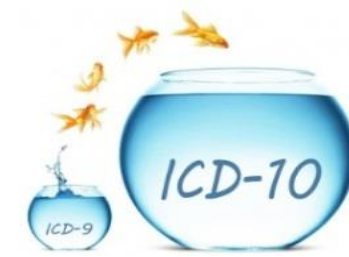


Question: I am using the Inpatient Hospital Discharge Data. Since CHIA lifted the limit on diagnosis codes in FY2015 and switched to ICD-10-CM in FY2016, would it significantly impact my study if I continued to use 15 diagnosis codes or less in FY2015, FY2016, and FY2017?



Answer: Yes, it would. In **Table 1**, on the right you will see that if you limited your study to patients with 15 diagnosis codes or less in FY2015, you would lose information on 31.9% of the discharges (n=254,151), in FY2016 you would lose 31.6% (n=253,350), and FY2017 you would lose 35.5% (n=286,971). Even before the transition to ICD-10-CM, in FY2015, a notable increase was seen in the number of discharges with up to 35 diagnosis codes. In the new FY2017 inpatient data, 15% of the discharges having more than 20 diagnosis codes. See **Figures 1 and 2** below.

Table 1. Discharge Volume by Number of Diagnosis Codes

Total Discharges by Number of DX Codes	Before Limit Lifted			After Limit Lifted		
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
0 to 1	22,473	20,312	17,398	61	33	14
2 to 4	180,734	166,874	155,941	63,149	55,183	48,507
5 to 10	316,973	296,254	281,216	286,185	296,444	279,138
11 to 14	148,469	143,968	138,881	158,804	161,495	159,673
15	161,219	178,731	192,049	34,485	34,485	34,615
16	-	-	-	32,189	31,614	33,935
17	-	-	-	57,412	64,747	70,557
18	-	-	-	20,721	19,788	22,620
19	-	-	-	18,460	17,513	20,484
20	-	-	-	16,505	15,509	18,674
21 to 25	-	-	-	55,317	52,652	65,785
26 to 30	-	-	-	38,146	35,841	32,678
31 to 35	-	-	-	8,605	9,066	13,828
Greater than 35	-	-	-	6,796	6,620	8,410
TOTAL DISCHARGES	829,868	806,139	785,485	796,835	800,990	808,918

Percent of Total Discharges by Number of DX Codes	Before Limit Lifted			After Limit Lifted		
	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
0 to 1	2.708%	2.520%	2.215%	0.008%	0.004%	0.002%
2 to 4	21.779%	20.700%	19.853%	7.925%	6.889%	5.997%
5 to 10	38.196%	36.750%	35.802%	35.915%	37.010%	34.508%
11 to 14	17.891%	17.859%	17.681%	19.929%	20.162%	19.739%
15	19.427%	22.171%	24.450%	4.328%	4.305%	4.279%
16	-	-	-	4.040%	3.947%	4.195%
17	-	-	-	7.205%	8.083%	8.722%
18	-	-	-	2.600%	2.470%	2.796%
19	-	-	-	2.317%	2.186%	2.532%
20	-	-	-	2.071%	1.936%	2.309%
21 to 25	-	-	-	6.942%	6.573%	8.132%
26 to 30	-	-	-	4.787%	4.475%	4.040%
31 to 35	-	-	-	1.080%	1.132%	1.709%
Greater than 35	-	-	-	0.853%	0.826%	1.040%

Fig. 1 Percent of Discharges with 15 or less DX in FY2014

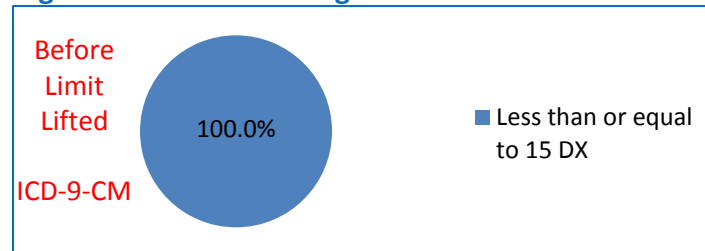
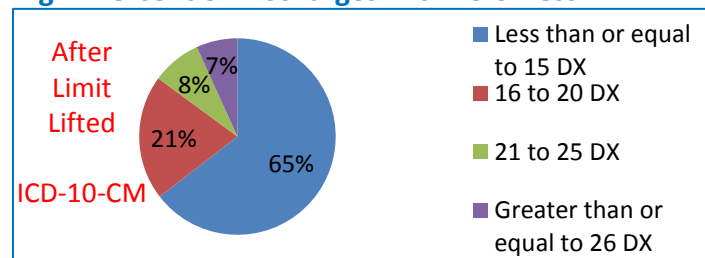


Fig. 2 Percent of Discharges with 15 or less DX in FY2017



Question: What about procedure codes? Would it significantly impact my study if I continued to use 15 procedure codes or less in FY2015, FY2016, and FY2017?



