

CINA Deluxe Data Quality Profile

Date DQP produced: January 6, 2019

Variable examined: Diagnostic confirmation (NAACCR Data Item #: 490) for brain tumor

Filters: Included benign/borderline and malignant tumors; excluded lymphoma, leukemia, DCO, and autopsy cases

Diagnosis Years covered: 2012-2016

Cancer Sites: Brain, CNS, pituitary gland, craniopharyngeal duct, and pineal gland (ICD-O-3 site codes: C70.0-C72.9, C75.1-C75.3)

Histology codes: 8000, 8680-9136, 9141-9582

Database citation: CINA data assessment workgroup file 1995-2016

Number of Registries included: 50 State Registries plus DC Cancer Registry

Data Dictionary: NAACCR Data Dictionary 16

(<http://www.naacr.org/LinkClick.aspx?fileticket=xSH32ZzIzGI%3d&tabid=133&mid=473>)

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Technical Notes:

1. The percentage of unknown diagnostic confirmation includes code 9 or blank values.
2. Upper Whisker: extends to largest data point within the boundary of $Q3 + 1.5 * (Q3 - Q1)$.
3. Diagnostic confirmation is categorized into microscopically confirmed including positive histology, positive cytology, and positive microscopic confirmation method not specified;

radiographic diagnosis only; clinical diagnosis only; and unknown. Clinical diagnosis only includes positive laboratory test/marker study and direct visualization without microscopic confirmation.

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 ≥ 1 million, county metro area with population between 25,000 and 1 million, and county metro area with population $<25,000$.

Figure 1. Percentage of Benign/Borderline and Malignant Brain/CNS Tumor by Cancer Registry: Years 2012-2016

