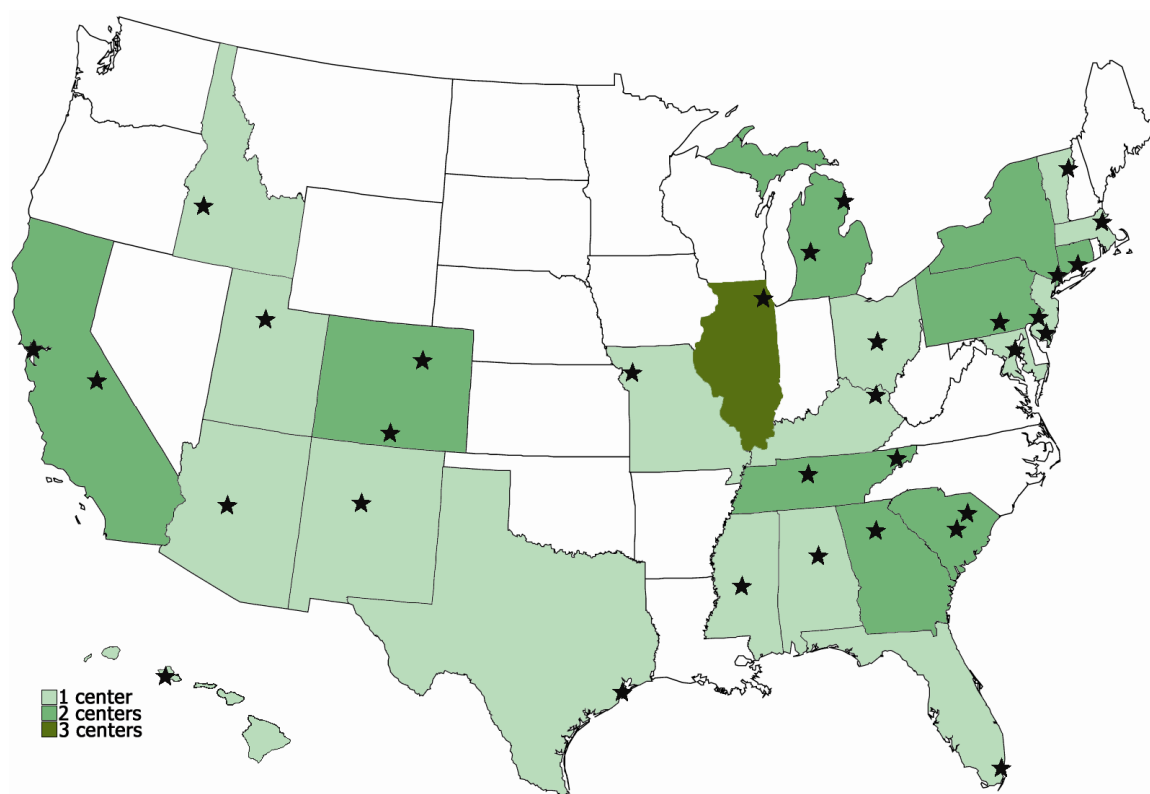




## Sentinel Centers Network 2006 Supplemental Report September 2008



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# Sentinel Centers Network (SCN) 2006 Supplemental Report September 2008

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## Introduction

This report was developed as a supplement to the 2006 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. In addition, a section of Dementia among patients 50 years of age and older was added for 2006. For copies of all SCN Aggregate and Supplemental Reports, please visit [www.cdmtr.org/scn](http://www.cdmtr.org/scn).

The SCN is a national sub-group of Bureau of Primary Health Care (BPHC) supported health centers and includes 64 participants (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 for reporting purposes. Fifty-eight of the 64 SCN participants contributed data to the 2006 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 Bureau of Primary Health Care (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).

## 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 and also identifies which diagnosis categories are considered chronic conditions.

It should also be pointed out that these diagnosis categories are not mutually exclusive. Therefore, 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. It should also be pointed out that the ICD-9 codes included in many diagnosis categories within the CCS may be slightly different from the ICD-9 codes assigned to diagnosis categories defined within the Uniform Data Set (UDS). Therefore, some slight differences may be noticed between diagnosis categories presented in this report compared to the aggregate report.

Among the 1,626,309 patients identified within the SCN, the most common diagnoses assigned to patients were those classified as factors influencing health care at a rate of 40.04% (Figure A1). This is a very broad category mainly comprised of a series of v-codes related to rehabilitation, medical administration, evaluation, other screenings, and aftercare. This category included more than twice as many patients as the next most common diagnosis category, respiratory infection at 18.54%, and nearly three times as many patients as immunizations and screenings for infections at 13.92% of patients.

**Figure A1: Ten Most Common Diagnoses**

Diagnoses	#	%
Factors influencing health care	651,253	40.04
Respiratory infections	301,524	18.54
Immunizations and screening for infection	226,389	13.92
Hypertension	203,294	12.50
Symptoms; signs; and ill-defined conditions	190,116	11.69
Diseases of female genital organs	145,274	8.93
Disorders of teeth and jaw	145,007	8.92
Ear conditions	133,717	8.22
Disorders of lipid metabolism	121,016	7.44
Diabetes mellitus without complications	101,664	6.25

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 (7.44%), and diabetes mellitus without complications (5.98%) 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. When combined and adjusted for patients counted in both diabetes categories, the overall diabetes rate is 7.6%, placing it as the second most common chronic condition.

