

Belgian Cancer Registry



**QUALITY INDICATORS FOR THE
MANAGEMENT OF HEAD AND NECK CANCER
(2009-2014)**

Individual feedback report

Hospital 70

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1. Descriptive statistics

Table 1: Head and neck cancer (2009-2014): Patient characteristics of the total population and your hospital, by centre of main treatment*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	9245	311	2665	99	2745	100	1137	39	2698	73
Gender										
Male	75.9	72.3	66.4	67.7	72.8	69.0	85.7	71.8	84.3	83.6
Female	24.1	27.7	33.6	32.3	27.2	31.0	14.3	28.2	15.7	16.4
Age group										
Mean	62.3	60.7	62.2	60.5	60.8	59.6	61.4	62.4	64.3	61.6
SD	11.1	12.0	12.4	13.4	10.1	11.3	9.5	11.0	10.8	11.5
<50 years	10.1	13.2	12.7	17.2	11.6	14.0	7.4	5.1	7.0	11.0
50-59 years	33.1	33.1	32.6	29.3	36.9	33.0	38.4	41.0	27.4	34.2
60-69 years	33.0	31.8	29.0	33.3	33.4	33.0	36.1	23.1	35.1	32.9
70-79 years	16.0	16.1	15.4	12.1	13.3	19.0	12.8	20.5	20.8	15.1
80+ years	7.9	5.8	10.3	8.1	4.8	1.0	5.2	10.3	9.7	6.8
WHO - Performance Status										
0 – Asymptomatic	16.9	64.6	17.9	72.7	17.7	62.0	16.2	64.1	15.4	57.5
1 – Symptomatic but completely ambulatory	62.4	16.1	59.0	8.1	63.3	21.0	66.4	20.5	63.0	17.8
2 – Symptomatic, <50% in bed during the day	2.5	2.6	2.4	1.0	2.7	2.0	3.1	2.6	2.1	5.5

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
3 – Symptomatic, >50% in bed, but not bedbound	1.1	1.3	0.9	1.0	1.1	2.0	1.2	0.0	1.4	1.4
4 – Bedbound	0.4	0.0	0.3	0.0	0.6	0.0	0.5	0.0	0.2	0.0
Missing	16.7	15.4	19.4	17.2	14.7	13.0	12.6	12.8	17.9	17.8
<i>Charlson comorbidity index (adapted), category</i>										
0**	60.8	62.8	61.8	63.9	61.6	56.0	55.4	69.2	61.3	67.1
1-2**	31.2	28.5	31.0	25.8	29.7	33.0	35.8	30.8	30.9	24.7
3-4**	6.3	7.1	5.8	7.2	7.1	10.0	6.3	0.0	6.1	6.8
>4**	1.7	1.6	1.4	3.1	1.7	1.0	2.5	0.0	1.6	1.4
No data available (N)	433	2	160	2	152	0	38	0	83	0

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment of each patient.

** The % for Charlson comorbidity index 0, 1-2, 3-4, >4 are calculated without the patients for which no data were available to calculate the Charlson comorbidity index.

Table 2: Head and neck cancer (2009-2014): Tumour characteristics of the total population and your hospital, by centre of main treatment*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	9245	311	2665	99	2745	100	1137	39	2698	73
Clinical stage										
Reported to BCR (N)	7444	237	1921	58	2342	88	1012	34	2169	57
I**	19.0	17.7	24.5	10.3	6.4	5.7	3.3	5.9	34.9	50.9
II**	14.3	17.7	17.9	25.9	10.7	14.8	6.8	17.6	18.6	14.0
III**	15.3	13.9	12.3	19.0	16.0	12.5	16.3	5.9	16.6	15.8
IVA**	42.4	46.0	39.9	39.7	54.1	61.4	55.2	61.8	26.0	19.3
IVB**	4.6	4.6	2.6	5.2	7.2	5.7	9.8	8.8	1.2	0.0
IVC**	4.4	0.0	2.8	0.0	5.5	0.0	8.6	0.0	2.7	0.0
X (missing)	19.5	23.8	27.9	41.4	14.7	12.0	11.0	12.8	19.6	21.9
Pathological stage †										
Patients who had surgery	3518	109	1957	81	644	10	154	4	763	14
Reported to BCR (N)	2758	99	1619	77	462	8	124	4	553	10
I**	32.8	28.3	35.1	32.5	27.7	25.0	7.3	25.0	36.2	0.0
II**	15.7	15.2	18.9	13.0	16.2	12.5	5.6	25.0	8.1	30.0
III**	14.4	19.2	12.9	15.6	17.7	37.5	14.5	50.0	16.1	20.0
IVA**	35.6	37.4	32.2	39.0	35.1	25.0	68.5	0.0	38.5	50.0
IVB**	1.0	0.0	0.7	0.0	1.7	0.0	2.4	0.0	0.9	0.0
IVC**	0.5	0.0	0.2	0.0	1.5	0.0	1.6	0.0	0.2	0.0
X (missing)	21.6	9.2	17.3	4.9	28.3	20.0	19.5	0.0	27.5	28.6
Combined stage***										
Reported to BCR (N)	8250	292	2382	97	2498	95	1041	38	2329	62
I**	21.7	22.6	28.4	26.8	8.8	6.3	4.1	10.5	36.6	48.4

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
II**	13.6	13.7	16.5	14.4	10.6	13.7	7.1	15.8	16.7	11.3
III**	15.2	14.4	12.1	14.4	16.4	15.8	16.7	7.9	16.6	16.1
IVA**	41.3	45.5	38.6	41.2	52.3	58.9	54.8	60.5	26.3	22.6
IVB**	4.0	3.1	2.1	3.1	6.4	4.2	8.7	5.3	1.2	0.0
IVC**	4.2	0.7	2.4	0.0	5.6	1.1	8.5	0.0	2.6	1.6
X (missing)	10.8	6.1	10.6	2.0	9.0	5.0	8.4	2.6	13.7	15.1

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

** The % for stages I, II, III and IVA, IVB, IVC are computed excluding the X category.

*** Combined stage combines information from the clinical and pathological stage, where the pathological stage prevails over the clinical stage except when there is clinical proof of distant metastasis.

† Limited to patients who had surgery.

Table 3: Head and neck cancer (2009-2014): Patient characteristics of surgically treated patients of the total population and your hospital, by centre of surgery*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	3518	109	1957	81	644	10	154	4	763	14
Gender										
Male	70.7	71.6	64.7	70.4	68.9	70.0	88.3	75.0	84.0	78.6
Female	29.3	28.4	35.3	29.6	31.1	30.0	11.7	25.0	16.0	21.4
Age group										
Mean	61.5	59.8	61.5	59.7	59.7	58.3	59.3	60.3	63.4	61.8
SD	11.4	11.6	12.2	11.7	9.9	14.9	9.0	8.6	10.4	9.7
<50 years	12.5	14.7	13.8	16.0	14.1	20.0	11.7	0.0	8.0	7.1
50-59 years	33.8	33.0	33.5	30.9	38.2	20.0	42.2	50.0	29.2	50.0
60-69 years	30.9	34.9	28.6	38.3	32.3	40.0	31.8	25.0	35.6	14.3
70-79 years	15.4	13.8	15.2	9.9	12.3	20.0	12.3	25.0	19.3	28.6
80+ years	7.3	3.7	8.9	4.9	3.1	0.0	1.9	0.0	7.9	0.0
WHO - Performance Status										
0 – Asymptomatic	19.5	74.3	20.4	79.0	21.7	50.0	18.8	75.0	15.5	64.3
1 – Symptomatic but completely ambulatory	60.4	5.5	59.8	3.7	62.0	20.0	63.0	0.0	60.2	7.1
2 – Symptomatic, <50% in bed during the day	1.6	0.9	1.6	0.0	0.8	0.0	3.2	0.0	2.0	7.1
3 – Symptomatic, >50% in bed, but not bedbound	0.7	0.0	0.5	0.0	0.9	0.0	0.6	0.0	1.0	0.0
4 – Bedbound	0.2	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.3	0.0
Missing	17.6	19.3	17.5	17.3	14.4	30.0	14.3	25.0	21.1	21.4
Charlson comorbidity index (adapted), category										

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
0**	60.8	64.2	63.7	64.2	66.2	70.0	42.5	75.0	52.8	57.1
1-2**	32.2	26.6	29.6	24.7	28.3	30.0	47.7	25.0	38.8	35.7
3-4**	5.8	6.4	5.5	7.4	4.9	0.0	7.2	0.0	7.0	7.1
>4**	1.2	2.8	1.3	3.7	0.6	0.0	2.6	0.0	1.4	0.0
No data available (N)	61	0	50	0	7	0	1	0	3	0

* Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

** The % for Charlson comorbidity index 0, 1-2, 3-4, >4 are calculated without the patients for which no data were available to calculate the Charlson comorbidity index.

Table 4: Head and neck cancer (2009-2014): Tumour characteristics of surgically treated patients of the total population and your hospital, by centre of surgery*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	3518	109	1957	81	644	10	154	4	763	14
Clinical stage										
Reported to BCR (N)	2528	53	1378	42	477	4	131	2	542	5
I**	28.6	15.1	31.2	11.9	20.1	75.0	6.1	0.0	34.7	0.0
II**	18.5	32.1	21.3	31.0	19.1	0.0	5.3	100.0	14.0	40.0
III**	14.0	17.0	12.5	21.4	19.5	0.0	11.5	0.0	13.8	0.0
IVA**	36.0	35.8	33.1	35.7	34.4	25.0	70.2	0.0	36.3	60.0
IVB**	1.7	0.0	1.0	0.0	4.2	0.0	5.3	0.0	0.6	0.0
IVC**	1.2	0.0	0.9	0.0	2.7	0.0	1.5	0.0	0.6	0.0
X (missing)	28.1	51.4	29.6	48.1	25.9	60.0	14.9	50.0	29.0	64.3
Pathological stage †										
Reported to BCR (N)	2758	99	1619	77	462	8	124	4	553	10
I**	32.8	28.3	35.1	32.5	27.7	25.0	7.3	25.0	36.2	0.0
II**	15.7	15.2	18.9	13.0	16.2	12.5	5.6	25.0	8.1	30.0
III**	14.4	19.2	12.9	15.6	17.7	37.5	14.5	50.0	16.1	20.0
IVA**	35.6	37.4	32.2	39.0	35.1	25.0	68.5	0.0	38.5	50.0
IVB**	1.0	0.0	0.7	0.0	1.7	0.0	2.4	0.0	0.9	0.0
IVC**	0.5	0.0	0.2	0.0	1.5	0.0	1.6	0.0	0.2	0.0
X (missing)	21.6	9.2	17.3	4.9	28.3	20.0	19.5	0.0	27.5	28.6
Combined stage***										
Reported to BCR (N)	3207	104	1816	81	586	9	149	4	656	10
I**	32.6	27.9	34.6	30.9	26.1	33.3	8.1	25.0	38.6	0.0
II**	15.9	16.3	18.6	14.8	17.1	11.1	5.4	25.0	9.8	30.0

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
III**	13.9	18.3	12.5	14.8	16.7	33.3	15.4	50.0	14.9	20.0
IVA**	35.2	37.5	32.7	39.5	34.8	22.2	66.4	0.0	35.4	50.0
IVB**	1.3	0.0	1.0	0.0	2.4	0.0	2.7	0.0	0.8	0.0
IVC**	1.2	0.0	0.7	0.0	2.9	0.0	2.0	0.0	0.6	0.0
X (missing)	8.8	4.6	7.2	0.0	9.0	10.0	3.2	0.0	14.0	28.6

* Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

** The % for stages I, II, III and IVA, IVB, IVC are computed excluding the X category.

*** Combined stage combines information from the clinical and pathological stage, where the pathological stage prevails over the clinical stage except when there is clinical proof of distant metastasis.

† Limited to patients who had surgery.

Table 5: Head and neck cancer (2009-2014): Patient characteristics of patients treated with radiotherapy of the total population and your hospital, by centre of radiotherapy*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	4666	169	419	9	1751	74	801	33	1695	53
Gender										
Male	79.6	74.0	74.0	77.8	73.7	66.2	84.9	69.7	84.4	86.8
Female	20.4	26.0	26.0	22.2	26.3	33.8	15.1	30.3	15.6	13.2
Age group										
Mean	62.1	59.6	63.0	53.1	60.5	58.9	60.9	61.4	64.2	60.6
SD	10.3	11.5	11.7	14.3	9.9	11.3	9.1	10.5	10.6	11.7
<50 years	9.1	13.6	10.5	33.3	11.8	14.9	7.4	6.1	6.7	13.2
50-59 years	33.8	36.7	30.8	33.3	37.8	37.8	39.6	42.4	27.7	32.1
60-69 years	34.9	30.8	32.5	22.2	33.5	31.1	37.6	24.2	35.6	35.8
70-79 years	15.9	14.8	16.7	11.1	12.7	14.9	11.5	21.2	21.2	11.3
80+ years	6.3	4.1	9.5	0.0	4.2	1.4	4.0	6.1	8.7	7.5
WHO - Performance Status										
0 – Asymptomatic	16.7	64.5	13.6	66.7	17.6	67.6	16.7	63.6	16.4	60.4
1 – Symptomatic but completely ambulatory	66.4	20.7	62.5	22.2	65.7	20.3	69.3	24.2	66.7	18.9
2 – Symptomatic, <50% in bed during the day	2.3	2.4	4.5	0.0	2.6	2.7	1.6	0.0	1.6	3.8
3 – Symptomatic, >50% in bed, but not bedbound	0.6	0.0	1.2	0.0	0.6	0.0	0.2	0.0	0.7	0.0
4 – Bedbound	0.1	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Missing	14.0	12.4	17.7	11.1	13.3	9.5	12.0	12.1	14.6	17.0
Charlson comorbidity index (adapted), category										

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
0**	63.1	65.1	57.5	66.7	62.6	60.8	60.4	69.7	66.2	67.9
1-2**	29.3	26.0	35.6	22.2	28.6	27.0	32.0	30.3	27.1	22.6
3-4**	6.0	7.7	5.3	11.1	6.9	10.8	5.5	0.0	5.4	7.5
>4**	1.7	1.2	1.5	0.0	1.9	1.4	2.1	0.0	1.3	1.9
No data available (N)	206	0	26	0	91	0	24	0	65	0

* Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

** The % for Charlson comorbidity index 0, 1-2, 3-4, >4 are calculated without the patients for which no data were available to calculate the Charlson comorbidity index.

Table 6: Head and neck cancer (2009-2014): Tumour characteristics of patients treated with radiotherapy of the total population and your hospital, by centre of radiotherapy*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
Number of patients (N)	4666	169	419	9	1751	74	801	33	1695	53
Combined stage***										
Reported to BCR (N)	4232	160	361	9	1632	73	734	32	1505	46
I**	15.7	21.3	4.7	0.0	3.5	4.1	3.8	9.4	37.4	60.9
II**	13.2	13.1	9.1	22.2	9.6	15.1	8.3	15.6	20.3	6.5
III**	17.0	11.3	11.9	11.1	17.1	13.7	18.7	3.1	17.4	13.0
IVA**	46.0	49.4	64.0	44.4	59.9	63.0	56.1	65.6	21.7	17.4
IVB**	5.2	3.8	7.2	22.2	7.0	2.7	8.9	6.3	1.1	0.0
IVC**	2.9	1.3	3.0	0.0	2.9	1.4	4.2	0.0	2.1	2.2
X (missing)	9.3	5.3	13.8	0.0	6.8	1.4	8.4	3.0	11.2	13.2

* Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

** The % for stages I, II, III and IVA, IVB, IVC are computed excluding the X category.

*** Combined stage combines information from the clinical and pathological stage, where the pathological stage prevails over the clinical stage except when there is clinical proof of distant metastasis.

Table 7: Head and neck cancer (2009-2014): Diagnostic and staging procedures for your hospital versus Belgium, by centre of main treatment*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital	Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
<i>Number of patients (N)</i>	9245	311	2665	99	2745	100	1137	39	2698	73
<i>Multidisciplinary team meeting</i>	82.3	90.4	77.7	88.9	85.9	89.0	88.7	94.9	80.4	91.8
<i>Imaging</i>										
RX thorax	73.3	57.2	78.3	66.7	70.0	57.0	78.5	59.0	69.4	43.8
CT neck	92.5	97.1	85.9	93.9	96.3	100.0	97.7	94.9	92.8	98.6
CT skull	18.4	14.1	18.5	11.1	20.2	19.0	23.9	15.4	14.1	11.0
MRI neck	30.1	55.9	34.5	76.8	37.7	79.0	27.0	25.6	19.3	12.3
MRI head	6.4	12.5	10.3	15.2	6.8	17.0	4.2	7.7	2.9	5.5
PET/CT	47.9	84.6	41.0	90.9	60.2	95.0	62.3	94.9	36.0	56.2
Ultrasound neck	19.1	16.4	16.1	4.0	26.4	29.0	26.7	25.6	11.3	11.0
Ultrasound abdomen	34.4	16.1	37.2	14.1	36.6	19.0	37.5	17.9	28.0	13.7
<i>Endoscopy</i>										
Tracheoscopy/Laryngoscopy	84.8	95.8	60.0	91.9	90.3	96.0	97.4	100.0	98.6	98.6
Bronchoscopy	20.3	9.6	17.4	8.1	21.2	13.0	27.4	5.1	19.1	9.6
Nasal endoscopy	8.1	4.2	5.5	1.0	10.0	8.0	10.6	0.0	7.5	5.5
<i>Screening digestive tract</i>	58.9	85.9	50.5	88.9	65.1	84.0	77.8	89.7	53.0	82.2
<i>Histopathology</i>										
Biopsy of primary tumour	98.7	99.7	99.1	99.0	98.3	100.0	97.6	100.0	99.3	100.0
Lymph node biopsy	3.5	4.2	2.6	1.0	5.7	9.0	4.0	2.6	1.9	2.7
Cytology	18.9	17.7	13.3	10.1	25.9	31.0	26.6	15.4	14.0	11.0

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

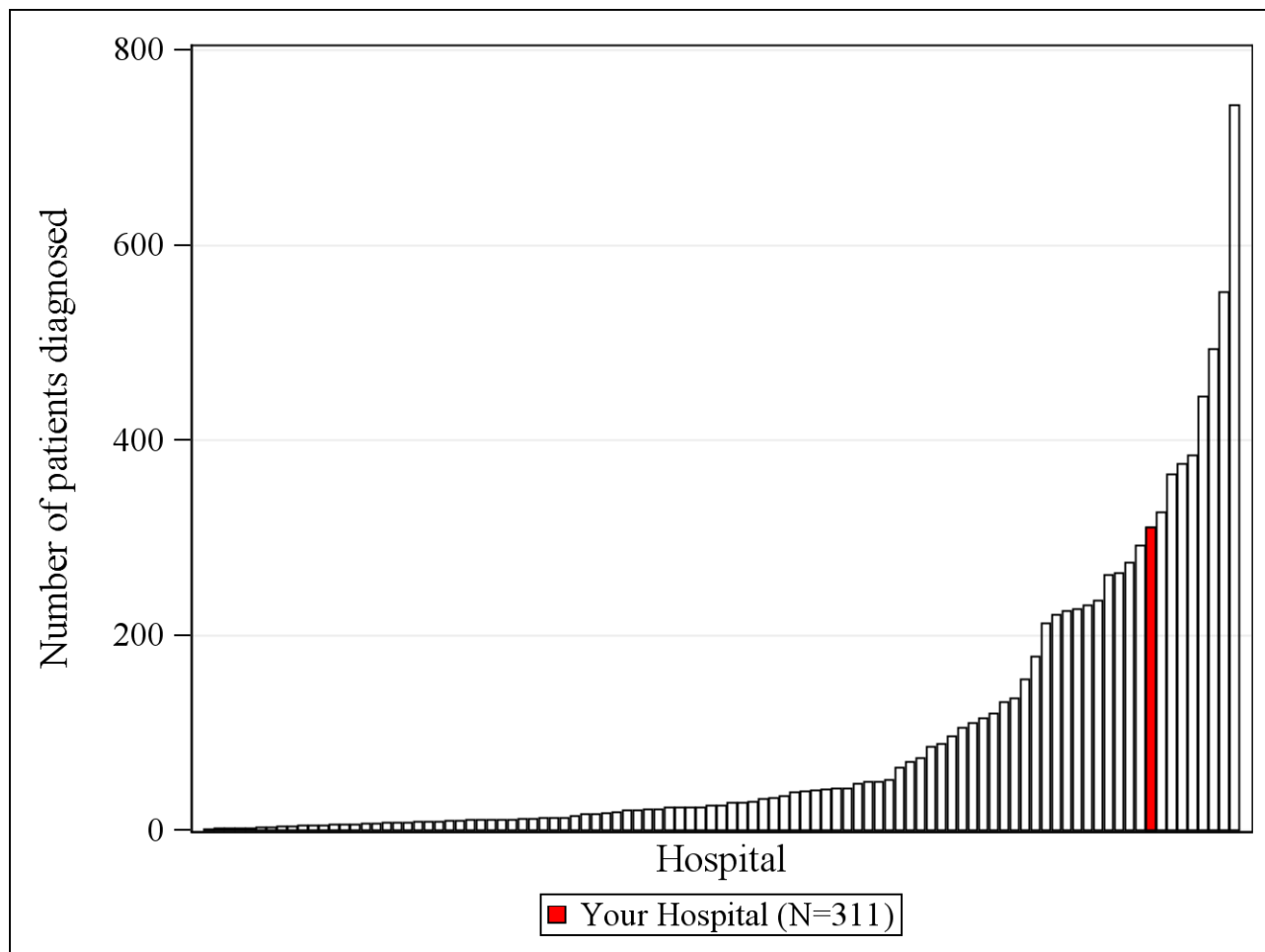
Table 8: Head and neck cancer (2009-2014): Treatment schemes of the patients for your hospital versus Belgium, by centre of main treatment*

