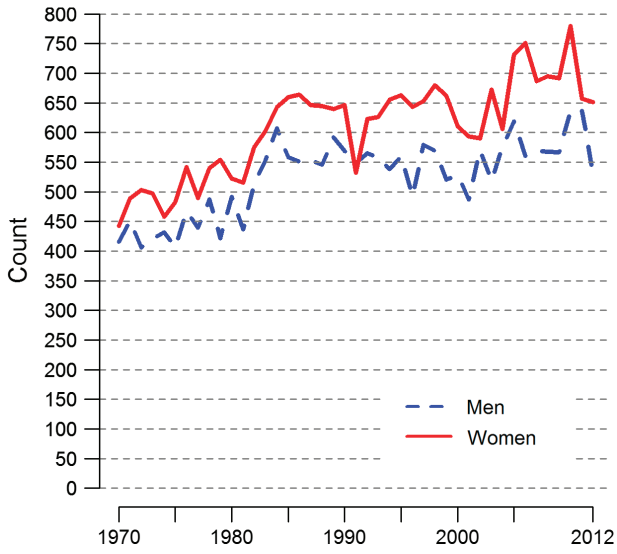
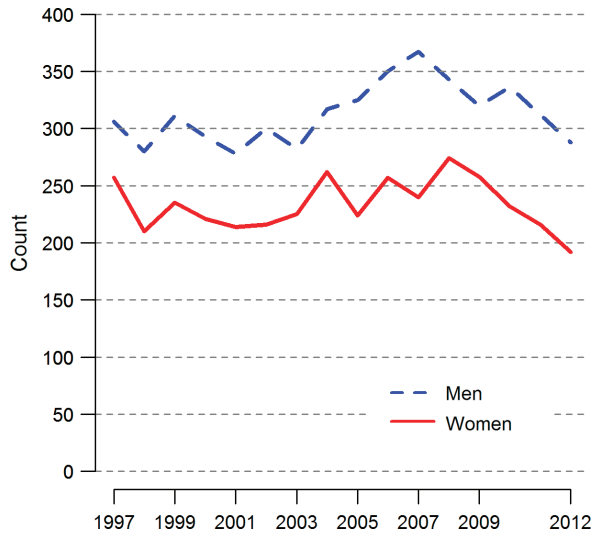
Supplementary material for Asklund T, et al., Brain tumors in Sweden: Data from a population-based registry 1999–2012, Acta Oncol 2015;54:377–84.



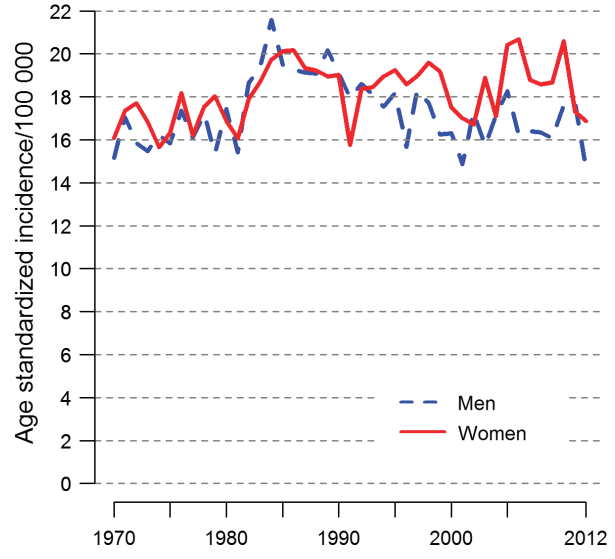
Supplementary Figure 1. Incidence of CNS tumors in Sweden 1970–2012. WHO ICD-7: 193 and age 20 years or older at diagnosis. Standardization according to the age-distribution of the year 2000 population of Sweden.

Cancer Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



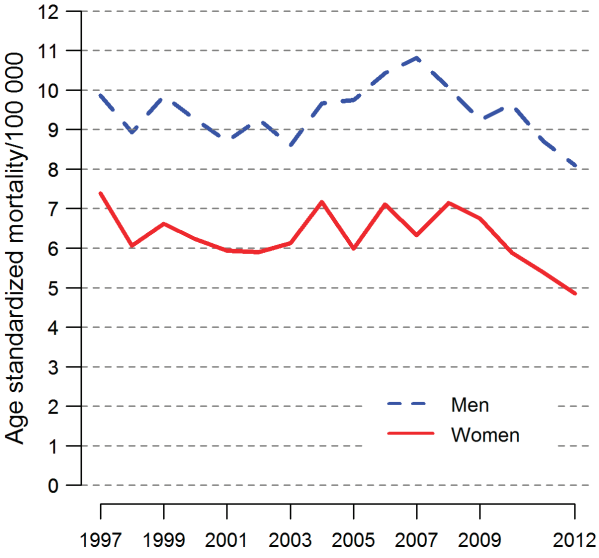
Supplementary Figure 3. Mortality of brain tumors in Sweden 1997–2012. WHO ICD-10: C71 and age 20 years or older at death.

