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Coronary Artery Disease

A Rural Veterans Health Care Atlas Series
1st edition FY-2014



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OVERVIEW

The staff at the GeoSpatial Outcomes Division accessed data repositories available through the VHA Support Service Center (VSSC) <http://vssc.med.va.gov/> to query and extract the data used to generate this chapter's tables, charts, and maps. The Diagnosis Cube, in particular, is a single repository cube with tools for diagnosis monitoring of the Veteran patient population.¹

According to a canned report available in the Diagnosis Cube, Coronary Artery Disease - specifically ICD-9-CM code 414.9 (representing only one of 19 Coronary Artery Disease ICD-9-CM codes) - is listed as #20 of the Top 20 Diagnoses by Uniques (with 486,072 unique patients diagnosed with that particular ICD-9-CM code) among all VHA facilities during FY-2014. When rural areas are queried from this selection, Coronary Artery Disease diagnostic code 414.9 is still ranked high at #20 (with 194,502 unique patients). This represents a need for analysis of health care access and delivery for the Coronary Artery Disease cohort living in rural and highly rural areas. The GSOD team utilized scholarly and reliable web resources to confirm the 19 Diagnosis ICD-9-CM codes used to identify patients with Coronary Artery Disease (see *Diagnostic Codes Used to Define Cohort* section below).*** The team then extracted the appropriate data.

Process of Data Compilation

Using the VSSC and Proclarity Desktop Professional Version 6.3.129.200, data were extracted from the Diagnosis Cube. **Prevalence and demographic data** were queried on a broad level and then drilled down to specific ruralities. The following parameters were entered in different combinations to present various scenarios:

- **Measures:** Unique Patients
- **DXDate Date:** FY-2014
- **Diagnosis ICD9 Desc:** All, 411.1, 411.81, 411.89, 412, 413.0, 413.9, 414.0, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9
- **Home County VISN:** V01, V02, V03, V04, V05, V06, V07, V08, V09, V10, V11, V12, V15, V16, V17, V18, V19, V20, V21, V22, V23
- **DiagnosisPosition:** Primary Diagnosis, Secondary Diagnosis
- **Priority:** 1 Svc Con 50% +, 2 Svc Con 30%-40%, 3 Svc Con 20%/POW/Special, 5 Non Service Con Below Income
- **Rurality:** Highly Rural, Rural, Urban, Unknown

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- **Gender:** Female, Male, Unknown
- **Age:** <25, 25-34, 35-44, 45-54, 55-64, 65-74, 75-84, 85+, Unknown

Then the following parameters were entered to extract **outpatient encounters** and were used in different combinations to present various scenarios:

- **Measures:** Frequency
- **DXDate Date:** FY 14
- **Diagnosis ICD9 Desc:** All, 411.1, 411.81, 411.89, 412, 413.0, 413.9, 414.0, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.2, 414.3, 414.8, 414.9
- **Home County VISN:** V01, V02, V03, V04, V05, V06, V07, V08, V09, V10, V11, V12, V15, V16, V17, V18, V19, V20, V21, V22, V23
- **DiagnosisPosition:** Primary Diagnosis, Secondary Diagnosis
- **Rurality:** Highly Rural, Rural, Urban, Unknown
- **Source:** Outpatient Encounters

ESRI ArcGIS Desktop was used to import the tabular data and create custom maps at National and VISN scales. The tabular data is broken down by rows of FIPS codes (county level geographic units), State, VISN, and then by columns of the following:

- Count of total number of patients with Coronary Artery Disease in the VHA.
- Counts and percentages of patients with Coronary Artery Disease versus all patients (uniques) broken down by rurality (HR/R/U/total), with HR/R combined into RHR for the purposes of patient confidentiality
- Counts and percentages of patients with Coronary Artery Disease versus all patients (uniques) *by gender* broken down by rurality (HR/R/U/total), with HR/R combined into RHR for the purposes of patient confidentiality
- Counts and percentages of patients with Coronary Artery Disease versus all patients (uniques) *by age group* (<65, 65+) broken down by rurality (HR/R/U/total), with HR/R combined into RHR for the purposes of patient confidentiality
- Counts and percentages of patients with Coronary Artery Disease versus all patients (uniques) *by enrollment priority* (groups 1, 2 and 3) broken down by rurality (HR/R/U/total), with HR/R combined into RHR for the purposes of patient confidentiality

- Counts and percentages of patients with Coronary Artery Disease versus all patients (uniques) *by enrollment priority (group 5)* broken down by rurality (HR/R/U/total), with HR/R combined into RHR for the purposes of patient confidentiality
- Counts and percentages of outpatient encounters of patients with Coronary Artery Disease in rural and highly rural areas versus outpatient encounters of patients with Coronary Artery Disease in all rural categories, with HR/R combined into RHR for the purposes of patient confidentiality.

***GSOD would like to acknowledge The Dartmouth Institute for Health Policy and Clinical Practice for producing the The Dartmouth Atlas of Health Care which collected the ICD-9 codes used for Coronary Artery Disease. The qualifying diagnosis codes are available here: http://www.dartmouthatlas.org/downloads/methods/Chronic_Disease_Codes.pdf and the research methods used in production of that atlas are available here: http://www.dartmouthatlas.org/downloads/methods/research_methods.pdf

Coronary Artery Disease

Diagnostic Codes Used to Define Cohort (Coronary Artery Disease)

ICD-9 CM code	Description
411.1	INTERMEDIATE CORONARY SYNDROME
411.81	ACUTE CORONARY OCCLUSION WITHOUT MYOCARDIAL INFARCTION
411.89	OTHER ACUTE AND SUBACUTE FORMS OF ISCHEMIC HEART DISEASE, OTHER
412	OLD MYOCARDIAL INFARCTION
413.0	ANGINA DECUBITUS
413.9	OTHER AND UNSPECIFIED ANGINA PECTORIS
414.0	CORONARY ATHEROSCLEROSIS
414.00	CORONARY ATHEROSCLEROSIS OF UNSPECIFIED TYPE OF VESSEL, NATIVE OR GRAFT
414.01	CORONARY ATHEROSCLEROSIS OF NATIVE CORONARY ARTERY
414.02	CORONARY ATHEROSCLEROSIS OF AUTOLOGOUS VEIN BYPASS GRAFT
414.03	CORONARY ATHEROSCLEROSIS OF NONAUTOLOGOUS BIOLOGICAL BYPASS GRAFT
414.04	CORONARY ATHEROSCLEROSIS OF ARTERY BYPASS GRAFT
414.05	CORONARY ATHEROSCLEROSIS OF UNSPECIFIED BYPASS GRAFT
414.06	CORONARY ATHEROSCLEROSIS OF NATIVE CORONARY ARTERY OF TRANSPLANTED HEART
414.07	CORONARY ATHEROSCLEROSIS OF BYPASS GRAFT (ARTERY) (VEIN) OF TRANSPLANTED HEART
414.2	CHRONIC TOTAL OCCULSION OF CORONARY ARTERY
414.3	CORONARY ATHEROSCLEROSIS DUE TO LIPID RICH PLAQUE
414.8	OTHER SPECIFIED FORMS OF CHRONIC ISCHEMIC HEART DISEASE
414.9	CHRONIC ISCHEMIC HEART DISEASE, UNSPECIFIED

Organization of Data Tables and Maps

The data tables and maps for Veterans with Coronary Artery Disease are organized into four sections. The first section (Section I) focuses on the total numbers of VHA patients with Coronary Artery Disease. We first present an overview of the data at the National, Veterans Integrated Service Network (VISN), State, and county levels. In addition to the overall number of patients with Coronary Artery Disease, data are presented by gender, age group, and enrollment status. Table 1 contains the data used in the narrative summary. Following the table, there are a series of maps that visually illustrate the data.

- Map 1: Number of Patients with Coronary Artery Disease by VISN, FY-2014
- Map 2: Number of Patients with Coronary Artery Disease by State, FY-2014
- Map 3: Number of Patients with Coronary Artery Disease by County, FY-2014
- Map 4 - 7: Number of Patients with Coronary Artery Disease by County, FY-2014 – Zoomed VISN views

Section II of the chapter focuses on the overall prevalence of Coronary Artery Disease by the following rurality categories: *rural, highly rural, urban, and unknown*. Since the *rural and highly rural* categories are of particular interest in this volume, numbers and percentages are distinctively highlighted in shades of blue in Table 2. National, VISN, State, and county overview are presented focusing on the rural and highly rural Veterans with Coronary Artery Disease. Because the number of highly rural Veterans is so small, we combined the data for mapping purposes. For the maps, urban areas are shaded and urban patients are removed from the numerator and denominator. The following maps illustrate graphically the data on rural and highly rural VHA patients with Coronary Artery Disease:

- Map 8: Number of Rural and Highly Rural Patients with Coronary Artery Disease by VISN, FY-2014
- Map 9: Percent of Rural and Highly Rural Patients with Coronary Artery Disease of Total Rural and Highly Rural Patients by VISN, FY-2014
- Map 10: Number of Rural and Highly Rural Patients with Coronary Artery Disease by State, FY-2014
- Map 11: Percent of Rural and Highly Rural Patients with Coronary Artery Disease of Total Rural and Highly Rural Patients by State, FY-2014
- Map 12: Number of Rural and Highly Rural Patients with Coronary Artery Disease by County, FY-2014
- Map 13: Percent of Rural and Highly Rural Patients with Coronary Artery Disease of Total Rural and Highly Rural

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Patients by County, FY-2014

- Maps 14, 16, 18, 20: Number of Rural and Highly Rural Patients with Coronary Artery Disease by County, FY-2014 – Zoomed VISN views
- Map 15, 17, 19, 21: Percent of Rural and Highly Rural Patients with Coronary Artery Disease by County, FY-2014 – Zoomed VISN views

Section III provides more detail on subgroups of rural and highly rural patients. Table 3 contains data broken down by gender and rurality, with accompanying maps of rural and highly rural female VHA patients:

- Map 22: Number of Rural and Highly Rural Female Patients with Coronary Artery Disease by VISN, FY-2014
- Map 23: Percent of Rural and Highly Rural Female Patients with Coronary Artery Disease of Total Rural and Highly Rural Female Patients by VISN, FY-2014
- Map 24: Number of Rural and Highly Rural Female Patients with Coronary Artery Disease by State, FY-2014
- Map 25: Percent of Rural and Highly Rural Female Patients with Coronary Artery Disease of Total Rural and Highly Rural Female Patients by State, FY-2014 *** **Note:** County level maps are not presented for this disease condition, as the number of VHA female patients with Coronary Artery Disease is very small.

Table 4 contains data broken down by age group and rurality, with accompanying maps of rural and highly rural VHA patients by 65 years of age and older:

- Map 26: Number of Rural and Highly Rural Patients Aged 65+ with Coronary Artery Disease by VISN, FY-2014
- Map 27: Percent of Rural and Highly Rural Patients with Coronary Artery Disease Aged 65+ of Total Rural and Highly Rural Patients Aged 65+ by VISN, FY-2014
- Map 28: Number of Rural and Highly Rural Patients Aged 65+ with Coronary Artery Disease by State, FY-2014
- Map 29: Percent of Rural and Highly Rural Patients Aged 65+ with Coronary Artery Disease of Total Rural and Highly Rural Patients Aged 65+ by State, FY-2014
- Map 30: Number of Rural and Highly Rural Patients Aged 65+ with Coronary Artery Disease by County, FY-2014
- Map 31: Percent of Rural and Highly Rural Patients Aged 65+ with Coronary Artery Disease of Total Rural and Highly Rural Patients Aged 65+ by County, FY-2014

Table 5 contains data broken down by enrollment priority and rurality, with accompanying maps of rural and highly rural VHA patients by Service Connection (Enrollment Priority Groups 1-3) and Low Income (Enrollment Priority Group 5):

- Map 32: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease by VISN, FY-2014
- Map 33: Percent of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 1-3 by VISN, FY-2014
- Map 34: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease by State, FY-2014
- Map 35: Percent of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 1-3 by State, FY-2014
- Map 36: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease by County, FY-2014
- Map 37: Percent of Rural and Highly Rural Patients in Priority Group 1-3 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 1-3 by County, FY-2014
- Map 38: Number of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease by VISN, FY-2014
- Map 39: Percent of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 5 by VISN, FY-2014
- Map 40: Number of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease by State, FY-2014
- Map 41: Percent of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 5 by State, FY-2014
- Map 42: Number of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease by County, FY-2014
- Map 43: Percent of Rural and Highly Rural Patients in Priority Group 5 with Coronary Artery Disease of Total Rural and Highly Rural Patients in Priority Group 5 by County, FY-2014

The final section of the chapter (Section IV) provides information on the outpatient encounters of VHA patients with Coronary Artery Disease. Table 6 examines the outpatient encounters of patients with a **primary** diagnosis of Coronary

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Artery Disease and breaks the encounter information by rurality and Table 8 provides information on the number of outpatient encounters of patients with a **secondary** diagnosis of Coronary Artery Disease, also categorized by rurality. Table 7 and Table 9 provide information on the numbers and percentage of rural and highly rural Coronary Artery Disease encounters of total Coronary Artery Disease encounters for patients with a primary diagnosis of Coronary Artery Disease (Table 7) and secondary diagnosis of Coronary Artery Disease (Table 9). The accompanying maps display the total numbers and percentages of rural and highly rural patients with **either** a primary or secondary diagnosis of Coronary Artery Disease to capture the total workload (outpatient encounters) of this disease in rural and highly rural areas:

- Map 44: Number of Rural and Highly Rural Coronary Artery Disease Patient Encounters by VISN, FY-2014
- Map 45: Percent of Rural and Highly Rural Coronary Artery Disease Patient Encounters of VHA Coronary Artery Disease Patient Encounters by VISN, FY-2014
- Map 46: Number of Rural and Highly Rural Coronary Artery Disease Patient Encounters by State, FY-2014
- Map 47: Percent of Rural and Highly Rural Coronary Artery Disease Patient Encounters of VHA Coronary Artery Disease Patient Encounters by State, FY-2014
- Map 48: Number of Rural and Highly Rural Coronary Artery Disease Patient Encounters by County, FY-2014
- Map 49: Percent of Rural and Highly Rural Coronary Artery Disease Patient Encounters of VHA Coronary Artery Disease Patient Encounters by County, FY-2014

Note: An asterisk (*) that appears in the tables signifies a low number or proportion of unique patients.

Section I Highlights: VHA Patients with Coronary Artery Disease

National Overview

In Fiscal Year 2014, the Veterans Health Administration had 889,731 patients with the diagnosis code indicating a primary or secondary diagnosis of Coronary Artery Disease (Table 1). This number represented approximately 14 percent (14.32%) of the total patient population during the fiscal year. As with most patients seen in the VHA, the majority of patients with Coronary Artery Disease were male (98.45%); however, females represented a marginal 1.55%. The age distribution of patients with Coronary Artery Disease shows that 0.63% were under the age of 45, 3.20% were ages 45-54, 16.63% were ages 55-64, 38.42% were ages 65-74, and 41.13% were ages 75 or older.

We examined two groups of Veterans by their Enrollment Priority. Enrollment Priority Groups 1-3 were combined into one group, which includes Service-Connected Veterans rated by the VA from 10-100%. A second group, Enrollment Priority Group 5, was selected to represent non Service-Connected and noncompensable Service-Connected Veterans rated 0% disabled by VA with annual income and/or net worth below the VA National income threshold and geographically-adjusted income threshold for their resident location.² The table shows that about half of patients with Coronary Artery Disease (43.97%) were Service-Connected injured Veterans enrolled in Priority Groups 1 – 3 and about one-quarter (23.30%) were Priority 5 (low income).

VISN Overview

At the time of this edition, the Veterans Health Administration consisted of 21 networks. Examining data at the network level, the volume of patients with Coronary Artery Disease ranged from a high of 87,246 individuals in the Sunshine Network (VISN 8, which serves Veterans in most of Florida, Puerto Rico, U.S. Virgin Islands, and a portion of Georgia) to a low of 15,224 individuals in the Capitol Network (VISN 5, which includes all of Washington D.C. and portions of Pennsylvania, Maryland, Virginia, and West Virginia). When examining the number of patients with Coronary Artery Disease proportionally to all patients, the Stars and Stripes Network (VISN 4) had the highest proportion at 19.22% and the Desert Pacific Network (VISN 22) had the lowest proportion at 9.30%. The VISN with the highest ratio of females to males was in the Heart of Texas Network (VISN 17), where 2.10% of the patients with Coronary Artery Disease were female. Nationally, the 75+ age group had the highest prevalence of patients with Coronary Artery Disease to all VHA

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patients (41.13%); at the network level, the majority of VISNs had more than one-third of the VHA patient population in this age group diagnosed with Coronary Artery Disease, and two VISNs had more than half. The Stars and Stripes Network (VISN 4) led with 57.0%, followed by the New England Network (VISN 1) with 51.81%. All VISNs had one-third or more of patients with Coronary Artery Disease in the VHA enrolled as Service-Connected (Priority Groups 1-3), the Heart of Texas Network (VISN 17) leading at 54.19%. Map 1 shows the number of Veterans with Coronary Artery Disease by quartile across the 21 VISNs.

State Overview

Map 2 shows the number of VHA patients with Coronary Artery Disease by State (by quartile). The top 10 States with the highest number of patients with Coronary Artery Disease by rank order were Florida (N=80,775), Texas (N=62,528), California (N=49,607), Pennsylvania (N=48,191), Ohio (N=45,276), New York (N=39,773), Illinois (N=32,303), North Carolina (N=29,735), Michigan (N=25,374), and Missouri (N=24,672). The U.S. outlying area territory with the highest percentage of patients with Coronary Artery Disease was the Marshall Islands (25.0%), followed by these U.S. States (in rank order): Pennsylvania (21.07%), West Virginia (20.1%), Ohio (20.02%), Kentucky (19.81%), Indiana (19.10%), Rhode Island (18.94%), Iowa (18.86%), Kansas (18.64%) and Connecticut (18.32%). Thus, the States of Pennsylvania and Ohio both showed a high number and a high proportion of patients with Coronary Artery Disease.

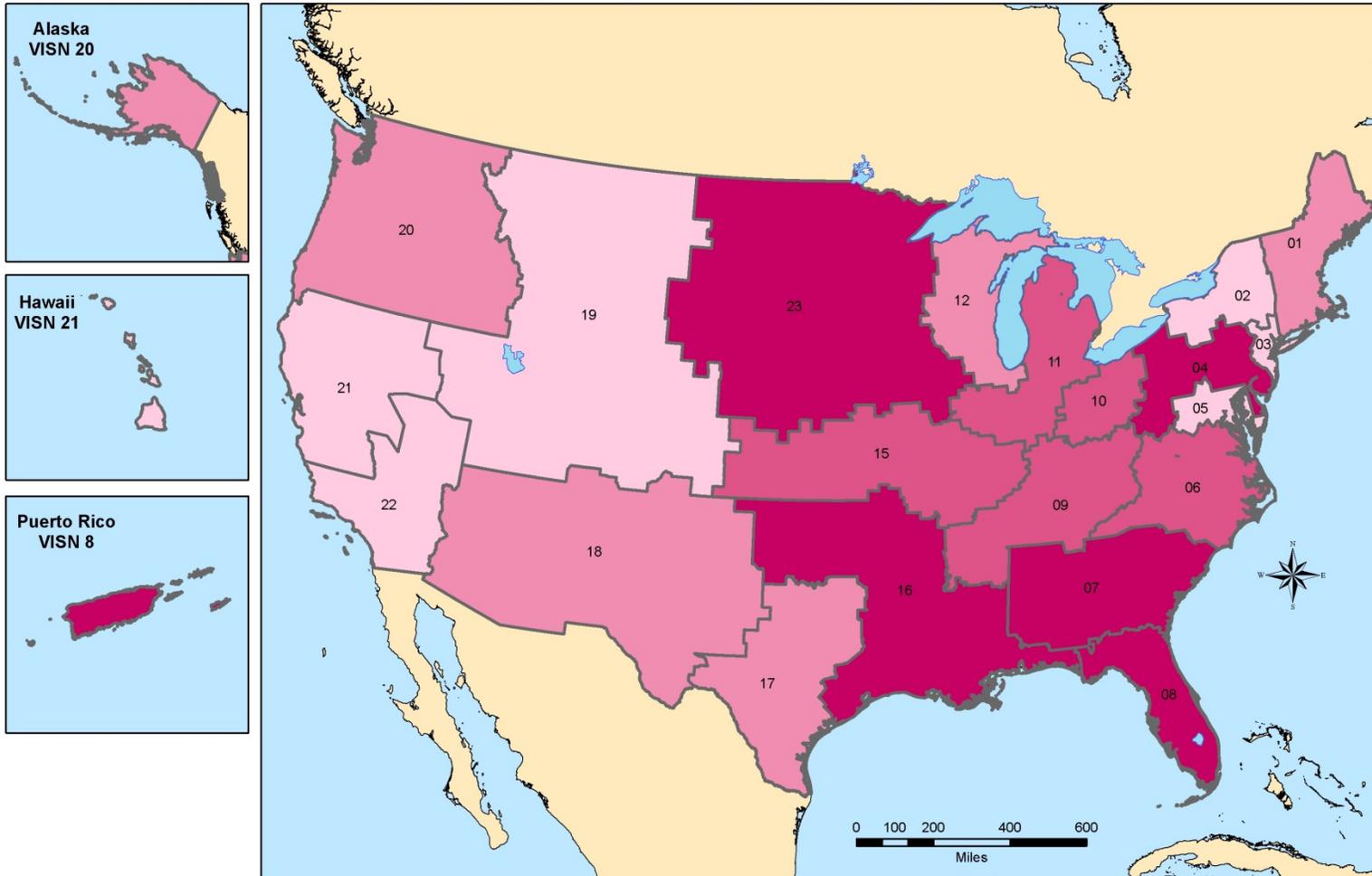
County Overview

The number of patients with Coronary Artery Disease by county is displayed by quartiles in Map 3. The highest 25% in terms of volume is designated by the darkest color. In addition to the National map, four additional maps are provided that zoom to the VISN level (Maps 4-7) to give a clearer picture of the number of patients with Coronary Artery Disease and the geographic patterns within each VISN. The top 10 counties with the largest number of VHA patients with Coronary Artery Disease across the U.S. were in the States of Illinois (1 county), Arizona (1 county), Florida (2 counties), California (3 counties), Texas (2 counties), and Nevada (1 county). Cook County, Illinois had the largest number of patients with Coronary Artery Disease (N=9,054), followed by, in rank order: Maricopa County, Arizona (N=7,154), Palm Beach County, Florida (N=6,926), Los Angeles County, California (N=6,693), Harris County, Texas (N=6,365), Pinellas County, Florida (N=5,171), Bexar County, Texas (N=5,005), Clark County, Nevada (N=4,900), San Diego County, California (N=4,711), and Riverside County, California (N=4,689).

Table 1: National and VISN Numbers and Percentages of VHA Patients with Coronary Artery Disease, FY-2014

Overall Prevalence Statistics- Coronary Artery Disease, FY-2014												
Veterans Integrated Service Network	Total Number of Patients	Patients with Coronary Artery Disease		Gender (%)		Age Group (%)					Enrollment Priority Groups (%)	
		N	(%)	F	M	<45	45-54	55-64	65-74	75+	Service Connected (Priority 1-3)	Low Income (Priority 5)
New England (01)	253,326	39,715	15.68	1.20	98.80	0.36	2.02	11.68	34.13	51.81	41.57	19.80
Upstate NY (02)	136,497	21,475	15.73	1.66	98.34	0.41	3.03	14.97	36.16	45.47	37.61	25.90
NY/NJ (03)	174,457	26,805	15.36	1.12	98.88	0.32	2.02	10.07	30.59	57.00	35.63	21.26
Stars and Stripes (04)	310,940	59,770	19.22	1.39	98.61	0.69	2.68	12.85	34.81	48.97	34.32	23.10
Capitol (05)	150,012	15,224	10.15	1.81	98.19	0.59	3.71	15.75	36.53	43.42	39.00	27.29
Mid-Atlantic (06)	359,692	48,758	13.56	1.51	98.49	0.67	3.75	18.64	41.51	35.45	48.23	22.89
Southeast (07)	408,164	51,810	12.69	1.78	98.22	0.83	4.26	20.58	41.41	32.93	49.96	22.91
Sunshine (08)	576,411	87,246	15.14	1.74	98.26	0.57	3.13	15.10	36.01	45.19	41.64	23.84
Mid South (09)	298,396	50,609	16.96	1.40	98.60	0.67	3.89	19.61	42.08	33.75	47.53	25.09
Ohio (10)	231,319	43,762	18.92	1.60	98.40	1.02	3.68	17.94	38.78	38.58	37.36	28.04
Vets in Partnership (11)	282,135	47,131	16.71	1.46	98.54	0.50	3.38	17.33	40.36	38.44	43.46	24.41
Great Lakes (12)	266,879	41,442	15.53	1.33	98.67	0.38	2.55	13.83	35.61	47.64	33.16	21.77
Heartland (15)	245,357	42,882	17.48	1.38	98.62	0.51	3.17	17.62	37.64	41.06	41.96	23.79
South Central (16)	502,681	76,976	15.31	1.74	98.26	0.90	3.63	19.61	40.75	35.12	48.59	24.15
Heart of Texas (17)	306,581	37,941	12.38	2.10	97.90	1.11	3.99	20.74	41.20	32.96	54.19	21.62
Southwest (18)	271,557	32,216	11.86	1.74	98.26	0.62	3.12	17.04	40.40	38.82	47.54	24.17
Rocky Mtn. (19)	202,350	22,171	10.96	1.53	98.47	0.59	3.03	16.70	39.08	40.60	44.57	22.71
Northwest (20)	288,322	31,570	10.95	1.68	98.32	0.51	3.28	18.23	42.70	35.30	49.06	23.78
Sierra Pacific (21)	293,645	30,290	10.32	1.61	98.39	0.45	2.67	16.22	39.68	40.98	47.18	24.27
Desert Pacific (22)	328,951	30,584	9.30	1.61	98.39	0.63	3.34	17.56	39.82	38.65	45.76	26.13
Midwest (23)	324,728	51,354	15.81	1.09	98.91	0.34	2.19	13.55	35.59	48.33	49.37	15.95
Grand Total	6,212,400	889,731	14.32	1.55	98.45	0.63	3.20	16.63	38.42	41.13	43.97	23.30

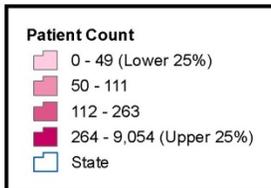
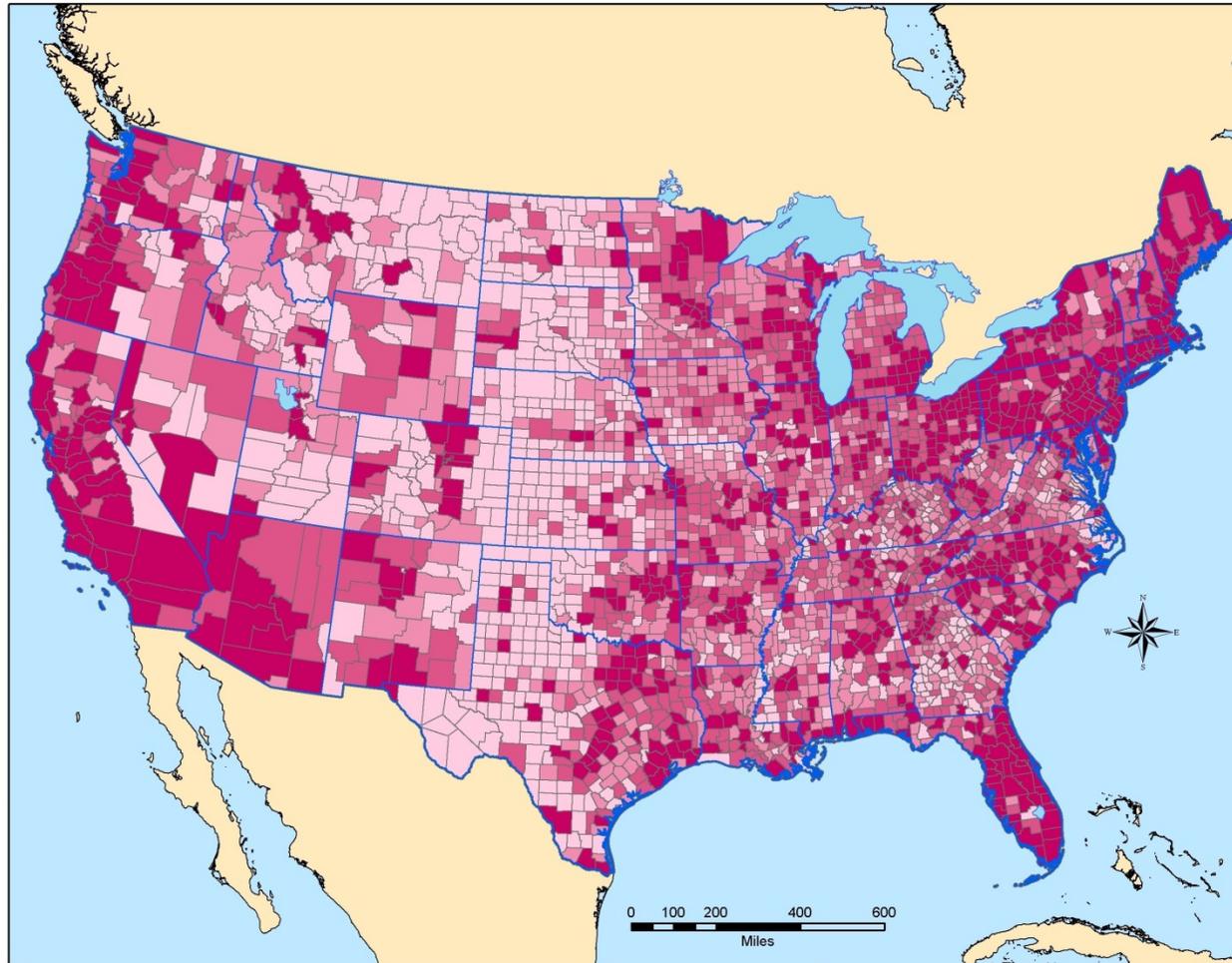
Coronary Artery Disease



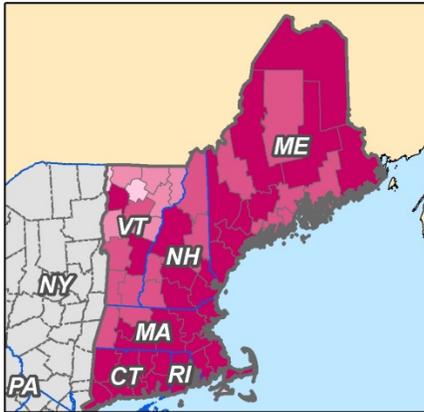
Patient Count	
15,224 - 30,584	(Lower 25%)
30,585 - 41,442	
41,443 - 50,609	
50,610 - 87,246	(Upper 25%)

Map 1:
Number of VHA Patients with Coronary Artery Disease
By VISN FY - 2014

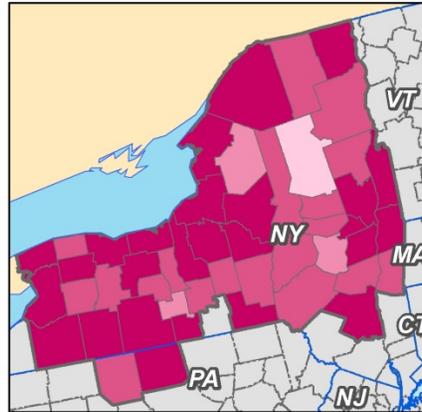
Coronary Artery Disease



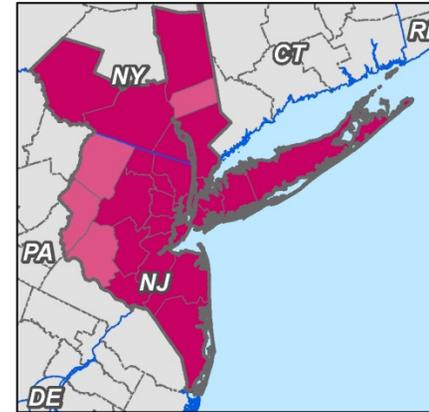
Map 3:
Number of VHA Patients with Coronary Artery Disease
By County FY - 2014



