

CINA Deluxe Data Quality Profile

Date DQP produced: December 12, 2017

Variable examined: Site-Specific Factor (SSF) 1 (NAACCR Data Item #: 2880) WHO grade

Filters: Microscopically confirmed only. Excluded squamous cell carcinoma, Alveolar soft part sarcoma, lymphoma, leukemia, DCO, and autopsy cases

Diagnosis Years covered: 2010-2014

Cancer Sites: Brain and CNS (C70.0-C72.9), Pituitary gland (C75.1), Craniopharyngeal duct (C75.2), and Pineal gland (C75.3)

Database citation: CINA Analytic File, 1995-2014, Expanded Races

Number of Registries included: 46 State Registries plus DC Cancer Registry (Four registries, Kansas, Minnesota, Nevada, and New Mexico, that either did not submit SSF 1 or did not meet the NAACCR data quality for years 2010 to 2014 were excluded.)

Data Dictionary: NAACCR Data Dictionary 16 (<https://www.naaccr.org/data-standards-data-dictionary/>)

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Technical Notes:

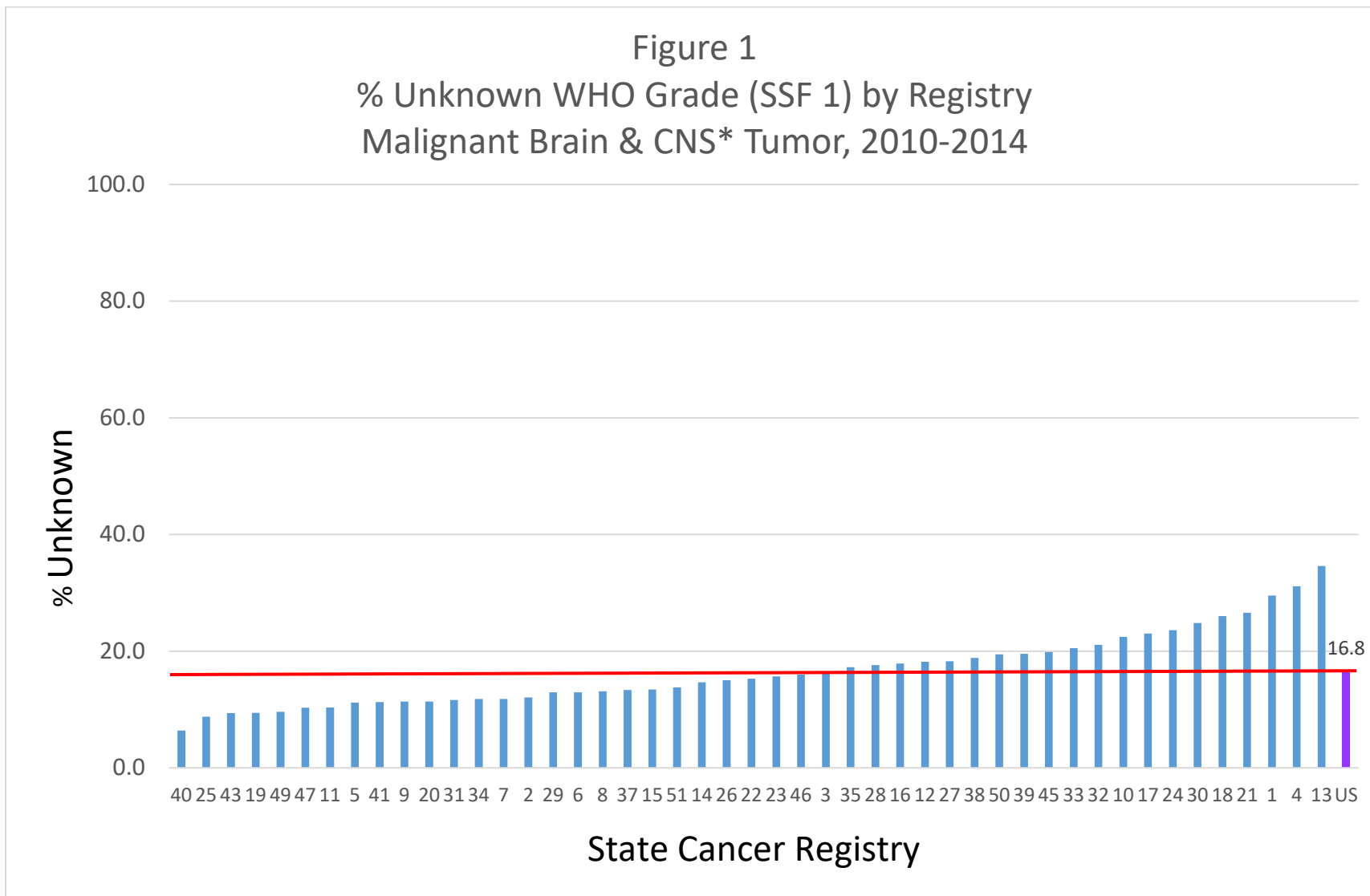
1. The unknown percent of SSF 1 was based on SSF 1 with unknown or blank values.
2. Upper Whisker: extends to largest data point within the boundary of $Q3 + 1.5 * (Q3 - Q1)$.

