors. Measures agreed upon in the audits were consultations with the pathology department and the organization of quality circles.

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

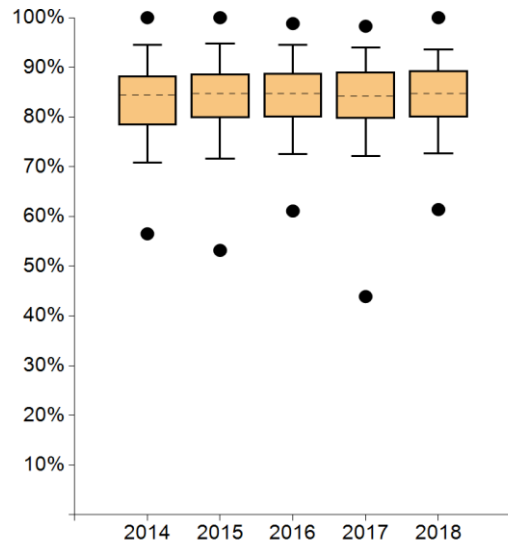
** Percentage of total patients treated in centers according to the numerator

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

16. Breast-conserving procedure for pT1



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Number BCT (final surgical state with pT1 (incl. (y)pT1)	63*	11 - 341	20,275
Denominator	Surgical primary cases with pT1 (incl. (y)pT1)	75.5*	11 - 446	24,201
Rate	Target value 70 - 90%	84.67%	61.40% - 100%	83.78%**



	2014	2015	2016	2017	2018
Max	100%	100%	98.81%	98.28%	100%
95. percentile	94.53%	94.78%	94.53%	94.02%	93.55%
75. percentile	88.33%	88.74%	88.89%	89.03%	89.39%
Median	84.48%	84.75%	84.78%	84.16%	84.67%
25. percentile	78.35%	79.86%	80.00%	79.69%	80.00%
5. percentile	70.79%	71.57%	72.60%	72.21%	72.73%
Min	56.52%	53.19%	61.11%	43.90%	61.40%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	212	76.81%

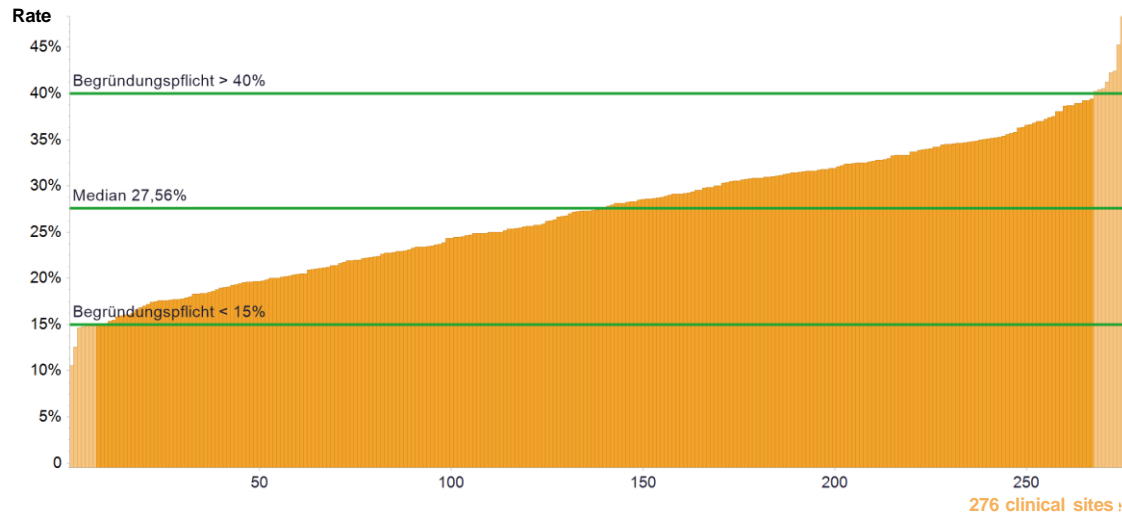
Comment

With an almost constant median and decreasing dispersion, slightly more centers than in the previous year (2018: 64; 2017: 54) are falling short of the target. 8 centres fall below the 70% rate. These centers performed an ablation primarily at the request of the patients (no radiation desired, advanced age, poor general condition) or due to tumor characteristics (BRCA mutation, multicenter tumor, extensive associated DCIS). The 56 centres with rates of over 90% also referred to the patients' wishes. They also identified a patient population suitable for BCT (including small tumours, no BRCA mutation, many screening patients, young age) as reasons. All reasons were confirmed in the audits after individual case examinations.