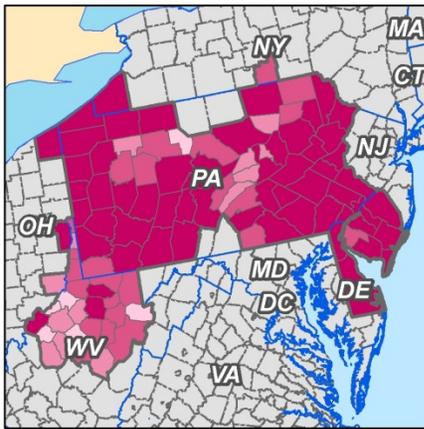
VISN 1



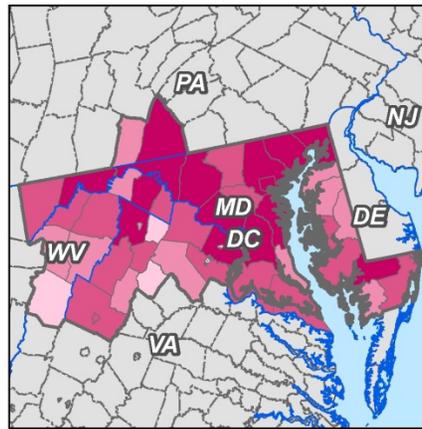
VISN 2



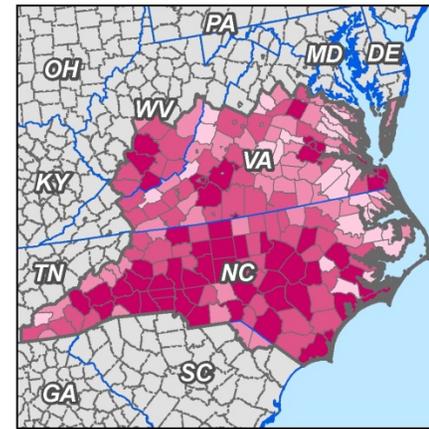
VISN 3



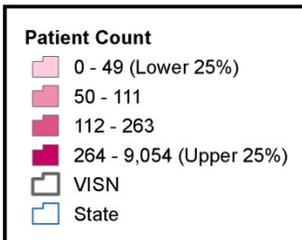
VISN 4



VISN 5



VISN 6

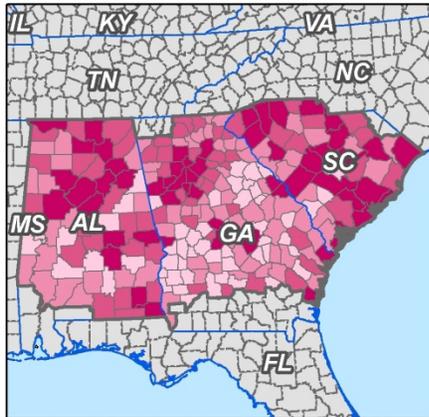


Map 4:
Number of VHA Patients
with Coronary Artery Disease
by County, FY - 2014

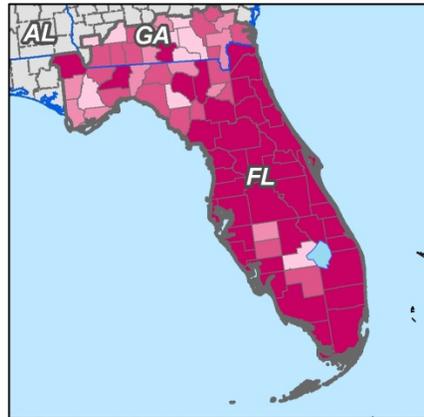


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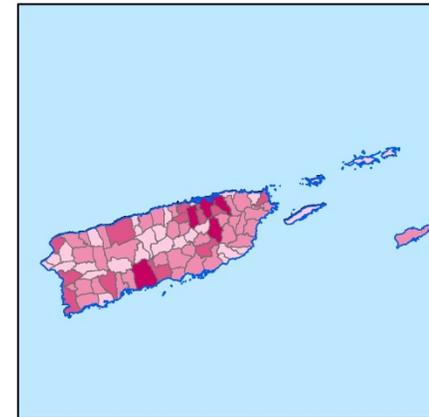
Coronary Artery Disease



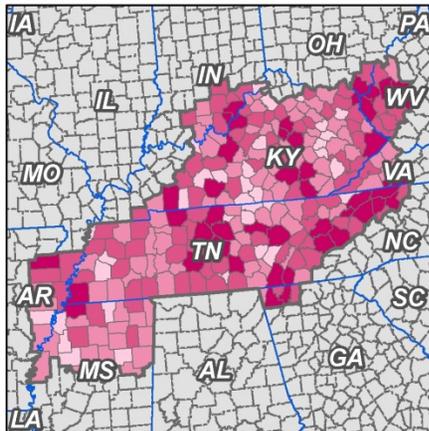
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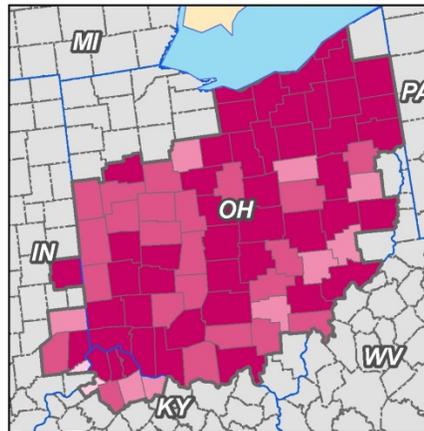
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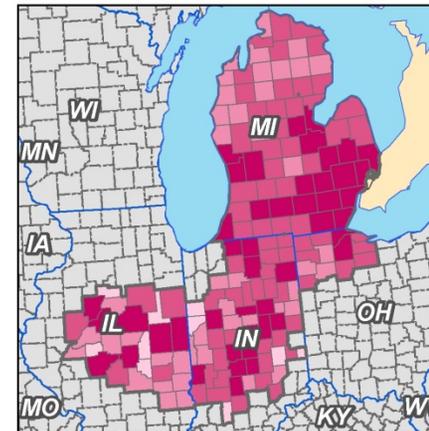
VISN 8 Puerto Rico & Virgin Islands



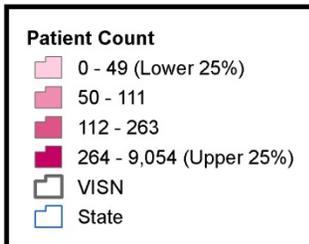
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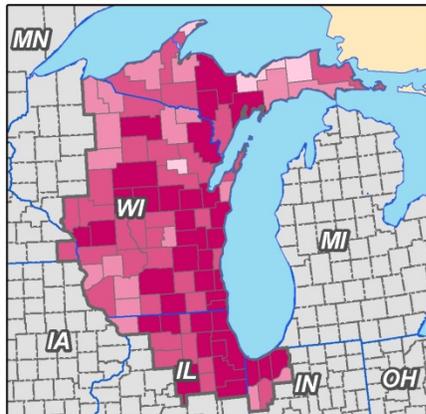
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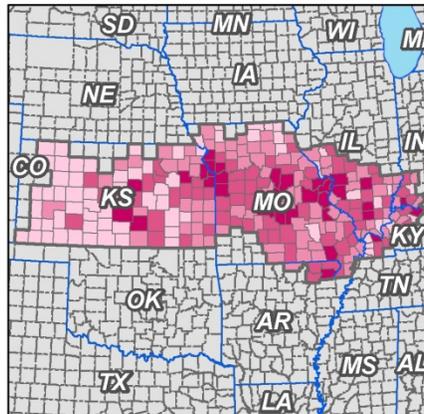
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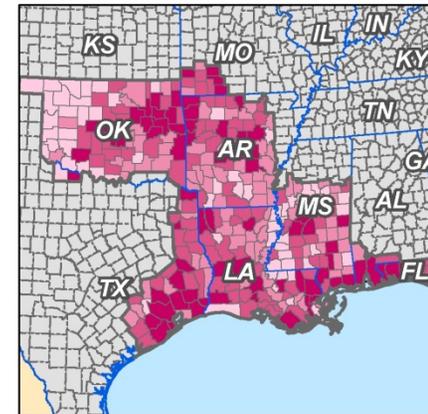
Map 5:
Number of VHA Patients with Coronary Artery Disease By County FY - 2014



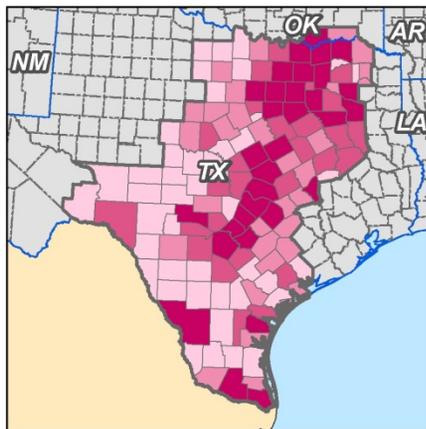
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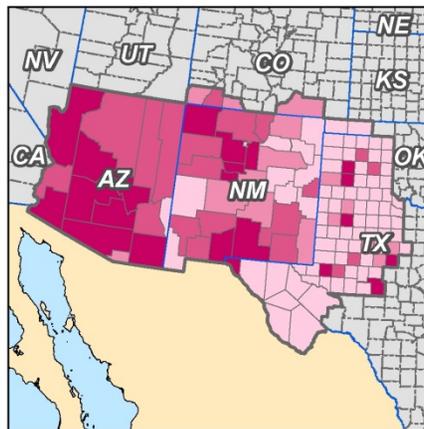
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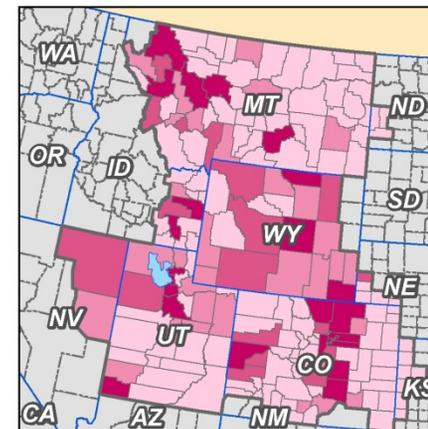
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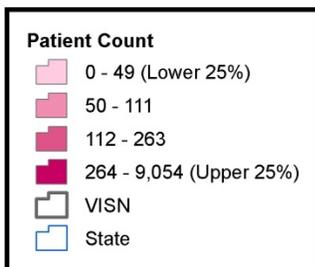
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VISN 18



VISN 19

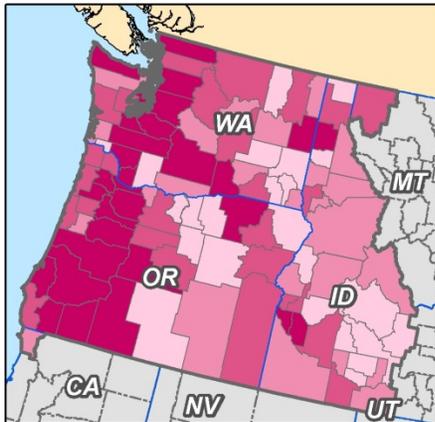


Map 6:
Number of VHA Patients
with Coronary Artery Disease
By County, FY - 2014

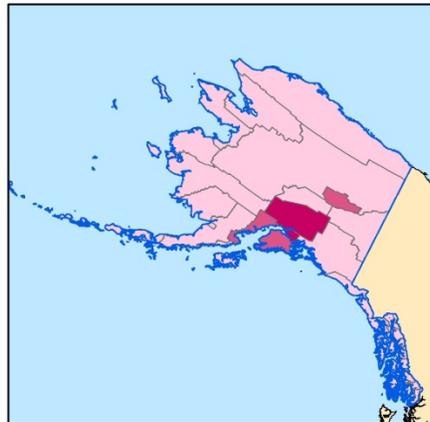


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Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

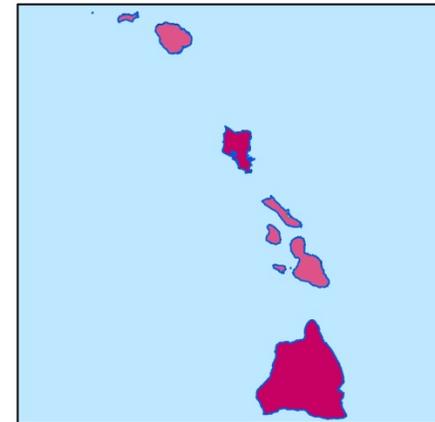
Coronary Artery Disease



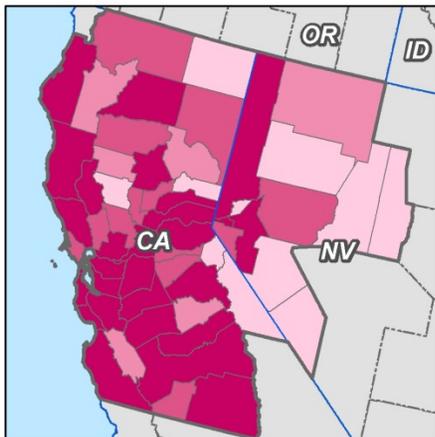
VISN 20



VISN 20- Alaska



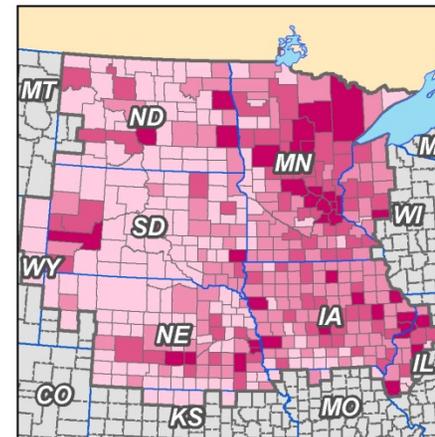
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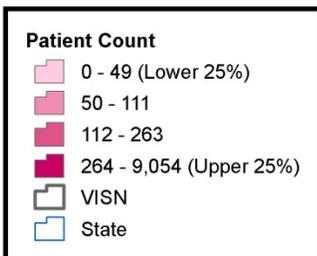
VISN 21



VISN 22



VISN 23



Map 7:
Number of VHA Patients with Coronary Artery Disease By County, FY - 2014

Section II Highlights: Rural and Highly Rural VHA Patients with Coronary Artery Disease

This section focuses on the overall prevalence of Coronary Artery Disease in each Veterans Integrated Service Network, broken down by the following rurality categories: *highly rural*, *rural*, *urban*, and *unknown*. Beginning with Fiscal Year 2011, the repository from where these data were extracted obtained the rural designation data from the most recent geocoded rurality table provided by VHA's Planning System Support Group (PSSG). If not available from this source, the repository's algorithm then looks to the Office of Rural Health's (ORH) ZIP-based file located on the ORH website.¹ In FY-2014*, the VHA's definition of rurality was based on the U.S. Census definition for rural and urban, with an added category of Highly Rural. The definition of these categories is as follows:

- ❖ *urban* - areas defined by U.S. Census as an urbanized area
- ❖ *rural* - all other areas excluded in U.S. Census defined urbanized areas
- ❖ *highly rural* - any rural area within a county with less than 7.0 civilians per square mile

Since the *rural* and *highly rural* categories are of particular interest in this volume, numbers and percentages are distinctively highlighted in shades of blue in Table 2. For the maps, urban areas are shaded and urban patients are removed from the numerator and denominator. The maps in this section illustrate graphically the data on rural and highly rural patients with Coronary Artery Disease. For this section, both the number and the percentages of rural and highly rural patients with Coronary Artery Disease at the VISN, State, and county levels are mapped.

*Note: Starting at the beginning of FY-2015, the VA changed its definitions based on Rural-Urban Commuting Area (RUCA) Codes. Future editions of the Rural Veterans Health Care Atlas will use the new definition of rurality: Urban Area: Census tracts with at least 30 percent of the population residing in an urbanized area as defined by the Census Bureau; Rural Area: Land areas not designed as urban or highly rural. Highly Rural Area: Sparsely populated areas — less than 10 percent of the working population commutes to any community larger than an urbanized cluster, which is typically a town of no more than 2,500 people.

National Overview

In FY-2014, 889,731 VHA patients had a primary or secondary diagnosis of Coronary Artery Disease. The majority of patients with Coronary Artery Disease lived in urban areas (57.50%). However, nearly half resided in either rural (N=365,976) or highly rural (N=11,799) areas (42.46% combined).

VISN Overview

The Rocky Mountain Network (VISN 19) had the highest number of patients with Coronary Artery Disease residing in a defined *highly rural* area at 3,302, which represented 14.89% of the total number of patients with Coronary Artery Disease in that network (Table 2). The South Central Network (VISN 16) had the highest number of patients with Coronary Artery Disease residing in a defined *rural* area at 41,727 which represented 54.21% of the total number of patients with Coronary Artery Disease in that network. Seven of the 21 VISNs had a higher proportion of *rural* patients than *urban* patients with Coronary Artery Disease: Upstate New York Network (VISN 2), Mid-Atlantic Network (VISN 6), Southeast Network (VISN 7), Mid South Network (VISN 9), Heartland Network (VISN 15), South Central Network (VISN 16), and Midwest Network (VISN 23).

Map 8 and Map 9 show the number and percentages of rural and highly rural patient with Coronary Artery Disease by VISN. VISNs 9 and 15 showed both a high volume of rural and highly rural patients with Coronary Artery Disease and a large proportion of their rural and highly rural patient population who had this disorder. VISN 6 had a relatively large number of patients with Coronary Artery Disease, but the proportion of rural and highly rural patients with Coronary Artery Disease represented a low to moderate percentage of the total rural and highly rural patient population. Conversely, VISN 3 had a low to moderate number of combined rural and highly rural patients with Coronary Artery Disease, but this disorder was quite prevalent in the rural and highly rural patient population.

State Overview

Map 10 shows the number of VHA rural and highly rural patients with Coronary Artery Disease by State (by quartile). The top 10 States with the highest number of rural and highly rural patients with Coronary Artery Disease by rank order were: Texas (N=24,672), Ohio (N=19,283), Pennsylvania (N=18,483), North Carolina (N=16,403), Florida (N=15,344), Missouri (N=14,569), New York (N=12,979), Kentucky (N=12,915), Tennessee (N=12,847), and Michigan (N=12,585). The proportion of rural and highly rural patients with Coronary Artery Disease to the total rural and highly rural patient population is displayed in Map 11. The States with the highest percentage of their rural and highly rural patients (and more than 10 patients classified as rural or highly rural) that had Coronary Artery Disease were: Ohio (22.47%), Pennsylvania (21.9%), Kentucky (21.28%), Indiana (21.04%), West Virginia (20.83%), Illinois (20.58%), Iowa (20.05%), Kansas (19.77%), Nebraska (19.35%), and Missouri (19.29%). Thus, the States of Ohio, Pennsylvania, Kentucky, and Missouri showed both a high number and a high proportion of rural and highly rural patients with Coronary Artery Disease.

County Overview

The number of rural and highly rural patients with Coronary Artery Disease by county is displayed by quartiles in Map 12, with the highest 25% in terms of volume designated by the darkest shade. The proportion of rural and highly rural patients with Coronary Artery Disease of the total rural and highly rural patient population is portrayed in Map 13, with the highest 25% in terms of proportion designated in the darkest shade. In addition to the National map, eight additional maps are provided that zoom to the VISN level (Maps 14-21) to give a clearer picture of the number and percentages of rural and highly rural patients with Coronary Artery Disease and the geographic patterns by county within each VISN. The top 10 counties with the largest number of VHA rural and highly rural patients with Coronary Artery Disease across the U.S. were in the States of Florida (2 counties), Arizona (3 counties), Pennsylvania (2 counties), New York (1 county), Oregon (1 county), and Maine (1 county). Marion County, Florida had the largest number of rural and highly rural patients with Coronary Artery Disease (N=1,270) followed by, in rank order: Yavapai County, Arizona (N=967), Schuylkill County, Pennsylvania (N=959), Mohave County, Arizona (N=910), Chautauqua County, New York (N=905), Douglas County, Oregon (N=894), Pima County, Arizona (N=882), Citrus County, Florida (N=876), Butler County, Pennsylvania (N=778),

Coronary Artery Disease

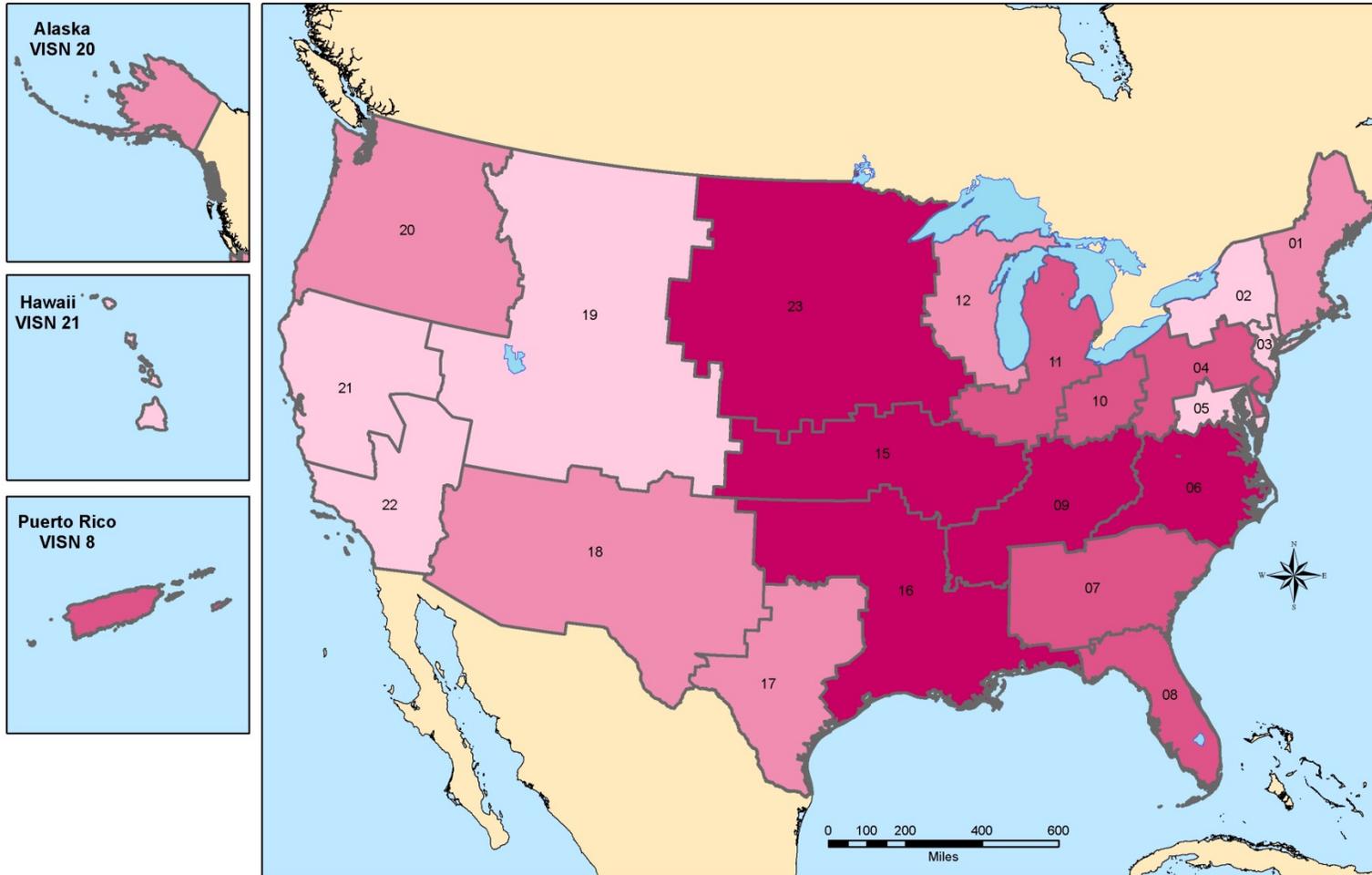


and Kennebec County, Maine (N=752). The top 10 counties with the largest proportion of their rural and highly rural patients (and there were at least 10 rural and highly rural patients) with a Coronary Artery Disease diagnostic code were Kent County, Texas (50.0%), McPherson County, Nebraska (41.67%), Decatur County, Kansas (40.28%), Greeley County, Kansas (40.0%), Hodgeman County, Kansas (37.78%), Lane County, Kansas (37.5%), Blaine County, Nebraska (37.5%), Mitchell County, Kansas (34.75%), Wichita County, Kansas (34.75%), and Jewell County, Kansas (34.09%).

Table 2: National and VISN Numbers and Percentages of VHA Patients with Coronary Artery Disease by Rurality, FY-2014

Prevalence Statistics by Rurality- Coronary Artery Disease, FY-2014									
Veterans Integrated Service Network	Total Number of Patients with Coronary Artery Disease	Highly Rural		Rural		Urban		Unknown	
		N	(%)	N	(%)	N	(%)	N	(%)
New England (01)	39,715	142	0.36	12,439	31.32	27,131	68.31	3	0.01
Upstate NY (02)	21,475	22	0.10	11,039	51.40	10,418	48.51	*	*
NY/NJ (03)	26,805	*	*	1,901	7.09	24,904	92.91	*	*
Stars and Stripes (04)	59,770	5	0.01	24,626	41.20	35,139	58.79	*	*
Capitol (05)	15,224	*	*	5,067	33.28	10,156	66.71	*	*
Mid-Atlantic (06)	48,758	17	0.03	26,655	54.67	22,088	45.30	5	0.01
Southeast (07)	51,810	3	0.01	26,412	50.98	25,392	49.01	5	0.01
Sunshine (08)	87,246	16	0.02	16,704	19.15	70,520	80.83	7	0.01
Mid South (09)	50,609	*	*	31,412	62.07	19,196	37.93	3	0.01
Ohio (10)	43,762	4	0.01	17,824	40.73	25,934	59.26	*	*
Vets in Partnership (11)	47,131	8	0.02	22,532	47.81	24,587	52.17	7	0.01
Great Lakes (12)	41,442	115	0.28	14,761	35.62	26,565	64.10	*	*
Heartland (15)	42,882	518	1.21	26,060	60.77	16,301	38.01	4	0.01
South Central (16)	76,976	116	0.15	41,727	54.21	35,128	45.64	6	0.01
Heart of Texas (17)	37,941	268	0.71	15,139	39.90	22,529	59.38	7	0.02
Southwest (18)	32,216	1,582	4.91	10,075	31.27	20,525	63.71	36	0.11
Rocky Mtn. (19)	22,171	3,302	14.89	6,533	29.47	12,328	55.60	9	0.04
Northwest (20)	31,570	1,868	5.92	12,175	38.57	17,525	55.51	4	0.01
Sierra Pacific (21)	30,290	481	1.59	8,829	29.15	20,651	68.18	330	1.09
Desert Pacific (22)	30,584	438	1.43	2,832	9.26	27,315	89.31	*	*
Midwest (23)	51,354	2,890	5.63	31,234	60.82	17,231	33.55	*	*
Grand Total	889,731	11,799	1.33	365,976	41.13	511,563	57.50	434	0.05

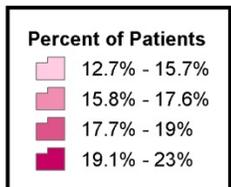
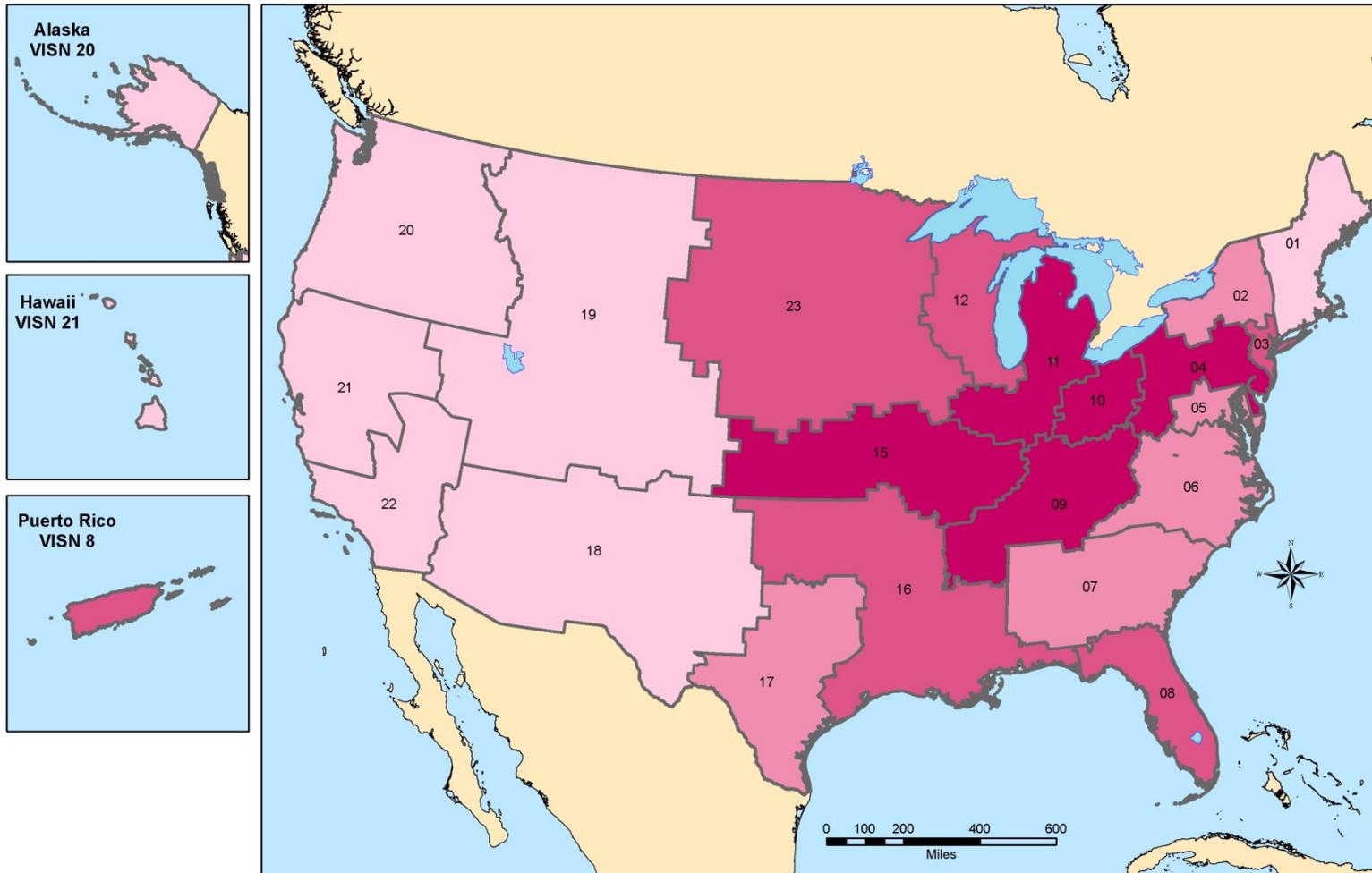
Coronary Artery Disease



