

12

# Tobacco Use Disorders

*A Rural Veterans Health Care Atlas Series*

*1st edition FY-2014*



<b>OVERVIEW</b> .....	<b>1</b>
Process of Data Compilation .....	1
Diagnostic Codes Used to Define Cohort (Tobacco Use Disorders) .....	3
Organization of Data Tables and Maps .....	3
<b>Section I Highlights: VHA Patients with Tobacco Use Disorders</b>	
National Overview .....	8
VISN Overview .....	8
State Overview .....	9
County Overview .....	9
Table 1 .....	11
Maps 1 - 7 .....	12
<b>Section II Highlights: Rural and Highly Rural VHA Patients with Tobacco Use Disorders</b> .....	<b>19</b>
National Overview .....	20
VISN Overview .....	20
State Overview .....	21
County Overview .....	21
Table 2 .....	22
Maps 8 - 21 .....	23

## Section III Highlights: Rural and Highly Rural VHA Subgroups of Patients with Tobacco Use Disorders

<b>Gender</b> .....	37
<b>Table 3</b> .....	38
<b>Maps 22 - 27</b> .....	39
<b>Age Group</b> .....	45
<b>Table 4</b> .....	46
<b>Maps 28 - 33</b> .....	47
<b>Service Connection and Low Income Enrollment Priority Groups</b> .....	53
<b>Table 5</b> .....	54
<b>Maps 34 - 45</b> .....	55

## Section IV Highlights: VHA Patients with Tobacco Use Disorders (Outpatient Utilization) .....67

<b>Tables 6 - 7</b> .....	68
<b>Tables 8 - 9</b> .....	71
<b>Maps 46 - 51</b> .....	73

## References.....79

## Project Team.....79

## 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.<sup>1</sup>

According to a canned report available in the Diagnosis Cube, Tobacco Use Disorders - specifically ICD-9-CM code 305.1 (representing only one of two Tobacco Use Disorders ICD-9-CM codes) - is listed as #9 of the Top 20 Diagnoses by Uniques (with 793,770 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, Tobacco Use Disorder diagnostic code 305.1 is still ranked high at #9 (with 284,988 unique patients), and when highly rural areas are queried from the selection, code 305.1 is ranked high at #8 (with 10,956 unique patients). This represents a need for analysis of health care access and delivery for the Tobacco Use Disorder cohort living in rural and highly rural areas. The GSOD team utilized scholarly and reliable web resources to confirm two Diagnosis ICD-9-CM codes used to identify patients with Tobacco Use Disorders (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, 305.1, 305.10
- **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

# Tobacco Use Disorders



- **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, 305.1, 305.10
- **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 Tobacco Use Disorders in the VHA
- Counts and percentages of patients with Tobacco Use Disorders 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 Tobacco Use Disorders 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 Tobacco Use Disorders 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 Tobacco Use Disorders 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 Tobacco Use Disorders 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 Tobacco Use Disorders in rural and highly rural areas versus outpatient encounters of patients with Tobacco Use Disorders in all rural categories, with HR/R combined into RHR for the purposes of patient confidentiality.

\*\*\*GSOD would like to acknowledge AHRQ (Agency for Healthcare Research and Quality) under the U.S. Department of Health & Human Services for providing Public Health Service Clinical Practice Guideline that lists the ICD-9 codes for Tobacco Abuse Disorders. The qualifying diagnosis codes are available here <http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/codes.pdf>. GSOD would also like to acknowledge NARBHA (Northern Arizona Regional Behavioral Health Authority) for providing a web-based Medicare coverage database that list the ICD-9 codes for Substance Use Disorders, and in particular, those disorders which are related to Tobacco Use. The qualifying diagnosis codes are available here: <http://www.narbha.org/includes/media/docs/7.5.4-Attach-Substance-Abuse-Disorders-Qualifying-Diagnoses-Table.pdf>

## Diagnostic Codes Used to Define Cohort (Tobacco Use Disorders)

ICD-9 CM code	Description
305.1	TOBACCO USE DISORDER
305.10	TOBACCO USE DISORDER, UNSPECIFIED USE

## Organization of Data Tables and Maps

The data tables and maps for Veterans with Tobacco Use Disorders are organized into four sections. The first section (Section I) focuses on the total numbers of VHA patients with Tobacco Use Disorders. 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 Tobacco Use Disorders, 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 Tobacco Use Disorders by VISN, FY-2014
- Map 2: Number of Patients with Tobacco Use Disorders by State, FY-2014
- Map 3: Number of Patients with Tobacco Use Disorders by County, FY-2014
- Map 4 - 7: Number of Patients with Tobacco Use Disorders by County, FY-2014 – Zoomed VISN views

Section II of the chapter focuses on the overall prevalence of Tobacco Use Disorders by the following rurality categories: *highly rural, 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 Tobacco Use Disorders. Because the numbers 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 Tobacco Use Disorders:

- Map 8: Number of Rural and Highly Rural Patients with Tobacco Use Disorders by VISN, FY-2014
- Map 9: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders of Total Rural and Highly Rural Patients by VISN, FY-2014
- Map 10: Number of Rural and Highly Rural Patients with Tobacco Use Disorders by State, FY-2014
- Map 11: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders of Total Rural and Highly Rural Patients by State, FY-2014
- Map 12: Number of Rural and Highly Rural Patients with Tobacco Use Disorders by County, FY-2014
- Map 13: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders of Total Rural and Highly Rural Patients by County, FY-2014
- Maps 14, 16, 18, 20: Number of Rural and Highly Rural Patients with Tobacco Use Disorders by County, FY-2014 – Zoomed VISN views
- Map 15, 17, 19, 21: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders 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 VHA female patients:

- Map 22: Number of Rural and Highly Rural Female Patients with Tobacco Use Disorders by VISN, FY-2014
- Map 23: Percent of Rural and Highly Rural Female Patients with Tobacco Use Disorders of Total Rural and Highly Rural Female Patients by VISN, FY-2014
- Map 24: Number of Rural and Highly Rural Female Patients with Tobacco Use Disorders by State, FY-2014
- Map 25: Percent of Rural and Highly Rural Female Patients with Tobacco Use Disorders of Total Rural and Highly Rural Female Patients by State, FY-2014
- Map 26: Number of Rural and Highly Rural Female Patients with Tobacco Use Disorders by County, FY-2014
- Map 27: Percent of Rural and Highly Rural Female Patients with Tobacco Use Disorders of Total Rural and Highly Rural Female Patients by County, FY-2014

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 28: Number of Rural and Highly Rural Patients Aged 65+ with Tobacco Use Disorders by VISN, FY-2014
- Map 29: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders Aged 65+ of Total Rural and Highly Rural Patients Aged 65+ by VISN, FY-2014
- Map 30: Number of Rural and Highly Rural Patients Aged 65+ with Tobacco Use Disorders by State, FY-2014
- Map 31: Percent of Rural and Highly Rural Patients Aged 65+ with Tobacco Use Disorders of Total Rural and Highly Rural Patients Aged 65+ by State, FY-2014
- Map 32: Number of Rural and Highly Rural Patients Aged 65+ with Tobacco Use Disorders by County, FY-2014
- Map 33: Percent of Rural and Highly Rural Patients Aged 65+ with Tobacco Use Disorders 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 34: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Tobacco Use Disorders by VISN, FY-2014
- Map 35: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders in Priority Group 1-3 of Total Rural and Highly Rural Veteran Patients in Priority Group 1-3 by VISN, FY-2014
- Map 36: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Tobacco Use Disorders by State, FY-