	Total		Oral cavity		Oropharynx		Hypopharynx		Larynx	
	Your Belgium	Your Hospital	Your Belgium	Your Hospital	Your Belgium	Your Hospital	Your Belgium	Your Hospital	Your Belgium	Your Hospital
	%	%	%	%	%	%	%	%	%	%
<i>Number of patients (N)</i>	9245	311	2665	99	2745	100	1137	39	2698	73
<i>Surgery with curative intent</i>	38.1	35.0	73.4	81.8	23.5	10.0	13.5	10.3	28.3	19.2
Surgery only	18.9	19.3	38.4	39.4	8.4	8.0	2.9	7.7	17.0	13.7
Surgery < RT	9.8	9.0	18.8	22.2	6.2	1.0	3.6	2.6	7.1	5.5
Surgery < SystRT	7.6	5.5	12.8	16.2	7.7	1.0	5.8	0.0	3.0	0.0
Surgery < Syst	1.0	0.6	1.6	2.0	0.9	0.0	0.3	0.0	0.6	0.0
Syst < Surgery	0.2	0.3	0.5	1.0	0.1	0.0	0.0	0.0	0.1	0.0
Syst < Surgery < RT	0.3	0.3	0.7	1.0	0.0	0.0	0.5	0.0	0.1	0.0
Syst < Surgery < SystRT	0.3	0.0	0.5	0.0	0.1	0.0	0.4	0.0	0.2	0.0
Syst < Surgery < Syst	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0
<i>(Syst)/RT < Surgery (< adjuvant treatment)</i>	0.8	0.3	0.6	0.0	1.0	0.0	0.5	2.6	0.8	0.0
<i>Primary (Syst)RT (no major surgery)</i>	49.7	54.0	15.2	9.1	62.8	74.0	69.9	82.1	62.0	72.6
RT only	18.6	20.6	4.1	2.0	13.8	16.0	12.8	25.6	40.1	49.3
Sys/RT	31.2	33.4	11.1	7.1	49.0	58.0	57.1	56.4	21.9	23.3
<i>Primary systemic therapy (no major surgery, no radiotherapy)</i>	4.1	4.5	3.2	2.0	5.2	9.0	8.3	2.6	2.1	2.7
Chemotherapy only	2.8	3.5	2.7	2.0	3.4	7.0	4.7	0.0	1.6	2.7
Chemo-/Targeted therapy	1.2	0.6	0.5	0.0	1.7	2.0	3.2	0.0	0.6	0.0
Targeted therapy only	0.1	0.3	0.0	0.0	0.2	0.0	0.4	2.6	0.0	0.0
<i>Palliative RT only</i>	0.1	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1	0.0
<i>No treatment</i>	7.2	6.1	7.5	7.1	7.4	7.0	7.6	2.6	6.6	5.5

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

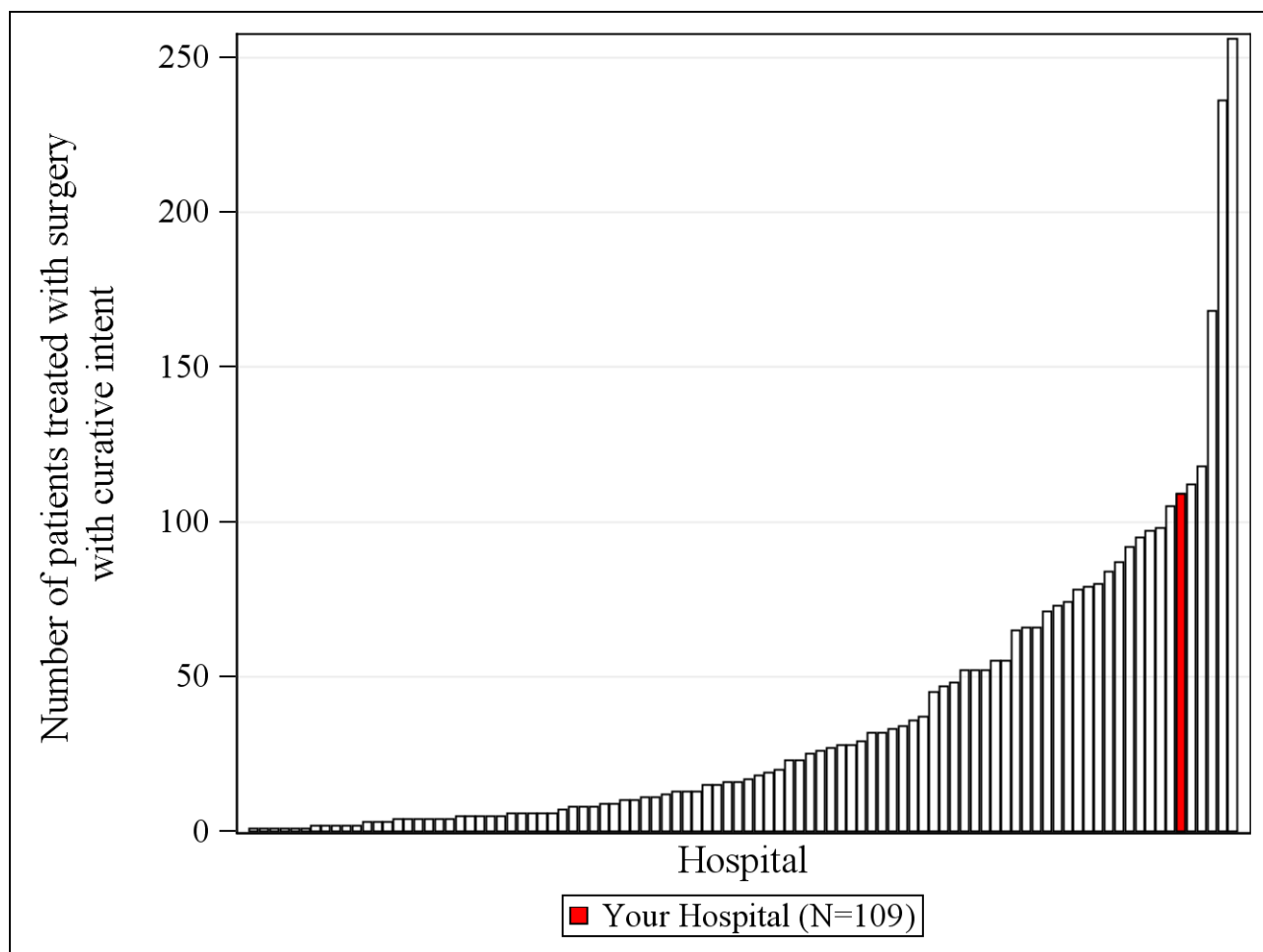
2. Volume

Figure 1: Head and neck cancer (2009-2014): Distribution of centres by volume of main treatment



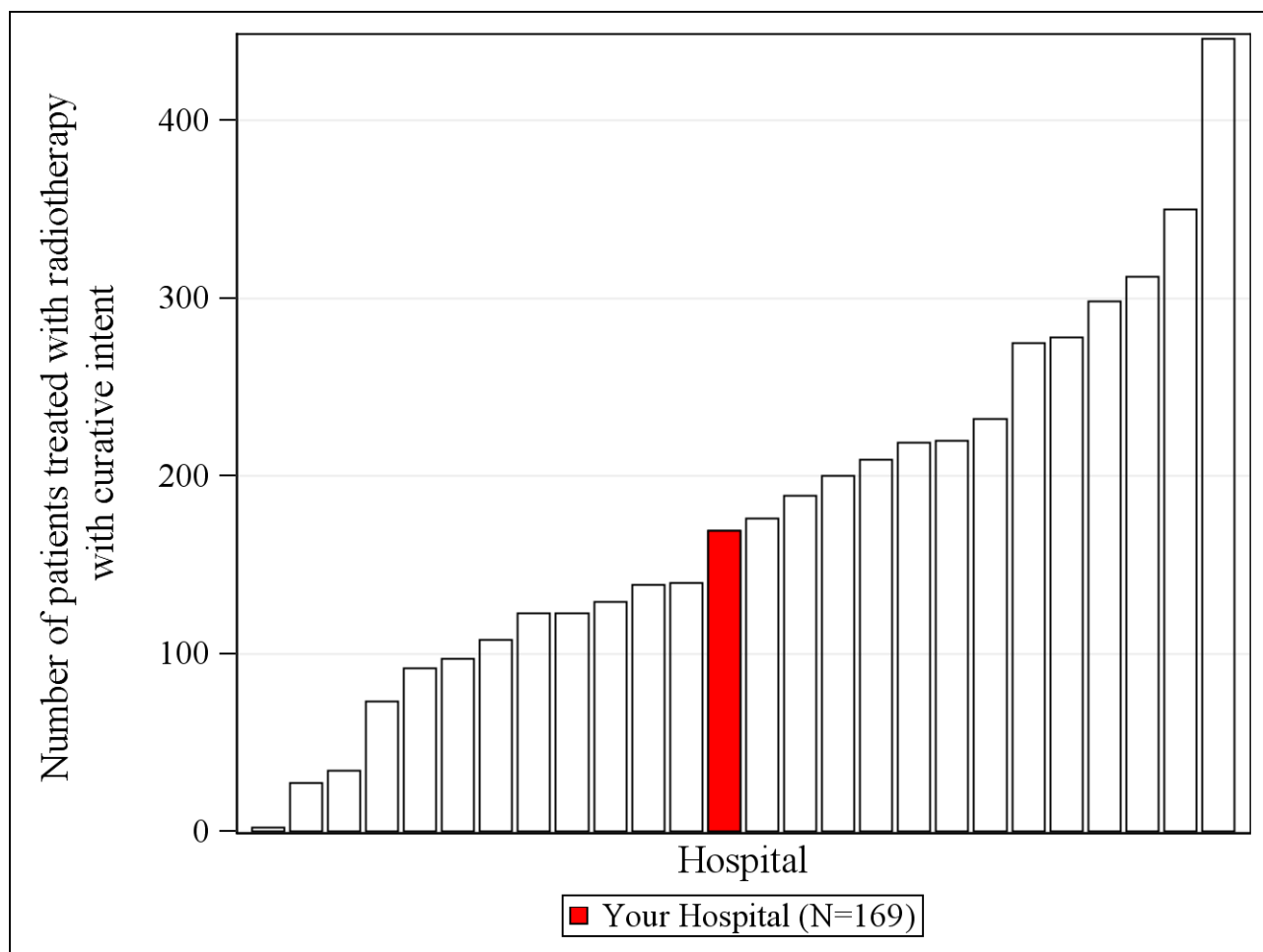
Note: Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

Figure 2: Head and neck cancer (2009-2014): Distribution of centres by surgical volume



Note: Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

Figure 3: Head and neck cancer (2009-2014): Distribution of centres by radiotherapy volume



Note: Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

3. Process indicator results

3.1 Process indicator results on quality of diagnosis and staging

Table 9: Head and neck cancer (2009-2014): Overview of process indicator results on quality of diagnosis and staging for Belgium and your hospital*

Process Indicator (NAME KCE-FICHE)	Belgium			Your Hospital		
	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)
<i>Time to treatment (DS-1), by diagnostic centre (in number of days)</i>		8040	32		228	35
<i>Time to treatment (DS-1), by centre of main treatment (in number of days)</i>		8040	32		278	39.5
<i>MRI and/or CT before treatment (DS-2)</i>	6630	8039	82.5	272	278	97.8
<i>TNM staging (DS-3)</i>						
Reporting of clinical stage (DS-3A)	7444	9245	80.5	234	306	76.5
Reporting of pathological stage for patients who had surgery (DS-3B)	2758	3518	78.4	99	109	90.8
<i>FDG-PET/CT before treatment (DS-4)</i>						
Stage I-II	544	2372	22.9	45	80	56.3
Stage III-IV	2198	4619	47.6	115	141	81.6

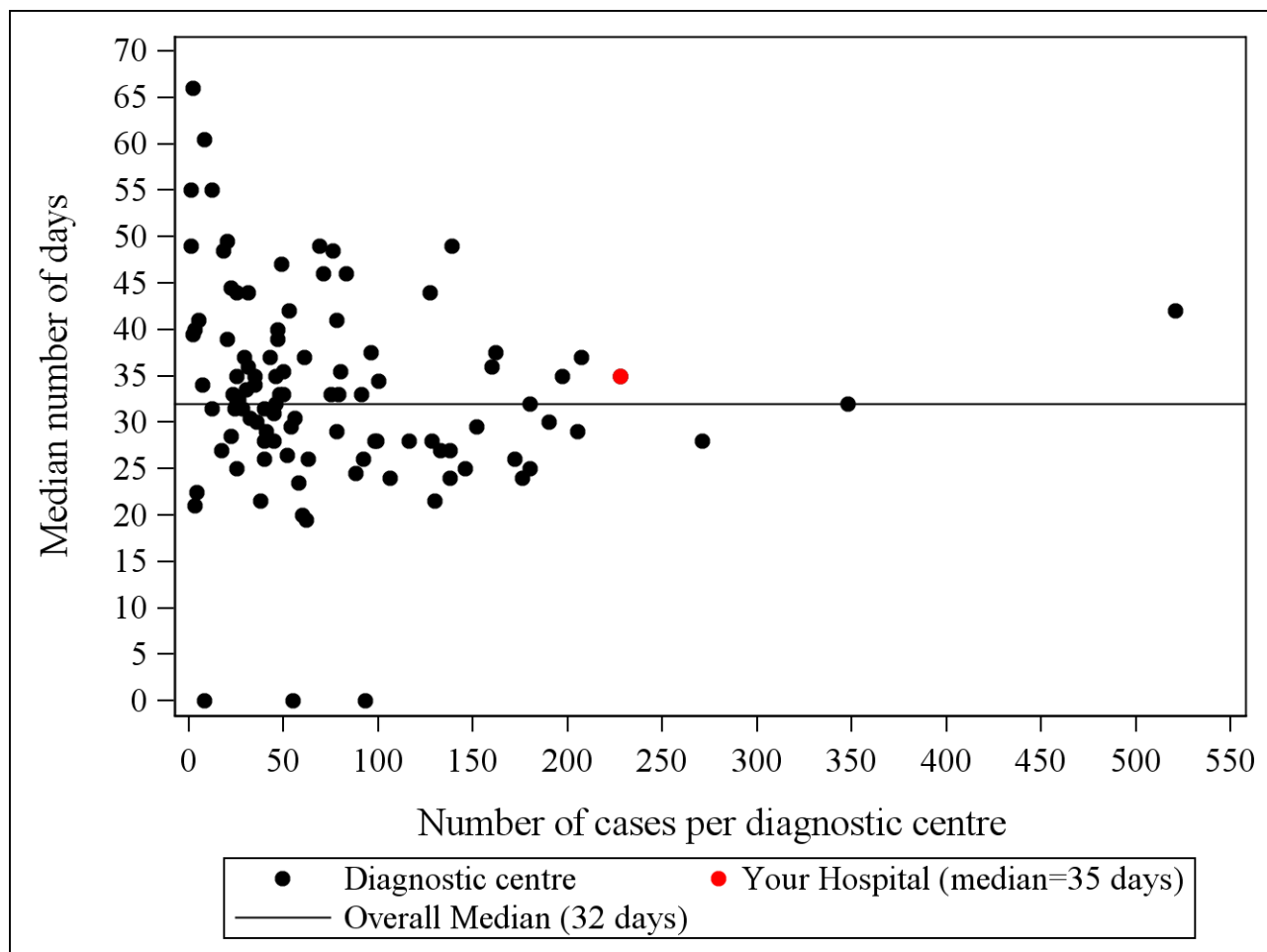
* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient. Except for DS-1, which is also calculated based on the algorithm to define the centre of diagnosis and for DS-3A for which the results are shown based on the centre of first treatment.

Table 10: Head and neck cancer (2009-2014): Overview of process indicator results on quality of diagnosis and staging by tumour type for your hospital*

Process Indicator (NAME KCE-FICHE)	Oral Cavity			Oropharynx			Hypopharynx			Larynx		
	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)
<i>Time to treatment (DS-1), by diagnostic centre (in number of days)</i>		76	30.5		72	38		30	41		50	35
<i>Time to treatment (DS-1), by centre of main treatment (in number of days)</i>		90	35		84	41		37	47		67	39
<i>MRI and/or CT before treatment (DS-2)</i>	89	90	98.9	83	84	98.8	35	37	94.6	65	67	97.0
<i>TNM staging (DS-3)</i>												
Reporting of clinical stage (DS-3A)	57	96	59.4	86	98	87.8	34	39	87.2	57	73	78.1
Reporting of pathological stage for patients who had surgery (DS-3B)	77	81	95.1	8	10	80.0	4	4	100.0	10	14	71.4
<i>FDG-PET/CT before treatment (DS-4)</i>												
Stage I-II	19	20	95.0	14	18	77.8	6	8	75.0	6	34	17.6
Stage III-IV	29	33	87.9	54	64	84.4	20	25	80.0	12	19	63.2

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient. Except for DS-1, which is also calculated based on the algorithm to define the centre of diagnosis and for DS-3A for which the results are shown based on the centre of first treatment.

Figure 4: Head and neck cancer (2009-2014): Scatter plot of time from incidence date to first treatment (non-palliative intent) (median number of days) (DS-1), by diagnostic centre



Note: 8 patients were not included in the analyses as they could not be assigned to a diagnostic centre, but their data are included in the analyses for the overall result.

Figure 5: Head and neck cancer (2009-2014): Scatter plot of time from incidence date to first treatment (non-palliative intent) (median number of days) (DS-1), by centre of main treatment

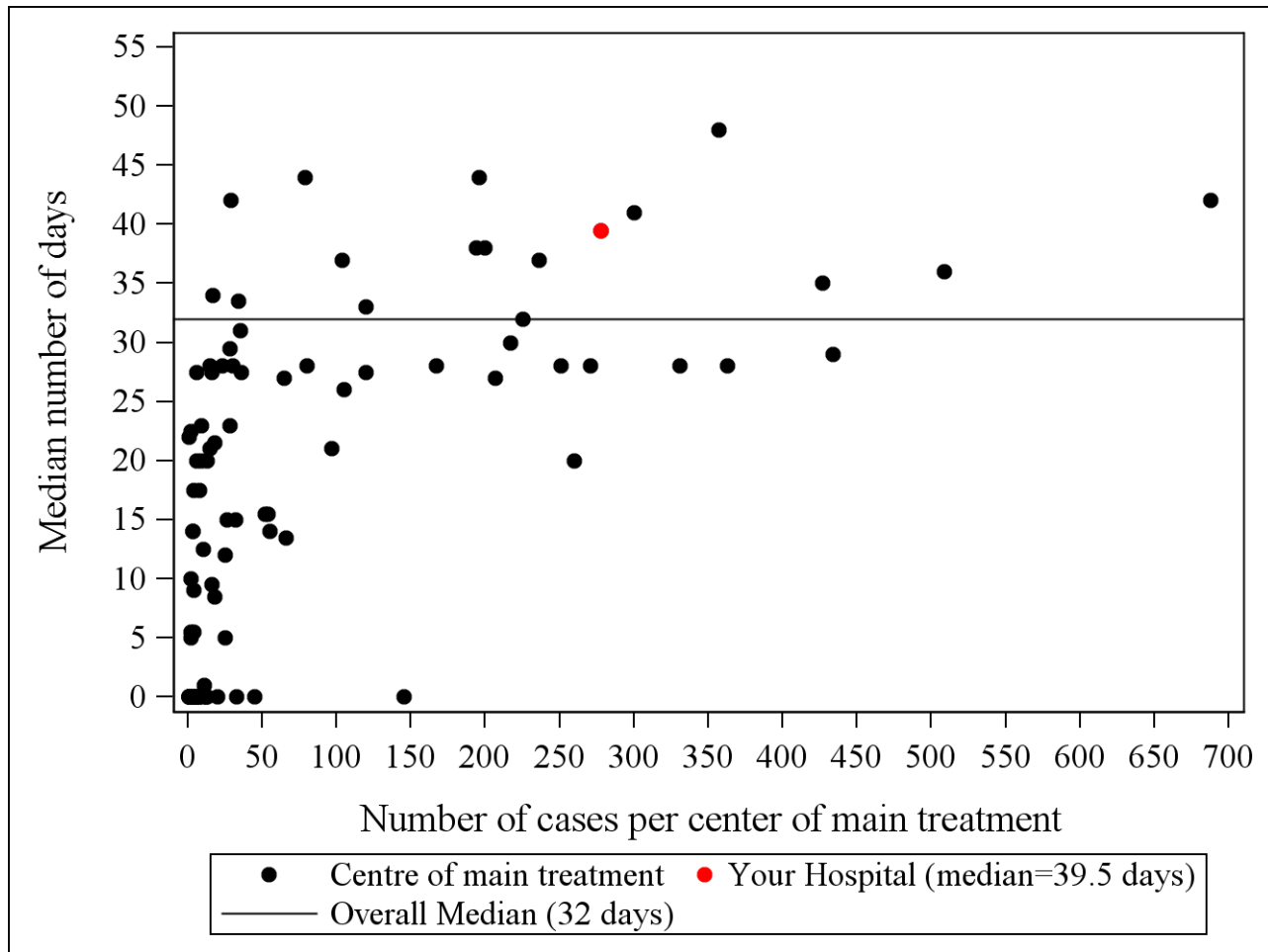


Figure 6: Head and neck cancer (2009-2014): Funnel plot of the proportion of HNSCC patients who received treatment with curative intent in whom an MRI and/or CT was obtained within 6 weeks before the start of the first treatment (DS-2), by centre of main treatment

