Appendix A

Data Quality in State & District Level Reporting on School Librarian Employment

The Common Core of Data (CCD) of the National Center for Education Statistics (NCES) is the only comprehensive source of national, state, and district level data on school librarian employment as well as related district characteristics and student demographics. Theoretically, states and local school districts should report based on the annual instructions and definitions they receive from NCES; state departments of education should vet district reports; and NCES should vet state submissions of state and district data. At every stage, the goal is to maximize accuracy, consistency, and completeness. However, no data collection project is perfect—not even one as long-established and well-organized as this one—so inevitably data quality issues arise

Missing Data

NCES indicates that CCD state data are complete, missing data being imputed (in other words, estimated on some systematic basis); but no detailed report of those imputation procedures could be found on the NCES website. What was verifiable is that imputations in the state file were done on the basis of state level reports, not including any imputed missing data at the district level. Consequently, it is all but certain that CCD state data were affected negatively by missing data at the district level. In a few cases, a CCD state total for school librarian full-time equivalents (FTEs) was found to be lower than the sum of those FTEs reported by the state's districts. In such cases, the higher sum of FTEs reported by the state's districts replaced the CCD state figure in the SLIDE state dataset.

The most conspicuous defect in the CCD district data on school librarian staffing was missing data—districts for which the number of school librarians in full-time equivalents (FTEs) was not reported. In the simplest terms, the field where that FTE figure should have been entered was left blank or a missing data code was inserted. Notably, there is a big difference between leaving an item blank and entering zero. Zero means there is none of something; a blank means we have been told nothing about that something. The missing data might be zero or it might be something greater than zero. The point, however, is that missing data is an unknown. (See Table 22 for state-by-state reports of the numbers of districts in the SLIDE dataset for which school librarian staffing was, and was not, reported from 2015-16 through 2018-19. This table also reports the numbers and percentages of districts in each state that reported zero, and something greater than zero, for school librarian FTEs.)

Missing data about school librarian FTE for one or more years were addressed for 9 states: Alaska, California, Connecticut, Kansas, New Jersey, Nevada, Utah, Vermont, and Wyoming. The usual alternative source of school librarian FTE data was the state department of education, and direction to that alternative source was usually provided by the SLIDE state intermediary, a representative of the state library association or agency that endorsed the SLIDE project and committed to supporting it by providing just this sort of assistance.

For most purposes, social scientists are not concerned about missing data until it exceeds 10% of cases. By this standard, missing data about school librarian FTEs in 2018-19 for only 5.9% of districts was not a major concern at the national or district level. While missing so little data is not a problem from those perspectives, the percentage of districts for which librarian FTE data were missing at the state level was sometimes problematic. By addressing missing data as described above, we were able to reduce the national missing data percentage to 3.5% for 2018-19.

After missing data were addressed for as many districts as possible, the remaining issue at the state level varied as follows. For 38 states, there was no missing data whatsoever for 2018-19. The same year, data were missing for fewer than 1% of districts for 4 states. For 5 states, data were missing for 1% or more and fewer than 10% of districts. Only 2 states in our 2018-19 dataset still have substantial percentages of missing data: Illinois (48.1% of districts) and West Virginia (38.2%). Those missing cases had a negligible impact on this report's national and district level analyses; but, they should be taken into account when reading the state perspective section of the report.

Illinois is the most noteworthy example of a state with a large number and proportion of districts missing data on school librarian FTE. With about half of the state's districts not reporting about school librarians between 2015-16 and 2018-19, the Illinois data in this report are potentially misleading. In effect, for purposes of this report, it is as if almost half of the state's districts did not exist. What is clear in Table 20 is that, between 2015-16 and 2018-19, suspiciously low numbers of Illinois districts reported zero for school librarian FTEs. In other states that were able to address missing data issues for one or more years, the most frequent value filling such a gap was, in fact, zero. Apparently, many data reporters do not distinguish between reporting zero and leaving an item blank. The Association of Illinois School Library Educators (AISLE) and the Illinois State Library are collaborating to improve state and district reporting of school librarian FTEs to NCES.