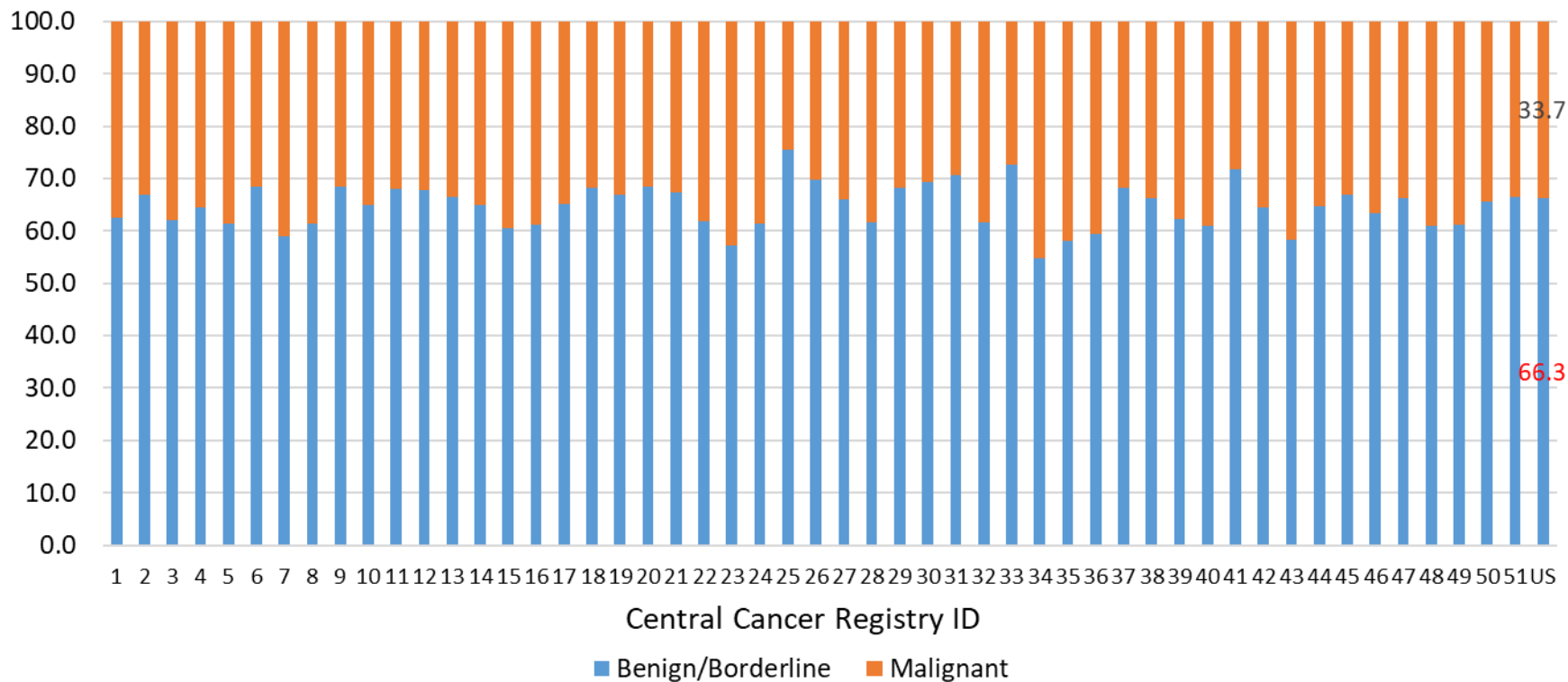