2014

- Map 37: Percent of Rural and Highly Rural Patients in Priority Group 1-3 with Tobacco Use Disorders of Total Rural and Highly Rural Patients in Priority Group 1-3 by State, FY-2014
- Map 38: Number of Rural and Highly Rural Patients in Priority Group 1-3 with Tobacco Use Disorders by County, FY-2014
- Map 39: Percent of Rural and Highly Rural Patients in Priority Group 1-3 with Tobacco Use Disorders of Total Rural and Highly Rural Patients in Priority Group 1-3 by County, FY-2014
- Map 40: Number of Rural and Highly Rural Patients in Priority Group 5 with Tobacco Use Disorders by VISN, FY-2014
- Map 41: Percent of Rural and Highly Rural Patients with Tobacco Use Disorders in Priority Group 5 of Total Rural and Highly Rural Patients in Priority Group 5 by VISN, FY-2014
- Map 42: Number of Rural and Highly Rural Patients in Priority Group 5 with Tobacco Use Disorders by State, FY-2014
- Map 43: Percent of Rural and Highly Rural Patients in Priority Group 5 with Tobacco Use Disorders of Total Rural and Highly Rural Patients in Priority Group 5 by State, FY-2014
- Map 44: Number of Rural and Highly Rural Patients in Priority Group 5 with Tobacco Use Disorders by County, FY-2014
- Map 45: Percent of Rural and Highly Rural Patients in Priority Group 5 with Tobacco Use Disorders 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 Tobacco Use Disorders. Table 6 examines the outpatient encounters of patients with a **primary** diagnosis of Tobacco Use Disorders 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 Tobacco Use Disorders, also categorized by rurality. Table 7 and Table 9 provide information on the numbers and percentage of rural and highly rural Tobacco Use Disorders encounters of total Tobacco Use Disorders encounters for patients with a primary diagnosis of Tobacco Use Disorders (Table 7) and secondary diagnosis of Tobacco Use Disorders (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 Tobacco Use Disorders to capture the total workload (outpatient encounters) of this disease in rural and highly rural areas:

- Map 46: Number of Rural and Highly Rural Tobacco Use Disorders Patient Encounters by VISN, FY-2014

- Map 47: Percent of Rural and Highly Rural Tobacco Use Disorders Patient Encounters of VHA Tobacco Use Disorders Encounters by VISN, FY-2014
- Map 48: Number of Rural and Highly Rural Tobacco Use Disorders Patient Encounters by State, FY-2014
- Map 49: Percent of Rural and Highly Rural Tobacco Use Disorders Patient Encounters of VHA Tobacco Use Disorders Encounters by State, FY-2014
- Map 50: Number of Rural and Highly Rural Tobacco Use Disorders Patient Encounters by County, FY-2014
- Map 51: Percent of Rural and Highly Rural Tobacco Use Disorders Patient Encounters of VHA Tobacco Use Disorders 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 Tobacco Use Disorders

### National Overview

In Fiscal Year 2014, the Veterans Health Administration had 868,537 patients with the diagnosis code indicating a primary or secondary diagnosis of Tobacco Use Disorders (Table 1). This number represented approximately 14 percent (13.98%) of the total patient population during the fiscal year. As with most patients seen in the VHA, the majority of patients with Tobacco Use Disorders were male (93.08%); however, females represented almost 7 percent (6.92%).

The age distribution of patients with Tobacco Use Disorders showed that 16.97% were under the age of 45, 15.74% were ages 45-54, 33.14% were ages 55-64, 27.99% were ages 65-74, and 6.17% were ages 75 or older. The high percentages in the 55-64 and the 65-74 age groups reflected those Veterans that had served in the Vietnam Conflict or during the Post-Vietnam Era.

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.<sup>2</sup> The table shows that about one-half (46.55%) were Service-Connected injured Veterans enrolled in Priority Groups 1 – 3 and almost one-third (31.63%) 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 Tobacco Use Disorders ranged from a high of 82,943 individuals in the South Central Network (VISN 16, which serves Veterans in Oklahoma, Arkansas, Louisiana, Mississippi, and parts of Texas, Missouri, Alabama and Florida) to a low of 19,346 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 Tobacco Use Disorders proportionally to all patients, the Ohio Network (VISN 10) had the highest proportion at 18.24% and the Desert Pacific Network (VISN 22) had the lowest proportion at 10.92%. The VISN with the highest ratio of females

to males was in the Heart of Texas Network (VISN 17), where 8.77% of the patients with Tobacco Use Disorders were female. At the National level, the 55-64 age group had the highest prevalence of patients with Tobacco Use Disorders to all VHA patients (33.14%), and in 12 networks, more than one-third of patients with Tobacco Use Disorders were aged 55-64. In four networks, more than one-half of patients with Tobacco Use Disorders in the VHA were Service-Connected (Priority Groups 1-3). In seven networks, more than one-third of patients with Tobacco Use Disorders in the VHA were Low Income (Priority 5). Map 1 shows the number of Veterans with Tobacco Use Disorders by quartile across the 21 VISNs.

## State Overview

Map 2 shows the number of VHA patients with Tobacco Use Disorders by State (by quartile). The top 10 States with the highest number of patients with Tobacco Use Disorders by rank order were Florida (N=64,620), Texas (N=57,924), California (N=57,435), Ohio (N=43,487), North Carolina (N=37,825), Pennsylvania (N=36,040), New York (N=35,405), Illinois (N=31,087), Michigan (N=25,625), and Georgia (N=25,273). The State/territory with the highest percentages of patients with Tobacco Use Disorders was Northern Mariana Islands (23.29%), followed by (in rank order): Oklahoma (22.43%), West Virginia (20.67%), Kentucky (20.14%), Guam (20.11%), Ohio (19.23%), District of Columbia (18.17%), North Carolina (18.14%), Arkansas (17.88%) and Mississippi (17.87%).

