



Sentinel Centers Network (SCN) 2005 Supplemental Report August 2008

**Funding for the Sentinel Centers Network Provided by
U. S. Department of Health and Human Services
Health Resources and Services Administration
Bureau of Primary Health Care**

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Introduction

This report was developed as a supplement to the 2005 SCN Aggregate Report. It presents the results from a number of exploratory analyses that were conducted after the aggregate report was drafted and released. Information in this report includes a listing of the most common diagnoses and chronic conditions among health center patients, the most common comorbid conditions associated with selected chronic conditions, most common procedures performed at health centers, lead screenings and diagnosis of elevated blood lead levels or toxic exposures to lead among children, and number and rates of prostate and colorectal screenings performed at Sentinel centers. The SCN staff intends to incorporate many of the analyses presented in this report into future versions of the SCN Aggregate Report.

The SCN is a national sub-group of Bureau of Primary Health Care (BPHC) supported health centers and includes 38 participant organizations representing 63 independent health centers and one health care delivery site. However, at the time the one delivery site was selected into the SCN, it was designated as an individual health center. The SCN continues to treat this delivery site as an individual health center, bringing the total number of centers to 64. All participating health centers contributed data to the 2005 aggregate and supplemental reports.

The SCN goals are to better understand the care that health centers provide and to assess the level and quality of care received by their patients. The SCN is funded by the BPHC at the Health Resources and Services Administration (HRSA), and is conducted in partnership with the MPHI Center for Data Management & Translational Research (MPHI-CDMTR).

SCN Reports are available at <http://www.cdmtr.org/scn/SCN%20News.htm>. Comments and suggestions related to the aggregate or supplemental reports can be sent to SCN@mphi.org. Please include SCN Report in the subject line.

Most Common Diagnoses & Chronic Conditions Among SCN Patients

This section presents information about the most common diagnoses found among SCN patients, along with the most common chronic conditions. In addition, the most common chronic conditions are presented by selected age groupings. Diagnoses and chronic conditions were categorized through application of the Clinical Classification Software (CCS) 2006, developed by the Agency for Healthcare, Research, and Quality (AHRQ). The CCS groups ICD-9 codes into similar and meaningful categories. Additionally, the CCS also identifies which ICD-9 codes are associated with chronic conditions. For Tables A1 to A6, patients may be counted in more than one category if they were assigned corresponding ICD-9 codes at any visit during 2006. However, patients were counted only once within each diagnosis category.

Among the 1,571,606 patients identified within the SCN, the most common diagnoses assigned to patients were those classified as factors influencing health care at a rate of 40% (Figure A1). This category included more than twice as many patients as the next most common diagnosis category, respiratory infection at 19.8%, and more than two and half times as many patients than immunizations and screenings for infections, consisting of 15.6% of patients.

Figure A1: Ten Most Common Diagnoses

Diagnoses	#	%
Factors influencing health care	629,033	40.02
Respiratory infections	310,829	19.78
Immunizations and screening for infections	245,455	15.62
Hypertension	196,264	12.49
Symptoms; signs; and ill-defined conditions	185,731	11.82
Diseases of female genital organs	140,892	8.96
Ear conditions	129,362	8.23
Disorders of teeth and jaw	125,469	7.98
Disorders of lipid metabolism	114,031	7.26
Diabetes mellitus without complication	97,364	6.20

Chronic health conditions are often of particular interest because of their long term implications. Table A2 shows the ten most common chronic conditions found among SCN patients. Hypertension (12.5%), disorders of the lipid metabolism (7.3%), diabetes mellitus without complications (6.0%) are the three most common chronic conditions among SCN patients. It should be noted that the CCS separates diabetes mellitus without complications and diabetes mellitus with complications and places them into two different chronic condition categories. If these two categories were combined, it would include 7.4% of all SCN patients and make it the second most common chronic condition category behind hypertension.

Figure A2: Ten Most Common Chronic Conditions Among SCN Patients

Chronic Condition	#	%
Hypertension	196,264	12.49
Disorders of lipid metabolism	114,031	7.26
Diabetes mellitus without complication	93,845	5.97
Other upper respiratory disease	66,899	4.26
Asthma	66,874	4.26
Other nutritional; endocrine; and metabolic disorders	63,911	4.07
Other mental conditions	60,521	3.85
Diseases of female genital organs	52,788	3.36
Non-traumatic joint disorders	43,343	2.76
Anxiety; somatoform; dissociative; and personality disorders	43,063	2.74

Figures A3 through A4 show the ten most common chronic conditions found among SCN patients by selected age groupings. Consistent with Figure A2, hypertension was the most common chronic condition for patients 18 years of age or older, with the hypertension rate rising steadily with each increasing age group. However, for patients less than 18 years of age, asthma was the most common chronic condition and hypertension did not appear in the top ten.

Figure A3: Ten Most Common Chronic Conditions Among Patients Less Than 18 Years of Age

Chronic Condition	#	%
Asthma	32,024	5.80
Other upper respiratory disease	25,674	4.65
Other nutritional; endocrine; and metabolic disorders	13,289	2.40
Symptoms; signs; and ill-defined conditions	10,714	1.94
Preadult disorders	10,308	1.87
Other mental conditions	10,163	1.84
Diseases of female genital organs	5,949	1.08
Anxiety; somatoform; dissociative; and personality disorders	3,453	0.62
Upper gastrointestinal disorders	3,151	0.57
Other congenital anomalies	3,003	0.54

Figure A4: Ten Most Common Chronic Conditions Among Patients 18 to 44 Years of Age