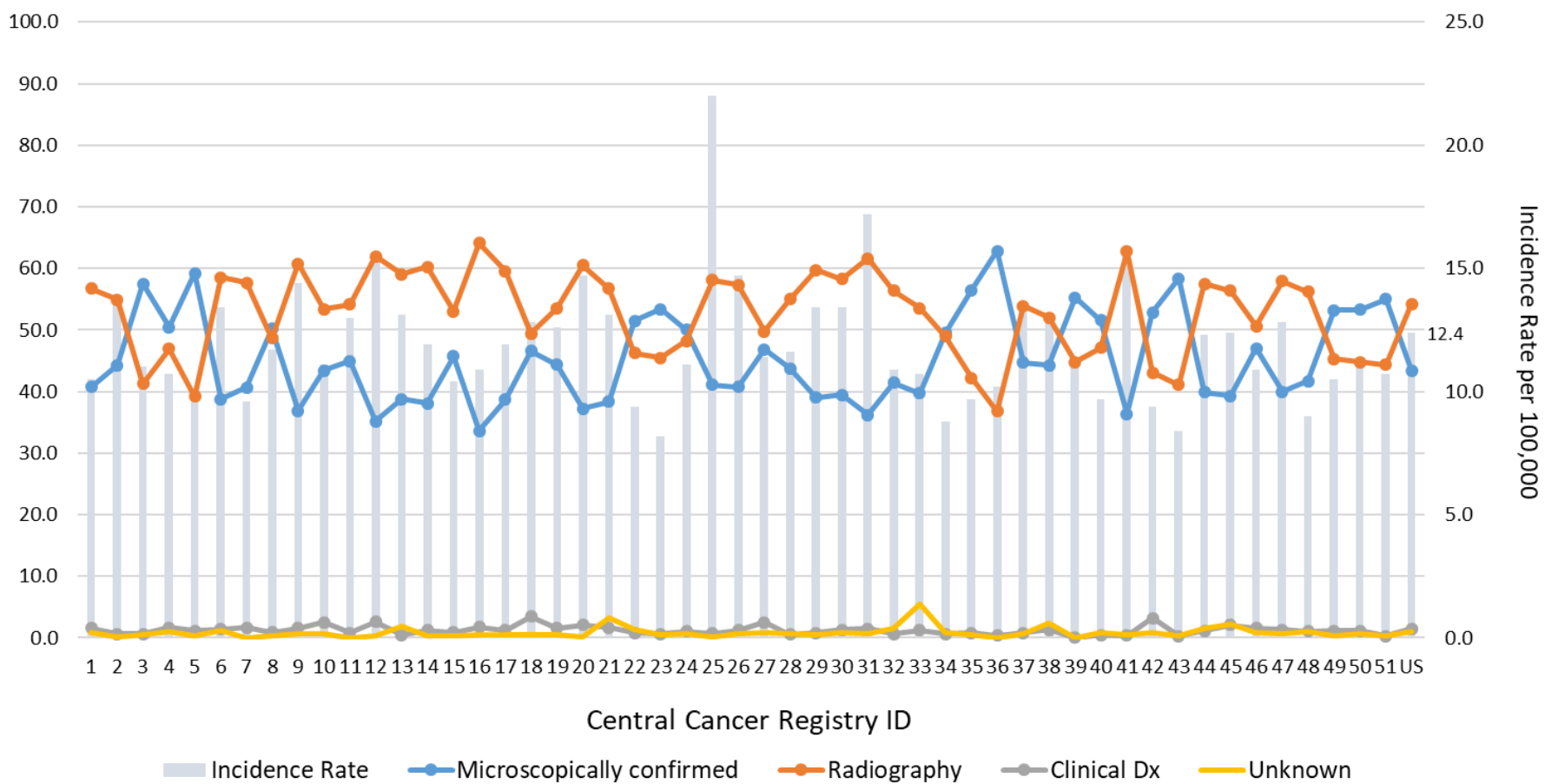