## County Overview

The number of patients with Tobacco Use Disorders 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 Tobacco Use Disorders and the geographic patterns within each VISN. The top 10 counties with the largest number of VHA patients with Tobacco Use Disorders across the US were in the States of Illinois (1 county), California (2 counties), Arizona (1 county), Texas (2 counties), Nevada (1 county), Alabama (1 county), Florida (1 county), and Michigan (1 county). Cook County, Illinois had the largest number of patients with Tobacco Use Disorders (N=10,048), followed by, in rank order: Los Angeles County, California (N=9,602), Maricopa County, Arizona (N=7,405), Harris County, Texas (N=6,463), San Diego County, California (N=5,878), Bexar County, Texas (N=5,763), Clark County, Nevada (N=5,674), Cuyahoga County, Ohio (N=5,239), Pinellas County, Florida (N=4,940), and Wayne County, Michigan (N=4,669). In terms of the top 10 counties with the highest percentages of patients with Tobacco Use Disorders across the US, Breathitt County, Kentucky led at 37.72%,

# Tobacco Use Disorders

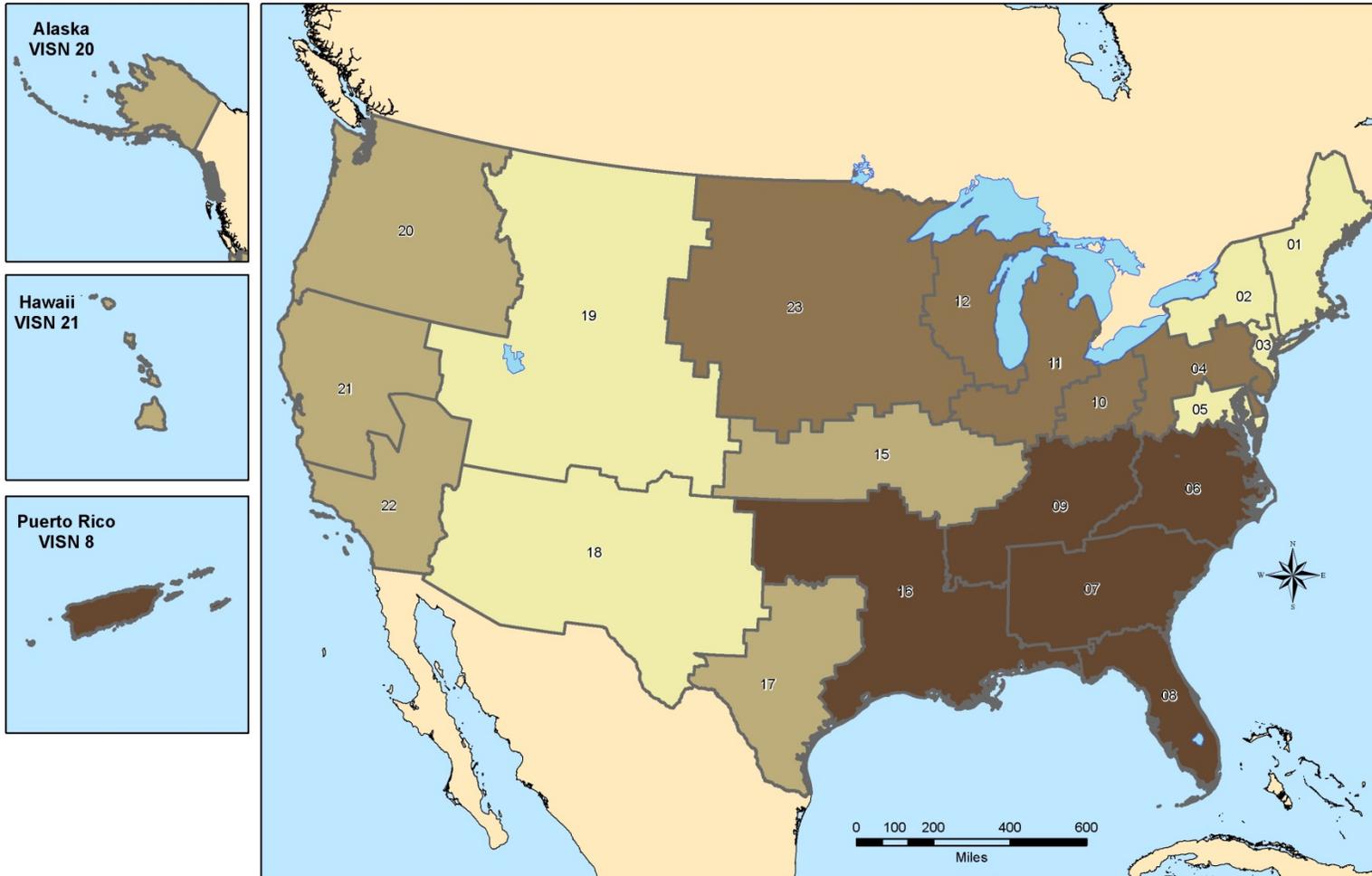


followed by (in rank order): McIntosh County, Oklahoma (36.39%), Billings County, North Dakota (35.71%), Craig County, Oklahoma (34.43%), Tyler County, West Virginia (34.40%), Gilmer County, West Virginia (34.15%), Doddridge County, West Virginia (34.08%), Okmulgee County, Oklahoma (33.66%), Mayes County, Oklahoma (33.46%), and Crane County, Texas (33.33%).

Table 1: National and VISN Numbers and Percentages of VHA Patients with Tobacco Use Disorders, FY-2014