Patient Count

- 1,901 - 11,061 (Lower 25%)
- 11,062 - 15,407
- 15,408 - 26,415
- 26,416 - 41,843 (Upper 25%)

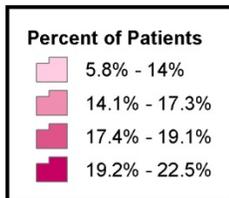
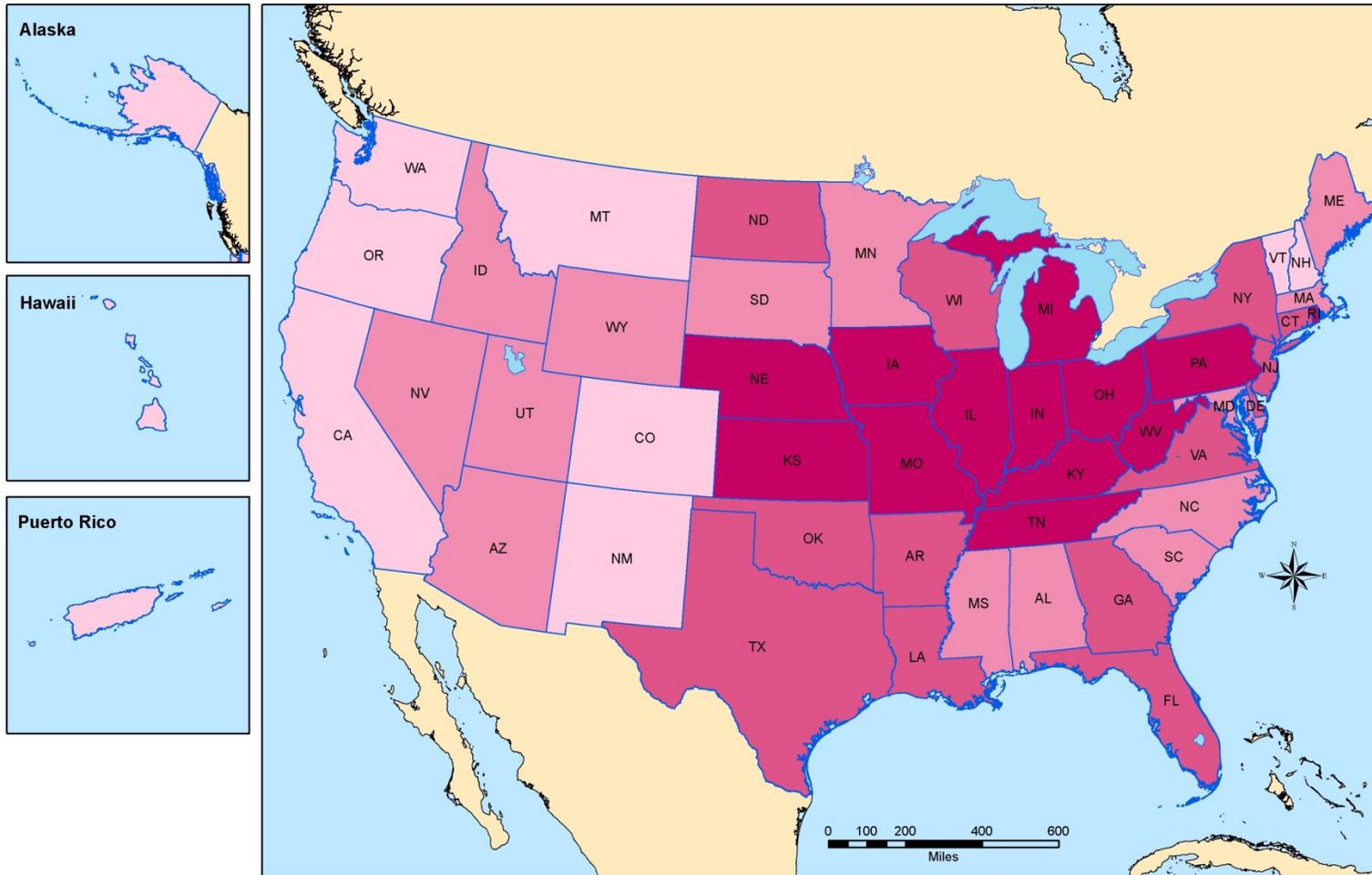
Map 8:
Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease By VISN FY - 2014



Map 9:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural VHA Patients
By VISN FY - 2014



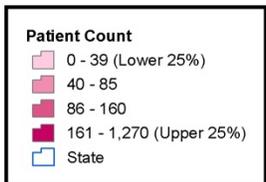
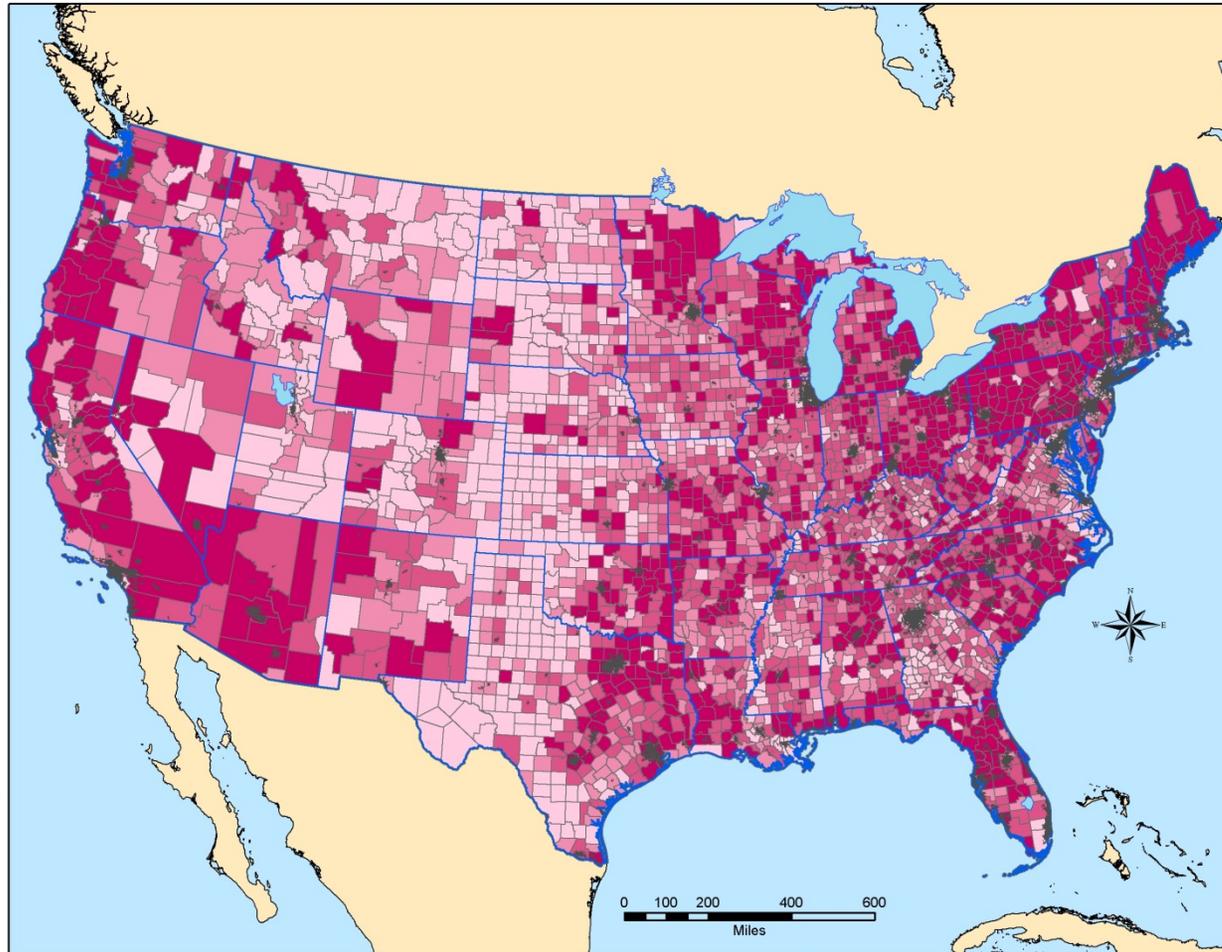
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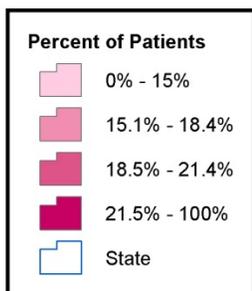
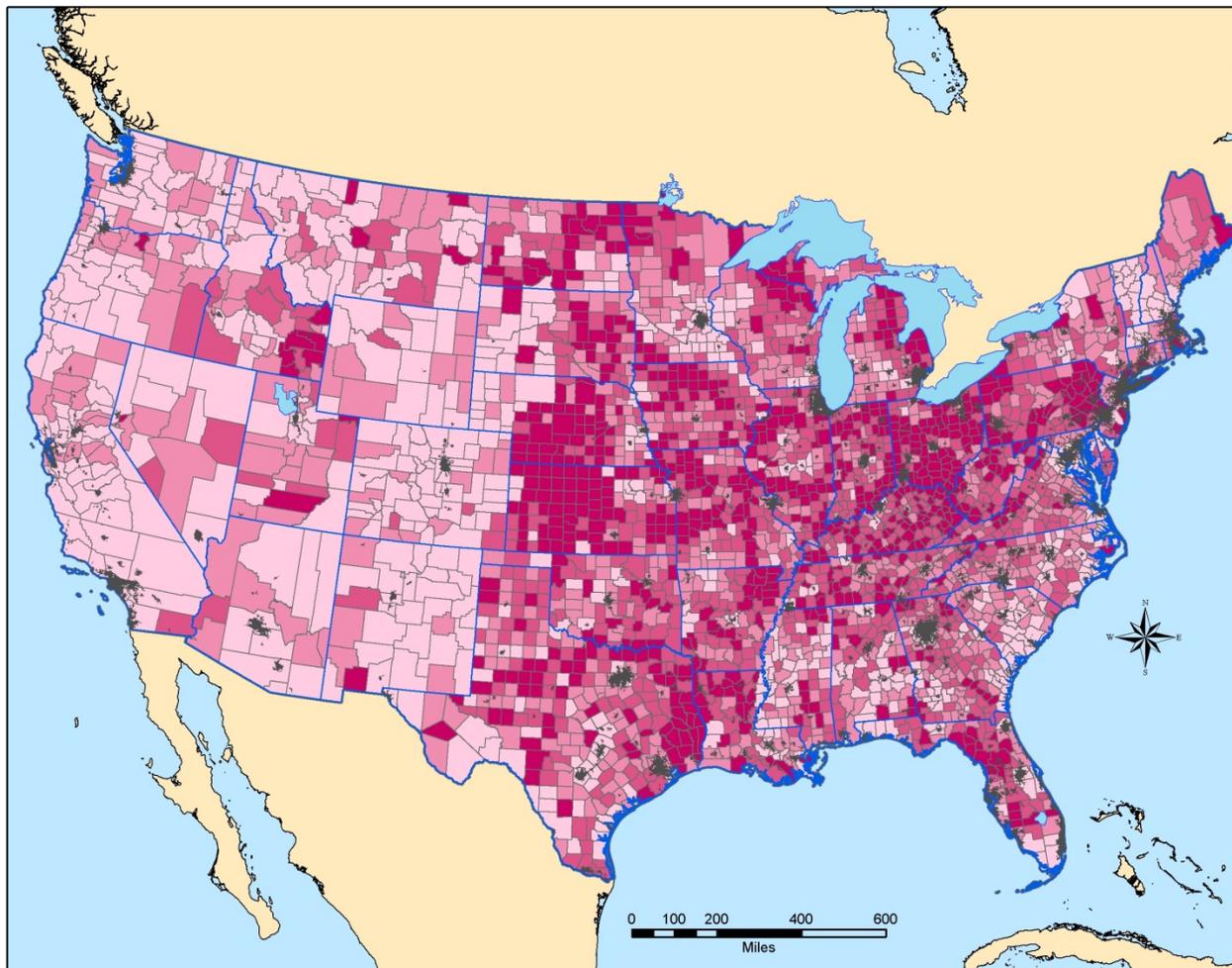
Map 11:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By State FY - 2014


VHA Office of Rural Health
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Coronary Artery Disease



Map 12:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
By County, FY - 2014
Urban Areas "Shaded"

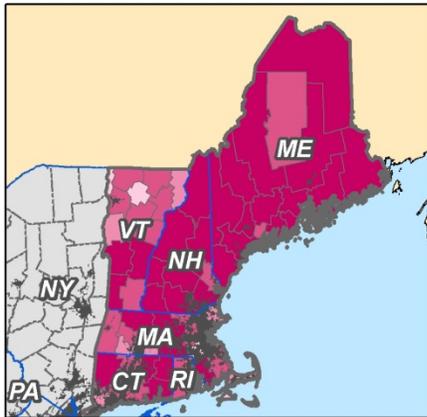


Map 13:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By County FY - 2014
Urban Areas "Shaded"

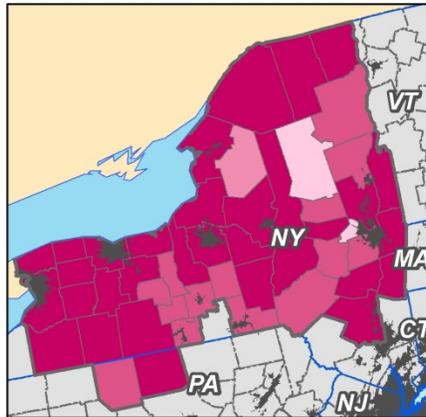


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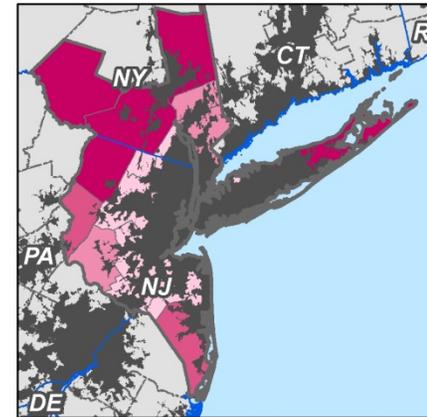
Coronary Artery Disease



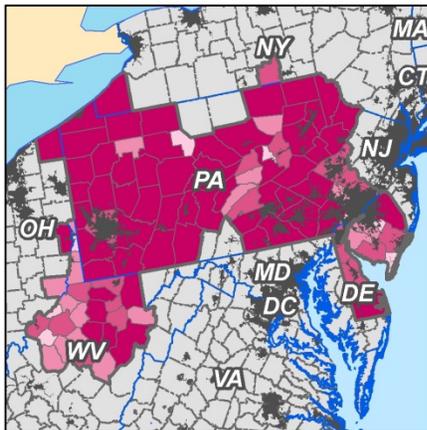
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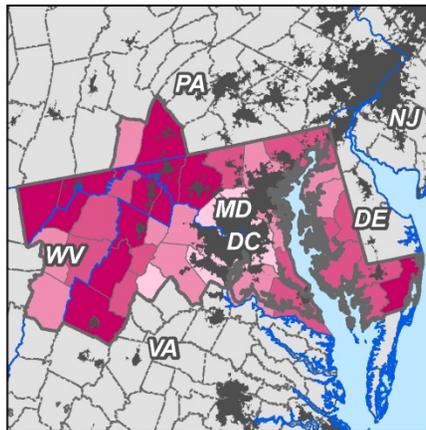
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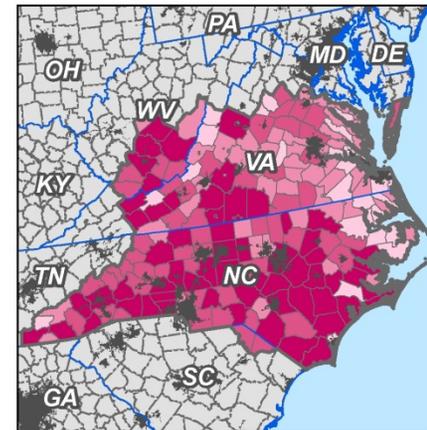
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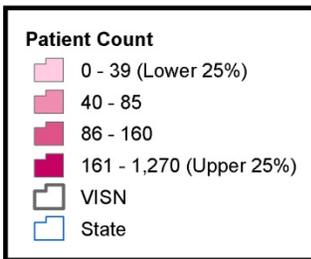
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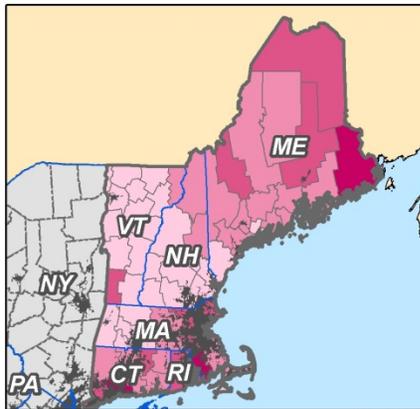
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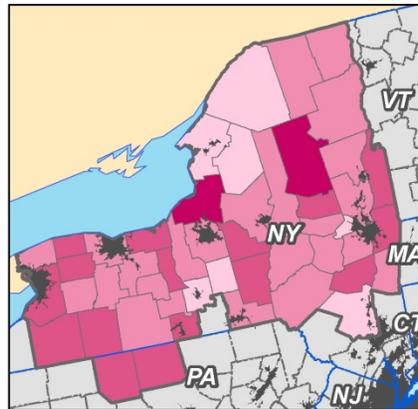
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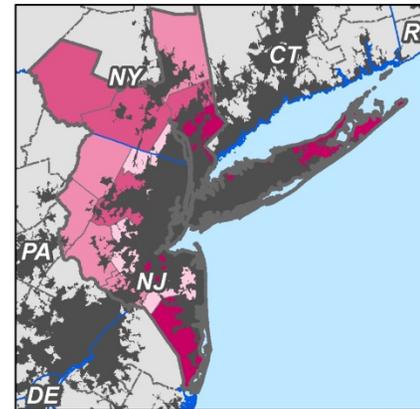
Map 14:
Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease By County FY - 2014
Urban Areas "Shaded"



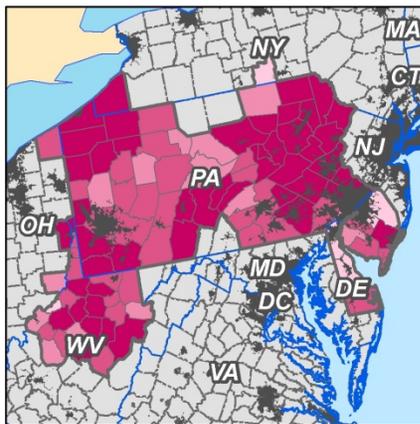
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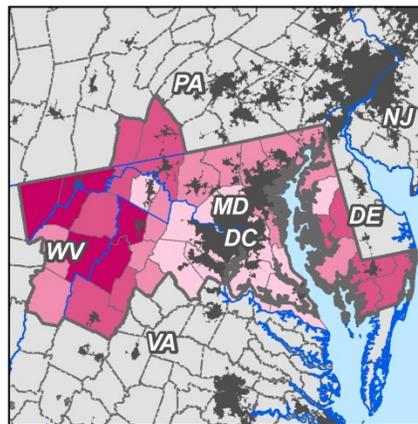
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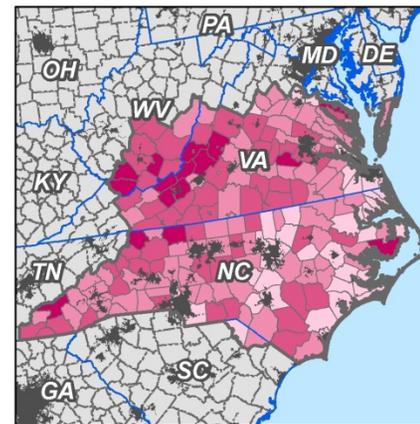
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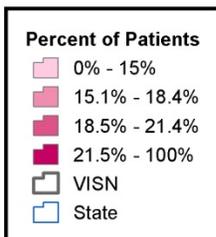
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VISN 5



VISN 6

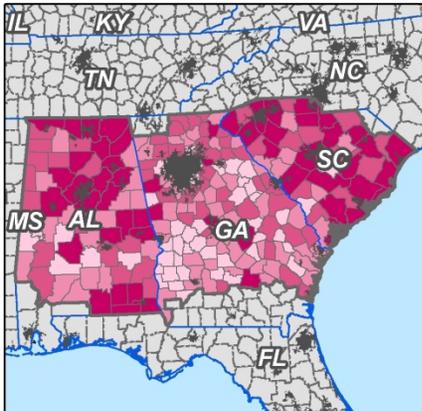


Map 15:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By County FY - 2014
Urban Areas "Shaded"

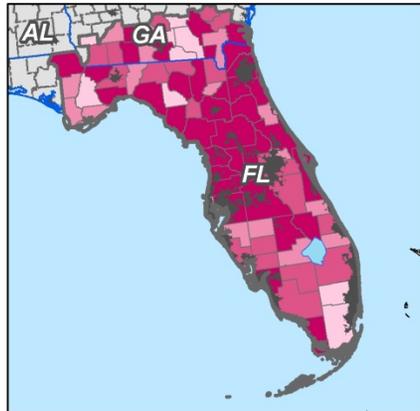


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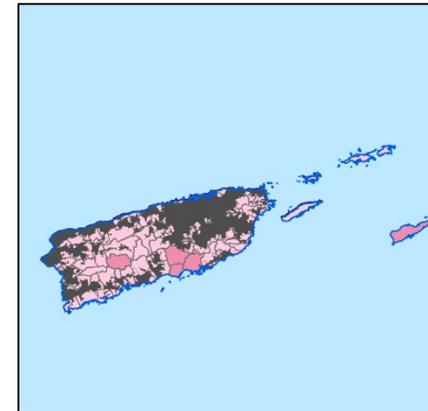
Coronary Artery Disease



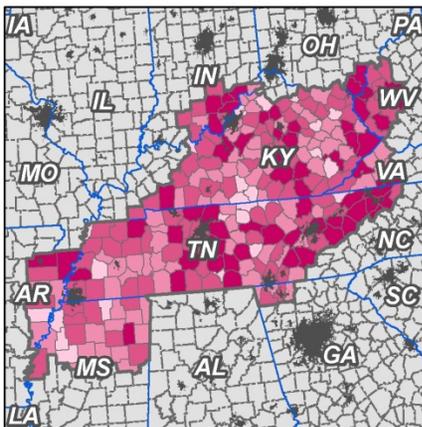
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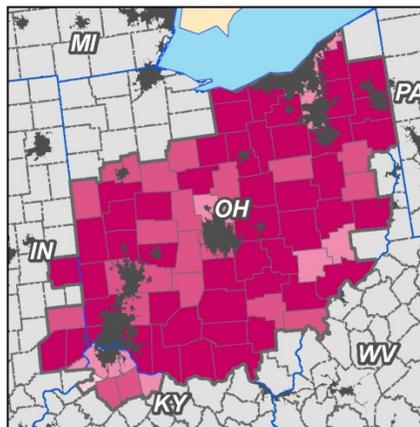
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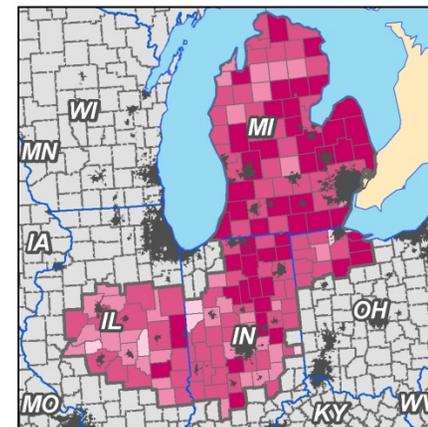
VISN 8 Puerto Rico & Virgin Islands



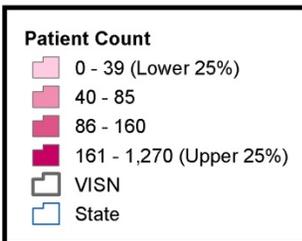
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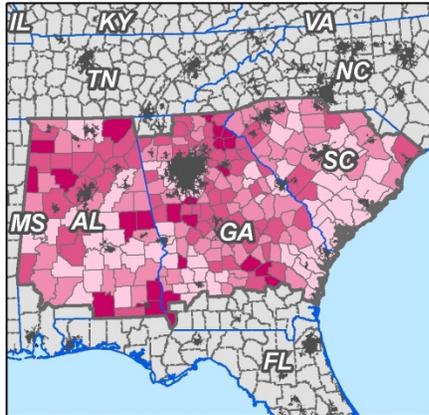
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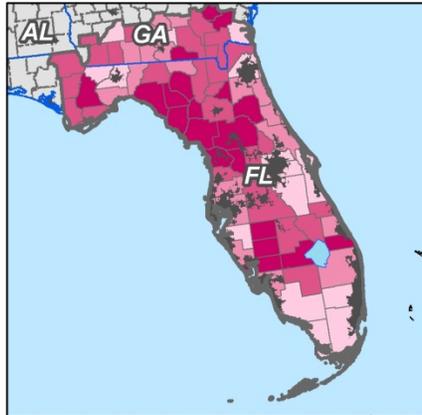
VISN 11



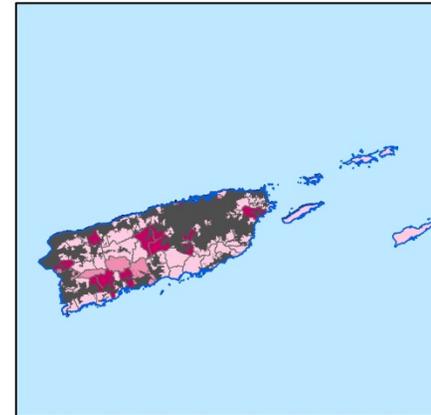
Map 16:
Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease By County FY - 2014
Urban Areas "Shaded"



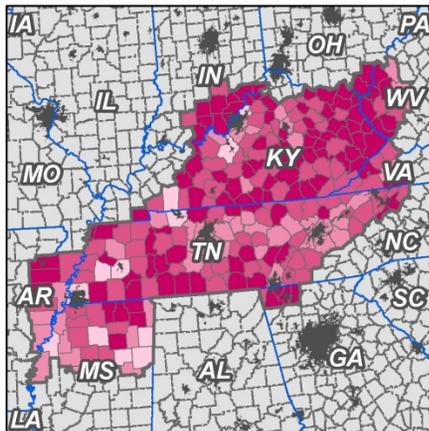
VISN 7



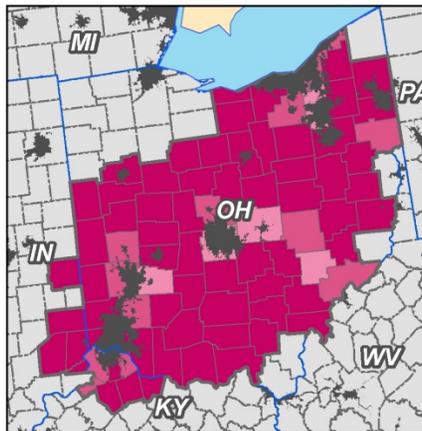
VISN 8



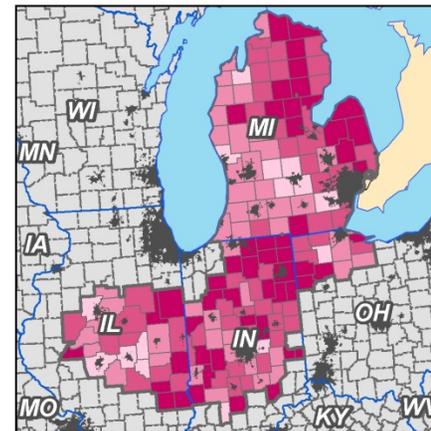
VISN 8 Puerto Rico & Virgin Islands



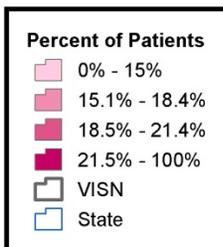
VISN 9



VISN 10



VISN 11

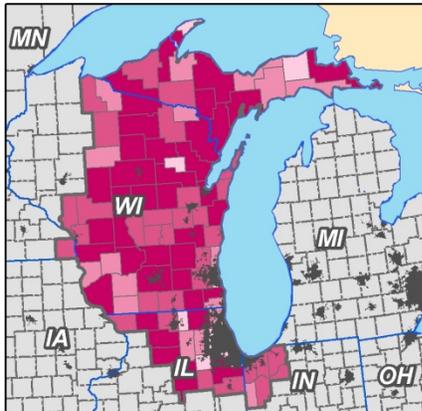


Map 17:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By County FY - 2014
Urban Areas "Shaded"

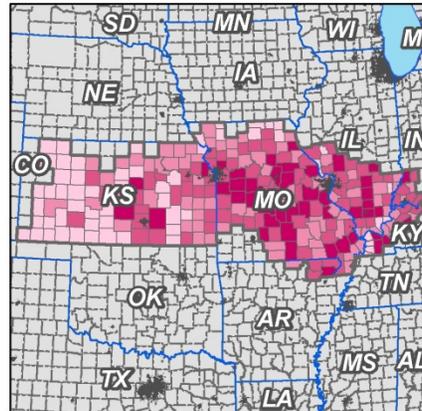


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GeoSpatial Outcomes Division
(Map Creation Date: 8/26/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

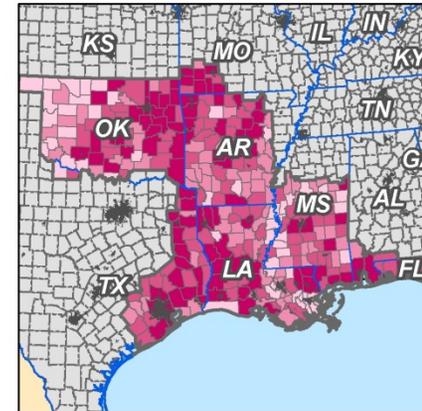
Coronary Artery Disease



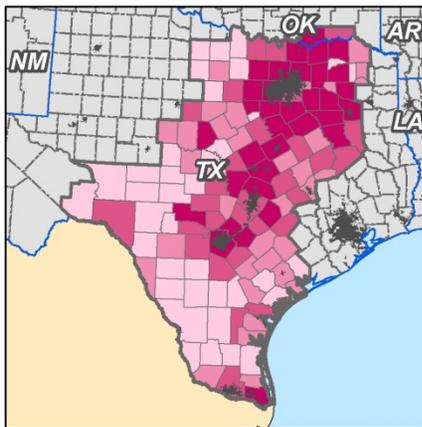
VISN 12



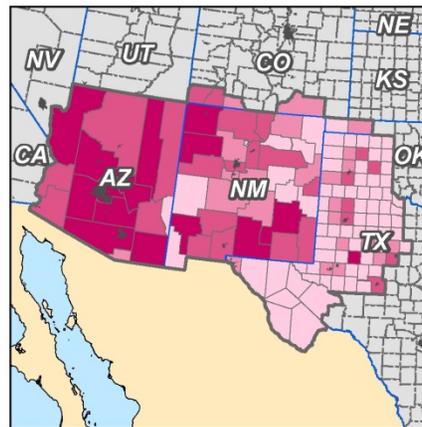
VISN 15



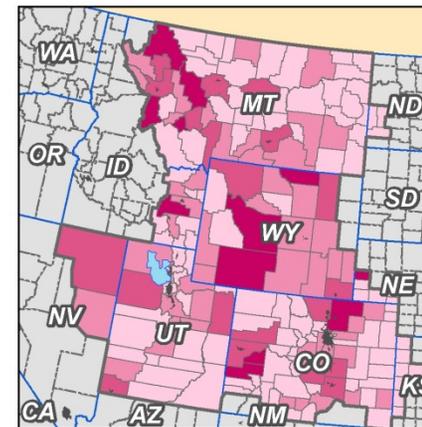
VISN 16



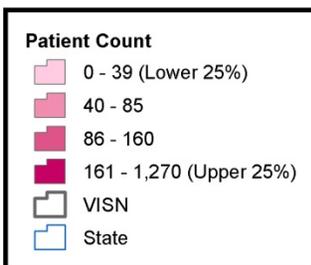
VISN 17



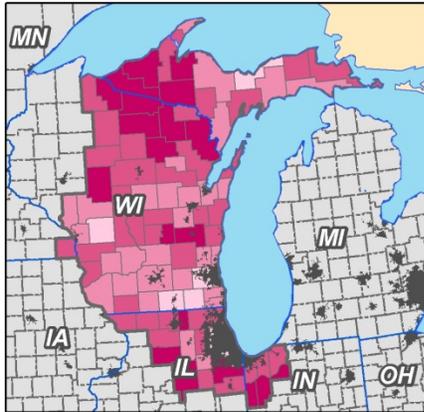
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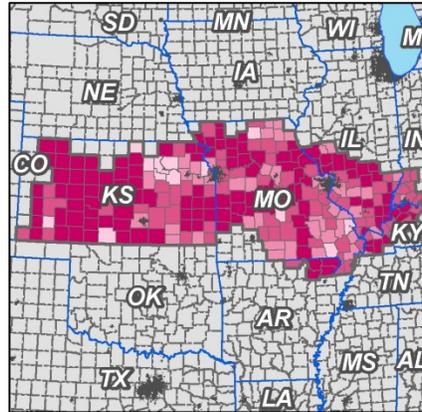
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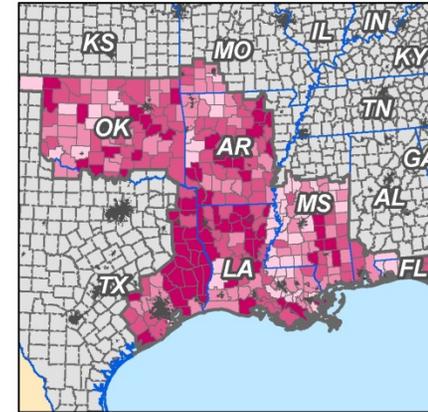
Map 18:
Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease By County FY - 2014
Urban Areas "Shaded"