Figure 2a. Types of Diagnostic Confirmation and Incidence Rate for Benign/Borderline Brain/CNS Tumor:
Years 2012-2016



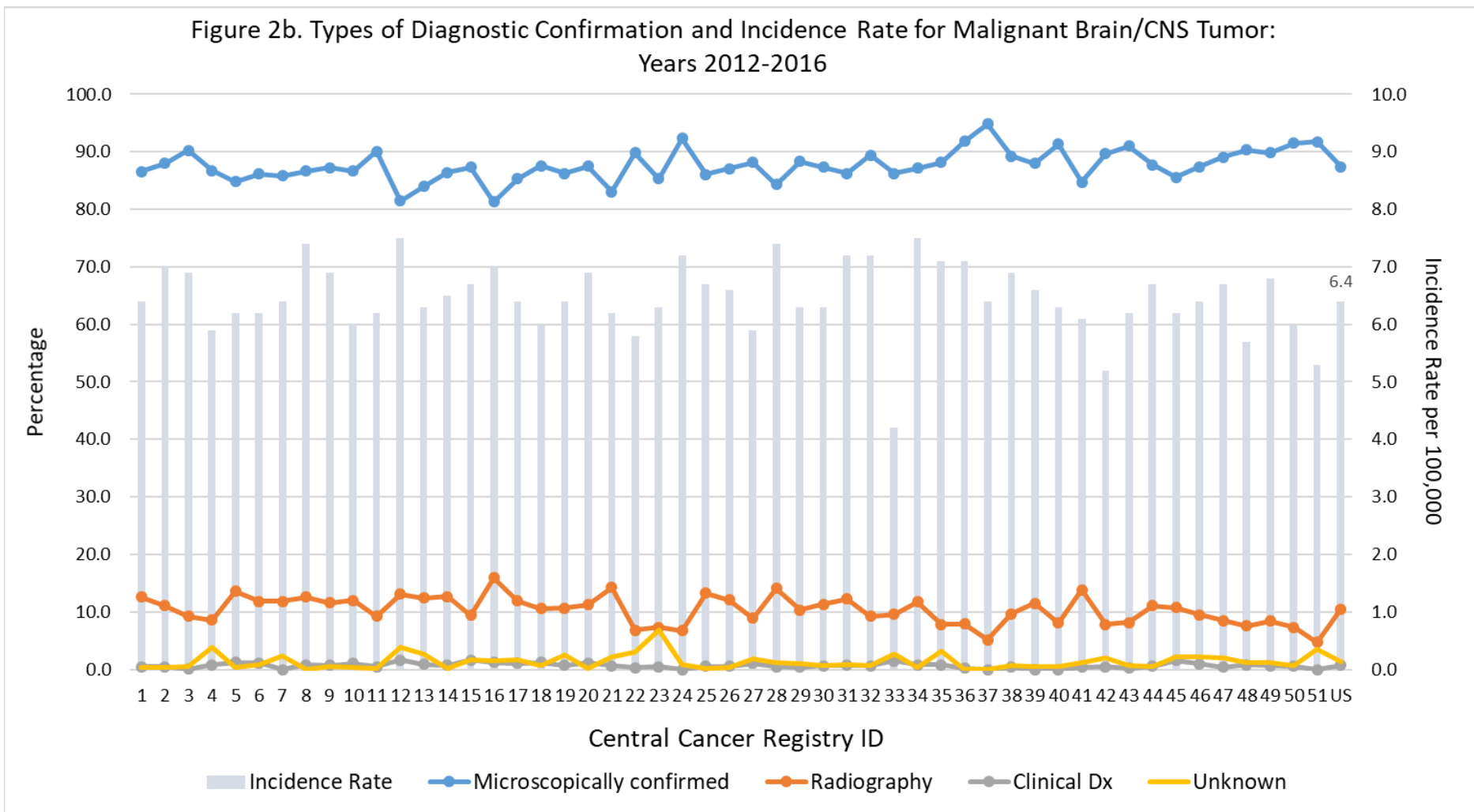


Table 1. Unknown diagnostic confirmation¹ by behavior, Years 2012-2016 combined.

Registry Level	Benign/Borderline		Malignant	
25-75% Percentile (IQR)	0.4%-0.9%		0.4%-2.1%	
Minimum	0.0%		0.0%	
Mean	0.8%		1.3%	
Median	0.6%		1.7%	
Maximum	5.5%		6.8%	
Upper Whisker ²	1.7%		4.7%	
# outside of upper whisker	5		1	
All cases combined	Total Count	% Unk	Total Count	% Unk
Sex				
Male	71,766	1.0	61,653	1.2
Female	145,184	1.0	48,536	1.6
Race				
White	178,205	0.9	96,609	1.3
Black	24,487	1.0	8,330	1.6
AI/AN	1382	1.3	599	1.5
Asian or Pacific Islander	9,181	1.1	3,415	1.5
Unknown	3,695	1.5	1,236	2.3
Age				
00-19 years	7,812	1.0	14,114	0.8
20-39 years	20,286	0.8	13,562	0.7
40-59 years	67,292	0.8	29,193	0.8
60-79 years	88,760	0.9	42,615	1.3
80+ years	32,797	1.4	10,705	4.8
Type of reporting source⁴				
Hospital	214,387	0.9	108,108	0.6
Non-hospital	2,563	8.4	2,081	42.8
Metro/Non-Metro 2013⁵				
Metro	182,361	1.0	90,323	1.3
Non-Metro	29,586	1.1	16,716	1.7
Unknown	5,003	0.6	3,150	0.3

Table 2. Unknown diagnostic confirmation¹ for benign/borderline brain/CNS tumor by diagnosis year: 2012-2016