**Figure A2: Ten Most Common Chronic Conditions Among SCN Patients**

Chronic Condition	#	%
Hypertension	203,294	12.50
Disorders of lipid metabolism	121,016	7.44
Diabetes mellitus without complications	97,271	5.98
Other upper respiratory disease	67,794	4.17
Asthma	67,051	4.12
Other mental conditions	63,882	3.93
Other nutritional; endocrine; and metabolic disorders	62,288	3.83
Diseases of female genital organs	54,758	3.37
Anxiety; somatoform; dissociative; and personality disorders	46,170	2.84
Diabetes mellitus with complications	45,907	2.82

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 diagnosis rate rising steadily with each increasing age group. However, for patients less than 18 years of age, asthma was the most common chronic condition.

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

Chronic Condition	#	%
Asthma	31,939	5.49
Other upper respiratory disease	26,520	4.55
Other nutritional; endocrine; and metabolic disorders	12,181	2.09
Other mental conditions	11,045	1.90
Preadult disorders	10,357	1.78
Symptoms; signs; and ill-defined conditions	9,877	1.70
Diseases of female genital organs	6,548	1.12
Anxiety; somatoform; dissociative; and personality disorders	4,372	0.75
Hypertension	4,317	0.74
Upper gastrointestinal disorders	4,036	0.69

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

Chronic Condition	#	%
Hypertension	41,051	6.73
Diseases of female genital organs	32,027	5.25
Other mental conditions	27,295	4.47
Disorders of lipid metabolism	26,416	4.33
Other nutritional; endocrine; and metabolic disorders	24,769	4.06
Anxiety; somatoform; dissociative; and personality disorders	23,202	3.80
Other upper respiratory disease	22,930	3.76
Diabetes mellitus without complications	21,273	3.49
Asthma	18,480	3.03
Alcohol and substance-related mental disorders	18,205	2.98

**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	52,361	49.00
Disorders of lipid metabolism	28,356	26.54
Diabetes mellitus without complications	23,267	21.77
Diabetes mellitus with complications	15,243	14.26
Non-traumatic joint disorders	12,727	11.91
Other mental conditions	10,111	9.46
Other nutritional; endocrine; and metabolic disorders	7,490	7.01
Thyroid disorders	6,920	6.48
Anxiety; somatoform; dissociative; and personality disorders	5,840	5.47
Diseases of the heart	4,954	4.64

## 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 12.34% of all encounters. Respiratory infection was the second most common CCS category at 5.99% of encounters, followed by immunizations and infection screening at 4.14%.

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

Diagnoses	#	%
Factors influencing health care	769,983	12.34
Respiratory infections	373,428	5.99
Immunizations and screening for infection	258,544	4.14
Hypertension	227,442	3.65
Symptoms; signs; and ill-defined conditions	216,330	3.47
Disorders of teeth and jaw	184,352	2.96
Diseases of female genital organs	183,701	2.94
Ear conditions	151,028	2.42
Normal pregnancy and/or delivery	142,963	2.29
Disorders of lipid metabolism	133,900	2.15

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 just 3.65% of patient encounters (Figure B2).

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

Chronic Conditions	#	%
Hypertension	227,442	3.65
Disorders of lipid metabolism	133,900	2.15
Diabetes mellitus without complications	102,451	1.64
Asthma	73,973	1.19
Diseases of female genital organs	73,456	1.18
Other upper respiratory disease	69,759	1.12
Other mental conditions	67,413	1.08
Other nutritional; endocrine; and metabolic disorders	66,791	1.07
Diabetes mellitus with complications	52,782	0.85
Anxiety; somatoform; dissociative; and personality disorders	51,592	0.83

Figures B3 through B6 show the most common CCS chronic condition categories found among SCN patients in 2006 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	35,765	1.95
Other upper respiratory disease	27,356	1.49
Other nutritional; endocrine; and metabolic disorders	12,645	0.69
Other mental conditions	12,235	0.67
Preadult disorders	12,011	0.65
Symptoms; signs; and ill-defined conditions	10,289	0.56
Diseases of female genital organs	7,854	0.43
Ear conditions	5,081	0.28
Anxiety; somatoform; dissociative; and personality disorders	4,785	0.26
Hypertension	4,596	0.25

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

Chronic Conditions	#	%
Hypertension	44,915	1.90
Diseases of female genital organs	44,177	1.87
Disorders of lipid metabolism	28,695	1.21
Other mental conditions	28,612	1.21
Other nutritional; endocrine; and metabolic disorders	26,501	1.12
Anxiety; somatoform; dissociative; and personality disorders	26,127	1.10
Alcohol and substance-related mental disorders	25,035	1.06
Other upper respiratory disease	23,471	0.99
Diabetes mellitus without complications	22,503	0.95
Affective disorders	19,992	0.84