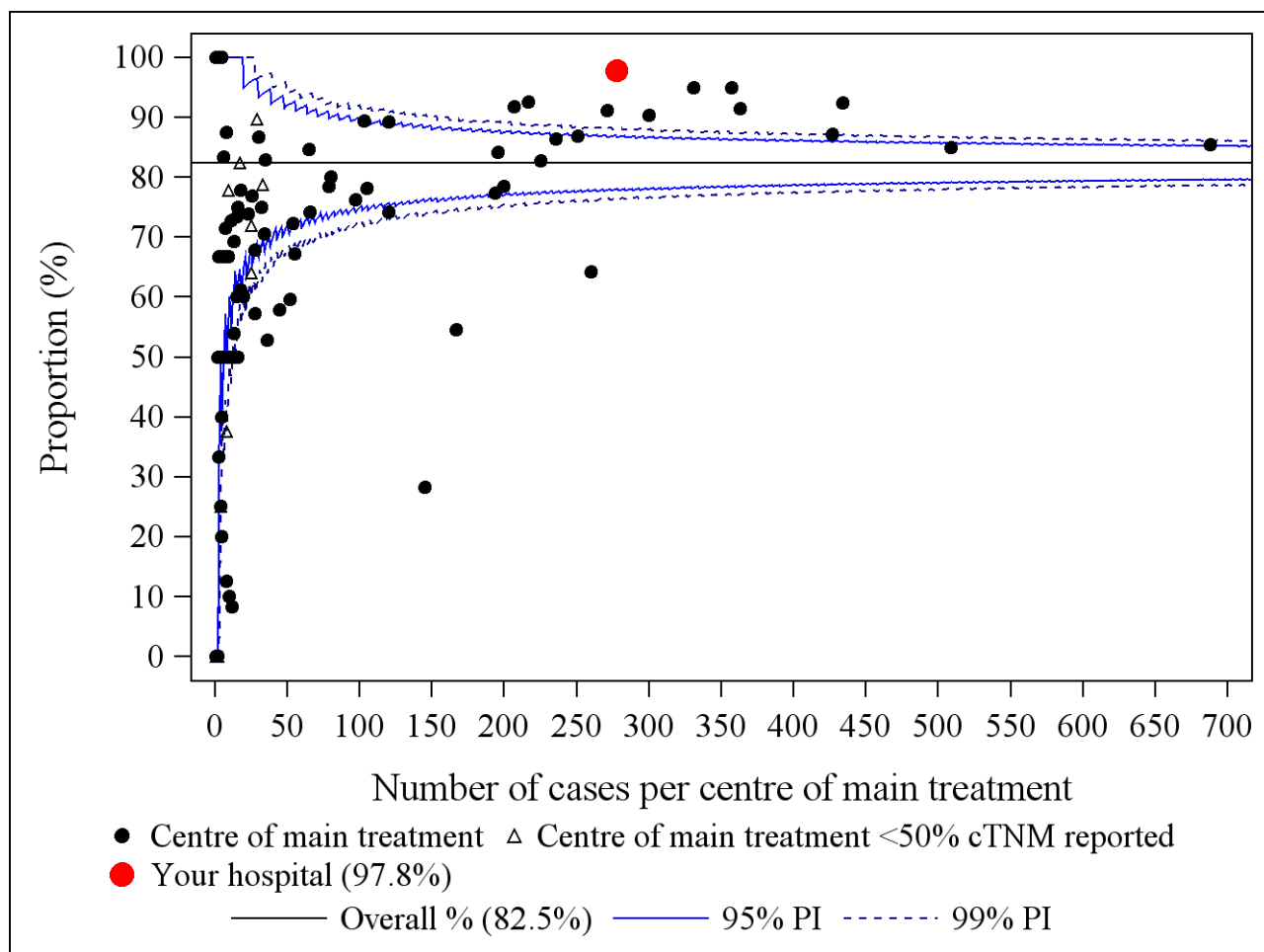
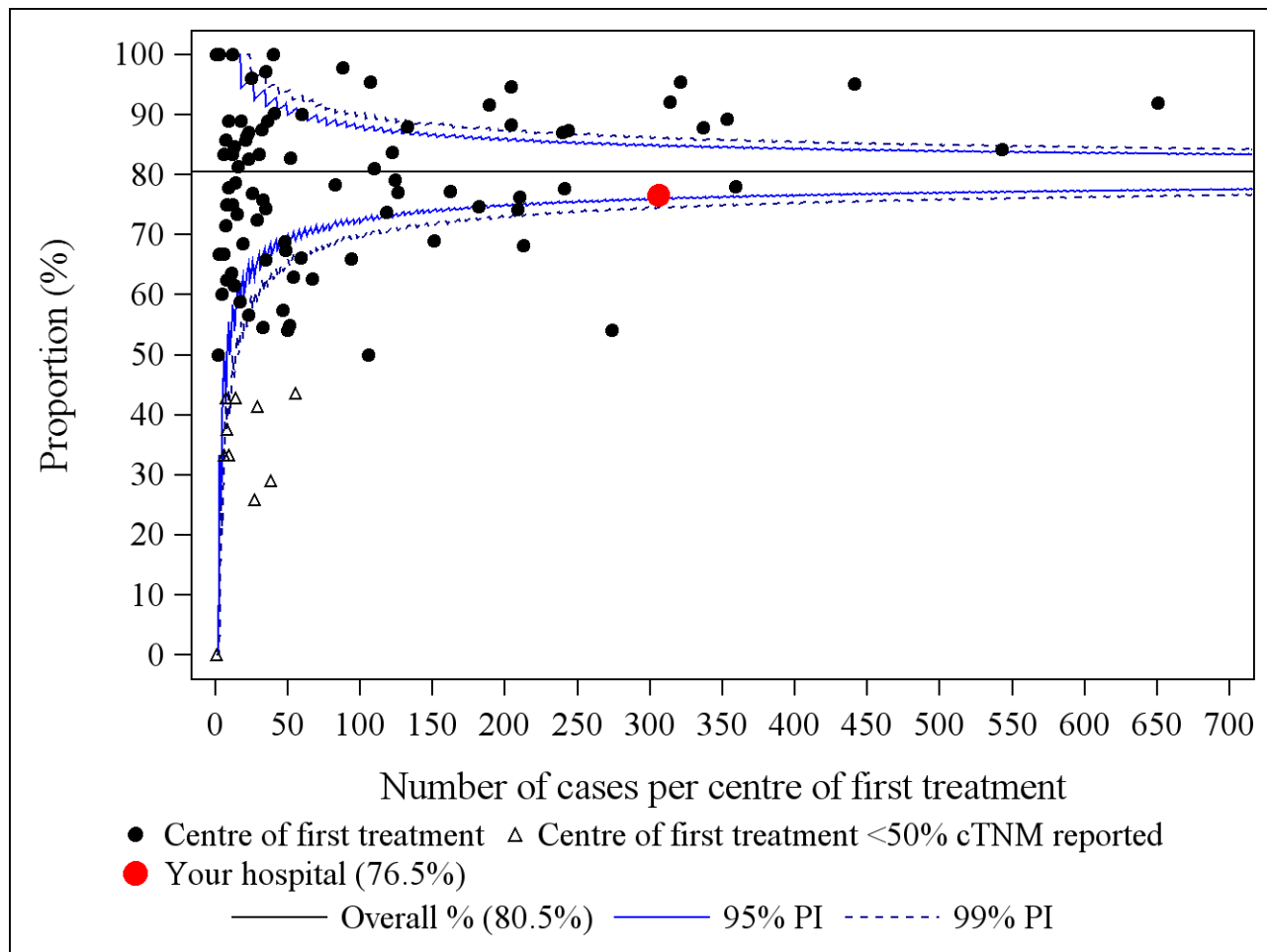


Figure 7: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with HNSCC who have their cTNM reported to the BCR (DS-3A), by centre of first treatment



Note: 132 patients were not included in the analyses because they could not be assigned a first treatment centre, but their data are included in the analyses for the overall result.

Figure 8: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with HNSCC who had surgery with curative intent, who have their pTNM reported to the BCR (DS-3B), by centre of main treatment

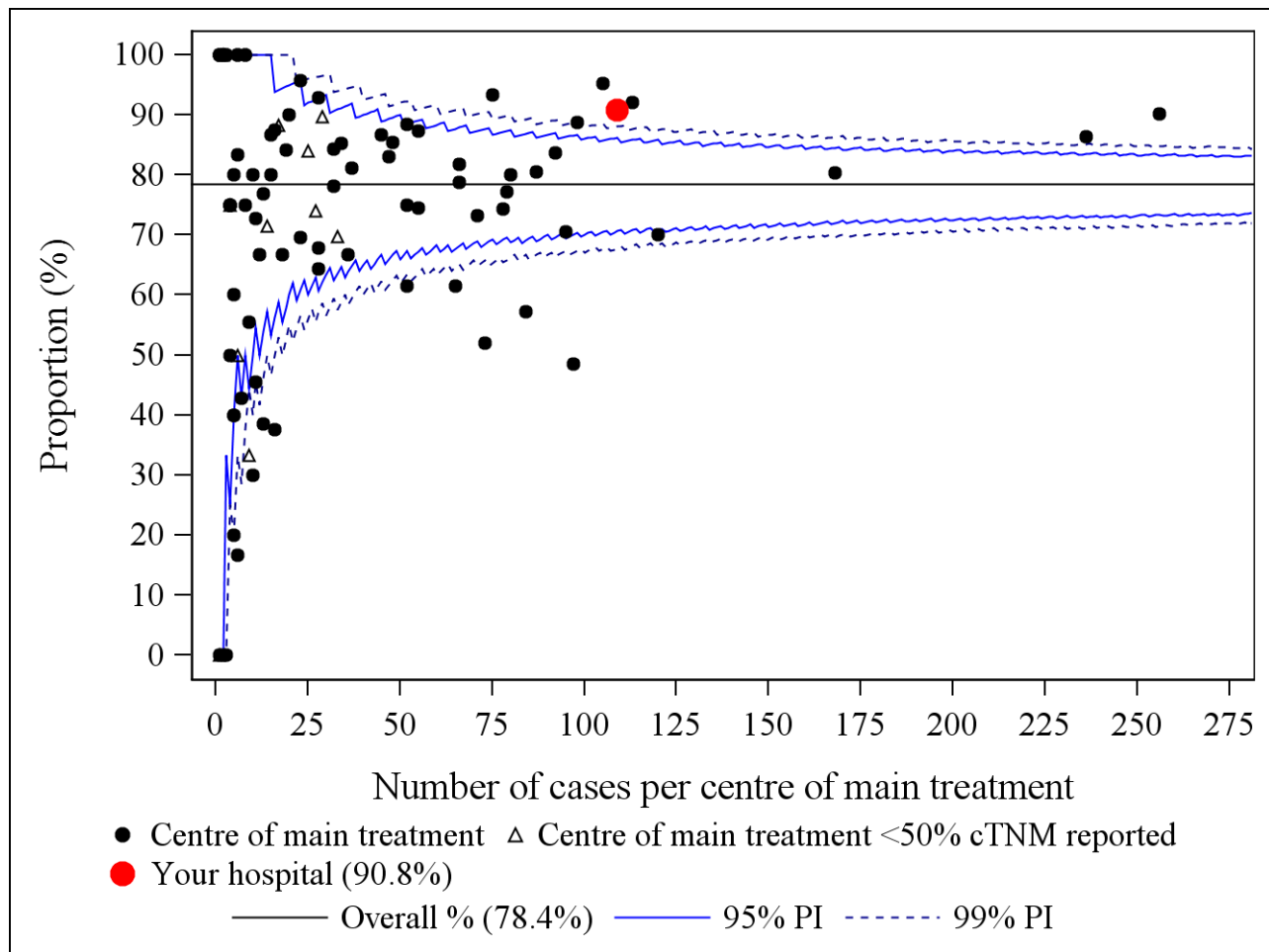
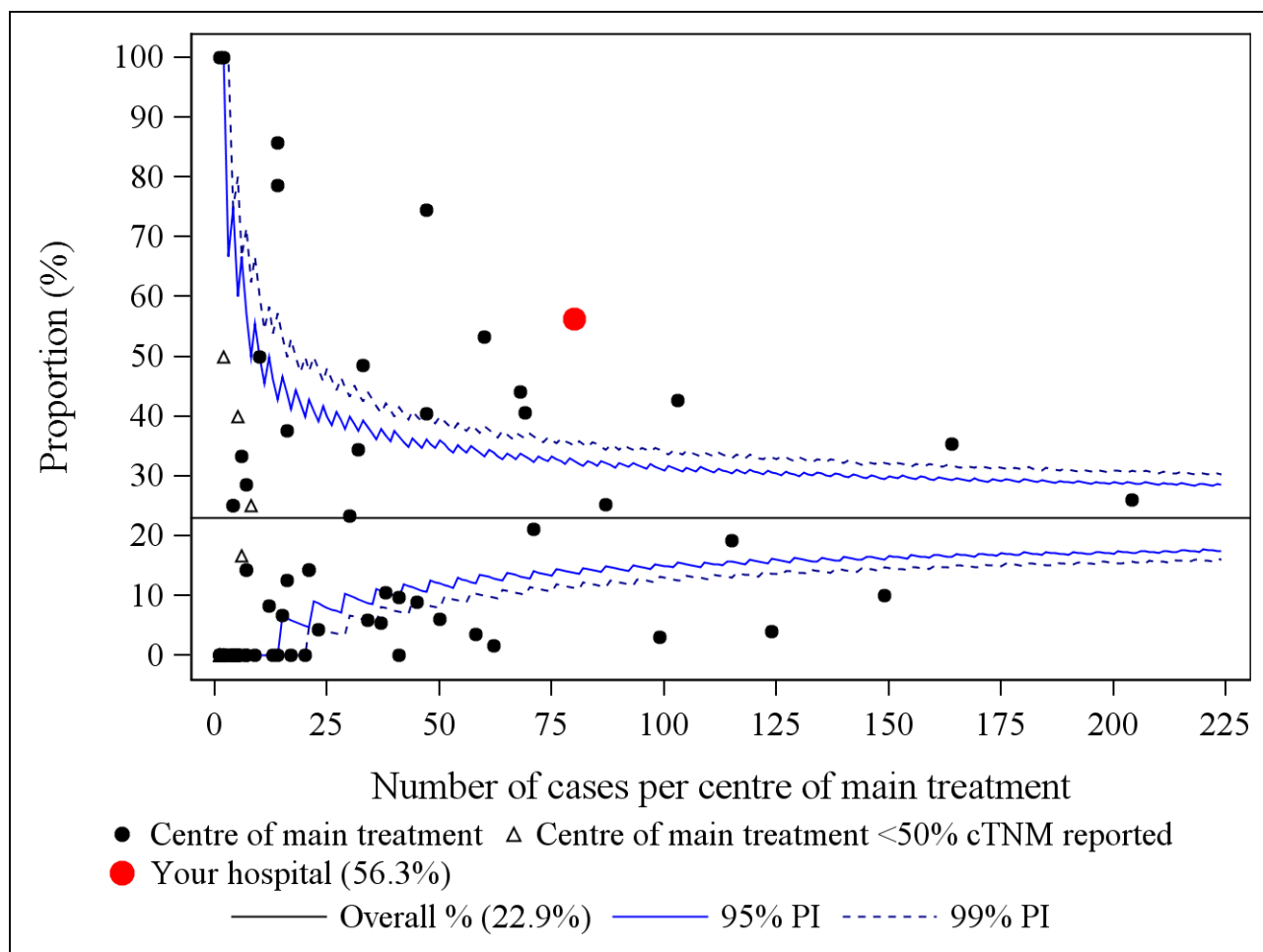
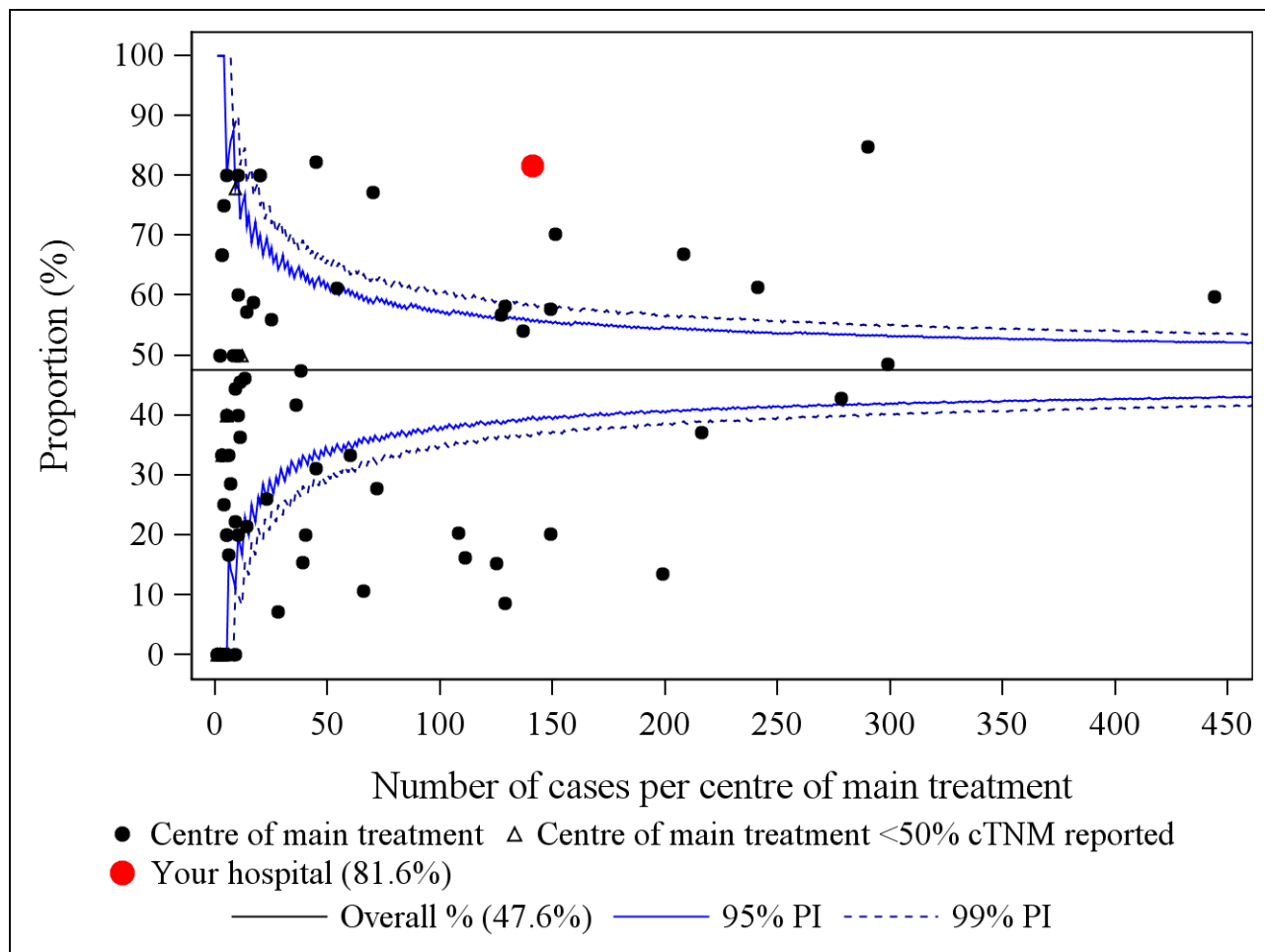


Figure 9: Head and neck cancer (2009-2014): Funnel plot of the proportion of clinical stage I-II HNSCC patients who underwent any treatment in whom a whole-body FDG-PET/CT was obtained within 6 weeks before start of the first treatment (DS-4 stage I-II), by centre of main treatment



Note: 1 patient is not included in the analyses as he/she could not be assigned to a treatment centre, but his/her data are included in the analyses for the overall result.

Figure 10: Head and neck cancer (2009-2014): Funnel plot of the proportion of clinical stage III-IV HNSCC patients who underwent non-palliative treatment in whom a whole-body FDG-PET/CT was obtained within 6 weeks before start of the first treatment (DS-4 stage III-IV), by centre of main treatment



3.2 Process indicator results on quality of lymph node management

Table 11: Head and neck cancer (2009-2014): Overview of process indicator results on the quality of lymph node management for Belgium and your hospital*

Process Indicator (NAME KCE-FICHE)	Belgium			Your Hospital		
	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)
<i>Neck imaging after primary (chemo)radiotherapy (LN-1)</i>	709	2171	32.7	44	78	56.4
<i>Elective neck dissection in cN0M0 squamous cell carcinoma of the head and neck (LN-2)</i>	760	1347	56.4	29	29	100.0

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

Table 12: Head and neck cancer (2009-2014): Overview of process indicator results on the quality of lymph node management by tumour type for your hospital*

Process Indicator (NAME KCE-FICHE)	Oral Cavity			Oropharynx			Hypopharynx			Larynx		
	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)
<i>Neck imaging after primary (chemo)radiotherapy (LN-1)</i>	2	6	33.3	28	45	62.2	12	20	60.0	2	7	28.6
<i>Elective neck dissection in cN0M0 squamous cell carcinoma of the head and neck (LN-2)</i>	21	21	100.0	2	2	100.0	2	2	100.0	4	4	100.0

* Selection of patients for each hospital is based on the algorithm to define one centre of main treatment per patient.