While tracking down missing data for districts that did not report to NCES was not a planned or budgeted activity for the SLIDE project, project staff did the extra work necessary to make the SLIDE dataset more accurate and complete, and they continue to work with states seeking to reduce the number of districts for which data about school librarian employment are not being reported. Hopefully, the attention being drawn to these data by this project will motivate federal, state, and district staff involved in the CCD data collection to redouble their own efforts to make this dataset more accurate and complete.

Validity

In statistics, the term validity refers to the extent to which a statistic accurately measures what it claims to measure.

As reported by Lance in 2018, California provides the most dramatic example of a validity issue with the school librarian FTE data from NCES. For 2014-15, California reported 811 librarian FTEs; for 2015-16, it reported only 105. An investigation in 2018 revealed that the apparent decrease of 706 FTEs in a single year was, in fact, a statistical artifact. To protect librarians from budget cuts, starting in 2015-16, they were reported by many districts as teachers instead of as librarians. While efforts are underway to reverse that change, it is a validity issue that afflicts much of the California data from 2015-16 to at least 2018-19. Fortunately, the librarians now counted as teachers have "library" identified as their teaching assignment; so, it was possible to reassign those FTEs from teacher to librarian. While this was a conspicuous and dramatic example of a validity problem in the NCES data, it quite likely is not the only one. It is possible that something like this strategy may have been employed in other districts in isolated cases, rather than on a statewide basis.

When the SLIDE interviewers speak to school leaders from districts that appear to have lost librarians, one of their first questions will be to confirm that that actually happened. If the school librarian's job was modified sufficiently, even to the extent of the job title being changed (e.g., educational technology and information literacy coordinator), that FTE may have been reported to NCES as an instructional coordinator or not at all.

Reliability

In statistics, the term reliability refers to the consistency with which a statistic is reported from place to place or time to time. For selected states and districts, there is the potential for such inconsistencies. This issue also overlaps with the missing data issue. As data reporters change, how numbers for that district change can be a problem. If one data reporter leaves librarian FTE blank, while their predecessor entered a zero the previous year, there is a reliability problem.

The California validity example is also an example of a reliability problem. The definition of a school librarian was interpreted in one way in 2014-15 and in another way in subsequent years, thereby introducing inconsistency in the data from year to year. Another likely example of a reliability issue would be if one district in California reported a librarian as a teacher while a neighboring district reported a librarian as a librarian. In that case, the definition would be being applied inconsistently from place to place.

Outdated & Inadequate Definition

Finally, perhaps the most vexing data quality issue for the SLIDE project—and for most CCD school librarian data users—is that the data are being collected on the basis of an outdated and inadequate definition. (See Appendix B.) The definition is dated because it was written probably no later than 2000, which means that the responsibilities mentioned in the definition are not current. There is no mention, for instance, of collaboration with teachers on instructional design and delivery, computers, databases, educational technology, information literacy, inquiry-based learning, media/news literacy, or the like. Not only is the definition outdated, but it also lacks what, to the school library community, is an essential element—mention of state certification as a school librarian. The omission of a reference to state certification is understandable; CCD makes no reference to certification in any of its staffing definitions. In this case, however, it means that to many in the school library community, a district's FTE count is perceived as "incorrect," because—even though it meets the CCD definition—it does not reflect state certification as a requirement.

Notably, a state may report to CCD only state-certified librarians, because of the way the data are collected at the state level. So, this possibility could also introduce validity and reliability issues when comparing data from state to state.

A closely related issue is the possibility that school librarian FTE counts may be affected at the district level by the perception that the job title "school librarian" itself is an outdated one that conjures up stereotypes school leaders wish to avoid. In such cases, the job may be given a different title and not reported to NCES as a school librarian.

It is important to acknowledge that NCES's data on school librarian staffing are, on balance, of very high quality. The completeness of the data—data for all districts—reported by most states is impressive. While the definition of a school librarian is outdated and inadequate, it has been in place, unaltered, for several decades; so, barring a change of district or state personnel and their being inadequately trained to report consistently, there is every reason to expect the FTE counts to be reasonably accurate.