Mortality Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



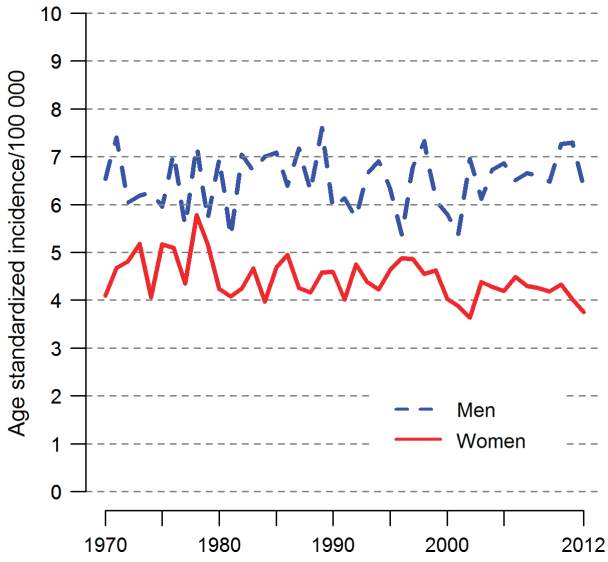
Supplementary Figure 2. Age-standardized incidence of CNS tumors/100 000 in Sweden 1970–2012. WHO ICD-7: 193 and age 20 years or older at diagnosis. Standa rdization according to the age-distribution of the year 2000 population of Sweden.

Cancer Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



Supplementary Figure 4. Age-standardized mortality/100 000 of brain tumors in Sweden 1997–2012. WHO ICD-10: C71 and age 20 years or older at death. Standardization according to the age-distribution of the year 2000 population of Sweden.

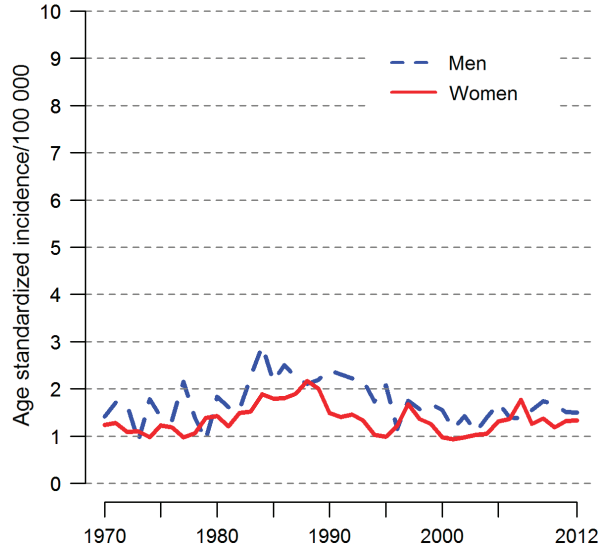
Mortality Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



Supplementary Figure 5. Age-standardized incidence of high-grade glioma/100 000 in Sweden 1970–2012.

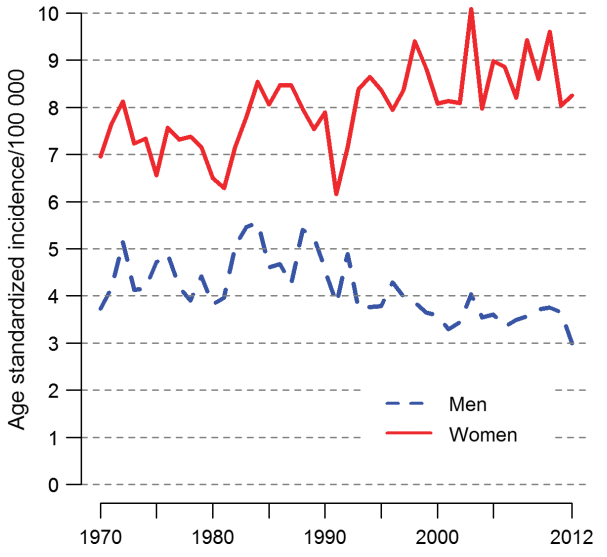
(WHO ICD-7: 193 and PAD-code C24: 476). Age 20 years or older at diagnosis. Standardization according to the age-distribution of the year 2000 population of Sweden.