3. Diagnostic confirmation: Microscopic confirmed includes positive histology, positive cytology, and positive microscopic confirmation, method not specified.
4. Type of reporting source: Hospital includes hospital inpatient, radiation treatment centers/medical oncology centers, and other hospital outpatient units/surgery centers.
5. Urban/Rural 2013: The definition of metropolitan area is based on county using 2013 Rural/Urban Continuum Code. Metropolitan area include county metro area with population \geq 1million, county metro area with population between 25,000 and 1 million, and county metro area with population $<$ 25,000.

Table 1. Unknown WHO grade (SSF 1) by diagnosis year: Malignant brain and CNS* tumor 2010-2014

	2010		2011		2012		2013		2014	
Registry Level										
25-75% Percentile (IQR)	15.3-27.8%		12.8-25.7%		10.4-19.4%		8.8-16.2%		8.4-15.1%	
Minimum	6.5%		5.7%		6.2%		2.2%		0.0%	
Mean	22.0%		19.3%		16.5%		13.0%		12.4%	
Median	20.9%		18.9%		15.3%		11.5%		11.9%	
Maximum	39.7%		43.8%		43.2%		30.7%		27.6%	
Upper Whisker ¹ # outside of upper whisker	46.6%		45.1%		32.9%		27.3%		25.2%	
	0		0		2		1		1	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
Male	9,974	21.1	10,081	19.4	10,059	16.2	10,275	13.6	10,304	13.2
Female	7,659	22.4	7,554	18.8	7,705	16.1	7,808	13.6	7,670	13.7
Race										
White	15,658	21.1	15,579	18.7	15,616	15.9	15,937	13.3	15,715	13.1
Black	1,271	25.2	1,320	21.5	1,332	17.5	1,343	15.6	1,362	14.5
AI/AN	82	24.4	90	22.2	90	17.8	89	15.7	95	14.7
Asian or Pacific Islander	478	25.1	498	22.1	556	16.7	533	14.1	558	15.8
Unknown race	144	36.1	148	30.4	170	27.1	181	21.0	244	20.9
Age										
00-14 years	1,720	30.3	1,668	27.3	1,626	23.8	1,655	21.7	1,638	22.2
15-29 years	1,484	24.5	1,490	23.6	1,460	17.9	1,396	16.8	1,482	17.1
30-44 years	2,117	16.2	2,131	14.8	2,078	13.7	2,060	10.7	2,062	11.3
45-59 years	4,578	18.2	4,453	16.1	4,312	13.1	4,636	11.2	4,343	11.6
60-74 years	5,399	21.0	5,507	18.5	5,783	15.5	5,810	12.6	5,995	11.7
75+ years	2,335	26.9	2,386	21.6	2,505	19.0	2,526	15.6	2,454	14.3
Type of reporting source³										
Hospital	17,483	21.4	17,499	18.8	17,650	15.9	17,937	13.3	17,837	13.1
Non-hospital	150	59.3	136	63.2	114	57.9	146	54.1	137	48.2
Urban/Rural 2013⁴										
Metro	14,945	21.8	14,866	19.0	14,993	16.2	15,294	13.7	15,189	13.5
Non-Metro	2,682	21.1	2,759	19.9	2,759	16.0	2,785	13.2	2,773	12.6
Unknown	6	50.0	10	50.0	12	8.3	4	50.0	12	25.0
Derived SEER SS2000										
Localized	14,261	19.8	14,273	17.1	14,224	14.4	14,545	11.7	14,461	11.6
Regional	2,362	20.2	2,333	18.0	2,515	14.0	2,495	13.3	2,572	12.9
Distant	408	32.4	433	34.4	434	33.9	475	29.9	411	31.6
Unknown	602	63.8	596	61.4	591	54.1	568	50.9	530	51.9