Chronic Condition	#	%
Hypertension	36,936	6.37
Diseases of female genital organs	30,786	5.31
Other mental conditions	25,622	4.42
Other nutritional; endocrine; and metabolic disorders	23,470	4.05
Disorders of lipid metabolism	23,041	3.98
Other upper respiratory disease	22,234	3.84
Anxiety; somatoform; dissociative; and personality disorders	21,438	3.70
Diabetes mellitus without complication	20,077	3.46
Asthma	18,424	3.18
Alcohol and substance-related mental disorders	18,314	3.16

Figure A5: Ten Most Common Chronic Conditions Among Patients 45 to 64 Years of Age

Chronic Condition	#	%
Hypertension	99,041	34.46
Disorders of lipid metabolism	58,741	20.44
Diabetes mellitus without complication	47,114	16.39
Diabetes mellitus with complications	22,042	7.67
Non-traumatic joint disorders	21,112	7.35
Other nutritional; endocrine; and metabolic disorders	20,292	7.06
Other mental conditions	19,295	6.71
Thyroid disorders	14,415	5.02
Anxiety; somatoform; dissociative; and personality disorders	13,904	4.84
Diseases of the heart	13,860	4.82

Figure A6: Ten Most Common Chronic Conditions Among Patients 65 Years and Older

Chronic Condition	#	%
Hypertension	55,774	49.22
Disorders of lipid metabolism	29,203	25.77
Diabetes mellitus without complication	24,065	21.24
Diabetes mellitus with complications	16,439	14.51
Non-traumatic joint disorders	14,330	12.64
Other nutritional; endocrine; and metabolic disorders	10,786	9.52
Other mental conditions	7,605	6.71
Thyroid disorders	7,491	6.61
Anxiety; somatoform; dissociative; and personality disorders	5,806	5.12
Diseases of the heart	5,794	5.11

Most Common Diagnoses & Chronic Conditions by Encounter

The previous section presented information about the most common diagnoses and chronic conditions at the patient level. This section presents the most common diagnoses and chronic conditions at the encounter level. Knowing which diagnoses and chronic conditions are the most common at the encounter level can provide insight to which health conditions require the most resources. Once again, Clinical Classification Software (CCS) was utilized to categorize ICD-9 codes into similar and meaningful categories. Patients were counted each time they received an ICD-9 code that corresponded to a diagnosis category at each encounter. Therefore, patients can be counted more than once if they were assigned a specific diagnosis at more than one encounter during the year. The total number of encounters were summed within each CCS category and divided by the total number of encounters among all patients.

As was the case with Figure A1, factors influencing health care was the most common CCS category. However, while 40.0% of patients were assigned to this category, it only accounted for 17.0% of all encounters. Hypertension was the second most common CCS category at 8.6% of encounters, followed by respiratory infections (7.7%) and encounters related to normal pregnancy (7.2%).

Figure B1: Ten Most Common Diagnoses by Encounter Among SCN Patients

Diagnoses	#	%
Factors influencing health care	1,056,954	16.89
Hypertension	536,783	8.58
Respiratory infections	483,349	7.73
Normal pregnancy and/or delivery	451,453	7.22
Immunizations and screening for infections	332,084	5.31
Diabetes mellitus without complication	326,211	5.21
Disorders of teeth and jaw	271,638	4.34
Symptoms; signs; and ill-defined conditions	270,983	4.33
Disorders of lipid metabolism	234,769	3.75
Diseases of female genital organs	231,780	3.70

Hypertension was the most common chronic condition at both the patient and encounter levels. However, while hypertension includes 12.5% of patients, it accounted for 8.6% of patient encounters (Figure B2). Diabetes mellitus, which was the third most common CCS chronic condition category at the patient level, was the second most common chronic condition category at the encounter level accounting for 5.1% of all encounters in 2005.

Figure B2: Ten Most Common Chronic Conditions by Encounter Among SCN Patients

Chronic Conditions	#	%
Hypertension	536,783	8.58
Diabetes mellitus without complication	319,488	5.11
Disorders of lipid metabolism	234,769	3.75
Alcohol and substance-related mental disorders	147,312	2.35
Asthma	124,800	1.99
Other mental conditions	120,159	1.92
Diabetes mellitus with complications	110,827	1.77
Other nutritional; endocrine; and metabolic disorders	103,765	1.66
Affective disorders	98,161	1.57
Diseases of the heart	98,033	1.57

Figures B3 through B6 show the most common CCS chronic condition categories found among SCN patients in 2005 at the encounter level for four selected age groups.

Figure B3: Ten Most Common Chronic Conditions by Encounter Among Patients Less Than 18 Years of Age

Chronic Conditions	#	%
Asthma	61,004	3.39
Other upper respiratory disease	34,850	1.94
Preadult disorders	34,782	1.93
Other mental conditions	27,163	1.51
Other nutritional; endocrine; and metabolic disorders	19,842	1.10
Symptoms; signs; and ill-defined conditions	14,106	0.78
Diseases of female genital organs	8,909	0.49
Affective disorders	7,335	0.41
Anxiety; somatoform; dissociative; and personality disorders	6,326	0.35
Personal history of mental disorder; screening for mental condition	6,167	0.34

Figure B4: Ten Most Common Chronic Conditions by Encounter Among Patients 18 to 44 Years

Chronic Conditions	#	%
Alcohol and substance-related mental disorders	90,596	3.89
Hypertension	82,881	3.56
Diabetes mellitus without complication	59,957	2.58
Diseases of female genital organs	54,979	2.36
Other mental conditions	47,434	2.04
Affective disorders	45,933	1.97
Disorders of lipid metabolism	41,090	1.77
Anxiety; somatoform; dissociative; and personality disorders	39,612	1.70
Other nutritional; endocrine; and metabolic disorders	37,557	1.61
Asthma	31,733	1.36

Figure B5: Ten Most Common Chronic Conditions by Encounter Among Patients 45 to 64 Years