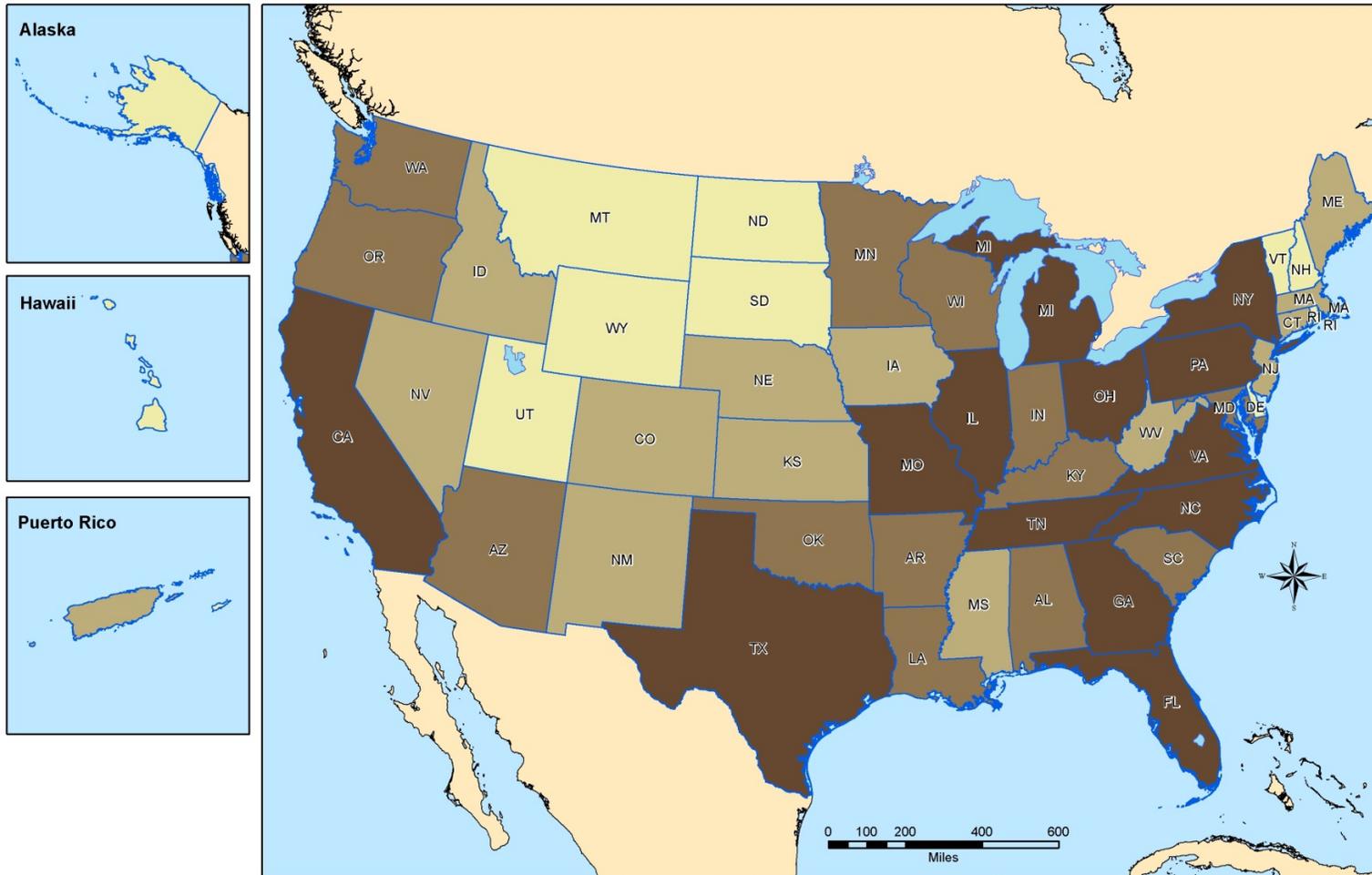
Overall Prevalence Statistics- Tobacco Use Disorders, FY-2014												
Veterans Integrated Service Network	Total Number of Patients	Patients with Tobacco Use Disorders		Gender (%)		Age Group (%)					Enrollment Priority Groups (%)	
		N	(%)	F	M	<45	45-54	55-64	65-74	75+	Service Connected (Priority 1-3)	Low Income (Priority 5)
New England (01)	253,326	31,719	12.52	5.99	94.01	17.86	14.59	30.90	29.38	7.29	48.89	26.53
Upstate NY (02)	136,497	21,307	15.61	7.07	92.93	18.52	16.64	31.35	26.68	6.85	42.78	32.98
NY/NJ (03)	174,457	19,454	11.15	6.13	93.87	16.71	14.81	31.03	29.81	7.64	41.84	34.48
Stars and Stripes (04)	310,940	48,631	15.64	6.60	93.40	17.60	15.61	29.70	29.25	7.85	41.77	31.18
Capitol (05)	150,012	19,346	12.90	8.36	91.64	15.19	18.18	35.32	25.53	5.78	42.01	35.60
Mid-Atlantic (06)	359,692	59,635	16.58	8.34	91.66	18.36	16.69	33.39	26.09	5.48	50.69	29.86
Southeast (07)	408,164	52,121	12.77	8.04	91.96	15.97	17.78	36.02	25.54	4.71	50.15	31.66
Sunshine (08)	576,411	70,317	12.20	7.60	92.40	14.39	16.41	34.57	27.94	6.69	43.34	34.84
Mid South (09)	298,396	49,860	16.71	6.46	93.54	15.95	16.59	32.58	29.03	5.85	48.76	30.81
Ohio (10)	231,319	42,199	18.24	6.04	93.96	15.04	16.28	34.79	28.10	5.79	39.11	37.61
Vets in Partnership (11)	282,135	46,224	16.38	6.31	93.69	16.60	16.83	33.47	28.02	5.08	44.52	34.28
Great Lakes (12)	266,879	40,099	15.03	6.22	93.78	17.34	15.00	32.01	28.94	6.72	40.31	31.17
Heartland (15)	245,357	39,992	16.30	6.41	93.59	15.32	15.46	33.30	29.18	6.76	44.60	32.76
South Central (16)	502,681	82,943	16.50	6.89	93.11	17.26	15.00	33.95	27.58	6.22	49.33	29.94
Heart of Texas (17)	306,581	34,797	11.35	8.77	91.23	20.34	15.78	33.43	25.76	4.71	53.12	28.41
Southwest (18)	271,557	32,295	11.89	7.53	92.47	16.34	14.31	32.37	29.69	7.30	46.63	32.32
Rocky Mtn. (19)	202,350	25,845	12.77	7.11	92.89	20.99	15.19	31.85	26.35	5.63	49.39	28.73
Northwest (20)	288,322	38,653	13.41	6.42	93.58	17.17	15.16	33.49	28.89	5.29	49.64	31.04
Sierra Pacific (21)	293,645	33,796	11.51	6.16	93.84	16.04	13.02	33.85	30.42	6.67	44.96	34.65
Desert Pacific (22)	328,951	35,921	10.92	6.41	93.59	18.67	14.89	33.95	27.00	5.49	44.17	35.17
Midwest (23)	324,728	43,383	13.36	5.89	94.11	17.78	15.11	30.91	29.32	6.88	53.91	23.18
<b>Grand Total</b>	<b>6,212,400</b>	<b>868,537</b>	<b>13.98</b>	<b>6.92</b>	<b>93.08</b>	<b>16.97</b>	<b>15.74</b>	<b>33.14</b>	<b>27.99</b>	<b>6.17</b>	<b>46.55</b>	<b>31.63</b>

# Tobacco Use Disorders



Patient Count	
Lightest Yellow	19,346 - 32,295 (Lower 25%)
Light Yellow	32,296 - 39,992
Medium Yellow	39,993 - 48,631
Darkest Yellow	48,632 - 82,943 (Upper 25%)