*Included primary sites C70.0-C72.9, C75.1-C75.3



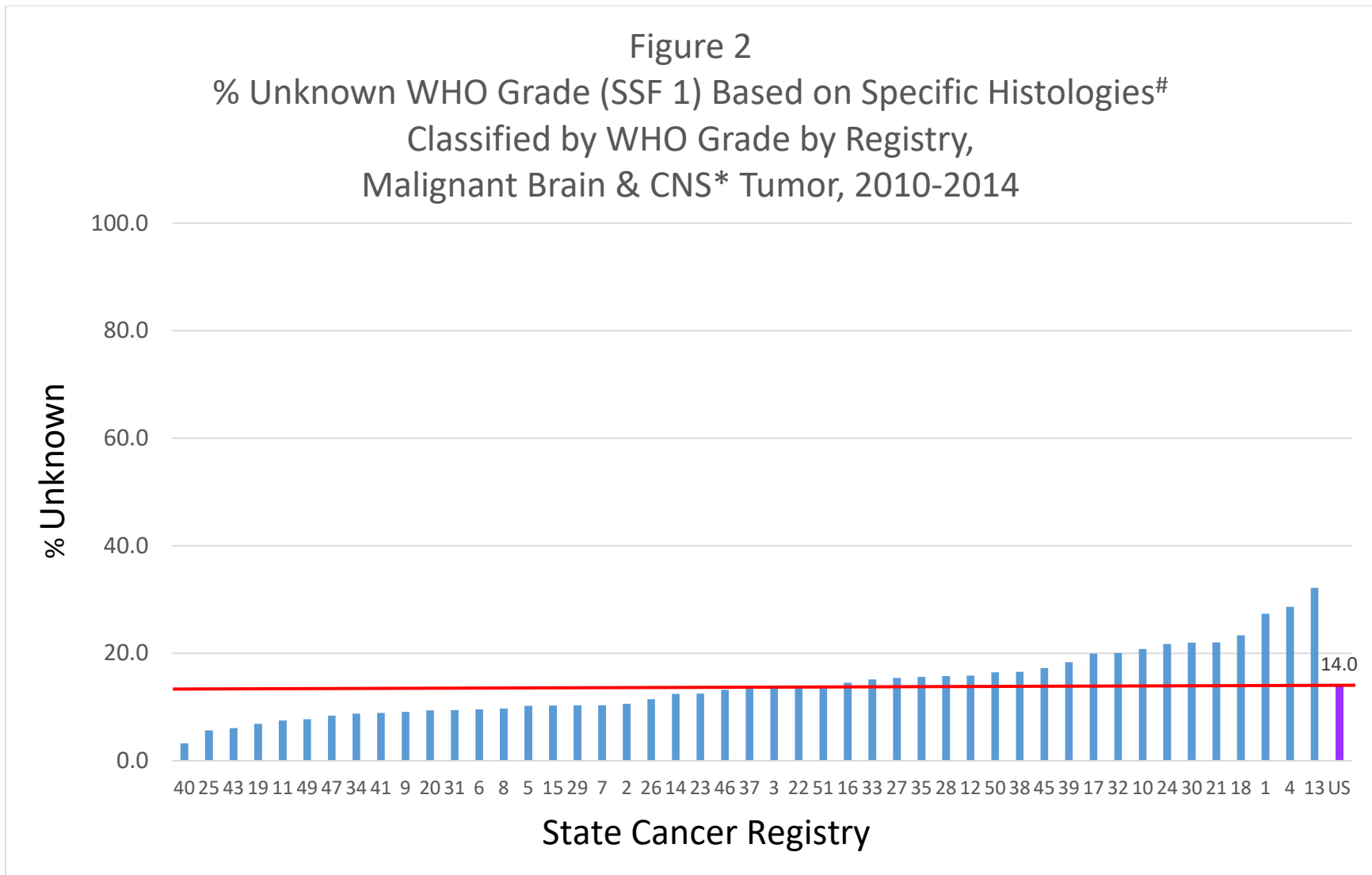
*Included primary sites C70.0-C72.9, C75.1-C75.3