Chronic Conditions	#	%
Hypertension	273,413	19.14
Diabetes mellitus without complication	165,316	11.57
Disorders of lipid metabolism	125,759	8.81
Diabetes mellitus with complications	58,699	4.11
Alcohol and substance-related mental disorders	50,317	3.52
Affective disorders	39,270	2.75
Non-traumatic joint disorders	36,941	2.59
Other mental conditions	36,276	2.54
Diseases of the heart	36,233	2.54
Other nutritional; endocrine; and metabolic disorders	34,963	2.45

Figure B6: Ten Most Common Chronic Conditions by Encounter Among Patients 65 Years or Older

Chronic Conditions	#	%
Hypertension	172,157	27.60
Diabetes mellitus without complication	87,987	14.11
Disorders of lipid metabolism	63,447	10.17
Diseases of the heart	52,628	8.44
Diabetes mellitus with complications	29,227	4.69
Non-traumatic joint disorders	26,721	4.28
Chronic obstructive pulmonary disease and bronchiectasis	22,295	3.57
Thyroid disorders	15,778	2.53
Other nutritional; endocrine; and metabolic disorders	10,089	1.62
Senility and organic mental disorders	9,505	1.52

Chronic Conditions by Age

This section presents information about the number and percentage of SCN patients who had a diagnosis of a chronic condition in 2005. Information is also presented that shows the extent age impacts the chronic condition rates and the likelihood of having additional chronic (or comorbid) conditions.

Among the 1,571,606 patients identified with the SCN in 2005, 40.6% had a diagnosis of at least one chronic condition. However, the chronic condition rate ranged greatly with age from 21.6% among patients less than 18 years of age to 79.1% among patients 65 years or older (Figure C1). Additionally while only 4.8% of patients less than 18 years had a comorbid condition, 58.2% of patients 65 years or older had a comorbid condition. Among patients with chronic conditions, the average number of chronic conditions diagnosed to patients increased steadily with age from 1.3 among patients less than 18 years to 2.8 among patients 65 years or older.

Figure C1: Average Number & Percentage of Patients with Chronic Conditions by Age

	Patient's Age				Total
	0 to 17	18 to 44	45 to 64	65+	
Percentage of Patients with Chronic Conditions	21.6	37.2	70.1	79.1	40.6
1 Chronic Condition	16.8	22.7	25.6	20.9	21.0
2 Chronic Conditions	3.7	8.3	18.0	18.9	9.2
3 Chronic Conditions	0.8	3.5	12.1	15.7	5.0
4 Chronic Conditions	0.2	1.5	7.2	11.0	2.8
5+ Chronic Conditions	0.1	1.1	7.2	12.5	2.7
Average Number of Chronic Conditions	1.28	1.68	2.41	2.83	2.00

Figure C2 shows the average number of encounters for patients with and without a chronic condition by selected age groups. Overall, the average number of encounters for patients with at least one chronic condition is slightly more than two times higher than for patients without a chronic condition. Large disparities also were found within each of the four age group categories.

Figure C2: Average Number of Encounters for Patients With & Without Chronic Conditions by Age

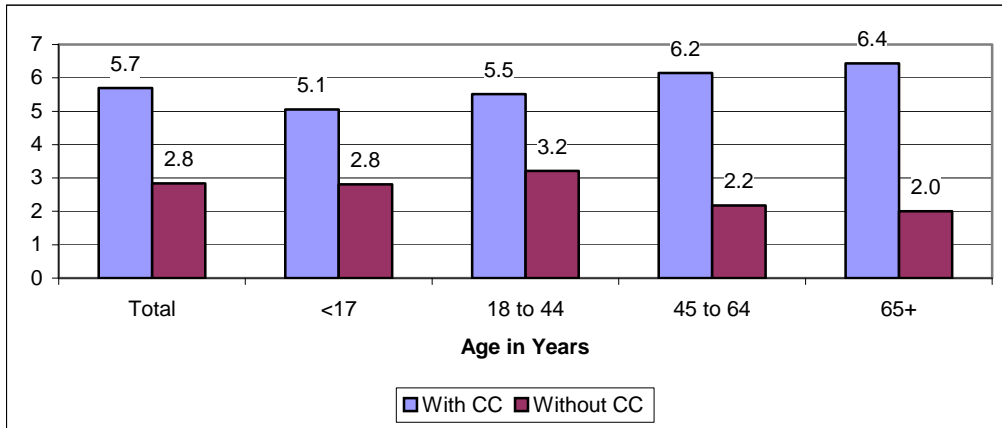


Figure C3 illustrates the substantial impact of chronic conditions on the average number of encounters. For example, while the average number of encounters for patients without a chronic condition was 2.8, this number increased steadily as the number of chronic conditions diagnosed to a patient increased. This trend was evident in all four age groups.

Figure C3: Average Number of Encounters by Number of Chronic Conditions & Age

Chronic Conditions	Patient's Age				Total
	0 to 17	18 to 44	45 to 64	65+	
Total	3.3	4.1	5.0	5.4	4.0
No Chronic Conditions	2.8	3.2	2.2	2.0	2.8
1 Chronic Condition	4.5	4.2	3.7	3.5	4.1
2 Chronic Conditions	6.4	5.9	5.3	5.2	5.6
3 Chronic Conditions	8.4	7.9	7.0	6.6	7.2
4 Chronic Conditions	11.0	9.9	8.7	8.1	8.8
5+ Chronic Conditions	14.2	14.5	13.1	11.8	12.9

Most Common Comorbid Conditions

This section presents information about the most common comorbid conditions that were found among patients with selected chronic conditions. The chronic conditions included in this section are hypertension, diabetes mellitus with and without complications, diseases of the heart, upper respiratory disease, disorders of lipid metabolism, asthma, and chronic pulmonary disease.