Cancer Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



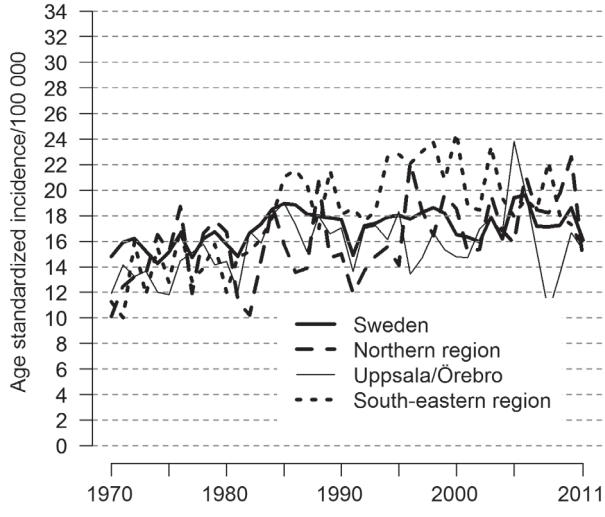
Supplementary Figure 6. Age-standardized incidence of low-grade glioma (WHO grade I-II)/100 000 in Sweden 1970–2012 (WHO ICD-7: 193 and PAD-code C24: 475). Age 20 years or older at diagnosis. Standardization according to the age-distribution of the year 2000 population of Sweden.

Cancer Statistics, statistical database. Stockholm: The National Board of Health and Welfare. [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



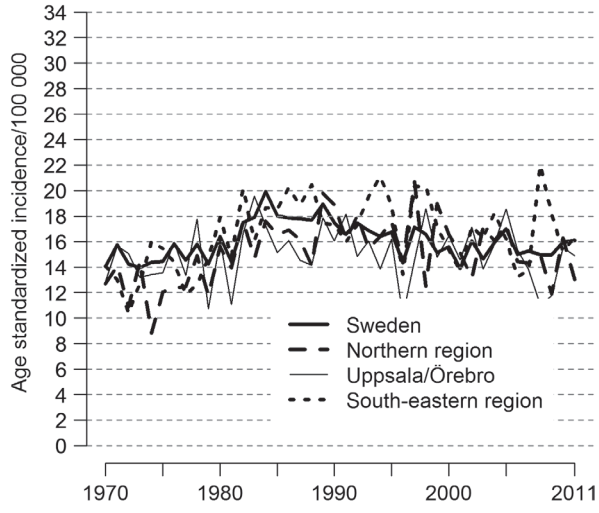
Supplementary Figure 7. Age-standardized incidence of meningioma/100 000 in Sweden 1970–2012 (WHO ICD-7: 193 and PAD code C24: 461, 466). Age 20 years or older at diagnosis. Standardization according to the age-distribution of the year 2000 population of Sweden.

Cancer Statistics, statistical database. Stockholm: The National Board of Health and Welfare [cited 2014 Apr 10]. Available from: http://www.socialstyrelsen.se/statistik/statistikdatabas.



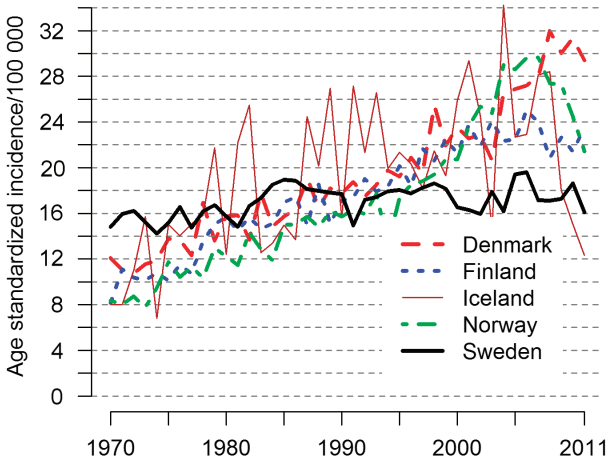
Supplementary Figure 8. Women – Age-standardized incidence of all brain and central nervous system tumors/100 000 in Sweden and the Northern, the Uppsala and the South-eastern regions, 1970–2011 (WHO ICD-7: 193). Standardization according to the age-distribution of the population in the nordic countries. Age 20 years or older at diagnosis.