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

Chronic Conditions	#	%
Hypertension	114,087	8.06
Disorders of lipid metabolism	68,555	4.84
Diabetes mellitus without complications	51,693	3.65
Diabetes mellitus with complications	26,971	1.91
Non-traumatic joint disorders	23,707	1.67
Other nutritional; endocrine; and metabolic disorders	21,202	1.50
Other mental conditions	20,720	1.46
Diseases of the heart	17,738	1.25
Alcohol and substance-related mental disorders	17,166	1.21
Diseases of female genital organs	16,941	1.20

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

Chronic Conditions	#	%
Hypertension	60,446	11.00
Disorders of lipid metabolism	31,804	5.79
Diabetes mellitus without complications	24,440	4.45
Diseases of the heart	20,292	3.69
Non-traumatic joint disorders	14,896	2.71
Diabetes mellitus with complications	11,822	2.15
Thyroid disorders	8,270	1.51
Chronic obstructive pulmonary disease	8,131	1.48
Upper gastrointestinal disorders	6,103	1.11
Other nutritional; endocrine; and metabolic disorders	5,348	0.97

## 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 2006. 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 1,626,309 patients identified with the SCN in 2006, 40.2% 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 77.9% among patients 65 years or older (Figure C1). Additionally, while only 5.3% of patients less than 18 years had a comorbid condition, 57.1% 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 1.36 among patients less than 18 years to 2.86 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	37.3	69.3	77.9	40.2
1 Chronic Condition	16.3	22.6	25.5	20.7	20.7
2 Chronic Conditions	3.8	8.4	18.0	18.7	9.2
3 Chronic Conditions	1.0	3.5	11.8	15.3	4.9
4 Chronic Conditions	0.3	1.5	6.9	10.5	2.7
5+ Chronic Conditions	0.2	1.2	7.0	12.7	2.7
Average Number of Chronic Conditions	1.36	1.70	2.41	2.86	2.01

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 was almost 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**

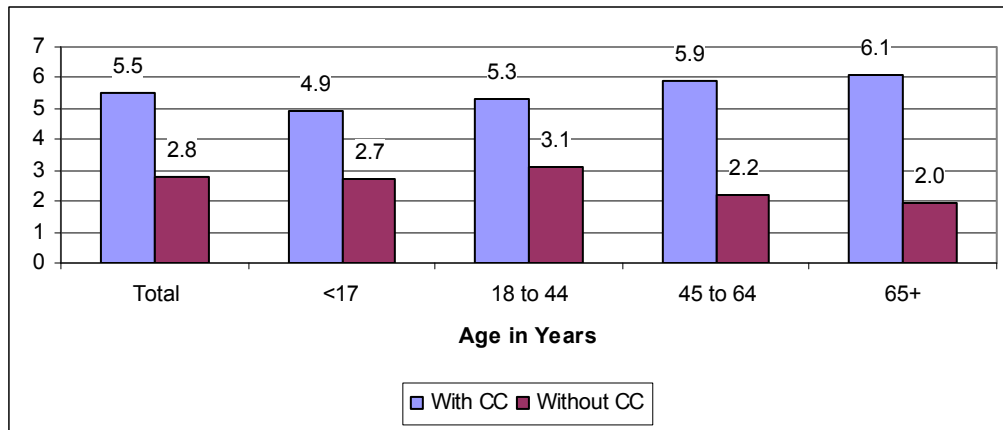


Figure C3 illustrates the substantial impact of chronic conditions on the average number of encounters. For example, while the average number of encounters for patients without a chronic condition was 2.8, this number increased steadily as the number of chronic conditions diagnosed to a patient increased. 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	3.2	4.0	4.8	5.1	3.9
No Chronic Conditions	2.7	3.1	2.2	2.0	2.8
1 Chronic Condition	4.3	4.1	3.5	3.2	3.9
2 Chronic Conditions	6.0	5.6	5.1	4.8	5.3
3 Chronic Conditions	7.7	7.5	6.7	6.2	6.9
4 Chronic Conditions	9.2	9.4	8.3	7.6	8.4
5+ Chronic Conditions	12.7	14.0	12.8	11.3	12.5

## 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 2006 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 35.12% of hypertension patients.

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

Chronic Condition	#	%
Disorders of lipid metabolism	71,395	35.12
Diabetes mellitus without complications	56,219	27.65
Diabetes mellitus with complications	26,139	12.86
Other nutritional; endocrine; and metabolic disorders	22,990	11.31
Diseases of the heart	21,962	10.80
Non-traumatic joint disorders	21,618	10.63
Other mental conditions	15,983	7.86
Thyroid disorders	14,471	7.12
Upper gastrointestinal disorders	13,014	6.40
Other upper respiratory disease	11,793	5.80

### 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 121,859 (7.6%) of the SCN patient population in 2006 had a diagnosis of diabetes. The average number of encounters for patients with diabetes was 7.2 compared to 3.7 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 55.72% and 37.4% of diabetic patients, respectively.