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

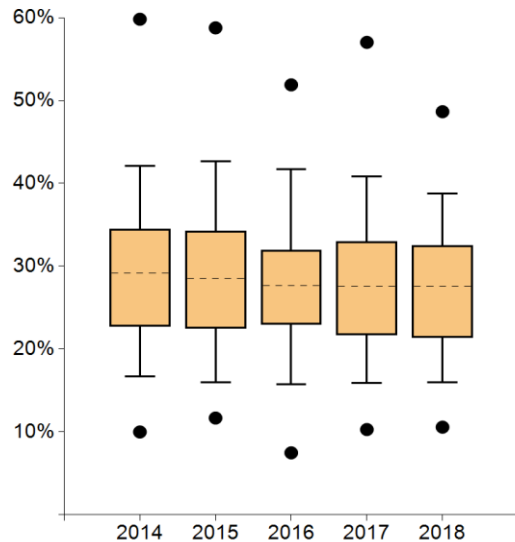
** Percentage of total patients treated in centers according to the numerator.

17. Mastectomies



Begründungspflicht = mandatory statement for reason

	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Mastectomies (final surgical stage)	40,5*	10 - 256	13,664
Denominator	Surgical primary cases	155.5*	42 - 845	50,110
Rate	Mandatory statement for reasons*** <15% and >40%	27.56%	10.58% - 48.65%	27.27%**



	2014	2015	2016	2017	2018
Max	59.81%	58.77%	51.89%	57.02%	48.65%
95. percentile	42.08%	42.64%	41.72%	40.82%	38.77%
75. percentile	34.50%	34.24%	31.96%	32.95%	32.49%
Median	29.13%	28.52%	27.68%	27.60%	27.56%
25. percentile	22.77%	22.53%	22.96%	21.66%	21.37%
5. percentile	16.67%	16.02%	15.74%	15.91%	16.00%
Min	10.00%	11.68%	7.48%	10.29%	10.58%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	260	94.20%

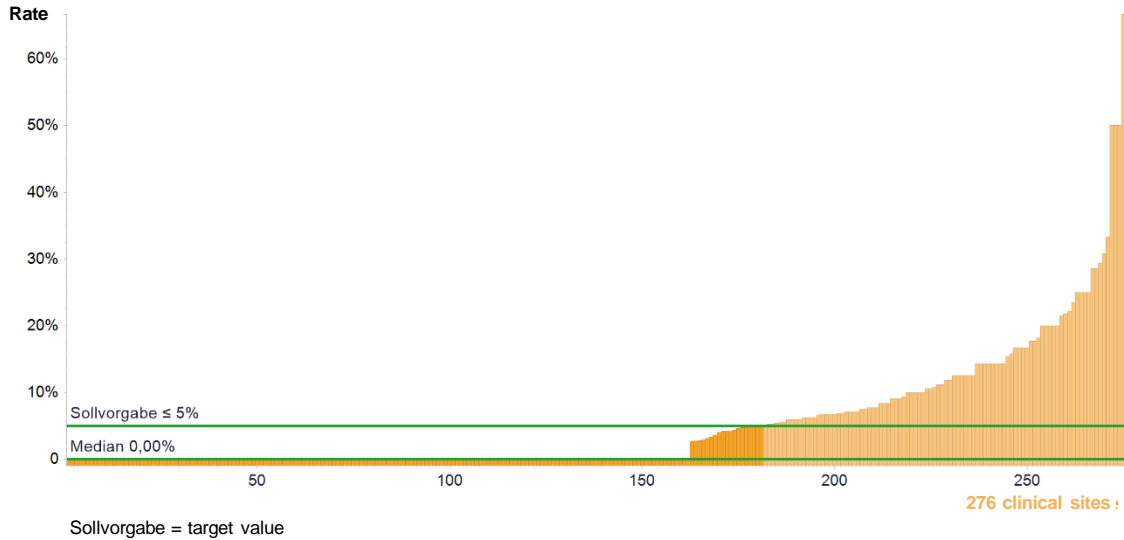
Comment
 With a lower spread and a constant median, the number of centres requiring justification has fallen from 27 in the previous year to 16. 7 centres perform mastectomies in less than 15% of primary cases operated on. According to the centres, this is mainly due to the patients' wishes and neoadjuvant therapies. As expected, the reasons given by the 9 centres with comparatively high mastectomy rates of more than 40% are similar to those for low rates of BCT at pT1: multicentre carcinomas, large concomitant DCIS, unfavourable breast size-tumour ratio, BRCA mutation, advanced age and, last but not least, the patients' desire.