Figure 11: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with node-positive HNSCC treated with primary (chemo)radiotherapy, in whom a diagnostic evaluation of the neck with PET/CT or DW-MRI was performed between 10 and 16 weeks after completion of the primary therapy (LN-1), by centre of main treatment

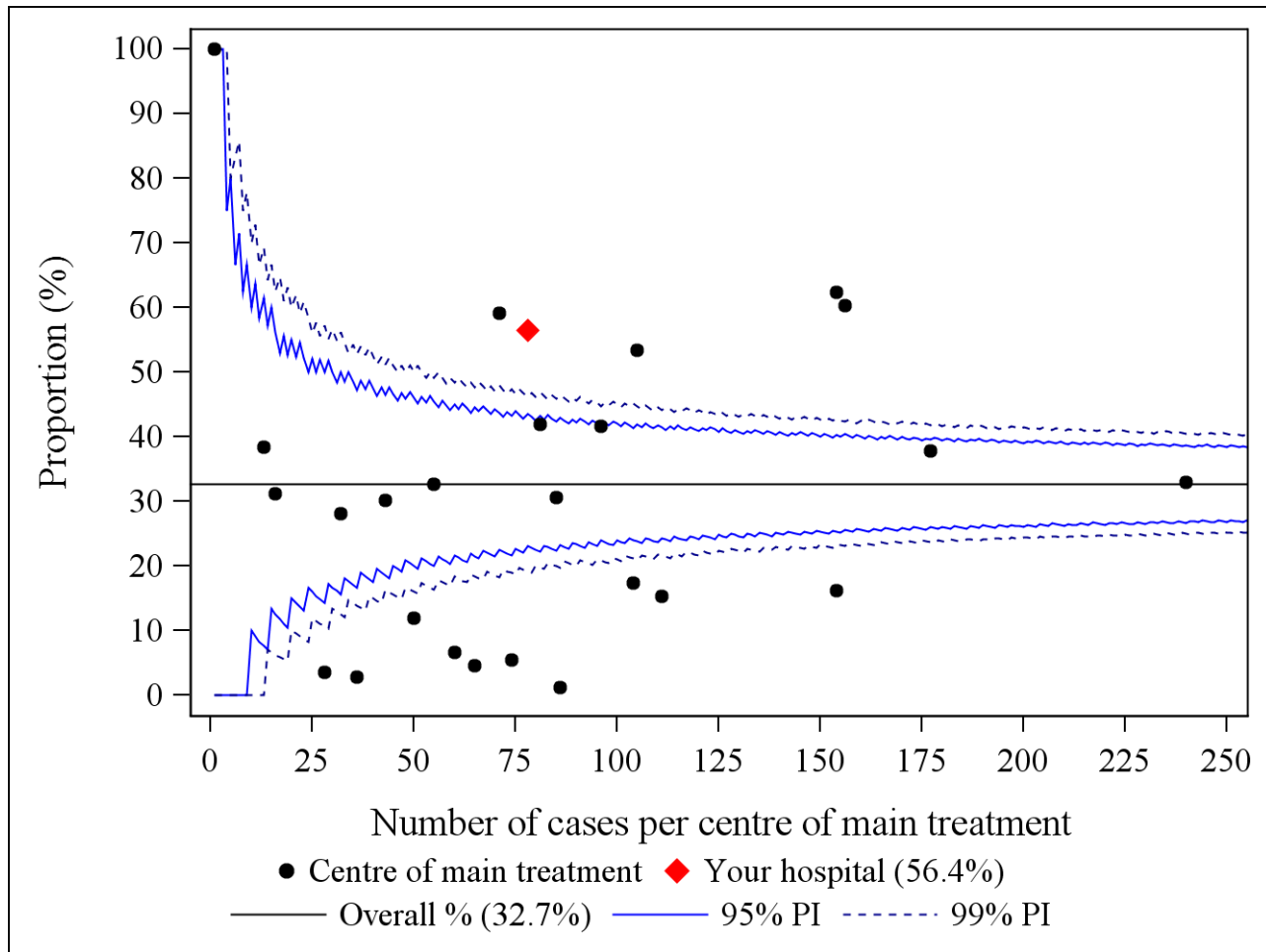
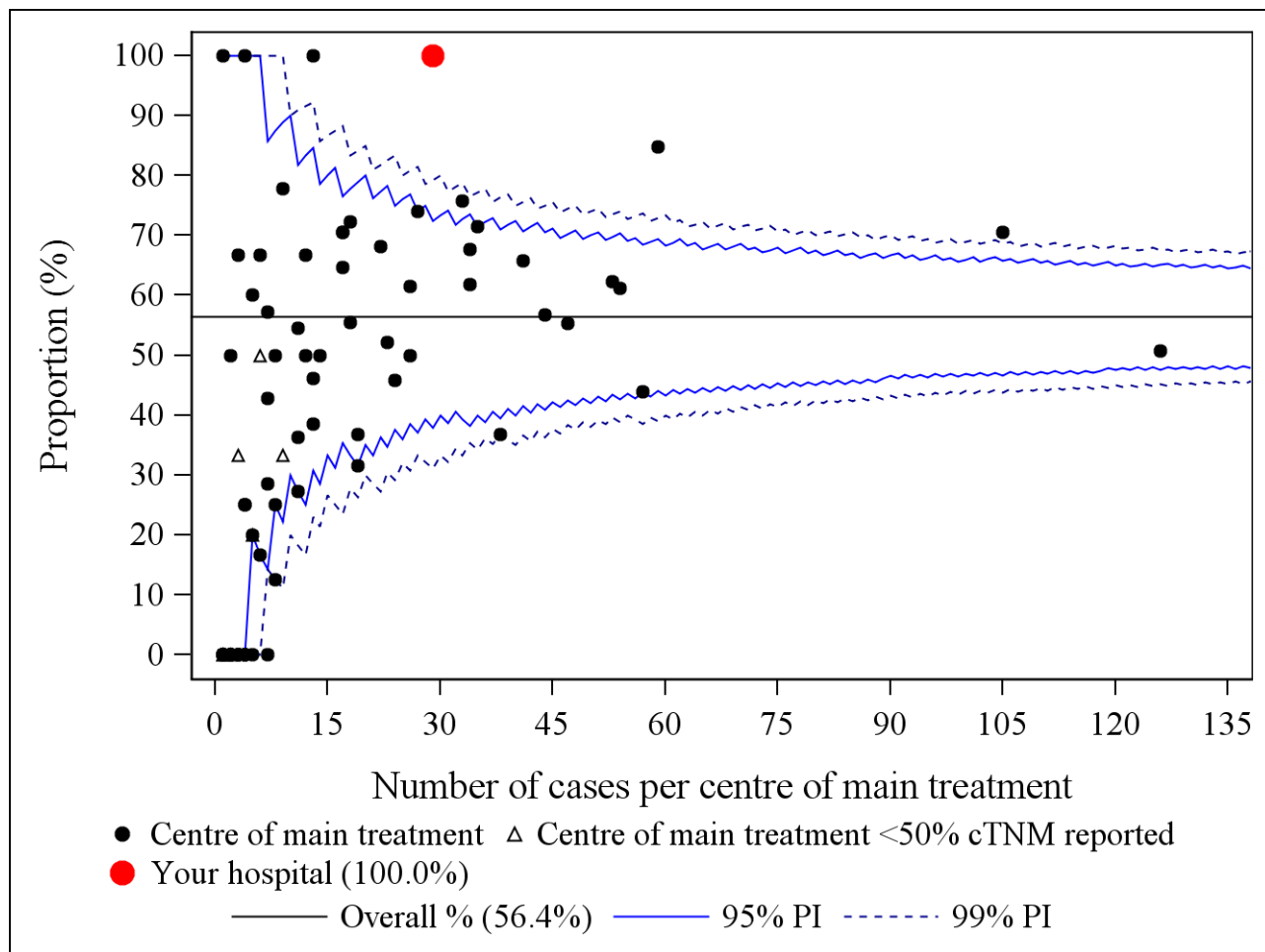


Figure 12: Head and neck cancer (2009-2014): Funnel plot of the proportion of surgically treated head and neck SCC patients with cN0M0/x with any T stage (except T1 glottic cancer), who underwent elective neck dissection (LN-2), by centre of main treatment



Note: Patients with clinical stage X are included in the analysis, e.g. cTxN0M0 is staged as cX.

3.3 Process indicator results on treatment

Table 13: Head and neck cancer (2009-2014): Overview of process indicator results on quality of treatment for Belgium and your hospital*

Process Indicator (NAME KCE-FICHE)	Belgium			Your Hospital		
	Numerator (n)	Denominator (N)	QI-result (n/N or median)	Numerator (n)	Denominator (N)	QI-result (n/N or median)
<i>Timeliness postoperative radiotherapy (RT-1), by main treatment centre</i>	792	1632	48.5	34	46	73.9
<i>Timeliness postoperative radiotherapy (RT-1), by centre of radiotherapy**</i>	792	1632	48.5	35	57	61.4
<i>Primary chemoradiotherapy for locally-advanced non-metastatic disease (RT-2)</i>	1241	2350	52.8	58	82	70.7
<i>Proportion of patients with T4a laryngeal cancer who underwent total laryngectomy (SX-1)</i>	73	116	62.9	1	6	16.7
<i>Single modality treatment stage I-II (T-1)</i>	1845	2362	78.1	66	79	83.5

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient. Except for RT-1 which is also based on the centre of radiotherapy.

** Data for your hospital cannot be shown in case there is no radiotherapy department available in your hospital or in case it concerns a satellite radiotherapy unit. In the latter situation and due to billing rules, these patients are included in the data of the hospital of the main radiation oncology department.

Table 14: Head and neck cancer (2009-2014): Overview of process indicator results on quality of treatment by tumour type for your hospital*

Process Indicator (NAME KCE-FICHE)	Oral Cavity			Oropharynx			Hypopharynx			Larynx		
	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)
<i>Timeliness postoperative radiotherapy (RT-1), by main treatment centre</i>	28	39	71.8	2	2	100.0	1	1	100.0	3	4	75.0
<i>Timeliness postoperative radiotherapy (RT-1), by centre of radiotherapy**</i>	28	45	62.2	3	5	60.0	1	1	100.0	3	6	50.0
<i>Primary chemoradiotherapy for locally-advanced non-metastatic disease (RT-2)</i>	5	6	83.3	34	49	69.4	16	21	76.2	3	6	50.0
<i>Proportion of patients with T4a laryngeal cancer who underwent total laryngectomy (SX-1)</i>	-	-	-	-	-	-	-	-	-	1	6	16.7
<i>Single modality treatment stage I-II (T-1)</i>	12	20	60.0	15	17	88.2	7	8	87.5	32	34	94.1

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient. Except for RT-1 which is also based on the centre of radiotherapy.

** Data for your hospital cannot be shown in case there is no main radiation oncology department available in your hospital or in case it concerns a satellite radiotherapy unit. In the latter situation and due to billing rules, these patients are included in the data of the hospital of the main radiation oncology department.

Figure 13: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with HNSCC who were treated with post-operative radiotherapy in whom the radiotherapy was ended within 13 weeks after surgery (RT-1), by centre of main treatment

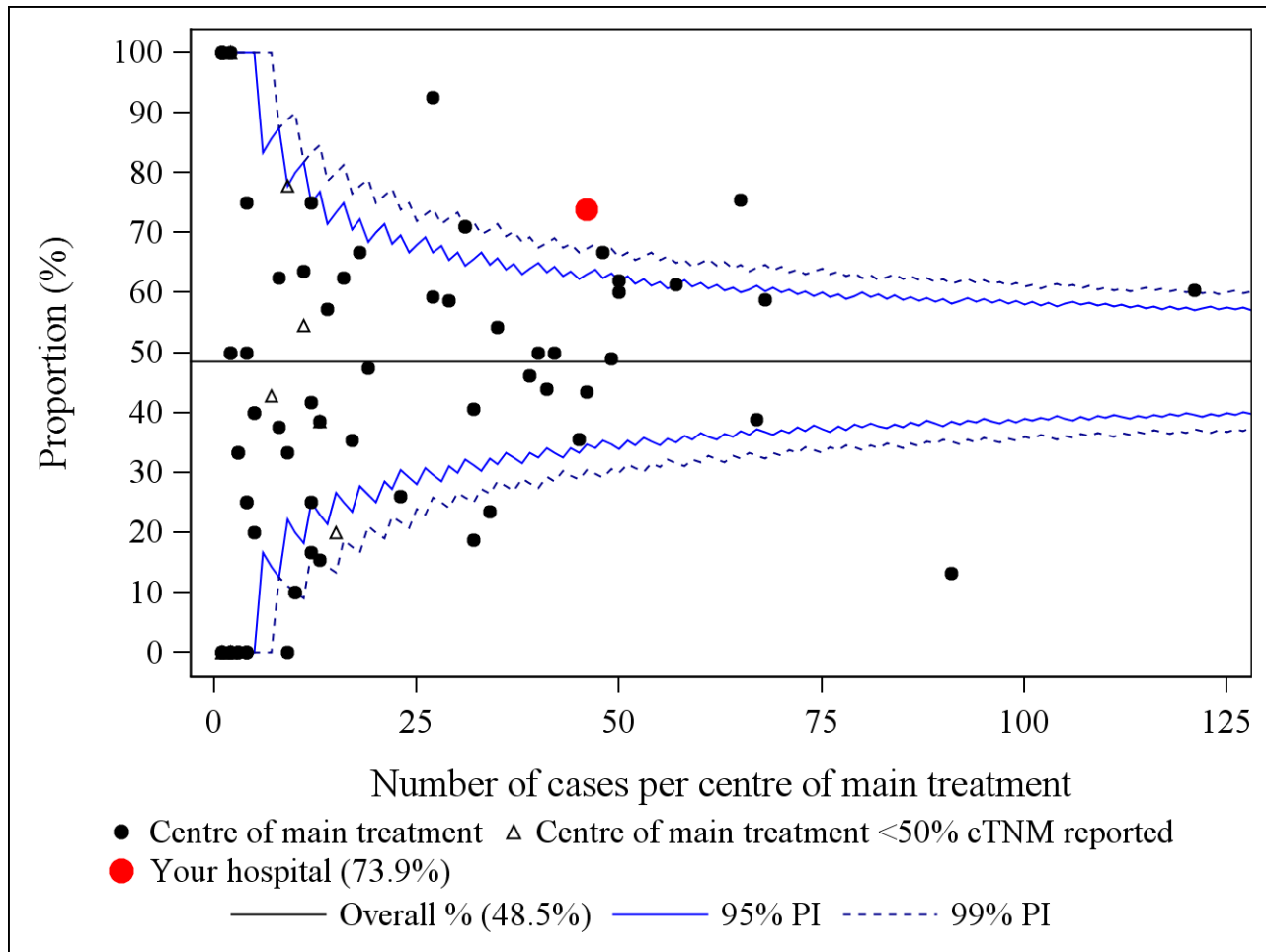


Figure 14: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with HNSCC who were treated with post-operative radiotherapy in whom the radiotherapy was ended within 13 weeks after surgery (RT-1), by centre of radiotherapy

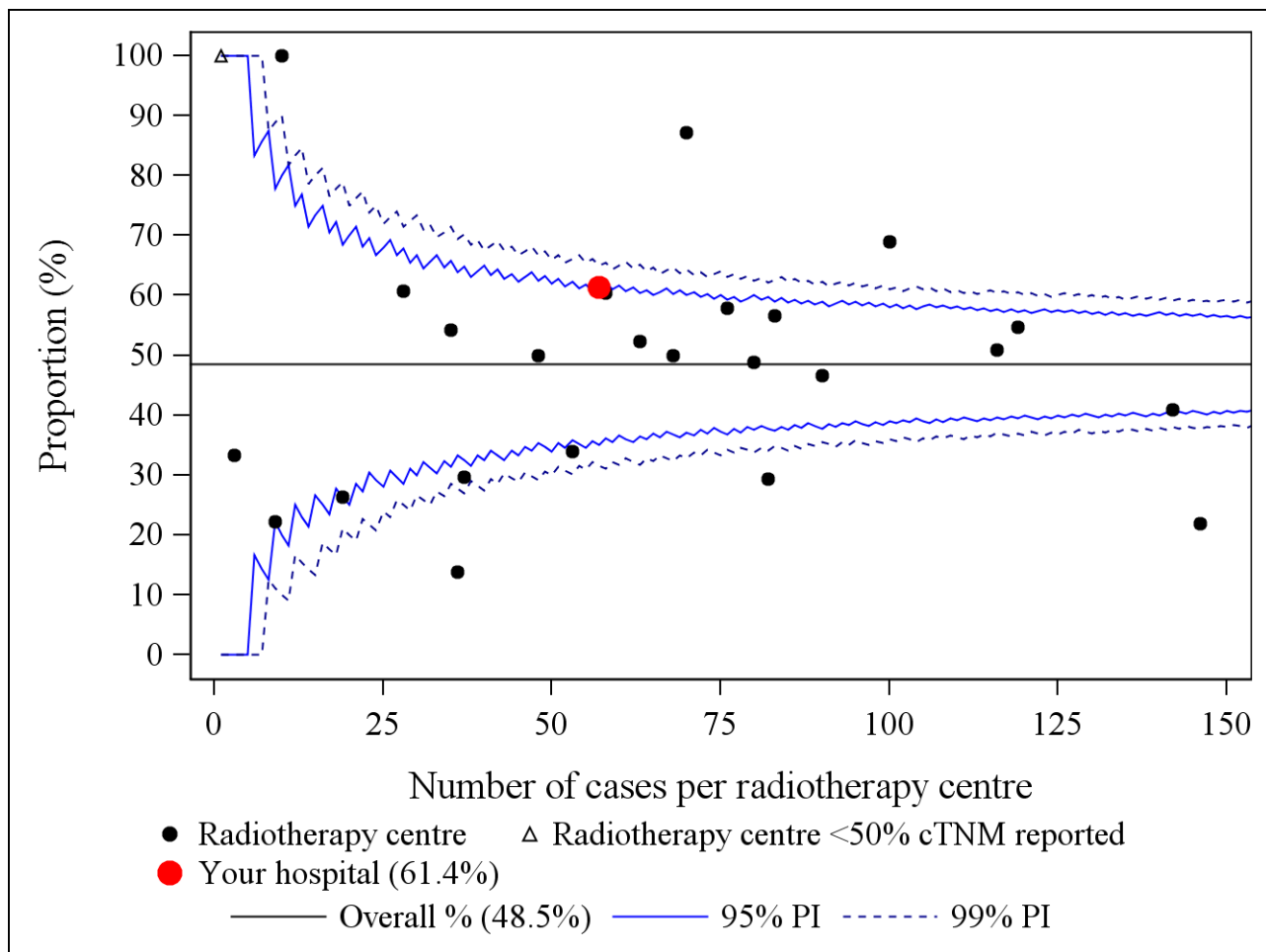


Figure 15: Head and neck cancer (2009-2014): Funnel plot of the proportion of medically fit patients with locally-advanced stage (stage III and IV) non-metastatic HNSCC treated with primary RT who received primary concomitant platinum-based chemotherapy (RT-2), by centre of main treatment

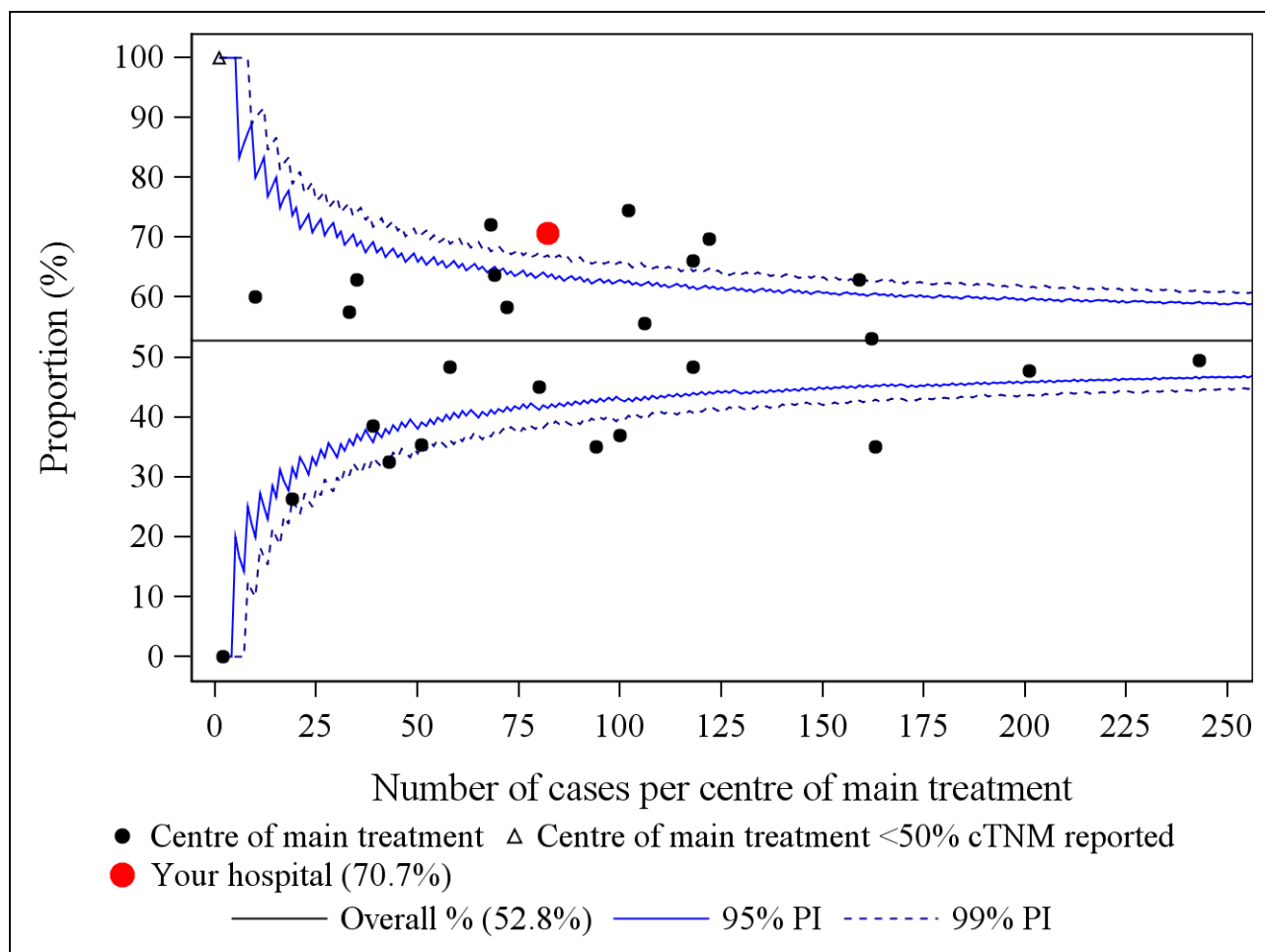


Figure 16: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with non-metastatic T4a laryngeal cancer who underwent total laryngectomy (SX-1), by centre of main treatment