It is easy to criticize any data collection effort pursued on such a comprehensive scale. Local districts report data that are aggregated at the state level, and states report data that are aggregated at the national level. The burden of proof for such criticism, though, lies with the critic, and, in most states, anyone who wishes to challenge the NCES data is effectively unarmed—there is no ongoing, independent data collection effort producing competing data of the sort needed to question the accuracy of NCES's CCD data.

Post-Script About 2019-20 Data

In April 2021, the National Center for Education Statistics (NCES) released 2019-20 Common Core of Data (CCD) counts of school librarians in full-time equivalents (FTEs) by state and district. This dataset was released too late to be used for this analysis. The principal reason it was too late is because the dataset is not usable for SLIDE purposes as released, due to missing data and mis-reported data requiring remediation.

Table 22. School Librarian Reporting Status in the SLIDE District Dataset by State, 2015-16 to 2018-19

		2015-16 School Librarian Reporting Status									8 School Li porting Sta			2018-19 Rep			
State		Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total
AK	N	14	39	0	53	13	40	0	53	14	39	0	53	12	40	1	53
	%	26.4%	73.6%	0.0%	100.0%	24.5%	75.5%	0.0%	100.0%	26.4%	73.6%	0.0%	100.0%	22.6%	75.5%	1.9%	100.0%
AL	N	136	0	1	137	102	0	35	137	137	0	0	137	137	0	0	137
	%	99.3%	0.0%	.7%	100.0%	74.5%	0.0%	25.5%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
AR	N	232	1	0	233	233	1	0	234	233	1	0	234	232	1	1	234
	%	99.6%	.4%	0.0%	100.0%	99.6%	.4%	0.0%	100.0%	99.6%	.4%	0.0%	100.0%	99.1%	.4%	.4%	100.0%
AZ	N	75	139	0	214	71	141	2	214	67	142	5	214	67	147	0	214
	%	35.0%	65.0%	0.0%	100.0%	33.2%	65.9%	.9%	100.0%	31.3%	66.4%	2.3%	100.0%	31.3%	68.7%	0.0%	100.0%
CA	N	101	881	0	982	136	845	2	983	65	918	0	983	63	920	0	983
	%	10.3%	89.7%	0.0%	100.0%	13.8%	86.0%	.2%	100.0%	6.6%	93.4%	0.0%	100.0%	6.4%	93.6%	0.0%	100.0%
СО	N	84	94	0	178	85	93	0	178	80	98	0	178	79	99	0	178
	%	47.2%	52.8%	0.0%	100.0%	47.8%	52.2%	0.0%	100.0%	44.9%	55.1%	0.0%	100.0%	44.4%	55.6%	0.0%	100.0%
СТ	N	157	12	0	169	152	17	0	169	151	18	0	169	150	19	0	169
	%	92.9%	7.1%	0.0%	100.0%	89.9%	10.1%	0.0%	100.0%	89.3%	10.7%	0.0%	100.0%	88.8%	11.2%	0.0%	100.0%
DC	N	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1
	%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
DE	N	18	1	0	19	18	1	0	19	16	3	0	19	16	3	0	19
	%	94.7%	5.3%	0.0%	100.0%	94.7%	5.3%	0.0%	100.0%	84.2%	15.8%	0.0%	100.0%	84.2%	15.8%	0.0%	100.0%
FL	N	64	3	0	67	63	4	0	67	62	5	0	67	61	6	0	67
	%	95.5%	4.5%	0.0%	100.0%	94.0%	6.0%	0.0%	100.0%	92.5%	7.5%	0.0%	100.0%	91.0%	9.0%	0.0%	100.0%
GA	N	180	0	0	180	179	1	0	180	180	0	0	180	179	1	0	180
	%	100.0%	0.0%	0.0%	100.0%	99.4%	.6%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	99.4%	.6%	0.0%	100.0%
HI	N	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1
	%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%
IA	N	326	4	0	330	327	3	0	330	328	2	0	330	322	8	0	330
	%	98.8%	1.2%	0.0%	100.0%	99.1%	.9%	0.0%	100.0%	99.4%	.6%	0.0%	100.0%	97.6%	2.4%	0.0%	100.0%
ID	N	45	70	0	115	44	71	0	115	41	74	0	115	38	77	0	115
	%	39.1%	60.9%	0.0%	100.0%	38.3%	61.7%	0.0%	100.0%	35.7%	64.3%	0.0%	100.0%	33.0%	67.0%	0.0%	100.0%
IL	N	503	0	386	889	472	0	417	889	471	1	419	891	458	4	429	891
	%	56.6%	0.0%	43.4%	100.0%	53.1%	0.0%	46.9%	100.0%	52.9%	.1%	47.0%	100.0%	51.4%	.4%	48.1%	100.0%
IN	N	226	67	0	293	218	75	0	293	216	76	1	293	210	83	0	293
	%	77.1%	22.9%	0.0%	100.0%	74.4%	25.6%	0.0%	100.0%	73.7%	25.9%	.3%	100.0%	71.7%	28.3%	0.0%	100.0%