Table 2. Unknown WHO grade (SSF 1) based on specific histologies[#] classified by WHO grade for each diagnosis year: Malignant brain and CNS* tumor 2010-2014

	2010		2011		2012		2013		2014	
Registry Level										
25-75% Percentile (IQR)	13.0-24.1%		10.6-21.8%		7.9-18.0%		6.6-14.0%		5.5-13.4%	
Minimum	3.4%		3.2%		3.8%		1.7%		0.0%	
Mean	19.6%		17.0%		14.3%		10.7%		9.4%	
Median	19.3%		15.5%		13.0%		9.7%		8.4%	
Maximum	40.7%		37.9%		41.3%		29.2%		24.0%	
Upper Whisker ¹	40.9%		38.7%		33.2%		25.0%		25.3%	
# outside of upper whisker	0		0		1		1		1	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
Male	9,132	18.2	9,205	16.4	9,317	13.4	9,502	10.8	9,547	10.1
Female	6,932	19.8	6,930	16.2	7,106	13.9	7,209	11.0	7,084	10.7
Race										
White	14,344	18.8	14,333	16.2	14,495	13.6	14,790	10.9	14,619	10.3
Black	1,123	20.3	1,163	17.3	1,201	14.2	1,203	11.5	1,215	10.2
AI/AN	67	22.4	78	14.1	80	12.5	77	13.0	87	12.6
Asian or Pacific Islander	408	17.4	436	17.7	497	11.9	476	9.0	492	8.9
Unknown race	122	27.9	125	21.6	150	24.0	165	15.8	218	15.1
Age										
00-14 years	1,485	23.6	1,432	19.7	1,438	17.0	1,424	13.8	1,429	14.6
15-29 years	1,251	17.3	1,265	16.4	1,260	11.0	1,201	9.2	1,290	10.1
30-44 years	1,894	13.9	1,906	11.8	1,878	10.4	1,861	7.7	1,889	7.9
45-59 years	4,228	16.5	4,139	14.5	4,032	11.7	4,368	9.7	4,054	9.1
60-74 years	5,053	19.6	5,181	17.1	5,464	14.3	5,484	11.0	5,670	10.3
75+ years	2,153	24.2	2,212	19.5	2,351	17.4	2,373	14.4	2,299	12.2
Type of reporting source³										
Hospital	15,954	18.7	16,038	16.1	16,340	13.5	16,597	10.7	16,525	10.2
Non-hospital	110	46.4	97	55.7	83	49.4	114	43.9	106	38.7
Urban/Rural 2013⁴										
Metro	13,618	18.9	13,606	16.2	13,875	13.6	14,142	10.9	14,041	10.4
Non-Metro	2,442	19.0	2,520	16.9	2,536	14.0	2,566	10.7	2,578	9.9
Unknown	4	50.0	9	44.4	12	8.3	3	33.3	12	25.0
Derived SEER SS2000										
Localized	13,135	17.7	13,223	14.9	13,307	12.5	13,614	9.8	13,558	9.4
Regional	2,154	17.6	2,108	15.2	2,292	11.5	2,275	10.2	2,333	8.7
Distant	326	23.9	339	25.7	347	27.1	380	22.6	331	24.5
Unknown	449	56.6	465	54.6	477	47.0	442	39.6	409	41.3