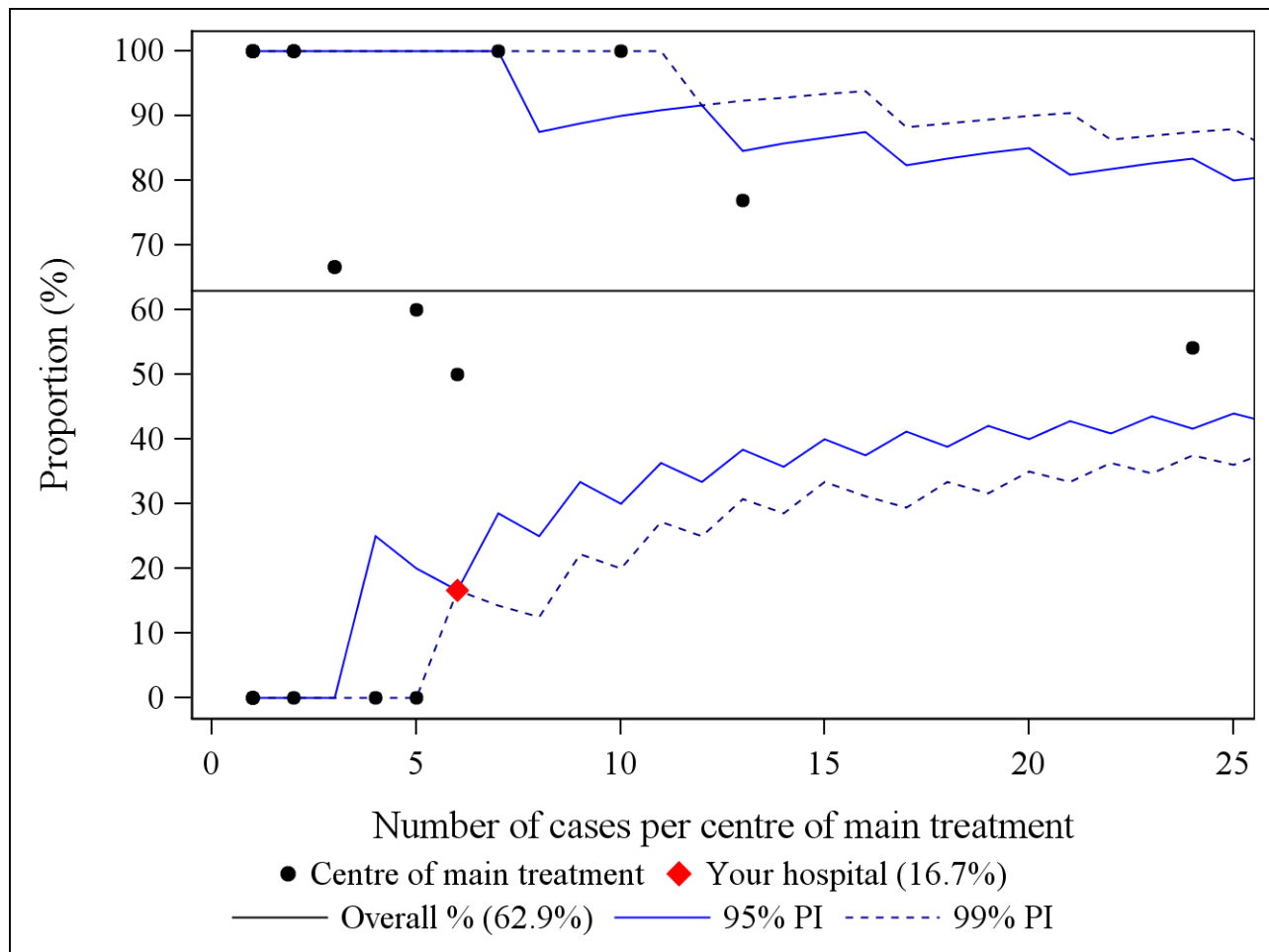
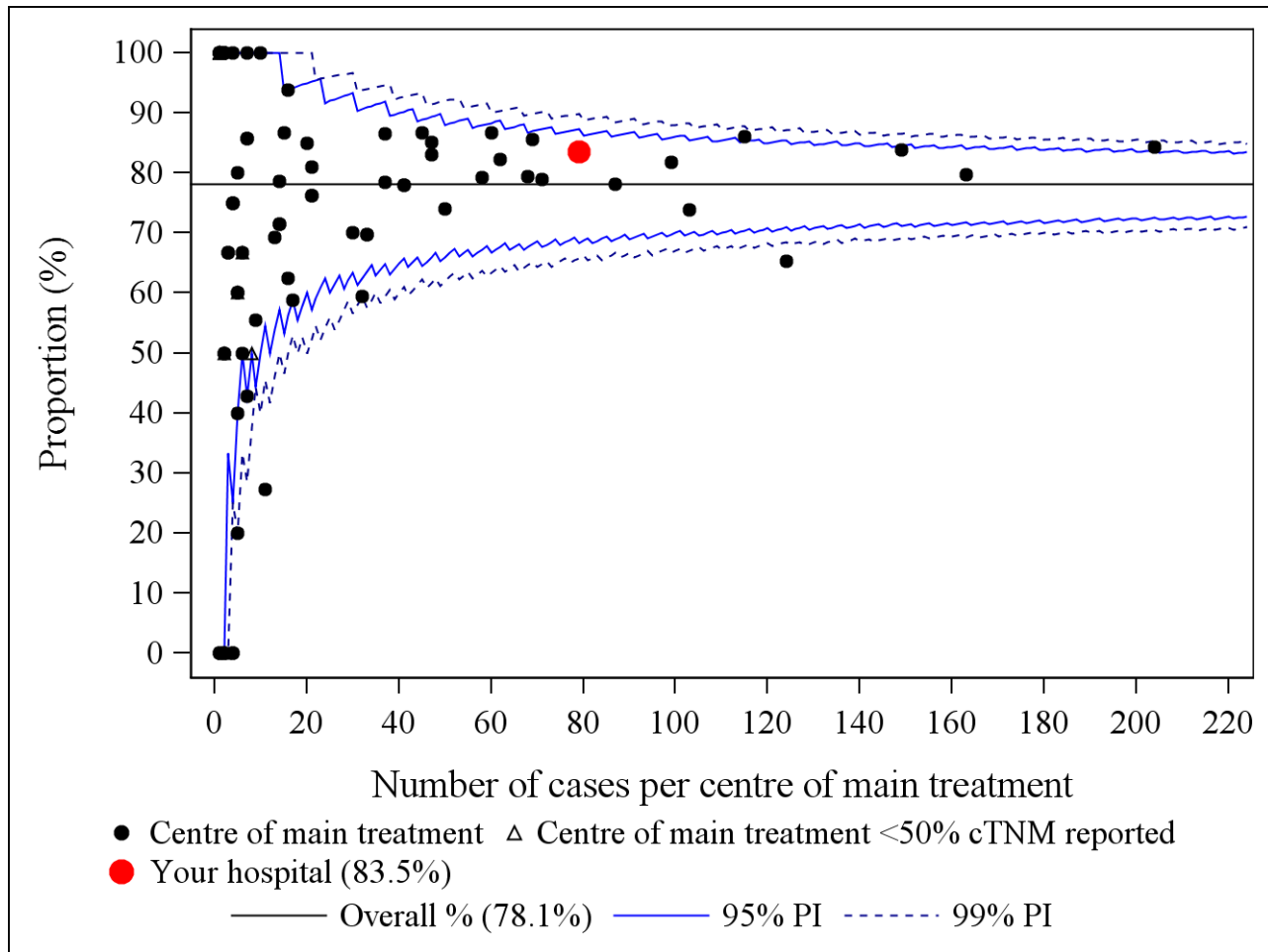


Figure 17: Head and neck cancer (2009-2014): Funnel plot of the proportion of patients with early stage (cI or cII) HNSCC who were treated with a single-modality approach (T-1), by centre of main treatment



4. Outcome indicator results

4.1. Post-treatment mortality

4.1.1. Post-operative mortality

Table 15: Head and neck cancer (2009-2014): Overview of post-operative mortality for the total population and your hospital*

	Belgium			Your hospital		
	Numerator (n)	Denominator (N)	Indicator (%)	Numerator (n)	Denominator (N)	Indicator (%)
<i>30 days</i>	<i>75</i>	<i>3479</i>	<i>2.2</i>	<i>4</i>	<i>108</i>	<i>3.7</i>
<i>60 days</i>	<i>120</i>	<i>3479</i>	<i>3.4</i>	<i>6</i>	<i>108</i>	<i>5.6</i>
<i>90 days</i>	<i>159</i>	<i>3479</i>	<i>4.6</i>	<i>6</i>	<i>108</i>	<i>5.6</i>

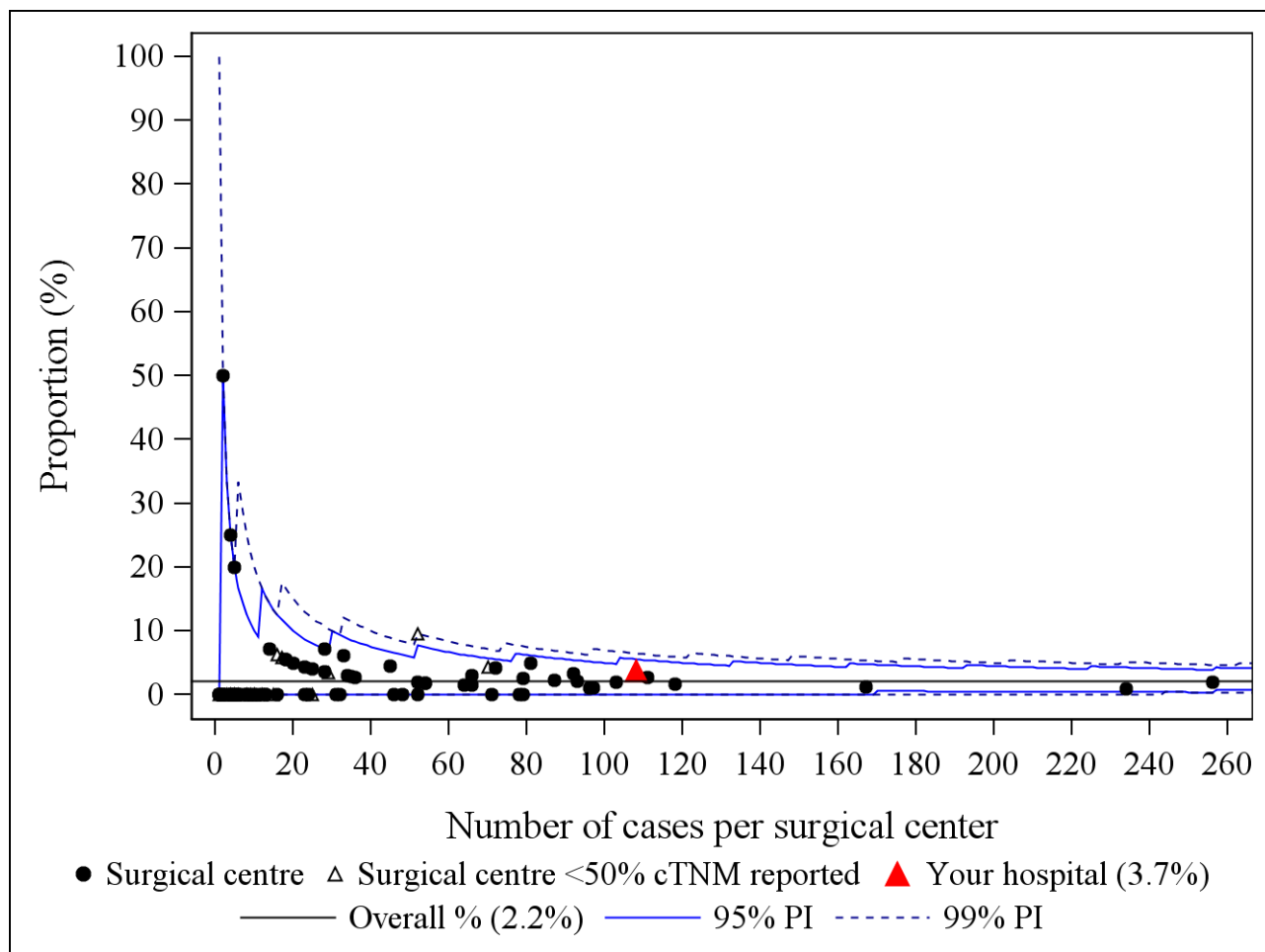
* Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

Table 16: Head and neck cancer (2009-2014): Overview of post-operative mortality by tumour type for your hospital*

Process Indicator (NAME KCE-FICHE)	Oral Cavity			Oropharynx			Hypopharynx			Larynx		
	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)
<i>30 days</i>	<i>3</i>	<i>80</i>	<i>3.8</i>	<i>1</i>	<i>10</i>	<i>10.0</i>	<i>0</i>	<i>4</i>	<i>0.0</i>	<i>0</i>	<i>14</i>	<i>0.0</i>
<i>60 days</i>	<i>5</i>	<i>80</i>	<i>6.3</i>	<i>1</i>	<i>10</i>	<i>10.0</i>	<i>0</i>	<i>4</i>	<i>0.0</i>	<i>0</i>	<i>14</i>	<i>0.0</i>
<i>90 days</i>	<i>5</i>	<i>80</i>	<i>6.3</i>	<i>1</i>	<i>10</i>	<i>10.0</i>	<i>0</i>	<i>4</i>	<i>0.0</i>	<i>0</i>	<i>14</i>	<i>0.0</i>

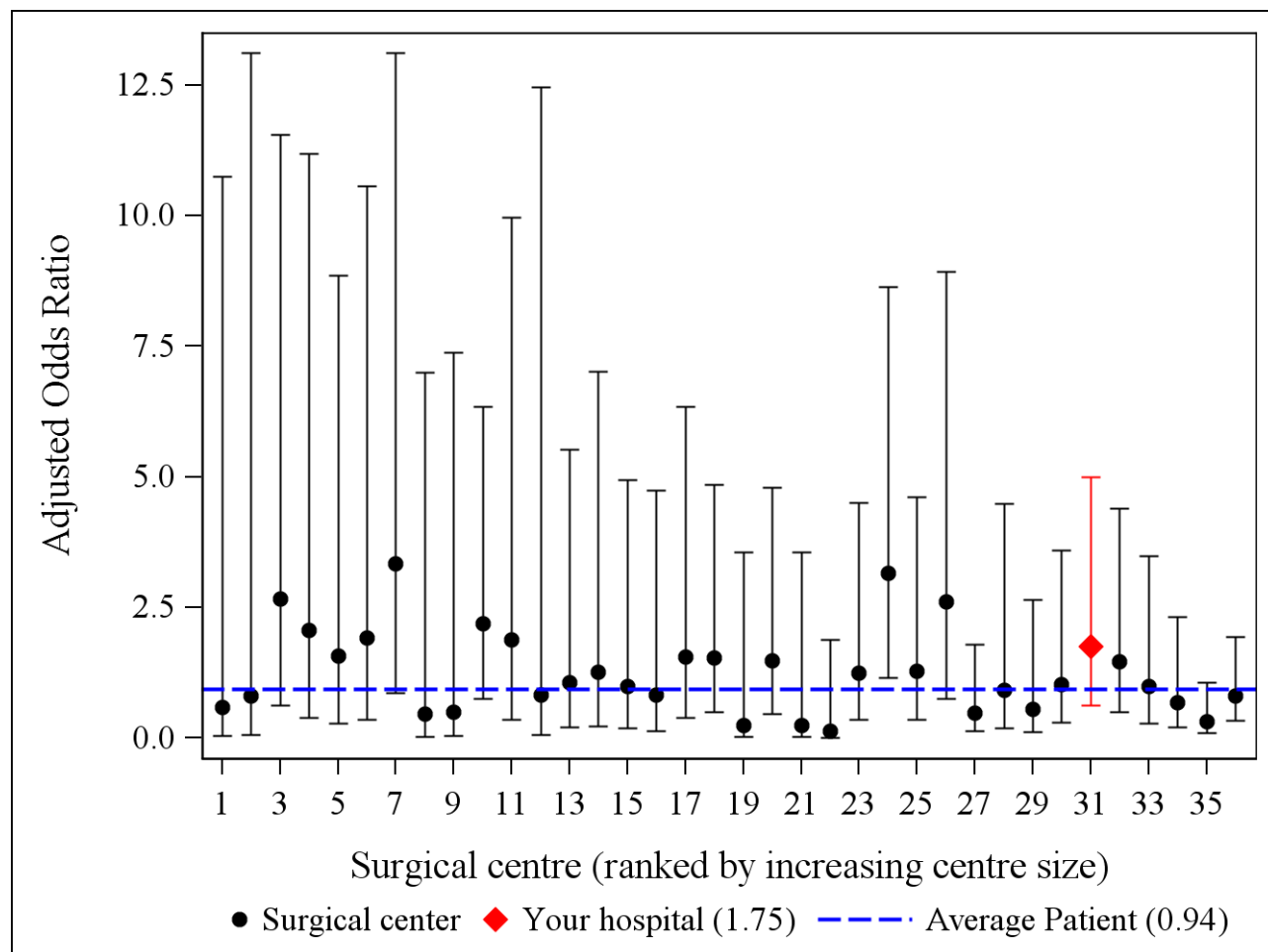
* Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

Figure 18: Head and neck cancer (2009-2014): Funnel plot of the crude 30-day post-operative mortality, by surgical centre



Note: In the funnel plot, 7 patients are not shown as they could not be assigned to a surgical centre.

Figure 19: Head and neck cancer (2009-2014): Forest plot of adjusted* odds ratios for 30-day post-operative mortality, by surgical centre



* Adjusted for the following case-mix variables: gender, age, WHO performance score, combined stage, anatomic localisation, number of previous inpatient days and Charlson Comorbidity Index (modified).

Note: In the forest plot, value 1.0 represents the average centre and the dashed blue line is the OR for the average patient. The centres are ranked according to the number of patients assigned to them: from smallest (left) to largest (right). The vertical lines represent the 95% CI of the centre OR estimates. For 60 out of the 96 surgical centres, no adjusted OR could be calculated as their volume was too small (i.e. less than 30 patients over the six year period); they are therefore not reported. Yet, for the estimation of the model, these small centres were grouped into one virtual centre, so that these patients could contribute in the estimation of the adjustment parameters. This grouped virtual centre is not shown in the forest plot, although it contributes in the calculation of the average patient OR.

4.1.2. Post-radiotherapy mortality

Table 17: Head and neck cancer (2009-2014): Overview of post-radiotherapy mortality for the total population and your hospital*

	Belgium			Your hospital		
	Numerator (n)	Denominator (N)	Indicator (%)	Numerator (n)	Denominator (N)	Indicator (%)
<i>30 days</i>	<i>183</i>	<i>4543</i>	<i>4.0</i>	<i>6</i>	<i>167</i>	<i>3.6</i>
<i>60 days</i>	<i>250</i>	<i>4543</i>	<i>5.5</i>	<i>9</i>	<i>167</i>	<i>5.4</i>
<i>90 days</i>	<i>341</i>	<i>4543</i>	<i>7.5</i>	<i>11</i>	<i>167</i>	<i>6.6</i>

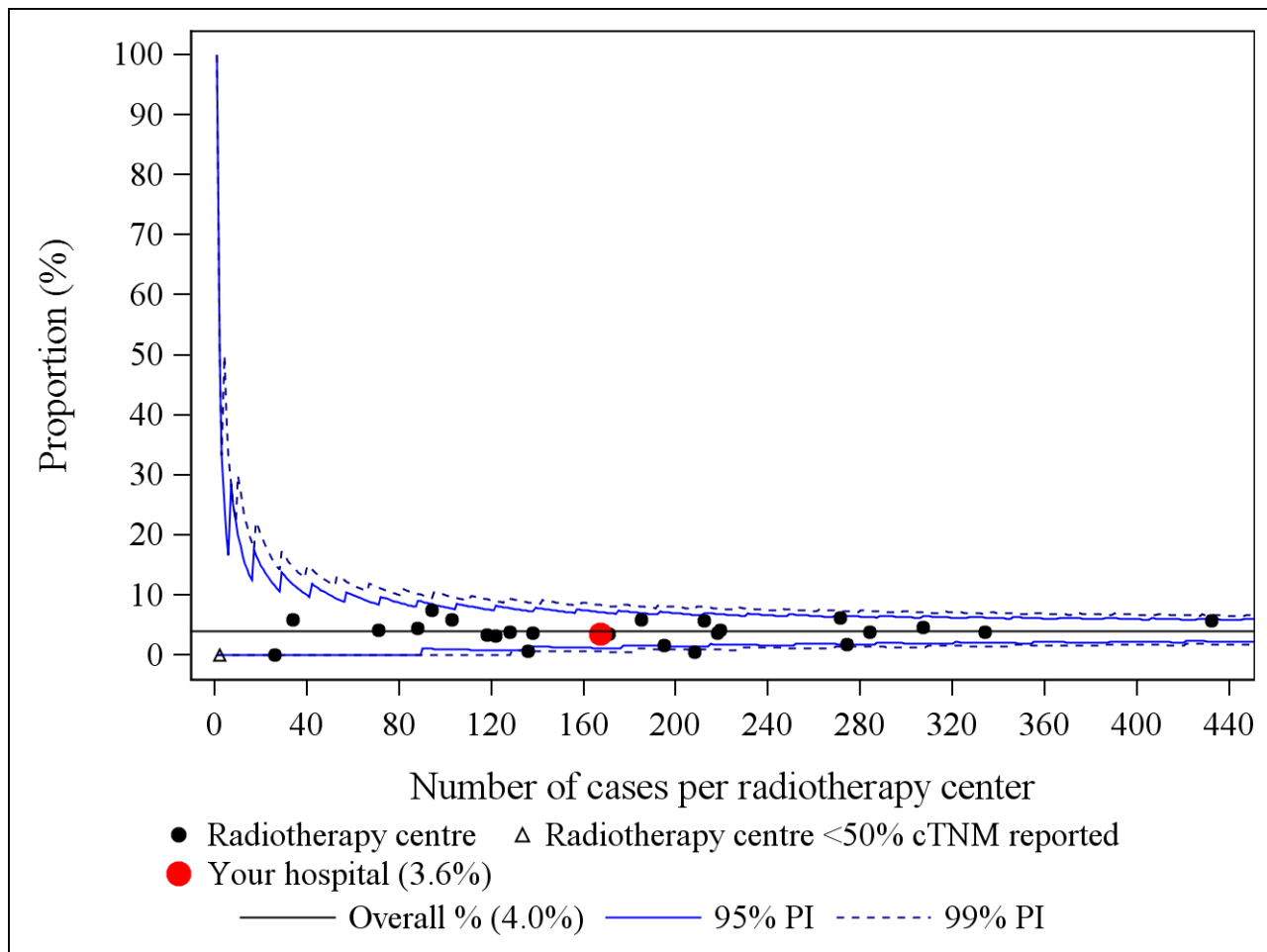
* Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

Table 18: Head and neck cancer (2009-2014): Overview of post-radiotherapy mortality by tumour type for your hospital*