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

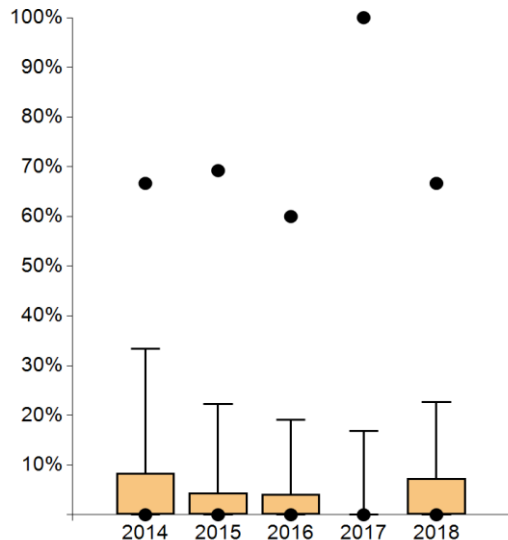
** Percentage of total patients treated in centers according to the numerator

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

18. Lymph node removal in the case of DCIS (GL QI 4)



	Kennzahlendefinition	Alle Standorte 2018		
		Median	Range	Patienten Gesamt
Zähler	Primary cases with axillary lymph node removal (primary axillary lymph node removal or sentinel lymph node removal)	0*	0 - 6	187
Nenner	Primary cases DCIS and completed surgical therapy and BCT	13*	1 - 76	4,208
Quote	Target value ≤ 5%	0.00%	0.00% - 66.67%	4.44%**



	2014	2015	2016	2017	2018
Max	66.67%	69.23%	60.00%	100%	66.67%
95. perzentile	33.33%	22.22%	19.13%	16.82%	22.61%
75. perzentile	8.33%	4.35%	4.13%	0.00%	7.28%
Median	0.00%	0.00%	0.00%	0.00%	0,00%
25. perzentile	0.00%	0.00%	0.00%	0.00%	0,00%
5. perzentile	0.00%	0.00%	0.00%	0.00%	0,00%
Min	0.00%	0.00%	0.00%	0.00%	0,00%

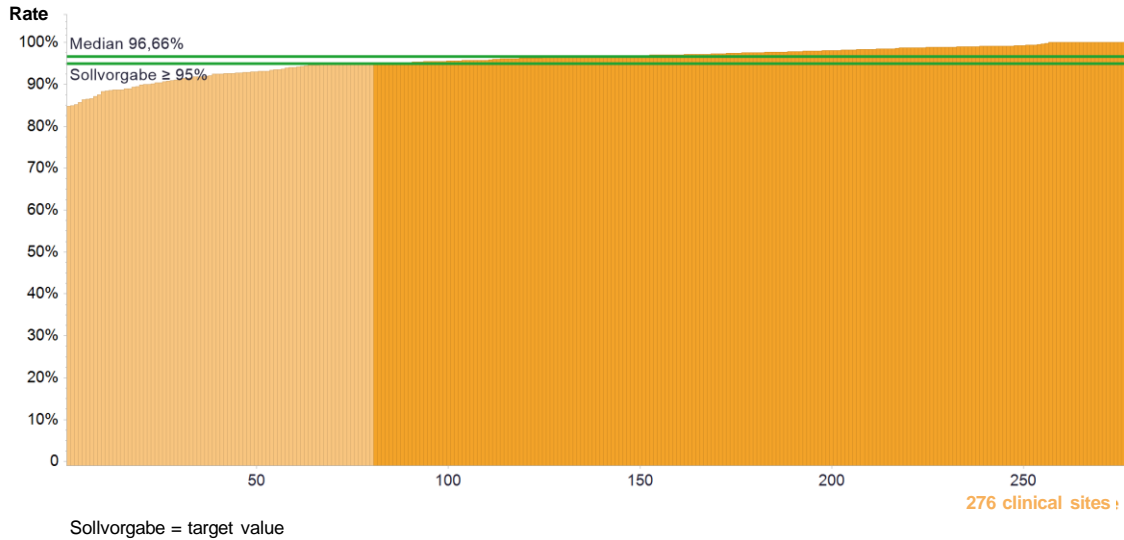
Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	181	65.82%

Comment
 94 centres (previous year: 43) missed the target of a maximum of 5%. 162 centers achieve a rate of 0%. 42 centres worsen their rate, 96 centres improve it. Centres that missed the target removed lymph nodes due to large DCIS, mainly invasive tumour components, secondary carcinomas, unfavourable tumour localisation (upper outer quadrant), clinically abnormal lymph nodes, divergent findings of punch biopsy and surgical preparation and at the patient's request. In one case, the auditor pronounced a deviation after the target was missed several times in succession. In some audits, case discussions and quality circles were suggested. Some auditors made it clear that only microinvasion or a large DCIS per se does not represent an indication for lymph node removal.

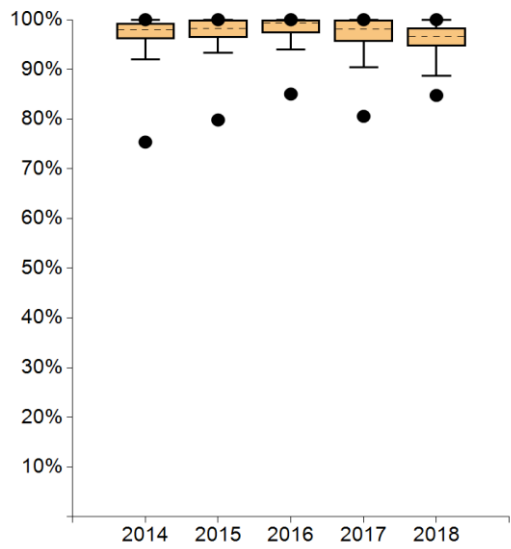
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** Percentage of total patients treated in centers according to the numerator.