Registry Level	2012		2013		2014		2015		2016	
25-75% Percentile (IQR)	0.1%-1.6%		0.1%-0.9%		0.3%-1.1%		0.0%-1.0%		0.1%-0.9%	
Minimum	0.0%		0.0%		0.0%		0.0%		0.0%	
Mean	1.0%		0.9%		0.9%		0.7%		0.7%	
Median	0.7%		0.5%		0.7%		0.6%		0.4%	
Maximum	8.0%		8.8%		4.0%		3.6%		3.9%	
Upper Whisker ²	3.8%		2.2%		2.2%		2.4%		2.1%	
# outside of upper whisker	3		5		5		4		3	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
Male	13,803	1.3	14,248	1.0	14,519	1.0	14,840	0.8	14,356	0.7
Female	28,224	1.0	28,584	1.0	29,315	1.1	29,937	0.8	29,124	0.9
Race										
White	34,883	1.1	35,305	1.0	36,139	1.0	36,575	0.8	35,303	0.8
Black	4,618	1.2	4,794	1.0	4,913	1.0	5,079	1.0	5,083	0.6
AI/AN	280	1.4	260	1.9	278	1.1	280	1.1	284	1.1
Asian or Pacific Islander	1,647	1.6	1,821	0.9	1,757	1.3	2,000	0.9	1,956	0.9
Unknown	599	1.5	652	2.0	747	1.5	843	1.3	854	1.5
Age										
00-19 years	1,576	1.5	1,571	0.8	1,523	1.2	1,583	0.9	1,559	0.6
20-39 years	4,075	0.9	3,992	0.8	4,133	0.7	4,118	0.7	3,968	0.9
40-59 years	13,379	0.9	13,491	0.9	13,758	0.9	13,597	0.8	13,067	0.7
60-79 years	16,571	1.2	17,444	1.0	17,717	0.9	18,687	0.8	18,341	0.8
80+ years	6,426	1.5	6,334	1.6	6,703	1.6	6,791	1.0	6,543	1.2
Type of reporting source⁴										
Hospital	41,529	1.0	42,356	0.9	43,269	0.9	44,233	0.8	43,000	0.8
Non-hospital	498	12.4	476	11.8	565	8.8	544	5.7	480	3.5
Metro/Non-Metro 2013⁵										
Metro	35,136	1.1	35,968	1.1	36,940	1.0	37,752	0.8	36,565	0.8
Non-Metro	5,899	1.5	5,869	0.9	5,909	1.2	6,005	1.0	5,904	0.8
Unknown	992	0.6	995	0.1	985	0.9	1,020	0.5	1,011	0.7

Table 3. Unknown diagnostic confirmation¹ for malignant brain/CNS tumor by diagnosis year: 2012-2016

Registry Level	2012		2013		2014		2015		2016	
25-75% Percentile (IQR)	0.1%-1.6%		0.1%-0.9%		0.3%-1.1%		0.0%-1.0%		0.1%-0.9%	
Minimum	0.0%		0.0%		0.0%		0.0%		0.0%	
Mean	1.0%		0.9%		0.9%		0.7%		0.7%	
Median	0.7%		0.5%		0.7%		0.6%		0.4%	
Maximum	8.0%		8.8%		4.0%		3.6%		3.9%	
Upper Whisker ¹	3.8%		2.2%		2.2%		2.4%		2.1%	
# outside of upper whisker	3		9		5		4		3	
All cases combined	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk	Total Count	% Unk
Sex										
	12,17		12,31		12,44		12,32		12,39	
Male	2	1.4	7	1.4	3	1.1	5	1.0	6	0.9
Female	9,630	2.0	9,885	1.9	9,563	1.4	9,873	1.4	9,585	1.2
Race										
	19,16		19,53		19,26		19,49		19,14	
White	5	1.7	8	1.6	9	1.2	4	1.1	3	1.0
Black	1,658	1.9	1,673	1.7	1,663	1.1	1,648	1.7	1,688	1.8
AI/AN	123	1.6	118	0.8	120	1.7	121	1.7	117	1.7
Asian or Pacific Islander	673	1.5	668	2.7	682	1.9	681	0.7	711	0.7
Unknown	183	0.5	205	2.0	272	2.2	254	3.1	322	3.1
Age										
00-19 years	2,807	1.1	2,900	0.7	2,870	0.7	2,798	0.5	2,739	0.9
20-39 years	2,713	0.4	2,650	0.9	2,785	0.4	2,705	0.6	2,709	1.1
40-59 years	5,806	0.8	6,084	0.9	5,759	0.6	5,980	0.9	5,564	0.8
60-79 years	8,274	1.8	8,359	1.4	8,470	1.3	8,564	1.1	8,948	0.8
80+ years	2,202	5.9	2,209	6.5	2,122	4.5	2,151	4.0	2,021	2.9
Type of reporting source³										
	21,35		21,72		21,61		21,79		21,63	
Hospital	1	0.6	2	0.6	0	0.6	5	0.5	0	0.5
Non-hospital	451	51.7	480	46.9	396	38.9	403	36.7	351	37.0
Metro/Non-Metro 2013⁴										
	17,79		18,25		18,03		18,24		17,98	
Metro	9	1.7	6	1.6	6	1.2	5	1.2	7	1.0
Non-Metro	3,364	2.1	3,340	1.7	3,349	1.6	3,313	1.7	3,350	1.5
Unknown	639	0.5	606	0.2	621	0.2	640	0.3	644	0.3