Hypertension

A total of 196,264 (12.5%) of the SCN patient population in 2005 had a diagnosis of hypertension. The average number of encounters for patients with hypertension was 6.8 compared to 3.6 for patients without a hypertension diagnosis. Figure D1 shows the ten most common comorbid conditions found among patients with hypertension. Disorders of lipid metabolism were the most common comorbid condition as it was diagnosed in 34.3% of hypertension patients.

Figure D1: Ten Most Common Comorbid Conditions for Patients with Hypertension

Chronic Condition	#	%
Disorders of lipid metabolism	67,268	34.27
Diabetes mellitus without complication	53,319	27.17
Diabetes mellitus with complications	24,957	12.72
Other nutritional; endocrine; and metabolic disorders	23,727	12.09
Non-traumatic joint disorders	21,713	11.06
Diseases of the heart	21,160	10.78
Other mental conditions	14,714	7.50
Thyroid disorders	13,128	6.69
Upper gastrointestinal disorders	11,958	6.09
Other upper respiratory disease	11,029	5.62

Diabetes

For the purposes of this section, the two CCS categories representing diabetes mellitus with complications and diabetes mellitus without complications were combined into a single diabetes category. A total of 110,318 (7.0%) of the SCN patient population in 2005 had a diagnosis of diabetes. The average number of encounters for patients with diabetes was 7.6 compared to 3.8 for patients without a diabetes diagnosis. Figure D2 shows the ten most common comorbid conditions found among patients with diabetes. Hypertension and disorders of lipid metabolism were the two most common comorbid conditions affecting 55.2% and 36.5% of diabetic patients, respectively.

Figure D2: Ten Most Common Comorbid Conditions for Patients with Diabetes

Chronic Condition	#	%
Hypertension	60,854	55.16
Disorders of lipid metabolism	40,228	36.47
Other nutritional; endocrine; and metabolic disorders	13,866	12.57
Diseases of the heart	11,084	10.05
Non-traumatic joint disorders	9,510	8.62
Other mental conditions	7,359	6.67
Thyroid disorders	6,421	5.82
Asthma	4,946	4.48
Upper gastrointestinal disorders	4,917	4.46
Other upper respiratory disease	4,745	4.30

Heart Disease

A total of 35,069 (2.2%) of the SCN patient population in 2005 had a diagnosis of heart disease. The average number of encounters for patients with heart disease was 8.8 compared to 3.9 for patients without a heart disease diagnosis. Figure D3 shows the ten most common comorbid conditions found among patients with heart disease. Hypertension (60.5%), disorders of lipid metabolism (35.0%), and diabetes mellitus without complications (28.2%), were the three most common comorbid conditions among patients with heart disease.

Figure D3: Ten Most Common Comorbid Conditions for Patients with Heart Disease

Chronic Condition	#	%
Hypertension	21,160	60.34
Disorders of lipid metabolism	12,278	35.01
Diabetes mellitus without complication	9,900	28.23
Diabetes mellitus with complications	4,617	13.17
Non-traumatic joint disorders	4,496	12.82
Chronic obstructive pulmonary disease and bronchiectasis	4,226	12.05
Other nutritional; endocrine; and metabolic disorders	3,458	9.86
Other mental conditions	2,724	7.77
Thyroid disorders	2,709	7.72
Upper gastrointestinal disorders	2,650	7.56

Disorders of Lipid Metabolism

A total of 114,031 (7.3%) of the SCN patient population in 2005 had a diagnosis related to disorders of lipid metabolism. The average number of encounters for patients with disorders of lipid metabolism was 7.2 compared to 3.8 for patients without disorders of lipid metabolism diagnosis. Figure D4 shows the ten most common comorbid conditions found among patients with disorders of lipid metabolism. Hypertension (59.0%) and diabetes mellitus without complications (30.9%) were the two most common comorbid conditions among patients with disorders of lipid metabolism.

Figure D4: Ten Most Common Comorbid Conditions for Patients with Disorders of Lipid Metabolism

Chronic Condition	#	%
Hypertension	67,268	58.99
Diabetes mellitus without complication	35,257	30.92
Diabetes mellitus with complications	17,595	15.43
Other nutritional; endocrine; and metabolic disorders	15,758	13.82
Non-traumatic joint disorders	12,397	10.87
Diseases of the heart	12,278	10.77
Thyroid disorders	10,087	8.85
Other mental conditions	9,725	8.53
Upper gastrointestinal disorders	8,223	7.21
Other upper respiratory disease	7,785	6.83

Upper Respiratory Disease

A total of 66,899 (4.3%) of the SCN patient population in 2005 had a diagnosis of an upper respiratory disease. The average number of encounters for patients with an upper respiratory disease was 6.1 compared to 3.9 for patients without an upper respiratory disease diagnosis. Figure D5 shows the ten most common comorbid conditions found among patients with an upper respiratory disease. Hypertension (16.5%) and asthma (16.3%) were the two most common comorbid conditions among patients with an upper respiratory disease.

Figure D5: Ten Most Common Comorbid Conditions for Patients with Upper Respiratory Disease

Chronic Condition	#	%
Hypertension	11,029	16.49
Asthma	10,871	16.25
Disorders of lipid metabolism	7,785	11.64
Other nutritional; endocrine; and metabolic disorders	5,006	7.48
Other mental conditions	4,556	6.81
Diabetes mellitus without complication	4,228	6.32
Anxiety; somatoform; dissociative; and personality disorders	3,721	5.56
Upper gastrointestinal disorders	3,646	5.45
Non-traumatic joint disorders	3,299	4.93
Diseases of female genital organs	2,751	4.11

Asthma

A total of 66,874 (4.3%) of the SCN patient population in 2005 had a diagnosis of asthma. The average number of encounters for patients with asthma was 6.5 compared to 3.9 for patients without an asthma diagnosis. Figure D6 shows the ten most common comorbid conditions found among patients with asthma. Other upper respiratory disease (16.3%) and hypertension (15.1%) were the two most common comorbid conditions among patients with asthma.