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

Chronic Condition	#	%
Hypertension	65,633	55.72
Disorders of lipid metabolism	44,057	37.40
Other nutritional; endocrine; and metabolic disorders	13,966	11.86
Diseases of the heart	12,431	10.55
Non-traumatic joint disorders	10,060	8.54
Other mental conditions	8,644	7.34
Thyroid disorders	7,792	6.61
Asthma	5,746	4.88
Upper gastrointestinal disorders	5,679	4.82
Other upper respiratory disease	5,484	4.66

**Heart Disease**

A total of 38,057 (2.4%) of the SCN patient population in 2006 had a diagnosis of heart disease. The average number of encounters for patients with heart disease was 8.4 compared to 3.8 for patients without a heart disease diagnosis. Figure D3 shows the ten most common comorbid conditions found among patients with heart disease. Hypertension (58.96%), disorders of lipid metabolism (34.76%), and diabetes mellitus without complications (29.2%), 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	21,962	58.96
Disorders of lipid metabolism	12,946	34.76
Diabetes mellitus without complications	10,878	29.20
Diabetes mellitus with complications	5,000	13.42
Chronic obstructive pulmonary disease and bronchiectasis	4,725	12.68
Non-traumatic joint disorders	4,694	12.60
Other mental conditions	3,476	9.33
Thyroid disorders	3,376	9.06
Other nutritional; endocrine; and metabolic disorders	3,309	8.88
Upper gastrointestinal disorders	2,983	8.01

### **Disorders of Lipid Metabolism**

A total of 121,016 (7.4%) of the SCN patient population in 2006 had a diagnosis related to disorders of lipid metabolism. The average number of encounters for patients with disorders of lipid metabolism was 7.1 compared to 3.7 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 (31.5%) 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**

<b>Chronic Condition</b>	<b>#</b>	<b>%</b>
Hypertension	71,395	59.00
Diabetes mellitus without complications	38,117	31.50
Diabetes mellitus with complications	18,263	15.09
Other nutritional; endocrine; and metabolic disorders	16,344	13.51
Diseases of the heart	12,946	10.70
Non-traumatic joint disorders	12,862	10.63
Thyroid disorders	11,257	9.30
Other mental conditions	10,564	8.73
Upper gastrointestinal disorders	9,259	7.65
Other upper respiratory disease	8,305	6.86

### **Upper Respiratory Disease**

A total of 67,794 (4.2%) of the SCN patient population in 2006 had a diagnosis of an upper respiratory disease. The average number of encounters for patients with an upper respiratory disease was 5.9 compared to 3.8 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 (17.4%) and asthma (16.06%) 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	11,793	17.40
Asthma	10,890	16.06
Disorders of lipid metabolism	8,305	12.25
Other nutritional; endocrine; and metabolic disorders	4,808	7.09
Other mental conditions	4,746	7.00
Diabetes mellitus without complications	4,648	6.86
Upper gastrointestinal disorders	4,059	5.99
Anxiety; somatoform; dissociative; and personality disorders	3,864	5.70
Non-traumatic joint disorders	3,496	5.16
Diseases of female genital organs	2,921	4.31

**Asthma**

A total of 67,051 (4.1%) of the SCN patient population in 2006 had a diagnosis of asthma. The average number of encounters for patients with asthma was 6.3 compared to 3.8 for patients without an asthma diagnosis. Figure D6 shows the ten most common comorbid conditions found among patients with asthma. Hypertension (16.31%) and other upper respiratory diseases (16.24%) were the two most common comorbid conditions among patients with asthma.

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

Chronic Condition	#	%
Hypertension	10,934	16.31
Other upper respiratory disease	10,890	16.24
Disorders of lipid metabolism	6,173	9.21
Other nutritional; endocrine; and metabolic disorders	5,275	7.87
Diabetes mellitus without complications	4,943	7.37
Other mental conditions	4,483	6.69
Non-traumatic joint disorders	3,252	4.85
Chronic obstructive pulmonary disease and bronchiectasis	3,225	4.81
Anxiety; somatoform; dissociative; and personality disorders	3,176	4.74
Upper gastrointestinal disorders	3,139	4.68

### **Chronic Pulmonary Disease**

A total of 37,522 (2.3%) of the SCN patient population in 2006 had a diagnosis of a chronic pulmonary disease. The average number of encounters for patients with a chronic pulmonary disease was 7.6 compared to 3.8 for patients without this condition. Figure D7 shows the ten most common comorbid conditions found among patients with a chronic pulmonary disease. Hypertension (35.84%) and disorders of lipid metabolism (20.26%) 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**

<b>Chronic Condition</b>	<b>#</b>	<b>%</b>
Hypertension	13,449	35.84
Disorders of lipid metabolism	7,601	20.26
Diabetes mellitus without complications	5,994	15.97
Asthma	5,925	15.79
Diseases of the heart	5,779	15.40
Non-traumatic joint disorders	4,013	10.70
Other upper respiratory disease	3,692	9.84
Other mental conditions	3,544	9.45
Alcohol and substance-related mental disorders	3,414	9.10
Upper gastrointestinal disorders	2,963	7.90