Table 22. School Librarian Reporting Status in the SLIDE District Dataset by State, 2015-16 to 2018-19—continued

1 4 5 7 5			School L				5-17 School Librarian		7700 2 0 0		8 School I	2015-16 Librarian	10 2010		School L		
		Reporting Status				Rep	atus		Re	porting St	atus		Rep				
		Greater				Greater				Greater				Greater			
C+-+-		than	_		Takal	than	_		Takal	than	_		Takal	than	_		T-4-1
State		zero	Zero	Missing	Total	zero	Zero	Missing	Total	zero	Zero	Missing	Total	zero	Zero	Missing	Total
KS	N	186	100	0	286	176	110	0	286	182	104	0	286	176	110	0	286
	%	65.0%	35.0%	0.0%	100.0%	61.5%	38.5%	0.0%	100.0%	63.6%	36.4%	0.0%	100.0%	61.5%	38.5%	0.0%	100.0%
KY	N	172	1	0	173	172	1	0	173	171	2	0	173	170	3	0	173
	%	99.4%	.6%	0.0%	100.0%	99.4%	.6%	0.0%	100.0%	98.8%	1.2%	0.0%	100.0%	98.3%	1.7%	0.0%	100.0%
LA	N	66	3	1	70	65	5	0	70	63	7	0	70	60	11	0	71
	%	94.3%	4.3%	1.4%	100.0%	92.9%	7.1%	0.0%	100.0%	90.0%	10.0%	0.0%	100.0%	84.5%	15.5%	0.0%	100.0%
MA	N	267	57	0	324	266	58	0	324	266	58	0	324	260	64	0	324
	%	82.4%	17.6%	0.0%	100.0%	82.1%	17.9%	0.0%	100.0%	82.1%	17.9%	0.0%	100.0%	80.2%	19.8%	0.0%	100.0%
MD	N	24	0	0	24	24	0	0	24	22	2	0	24	23	1	0	24
	%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	91.7%	8.3%	0.0%	100.0%	95.8%	4.2%	0.0%	100.0%
ME	N	133	55	0	188	129	59	0	188	127	62	0	189	133	58	0	191
	%	70.7%	29.3%	0.0%	100.0%	68.6%	31.4%	0.0%	100.0%	67.2%	32.8%	0.0%	100.0%	69.6%	30.4%	0.0%	100.0%
MI	N	148	388	0	536	142	395	0	537	141	396	0	537	170	367	0	537
	%	27.6%	72.4%	0.0%	100.0%	26.4%	73.6%	0.0%	100.0%	26.3%	73.7%	0.0%	100.0%	31.7%	68.3%	0.0%	100.0%
MN	N	172	157	0	329	162	167	0	329	156	173	0	329	145	184	0	329
	%	52.3%	47.7%	0.0%	100.0%	49.2%	50.8%	0.0%	100.0%	47.4%	52.6%	0.0%	100.0%	44.1%	55.9%	0.0%	100.0%
МО	N	464	53	0	517	464	53	0	517	470	47	0	517	459	58	0	517
	%	89.7%	10.3%	0.0%	100.0%	89.7%	10.3%	0.0%	100.0%	90.9%	9.1%	0.0%	100.0%	88.8%	11.2%	0.0%	100.0%
MS	N	139	0	0	139	139	0	0	139	138	1	0	139	140	1	0	141
	%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	99.3%	.7%	0.0%	100.0%	99.3%	.7%	0.0%	100.0%
MT	N	295	104	0	399	290	106	1	397	291	105	1	397	281	119	1	401
	%	73.9%	26.1%	0.0%	100.0%	73.0%	26.7%	.3%	100.0%	73.3%	26.4%	.3%	100.0%	70.1%	29.7%	.2%	100.0%
NC	N	113	2	0	115	114	1	0	115	113	4	0	117	115	5	0	120
	%	98.3%	1.7%	0.0%	100.0%	99.1%	.9%	0.0%	100.0%	96.6%	3.4%	0.0%	100.0%	95.8%	4.2%	0.0%	100.0%
ND	N	143	27	0	170	142	28	0	170	145	25	0	170	138	32	0	170
	%	84.1%	15.9%	0.0%	100.0%	83.5%	16.5%	0.0%	100.0%	85.3%	14.7%	0.0%	100.0%	81.2%	18.8%	0.0%	100.0%
NE	N	241	2	0	243	243	0	0	243	244	0	0	244	243	1	0	244
	%	99.2%	.8%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	99.6%	.4%	0.0%	100.0%
NH	N	140	24	0	164	144	21	0	165	146	19	0	165	146	19	0	165
	%	85.4%	14.6%	0.0%	100.0%	87.3%	12.7%	0.0%	100.0%	88.5%	11.5%	0.0%	100.0%	88.5%	11.5%	0.0%	100.0%
NJ	N	423	0	119	542	426	0	116	542	425	0	117	542	427	112	3	542
	%	78.0%	0.0%	22.0%	100.0%	78.6%	0.0%	21.4%	100.0%	78.4%	0.0%	21.6%	100.0%	78.8%	20.7%	.6%	100.0%
NM	N	44	45	0	89	41	48	0	89	36	53	0	89	35	53	1	89
	%	49.4%	50.6%	0.0%	100.0%	46.1%	53.9%	0.0%	100.0%	40.4%	59.6%	0.0%	100.0%	39.3%	59.6%	1.1%	100.0%