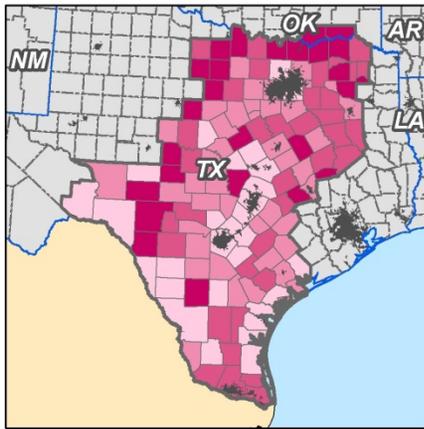
VISN 12



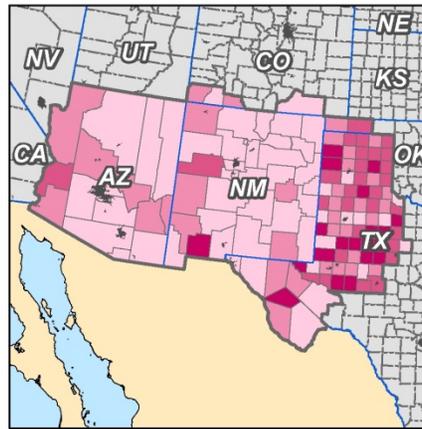
VISN 15



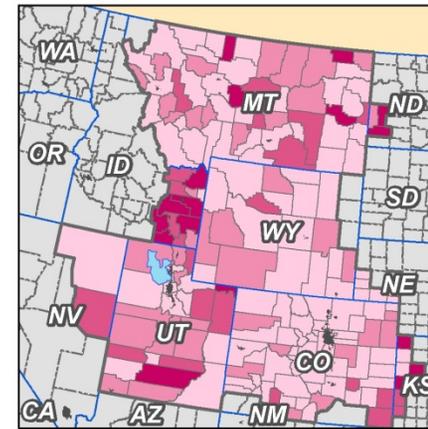
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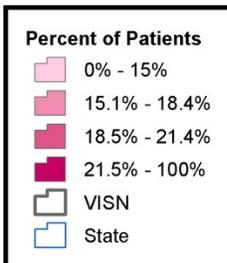
VISN 17



VISN 18



VISN 19



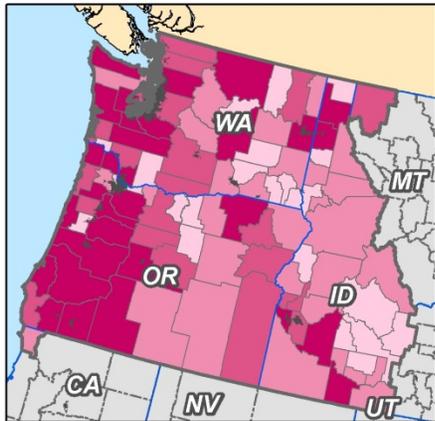
Map 19:

Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By County FY - 2014
Urban Areas "Shaded"

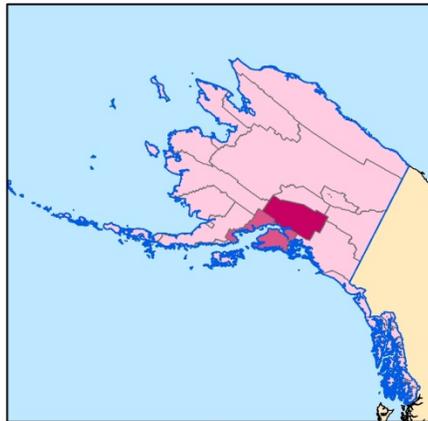


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GeoSpatial Outcomes Division
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ArcGIS 10.2x

Coronary Artery Disease



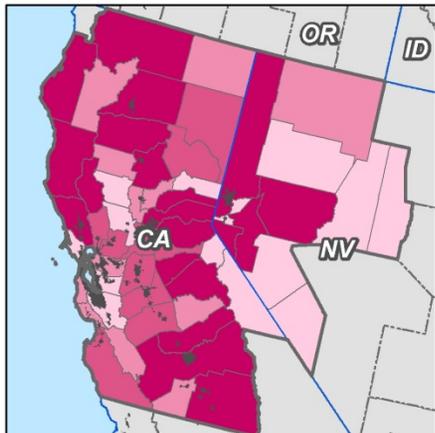
VISN 20



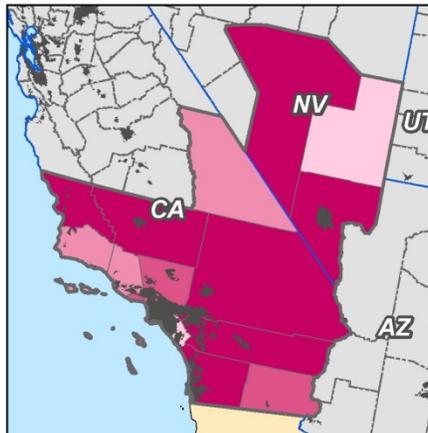
VISN 20- Alaska



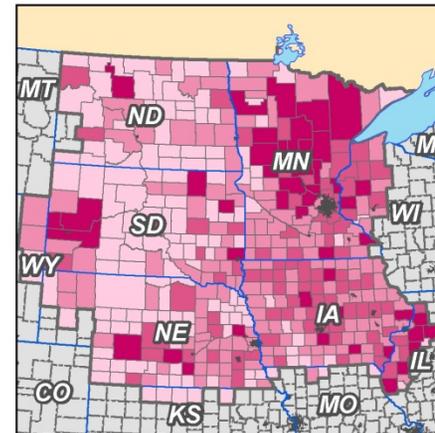
VISN 21- Hawaii



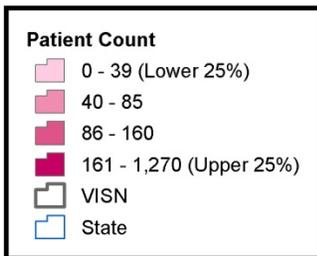
VISN 21



VISN 22

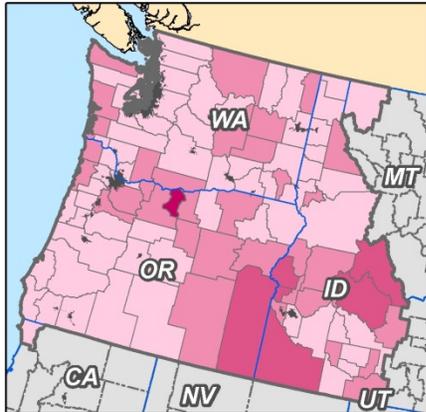


VISN 23

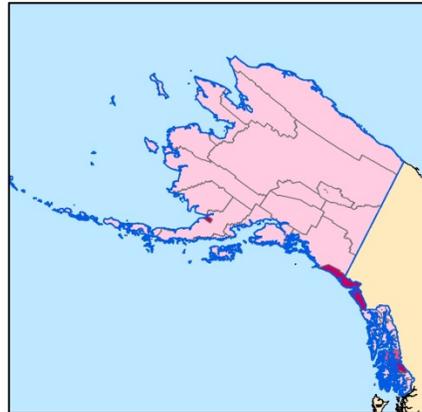


Map 20:

Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease By County FY - 2014 Urban Areas "Shaded"



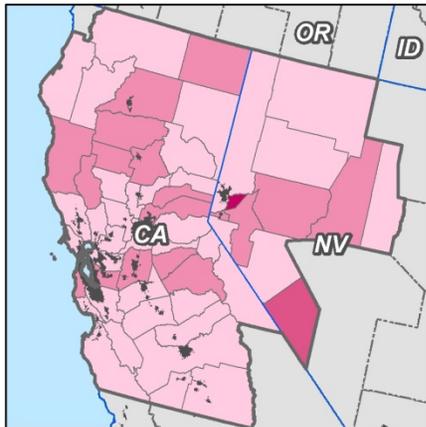
VISN 20



VISN 20- Alaska



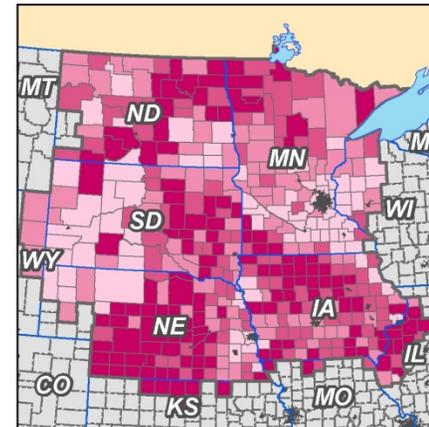
VISN 21- Hawaii



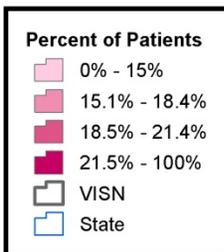
VISN 21



VISN 22



VISN 23



Map 21:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Of All Rural and Highly Rural Patients
By County FY - 2014
Urban Areas "Shaded"



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)
GeoSpatial Outcomes Division
(Map Creation Date: 8/26/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

Section III Highlights: Rural and Highly Rural VHA Subgroups of Patients with Coronary Artery

Disease

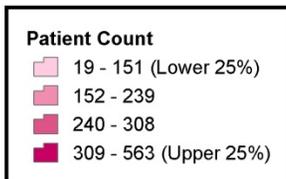
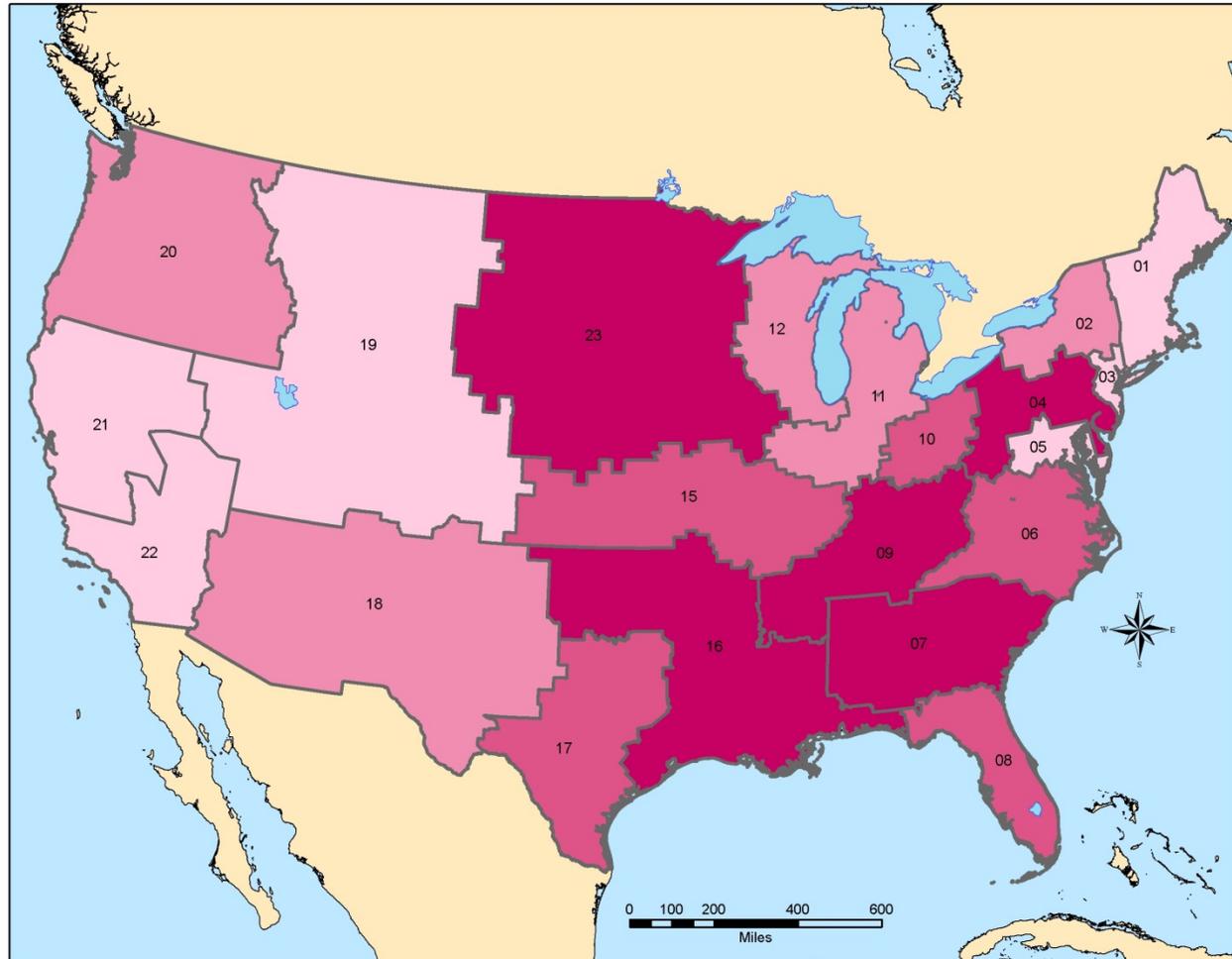
GENDER

Table 3 further illustrates overall prevalence of Coronary Artery Disease in each network, broken down by gender of patient and the same rurality categories as in Table 2. For the purposes of simplicity, the percent-column adjacent to the rurality columns are a combined percentage of rural and highly rural patients, indicated in red text. Female patients in rural and highly rural areas comprised 0.54% of total number of patients with Coronary Artery Disease at the National level, and in all 21 VISNs, female patients comprised less than one percent. Male patients, as expected, constituted a much higher percentage of total patients with Coronary Artery Disease in each network. In seven networks, more than half of male patients with Coronary Artery Disease lived in rural and highly rural areas. Male patients with Coronary Artery Disease in the Midwest Network (VISN 23) comprised the highest prevalence of 65.85% of total patients with Coronary Artery Disease in that network. The New York/New Jersey Network (VISN 3) had the lowest prevalence of rural and highly rural patients with Coronary Artery Disease - both for males (7.02%) and females (0.07%). Maps 22-25 display the number and percentage of rural and highly rural female patients with Coronary Artery Disease by VISN and State, with the darkest shade designating the highest quartile (upper 25%) in terms of volume and proportion. VISNs 4 and 9 showed both a high volume and large proportion of rural and highly rural female patients with Coronary Artery Disease of the total rural and highly rural female patient population, as portrayed in Maps 22 and 23. VISNs 7 and 23 had a high volume but relatively low to moderate proportion of rural and highly rural female patients with Coronary Artery Disease of the total rural and highly rural female patient population. Conversely, those maps also show that VISNs 3 and 11 had a low volume but high proportion (in upper 25% quartile) of rural and highly rural female patients with Coronary Artery Disease of the total rural and highly rural female patient population. Nine of the 50 U.S. States, as shown on Maps 24 and 25, had both a high volume and high proportion (in upper 25% quartile) of rural and highly rural female patients with Coronary Artery Disease of the total rural and highly rural female patient population. Those U.S. States were Florida, Indiana, Kentucky, Michigan, Missouri, New York, Ohio, Pennsylvania, and West Virginia.

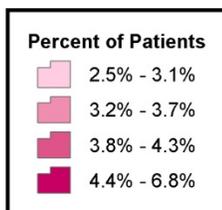
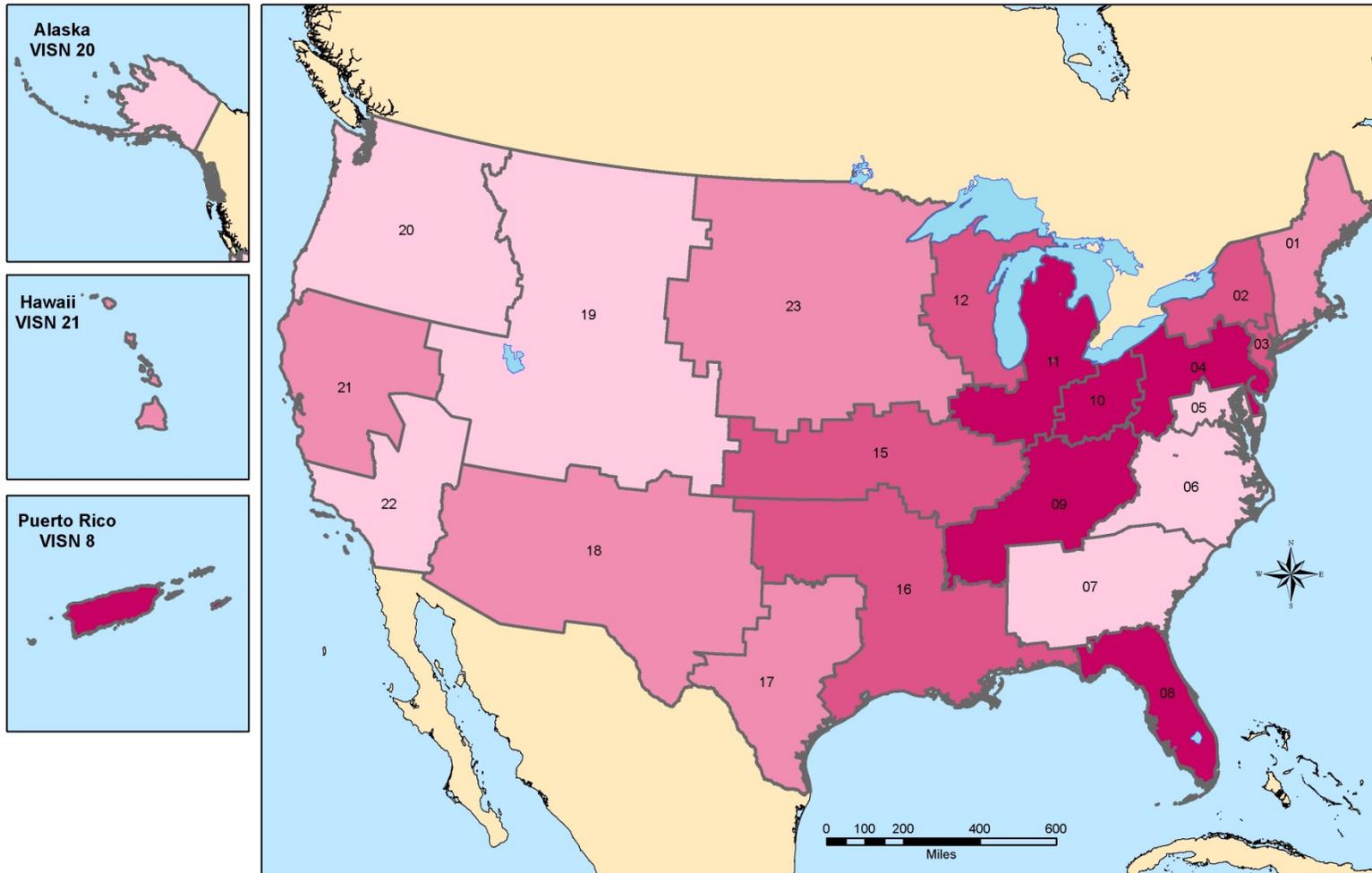
Table 3: National and VISN Numbers and Percentages of VHA Patients with Coronary Artery Disease, by Rurality and Gender, FY-2014

Prevalence Statistics by Gender and Rurality- Coronary Artery Disease, FY-2014											
Veterans Integrated Service Network	Total Number of Patients with Coronary Artery Disease	Female					Male				
		HR	R	%	U	Unk	HR	R	%	U	Unk
New England (01)	39,715	*	151	0.38	324	*	142	12,288	31.30	26,807	3
Upstate NY (02)	21,475	*	181	0.84	176	*	22	10,858	50.66	10,242	*
NY/NJ (03)	26,805	*	19	0.07	282	*	*	1,882	7.02	24,622	*
VISN 04 (04)	59,770	*	311	0.52	517	*	4	24,315	40.69	34,622	*
Capitol (05)	15,224	*	58	0.38	217	*	*	5,009	32.91	9,939	*
Mid-Atlantic (06)	48,758	*	272	0.56	463	*	17	26,383	54.14	21,625	4
Southeast (07)	51,810	*	311	0.60	608	*	*	26,101	50.38	24,784	5
Sunshine (08)	87,246	*	308	0.35	1,207	*	16	16,396	18.81	69,313	6
Mid South (09)	50,609	*	362	0.72	348	*	*	31,050	61.36	18,848	*
Ohio (10)	43,762	*	246	0.56	455	*	3	17,578	40.17	25,479	*
Vets in Partnership (11)	47,131	*	239	0.51	448	*	8	22,293	47.32	24,139	7
Great Lakes (12)	41,442	4	170	0.42	379	*	111	14,591	35.48	26,186	*
Heartland (15)	42,882	3	305	0.72	282	*	515	25,755	61.26	16,019	4
South Central (16)	76,976	*	561	0.73	773	*	114	41,166	53.63	34,355	6
Heart of Texas (17)	37,941	*	244	0.64	550	*	266	14,895	39.96	21,979	7
Southwest (18)	32,216	24	165	0.59	366	7	1,558	9,910	35.60	20,159	29
Rocky Mtn. (19)	22,171	43	88	0.59	207	*	3,259	6,445	43.77	12,121	8
Northwest (20)	31,570	23	186	0.66	321	*	1,845	11,989	43.82	17,204	4
Sierra Pacific (21)	30,290	8	121	0.43	351	7	473	8,708	30.31	20,300	323
Desert Pacific (22)	30,584	8	42	0.16	443	*	430	2,790	10.53	26,872	*
Midwest (23)	51,354	24	285	0.60	252	*	2,866	30,949	65.85	16,979	*
Grand Total	889,731	145	4,625	0.54	8,969	16	11,654	361,351	41.92	502,594	416

Coronary Artery Disease



Map 22:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Female
By VISN FY - 2014

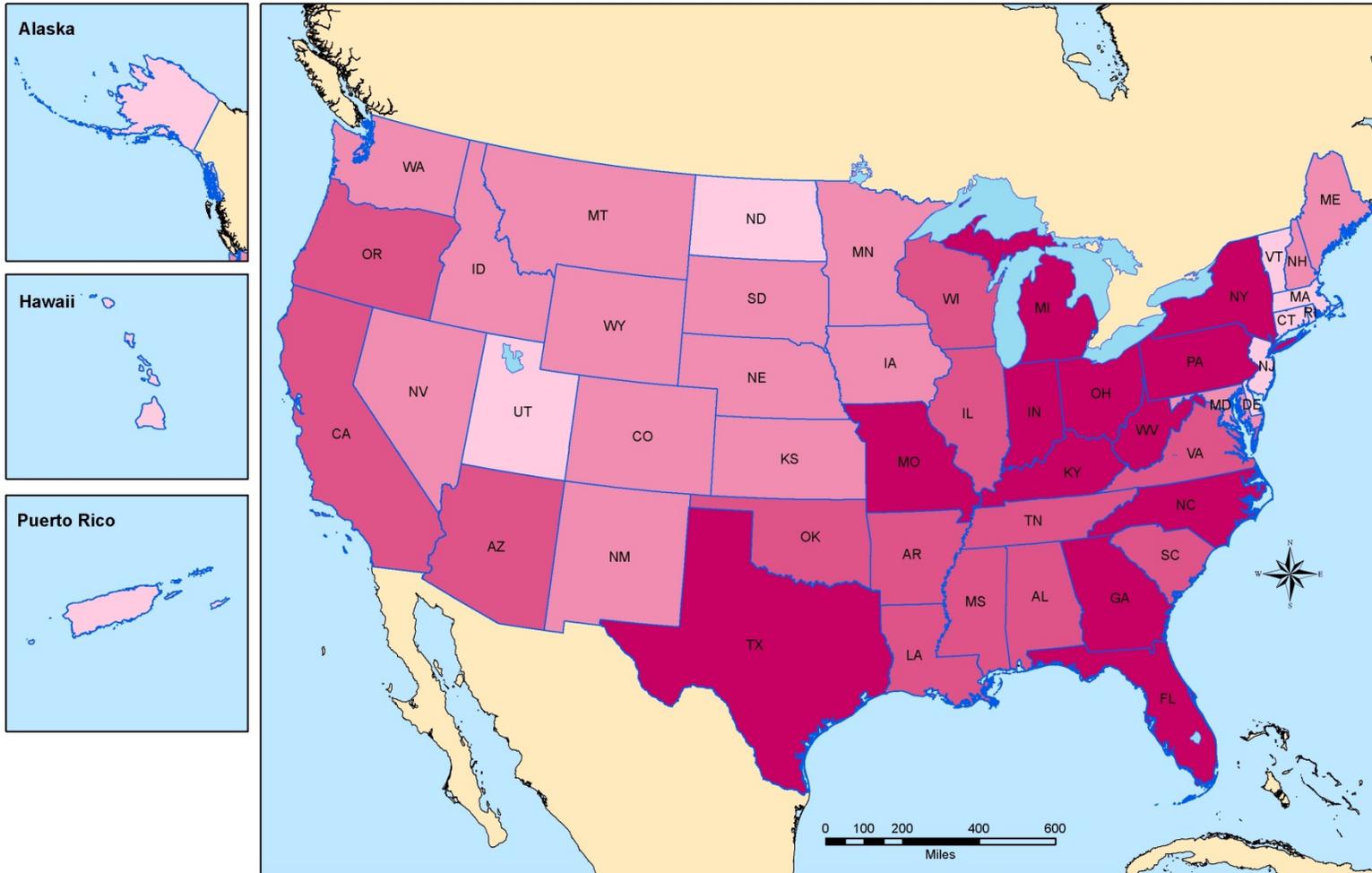


Map 23:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Female
Of All Rural and Highly Rural VHA Patients
Female
By VISN FY - 2014



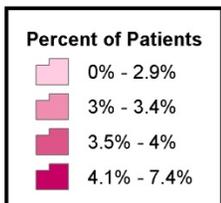
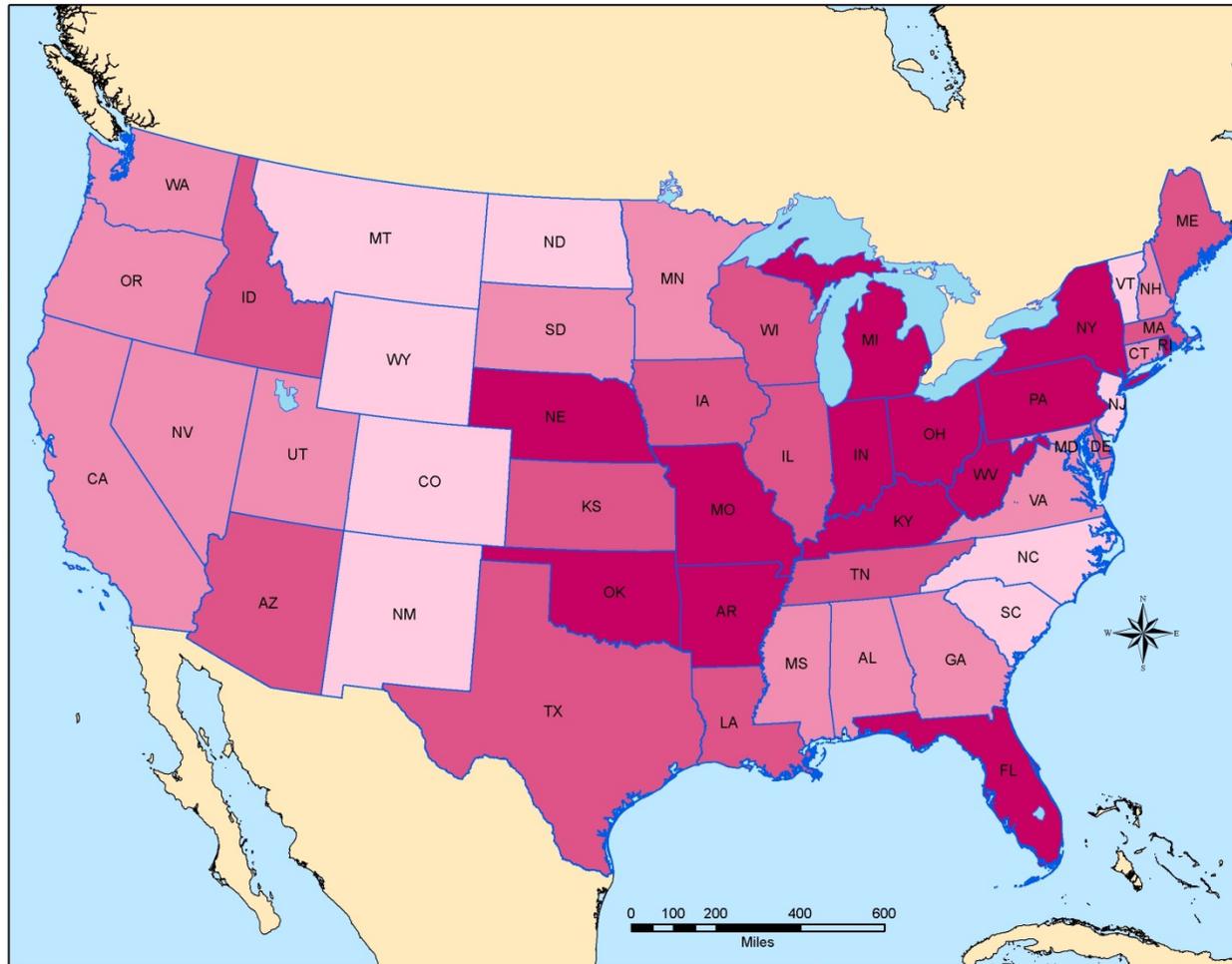
Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)
GeoSpatial Outcomes Division
(Map Creation Date: 8/25/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