19. Determination of nodal status in case of invasive mammary carcinoma



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Zähler	Primary cases with inv. mammary carcinoma for which the nodal status has been determined	132*	40 - 718	42,695
Nenner	Surgical primary cases with invasive mammary carcinoma (without primary M1)	136*	41 - 744	44,506
Quote	Target value ≥ 95%	96.66%	84.76% - 100%	95.93%**



	2014	2015	2016	2017	2018
● Max	100%	100%	100%	100%	100%
95. perzentile	100%	100%	100%	100%	100%
75. perzentile	99.32%	100%	100%	100%	98.29%
Median	97.93%	98.28%	99.26%	98.04%	96.66%
25. perzentile	96.15%	96.35%	97.30%	95.59%	94.68%
5. perzentile	92.02%	93.36%	93.97%	90.38%	88.72%
● Min	75.38%	79.82%	85.04%	80.56%	84.76%

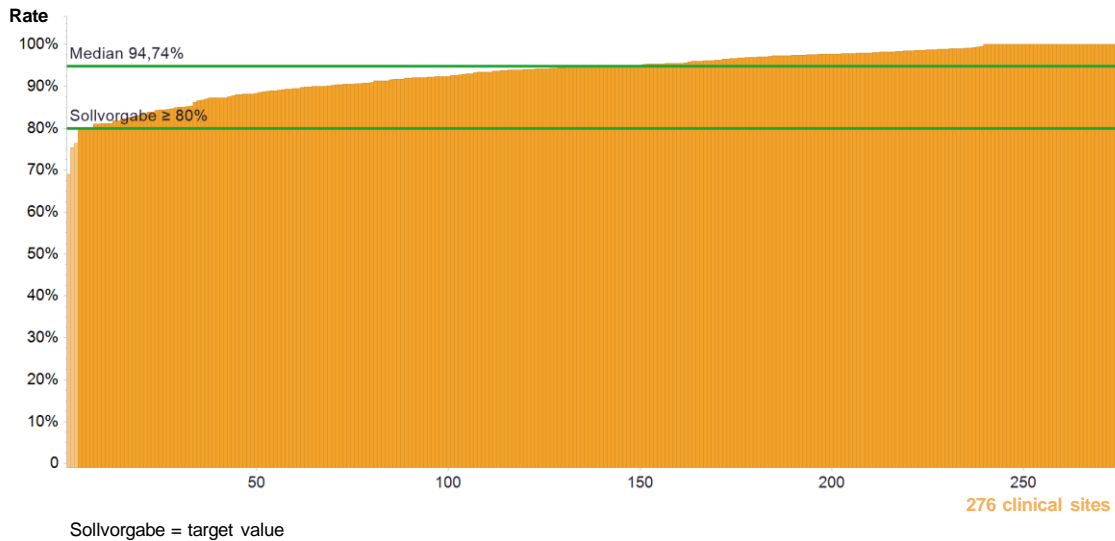
Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	196	71,01%

Comment
 80 centers (previous year: 68) missed the target with a slightly decreasing median. These centres were subjected to a critical individual case analysis in the audits. The centres explained that lymph node staging was not performed due to participation in the in-sema study (non-SNB arm), old age and/or comorbidities (lack of therapeutic consequence), very small and/or only microinvasive tumours, prognostic second cancers, primary metastasis and rejection by patients. The majority of these reasons were confirmed in the audits. Occasionally it was recommended to discuss in quality circles that old age or small carcinomas do not fundamentally speak against the determination of nodal status.

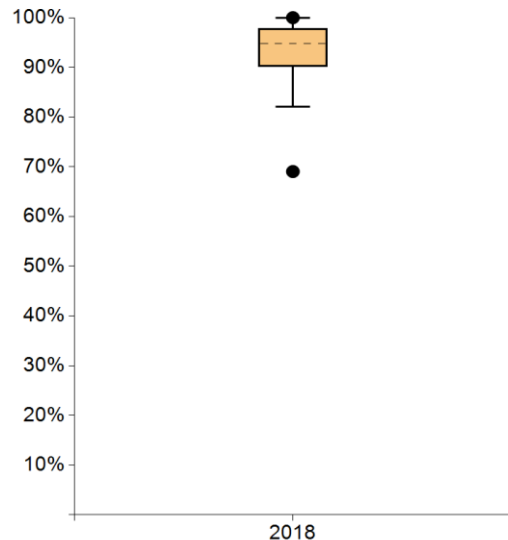
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** Percentage of total patients treated in centers according to the numerator.