Map 1:  
Number of VHA Patients with Tobacco Use Disorders  
By VISN FY - 2014



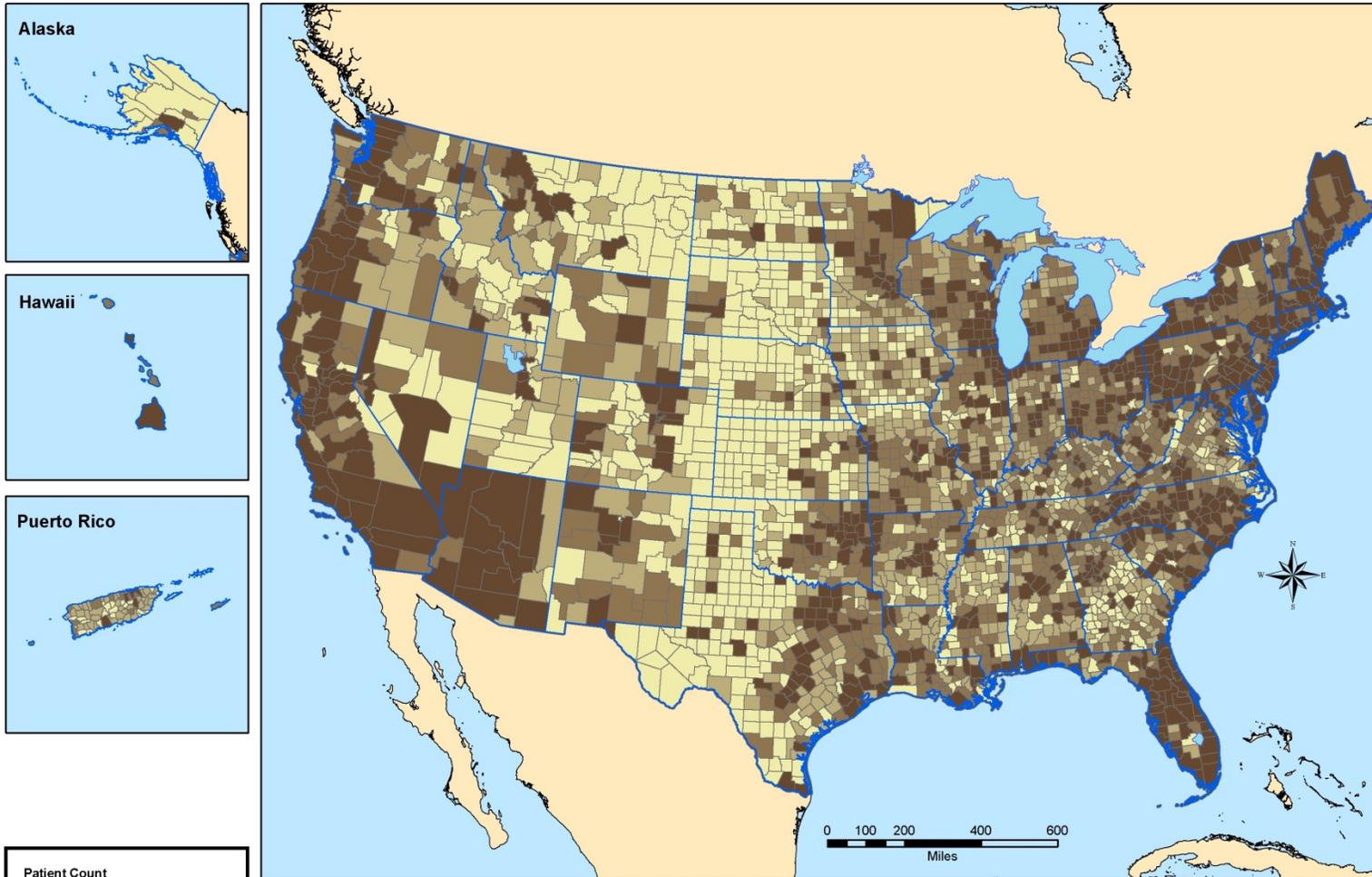
Patient Count	
	225 - 5,260 (Lower 25%)
	5,261 - 12,245
	12,246 - 21,625
	21,626 - 64,620 (Upper 25%)

Map 2:  
Number of VHA Patients with Tobacco Use Disorders  
By State FY - 2014



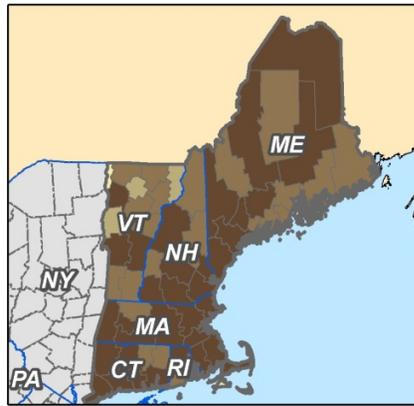
Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders

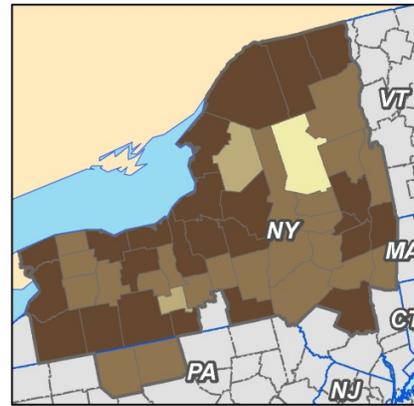


Patient Count	
	0 - 42 (Lower 25%)
	43 - 100
	101 - 251
	252 - 10,048 (Upper 25%)
	State

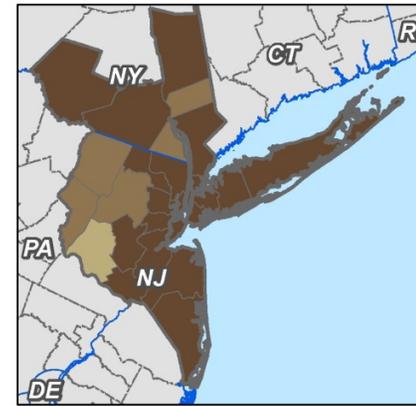
Map 3:  
Number of VHA Patients with Tobacco Use Disorders  
By County FY - 2014



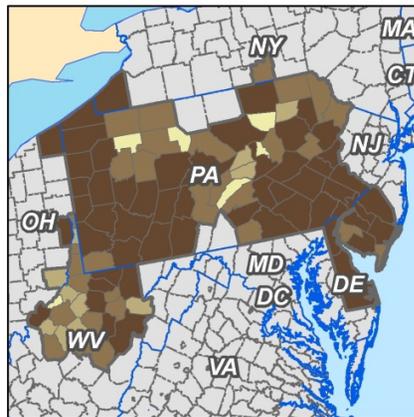
VISN 1



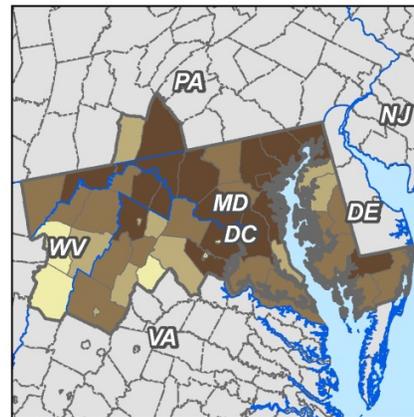
VISN 2



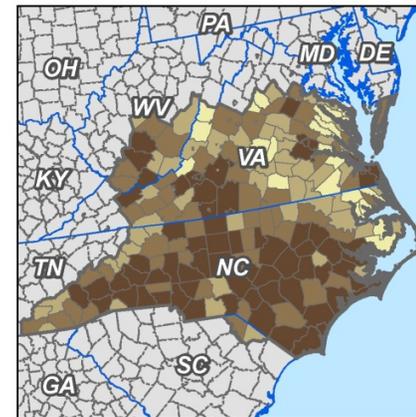
VISN 3



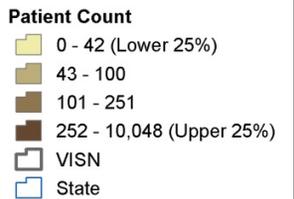
VISN 4



VISN 5



VISN 6

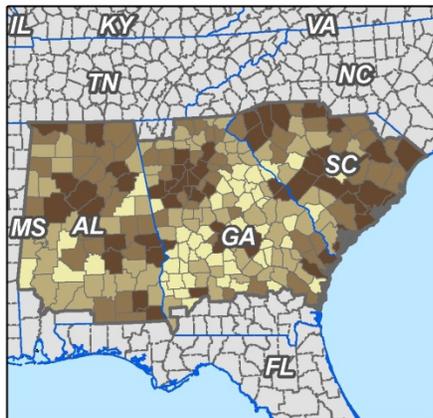


Map 4:  
Number of VHA Patients  
with Tobacco Use Disorders  
by County, FY - 2014