Coronary Artery Disease



Patient Count	
	0 - 17 (Lower 25%)
	18 - 81
	82 - 137
	138 - 384 (Upper 25%)

Map 24:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Female
By State FY - 2014



Map 25:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Female
Of All Rural and Highly Rural Patients Female
By State FY - 2014



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GeoSpatial Outcomes Division
(Map Creation Date: 8/26/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

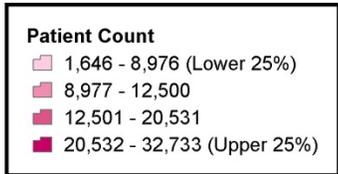
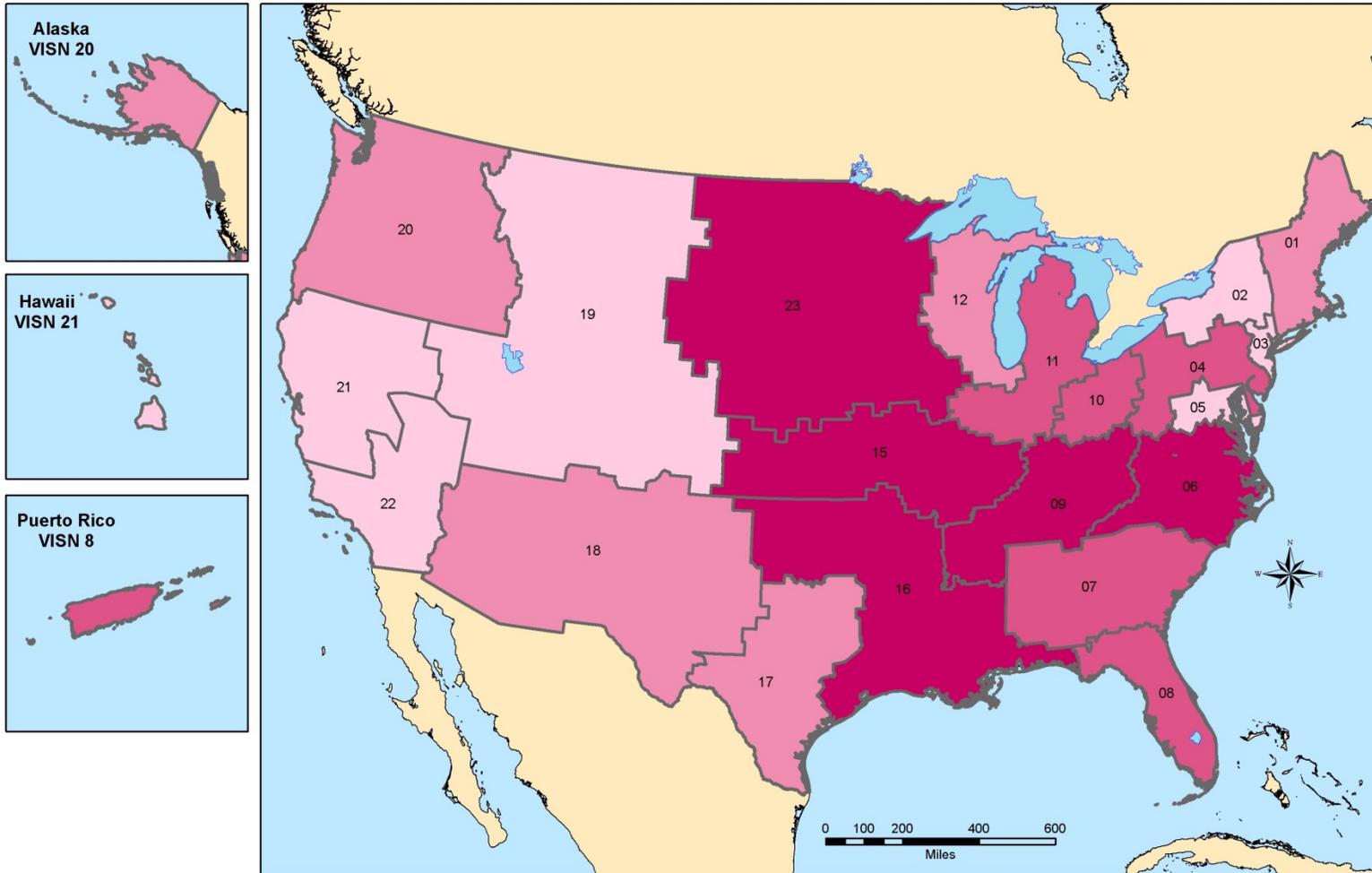
AGE GROUP

Examining the age groups of rural and highly rural patients is also of particular interest to the policy and planning community within the VHA. In Table 4, only rural and highly rural categories were included, since that is the focus, and urban and unknown categories were omitted. For simplicity's sake, the percent-column adjacent to the rurality columns are a combined percentage of rural and highly rural patients, indicated in red text. The 65-74 age group, at the National level, had the highest prevalence of patients with Coronary Artery Disease in rural and highly rural areas at 17.5%. Network-wide, six VISNs had almost one-quarter of Coronary Artery Disease patients aged 65-74, with Mid South Network (VISN 9) ranking highest at 27.49%, followed by VISNs 6, 15, 23, 16, and 7. Across all age groups, the New York/New Jersey Network (VISN 3) had the fewest number of patients and lowest percentage of patients of rural and highly rural patients with Coronary Artery Disease of the total rural and highly rural patient population. Maps 26-31 display the number and percentage of rural and highly rural patients age 65 and over with Coronary Artery Disease by VISN, State, and county, with the highest 25% in terms of volume and proportion designated by the darkest shade. VISNs 9 and 15 showed both a high volume and high proportion (in upper 25% quartile) of rural and highly rural patients age 65 and over with Coronary Artery Disease of the total rural and highly rural patient population age 65 and over, as portrayed in Maps 26 and 27. Seven of the 50 U.S. States, as shown on Maps 28 and 29, had both a high volume and high proportion (in upper 25% quartile) of rural and highly rural patients age 65 and over with Coronary Artery Disease of the total rural and highly rural patient population age 65 and over. Those U.S. States were Illinois, Indiana, Kentucky, Michigan, Ohio, Pennsylvania, and Tennessee.

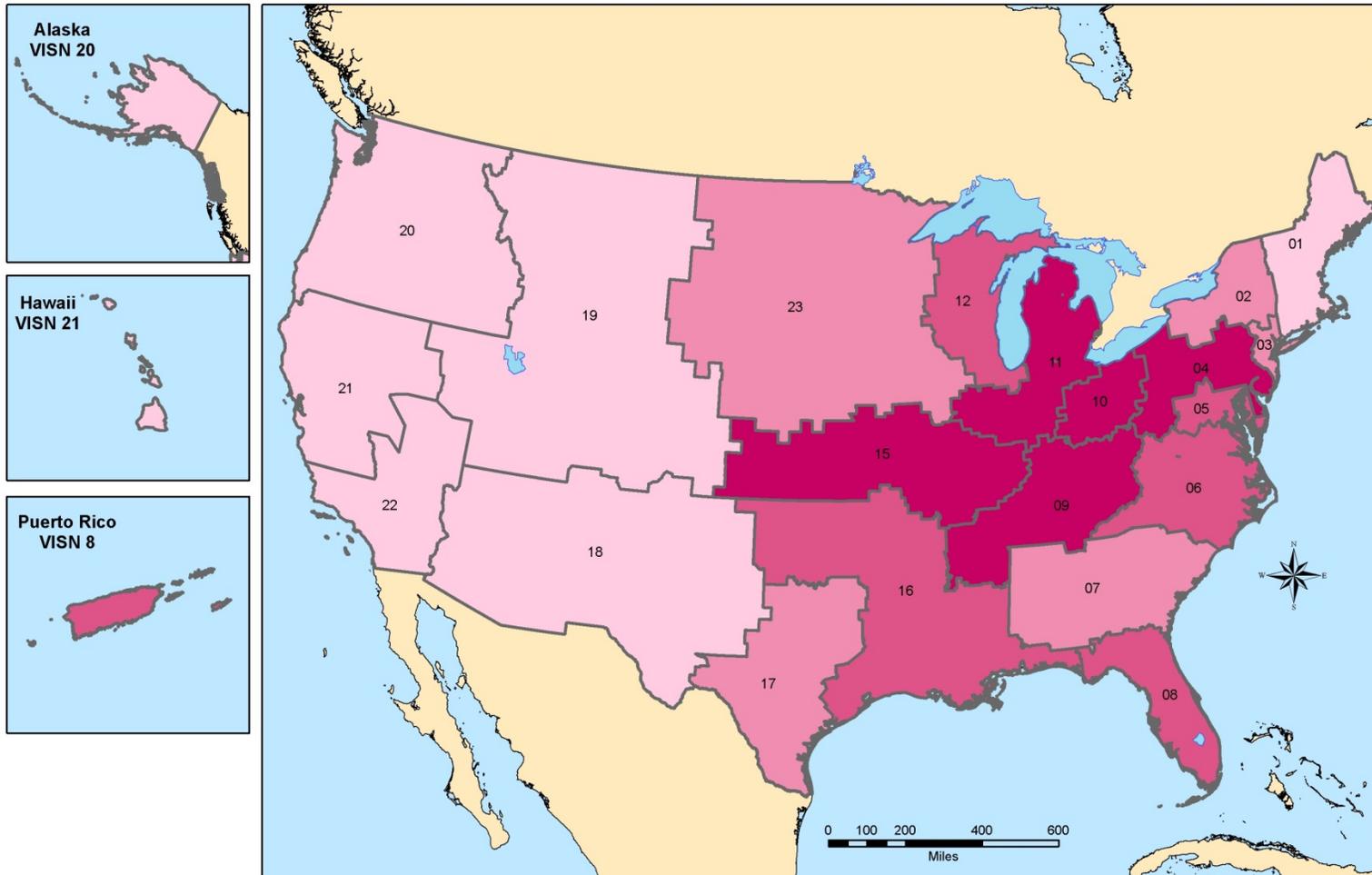
Table 4: National and VISN Numbers and Percentages of VHA Patients with Coronary Artery Disease, by Rurality and Age Group, FY-2014

Prevalence Statistics by Age Group and Rurality- Coronary Artery Disease, FY-2014																
Veterans Integrated Service Network	Total Number of Patients with Coronary Artery Disease	<45			45-54			55-64			65-74			75+		
		HR	R	%	HR	R	%	HR	R	%	HR	R	%	HR	R	%
New England (01)	39,715	*	44	0.11	*	264	0.67	21	1,712	4.36	64	4,789	12.22	56	5,630	14.32
Upstate NY (02)	21,475	*	46	0.21	*	320	1.49	*	1,721	8.02	11	4,376	20.43	9	4,580	21.37
NY/NJ (03)	26,805	*	7	0.03	*	33	0.12	*	215	0.80	*	697	2.60	*	949	3.54
Stars and Stripes (04)	59,770	*	161	0.27	*	601	1.01	*	3,338	5.59	*	9,538	15.96	*	10,990	18.39
Capitol (05)	15,224	*	19	0.12	*	140	0.92	*	666	4.39	*	2,000	13.14	*	2,242	14.73
Mid-Atlantic (06)	48,758	*	131	0.27	*	818	1.68	*	4,741	9.73	8	11,747	24.11	6	9,220	18.92
Southeast (07)	51,810	*	165	0.32	*	911	1.76	*	5,210	10.06	*	11,511	22.22	*	8,615	16.63
Sunshine (08)	87,246	*	93	0.11	*	524	0.60	*	2,880	3.30	5	6,944	7.96	6	6,266	7.19
Mid South (09)	50,609	*	176	0.35	*	1,081	2.14	*	6,056	11.97	*	13,914	27.49	*	10,188	20.13
Ohio (10)	43,762	*	120	0.27	0	550	1.26	4	3,137	7.18	*	7,387	16.88	*	6,631	15.15
Vets in Partnership (11)	47,131	*	85	0.18	0	616	1.31	*	3,631	7.71	*	9,538	20.24	4	8,662	18.39
Great Lakes (12)	41,442	*	50	0.12	*	335	0.81	15	1,976	4.80	49	5,721	13.92	50	6,680	16.24
Heartland (15)	42,882	*	125	0.29	13	725	1.72	52	4,457	10.51	159	10,023	23.74	294	10,731	25.71
South Central (16)	76,976	*	257	0.33	3	1,222	1.59	17	7,614	9.91	50	17,572	22.89	46	15,065	19.63
Heart of Texas (17)	37,941	3	86	0.23	4	390	1.04	33	2,798	7.46	118	6,589	17.68	110	5,277	14.20
Southwest (18)	32,216	8	52	0.19	39	255	0.91	276	1,610	5.85	664	4,333	15.51	595	3,826	13.72
Rocky Mtn. (19)	22,171	10	33	0.19	67	182	1.12	484	1,044	6.89	1,374	2,719	18.46	1,367	2,555	17.69
Northwest (20)	31,570	4	48	0.16	49	293	1.08	335	2,068	7.61	851	5,433	19.90	630	4,333	15.72
Sierra Pacific (21)	30,290	3	24	0.09	9	165	0.57	63	1,314	4.55	231	3,691	12.95	175	3,635	12.58
Desert Pacific (22)	30,584	*	9	0.04	8	76	0.27	78	482	1.83	205	1,228	4.69	145	1,038	3.87
Midwest (23)	51,354	10	71	0.16	42	561	1.17	344	3,988	8.44	1,013	11,178	23.74	1,481	15,440	32.95
Grand Total	889,731	43	1,802	0.21	242	10,062	1.16	1,731	60,658	7.01	4,806	150,928	17.50	4,978	142,553	16.58

Coronary Artery Disease



Map 26:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Age 65 and Over
By VISN FY - 2014



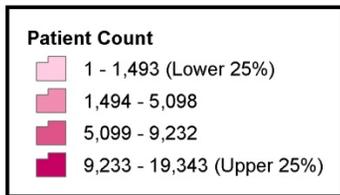
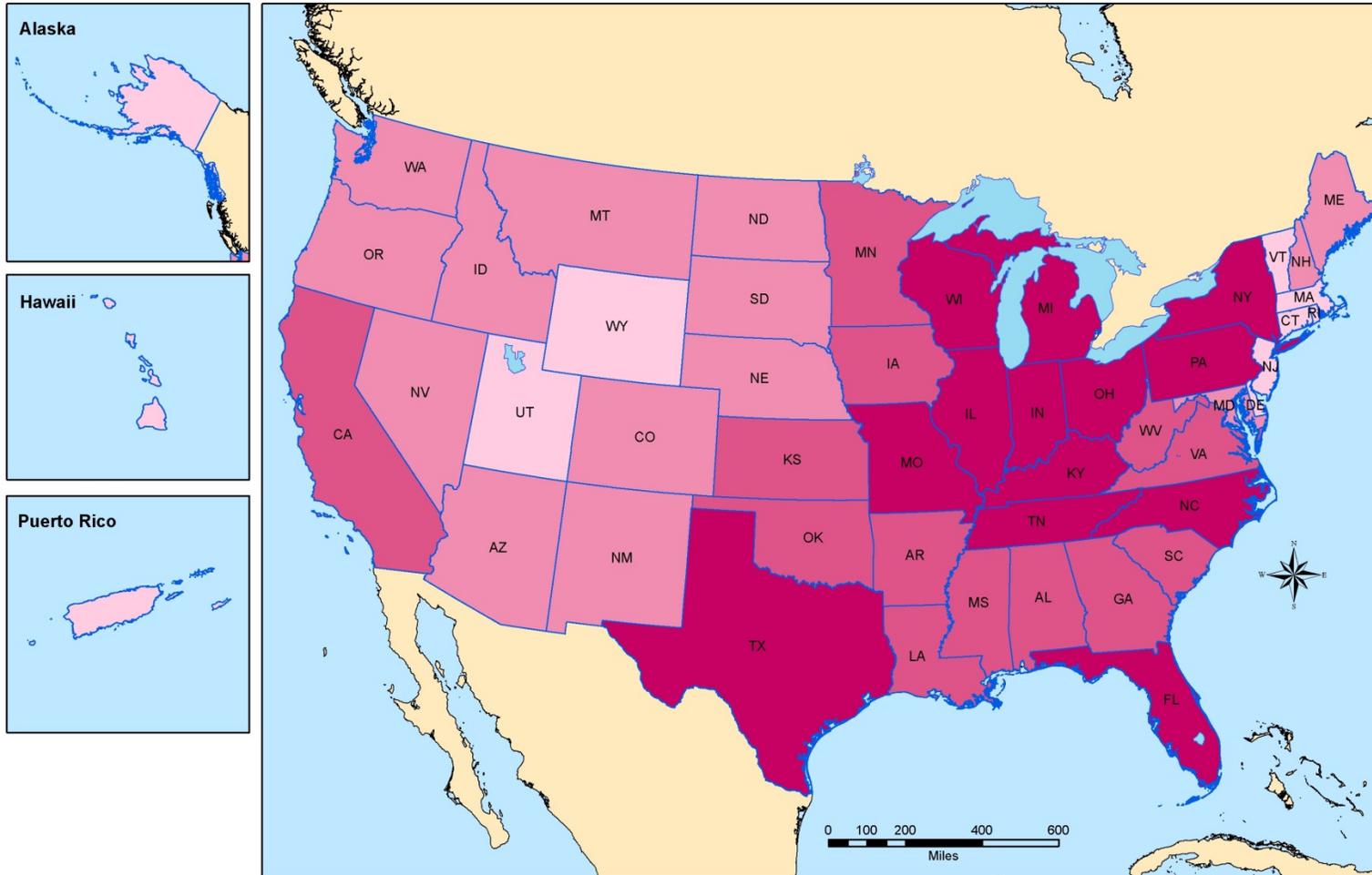
Percent of Patients	
	18.7% - 22.2%
	22.3% - 25.6%
	25.7% - 26.8%
	26.9% - 31.2%

Map 27:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Age 65 and Over
Of All Rural and Highly Rural VHA Patients Age 65 and Over
By VISN FY - 2014

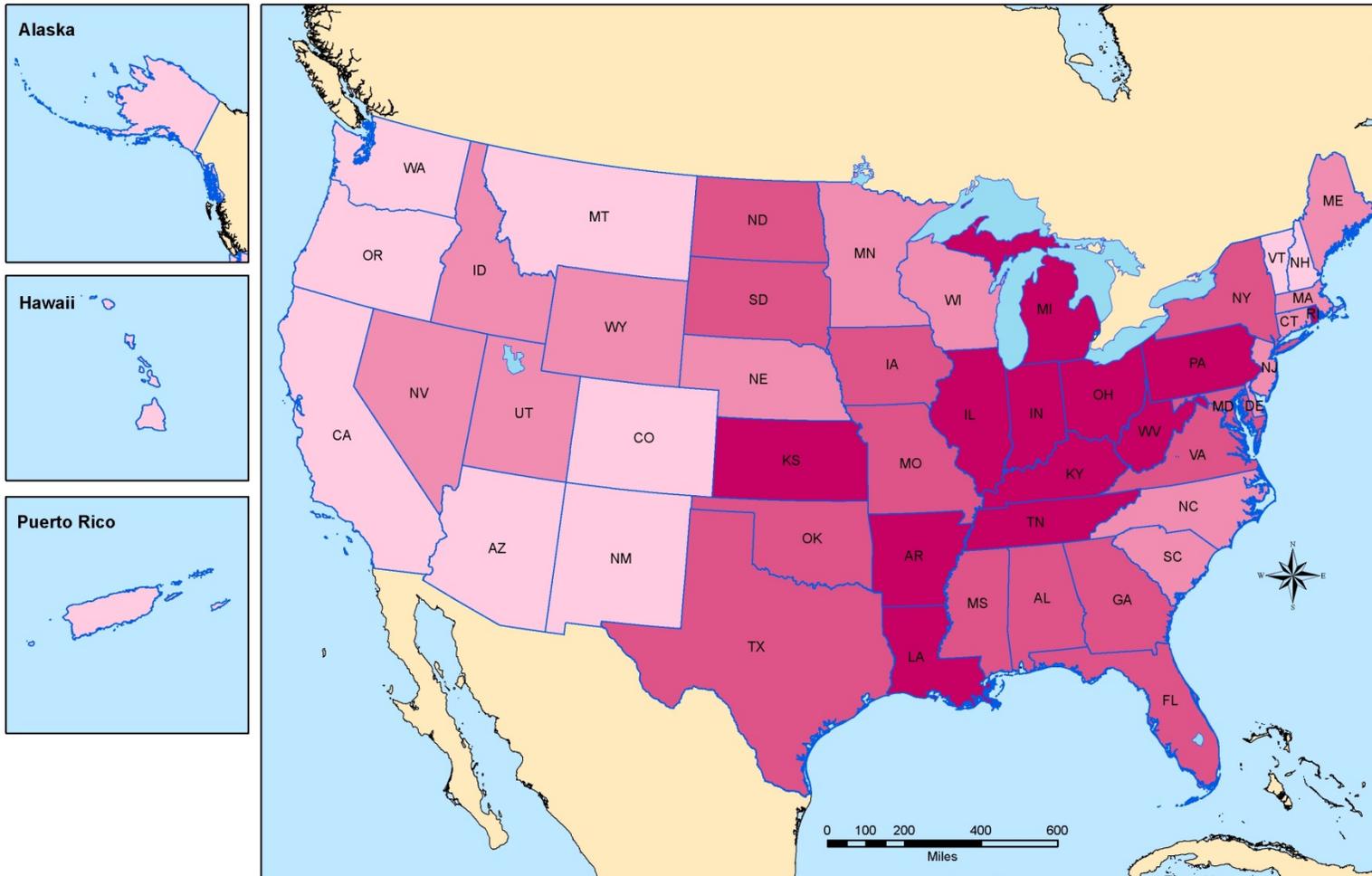


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(Map Creation Date: 8/26/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

Coronary Artery Disease



Map 28:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Age 65 and Over
By State FY - 2014



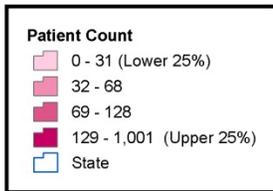
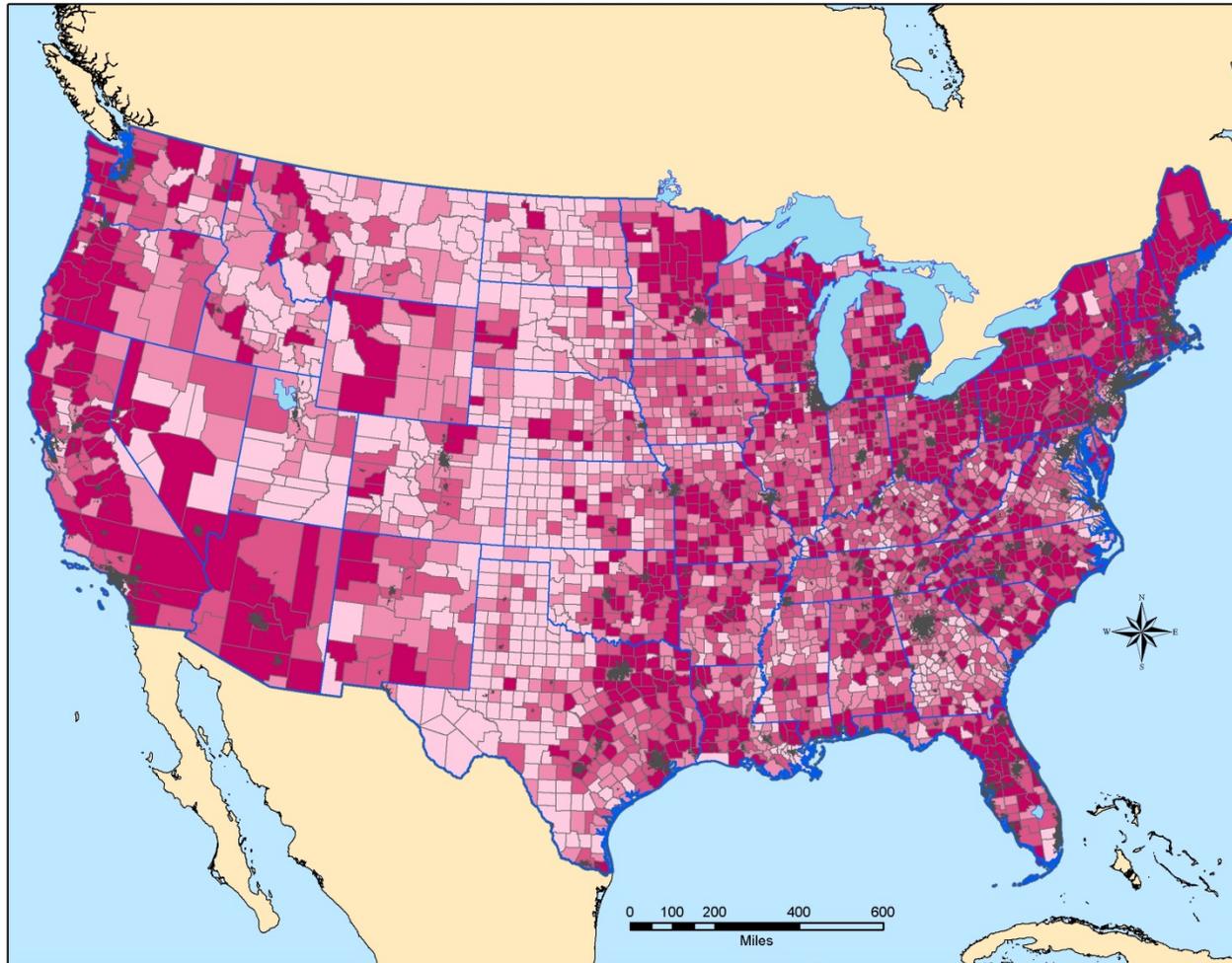
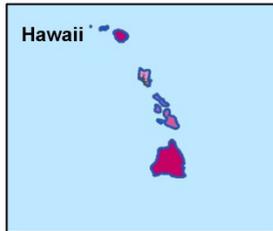
Percent of Patients	
	9.7% - 20.6%
	20.7% - 25%
	25.1% - 26.8%
	26.9% - 33.3%

Map 29:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Age 65 and Over
Of All Rural and Highly Rural Patients Age 65 and Over
By State FY - 2014

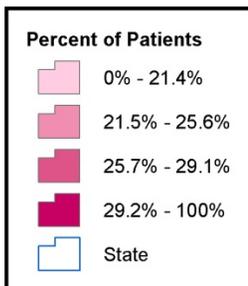
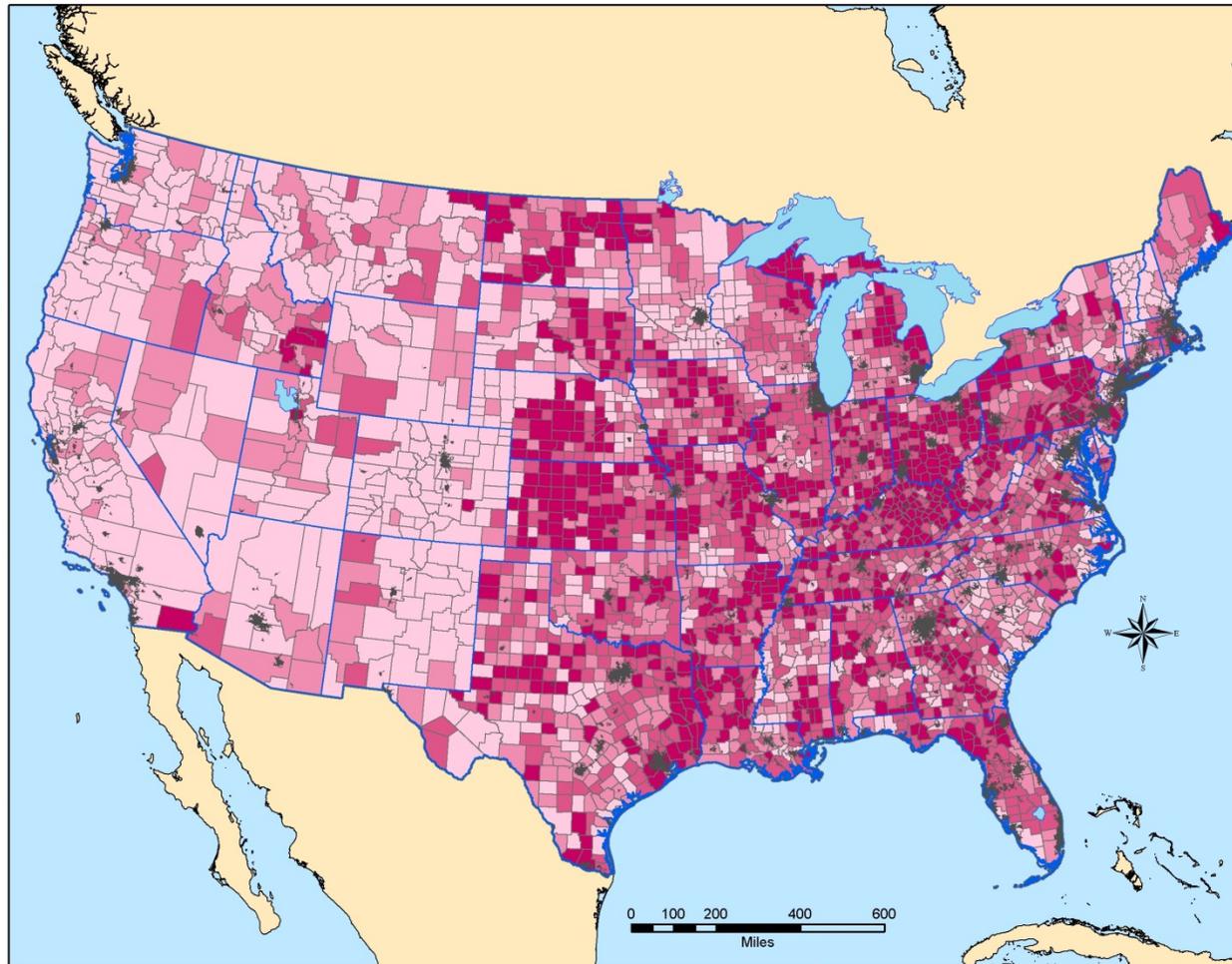


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Coronary Artery Disease



Map 30:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Age 65 and Over
By County FY - 2014
Urban Areas "Shaded"



Map 31:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Age 65 and Over
Of All Rural and Highly Rural Patients Age 65 and Over
By County FY - 2014
Urban Areas "Shaded"



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SERVICE CONNECTION AND LOW INCOME ENROLLMENT PRIORITY GROUPS

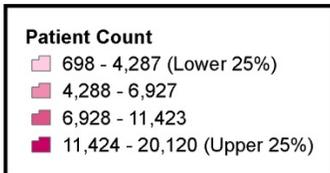
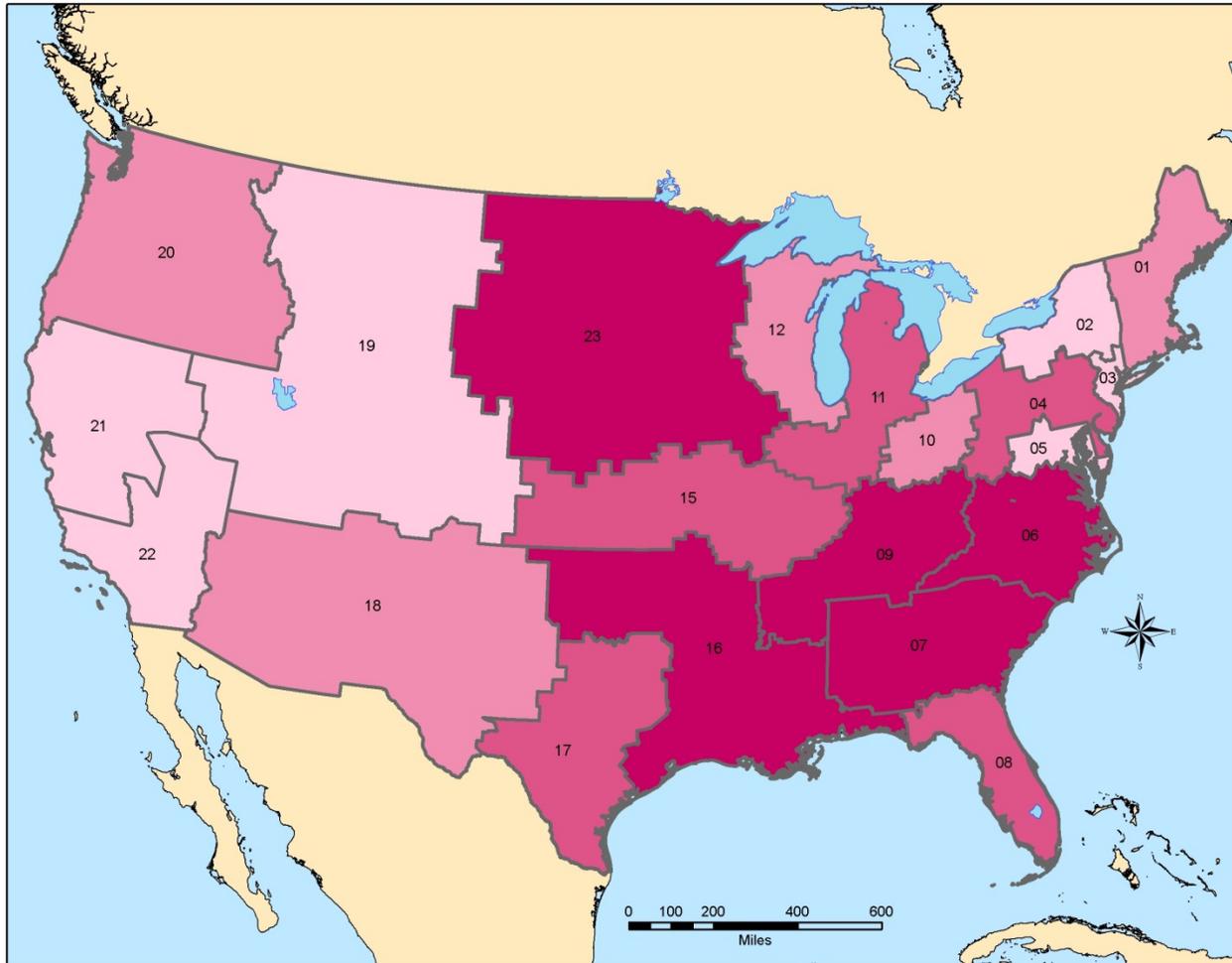
Table 5 examines selected enrollment priority groups and what percentage of those patients resided in rural and highly rural areas. At the National level, rural and highly rural patients with Coronary Artery Disease with a service-connected disability represented 19.15% of the total number of patients with Coronary Artery Disease in the VHA. At the Network level, the South Central Network (VISN 16) ranked the highest with 20,120 rural and highly rural service-connected patients with Coronary Artery Disease. However, the Midwest Network (VISN 23) ranked the highest at 31.86%, in terms of proportion of rural and highly rural service-connected patients with Coronary Artery Disease to all patients with Coronary Artery Disease. Maps 32-37 display the number and percentage of rural and highly rural patients with a service-connected disability with Coronary Artery Disease by VISN, State, and county, with the highest 25% in terms of volume and proportion designated by the darkest shade.