20a. Only sentinel lymphonodectomy (SLNE) for pNO (women) (GL QI 6)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Female primary cases with sole sentinel lymph node removal (SNB)	71*	17 - 369	22,344
Denominator	Female primary cases of invasive mammary carcinoma and negative pN staging and without preoperative tumour-specific therapy	75*	17 - 373	23,800
Rate	Target value \geq 80%	94.74%	69.05% - 100%	93.88%**



	2014	2015	2016	2017	2018
● Max	----	----	----	----	100%
95. perzentile	----	----	----	----	100%
75. perzentile	----	----	----	----	97.89%
Median	----	----	----	----	94.74%
25. perzentile	----	----	----	----	90.19%
5. perzentile	----	----	----	----	82.06%
● Min	----	----	----	----	69.05%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	273	98.91%

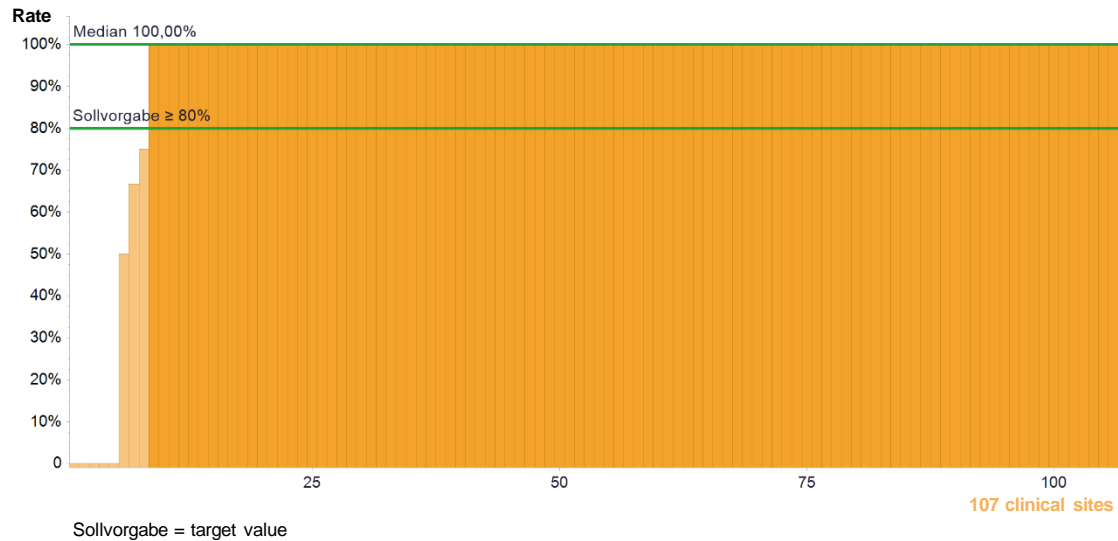
Comment

In the 2018 indicator year, this indicator was collected separately for the first time. Therefore, no comparison with previous years is necessary. The degree of fulfilment among women is slightly better than the aggregated indicator of the previous year (then median 93.97%, 4 centres with failure to meet the target). The 3 centers that do not meet the target for women have no intersections with those for indicator 20b. They justify their ratio of SNBs in pNO, which is below 80%, with the wish of the patients, old age and/or poor general condition, primary distant metastasis, axilla dissection already performed and microinvasive carcinoma.

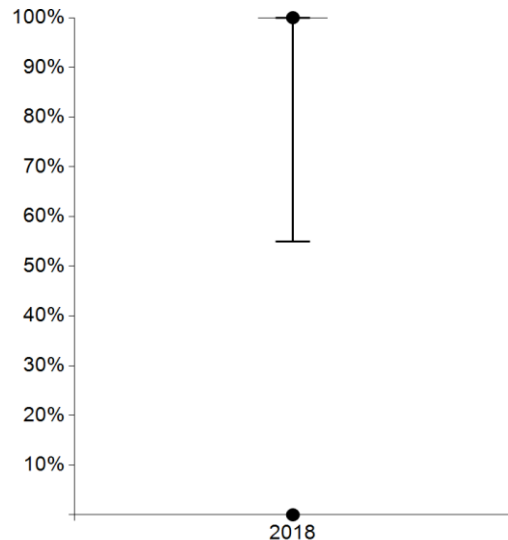
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** Percentage of total patients treated in centers according to the numerator.