## Most Frequently Performed Procedures by SCN Health Centers

This section presents information about the ten most frequently performed procedures by the 58 Sentinel centers during the 2006 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, 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 30.79% 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	1,920,722	30.79	820,283	2.3
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	733,260	11.75	419,356	1.7
99214 Evaluation & Management of Established Patient of Medium to High Complexity	447,623	7.18	266,330	1.7
T1015 Clinic Visit, All Inclusive	385,176	6.17	261,941	1.5
36415 Collection of Venous Blood by Venipuncture	369,079	5.92	78,929	4.7
99211 Evaluation & Management of Established Patient of Low Complexity	215,141	3.45	121,561	1.8
99401 Preventative Medicine Consulting, 15 min.	183,422	2.94	150,623	1.2
81002 Urinalysis, Non-Automated	181,124	2.90	81,674	2.2
90471 Immunization Administration	175,883	2.82	125,631	1.4
99203 Evaluation & Management of New Patient of Medium Complexity	128,990	2.07	103,016	1.3

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	571,535	9.16	267,403	2.1
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	218,109	3.50	139,629	1.6
T1015 Clinic Visit, All Inclusive	175,332	2.81	50,791	3.5
90471 Immunization Administration	112,070	1.80	83,037	1.3
99391 Periodic Comprehensive Preventive Medicine, < 1 year old	111,105	1.78	70,969	1.6
99392 Periodic Comprehensive Preventive Medicine, 1-4 years old	108,324	1.74	36,536	3.0
90669 Pneumococcal Conjugate Vaccine for Children < 5 years	80,858	1.30	48,663	1.7
90472 Immunization Administration, Each Additional Vaccine	75,010	1.20	58,536	1.3
85018 Hemoglobin	67,959	1.09	54,980	1.2
99211 Evaluation & Management of Established Patient of Low Complexity	63,717	1.02	51,322	1.2

**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	654,054	35.66	291,820	2.2
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	292,976	15.98	161,121	1.8
99214 Evaluation & Management of Established Patient of Medium to High Complexity	162,333	8.85	60,610	2.7
T1015 Clinic Visit, All Inclusive	146,793	8.00	102,973	1.4
36415 Collection of Venous Blood by Venipuncture	135,725	7.40	101,847	1.3
81002 Urinalysis, Non-Automated	112,606	6.14	78,173	1.4
81025 Urine Pregnancy Test	103,408	5.64	25,694	4.0
99401 Preventative Medicine Consulting, 15 min.	84,058	4.58	54,535	1.5
99211 Evaluation & Management of Established Patient of Low Complexity	79,142	4.32	43,291	1.8
81000 Urinalysis, Dip Stick or Tablet Reagent	67,622	3.69	33,824	2.0

**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	477,658	20.18	177,616	2.7
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	157,704	6.66	82,042	1.9
99214 Evaluation & Management of Established Patient of Medium to High Complexity	153,191	6.47	78,501	2.0
36415 Collection of Venous Blood by Venipuncture	118,083	4.99	73,308	1.6
T1015 Clinic Visit, All Inclusive	55,967	2.37	30,499	1.8
99211 Evaluation & Management of Established Patient of Low Complexity	51,543	2.18	39,352	1.3
80061 Lipid Panel	51,511	2.18	21,513	2.4
80053 Comprehensive Metabolic Panel	39,485	1.67	25,830	1.5
99401 Preventative Medicine Consulting, 15 min.	38,975	1.65	9,560	4.1
85025 Complete Blood Cell and Differential White Blood Cell Count	36,727	1.55	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	198,467	14.02	70,290	2.8
99214 Evaluation & Management of Established Patient of Medium to High Complexity	69,600	4.92	36,105	1.9
99212 Evaluation & Management of Established Patient of Low to Medium Complexity	57,021	4.03	30,090	1.9
36415 Collection of Venous Blood by Venipuncture	56,379	3.98	29,405	1.9
90658 Influenza Virus Vaccine for Persons 3 years and older	23,388	1.65	25,353	0.9
99211 Evaluation & Management of Established Patient of Low Complexity	18,977	1.34	11,749	1.6
80061 Lipid Panel	15,584	1.10	10,573	1.5
90471 Immunization Administration	15,547	1.10	7,795	2.0
85610 Prothrombin Time Test	15,336	1.08	13,822	1.1
83036 Glycosylated, Chemistry	14,147	1.00	7,882	1.8

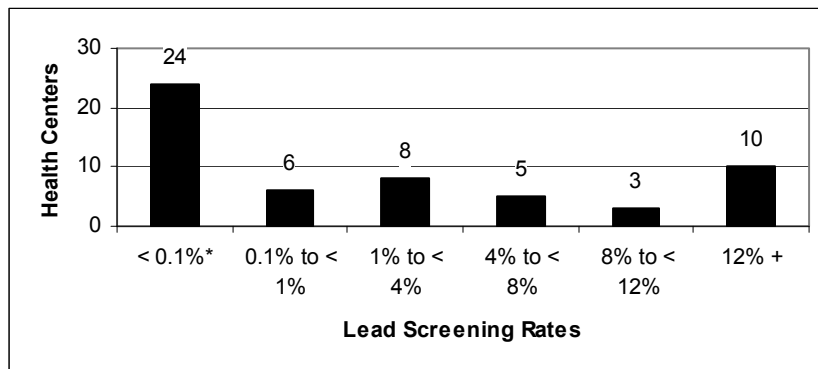
## Lead Screening & Diagnosis Among Children

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 56 out of 58 health centers contributing data to the SCN in 2006 is included in this section. The two health centers not included did not provide care to children.