Patients with Coronary Artery Disease residing in rural and highly rural areas who were Priority Group 5 represented 9.97% of the total patient population with Coronary Artery Disease across the United States. The South Central Network (VISN 16) again ranked the highest with 10,457 rural and highly rural low-income/non-Service-Connected/non-compensable Service-Connected patients with Coronary Artery Disease. The Mid South Network (VISN 9) had the highest proportion at 15.67%. Maps 38-41 display the number and percentage of rural and highly rural patients in Priority Group 5 with Coronary Artery Disease by VISN and State, with the highest 25% in terms of volume and proportion designated by the darkest shade. Maps 42-43 display the same information by county, with the highest 50% in volume and highest 25% in percentage designated by the darkest shade.

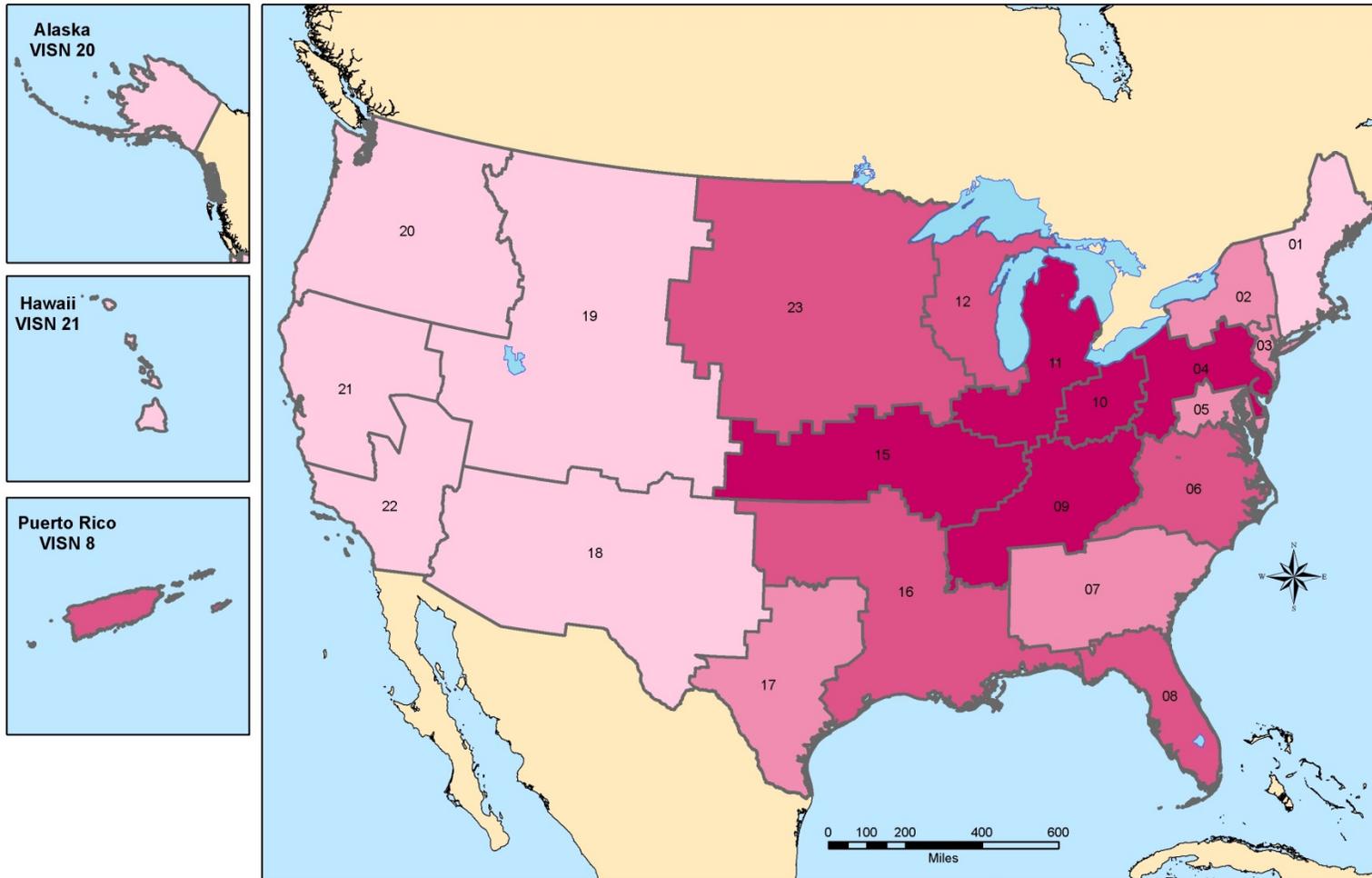
Table 5: National and VISN Numbers and Percentages of VHA Patients with Coronary Artery Disease, by Rurality and Enrollment Priority Group, FY-2014

Prevalence Statistics by Service Connection Type and Low Income by Rurality- Coronary Artery Disease, FY-2014											
Veterans Integrated Service Network	Total Number of Patients with Coronary Artery Disease	Service Connected Priority 1-3					Low Income				
		HR	R	%	U	Unk	HR	R	%	U	Unk
New England (01)	39,715	71	5,407	13.79	11,031	*	38	2,538	6.49	5,288	*
Upstate NY (02)	21,475	9	4,278	19.96	3,792	*	5	2,943	13.73	2,613	*
NY/NJ (03)	26,805	*	698	2.60	8,852	*	*	355	1.32	5,344	*
Stars and Stripes (04)	59,770	*	8,876	14.85	11,640	*	*	6,018	10.07	7,791	*
Capitol (05)	15,224	*	1,868	12.28	4,069	*	*	1,322	8.69	2,833	*
Mid-Atlantic (06)	48,758	7	12,802	26.27	10,709	*	6	6,333	13.00	4,823	*
Southeast (07)	51,810	3	13,144	25.38	12,737	*	*	6,387	12.33	5,485	*
Sunshine (08)	87,246	10	7,082	8.13	29,233	*	4	4,444	5.10	16,355	*
Mid South (09)	50,609	*	15,311	30.26	8,743	*	*	7,928	15.67	4,769	*
Ohio (10)	43,762	3	6,924	15.83	9,424	*	*	4,919	11.24	7,354	*
Vets in Partnership (11)	47,131	4	10,225	21.70	10,259	*	3	5,146	10.92	6,358	*
Great Lakes (12)	41,442	41	5,698	13.85	8,002	*	39	2,856	6.99	6,128	*
Heartland (15)	42,882	154	11,269	26.64	6,572	*	83	6,123	14.47	3,995	*
South Central (16)	76,976	51	20,069	26.14	17,281	*	26	10,431	13.58	8,134	*
Heart of Texas (17)	37,941	135	7,723	20.71	12,704	*	72	3,607	9.70	4,523	*
Southwest (18)	32,216	719	4,606	16.53	9,987	5	463	2,471	9.11	4,834	17
Rocky Mtn. (19)	22,171	1,280	2,931	18.99	5,667	3	746	1,413	9.74	2,877	*
Northwest (20)	31,570	848	6,042	21.82	8,598	*	539	2,864	10.78	4,105	*
Sierra Pacific (21)	30,290	217	3,987	13.88	9,844	244	129	2,188	7.65	4,997	39
Desert Pacific (22)	30,584	188	1,311	4.90	12,498	*	135	742	2.87	7,117	*
Midwest (23)	51,354	1,214	15,148	31.86	8,994	*	474	4,890	10.45	2,829	*
Grand Total	889,731	4,956	165,399	19.15	220,636	258	2,765	85,918	9.97	118,552	57

Coronary Artery Disease



Map 32:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Priority 1-3
By VISN FY - 2014



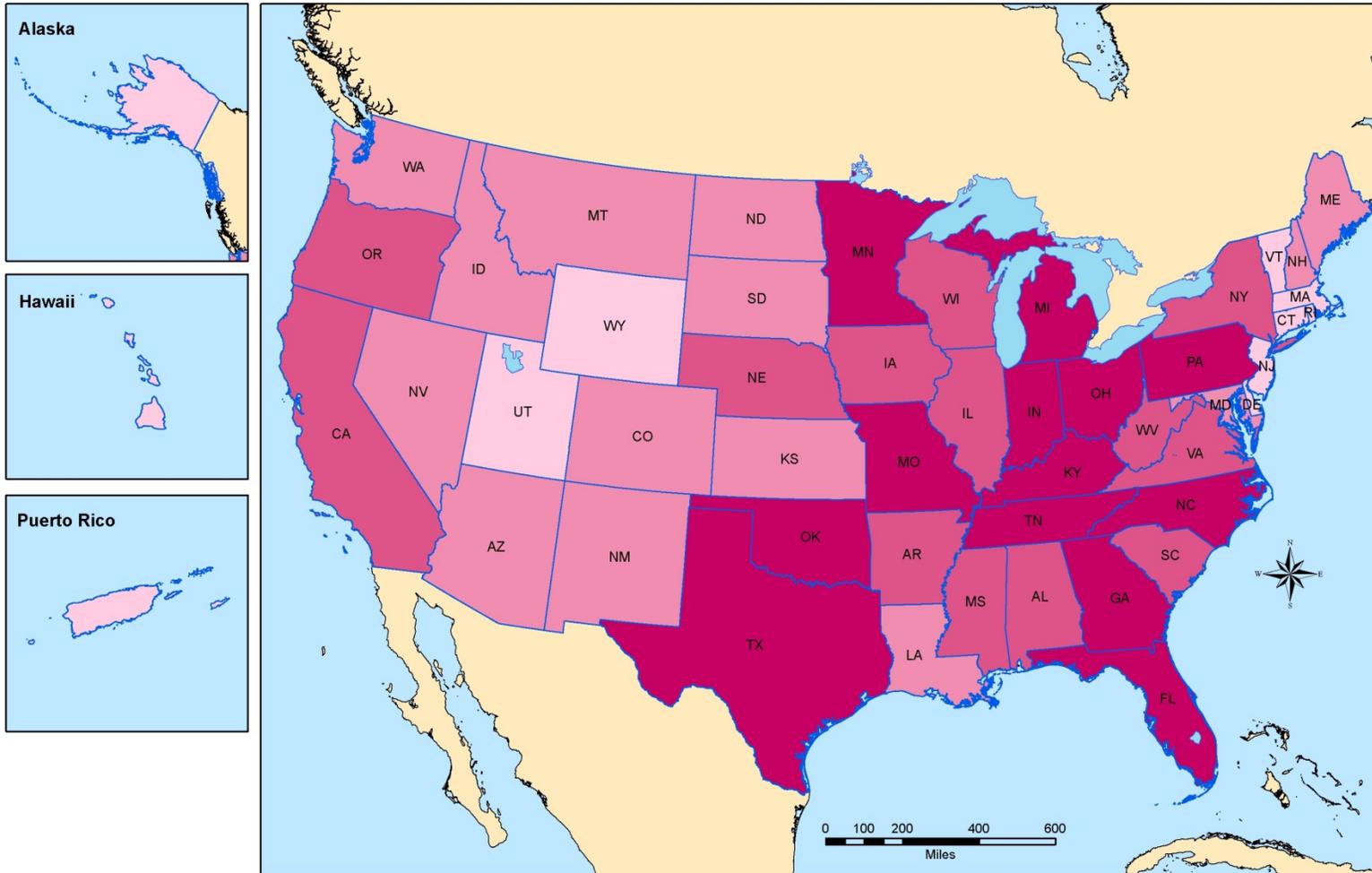
Percent of Patients	
	11.9% - 14.8%
	14.9% - 16.4%
	16.5% - 18.2%
	18.3% - 22.5%

Map 33:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 1-3
Of All Rural and Highly Rural VHA Patients Priority 1-3
By VISN FY - 2014



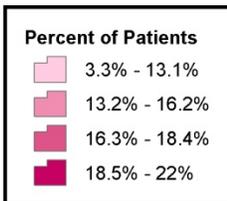
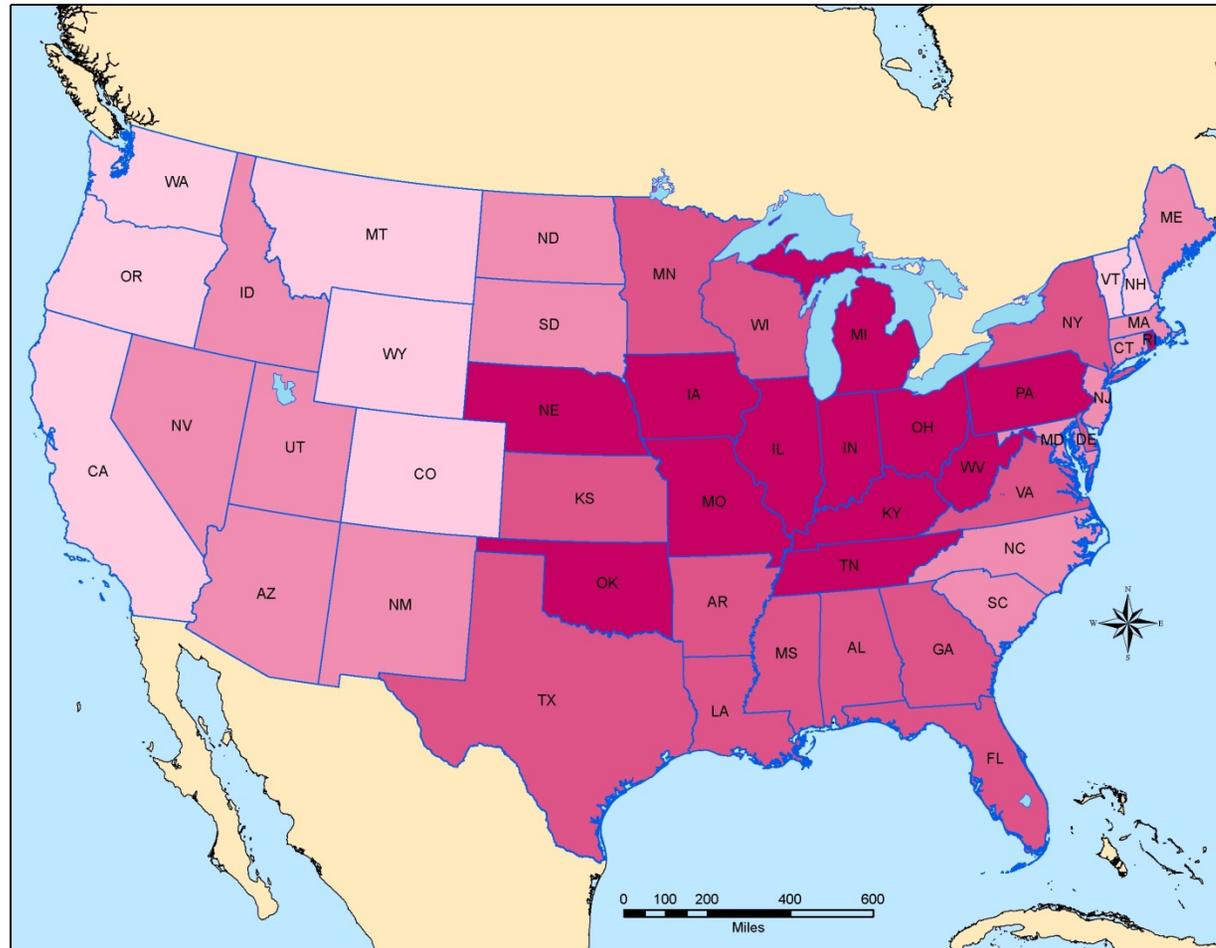
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Map Information by: PSSG, VSSC, ESRI
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Coronary Artery Disease



Patient Count	
	1 - 732 (Lower 25%)
	733 - 3,040
	3,041 - 4,956
	4,957 - 12,219 (Upper 25%)

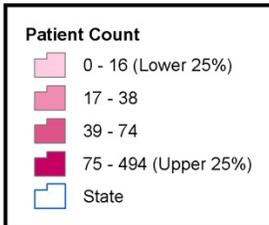
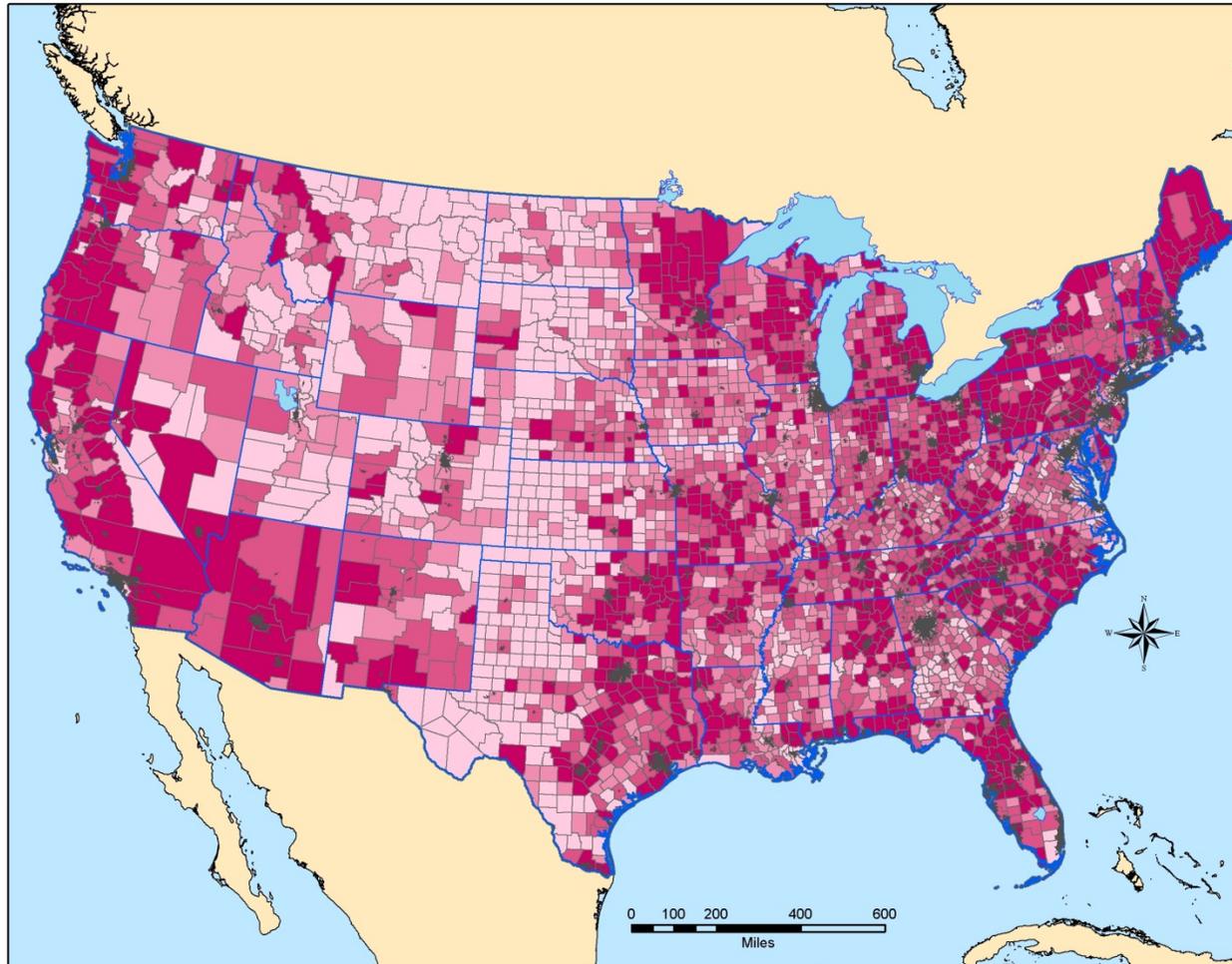
Map 34:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Priority 1-3
By State FY - 2014



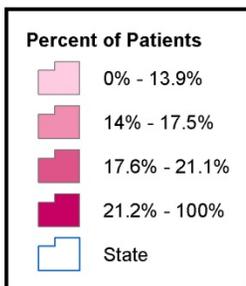
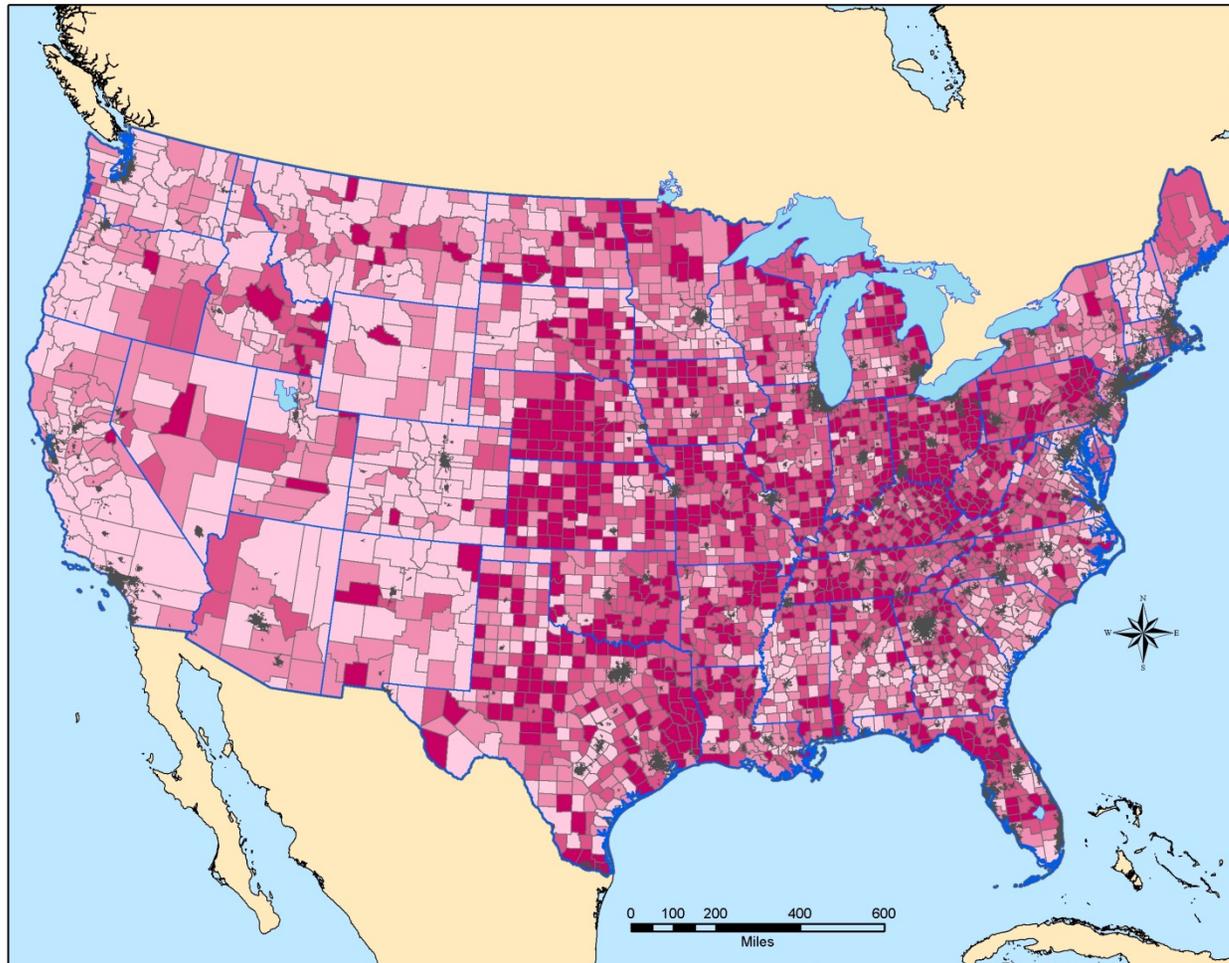
Map 35:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 1-3
Of All Rural and Highly Rural Patients Priority 1-3
By State FY - 2014

GeoSpatial Outcomes Division
VHA Office of Rural Health
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(Map Creation Date: 8/26/2015)
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Coronary Artery Disease



Map 36:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Priority 1-3
By County FY - 2014
Urban Areas "Shaded"

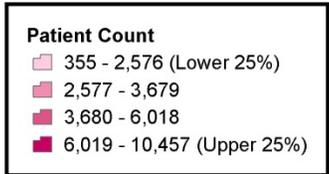
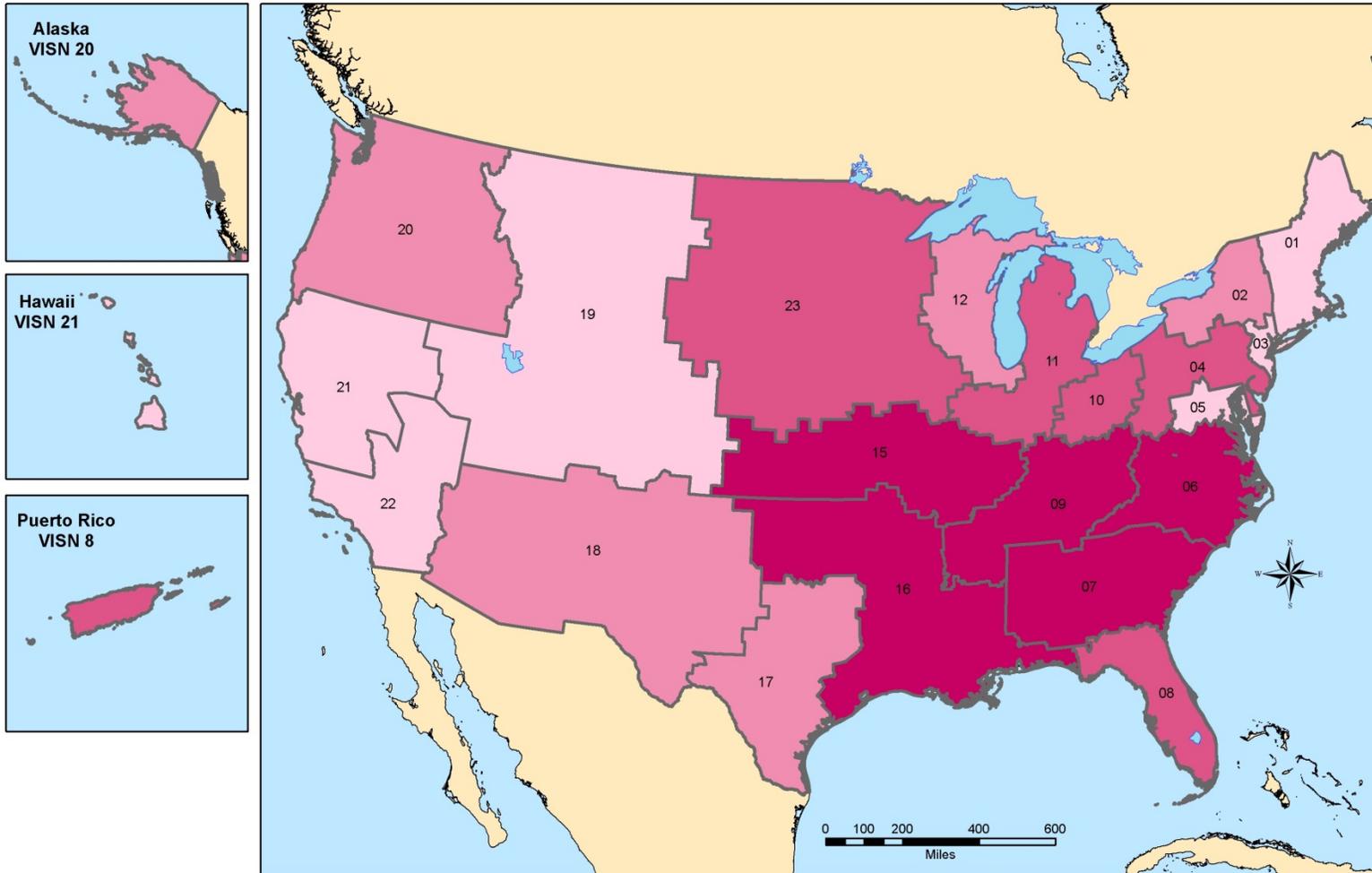


Map 37:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 1-3
Of All Rural and Highly Rural Patients Priority 1-3
By County FY - 2014
Urban Areas "Shaded"