Process Indicator (NAME KCE-FICHE)	Oral Cavity			Oropharynx			Hypopharynx			Larynx		
	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)	Numera- tor (n)	Denomi- nator (N)	QI-result (n/N or median)
<i>30 days</i>	<i>0</i>	<i>9</i>	<i>0.0</i>	<i>4</i>	<i>73</i>	<i>5.5</i>	<i>1</i>	<i>33</i>	<i>3.0</i>	<i>1</i>	<i>52</i>	<i>1.9</i>
<i>60 days</i>	<i>0</i>	<i>9</i>	<i>0.0</i>	<i>6</i>	<i>73</i>	<i>8.2</i>	<i>1</i>	<i>33</i>	<i>3.0</i>	<i>2</i>	<i>52</i>	<i>3.8</i>
<i>90 days</i>	<i>0</i>	<i>9</i>	<i>0.0</i>	<i>7</i>	<i>73</i>	<i>9.6</i>	<i>2</i>	<i>33</i>	<i>6.1</i>	<i>2</i>	<i>52</i>	<i>3.8</i>

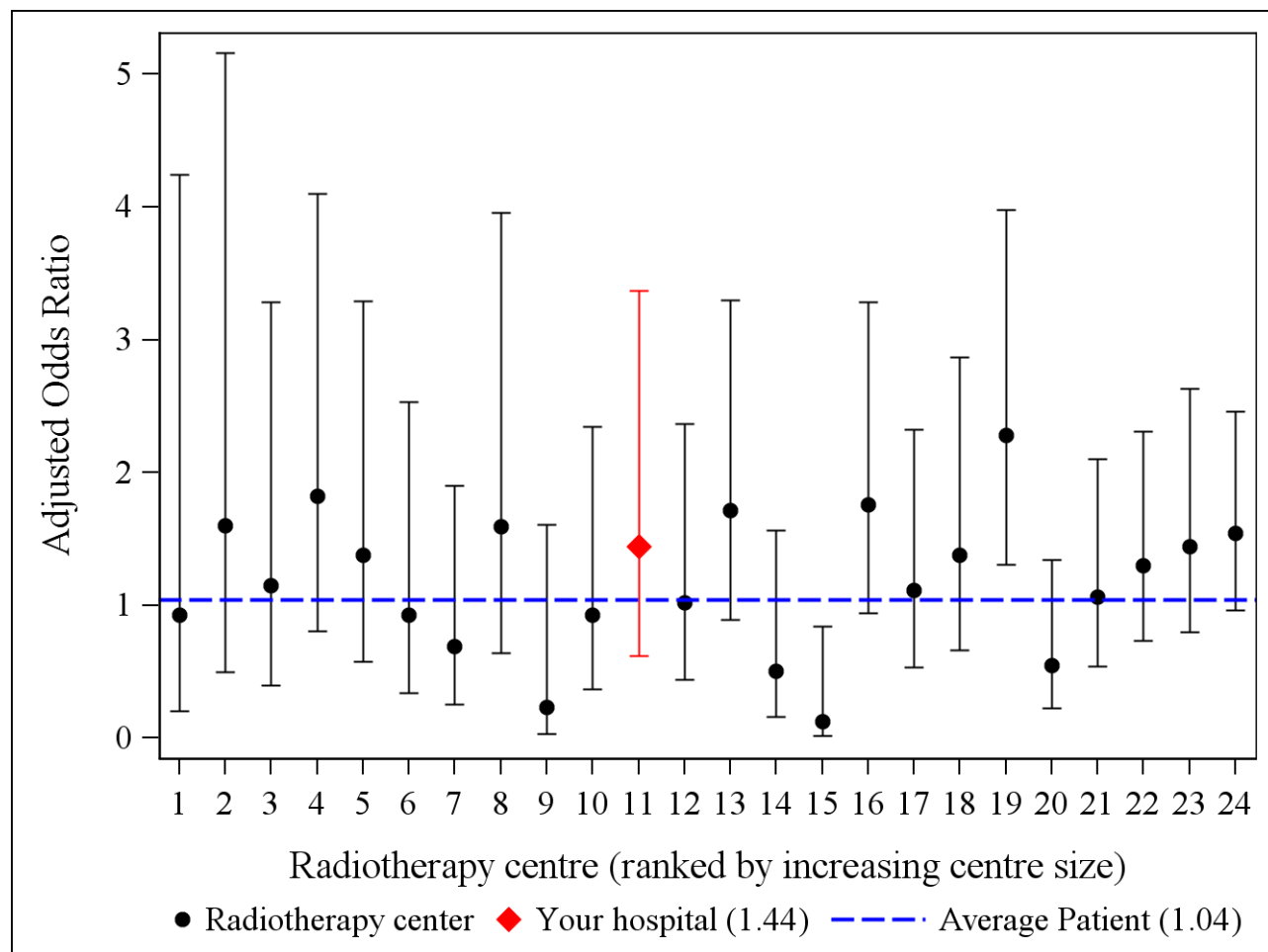
* Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

Figure 20: Head and neck cancer (2009-2014): Funnel plot of the crude 30-day post-radiotherapy mortality, by radiotherapy centre



Note: In the funnel plot, 6 patients are not shown as they could not be assigned to a radiotherapy centre.

Figure 21: Head and neck cancer (2009-2014): Forest plot of adjusted* odds ratios for 30-day post-radiotherapy mortality, by radiotherapy centre



* Adjusted for the following case-mix variables: gender, age, WHO performance score, combined stage, anatomic localisation, number of previous inpatient days and Charlson Comorbidity Index (modified).

Note: In the forest plot, value 1.0 represents the average centre and the dashed blue line is the OR for the average patient. The centres are ranked according to the number of patients assigned to them: from smallest (left) to largest (right). The vertical lines represent the 95% CI of the centre OR estimates. For 2 out of the 26 radiotherapy centres, no adjusted OR could be calculated as their volume was too small (i.e. less than 30 patients over the six year period); they are therefore not reported. Yet, for the estimation of the model, these small centres were grouped into one virtual centre, so that these patients could contribute in the estimation of the adjustment parameters. This grouped virtual centre is not shown in the forest plot, although it contributes in the calculation of the average patient OR.

4.2. Observed survival

It should be noted that the interpretation of survival analyses is uncertain if the number of patients is smaller than 30. If your hospital has less than 30 patients, no survival results for your hospital are reported in this feedback report. If more than 30 patients were assigned to your hospital, it is still possible that subgroups have less than 30 patients. Results will not be published for these subgroups.

4.2.1. Observed survival for patients diagnosed with HNSCC

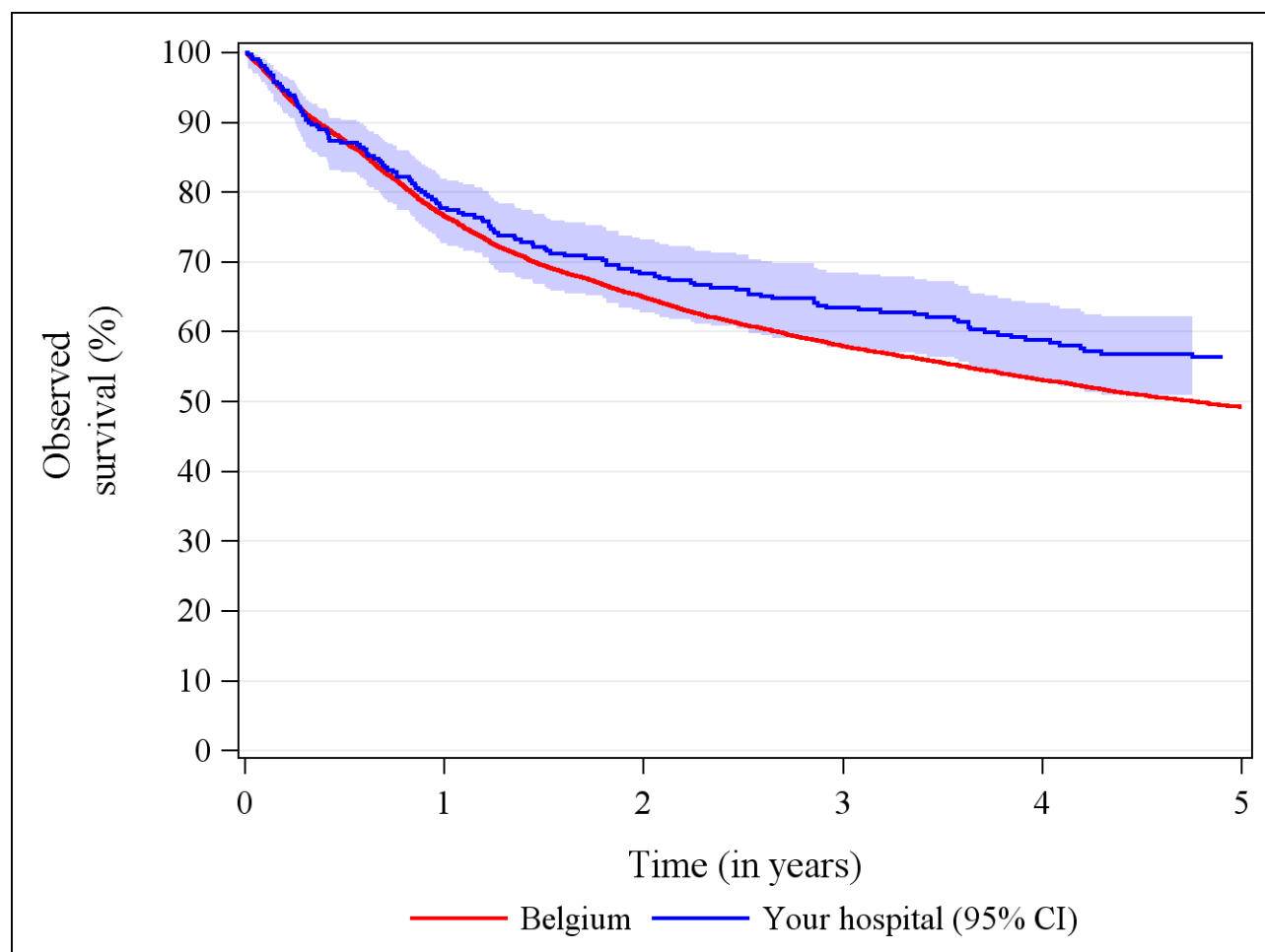
Table 19: Head and neck cancer (2009-2014): Observed survival by patient and tumour characteristics for Belgium and your hospital, by centre of main treatment*

Characteristics	Observed survival (%)							
	Belgium				Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year
Overall	9,245	76.6	65.0	49.3	311	77.7	68.3	56.3
Anatomic site								
Oral cavity	2,665	76.3	65.2	50.2	99	77.5	71.3	61.8
Oropharynx	2,745	74.3	61.4	44.8	100	73.0	64.0	52.0
Hypopharynx	1,137	65.7	49.6	30.7	39	76.9	56.4	35.4
Larynx	2,698	83.9	75.0	60.6	73	84.9	76.7	65.8
Gender								
Male	7,017	76.0	63.9	47.7	225	77.2	68.8	55.1
Female	2,228	78.4	68.6	54.2	86	78.9	67.2	59.4
Age group								
<50 years	930	85.5	73.5	59.9	41	87.5	80.0	66.6
50-59 years	3,058	81.1	69.4	52.4	103	83.3	72.6	63.2
60-69 years	3,047	76.3	65.1	50.1	99	79.8	72.7	58.7

Characteristics	Observed survival (%)							
	Belgium				Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year
70-79 years	1,481	71.9	60.5	45.9	50	66.0	58.0	47.0
80+ years	729	57.2	44.6	25.2	18	NA (N<30)	NA (N<30)	NA (N<30)
WHO - Performance Status								
0 – Asymptomatic	1,469	83.8	71.6	57.1	173	83.8	73.3	61.7
1 – Symptomatic but completely ambulatory	5,657	77.6	66.1	49.1	52	61.5	51.9	38.9
2 – Symptomatic, <50% in bed during the day	228	43.0	28.9	16.8	8	NA (N<30)	NA (N<30)	NA (N<30)
3 – Symptomatic, >50% in bed, but not bedbound	104	22.1	13.5	8.7	4	NA (N<30)	NA (N<30)	NA (N<30)
4 – Bedbound	37	16.2	10.8	4.1	0	NA (N<30)	NA (N<30)	NA (N<30)
Missing	1,750	76.3	64.8	50.5	74	83.6	75.4	61.3
Combined stage								
I	1,794	94.1	89.5	78.2	66	90.9	86.4	79.5
II	1,119	86.2	76.4	60.4	40	90.0	77.5	63.9
III	1,257	80.5	69.3	49.7	42	85.7	69.0	52.3
IVA/B	3,735	69.3	54.0	36.4	142	66.5	57.9	45.1
IVC	345	38.8	22.3	8.3	2	NA (N<30)	NA (N<30)	NA (N<30)
X (unknown)	995	69.7	58.6	46.2	19	NA (N<30)	NA (N<30)	NA (N<30)
Treatment scheme								
Surgery with curative intent	3,518	85.4	76.1	60.5	109	87.0	78.6	66.9
(Syst)/RT < Surgery (< adjuvant treatment)	70	78.6	62.9	49.0	1	NA (N<30)	NA (N<30)	NA (N<30)
Primary (Syst)RT (no major surgery)	4,596	79.7	66.0	48.5	168	81.0	70.8	57.0
Primary systemic therapy (no major surgery, no RT)	381	33.1	17.3	7.6	14	NA (N<30)	NA (N<30)	NA (N<30)
No treatment/Palliative RT	680	33.9	28.0	19.4	19	NA (N<30)	NA (N<30)	NA (N<30)

* Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

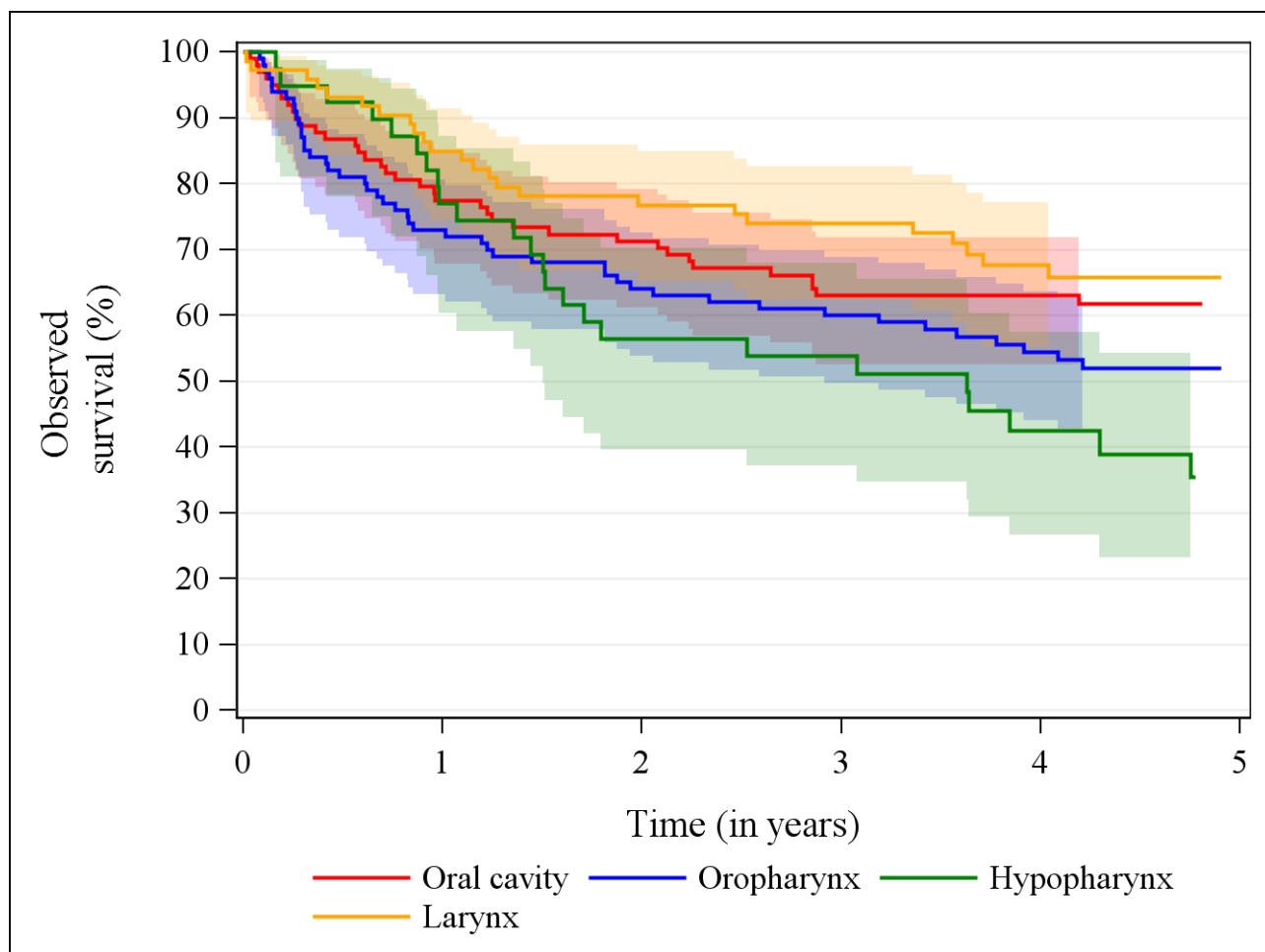
Figure 22: Head and neck cancer (2009-2014): Observed survival for patients diagnosed with head and neck cancer for your hospital and the total population



Note: Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

Figure 23: Head and neck cancer (2009-2014): Observed survival for patients diagnosed with head and neck cancer for your hospital, by tumour type

Remark: If for one or more anatomic localisations less than 30 patients were assigned to your hospital, these anatomic localisations are not shown in the graph.



Note: Selection of patients for each hospital is based on the algorithm to define the centre of main treatment for each patient.

Figure 24: Head and neck cancer (2009-2014): Funnel plot of unadjusted 5-year observed survival for patients with head and neck cancer, by centre of main treatment

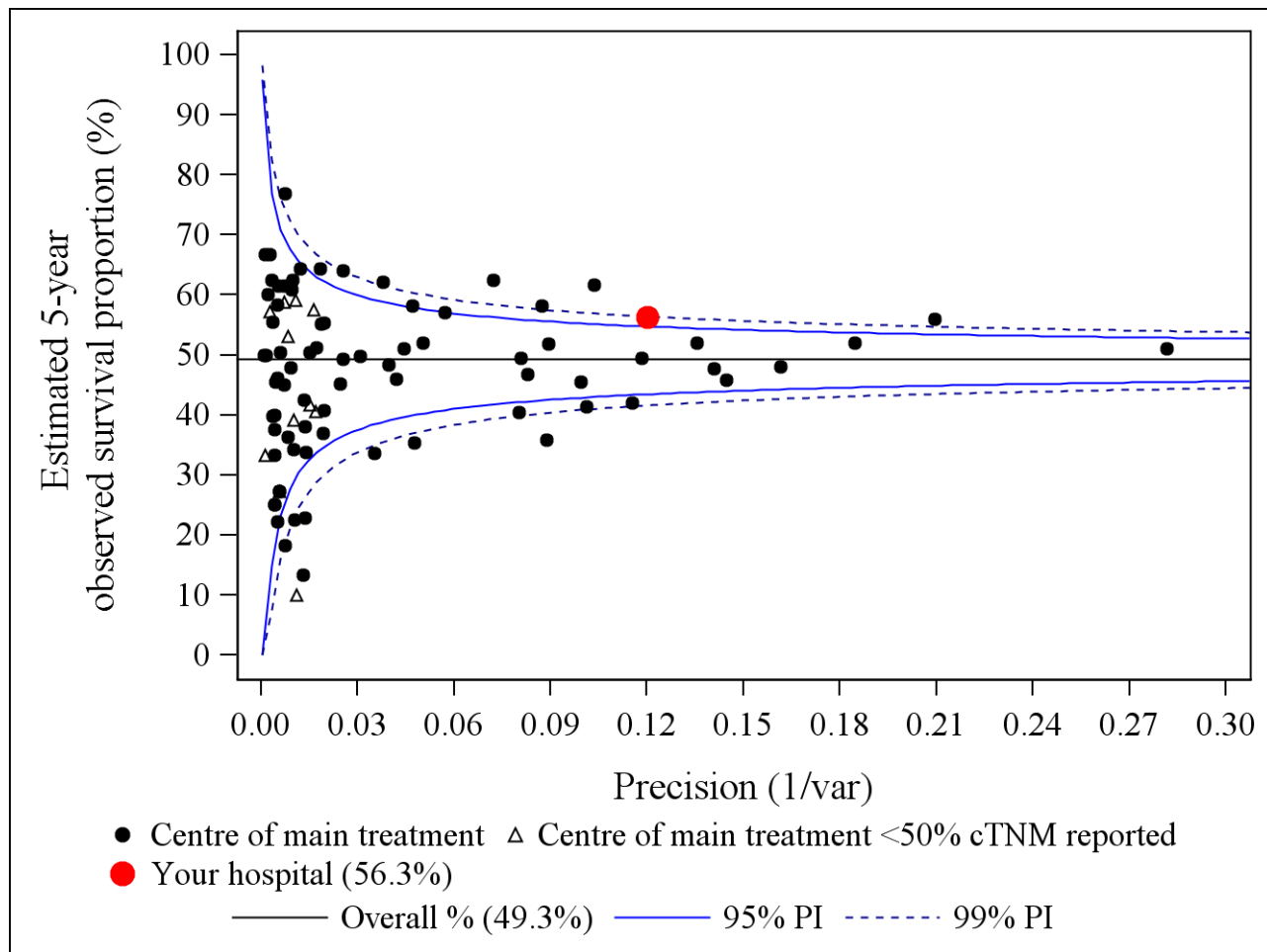
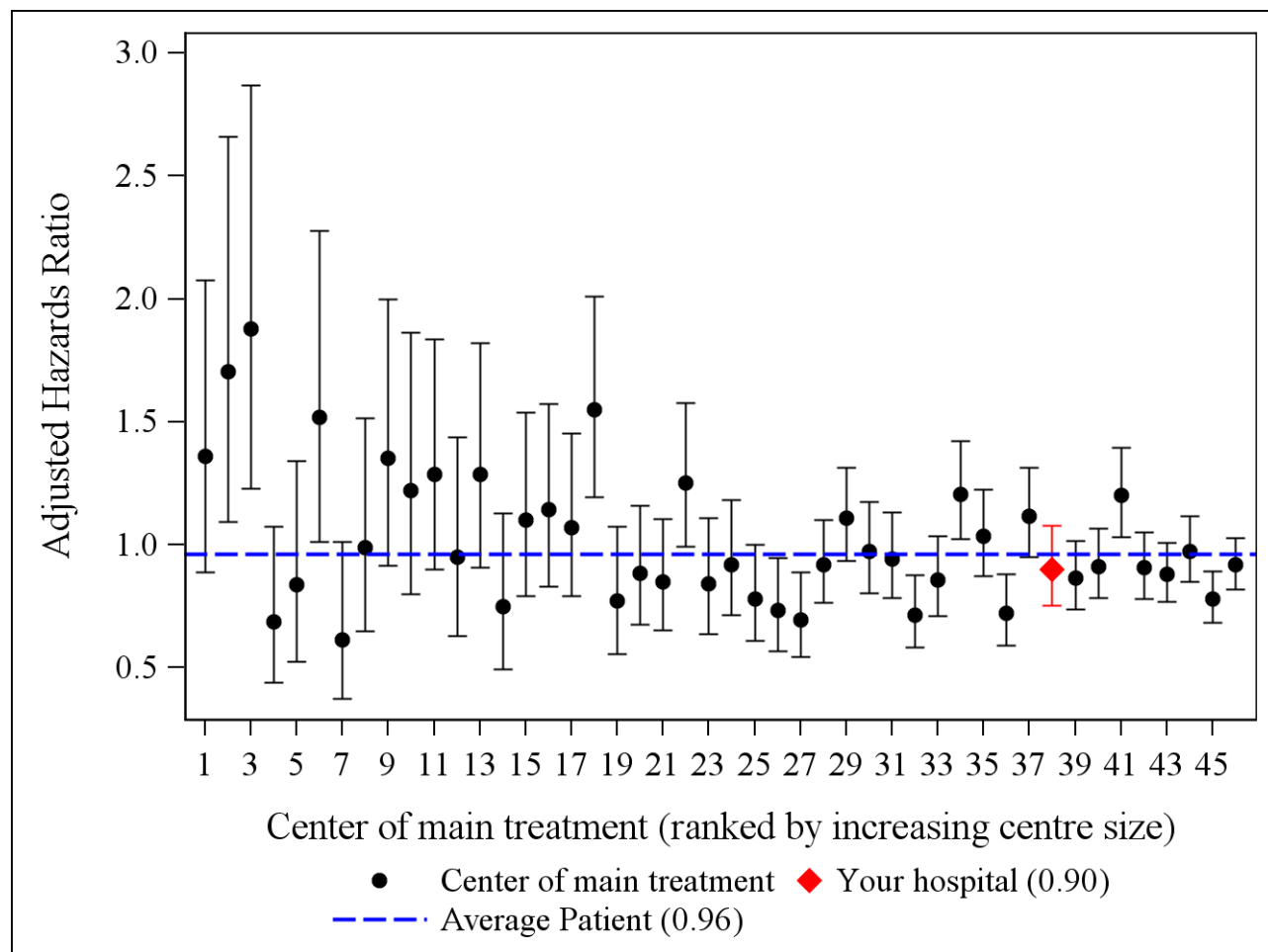