Table 22. School Librarian Reporting Status in the SLIDE District Dataset by State, 2015-16 to 2018-19--continued

		2015-16 School Librarian Reporting Status				2016-17	School Lorting Sta	ibrarian			School Li orting Sta	brarian		2018-19	ibrarian atus		
State		Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total
NV	N	10	4	4	18	9	5	4	18	10	5	3	18	12	5	1	18
	%	55.6%	22.2%	22.2%	100.0%	50.0%	27.8%	22.2%	100.0%	55.6%	27.8%	16.7%	100.0%	66.7%	27.8%	5.6%	100.0%
NY	N	646	74	0	720	645	75	0	720	655	65	0	720	663	55	2	720
	%	89.7%	10.3%	0.0%	100.0%	89.6%	10.4%	0.0%	100.0%	91.0%	9.0%	0.0%	100.0%	92.1%	7.6%	.3%	100.0%
ОН	N	390	227	0	617	380	237	0	617	374	243	0	617	361	256	0	617
	%	63.2%	36.8%	0.0%	100.0%	61.6%	38.4%	0.0%	100.0%	60.6%	39.4%	0.0%	100.0%	58.5%	41.5%	0.0%	100.0%
OK	N	457	52	0	509	416	93	0	509	398	113	0	511	390	122	0	512
	%	89.8%	10.2%	0.0%	100.0%	81.7%	18.3%	0.0%	100.0%	77.9%	22.1%	0.0%	100.0%	76.2%	23.8%	0.0%	100.0%
OR	N	58	118	0	176	51	125	0	176	54	122	0	176	53	123	0	176
	%	33.0%	67.0%	0.0%	100.0%	29.0%	71.0%	0.0%	100.0%	30.7%	69.3%	0.0%	100.0%	30.1%	69.9%	0.0%	100.0%
PA	N	480	19	0	499	479	20	0	499	475	24	0	499	473	26	0	499
	%	96.2%	3.8%	0.0%	100.0%	96.0%	4.0%	0.0%	100.0%	95.2%	4.8%	0.0%	100.0%	94.8%	5.2%	0.0%	100.0%
RI	N	34	2	0	36	35	1	0	36	36	0	0	36	35	1	0	36
	%	94.4%	5.6%	0.0%	100.0%	97.2%	2.8%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	97.2%	2.8%	0.0%	100.0%
SC	N	81	0	2	83	80	1	2	83	80	1	2	83	80	1	2	83
	%	97.6%	0.0%	2.4%	100.0%	96.4%	1.2%	2.4%	100.0%	96.4%	1.2%	2.4%	100.0%	96.4%	1.2%	2.4%	100.0%
SD	N	65	84	0	149	67	82	0	149	61	88	0	149	60	89	0	149
	%	43.6%	56.4%	0.0%	100.0%	45.0%	55.0%	0.0%	100.0%	40.9%	59.1%	0.0%	100.0%	40.3%	59.7%	0.0%	100.0%
TN	N	142	1	3	146	140	3	3	146	141	3	2	146	141	3	2	146
	%	97.3%	.7%	2.1%	100.0%	95.9%	2.1%	2.1%	100.0%	96.6%	2.1%	1.4%	100.0%	96.6%	2.1%	1.4%	100.0%