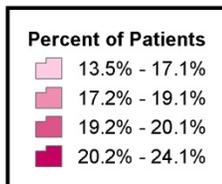
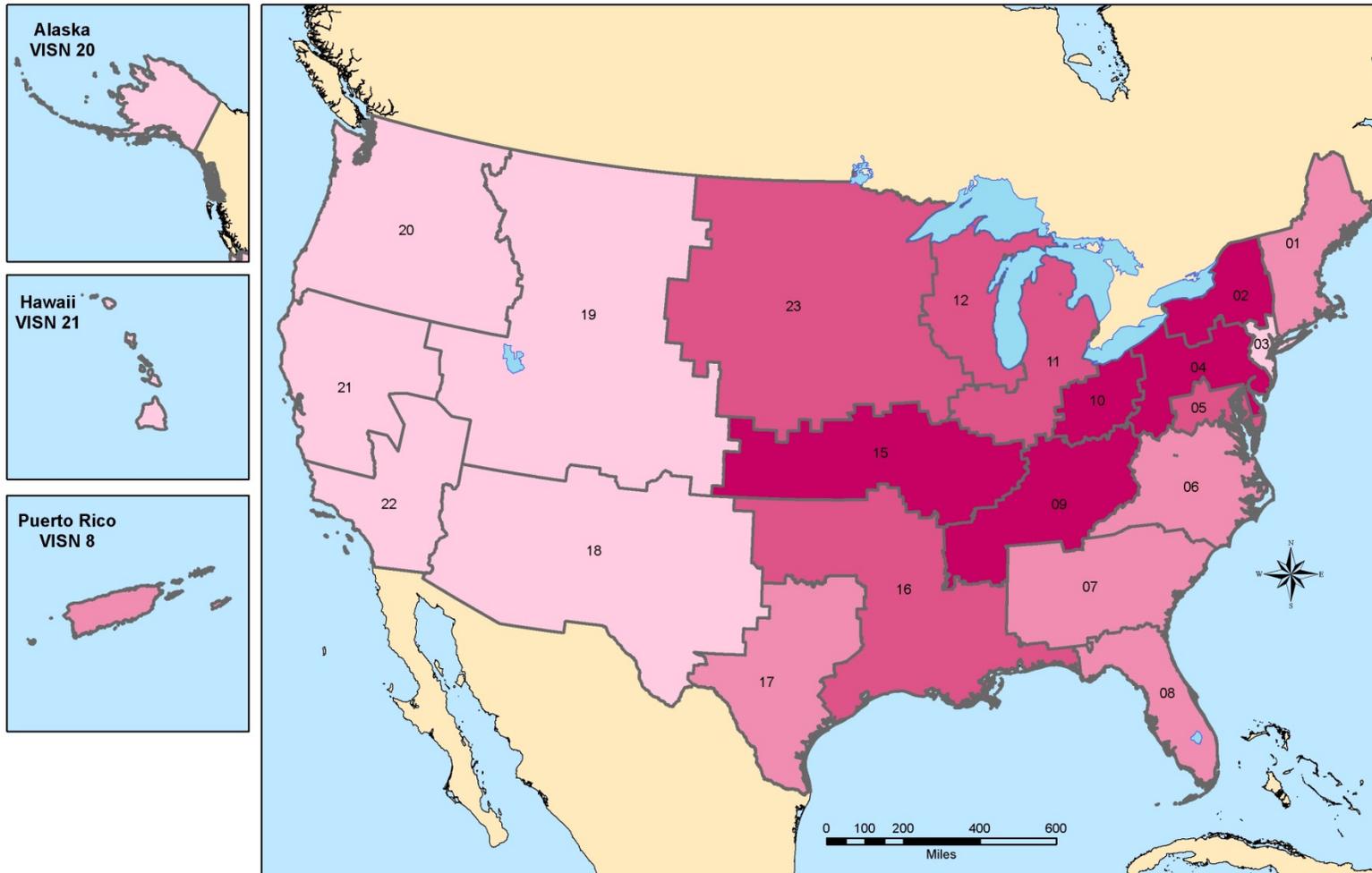


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(Map Creation Date: 8/27/2015)
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Coronary Artery Disease



Map 38:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 5
By VISN FY - 2014

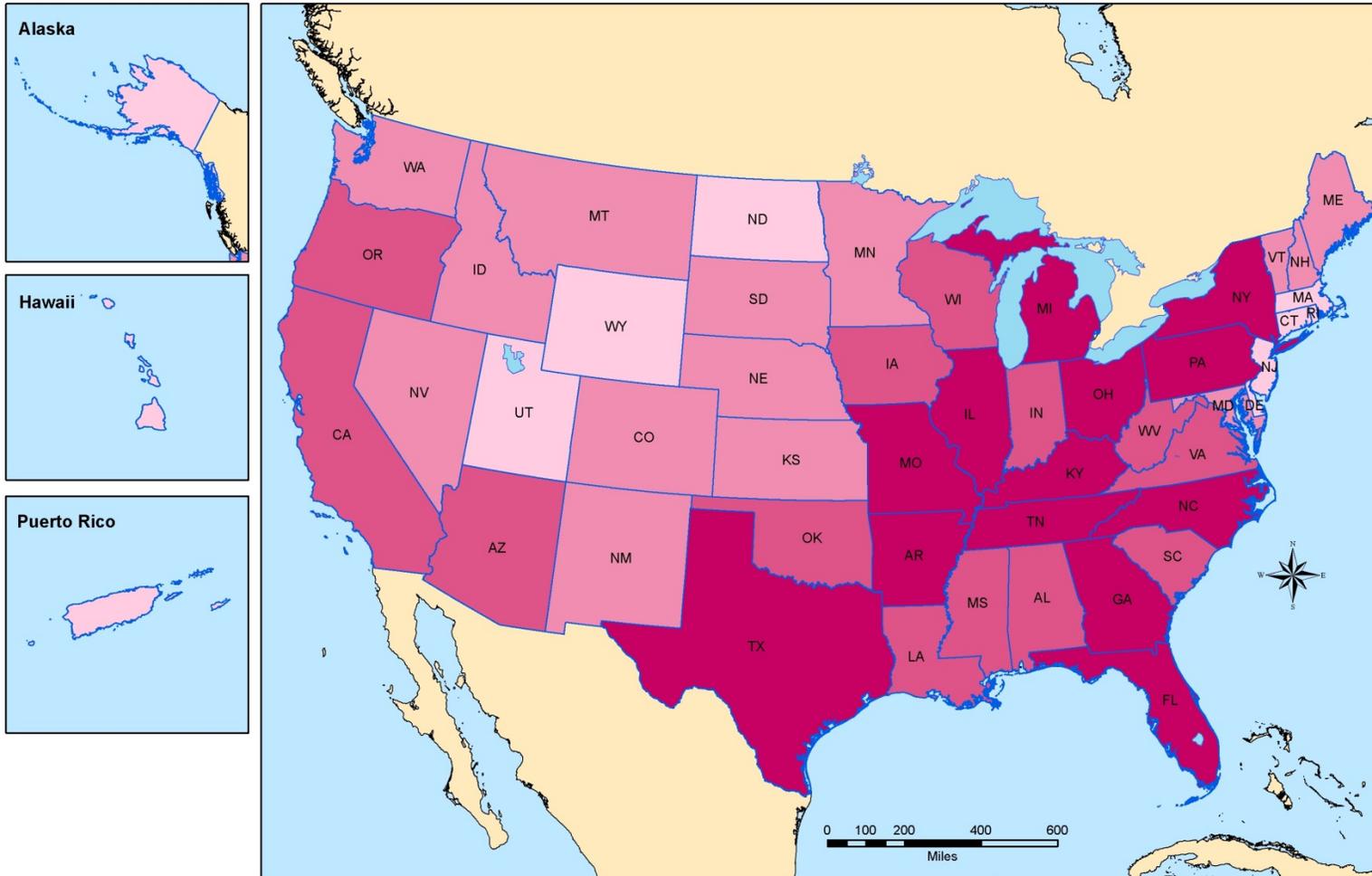


Map 39:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 5
Of All Rural and Highly Rural VHA Patients Priority 5
By VISN FY - 2014



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)
GeoSpatial Outcomes Division
(Map Creation Date: 8/26/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

Coronary Artery Disease

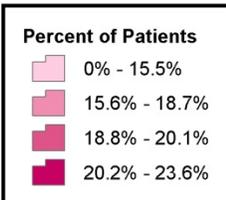
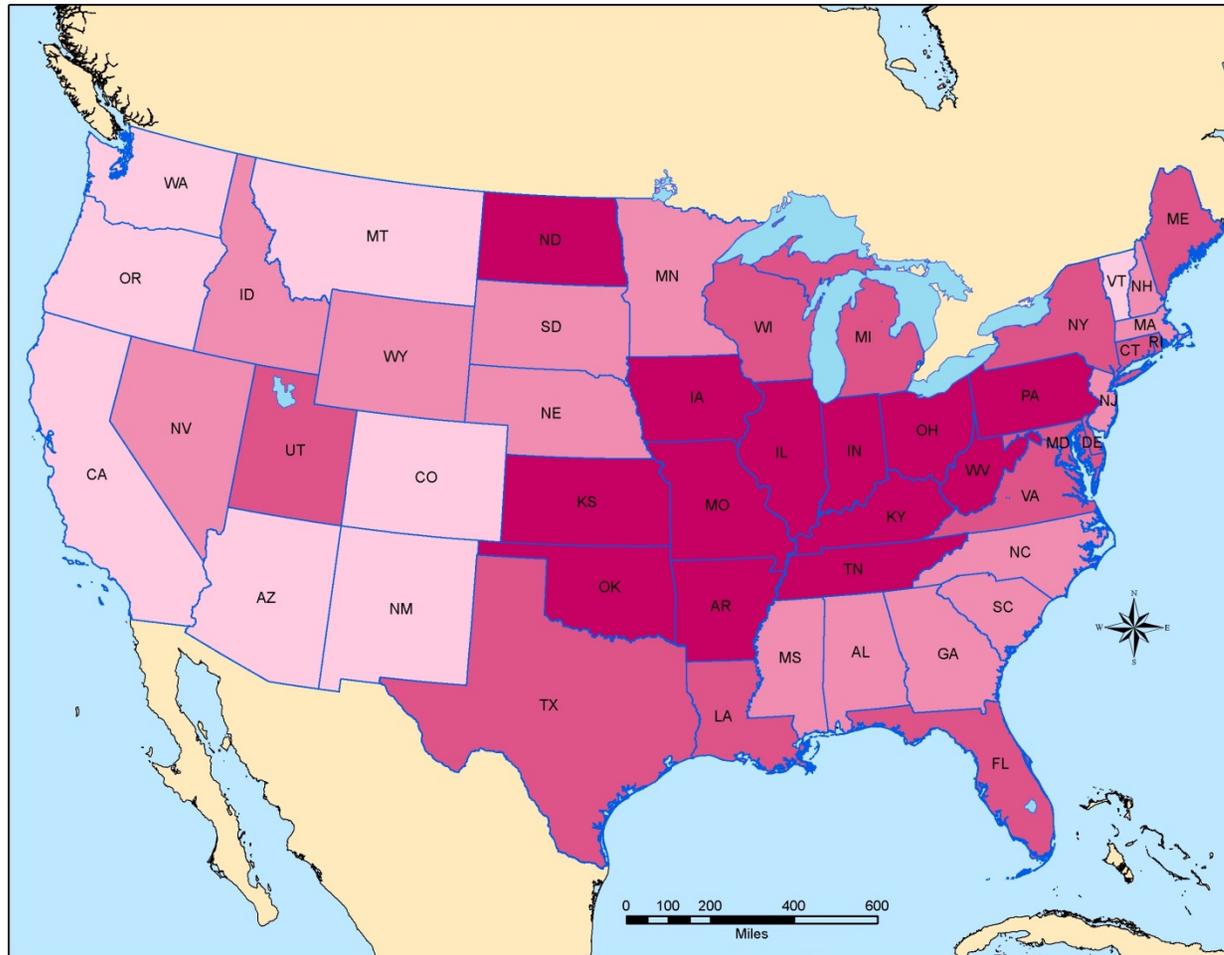


Patient Count	
	0 - 346 (Lower 25%)
	347 - 1,302
	1,303 - 2,609
	2,610 - 5,969 (Upper 25%)

Map 40:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Priority 5
By State FY - 2014

GeoSpatial Outcomes Division
VHA Office of Rural Health

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GeoSpatial Outcomes Division
(Map Creation Date: 8/27/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

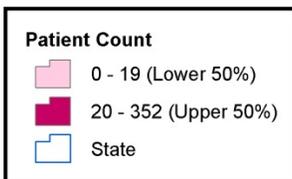
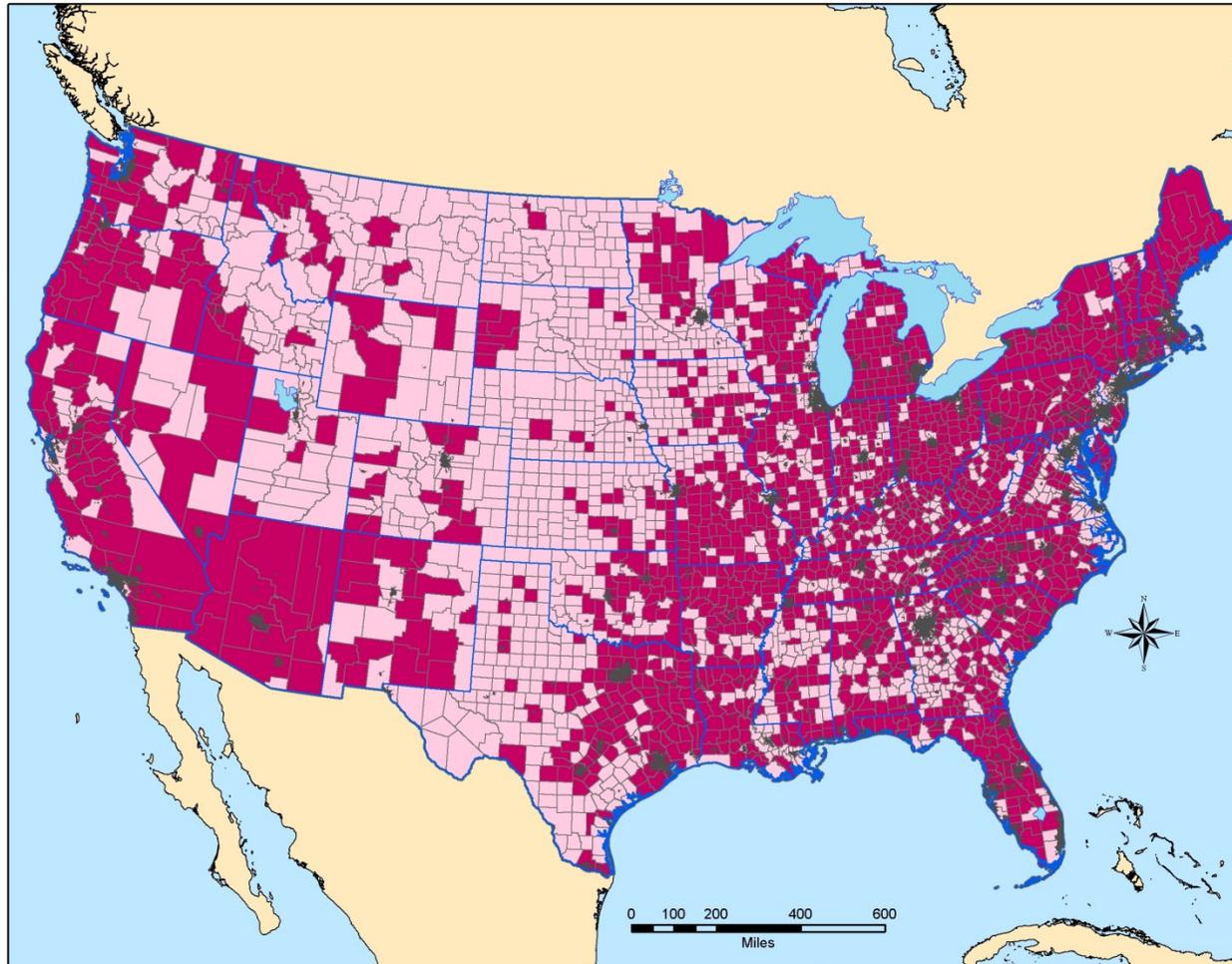


Map 41:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 5
Of All Rural and Highly Rural Patients Priority 5
By State FY - 2014

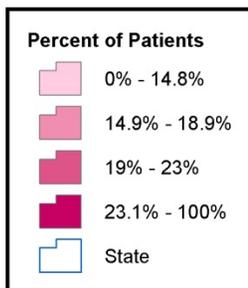
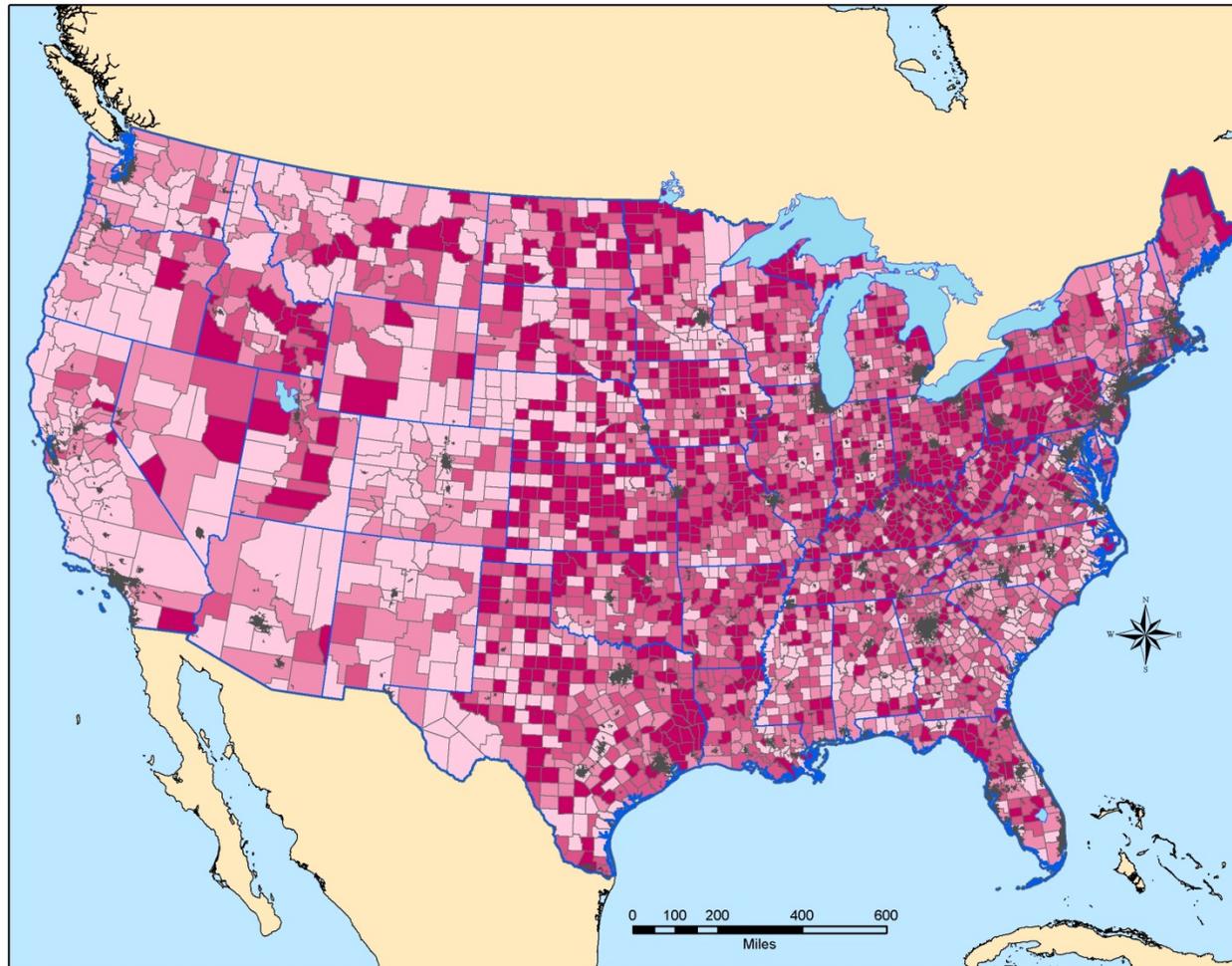


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Coronary Artery Disease



Map 42:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Priority 5
By County FY - 2014
Urban Areas "Shaded"



Map 43:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Priority 5
Of All Rural and Highly Rural Patients Priority 5
By County FY - 2014
Urban Areas "Shaded"



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ArcGIS 10.2x

Section IV Highlights: VHA Patients with Coronary Artery Disease (Outpatient Utilization)

Table 6 examines overall utilization of VHA health care facilities by those VHA patients with a primary diagnosis of Coronary Artery Disease. That is, patients who may have had an encounter with the diagnosis set as the primary diagnosis. At the National level, 6.93% (N=430,813) of all VHA patients had a primary diagnosis of Coronary Artery Disease. At the network level, the range ran from a low of 7,510 individuals in the Capitol Network (VISN 5), representing 5.01%, to a high of 40,446 individuals in the Sunshine Network (VISN 8), representing 7.02%.

Using the example of the Sunshine Network (VISN 8), a small percent (0.44%) of all 17,255,468 outpatient encounters were by those VHA patients with a primary diagnosis of Coronary Artery Disease. A closer examination can be conducted for counts and percentages of outpatient encounters by those residing in rural and highly rural areas. For the purposes of simplicity, a combined percentage – indicated in red text – was calculated for both rural and highly rural numbers, both at the network and National levels. Again, looking at the Sunshine Network (VISN 8), combined rural patients with a primary diagnosis of Coronary Artery Disease represented only 0.09% of all outpatient encounters in that network, compared to 0.44% when compared to overall rurality categories combined (highly rural, rural, urban, unknown).

Table 7 provides information on outpatient encounters for all patients with a primary diagnosis of Coronary Artery Disease by rurality. In this table, some very interesting urban-rural comparisons across VISNs emerge. For example, the Midwest Network (VISN 23) had a total of 37,988 outpatient encounters for patients who had a primary diagnosis of Coronary Artery Disease. Almost two-thirds (64.47%) of the encounters were from patients living in rural or highly rural areas of the VISN. Following VISN 23, five other networks (in rank order, VISNs 9, 15, 2, 16, and 7) also had more than half of encounters from patients living in rural and highly rural areas of the VISN.

Table 6: Outpatient Encounters of Patients with a Primary Diagnosis of Coronary Artery Disease

Overall Resource Utilization- Coronary Artery Disease (Primary Diagnosis Group) Compared to All Users, FY-2014										
Veterans Integrated Service Network	Total Number of Patients	Patients with Coronary Artery Disease		Outpatient Encounters						
		N	%	Total	Coronary Artery Disease					
	N			HR	R	%	U	Unk	%	
New England (01)	253,326	19,903	7.86	7,306,431	140	11,307	0.16	26,609	4	0.52
Upstate NY (02)	136,497	10,974	8.04	4,189,442	24	11,445	0.27	10,527	0	0.53
NY/NJ (03)	174,457	12,870	7.38	5,308,815	0	1,810	0.03	23,621	0	0.48
Stars and Stripes (04)	310,940	30,901	9.94	8,188,223	8	23,781	0.29	31,901	1	0.68
Capitol (05)	150,012	7,510	5.01	3,919,003	0	4,411	0.11	9,875	0	0.36
Mid-Atlantic (06)	359,692	23,295	6.48	9,682,967	21	23,892	0.25	20,968	1	0.46
Southeast (07)	408,164	24,790	6.07	10,588,864	3	23,350	0.22	22,264	2	0.43
Sunshine (08)	576,411	40,446	7.02	17,255,468	58	15,577	0.09	61,027	3	0.44
Mid South (09)	298,396	26,348	8.83	8,424,188	1	30,260	0.36	18,771	1	0.58
Ohio (10)	231,319	24,269	10.49	7,511,566	7	18,752	0.25	29,662	0	0.64
Vets in Partnership (11)	282,135	21,455	7.60	7,691,758	9	17,781	0.23	22,557	4	0.52
Great Lakes (12)	266,879	19,237	7.21	7,705,668	96	11,071	0.14	22,985	0	0.44
Heartland (15)	245,357	20,990	8.55	7,009,124	628	25,084	0.37	17,232	1	0.61
South Central (16)	502,681	35,938	7.15	13,310,260	90	32,499	0.24	30,143	2	0.47
Heart of Texas (17)	306,581	18,948	6.18	7,950,682	179	14,573	0.19	23,825	2	0.49
Southwest (18)	271,557	15,699	5.78	6,738,226	1,562	8,415	0.15	20,723	21	0.46
Rocky Mtn. (19)	202,350	10,968	5.42	4,987,574	3,211	6,193	0.19	12,178	9	0.43
Northwest (20)	288,322	14,114	4.90	6,791,502	1,391	9,047	0.15	13,753	2	0.36
Sierra Pacific (21)	293,645	15,278	5.20	6,828,680	635	8,134	0.13	19,520	217	0.42
Desert Pacific (22)	328,951	14,764	4.49	8,520,022	335	2,456	0.03	25,969	0	0.34
Midwest (23)	324,728	22,116	6.81	8,146,785	1,866	22,626	0.30	13,496	0	0.47
Grand Total	6,212,400	430,813	6.93	168,055,248	10,264	322,464	0.20	477,606	270	0.48

Table 7: Outpatient Encounters of Patients with a Primary Diagnosis of Coronary Artery Disease by Rurality

Veterans Integrated Service Network	Outpatient Encounters by Patients with Primary Coronary Artery Disease DX					
	Total	Rurality				
	N	HR	R	%	U	Unk
New England (01)	38,060	140	11,307	30.08	26,609	4
Upstate NY (02)	21,996	24	11,445	52.14	10,527	0
NY/NJ (03)	25,431	0	1,810	7.12	23,621	0
VISN 04 (04)	55,691	8	23,781	42.72	31,901	1
Capitol (05)	14,286	0	4,411	30.88	9,875	0
Mid-Atlantic (06)	44,882	21	23,892	53.28	20,968	1
Southeast (07)	45,619	3	23,350	51.19	22,264	2
Sunshine (08)	76,665	58	15,577	20.39	61,027	3
Mid South (09)	49,033	1	30,260	61.72	18,771	1
Ohio (10)	48,421	7	18,752	38.74	29,662	0
Vets in Partnership (11)	40,351	9	17,781	44.09	22,557	4
Great Lakes (12)	34,152	96	11,071	32.70	22,985	0
Heartland (15)	42,945	628	25,084	59.87	17,232	1
South Central (16)	62,734	90	32,499	51.95	30,143	2
Heart of Texas (17)	38,579	179	14,573	38.24	23,825	2
Southwest (18)	30,721	1,562	8,415	32.48	20,723	21
Rocky Mtn. (19)	21,591	3,211	6,193	43.56	12,178	9
Northwest (20)	24,193	1,391	9,047	43.14	13,753	2
Sierra Pacific (21)	28,506	635	8,134	30.76	19,520	217
Desert Pacific (22)	28,760	335	2,456	9.70	25,969	0
Midwest (23)	37,988	1,866	22,626	64.47	13,496	0
TOTAL	810,604	10,264	322,464	41.05	477,606	270

Table 8 examines the overall outpatient encounters at VHA health care facilities by those VHA patients with a secondary diagnosis of Coronary Artery Disease. That is, patients who had an encounter with Coronary Artery Disease as the secondary diagnosis. At the National level, 11.44% (N=710,995) of all VHA patients had a secondary diagnosis of Coronary Artery Disease. On the network level, the range ran from a low of 12,374 individuals in the Capitol Network (VISN 5), representing 8.25%, to a high of 71,264 individuals in the Sunshine Network (VISN 8), representing 12.36%.

In Table 9 (similar to Table 7 for patients with a primary diagnosis of Coronary Artery Disease) information on outpatient encounters for all patients with a secondary diagnosis of Coronary Artery Disease by rurality is reported. The percentage of encounters by rural and highly rural patients constituted nearly two-thirds of the total Coronary Artery Disease encounters in VISN 23 (65.69%). Following VISN 23, six other networks (in rank order, VISNs 9, 15, 16, 6, 2, and 7) had more than half of the encounters from patients with a secondary diagnosis of Coronary Artery Disease living in rural and highly rural areas of the VISN.