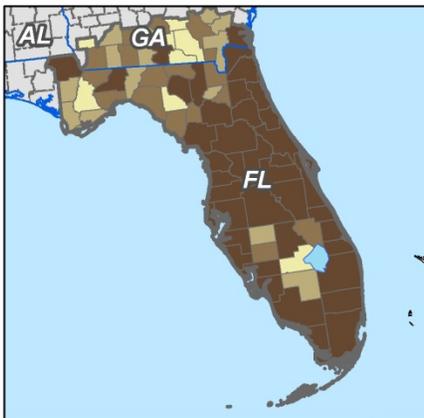


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
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# Tobacco Use Disorders



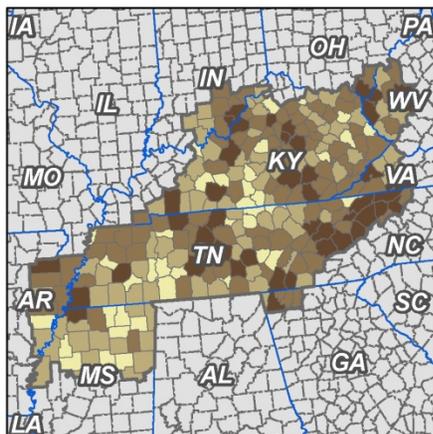
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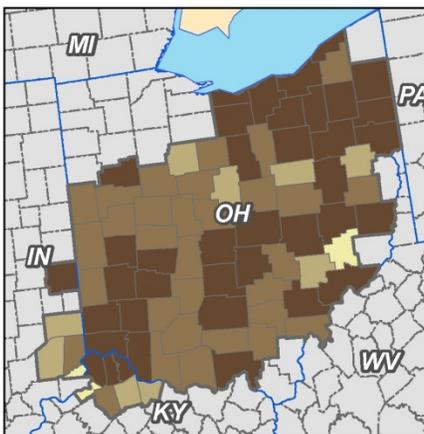
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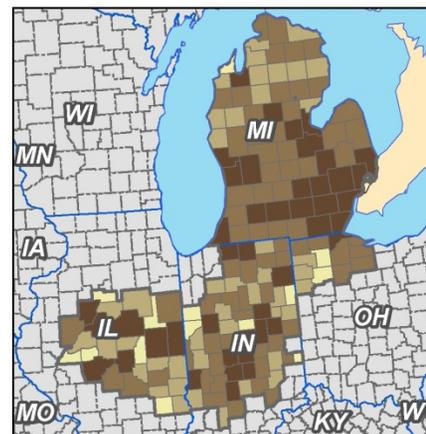
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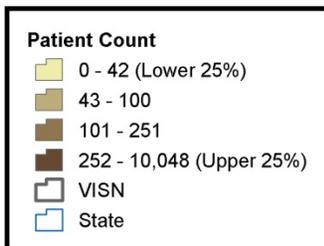
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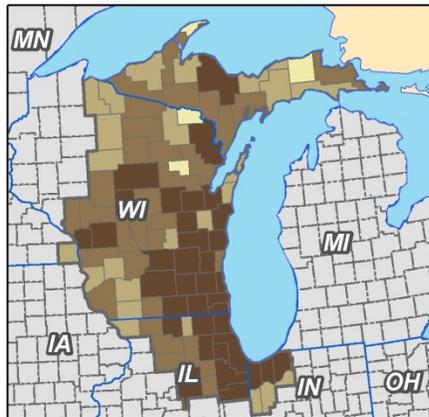


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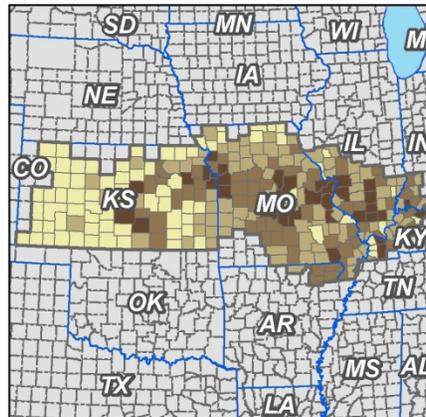


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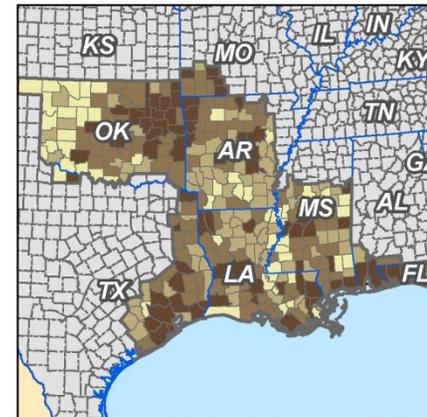
Number of VHA Patients  
with Tobacco Use Disorders  
By County FY - 2014



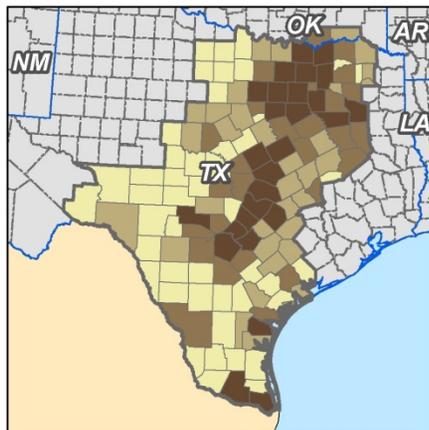
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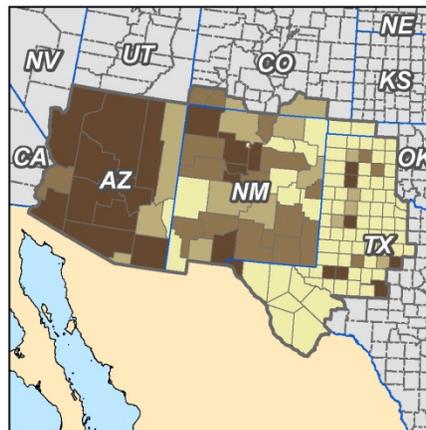
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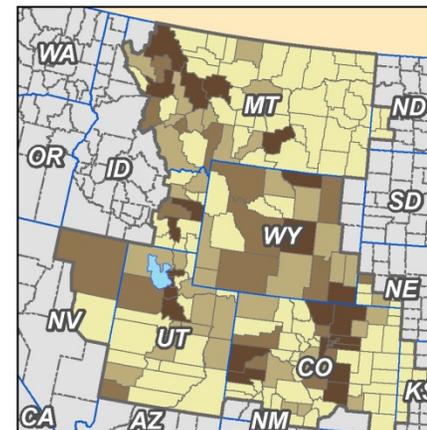
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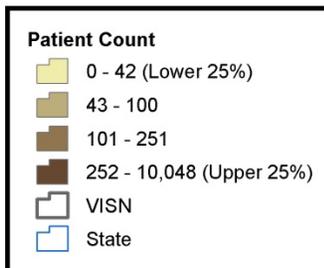
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VISN 18