Engholm G, Ferlay J, Christensen N, Johannesen TB, Khan S, Kotlum JE, et al. NORDCAN: Cancer incidence, mortality, prevalence and survival in the nordic countries, Version 6.0 (04.12.2013). Association of the Nordic Cancer Registries. Danish Cancer Society. [cited 2014 Apr 10]. Available from http://www.ancr.nu.



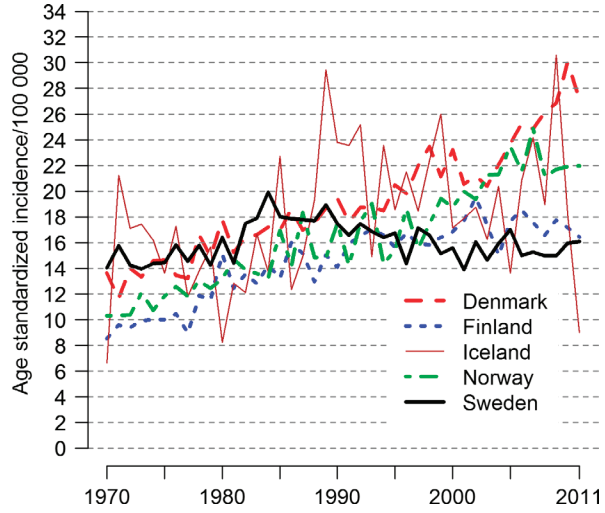
Supplementary Figure 9. Men – Age-standardized incidence of all brain and central nervous system tumors/100 000 in Sweden and the Northern, the Uppsala and the South-eastern regions, 1970–2011 (WHO ICD-7: 193). Standardization according to the age-distribution of the population in the nordic countries. Age 20 years or older at diagnosis.

Engholm G, Ferlay J, Christensen N, Johannesen TB, Khan S, Kotlum JE, et al. NORDCAN: Cancer incidence, mortality, prevalence and survival in the nordic countries, Version 6.0 (04.12.2013). Association of the Nordic Cancer Registries. Danish Cancer Society. [cited 2014 Apr 10]. Available from http://www.ancr.nu.



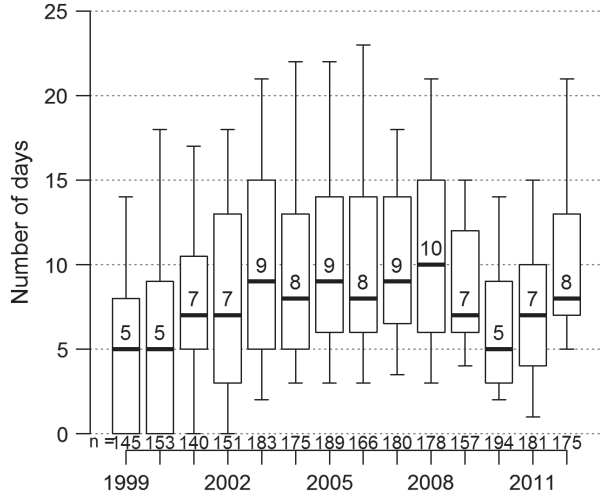
Supplementary Figure 10. Women – Age-standardized incidence of all brain and central nervous system tumors/100 000 in the nordic countries, 1970–2011 (WHO ICD-7: 193). Standardization according to the age-distribution of the population in the nordic countries. Age 20 years or older at diagnosis.

Engholm G, Ferlay J, Christensen N, Johannesen TB, Khan S, Kotlum JE, Milter MC, Olafsdottir E, Pukkala E, Storm HH. NORDCAN: Cancer incidence, mortality, prevalence and survival in the nordic countries, Version 6.0 (04.12.2013). Association of the Nordic Cancer Registries. Danish Cancer Society. [cited 2014 Apr 10]. Available from http://www.ancr.nu.

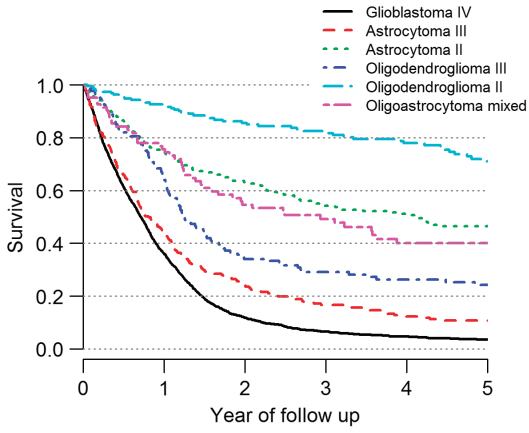


Supplementary Figure 11. Men – Age standardized incidence of all brain and central nervous system tumors/100 000 in the nordic countries 1970–2011 (WHO ICD-7: 193). Standardization according to the age-distribution of the population in the nordic countries. Age 20 years or older at diagnosis.