### Children 9 to 72 Months

There were a total of 433 children 9 to 72 months identified within the SCN patient population in 2006. Among these children, 12,957 (6.53%) received a lead screening test. The lead screening rate varied widely by participating health centers ranging from a high of 48.2% to a low of 0.0%. In 41% of these health centers (23 of 56), 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 23 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 2006, 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 2006. For example, 330 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 2.55% of children screened and .17% 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 15.2%, almost 4 times higher than the screening rate for children with private insurance. Among children who were screened, those without insurance were the most likely to have tested positive at a rate of 5.94%.

**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	12,957	6.53	1,465	0.74	330	2.55	0.17	198,433
Uninsured	3,953	11.71	382	1.13	235	5.94	0.70	33,749
Medicaid	7,113	7.35	664	0.69	68	0.96	0.07	96,738
SCHIP	726	15.20	50	1.05	8	1.10	0.17	4,775
Other Gov.	251	1.11	252	1.12	9	3.59	0.04	22,539
Private	790	3.70	62	0.29	6	0.76	0.03	21,364
Missing	124	0.64	55	0.29	4	3.23	0.02	19,268

\*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 (9.7% to 3.78%, respectively). This trend persists in each of the payment source categories with the exception of children with Other Government or 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 9 to 36 months in each payment source category.

**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	8,945	9.70	674	0.73	180	2.01	0.20	92,207
Uninsured	2,087	13.85	193	1.28	122	5.85	0.81	15,069
Medicaid	5,716	12.12	291	0.62	47	0.82	0.10	47,161
SCHIP	421	21.11	31	1.55	3	0.71	0.15	1,994
Other Gov.	113	1.09	101	0.98	5	4.42	0.05	10,355
Private	544	6.13	26	0.29	3	0.55	0.03	8,877
Missing	64	0.07	32	0.37	0	0.00	0.00	8,751

\*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	4,012	3.78	791	0.74	150	3.74	0.14	106,226
Uninsured	1,866	9.99	189	1.01	113	6.06	0.60	18,680
Medicaid	1,397	2.82	373	0.75	21	1.50	0.04	49,577
SCHIP	305	10.97	19	0.68	5	1.64	0.18	2,781
Other Gov.	138	1.13	151	1.24	4	2.90	0.03	12,184
Private	246	1.97	36	0.29	3	1.22	0.02	12,487
Missing	60	0.57	23	0.22	4	6.67	0.04	10,517

\*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 2006 calendar year.

Thirty-three out of 58 SCN health centers were identified as performing prostate cancer screenings in 2006. These centers performed a total of 11,065 screenings, accounting for 2.6% of the SCN male population of 431,413. Among men 50 years and older, the prostate screening rate increased to 9.4%. This rate ranged within these 33 centers from a high of 50.9% to a low of 0.4% for men 50 years and older (Figure G1). Eleven of 33 health centers performed prostate screenings at a rate below 5%, while 5 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**

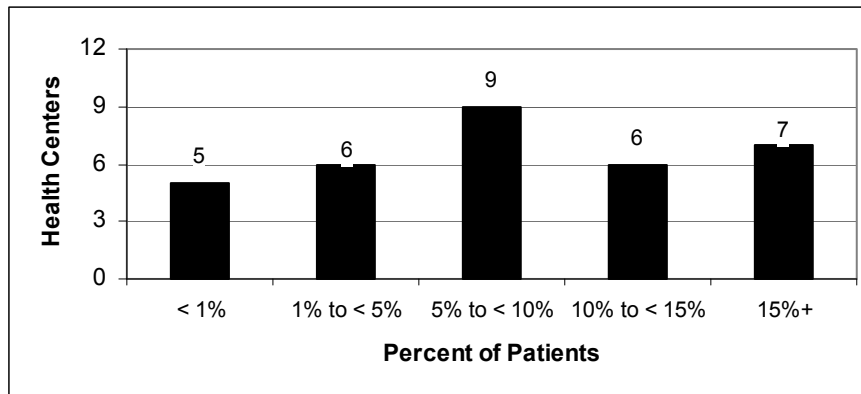
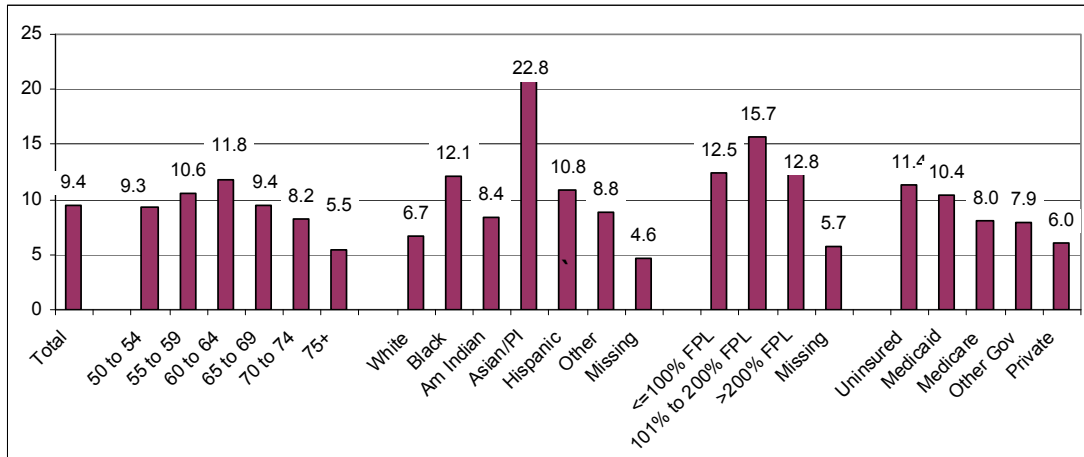