20b. Only sentinel lymphonodectomy (SLNE) for pNO (men) (GL QI 6)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary male cases with sole sentinel lymph node removal (SNB)	1*	0 - 5	145
Denominator	Male primary cases of invasive mammary carcinoma and negative pN staging and without preoperative tumour-specific therapy	1*	1 - 5	153
Rate	Target value ≥ 80%	100%	0.00% - 100%	94.77%**



	2014	2015	2016	2017	2018
● Max	----	----	----	----	100%
95. perzentile	----	----	----	----	100%
75. perzentile	----	----	----	----	100%
Median	----	----	----	----	100%
25. perzentile	----	----	----	----	100%
5. perzentile	----	----	----	----	55.00%
● Min	----	----	----	----	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
107	38,77%	99	92,52%

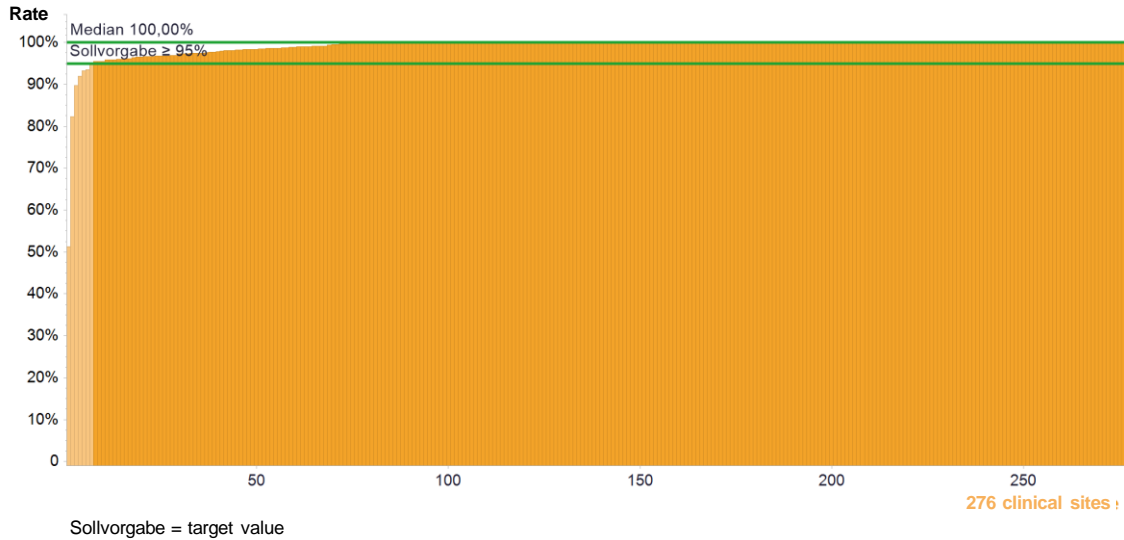
Comment

In the 2018 indicator year, this indicator was collected separately for the first time. Of the 107 centres with male primary cases, 8 failed to meet the target, whereby the significantly lower patient numbers in the denominator compared to the indicator 20a explain the large variance. All other centres reached 100%. The reason given by the centres for the shortfall was that lymph nodes were removed in excess of the SNB due to technically impossible SNB and clinically or intraoperatively suspect lymph nodes. Some patients also rejected the SNB. In the audits, the justifications were checked for plausibility.

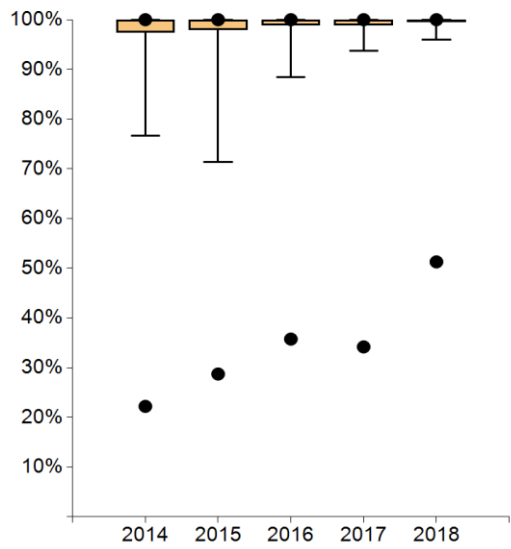
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** Percentage of total patients treated in centers according to the numerator.

21. Intraoperative sample radiography / sonography (GL QI 2)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Operations with intraoperative preparation X-ray or with intraoperative preparation sonography	74*	3 - 584	25,269
Denominator	Surgical procedures with preoperative wire marking guided by mammography or sonography	76*	3 - 593	25,543
Rate	Target value ≥ 95%	100%	51.28% - 100%	98.93%**



	2014	2015	2016	2017	2018
Max	100%	100%	100%	100%	100%
95. percentile	100%	100%	100%	100%	100%
75. percentile	100%	100%	100%	100%	100%
Median	100%	100%	100%	100%	100%
25. percentile	97.50%	97.94%	98.83%	98.83%	99.52%
5. percentile	76.61%	71.39%	88.47%	93.71%	96.00%
Min	22.22%	28.72%	35.75%	34.18%	51.28%