VISN 19

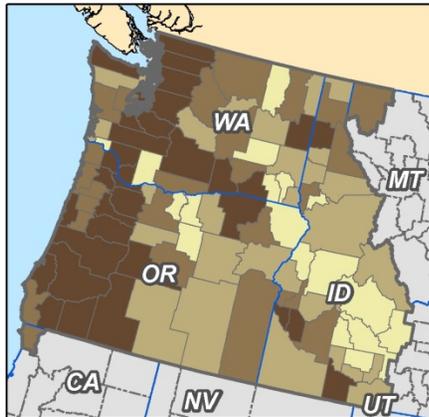


Map 6:  
Number of VHA Patients  
with Tobacco Use Disorders  
By County, FY - 2014

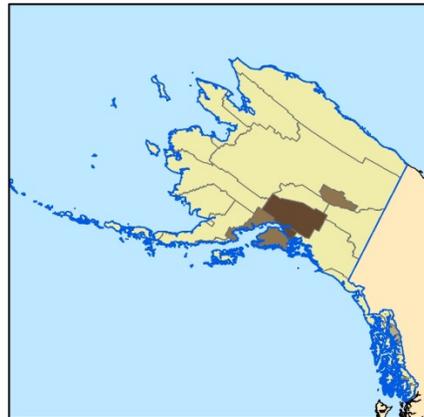


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
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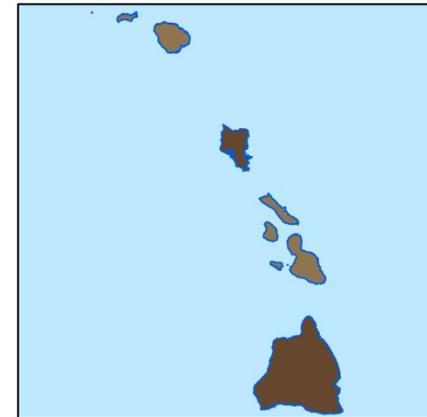
# Tobacco Use Disorders



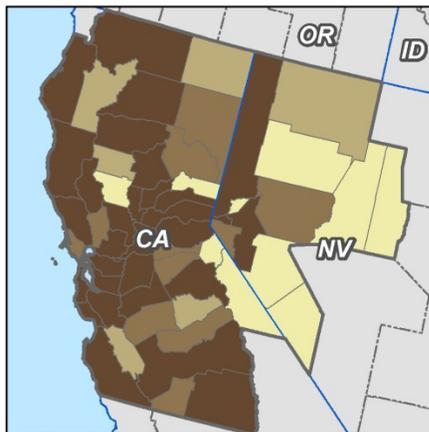
VISN 20



VISN 20- Alaska



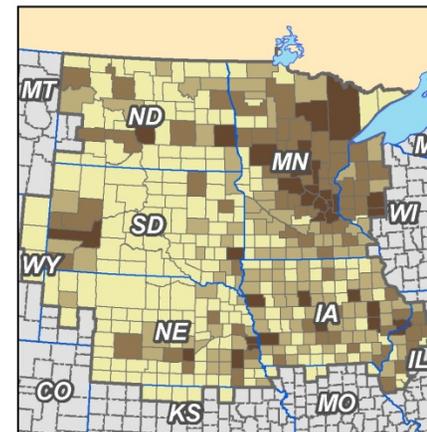
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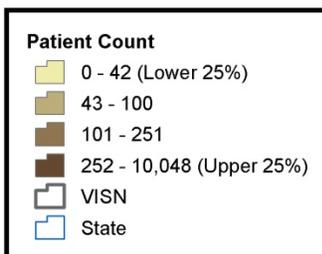
VISN 21



VISN 22



VISN 23



Map 7:  
Number of VHA Patients  
with Tobacco Use Disorders  
By County, FY - 2014

## Section II Highlights: Rural and Highly Rural VHA Patients with Tobacco Use Disorders

This section focuses on the overall prevalence of Tobacco Use Disorders 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.<sup>1</sup> 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 Tobacco Use Disorders. For this section, both the number and the percentages of rural and highly rural patients with Tobacco Use Disorders 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.

# Tobacco Use Disorders



## National Overview

In FY-2014, 868,537 VHA patients had a primary or secondary diagnosis of Tobacco Use Disorders. The majority of patients with Tobacco Use Disorders lived in urban areas (59.90%). However, a combined 40.0% resided in either rural (N=336,608) or highly rural (N=10,956) areas.

## VISN Overview

The Rocky Mountain Network (VISN 19) had the highest number of patients with Tobacco Use Disorders residing in a defined *highly rural* area at 3,288, which represented 12.72% of the total number of patients with Tobacco Use Disorders in that network (Table 2). The South Central Network (VISN 16) had the highest number of patients with Tobacco Use Disorders residing in a defined *rural* area at 42,556, which represented 51.31% of the total number of patients with Tobacco Use Disorders in that network. This health condition appeared to be more prevalent with *rural* patients compared to *urban* patients with Tobacco Use Disorders in four other VISNs: Upstate New York Network (VISN 2), Mid-South Network (VISN 9), Heartland Network (VISN 15), and Midwest Network (VISN 23).

Map 8 and Map 9 show the number and percentages of rural and highly rural patients with Tobacco Use Disorders by VISN. Three networks (VISNs 6, 9, and 16) showed both a high volume of rural and highly rural patients with Tobacco Use Disorders and a large proportion of their rural and highly rural patient population who had this disorder. VISNs 7, 20 and 23 had a relatively large number of patients with Tobacco Use Disorders, but the proportion of rural and highly rural patients with Tobacco Use Disorders represented low to moderate percentages of the total rural and highly rural patient population.

## State Overview

Map 10 shows the number of VHA rural and highly rural patients with Tobacco Use Disorders by State (by quartile). The top 10 States with the highest number of rural and highly rural patients with Tobacco Use Disorders by rank order were: Texas (N=20,845), North Carolina (N=19,282), Ohio (N=16,106), Pennsylvania (N=13,493), Florida (N=13,412), Missouri (N=13,252), Kentucky (N=13,037), Oklahoma (N=12,543), New York (N=12,516), and Michigan (N=11,464). The proportion of rural and highly rural patients with Tobacco Use Disorders 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) having Tobacco Use Disorders were: District of Columbia

(25.0%), Oklahoma (23.83%), Kentucky (21.48%), West Virginia (21.39%), North Carolina (19.44%), Virginia (19.03%), Ohio (18.77%), Mississippi (17.69%), Wyoming (17.36%), and Arkansas (17.59%).