Figure G2 shows the prostate cancer screening rates for males over the age of 49 by selected demographic characteristics. The prostate screening rates increased with age until it peaked at 11.8% for males between 60 and 64 years of age before decreasing steadily with increasing age. The highest screening rate among all demographic categories was found among Asian and Pacific Islander patients (22.8), more three times higher than rate for Whites (6.7%).

**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 2006, 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 49 of the 58 SCN health centers were identified as performing colorectal screenings in 2006. Overall, these centers performed a total of 24,694 colorectal cancer screenings on their patient population. Among the 286,073 patients 50 years of age or older, 18,547 (6.3%) received at least one screening during 2006. The colorectal screening rates among these centers ranged from a high of 27.3% to a low of 0.2%. Figure H1 shows that nearly two-thirds (32 out of 49) of centers had a colorectal screening rate below 6%, including eight centers with rates below 1%.

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

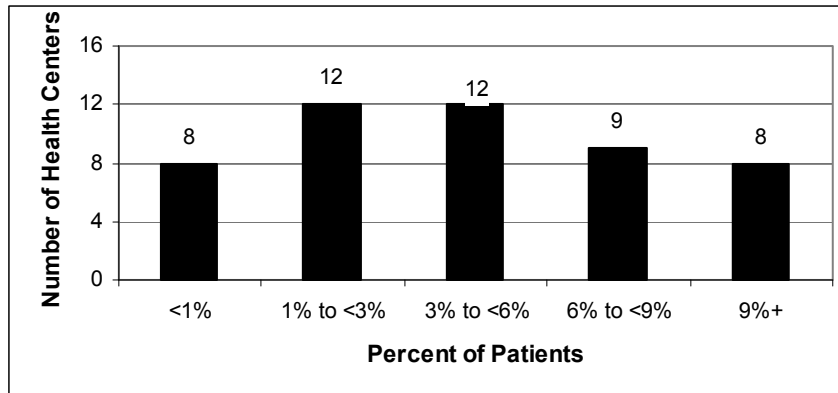
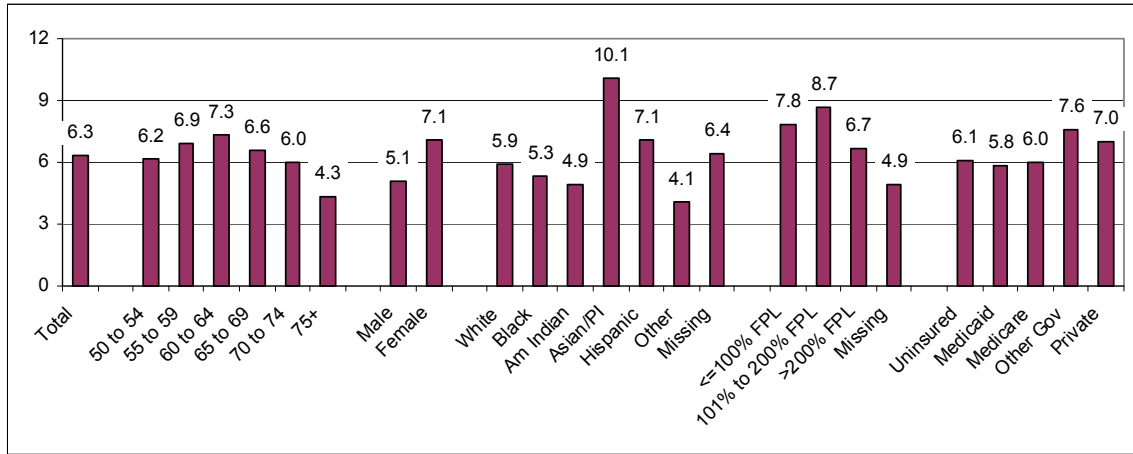


Figure H2 shows the colorectal screening rates for patients by various demographic characteristics. The screening rates appear to increase within the selected age groupings until they reach a peak of 7.5% among patients 60 to 64 years before declining consistently. The screening rate for females (7.1%) is 39% higher than the rate for males (5.1%). The largest disparity of screening rates were found within the race/ethnicity categories as Asian and Pacific Islanders had the highest rate of any demographic category at 10.1% and patients identified as Other race/ethnicity had the lowest rate (4.1%) of any demographic category.