Engholm G, Ferlay J, Christensen N, Johannesen TB, Khan S, Kotlum JE, Milter MC, Olafsdottir E, Pukkala E, Storm HH. NORDCAN: Cancer incidence, mortality, prevalence and survival in the nordic countries, Version 6.0 (04.12.2013). Association of the Nordic Cancer Registries. Danish Cancer Society. [cited 2014 Apr 10]. Available from http://www.ancr.nu.



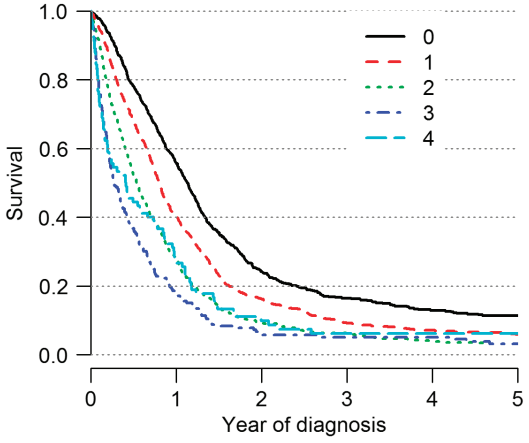
Supplementary Figure 12. Waiting time from surgery to pathological report, high-grade gliomas.



Number of patients still at risk:

Glioblastoma IV	1913	689	200	99	63	43
Astrocytoma II	261	116	58	36	25	22
Astrocytoma III	224	168	136	110	99	84
Oligodendrogl. II	133	85	43	34	26	23
Oligodendrogl. III	192	178	144	115	99	79
Oligoastro. mix	82	62	43	33	25	21

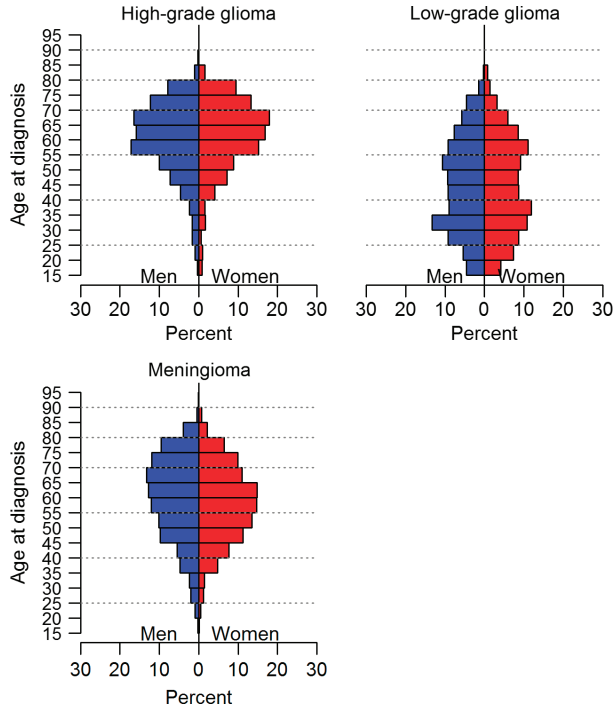
Supplementary Figure 13. Survival of patients with glial tumors.



Number of patients still at risk:

ps: 0	662	370	150	90	62	52
ps: 1	742	297	109	58	40	30
ps: 2	617	172	46	31	19	15
ps: 3	193	35	11	9	8	5
ps: 4	90	24	8	5	5	5

Supplementary Figure 14. Survival according to performance status, high-grade gliomas.



Supplementary Figure 15. Age distribution of CNS tumors: high-grade gliomas, low-grade gliomas and meningiomas.

Supplementary Table I. Number of diagnoses 1999–2012 by histological subtype, including histological codes (ICD-o/3) and region.