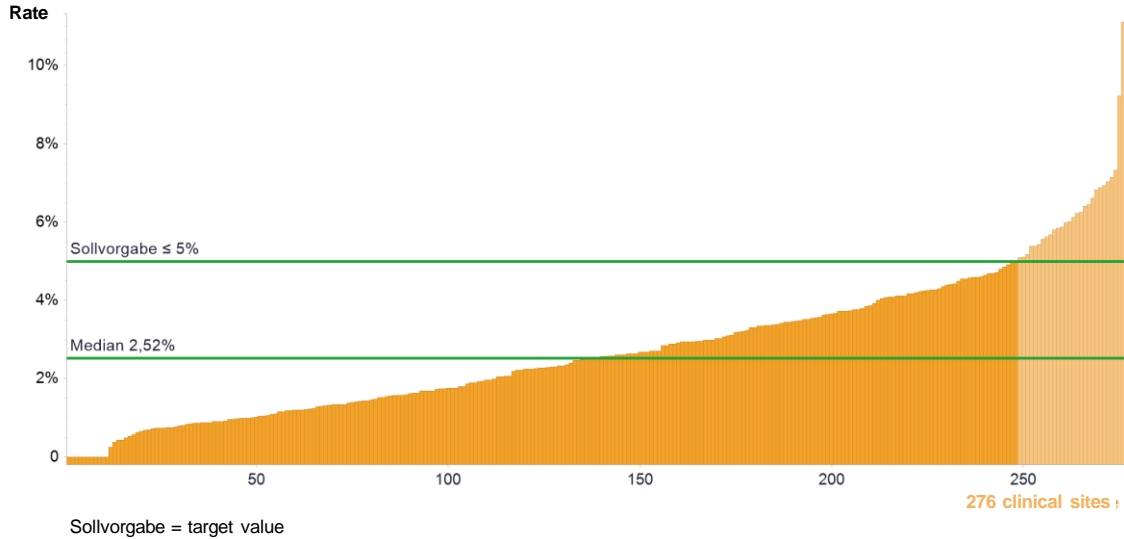
Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	269	97.46%

Comment
 The ratio continues to be very good and is now met by almost all centres. 203 centres reach 100%. 5 of the 7 centres that missed the target were already conspicuous in the previous year. However, 4 of them were able to improve their ratio, in some cases significantly. The audits showed the benefit of the auditors' consistent indications of a guideline-compliant surgical procedure: Previously, some surgeons had refrained from using intraoperative preparation X-rays or sonography if the palpation was clear. By drawing up SOPs and discussing indications, the figures for 2019 show that in future it is likely that even fewer centres will fail to meet the target.

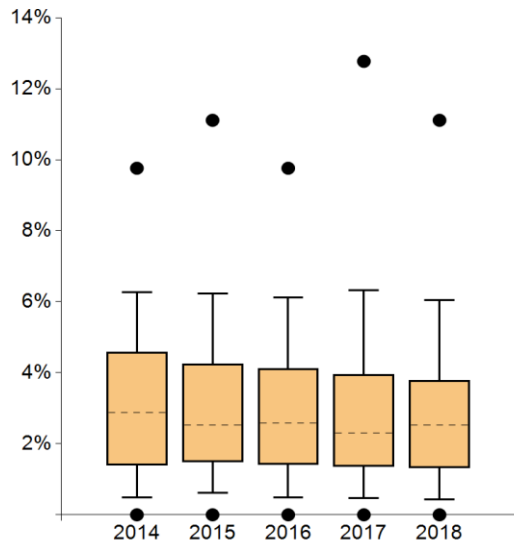
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** Percentage of total patients treated in centers according to the numerator.

22. Revision surgeries



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Revision surgery due to postoperative complications (only operated primary cases)	4*	0 - 30	1,372
Denominator	Surgical primary cases	155.5*	42 - 845	50,110
Rate	Target value ≤ 5%	2.52%	0.00% - 11.11%	2.74%**



	2014	2015	2016	2017	2018
Max	9.76%	11.11%	9.76%	12.77%	11.11%
95. perzentile	6.27%	6.24%	6.12%	6.33%	6.05%
75. perzentile	4.58%	4.25%	4.13%	3.95%	3.78%
Median	2.88%	2.52%	2.59%	2.30%	2.52%
25. perzentile	1.39%	1.49%	1.41%	1.36%	1.33%
5. perzentile	0.49%	0.61%	0.49%	0.48%	0.43%
Min	0.00%	0.00%	0.00%	0.00%	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
276	100.00%	248	89.86%