Figure D6: Ten Most Common Comorbid Conditions for Patients with Asthma

Chronic Condition	#	%
Other upper respiratory disease	10,871	16.26
Hypertension	10,076	15.07
Other nutritional; endocrine; and metabolic disorders	5,641	8.44
Disorders of lipid metabolism	5,462	8.17
Diabetes mellitus without complication	4,357	6.52
Other mental conditions	4,203	6.28
Chronic obstructive pulmonary disease and bronchiectasis	3,091	4.62
Non-traumatic joint disorders	2,989	4.47
Anxiety; somatoform; dissociative; and personality disorders	2,950	4.41
Upper gastrointestinal disorders	2,763	4.13

Chronic Pulmonary Disease

A total of 36,711 (2.3%) of the SCN patient population in 2005 had a diagnosis of a chronic pulmonary disease. The average number of encounters for patients with a chronic pulmonary disease was 7.8 compared to 3.9 for patients without this condition. Figure D7 shows the ten most common comorbid conditions found among patients with a chronic pulmonary disease. Hypertension (34.2%) and disorders of lipid metabolism (18.4%) were the two most common comorbid conditions among patients with a chronic pulmonary disease.

Figure D7: Ten Most Common Comorbid Conditions for Patients with Chronic Pulmonary Disease

Chronic Condition	#	%
Hypertension	12,558	34.21
Disorders of lipid metabolism	6,749	18.38
Asthma	5,420	14.76
Diabetes mellitus without complication	5,222	14.22
Diseases of the heart	5,104	13.90
Non-traumatic joint disorders	3,794	10.33
Other upper respiratory disease	3,247	8.84
Alcohol and substance-related mental disorders	3,188	8.68
Other mental conditions	3,061	8.34
Other nutritional; endocrine; and metabolic disorders	2,639	7.19

Most Frequently Performed Procedures by SCN Health Centers

This section presents information about the ten most frequently performed procedures by the 64 Sentinel centers during the 2005 calendar year. Procedures were measured by counting the number of times individual procedure codes appeared across encounters. Procedure codes were only counted once per encounter. Additional information is also presented that shows the most common procedures by selected age groups.

The most common procedures performed on patients of the SCN were found to be related to evaluation and management. For example, the top 3 and 4 out of the top 10 procedures corresponded to evaluation and management of established patients (Figure E1). The most frequently performed procedure, evaluation and management of an established patient of medium complexity, was performed at 31.3% of all encounters and included 820,283 different patients.

Figure E1: Ten Most Frequently Performed Procedures at SCN Health Centers

Procedures	Number of Procedures	Percent of Encounters	Number of Patients	Average Number of Procedures Per Patient
99213 Evaluation & Management of Established Patient of Medium Complexity	1,956,382	31.27	820,283	2.4
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	764,979	12.23	419,356	1.8
99214 Evaluation & Management of Established Patient of Medium to High Complexity	444,470	7.10	266,330	1.7
36415 Collection of Venous Blood by Venipuncture	419,743	6.71	261,941	1.6
T1015 Clinic Visit, All Inclusive	247,250	3.95	78,929	3.1
81002 Urinalysis, Non-Automated	246,680	3.94	121,561	2.0
99211 Evaluation & Management of Established Patient of Low Complexity	224,827	3.59	150,623	1.5
99401 Preventative Medicine Consulting, 15 min.	162,854	2.60	81,674	2.0
90471 Immunization Administration	159,733	2.55	125,631	1.3
81000 Urinalysis, Dip Stick or Tablet Reagent	148,595	2.37	103,016	1.4

Figures E2 through E5 show the most frequently performed procedures by selected age groups. As in Figure E1, evaluation and management related procedures for established patients were the most frequently performed procedures.

Figure E2. Ten Most Frequent Procedures Performed Among Patients Less than 18 Years of Age

Procedures	Number of Procedures	Percent of Encounters	Number of Patients	Average Number of Procedures Per Patient
99213 Evaluation & Management of Established Patient of Medium Complexity	575,095	9.19	267,403	2.2
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	229,663	3.67	139,629	1.6
99391 Periodic Comprehensive Preventive Medicine, < 1 year old	110,094	1.76	50,791	2.2
99392 Periodic Comprehensive Preventive Medicine, 1-4 years old	109,814	1.76	83,037	1.3
90471 Immunization Administration	98,870	1.58	70,969	1.4
T1015 Clinic Visit, All Inclusive	97,868	1.56	36,536	2.7
90669 Pneumococcal Coniugate Vaccine for Children < 5 years	76,387	1.22	48,663	1.6
85018 Hemoglobin	67,693	1.08	58,536	1.2
90700 Diphtheria, Tetanus Toxoids, and acellular Pertussis Vaccine for children < 7 years old	67,165	1.07	54,980	1.2
99211 Evaluation & Management of Established Patient of Low Complexity	66,501	1.06	51,322	1.3