*Included primary sites C70.0-C72.9, C75.1-C75.3

[#]WHO grade histology codes: 91503,93623, 93823,93903-93933,94003,94013,94213,94243,94403-94423,94503,94513,94703-94743,95053,95083,95303,95383,95393,95403,95713.



*Included primary sites C70.0-C72.9, C75.1-C75.3.

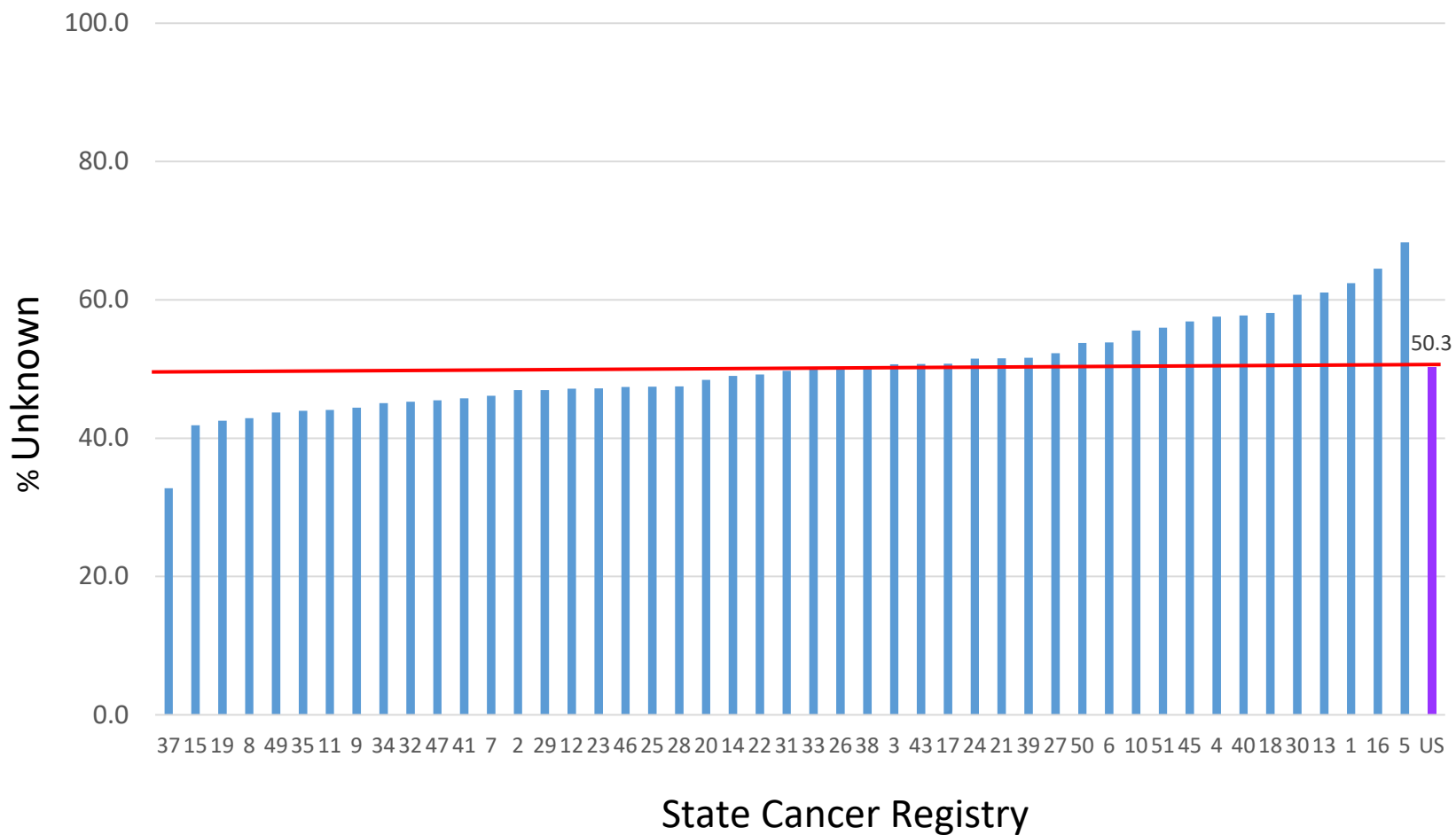
#WHO grade histology codes: 91503,93623, 93823,93903-93933,94003,94013,94213,94243,94403-94423,94503,94513,94703-94743,95053,95083,95303,95383,95393,95403,95713.