TX	N	609	412	1	1022	602	420	0	1022	601	421	0	1022	584	438	0	1022
	%	59.6%	40.3%	.1%	100.0%	58.9%	41.1%	0.0%	100.0%	58.8%	41.2%	0.0%	100.0%	57.1%	42.9%	0.0%	100.0%
UT	N	29	12	0	41	28	13	0	41	28	13	0	41	27	14	0	41
	%	70.7%	29.3%	0.0%	100.0%	68.3%	31.7%	0.0%	100.0%	68.3%	31.7%	0.0%	100.0%	65.9%	34.1%	0.0%	100.0%
VA	N	130	0	2	132	132	0	0	132	132	0	0	132	131	0	1	132
	%	98.5%	0.0%	1.5%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	100.0%	99.2%	0.0%	.8%	100.0%
VT	N	95	18	0	113	98	19	0	117	100	26	0	126	117	30	0	147
	%	84.1%	15.9%	0.0%	100.0%	83.8%	16.2%	0.0%	100.0%	79.4%	20.6%	0.0%	100.0%	79.6%	20.4%	0.0%	100.0%
WA	N	139	152	6	297	138	159	0	297	135	162	0	297	135	162	0	297
	%	46.8%	51.2%	2.0%	100.0%	46.5%	53.5%	0.0%	100.0%	45.5%	54.5%	0.0%	100.0%	45.5%	54.5%	0.0%	100.0%
WI	N	379	36	0	415	383	33	0	416	384	33	0	417	380	38	0	418
	%	91.3%	8.7%	0.0%	100.0%	92.1%	7.9%	0.0%	100.0%	92.1%	7.9%	0.0%	100.0%	90.9%	9.1%	0.0%	100.0%
WV	N	44	11	0	55	44	11	0	55	34	21	0	55	34	0	21	55
	%	80.0%	20.0%	0.0%	100.0%	80.0%	20.0%	0.0%	100.0%	61.8%	38.2%	0.0%	100.0%	61.8%	0.0%	38.2%	100.0%

Table 22. School Librarian Reporting Status in the SLIDE District Dataset by State, 2015-16 to 2018-19--continued

		2015-16 School Librarian Reporting Status				2016-17 School Librarian Reporting Status				2017-18 School Librarian Reporting Status				2018-19 School Librarian Reporting Status			
State		Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total	Greater than zero	Zero	Missing	Total
WY	N	39	9	0	48	38	10	0	48	36	12	0	48	34	14	0	48
	%	81.3%	18.8%	0.0%	100.0%	79.2%	20.8%	0.0%	100.0%	75.0%	25.0%	0.0%	100.0%	70.8%	29.2%	0.0%	100.0%
U.S. Total	N	9,160	3,560	525	13,245	9,019	3,651	582	13,252	8,933	3,787	550	13,270	8,857	3,983	465	13,305
	%	69.2%	26.9%	4.0%	100.0%	68.1%	27.6%	4.4%	100.0%	67.3%	28.5%	4.1%	100.0%	66.6%	29.9%	3.5%	100.0%