	Northern	Uppsala	South-eastern	Total
Glioblastoma WHO grade IV				
93803, 94403, 94413, 94423	404	984	542	1930
Astrocytoma (WHO grade III)				
94013, 95053	61	157	45	263
Astrocytoma WHO grade II				
94003	68	117	41	226
Astrocytoma, gemistocytic				
94113	1	14	5	20
Oligodendroglioma (WHO grade III)				
94513	45	44	47	136
Oligodendroglioma (WHO grade II)				
94503	32	70	91	193
Oligoastrocytic tumors				
93823	17	49	16	82
Pilocytic astrocytoma				
94211	29	18	12	59
Ganglioglioma				
95051	6	15	5	26
Other low malignant gliomas				
94243	5	8	1	14
Ependymoma (WHO grade III)				
93923	1	6	4	11
Ependymoma (WHO grade II)				
93913	2	22	18	42
Meningioma (WHO grade I)				
95300, 95310, 95330	550	811	631	1992
Meningioma others				
95301, 95303, 95320, 95340, 95370, 95381, 95383, 95391	34	95	35	164
PNET				
94703, 94733	17	14	9	40
Hemangioblastoma				
91611	18	40	19	77
Hemangioma				
91200	6	12	4	22
Neurinoma				
95600	105	209	132	446
All others				
33400, 71620, 90643, 90800, 90803, 90840, 93501, 93601, 93630, 93813, 93831, 93841, 93900, 94130, 94203, 94713, 94920 ,94930, 95013, 95061, 95223, 95393, 95403, 95223, 95320, 95370, 95393, 95403, 80001, 80003	30	100	39	169
Missing	2	13	12	27
Total	1433	2798	1708	5939

Supplementary Table II. Distribution (%) of glioma tumors 1999–2012 by region. Data from the CBTRUS study are listed in the last column.

	Northern	Uppsala	South-eastern	CBTRUS
Glioblastoma (WHO grade IV)	59	65	65	54.0
Astrocytoma (WHO grade III)	9	10	5	5.9
Astrocytoma (WHO grade II)	10	8	5	9.5
Astrocytom, gemistocytic	<1	1	1	
Pilocytic astrocytoma	4	1	1	
Oligodendroglioma (WHO grade III)[1]	7	3	6	
Oligodendroglioma (WHO grade II)[1]	5	5	11	6.2
Oligo-astrocytic tumors	2	3	2	3.3
Ependymoma (WHO grade III)	<1	<1	<1	
Ependymoma (WHO grade II)	<1	1	2	
Ganglioglioma	1	1	1	
Other low grade glioma	1	1	<1	
PNET	2	1	1	
Total	100	100	100	
Number of diagnoses	688	1518	836	90 828

[1]The CBTRUS report combines oligodendroglioma grade II and III in a single entity.

Supplementary Table III. Distribution of performance status per region – high- and low-grade glioma 1999–2012.

	0		1		2		3		4		Total[1]	
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Northern	222	(32)	186	(27)	179	(26)	70	(10)	27	(4)	684	(100)
Uppsala	511	(34)	447	(30)	365	(24)	117	(8)	54	(4)	1494	(100)
South-eastern	279	(35)	279	(35)	179	(23)	35	(4)	23	(3)	795	(100)

[1]4, 24 and 41 diagnoses from the Northern, Uppsala and the South-eastern regions, respectively, lack information on performance status.

Supplementary Table IV. Distribution of diagnostic surgical approach among patients with high-grade glioma by region.

	1999–2003		2004–2007		2008–2012		Total[1]	
	N	(%)	N	(%)	N	(%)	N	(%)
Northern								
Radical resection	41	(27)	38	(22)	42	(21)	121	(23)
Partial resection	60	(40)	75	(43)	72	(36)	207	(39)
Biopsy	50	(33)	63	(36)	85	(43)	198	(38)
Total	151	(100)	176	(100)	199	(100)	526	(100)
Uppsala								
Radical resection	77	(19)	66	(19)	89	(20)	232	(20)
Partial resection	250	(63)	192	(55)	204	(46)	646	(54)
Biopsy	71	(18)	88	(25)	150	(34)	309	(26)
Total	398	(100)	346	(100)	443	(100)	1187	(100)
South-eastern								
Radical resection	110	(49)	70	(41)	113	(46)	293	(46)
Partial resection	68	(30)	61	(36)	66	(27)	195	(30)
Biopsy	48	(21)	40	(23)	66	(27)	154	(24)
Total	226	(100)	171	(100)	245	(100	642	(100)

[1]2, 18 and 5 diagnoses from the Northern, Uppsala and South-eastern regions, respectively, lack information on diagnostic surgical approach.