Table 3. Unknown WHO grade (SSF 1) by diagnosis year: Benign/borderline brain and CNS* tumor 2010-2014

	2010		2011		2012		2013		2014	
Registry Level										
25-75% Percentile (IQR)	50.5-62.6%		47.3-56.3%		43.3-55.6%		41.7-51.4%		40.7-50.7%	
Minimum	43.8%		36.8%		30.6%		16.3%		19.0%	
Mean	56.6%		52.6%		50.1%		46.8%		45.3%	
Median	56.9%		51.6%		48.5%		47.0%		45.1%	
Maximum	80.9%		76.1%		70.5%		67.5%		67.5%	
Upper Whisker ¹	80.8%		69.8%		74.1%		66.0%		65.7%	
# outside of upper whisker	1		1		0		1		1	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
Male	9,070	63.5	8,750	59.3	8,830	56.5	8,929	53.3	8,900	52.7
Female	13,184	53.2	12,907	48.1	12,731	44.8	12,863	41.8	12,773	40.0
Race										
White	17,755	56.3	17,343	51.9	17,217	48.5	17,155	45.4	17,086	44.4
Black	3,111	61.8	2,830	55.7	2,809	54.9	2,965	52.0	2,936	49.4
AI/AN	130	61.5	137	54.0	148	52.0	128	48.4	123	52.8
Asian or Pacific Islander	920	59.7	1,005	52.5	1,005	51.3	1,096	46.3	1,010	44.1
Unknown race	338	64.8	342	64.0	382	52.9	448	51.8	518	50.4
Age										
00-14 years	617	57.2	599	54.3	636	48.9	616	43.7	613	41.9
15-29 years	1,686	66.5	1,632	61.2	1,597	58.5	1,598	53.7	1,501	55.3
30-44 years	4,015	60.5	3,981	57.6	3,806	53.8	3,828	51.2	3,932	50.6
45-59 years	7,305	55.3	7,214	52.1	7,064	49.0	7,142	45.7	6,969	43.9
60-74 years	6,330	55.8	6,147	49.6	6,353	47.0	6,530	44.9	6,626	42.9
75+ years	2,301	56.2	2,084	46.4	2,105	45.6	2,078	40.9	2,032	40.3
Type of reporting source³										
Hospital	22,107	57.4	21,543	52.6	21,406	49.5	21,620	46.3	21,502	45.0
Non-hospital	147	61.9	114	62.3	155	67.7	172	75.6	171	69.6
Urban/Rural 2013⁴										
Metro	19,125	57.4	18,570	53.0	18,551	49.9	18,878	46.8	18,782	45.5
Non-Metro	3,109	57.1	3,073	50.1	2,994	47.6	2,904	44.7	2,886	43.2
Unknown	20	55.0	14	50.0	16	37.5	10	40.0	5	100.0

*Included primary sites C70.0-C72.9, C75.1-C75.3

Figure 3.
 % Unknown WHO Grade (SSF 1) by Registry
 Benign/Borderline Brain & CNS* Tumor, 2010-2014



*Included primary sites C70.0-C72.9, C75.1-C75.3.