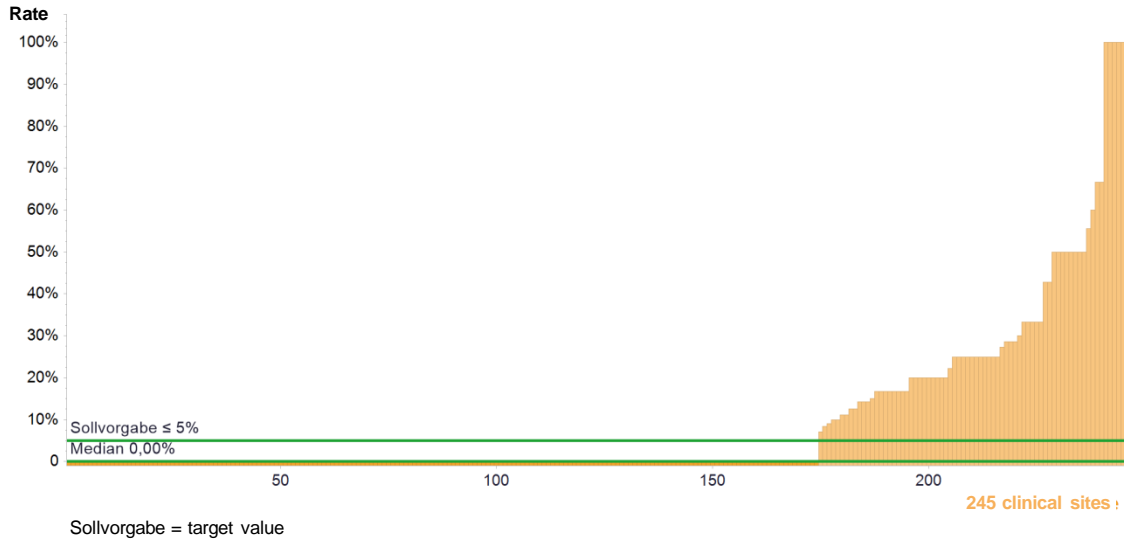
Comment

The degree to which this indicator is met has improved further to almost 90%. The 28 centres (previous year: 33) whose revision surgery rate is above 5% mostly cited the treatment of risk patients (anticoagulation, advanced age, large wound bed, arterial hypertension) as the reason. Training courses and quality circles were agreed in the audits as measures for improvement. Concrete measures included post-operative special dressings and expansion of team competence (plastic surgery, senology). The centre with the highest rate was able to significantly improve its results for 2019 by optimising perioperative management. One of the centres repeatedly failed to meet the target, which is why a deviation was declared. Compliance with the target will be critically reviewed in the next audit.

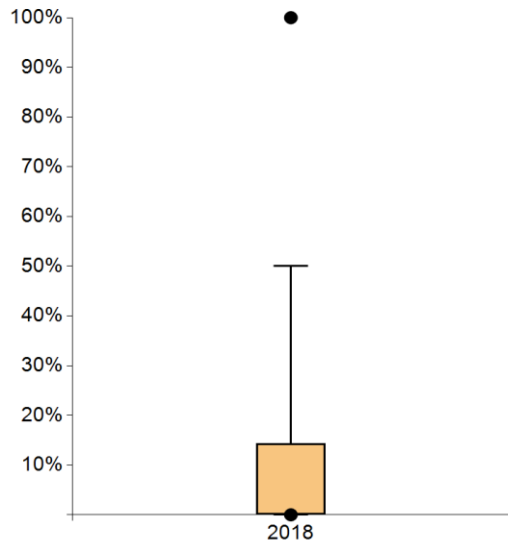
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** Percentage of total patients treated in centers according to the numerator.

23. Therapy of the axillary lymphatic drainage for pN1mi (GL QI 7)



	Definition of indicator	All clinical sites 2018		
		Median	Range	Patients Total
Numerator	Primary cases with therapy (axilla dissection or radiotherapy) of the axillary lymph drainage areas	0*	0 - 5	105
Denominator	Primary cases with invasive breast carcinoma, pN1mi	4*	1 - 20	1,146
Rate	Target value ≤ 5%	0.00%	0.00% - 100%	9.16%**



	2014	2015	2016	2017	2018
Max	----	----	----	----	100%
95. perzentile	----	----	----	----	50,00%
75. perzentile	----	----	----	----	14.29%
Median	----	----	----	----	0.00%
25. perzentile	----	----	----	----	0.00%
5. perzentile	----	----	----	----	0.00%
Min	----	----	----	----	0.00%

Clinical sites with evaluable data		Clinical sites meeting the target	
Number	%	Number	%
245	100.00%	174	71,02%

Comment
 This indicator was first collected in 2018. All 174 centres that meet the target achieve 0%. For the remaining 71 centres, 61 have a single-digit denominator, for the 3 centres with a rate of 100%, the denominator was 1. Frequent reasons given by the centres for exceeding the target value were the patient's wish (need for safety), the finding "micrometastasis" only after neoadjuvant chemotherapy, sonographically/macroscopically suspect lymph nodes and decisions on radiation therapy, sometimes in ignorance of the guideline recommendation and without consulting the tumour conference. The audits recommended in particular quality circles and the improvement of communication.

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

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