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



## Dementia

This section presents information about the number percentage of SCN patients diagnosed with some form of dementia. Table I1 shows the various types of diagnoses typically associated with dementia. Overall, 2,433 (0.78%) SCN patients 50 years of age or older were found to have some type of dementia. When looking at the different types of dementia diagnoses, Alzheimer's was the most common type of dementia among SCN patients at a rate of 0.33% of patients 50 years and older, followed by uncomplicated senile dementia (0.30%) and dementia in conditions classified elsewhere (0.14%).

**Figure I1: Number of Patients by Dementia Diagnosis**

Diagnosis	# of Patients	% of Patients	ICD-9 Codes
Jakob-Cruetzfeldt Disease	*	*	46.1
Senile dementia, uncomplicated	925	0.30	290
Presenile dementia	99	0.03	290.1
Presenile dementia, uncomplicated	76	0.02	290.1
Presenile demetia with delirium	12	0.00	290.11
Presenile dementia with delusional features	*	*	290.12
Presenile dementia with depressive features	7	0.00	290.13
Senile dementia with delusional features	21	0.01	290.2
Senile dementia with depressive features	25	0.01	290.21
Senile dementia with delirium or confusion	20	0.01	290.3
Vascular dementia	154	0.05	290.4
Arteriosclerotic dementia	*	*	290.40 - 290.43
Dementia in conditions classified elsewhere	427	0.14	294.1
Dementia, conditions classified elsewhere with behavioral disturbance	115	0.04	294.11
Alzheimer's Disease	1,027	0.33	331
Frontotemporal dementia	7	0.00	331.1
Pick's Disease	*	*	331.11
Other frontotemporal dementia	*	*	331.19
Dementia with Lewy Bodies or Parkinsonism	19	0.01	331.82
Huntington's disease	12	0.00	333.4
Cerebral atherosclerosis	64	0.02	437
<b>Total Dementia</b>	<b>2,433</b>	<b>0.78</b>	-

\*Diagnosis categories with less than 5 cases.

Among the 58 SCN health centers, the dementia rates ranged from a high of 3.74% of patients 50 years of age or older to 2 centers where no dementia patients were identified. Altogether, 31 of the 59 centers had dementia rates below 0.5% and only 4 centers had rates at 2.0% or higher (Figure I2).

**Figure I2: Number of Health Centers by Dementia Rates for Patients 50+ Years**

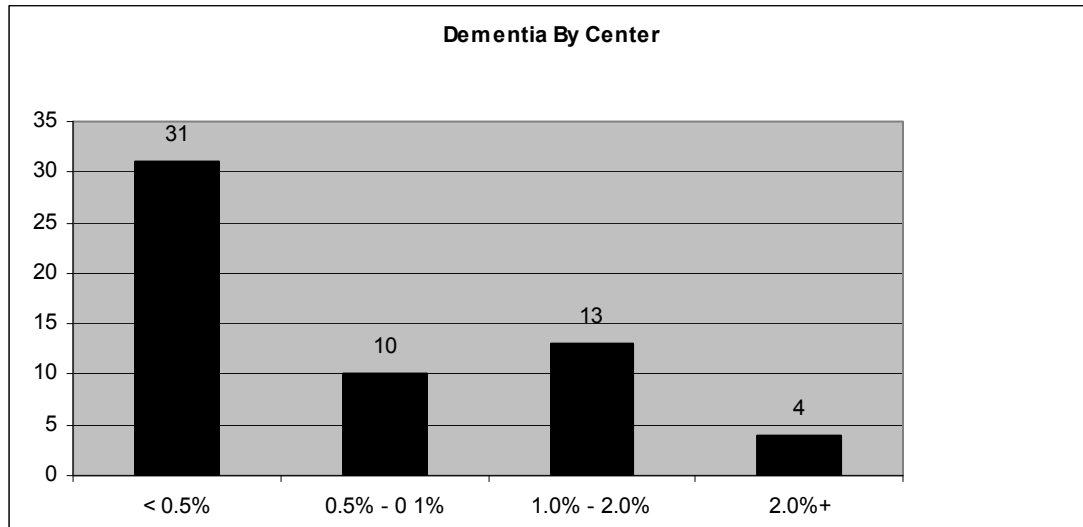


Figure I3 shows the dementia rates for patients 50 years of age and older by selected demographic characteristics. The rate of diagnosis increase sharply when stratifying for age. The rate jumped from 0.10% among patients 50 to 59 years of age to 5.48% among patients 80 years of age or older. There were also substantial rate differences with the race/ethnicity categories. Whites had the largest diagnosis rate among patients whose race/ethnicity was identified at 1.04%, more than four times higher than the rate for Asian and Pacific Islanders (.25%). Patients with Medicare as their primary payment source had the highest rate (1.80%) compared to other payment source categories, and nearly double the next highest rate of 0.92% found among patients with Medicaid. However, this result is rather expected because of the age group targeted.

**Figure I3: Dementia Patients 50 Years and Older by Selected Demographic Characteristics**