Figure E3. Ten Most Frequent Procedures Performed Among Patients 18 to 44 Years

Procedures	Number of Procedures	Percent of Encounters	Number of Patients	Average Number of Procedures Per Patient
99213 Evaluation & Management of Established Patient of Medium Complexity	663,450	36.86	291,820	2.3
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	300,807	16.71	161,121	1.9
81002 Urinalysis, Non-Automated	165,345	9.19	60,610	2.7
99214 Evaluation & Management of Established Patient of Medium to High Complexity	163,081	9.06	102,973	1.6
36415 Collection of Veneus Blood by Venipuncture	155,832	8.66	101,847	1.5
81025 Urine Pregnancy Test	114,269	6.35	78,173	1.5
T1015 Clinic Visit, All Inclusive	94,969	5.28	25,694	3.7
99211 Evaluation & Management of Established Patient of Low Complexity	79,455	4.41	54,535	1.5
81000 Urinalysis, Dip Stick or Tablet Reagent	76,033	4.22	43,291	1.8
99401 Preventative Medicine Consulting, 15 min.	73,319	4.07	33,824	2.2

Figure E4. Ten Most Frequent Procedures Performed Among Patients 45 to 64 Years

Procedures	Number of Procedures	Percent of Encounters	Number of Patients	Average Number of Procedures Per Patient
99213 Evaluation & Management of Established Patient of Medium Complexity	480,212	20.63	177,616	2.7
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	160,943	6.91	82,042	2.0
99214 Evaluation & Management of Established Patient of Medium to High Complexity	142,570	6.12	78,501	1.8
36415 Collection of Venous Blood by Venipuncture	131,546	5.65	73,308	1.8
99211 Evaluation & Management of Established Patient of Low Complexity	52,716	2.26	30,499	1.7
80061 Lipid Panel	49,992	2.15	39,352	1.3
82948 Blood, Readent Strip	46,498	2.00	21,513	2.2
83036 Glycosylated, Chemistry	41,822	1.80	25,830	1.6
T1015 Clinic Visit, All Inclusive	40,942	1.76	9,560	4.3
85025 Complete Blood Cell and Differential White Blood Cell Count	37,337	1.60	30,026	1.2

Figure E5. Ten Most Frequent Procedures Performed Among Patients 65 Years and Older

Procedures	Number of Procedures	Percent of Encounters	Number of Patients	Average Number of Procedures Per Patient
99213 Evaluation & Management of Established Patient of Medium Complexity	216,649	15.17	70,290	3.1
99214 Evaluation & Management of Established Patient of Medium to High Complexity	73,462	5.14	36,105	2.0
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	64,821	4.54	30,090	2.2
36415 Collection of Venous Blood by Venipuncture	63,718	4.46	29,405	2.2
90658 Influenza Virus Vaccine for Persons 3 years and older	26,736	1.87	25,353	1.1
99211 Evaluation & Management of Established Patient of Low Complexity	23,294	1.63	11,749	2.0
83036 Glycosylated, Chemistry	18,716	1.31	10,573	1.8
82948 Blood, Readent Strip	17,570	1.23	7,795	2.3
90471 Immunization Administration	15,804	1.11	13,822	1.1
99000 Handling or Conveyance of Specimen to Lab	15,603	1.09	7,882	2.0

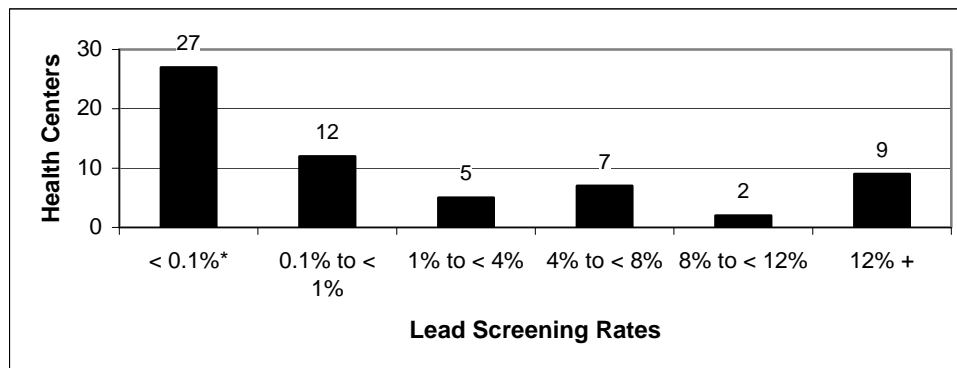
Lead Screening & Diagnosis Among Children

Lead toxicity causes hematological, gastrointestinal and neurological dysfunctions. Excess lead absorption early in life results in decreased cognitive function that persists into late adolescence. Therefore, it is important that children at an increased risk of lead exposure be identified and screened at an early age. This section presents information about lead screenings and diagnoses of elevated blood lead levels or toxic effects of lead for children 9 to 72 months. The information is also reported separately for children 9 to 36 months and 37 to 72 months. Lead screenings were defined according to the procedure code CPT 83655, while diagnosis of elevated blood lead levels and toxic exposure to lead was defined according to the ICD-9 codes 984 and V15.86. Lead screening information from 62 of the 64 health centers contributing data to the SCN in 2005 is included in this section. The two centers not included did not provide care to children.

Children 9 to 72 Months

There were a total of 191,300 children 9 to 72 months identified within the SCN patient population in 2005. Among these children, 14,584 (7.62 %) received a lead screening test. The lead screening rate varied widely by participating health centers ranging from a high of 47.5% to a low of 0.0%. In nearly 40% of these health centers (24 of 62), no lead screening tests were found among any patient within this age range. Figure F1 shows the number of health centers by lead screening rates.

Figure F1: Number of Health Centers by Lead Screening Rates*



*Includes 24 health centers that did not provide lead screening test to any children 9 to 72 months

In addition to the number of children who received a lead screening test in 2005, Figure F2 also shows the number of children who were diagnosed with elevated blood lead levels or had a toxic exposure to lead, and the number of children who received a lead screening test and a diagnosis of elevated blood lead levels or a toxic exposure to lead at the same or later visit to the health center during 2005. For example, 438 children 9 to 72 months had a lead screening test and were subsequently diagnosed with elevated blood

lead levels or toxic exposure to lead, accounting for 3.00% of children screened and 0.23% of all children within this age range. Figure F2 also shows this information stratified by the children's payment source. Children with SCHIP had the highest screening rate at 10.1%, four times higher than the screening rate for children with unknown insurance. Among children who were screened, those with private insurance were the most likely to have tested positive at a rate of 3.5%.