Answer: After the limit was lifted on the number of procedure codes, so far annually, less than 3,000 discharges have had greater than 15 procedures. See **Table 1** below. The shift to a higher number of procedure codes was seen in the code distributions for those undergoing complex transplant procedures, significant trauma and cardiac procedures, and infectious diseases patients who require operating room procedures. In both in ICD-9-CM and in ICD-10-CM, after the limit was lifted on procedure codes, this represents less than a half percent of the annual discharge volume. See **Table 2**. While the number is small, the population with greater than 15 procedures could potentially include your study population and some of these patients do in fact have over 50 procedure codes.

Table 1. Discharge Volume by Number of Procedure Codes

Total Discharges by Number of Proc Codes	Before Limit Lifted			After Limit Lifted		
	2012	2013	2014	2015	2016	2017
0	311,251	297,358	284,438	296,972	311,322	316,833
1	216,565	210,964	208,012	205,488	184,437	186,778
2	134,777	132,368	130,426	128,394	124,785	124,137
3	69,907	68,971	67,685	68,429	74,186	72,362
4	35,837	35,513	34,659	34,539	40,685	41,620
5	19,922	20,171	19,884	20,747	23,069	23,193
6	12,480	12,580	12,639	12,124	12,539	13,898
7	9,221	8,809	8,914	9,603	8,494	8,597
8	5,826	5,641	5,662	5,113	5,003	5,554
9	3,687	3,541	3,446	3,646	3,991	3,850
10	2,548	2,491	2,342	2,250	2,556	2,864
11	1,744	1,748	1,673	1,942	2,165	2,017
12	1,341	1,264	1,254	1,150	1,266	1,530
13	951	945	855	1,343	1,302	1,075
14	2,175	2,232	2,029	1,610	1,789	1,952
15	1,636	1,543	1,567	557	564	510
16 to 20	-	-	-	1,374	1,431	1,327
Greater than 20	-	-	-	1,554	1,406	821
TOTAL DISCHARGES	829,868	806,139	785,485	796,835	800,990	808,918

Table 2. Discharge Volume by Percent of Procedure Codes

Total Discharges by Number of Proc Codes	Before Limit Lifted			After Limit Lifted		
	2012	2013	2014	2015	2016	2017
0	37.51%	36.89%	36.21%	37.27%	38.87%	39.17%
1	26.10%	26.17%	26.48%	25.79%	23.03%	23.09%
2	16.24%	16.42%	16.60%	16.11%	15.58%	15.35%
3	8.42%	8.56%	8.62%	8.59%	9.26%	8.95%
4	4.32%	4.41%	4.41%	4.33%	5.08%	5.15%
5	2.40%	2.50%	2.53%	2.60%	2.88%	2.87%
6	1.50%	1.56%	1.61%	1.52%	1.57%	1.72%
7	1.11%	1.09%	1.13%	1.21%	1.06%	1.06%
8	0.70%	0.70%	0.72%	0.64%	0.62%	0.69%
9	0.44%	0.44%	0.44%	0.46%	0.50%	0.48%
10	0.31%	0.31%	0.30%	0.28%	0.32%	0.35%
11	0.21%	0.22%	0.21%	0.24%	0.27%	0.25%
12	0.16%	0.16%	0.16%	0.14%	0.16%	0.19%
13	0.11%	0.12%	0.11%	0.17%	0.16%	0.13%
14	0.26%	0.28%	0.26%	0.20%	0.22%	0.24%
15	0.20%	0.19%	0.20%	0.07%	0.07%	0.06%
16 to 20	-	-	-	0.17%	0.18%	0.16%
Greater than 20	-	-	-	0.20%	0.18%	0.10%
TOTAL DISCHARGES	829,868	806,139	785,485	796,835	800,990	808,918