Figure 25: Head and neck cancer (2009-2014): Forest plot of the estimated centre Hazard Ratio adjusted for case-mix observed survival, by centre of main treatment



Notes: Value 1.0 represents the average centre and the dashed blue line is the HR for the average patient (which equals the weighted sum of all centre HR, with the number of patients per centre as weight). The centres are ranked according to the number of patients assigned to them: from smallest (left) to largest (right). A HR which is lower than 1.0, indicates a lower hazard (or instantaneous risk) to die, and thus a higher survival. When the vertical lines, which represent the 95% CI on the centre HR, include value 1.0 (dashed line), the HR of that centre is not statistically significantly different from the average centre (average patient).

For 53 out of 99 centres of main treatment, no adjusted HRs could be calculated as their volume was too small (i.e. less than 30 patients over the six year period); they are therefore not reported. Yet, for the estimation of the model, these small centres were grouped into one virtual centre, so that these patients could contribute in the estimation of the adjustment parameters. This grouped virtual centre is not shown in the forest plot, although it contributes in the calculation of the average patient HR.

4.2.2. Observed survival for patients diagnosed with HNSCC who underwent surgery with curative intent

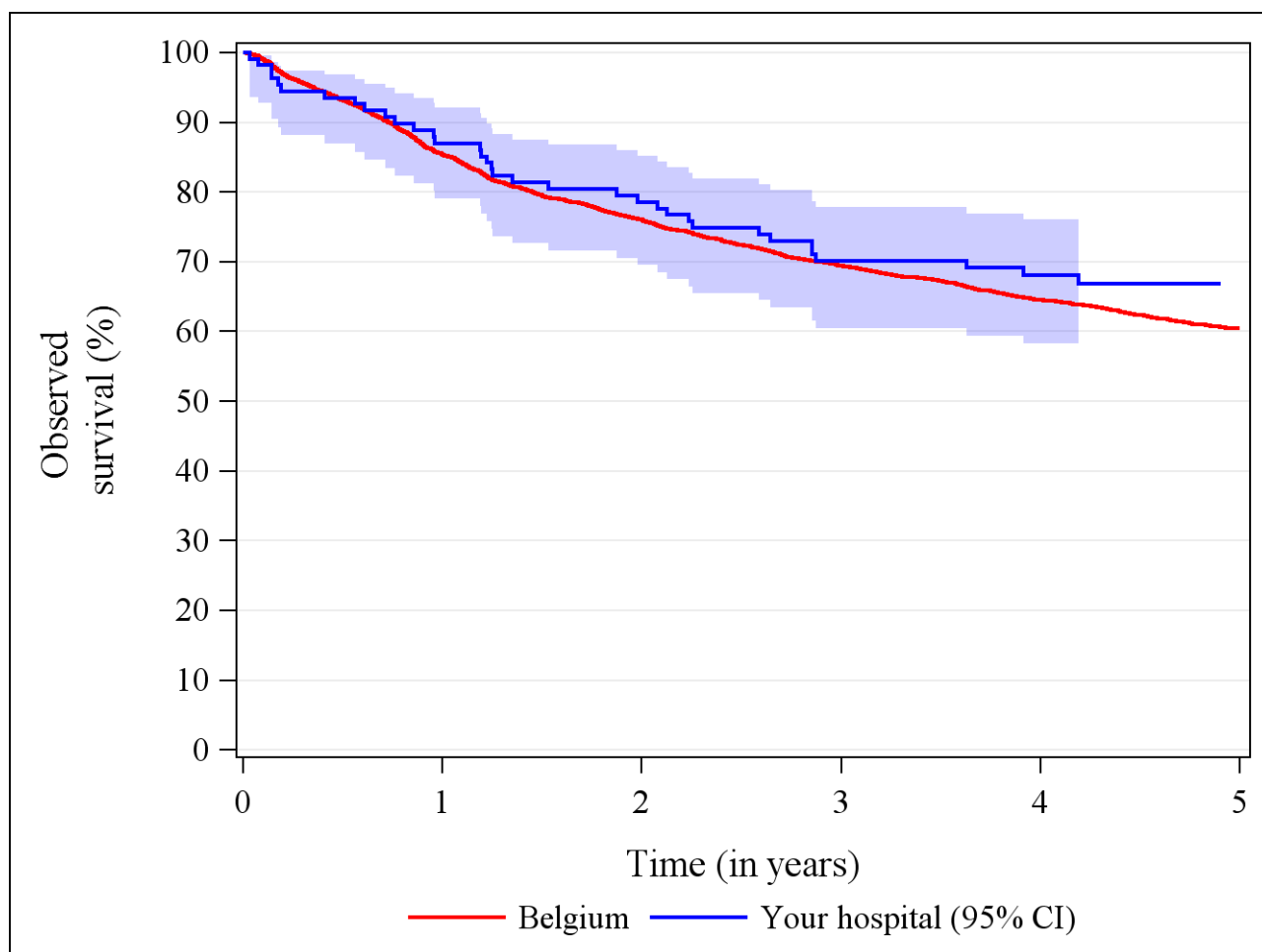
Table 20: Head and neck cancer (2009-2014): Overview of observed survival for patients treated with surgery with curative intent by patient and tumour characteristics for Belgium and your hospital, by centre of surgery*

Characteristics	Observed survival (%)							
	Belgium				Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year
Overall	3,518	85.4	76.1	60.5	109	87.0	78.6	66.9
Anatomic site								
Oral cavity	1,957	84.4	74.6	59.1	81	84.9	77.3	65.7
Oropharynx	644	85.9	78.3	60.8	10	NA (N<30)	NA (N<30)	NA (N<30)
Hypopharynx	154	82.5	63.6	43.9	4	NA (N<30)	NA (N<30)	NA (N<30)
Larynx	763	88.3	80.6	67.3	14	NA (N<30)	NA (N<30)	NA (N<30)
Gender								
Male	2,487	84.6	74.7	58.0	78	85.8	74.1	60.4
Female	1,031	87.4	79.5	66.6	31	90.1	90.1	83.4
Age group								
<50 years	440	91.1	82.2	70.6	16	NA (N<30)	NA (N<30)	NA (N<30)
50-59 years	1,189	88.7	80.3	62.6	36	91.6	83.0	71.5
60-69 years	1,088	86.9	77.6	63.8	38	86.8	81.6	70.3
70-79 years	543	78.1	67.4	52.4	15	NA (N<30)	NA (N<30)	NA (N<30)
80+ years	258	69.8	58.5	36.3	4	NA (N<30)	NA (N<30)	NA (N<30)
WHO - Performance Status								
0 – Asymptomatic	626	89.0	78.5	66.1	65	86.0	76.6	67.0
1 – Symptomatic but completely ambulatory	2,052	85.8	76.6	59.6	7	NA (N<30)	NA (N<30)	NA (N<30)

Characteristics	Observed survival (%)								
	Belgium					Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year	
2 – Symptomatic, <50% in bed during the day	56	53.6	42.9	23.5	1	NA (N<30)	NA (N<30)	NA (N<30)	
3 – Symptomatic, >50% in bed, but not bedbound	23	NA (N<30)	NA (N<30)	NA (N<30)	0	NA (N<30)	NA (N<30)	NA (N<30)	
4 – Bedbound	6	NA (N<30)	NA (N<30)	NA (N<30)	0	NA (N<30)	NA (N<30)	NA (N<30)	
Missing	755	85.5	76.8	62.6	36	88.6	82.9	71.4	
<i>Combined stage</i>									
I	1,046	95.4	91.1	79.4	29	NA (N<30)	NA (N<30)	NA (N<30)	
II	509	87.4	79.2	62.1	17	NA (N<30)	NA (N<30)	NA (N<30)	
III	446	86.5	76.9	58.6	19	NA (N<30)	NA (N<30)	NA (N<30)	
IVA/B	1,169	76.0	62.4	43.9	39	81.4	70.5	62.4	
IVC	37	73.0	48.6	30.1	0	NA (N<30)	NA (N<30)	NA (N<30)	
X (unknown)	311	83.9	73.9	63.2	5	NA (N<30)	NA (N<30)	NA (N<30)	

* Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

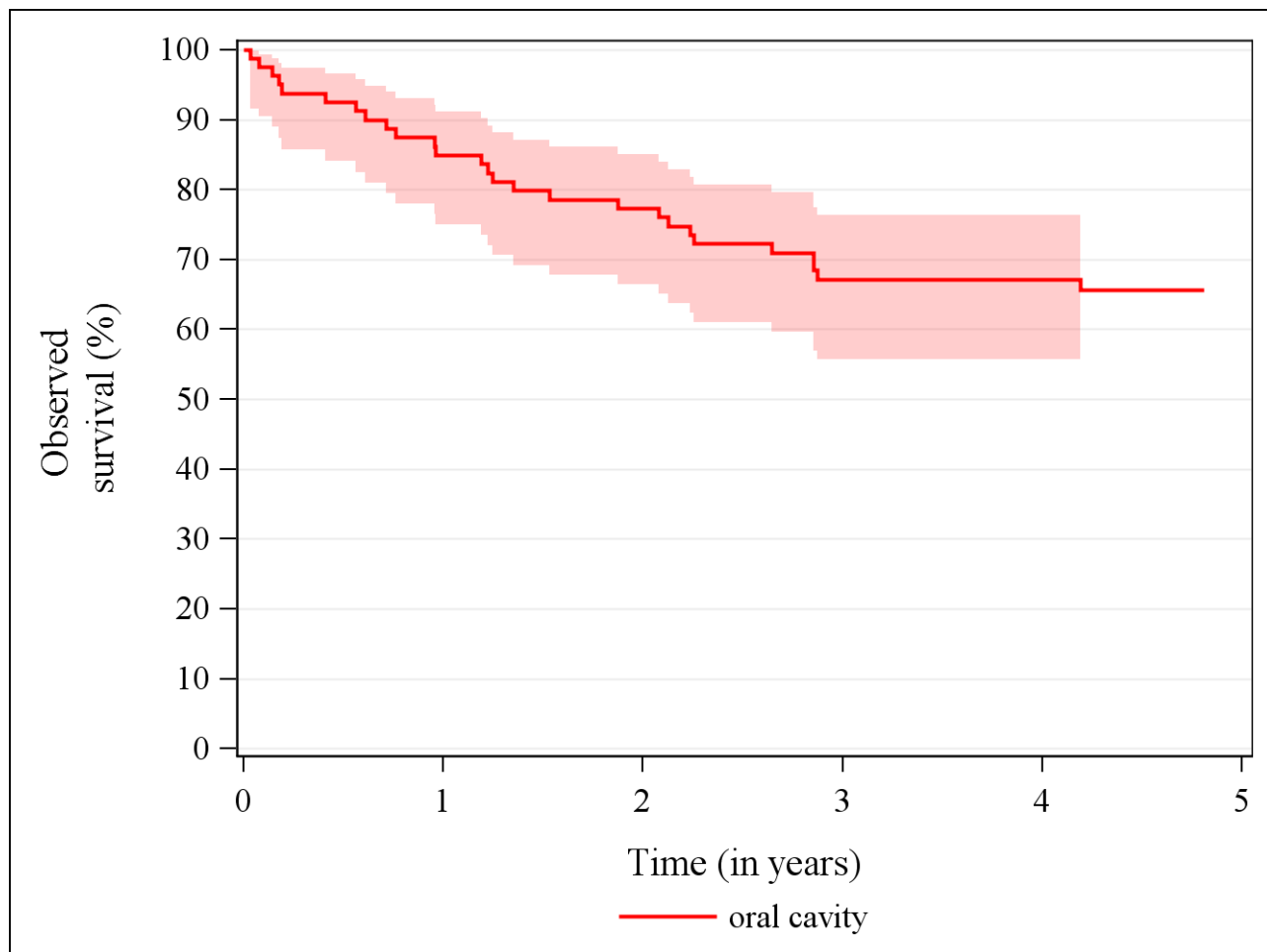
Figure 26: Head and neck cancer (2009-2014): Observed survival for head and neck cancer patients treated with surgery with curative intent, for your hospital and the total population



Note: Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

Figure 27: Head and neck cancer (2009-2014): Observed survival for head and neck cancer patients treated with surgery with curative intent for your hospital, by tumour type

Remark: If for one or more anatomic localisations less than 30 patients were assigned to your hospital, these anatomic localisations are not shown in the graph.



Note: Selection of patients for each hospital is based on the centre where surgery with curative intent is performed.

Figure 28: Head and neck cancer (2009-2014): Funnel plot of unadjusted 5-year observed survival for head and neck cancer patients treated with surgery with curative intent, by centre of surgery

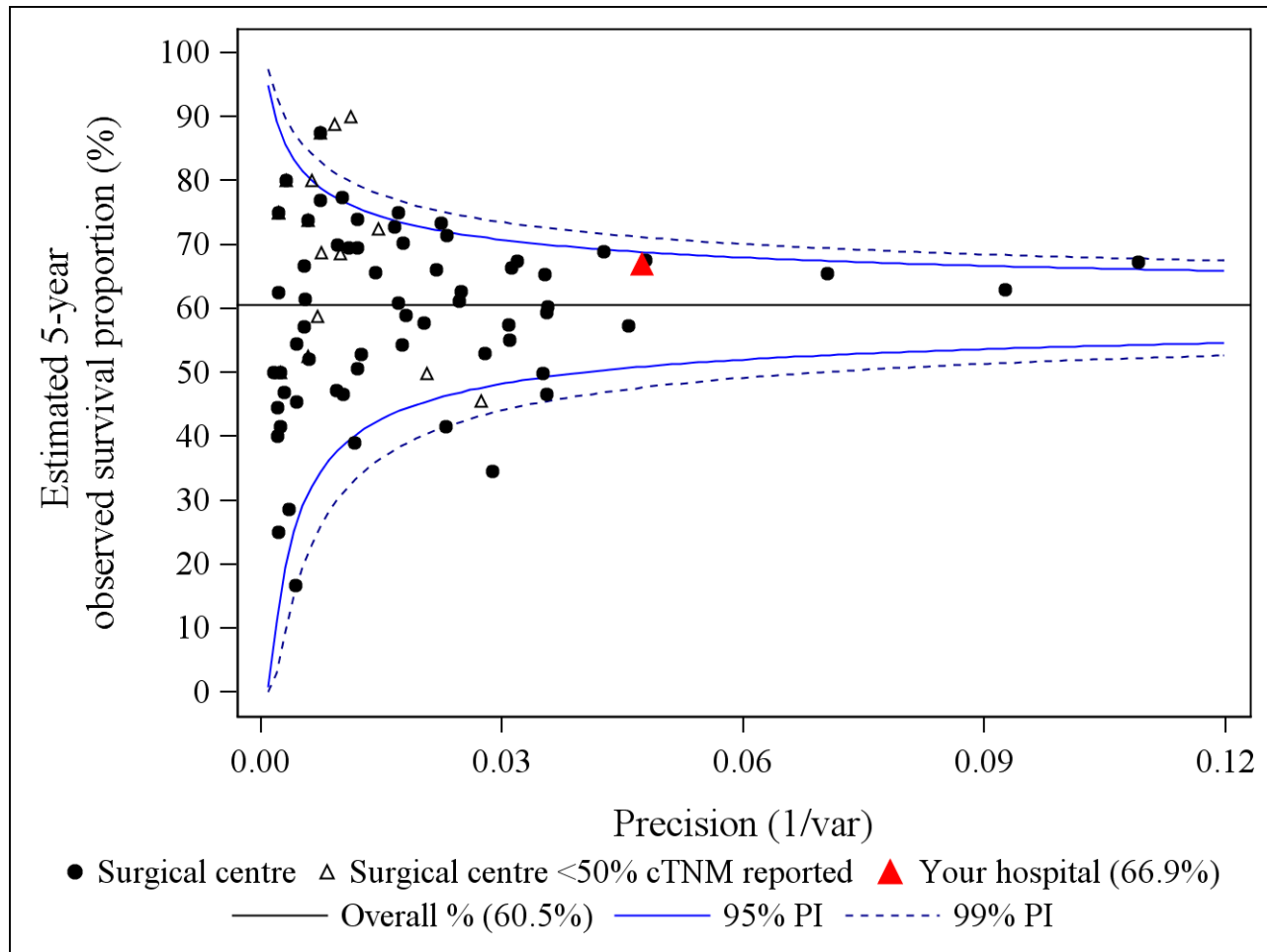
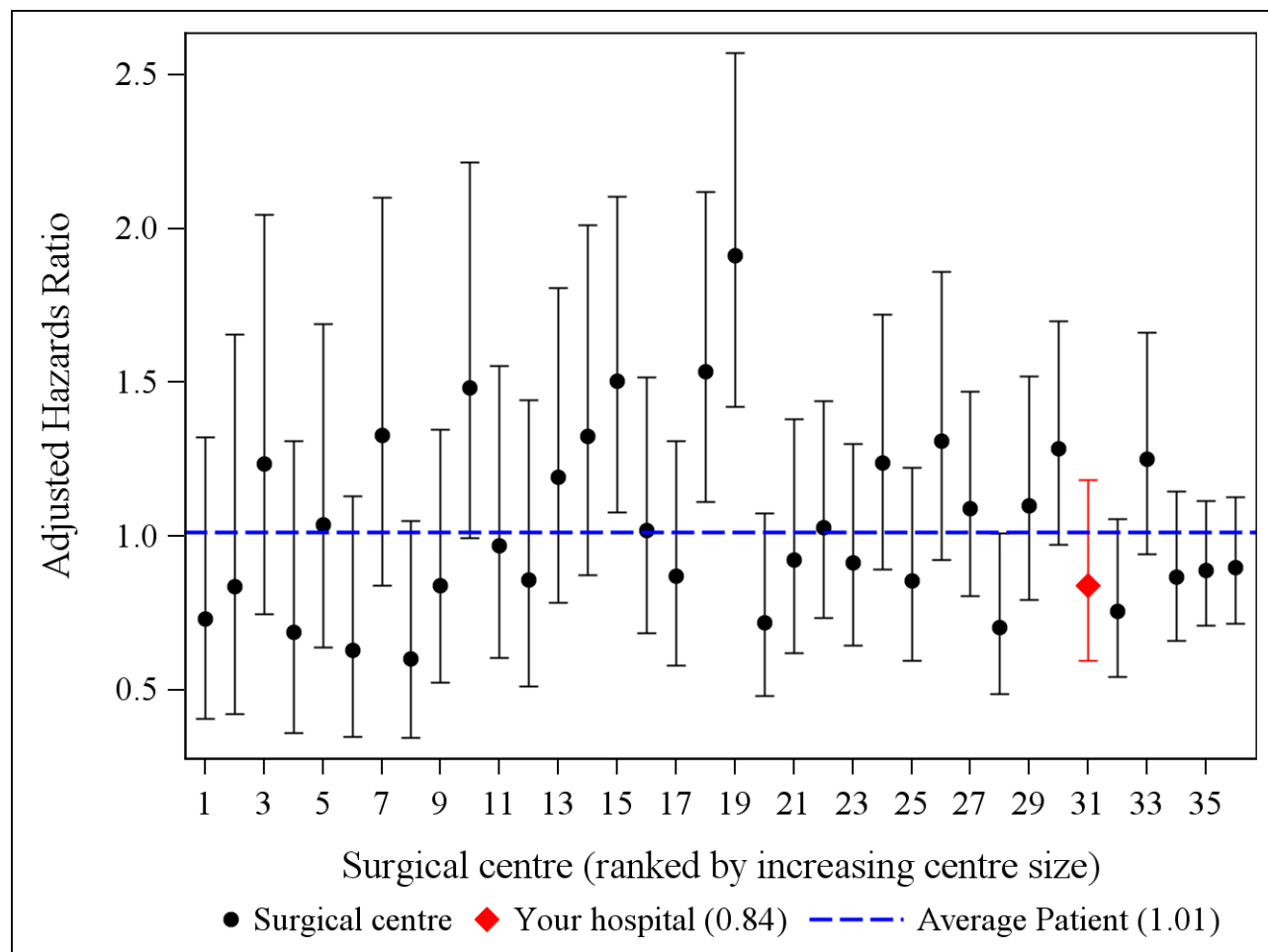


Figure 29: Head and neck cancer (2009-2014): Forest plot of the estimated centre Hazard Ratio adjusted for case-mix observed survival for patients treated with surgery with curative intent, by centre of surgery



Notes: Value 1.0 represents the average centre and the dashed blue line is the HR for the average patient (which equals the weighted sum of all centre HR, with the number of patients per centre as weight). The centres are ranked according to the number of patients assigned to them: from smallest (left) to largest (right). A HR which is lower than 1.0, indicates a lower hazard (or instantaneous risk) to die, and thus a higher survival. When the vertical lines, which represent the 95% CI on the centre HR, include value 1.0 (dashed line), the HR of that centre is not statistically significantly different from the average centre (average patient).