Figure F2: Children 9 to 72 Months Who Were Screened & Diagnosed for Lead Exposure*

Payment Source	Screened for Elevated Blood Lead Levels		Diagnosed with Elevated Blood Lead Levels*		Screened & Diagnosed with Elevated Blood Lead Levels			Total Children (9 to 72 Months)
	Number of Children (9 to 72 months)	Percent of All Children	Number of Children (9 to 72 months)	Percent of All Children	Number of Children (9 to 72 months)	Percent of Children Screened	Percent of All Children	
Total	14,584	7.62	1,666	0.87	438	3.00	0.23	191,300
Uninsured	2,897	9.11	143	0.45	75	2.59	0.24	31,795
Medicaid	9,306	8.61	1,023	0.95	296	3.18	0.27	108,091
SCHIP	911	10.10	73	0.81	21	2.31	0.23	9,017
Othe Gov.	631	3.29	337	1.76	19	3.01	0.10	19,185
Private	695	4.13	77	0.46	24	3.45	0.14	16,817
Missing	144	2.25	13	0.20	3	2.08	0.05	6,395

*Includes all children who were identified with elevated blood lead levels or toxic effects of lead regardless of whether or not they were identified as having been screened.

Children 9 to 36 Months & 37 to 72 Months

Figures F3 and F4 present similar information as Figure F2 but with more specific age ranges. For example, Figure F3 includes only children ages 9 to 36 months, while Figure F4 includes children 36 to 72 months. The overall lead screening rate for children 9 to 36 months is considerably higher than the rate for children 37 to 72 months (10.72% to 4.98%, respectively). This trend persists in each of the payment source categories with the exception of children with unknown insurance. However, among children who were screened, those 37 to 72 months were more likely to have been diagnosed with elevated blood lead levels compared to children 18 to 36 months in each payment source category with the exception of unknown insurance.

Figure F3: Children 9 to 36 Months Who Were Screened & Diagnosed for Lead Exposure*

Payment Source	Screened for Elevated Blood Lead Levels		Diagnosed with Elevated Blood Lead Levels*		Screened & Diagnosed with Elevated Blood Lead Levels			Total Children (9 to 36 Months)
	Number of Children (9 to 36 months)	Percent of All Children	Number of Children (9 to 36 months)	Percent of All Children	Number of Children (9 to 36 months)	Percent of Children Screened	Percent of All Children	
Total	9,435	10.72	655	0.74	217	2.30	0.25	87,996
Uninsured	1,424	10.36	55	0.40	30	2.11	0.22	13,741
Medicaid	6,605	12.62	420	0.80	154	2.33	0.29	52,340
SCHIP	575	15.81	41	1.13	10	1.74	0.27	3,637
Othe Gov.	370	4.36	101	1.19	10	2.70	0.12	8,495
Private	391	5.63	33	0.48	11	2.81	0.16	6,943
Missing	70	0.08	5	0.18	2	2.86	0.07	2,840

*Includes all children who were identified with elevated blood lead levels or toxic effects of lead regardless of whether or not they were identified as having been screened.

Figure F4: Children 37 to 72 Months Who Were Screened & Diagnosed for Lead Exposure*

Payment Source	Screened for Elevated Blood Lead Levels		Diagnosed with Elevated Blood Lead Levels*		Screened & Diagnosed with Elevated Blood Lead Levels			Total Children (37 to 72 Months)
	Number of Children (37 to 72 months)	Percent of All Children	Number of Children (37 to 72 months)	Percent of All Children	Number of Children (37 to 72 months)	Percent of Children Screened	Percent of All Children	
Total	5,149	4.98	1,011	0.98	221	4.29	0.21	103,304
Uninsured	1,473	8.16	88	0.49	45	3.05	0.25	18,054
Medicaid	2,701	4.84	603	1.08	142	5.26	0.25	55,751
SCHIP	336	6.25	32	0.59	11	3.27	0.20	5,380
Othe Gov.	261	2.44	236	2.21	9	3.45	0.08	10,690
Private	304	3.08	44	0.45	13	4.28	0.13	9,874
Missing	74	2.08	8	0.23	1	1.35	0.03	3,555

*Includes all children who were identified with elevated blood lead levels or toxic effects of lead regardless of whether or not they were identified as having been screened.

Prostate Screening Rates

This section presents information about the number of SCN health centers that performed prostate cancer screenings, along with the number and percentage of patients who were screened. A prostate screening was defined as any male who received a procedure code of 84152, G0102, or G0103 or a diagnosis code of V76.44 at any encounter during the 2005 calendar year.

Forty-one of the 64 SCN health centers were identified as performing prostate cancer screenings in 2005. These centers performed a total of 12,431 prostate screenings on their overall male patient population. Among males over the age of 49, these centers performed 9,311 screenings on 102,603 male patients, accounting for a screening rate of 9.1% among these patients. The prostate screening rates within these 41 centers ranged from a high of 29.9% to a low of 0.3% for males 50 years or older (Figure G1). Nineteen of 41 (46.3%) health centers performed prostate screenings at a rate below 5%, 8 of these centers had rates below 1%.