Table4. Unknown WHO grade (SSF 1) based on specific histologies# classified by WHO grade for each diagnosis year: Benign and borderline brain and CNS* tumor 2010-2014

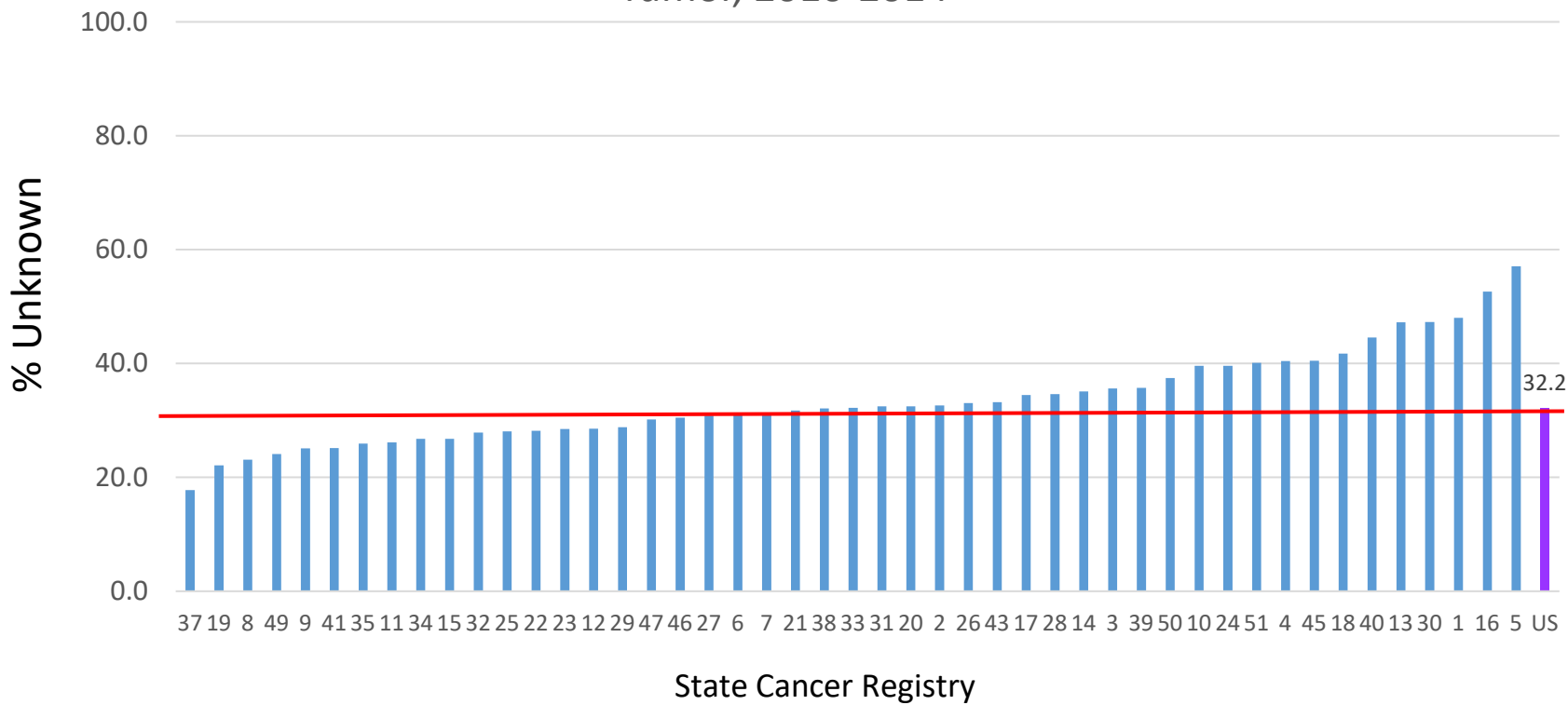
	2010		2011		2012		2013		2014	
Registry Level										
25-75% Percentile (IQR)	32.3-47.9%		30.0-42.0%		25.0-39.5%		22.1-34.8%		21.6-32.2%	
Minimum	27.0%		22.1%		13.2%		9.1%		3.1%	
Mean	40.6%		36.8%		32.6%		30.1%		27.7%	
Median	38.5%		36.1%		30.4%		28.9%		26.8%	
Maximum	70.5%		63.4%		59.4%		57.1%		55.6%	
Upper Whisker ¹	71.5%		60.0%		61.2%		53.8%		48.1%	
# outside of upper whisker	0		1		0		2		2	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
Male	5,705	44.0	5,585	38.7	5,624	34.9	5,774	31.5	5,703	30.0
Female	9,881	38.7	9,804	33.2	9,667	29.0	9,836	25.7	9,791	23.7
Race										
White	12,773	40.7	12,619	35.6	12,525	31.2	12,599	27.9	12,492	26.6
Black	1,880	39.2	1,752	31.7	1,701	29.3	1,828	26.3	1,847	22.4
AI/AN	91	46.2	92	34.8	100	34.0	83	22.9	85	32.9
Asian or Pacific Islander	630	42.4	708	34.9	704	32.8	800	28.9	731	24.6
Unknown race	212	43.9	218	44.5	261	33.3	300	31.3	339	26.5
Age										
00-14 years	463	46.2	429	39.2	473	35.1	460	29.6	455	28.4
15-29 years	964	43.7	1,001	39.2	979	36.8	1,033	33.1	922	31.2