For 63 out of 96 centres of surgery, no adjusted HRs could be calculated as their volume was too small (i.e. less than 30 patients over the six year period); they are therefore not reported. Yet, for the estimation of the model, these small centres were grouped into one virtual centre, so that these patients could contribute in the estimation of the adjustment parameters. This grouped virtual centre is not shown in the forest plot, although it contributes in the calculation of the average patient HR.

4.2.3. Observed survival for patients diagnosed with HNSCC who received primary radiotherapy

Table 21: Head and neck cancer (2009-2014): Overview of observed survival for patients treated with primary radiotherapy by patient and tumour characteristics for Belgium and your hospital, by centre of radiotherapy*

Characteristics	Observed survival (%)							
	Belgium				Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year
Overall	4,666	79.7	65.9	48.5	169	80.5	70.4	56.6
Anatomic site								
Oral cavity	419	63.2	43.9	28.3	9	NA (N<30)	NA (N<30)	NA (N<30)
Oropharynx	1,751	79.5	64.2	46.1	74	79.7	71.6	59.8
Hypopharynx	801	72.6	55.8	34.7	33	75.8	54.5	29.8
Larynx	1,695	87.4	78.0	62.4	53	86.8	79.2	66.8
Gender								
Male	3,712	79.8	65.6	48.0	125	79.2	72.8	57.8
Female	954	79.5	67.5	50.6	44	84.1	63.6	53.3
Age group								
<50 years	424	84.4	69.3	52.7	23	NA (N<30)	NA (N<30)	NA (N<30)
50-59 years	1,577	83.5	68.7	51.0	62	79.0	67.7	58.7
60-69 years	1,627	77.8	65.4	48.4	52	78.8	71.2	54.9
70-79 years	744	78.8	65.6	49.7	25	NA (N<30)	NA (N<30)	NA (N<30)
80+ years	294	65.6	50.3	26.5	7	NA (N<30)	NA (N<30)	NA (N<30)
WHO - Performance Status								
0 – Asymptomatic	750	83.6	70.5	54.2	98	84.7	74.5	61.4
1 – Symptomatic but completely ambulatory	3,070	79.7	66.3	48.2	37	64.9	54.1	41.7

Characteristics	Observed survival (%)							
	Belgium				Your hospital			
	N at risk	1-year	2-year	5-year	N at risk	1-year	2-year	5-year
2 – Symptomatic, <50% in bed during the day	103	59.2	39.8	23.7	4	NA (N<30)	NA (N<30)	NA (N<30)
3 – Symptomatic, >50% in bed, but not bedbound	29	NA (N<30)	NA (N<30)	NA (N<30)	0	NA (N<30)	NA (N<30)	NA (N<30)
4 – Bedbound	5	NA (N<30)	NA (N<30)	NA (N<30)	0	NA (N<30)	NA (N<30)	NA (N<30)
Missing	709	80.4	65.2	49.0	30	90.0	80.0	61.3
<i>Combined stage</i>								
I	665	93.5	88.6	77.6	34	91.2	85.3	81.9
II	557	87.8	76.5	61.5	21	NA (N<30)	NA (N<30)	NA (N<30)
III	721	82.4	70.5	48.6	18	NA (N<30)	NA (N<30)	NA (N<30)
IVA/B	2,168	74.3	56.9	37.8	85	68.2	60.0	44.0
IVC	121	51.2	34.7	14.2	2	NA (N<30)	NA (N<30)	NA (N<30)
X (unknown)	434	78.5	64.2	49.7	9	NA (N<30)	NA (N<30)	NA (N<30)

* Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

Figure 30: Head and neck cancer (2009-2014): Observed survival for head and neck cancer patients treated with primary radiotherapy, for your hospital and the total population

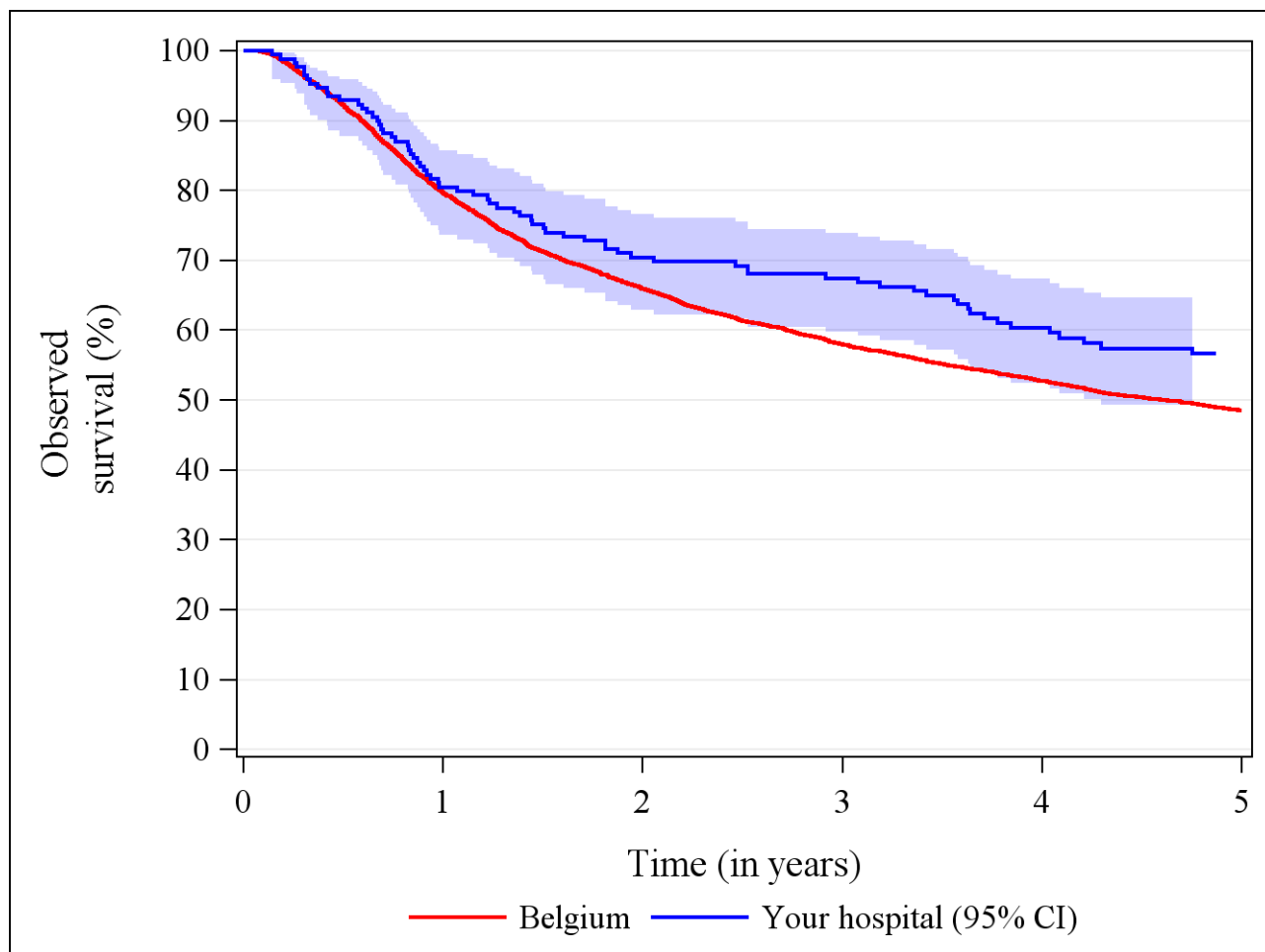
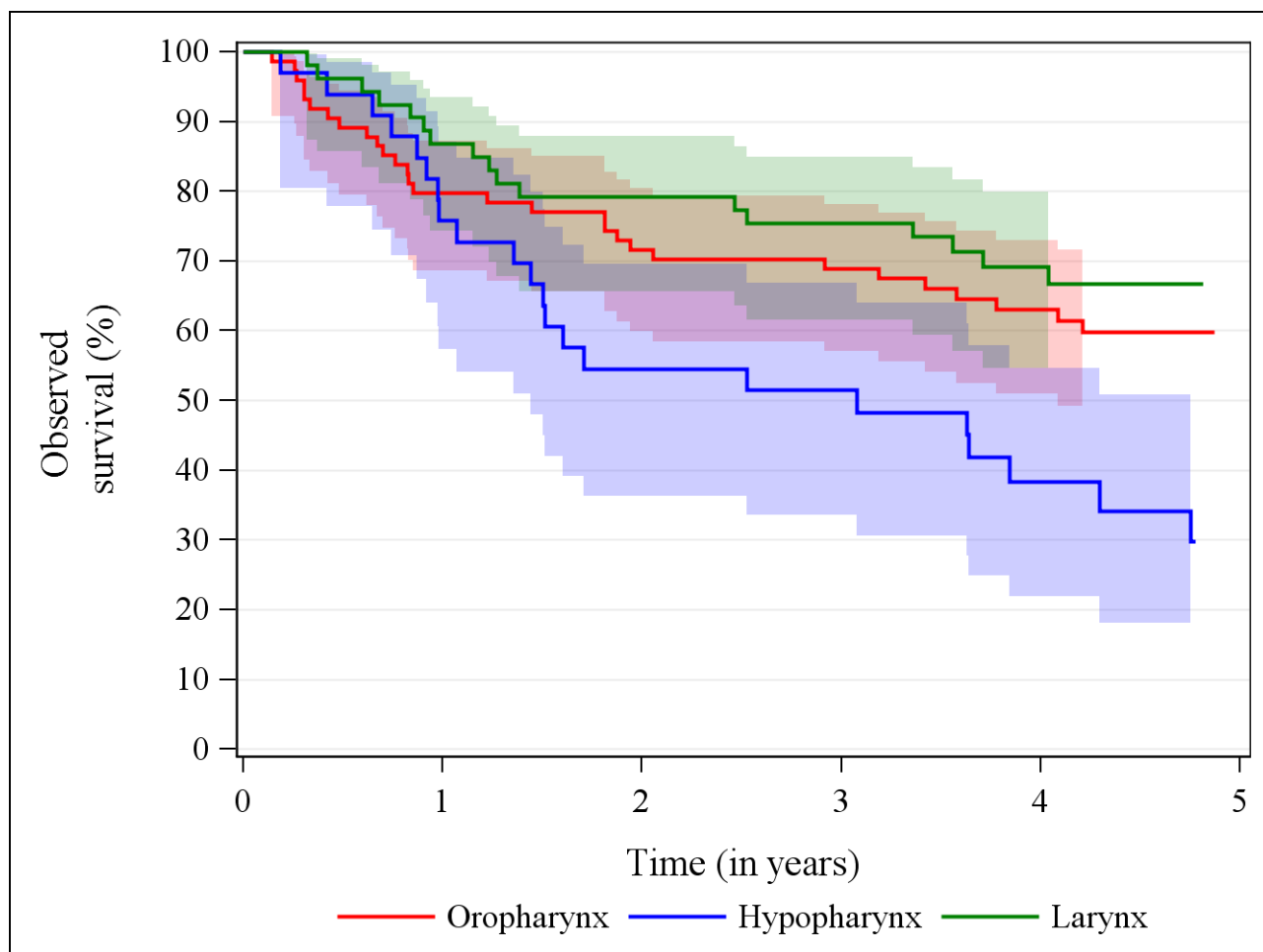


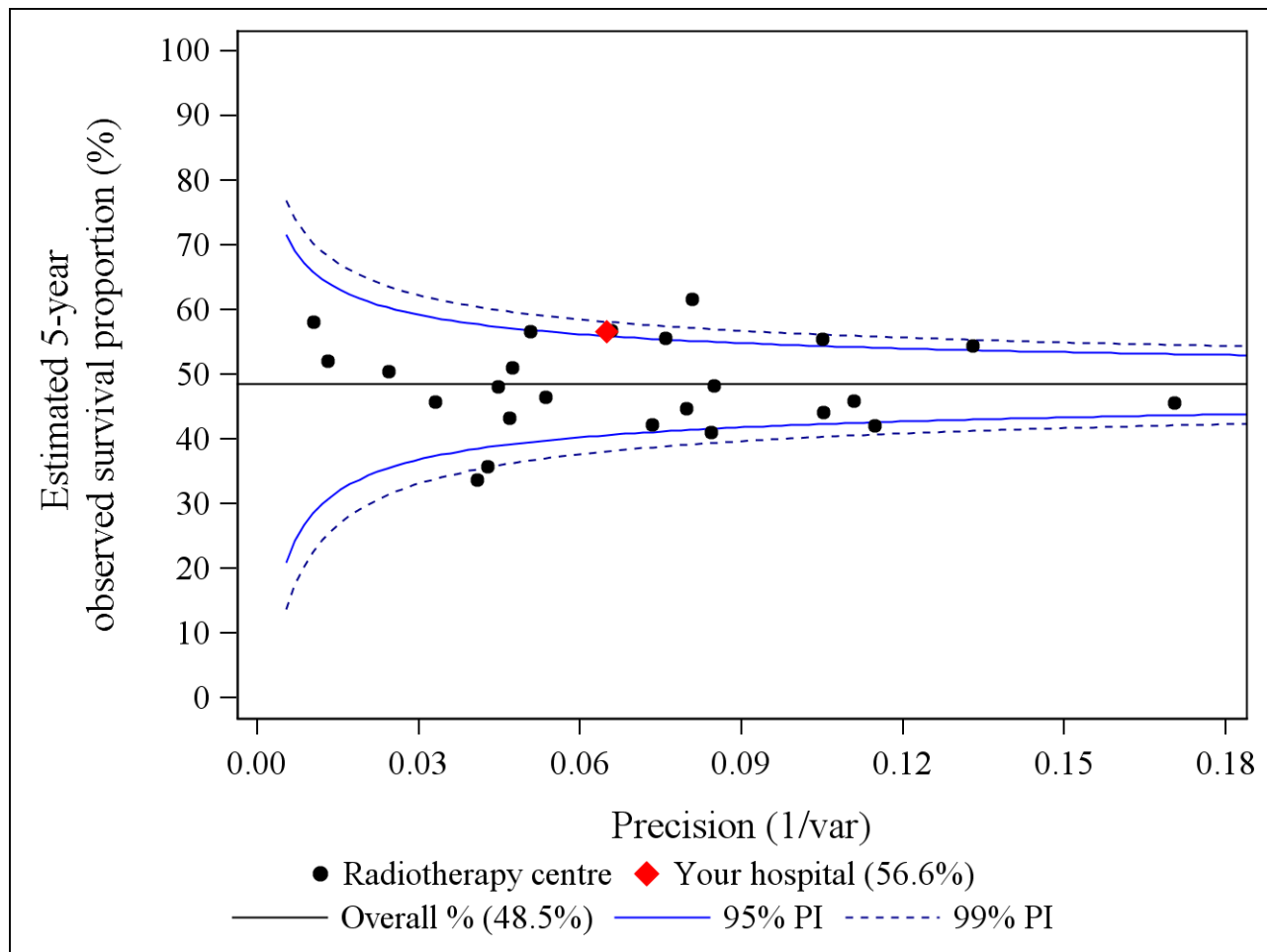
Figure 31: Head and neck cancer (2009-2014): Observed survival for head and neck cancer patients treated with primary radiotherapy for your hospital, by type

Remark: If for one or more anatomic localisations less than 30 patients were assigned to your hospital, these anatomic localisations are not shown in the graph.



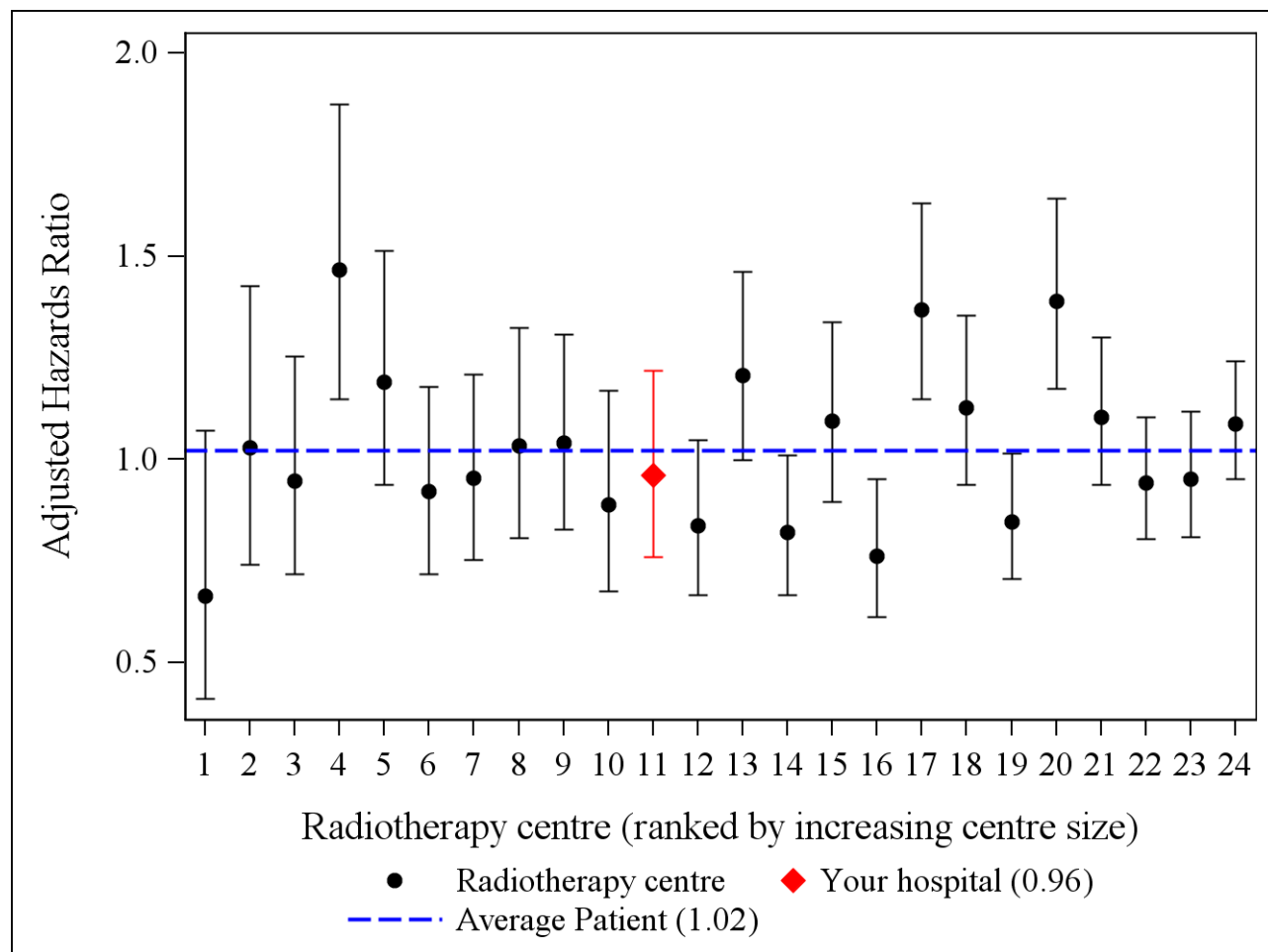
Note: Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

Figure 32: Head and neck cancer (2009-2014): Funnel plot of unadjusted 5-year observed survival for head and neck cancer patients treated with primary radiotherapy, by centre of radiotherapy



Note: Selection of patients for each hospital is based on the centre where primary radiotherapy is performed.

Figure 33: Head and neck cancer (2009-2014): Forest plot of the estimated centre Hazard Ratio adjusted for case-mix observed survival for patients treated with primary radiotherapy, by centre of radiotherapy



Notes: Value 1.0 represents the average centre and the dashed blue line is the HR for the average patient (which equals the weighted sum of all centre HR, with the number of patients per centre as weight). The centres are ranked according to the number of patients assigned to them: from smallest (left) to largest (right). A HR which is lower than 1.0, indicates a lower hazard (or instantaneous risk) to die, and thus a higher survival. When the vertical lines, which represent the 95% CI on the centre HR, include value 1.0 (dashed line), the HR of that centre is not statistically significantly different from the average centre (average patient).

For 2 out of 26 centres performing radiotherapy, no adjusted HRs could be calculated as their volume was too small (i.e. less than 30 patients over the six year period); they are therefore not reported. Yet, for the estimation of the model, these small centres were grouped into one virtual centre, so that these patients could contribute in the estimation of the adjustment parameters. This grouped virtual centre is not shown in the forest plot, although it contributes in the calculation of the average patient HR.