Figure G1: Number of Health Centers by Prostate Cancer Screening Rates for Males 50 Years of Age or Older

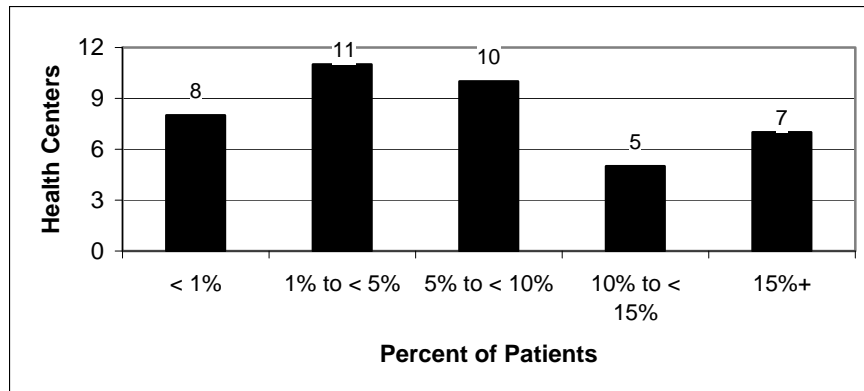
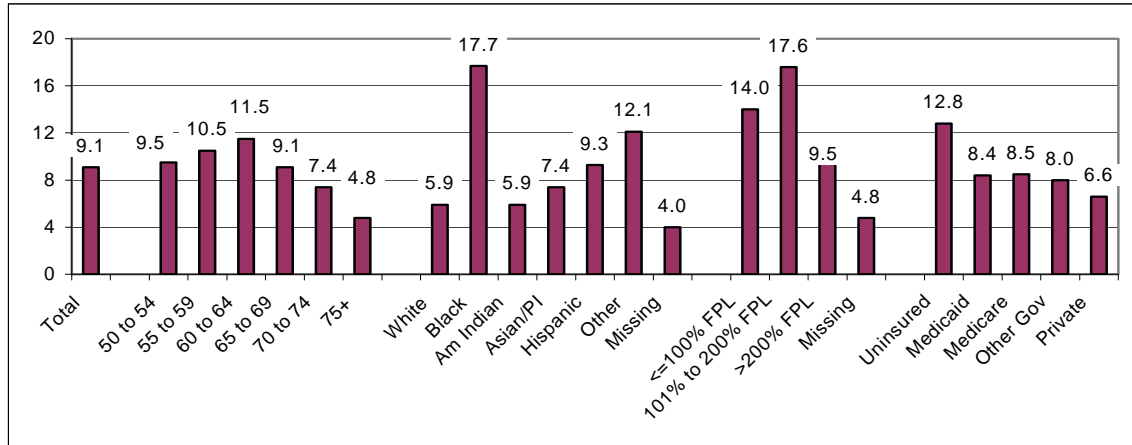


Figure G2 shows the prostate cancer screening rates for males over the age of 49 by selected demographic characteristics. The prostate screening rates increased with age until it peaked at 11.5% for males between 60 and 64 years of age before decreasing steadily with increasing age. The highest screening rate among all demographic categories was found among African American patients (17.7), approximately three times higher than rates for Whites and American Indians.

Figure G2: Prostate Cancer Screening Rates for Male Patients 50 Years of Age or Older by Selected Demographic Characteristics



Colorectal Cancer Screening

This section presents information about the number of SCN health centers that performed colorectal cancer screenings in 2005, along with the numbers and percentages of patients who received screening. A colorectal cancer screening was defined according to the procedure codes 82270, 45330 - 45335, 45337 - 45342, 45345, 45355, 44388 - 44392, 44394, 44397, 45378 - 45387, 45391, 45392, 74280, G0104, G0105, G0107, G0121, G0328 or ICD-9 codes V76.5, 45.22, 45.23, 45.25, 45.43.

A total of 55 of the 64 SCN health centers were identified as performing colorectal screenings in 2005. Overall, these centers performed a total of 25,827 colorectal cancer screenings on their patient population. Among the 298,177 patients 50 years of age or older, 18,547 (6.2%) received at least one screening during 2005. The colorectal screening rates among these centers ranged from a high of 24.7% to a low of 0.1%. Figure H1 shows that nearly 30% (16 out of 55) of centers had a colorectal screening rate between 3 and 6 percent. Seven centers had rates below 1%.

Figure H1: Number of Health Centers by Colorectal Screening Rates for Male Patients 50 Years of Age or Older

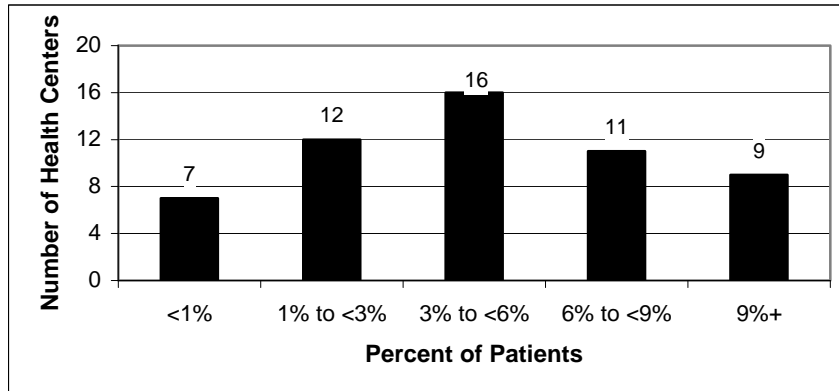


Figure H2 shows the colorectal screening rates for patients by various demographic characteristics. The screening rates appear to increase within the selected age groupings until they reach a peak of 7.5% among patients 60 to 64 years before declining consistently. The screening rate for females (7.1%) is 45% higher than the rate for males (4.9%). The largest disparity of screening rates were found within the race/ethnicity categories as Hispanics had the highest rate of any demographic category at 9.9% and American Indians having the lowest rate (3.7%) of any demographic category.

Figure H2: Colorectal Screening Rates Among Patients 50 Years of Age and Older