30-44 years	2,596	40.8	2,617	38.1	2,511	32.8	2,562	30.0	2,646	29.7
45-59 years	5,180	38.5	5,218	35.4	5,111	31.3	5,167	27.4	5,110	25.8
60-74 years	4,565	39.9	4,486	32.9	4,623	29.1	4,770	26.6	4,798	23.5
75+ years	1,818	45.5	1,638	32.9	1,594	29.6	1,618	25.6	1,563	24.1
Type of reporting source³										
Hospital	15,480	40.6	15,317	35.2	15,196	31.0	15,509	27.6	15,395	25.9
Non-hospital	106	50.0	72	41.7	95	49.5	101	59.4	99	49.5
Urban/Rural 2013⁴										
Metro	13,381	40.7	13,130	35.5	13,115	31.4	13,471	27.9	13,390	26.2
Non-Metro	2,191	40.3	2,249	33.6	2,164	29.6	2,132	27.3	2,103	25.0
Unknown	14	35.7	10	30.0	12	16.7	7	14.3	1	100.0

*Included primary sites C70.0-C72.9, C75.1-C75.3.

#WHO grade histology codes:91501,91611,93501-

93521,93611,93831,93841,93900,93901,93941,94121,94130,94441,94920,95051,95061,95300,95301,95310-95340,95370,95381,95391,95400,95600,95710,95820.

Figure 4
 % Unknown WHO Grade (SSF 1) Based on Specific Histologies#
 Classified by WHO Grade by Registry, Benign/Borderline Brain & CNS*
 Tumor, 2010-2014



*Included primary sites C70.0-C72.9, C75.1-C75.3.

#WHO grade histology codes:91501,91611,93501-

93521,93611,93831,93841,93900,93901,93941,94121,94130,94441,94920,95051,95061,95300,95301,95310-95340,95370,95381,95391,95400,95600,95710,95820.