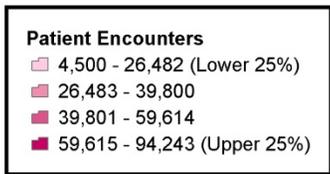
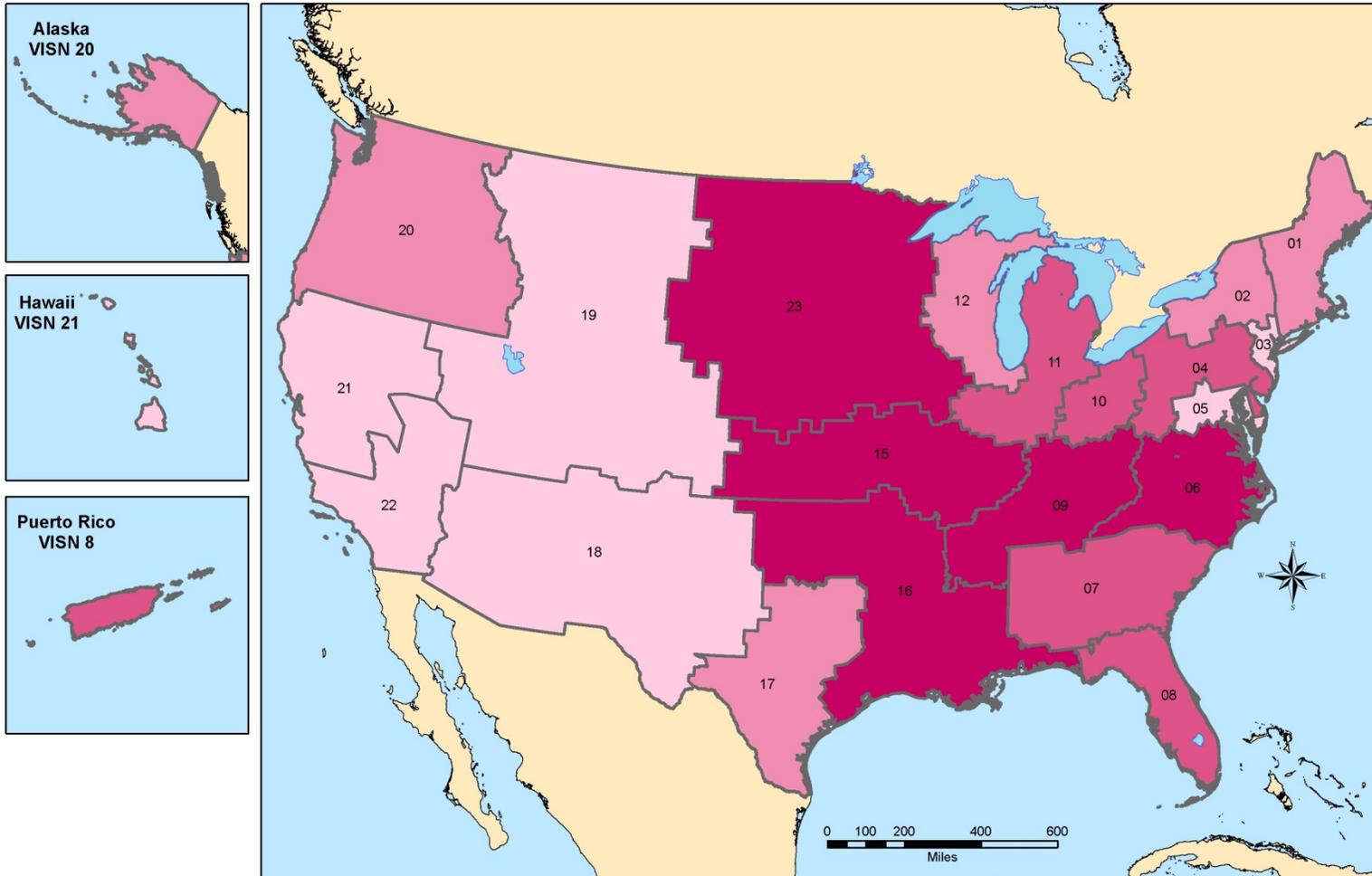
Table 8: Outpatient Encounters of Patients with a Secondary Diagnosis of Coronary Artery Disease

Overall Resource Utilization- Coronary Artery Disease (Secondary Diagnosis Group) Compared to All Users, FY-2014										
Veterans Integrated Service Network	Total Number of Patients	Patients with Coronary Artery Disease		Outpatient Encounters						
		N	%	Total	Coronary Artery Disease					
	N			HR	R	%	U	Unk	%	
New England (01)	253,326	31,060	12.26	7,306,431	182	18,532	0.26	41,564	1	0.83
Upstate NY (02)	136,497	17,317	12.69	4,189,442	29	18,340	0.44	16,624	0	0.84
NY/NJ (03)	174,457	21,625	12.40	5,308,815	0	2,690	0.05	38,918	0	0.78
Stars and Stripes (04)	310,940	43,856	14.10	8,188,223	6	33,455	0.41	45,321	1	0.96
Capitol (05)	150,012	12,374	8.25	3,919,003	2	6,853	0.17	16,400	0	0.59
Mid-Atlantic (06)	359,692	39,988	11.12	9,682,967	16	42,018	0.43	34,773	3	0.79
Southeast (07)	408,164	40,678	9.97	10,588,864	7	36,254	0.34	33,765	5	0.66
Sunshine (08)	576,411	71,264	12.36	17,255,468	29	26,058	0.15	108,588	5	0.78
Mid South (09)	298,396	40,921	13.71	8,424,188	4	46,927	0.56	29,673	1	0.91
Ohio (10)	231,319	34,059	14.72	7,511,566	42	27,035	0.36	41,160	2	0.91
Vets in Partnership (11)	282,135	37,840	13.41	7,691,758	8	33,717	0.44	35,125	4	0.90
Great Lakes (12)	266,879	33,067	12.39	7,705,668	178	18,957	0.25	40,358	2	0.77
Heartland (15)	245,357	34,485	14.06	7,009,124	591	37,405	0.54	27,355	3	0.93
South Central (16)	502,681	61,776	12.29	13,310,260	166	61,488	0.46	49,182	4	0.83
Heart of Texas (17)	306,581	31,299	10.21	7,950,682	352	24,696	0.32	35,218	5	0.76
Southwest (18)	271,557	25,890	9.53	6,738,226	2,451	14,054	0.24	28,891	39	0.67
Rocky Mtn. (19)	202,350	17,892	8.84	4,987,574	4,559	9,670	0.29	19,775	6	0.68
Northwest (20)	288,322	25,426	8.82	6,791,502	2,398	16,055	0.27	25,199	2	0.64
Sierra Pacific (21)	293,645	24,152	8.22	6,828,680	748	12,599	0.20	30,191	323	0.64
Desert Pacific (22)	328,951	25,108	7.63	8,520,022	835	4,338	0.06	45,155	1	0.59
Midwest (23)	324,728	40,918	12.60	8,146,785	3,337	38,431	0.51	21,816	1	0.78
Grand Total	6,212,400	710,995	11.44	168,055,248	15,940	529,572	0.32	765,051	408	0.78

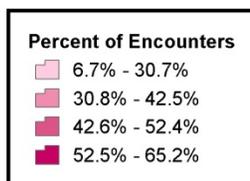
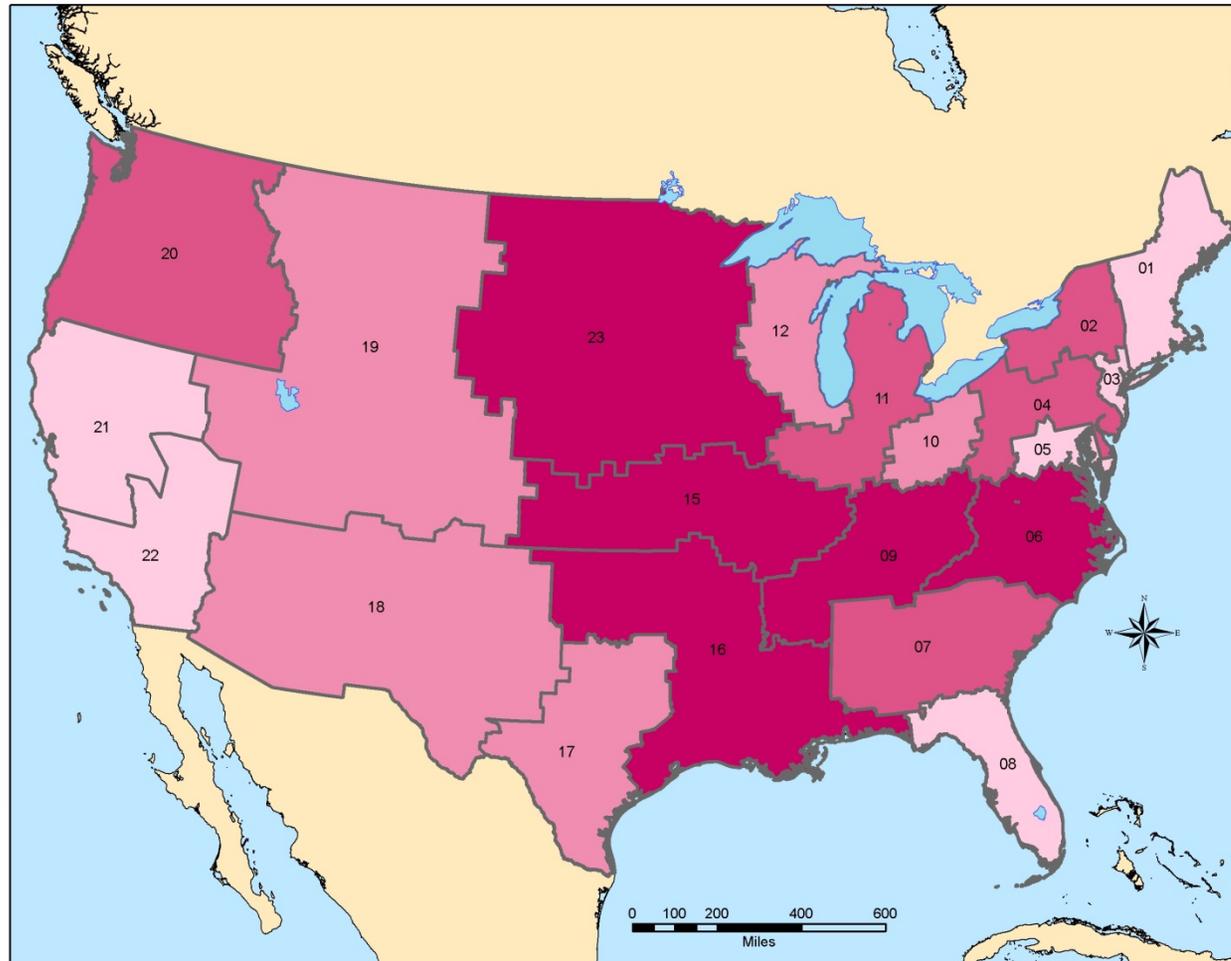
Table 9: Outpatient Encounters of Patients with a Secondary Diagnosis of Coronary Artery Disease by Rurality

Veterans Integrated Service Network	Outpatient Encounters by Patients with Secondary Coronary Artery Disease DX					
	Total	Rurality				
	N	HR	R	%	U	Unk
New England (01)	60,279	182	18,532	31.05	41,564	1
Upstate NY (02)	34,993	29	18,340	52.49	16,624	0
NY/NJ (03)	41,608	0	2,690	6.47	38,918	0
VISN 04 (04)	78,783	6	33,455	42.47	45,321	1
Capitol (05)	23,255	2	6,853	29.48	16,400	0
Mid-Atlantic (06)	76,810	16	42,018	54.72	34,773	3
Southeast (07)	70,031	7	36,254	51.78	33,765	5
Sunshine (08)	134,680	29	26,058	19.37	108,588	5
Mid South (09)	76,605	4	46,927	61.26	29,673	1
Ohio (10)	68,239	42	27,035	39.68	41,160	2
Vets in Partnership (11)	68,854	8	33,717	48.98	35,125	4
Great Lakes (12)	59,495	178	18,957	32.16	40,358	2
Heartland (15)	65,354	591	37,405	58.14	27,355	3
South Central (16)	110,840	166	61,488	55.62	49,182	4
Heart of Texas (17)	60,271	352	24,696	41.56	35,218	5
Southwest (18)	45,435	2,451	14,054	36.33	28,891	39
Rocky Mtn. (19)	34,010	4,559	9,670	41.84	19,775	6
Northwest (20)	43,654	2,398	16,055	42.27	25,199	2
Sierra Pacific (21)	43,861	748	12,599	30.43	30,191	323
Desert Pacific (22)	50,329	835	4,338	10.28	45,155	1
Midwest (23)	63,585	3,337	38,431	65.69	21,816	1
TOTAL	1,310,971	15,940	529,572	41.61	765,051	408

Coronary Artery Disease



Map 44:
Number of Rural and Highly Rural VHA Patients with Coronary Artery Disease Encounters By VISN FY - 2014

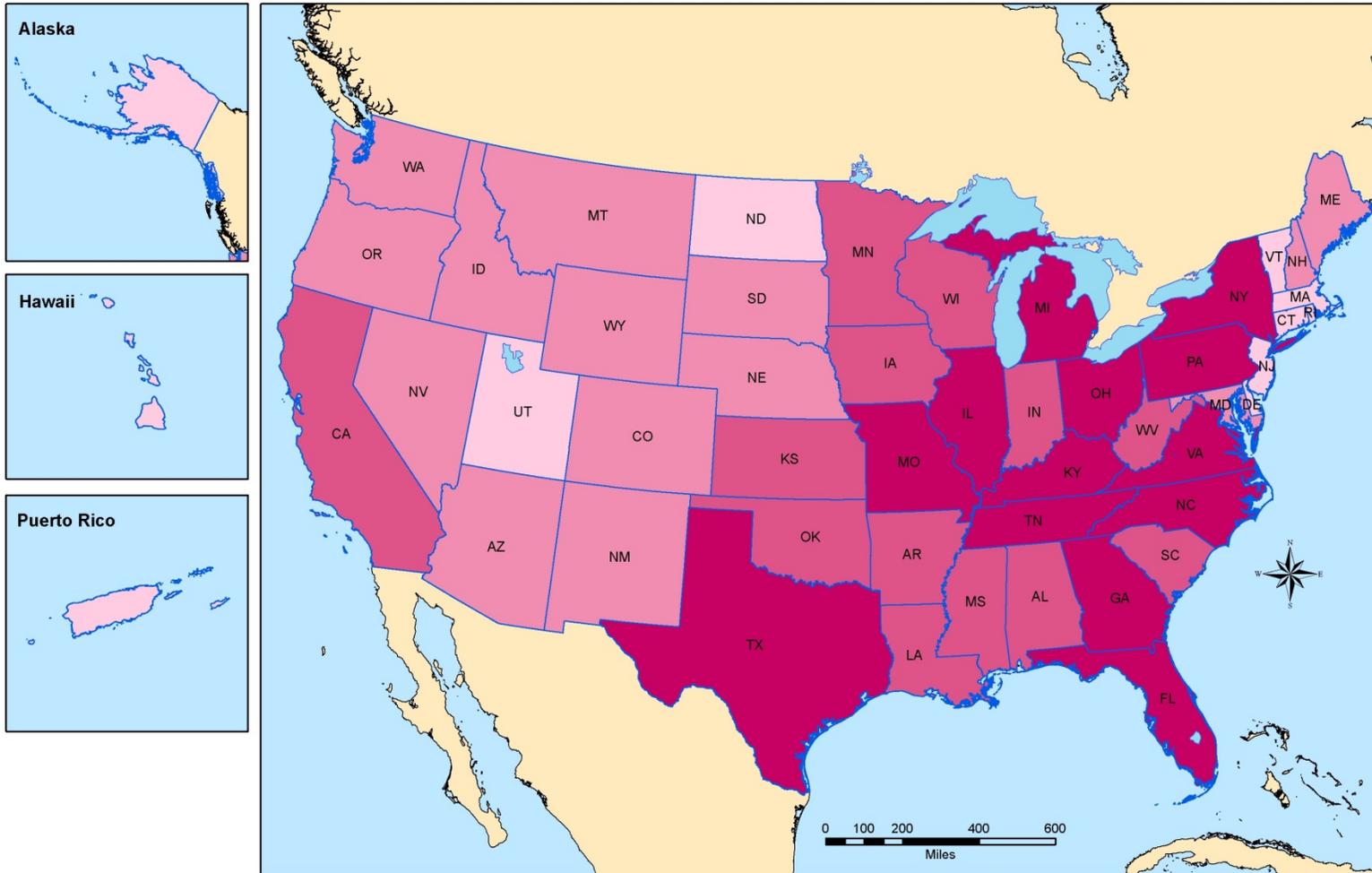


Map 45:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Encounters
Of All VHA Patient Coronary Artery Disease Encounters
By VISN FY - 2014



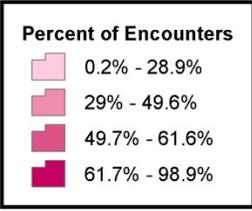
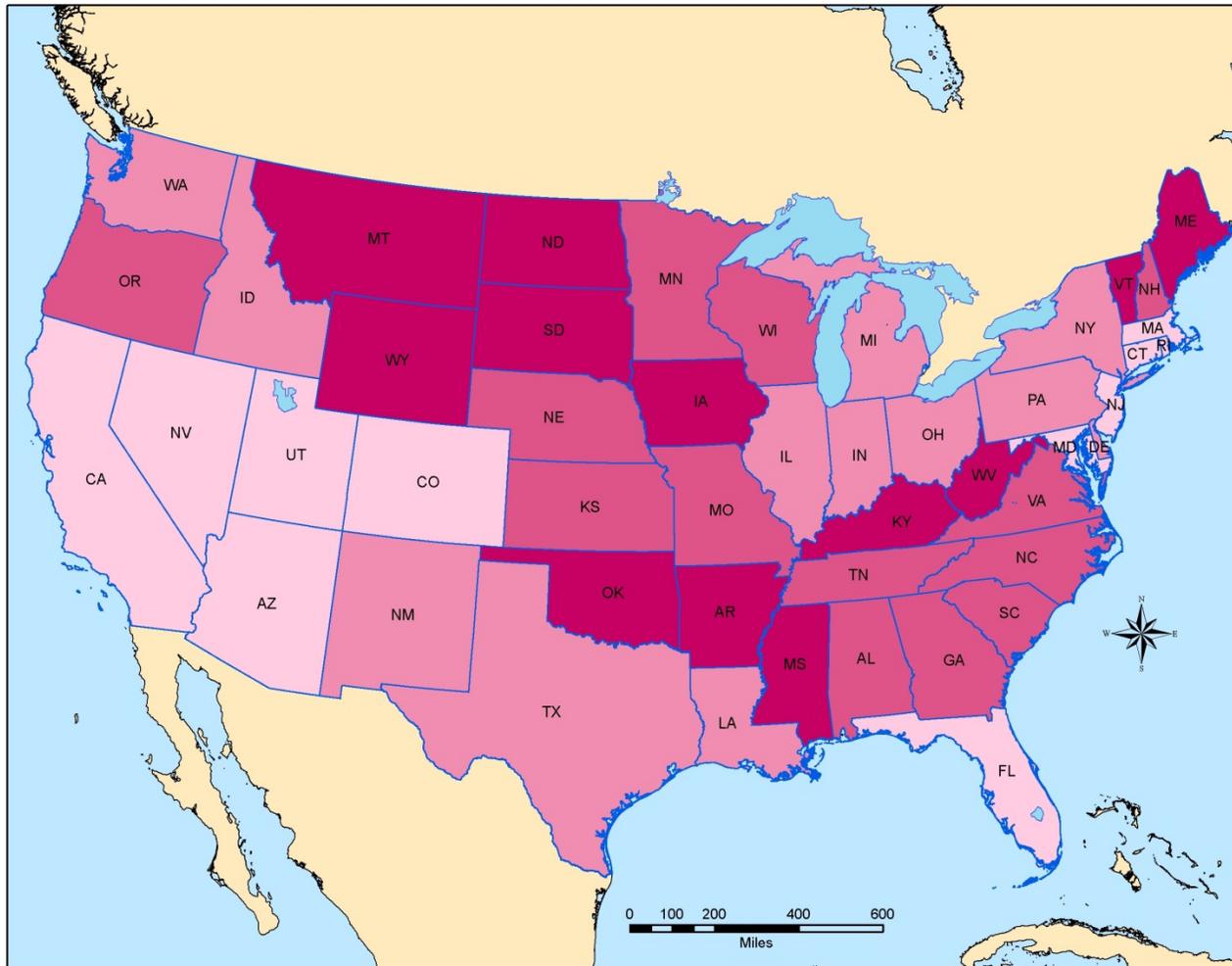
Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)
GeoSpatial Outcomes Division
(Map Creation Date: 8/27/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

Coronary Artery Disease



Patient Encounters	
	2 - 3,721 (Lower 25%)
	3,722 - 12,572
	12,573 - 25,275
	25,276 - 60,889 (Upper 25%)

Map 46:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease
Encounters
By State FY - 2014

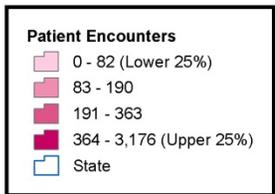
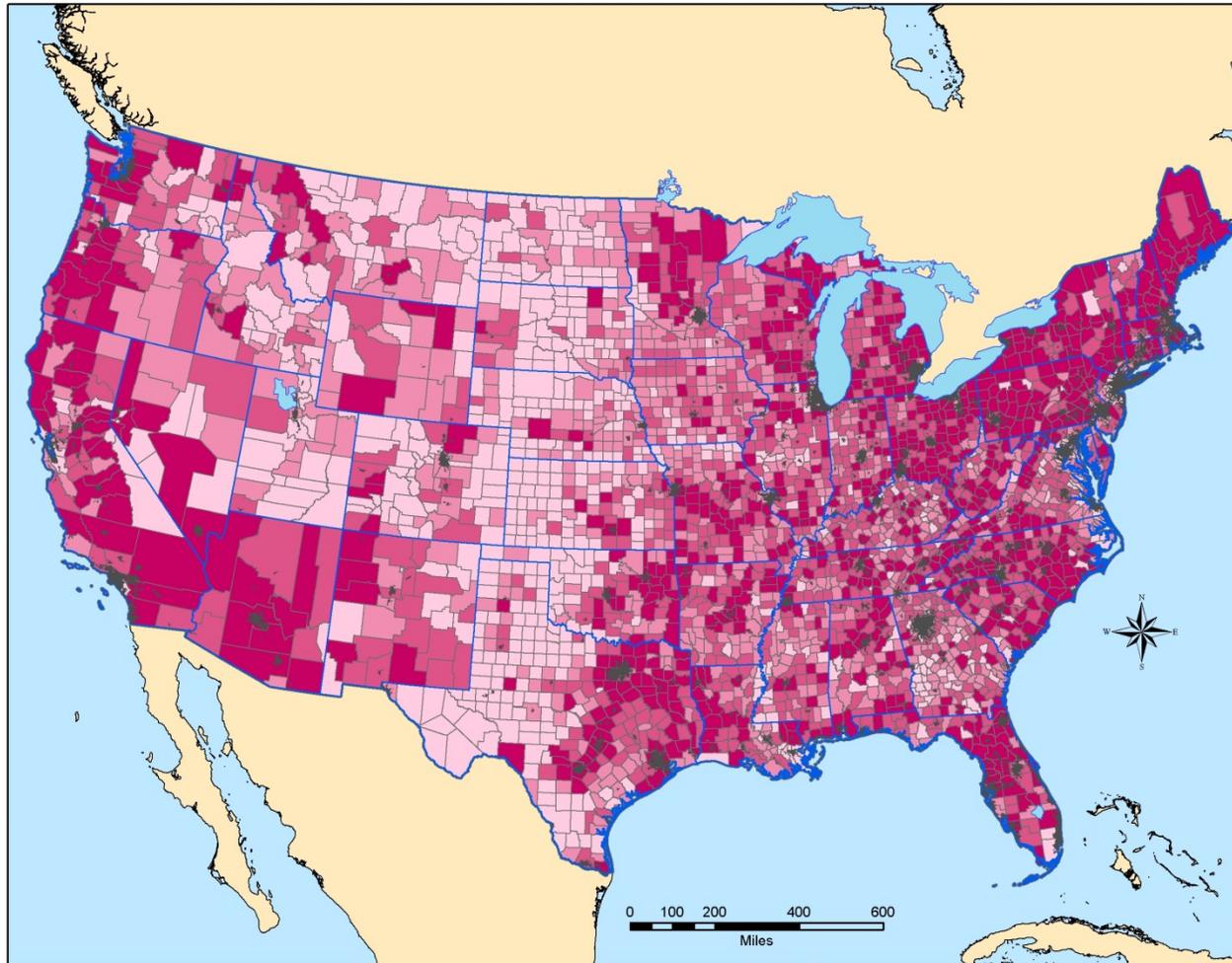


Map 47:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Encounters
Of All VHA Patient Coronary Artery Disease Encounters
By State FY - 2014

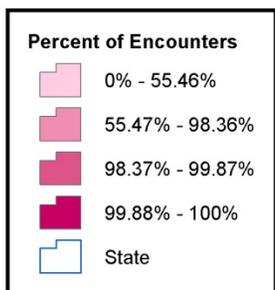
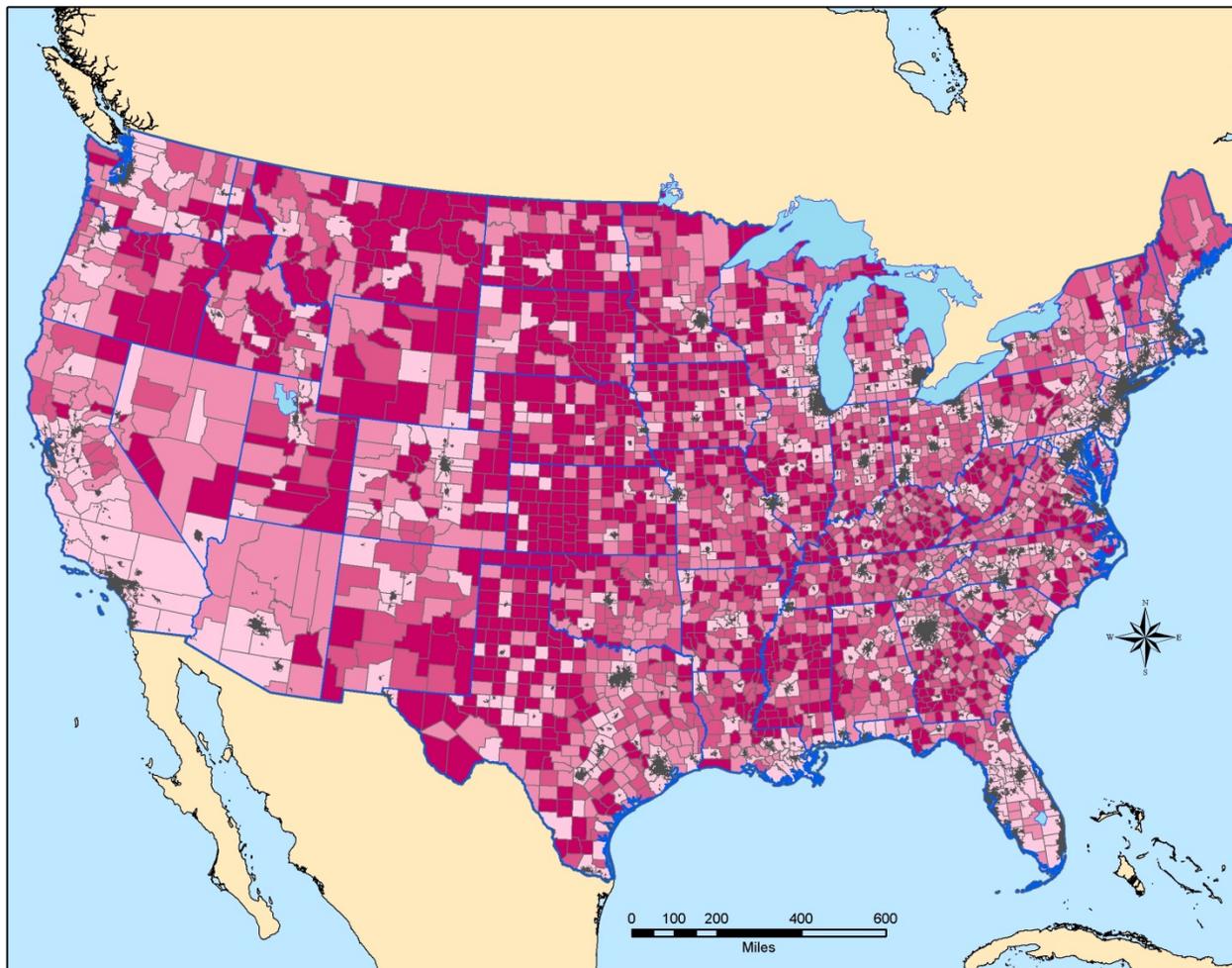


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Coronary Artery Disease



Map 48:
Number of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Encounters
By County FY - 2014
Urban Areas "Shaded"



Map 49:
Percent of Rural and Highly Rural VHA Patients
with Coronary Artery Disease, Encounters
Of All VHA Patient Coronary Artery Disease Encounters
By County FY - 2014
Urban Areas "Shaded"



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GeoSpatial Outcomes Division
(Map Creation Date: 8/27/2015)
Map Information by: PSSG, VSSC, ESRI
ArcGIS 10.2x

References

1) Diagnosis Cube Documentation, available at:

<http://vaww.vssc.med.va.gov/VSSCEnhancedProductManagement/DisplayDocument.aspx?DocumentID=16>

NOTE: This is an internal VA website and is not accessible to the public.

2) Enrollment Priority Groups, available at:

http://www.va.gov/healthbenefits/resources/publications/IB10-441_enrollment_priority_groups.pdf.

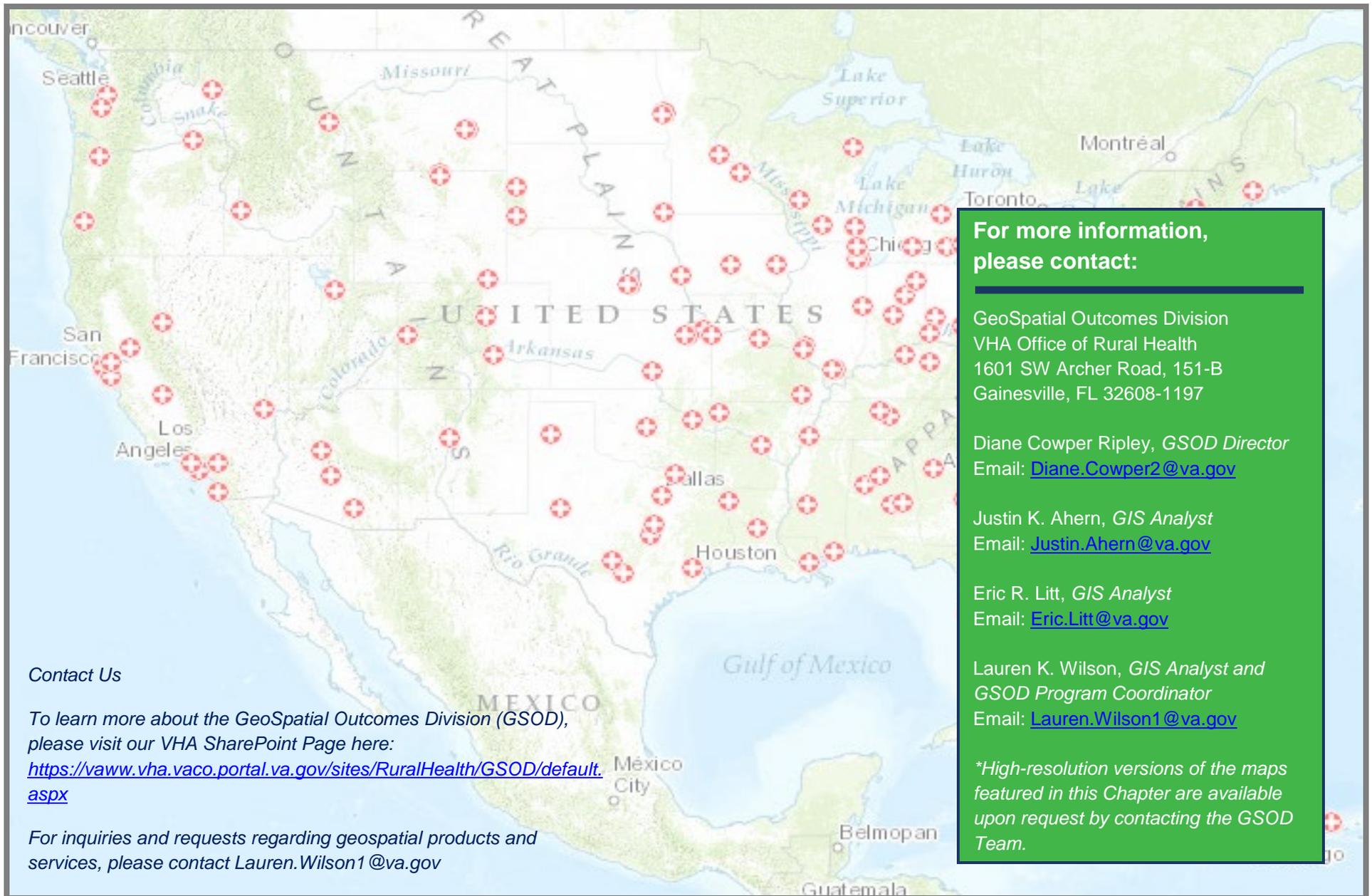
Project Team

Diane C. Cowper Ripley, Ph.D. is presently Site Co- Director of the HSR&D-funded Center of Innovation on Disability and Rehabilitation Research (CINDRR) and the Director of the Veterans Rural Health Resource Center-Eastern Region's GeoSpatial Outcomes Division (GSOD). Her research has focused on Veterans' access and utilization issues for over 31 years.

Justin K. Ahern, B.A. is a geographer and the newest staff member of the GeoSpatial Outcomes Division. He hopes to bring his diversity of skills and experiences to satisfy the GSOD's mission of supporting both Research and Operations related to improving access to health care for rural Veterans.

Eric R. Litt, B.A. is a geographer and has been with the VA since 2006. He also serves as Deputy Director of the GeoSpatial Outcomes Division. Mr. Litt has a strong interest in and deep commitment to assisting our Veterans by providing geospatial analyses that ultimately may improve access to health care services.

Lauren K. Wilson, B.S. serves as the program coordinator and GIS Analyst with the GeoSpatial Outcomes Division. She has been employed with the VA since 2009 and has been using GIS tools since 2005. Her main focus is geospatial analyses and geostatistics and their myriad uses for evidence-based research and policy influence for meaningful change in access to health care for rural Veterans.



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**High-resolution versions of the maps featured in this Chapter are available upon request by contacting the GSOD Team.*

Contact Us

To learn more about the GeoSpatial Outcomes Division (GSOD), please visit our VHA SharePoint Page here: <https://vaww.vha.vaco.portal.va.gov/sites/RuralHealth/GSOD/default.aspx>

For inquiries and requests regarding geospatial products and services, please contact Lauren.Wilson1@va.gov