Figure 3a. Percentage of Unknown Diagnostic Confirmation for Benign/Borderline Brain/CNS Tumor: Years 2012-2016

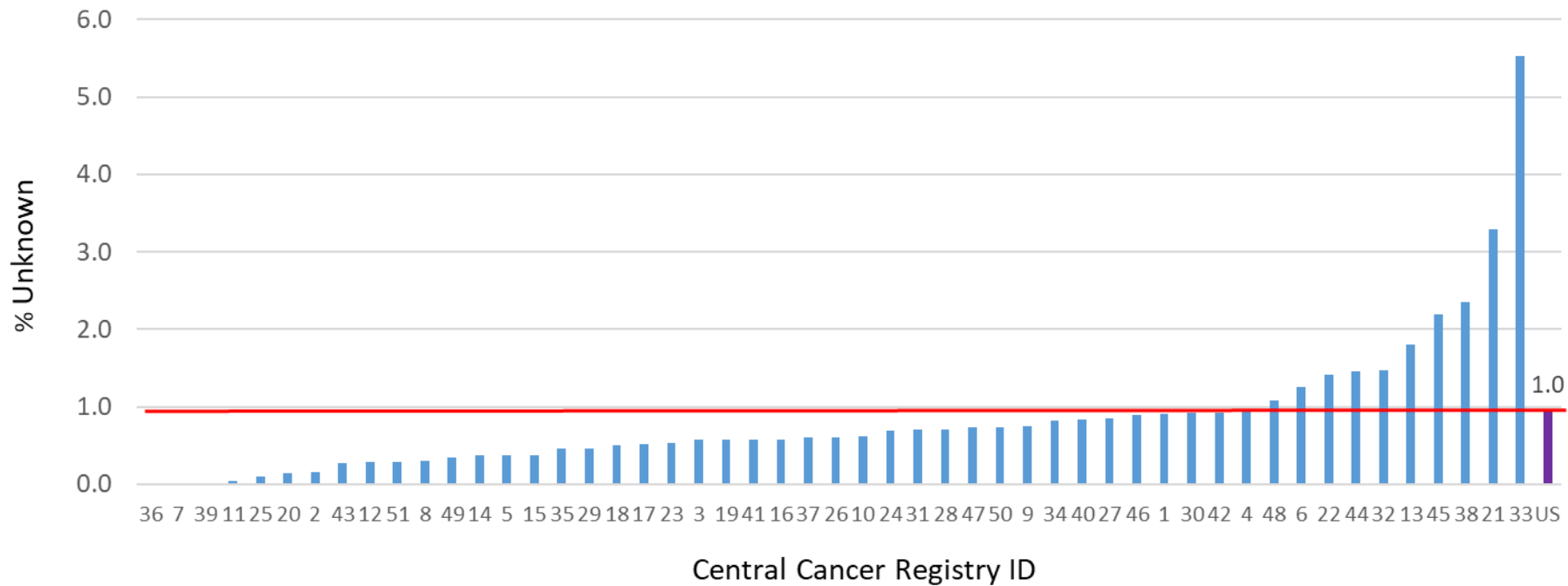


Figure 3b. Percentage of Unknown Diagnostic Confirmation for Malignant Brain/CNS Tumor:
Years 2012-2016