## County Overview

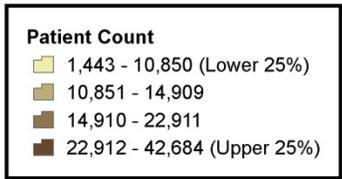
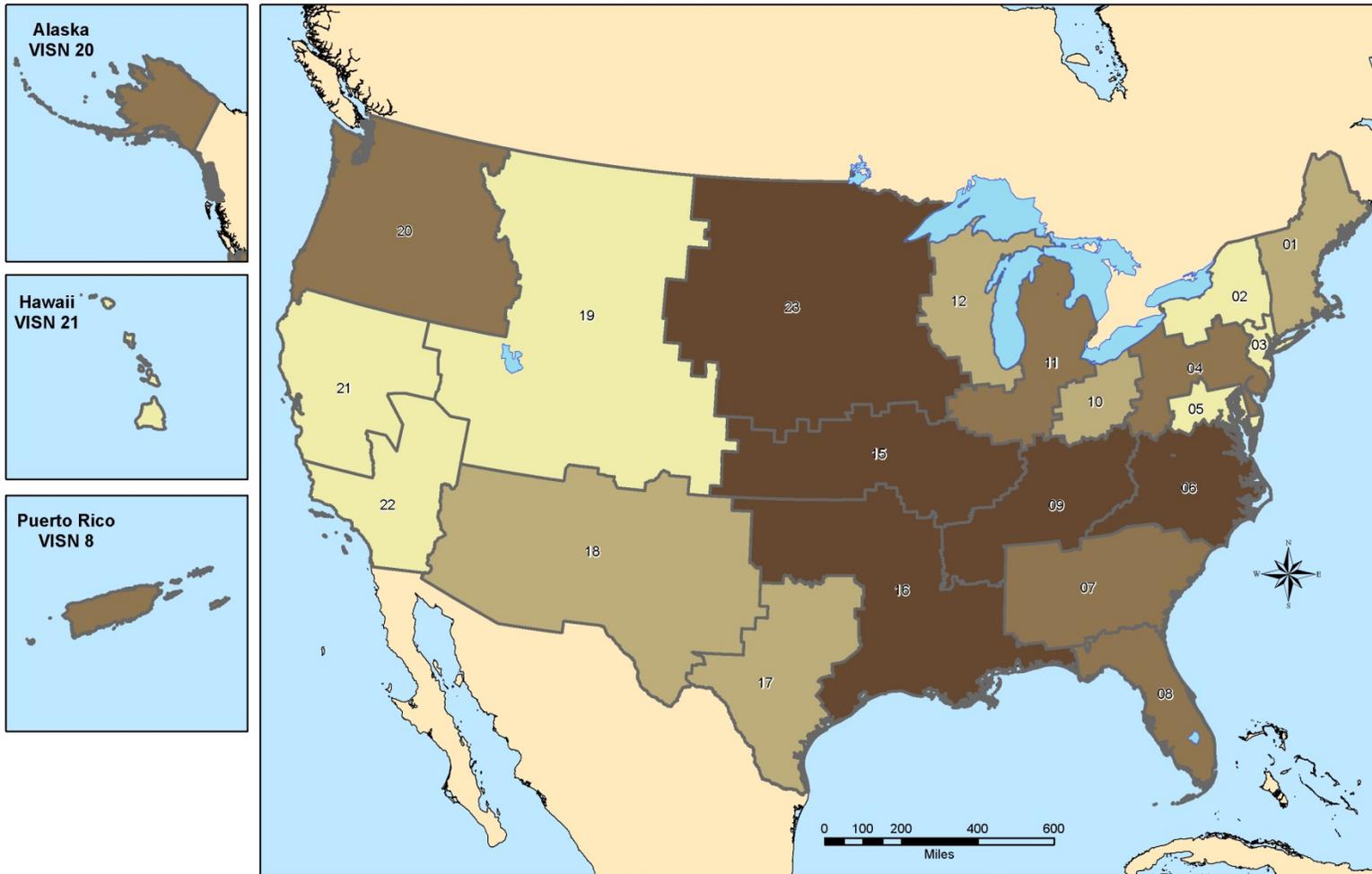
The number of rural and highly rural patients with Tobacco Use Disorders by county is displayed by quartiles in Map 12. The highest 25% in terms of volume is designated by the darkest shade. The proportion of rural and highly rural patients with Tobacco Use Disorders of the total rural and highly rural patient population is portrayed in Map 13. 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 Tobacco Use Disorders 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 Tobacco Use Disorders across the US were in the States of Florida (2 counties), Oregon (1 county), Oklahoma (1 county), California (1 county), Arizona (1 county), West Virginia (1 county), North Carolina (1 county), Maine (1 county), and New York (1 county). Marion County, Florida had the largest number of rural and highly rural patients with Tobacco Use Disorder (N=1,107) followed by, in rank order: Douglas County, Oregon (N=1,094), Muskogee County, Oklahoma (N=1,059), San Bernardino County, California (N=992), Yavapai County, Arizona (N=986), Harrison County, West Virginia (N=916), Robeson County, North Carolina (N=873), Kennebec County, Maine (N=861), Chautauqua County, New York (N=838), and Columbia County, Florida (N=784). The top 10 counties with the largest proportion of their rural and highly rural patients (and there are at least 10 rural and highly rural patients) with a Tobacco Use Disorders diagnostic code were Baltimore city, Maryland (45.28%), Guam (40.0%), San Francisco County, California (39.29%), Breathitt County, Kentucky (37.41%), McIntosh County, Oklahoma (36.43%), Billings County, North Dakota (35.71%), St. Louis city, Missouri (35.19%), Gilmer County, West Virginia (34.57%), Tyler County, West Virginia (34.42%), and Doddridge County, West Virginia (34.09%).

# Tobacco Use Disorders



Table 2: National and VISN Numbers and Percentages of VHA Patients with Tobacco Use Disorders by Rurality, FY-2014

Prevalence Statistics by Rurality- Tobacco Use Disorders, FY-2014									
Veterans Integrated Service Network	Total Number of Patients with Tobacco Use Disorders	Highly Rural		Rural		Urban		Unknown	
		N	(%)	N	(%)	N	(%)	N	(%)
New England (01)	31,719	145	0.46	11,609	36.60	19,964	62.94	3	0.01
Upstate NY (02)	21,307	9	0.04	10,841	50.88	10,463	49.11	*	*
NY/NJ (03)	19,454	3	0.02	1,440	7.40	18,010	92.58	*	*
Stars and Stripes (04)	48,631	5	0.01	20,726	42.62	27,894	57.36	9	0.02
Capitol (05)	19,346	*	*	4,447	22.99	14,899	77.01	*	*
Mid-Atlantic (06)	59,635	22	0.04	29,532	49.52	30,083	50.45	6	0.01
Southeast (07)	52,121	4	0.01	22,907	43.95	29,210	56.04	6	0.01
Sunshine (08)	70,317	13	0.02	14,913	21.21	55,378	78.75	16	0.02
Mid South (09)	49,860	15	0.03	28,700	57.56	21,143	42.40	5	0.01
Ohio (10)	42,199	5	0.01	14,904	35.32	27,289	64.67	4	0.01
Vets in Partnership (11)	46,224	11	0.02	19,340	41.84	26,872	58.13	*	*
Great Lakes (12)	40,099	83	0.21	12,310	30.70	27,702	69.08	6	0.01
Heartland (15)	39,992	309	0.77	23,239	58.11	16,437	41.10	8	0.02
South Central (16)	82,943	128	0.15	42,556	51.31	40,250	48.53	13	0.02
Heart of Texas (17)	34,797	193	0.55	12,360	35.52	22,237	63.90	9	0.03
Southwest (18)	32,295	1,718	5.32	9,292	28.77	21,227	65.73	61	0.19
Rocky Mtn. (19)	25,845	3,288	12.72	7,160	27.70	15,388	59.54	12	0.05
Northwest (20)	38,653	1,981	5.13	13,502	34.93	23,163	59.93	10	0.03
Sierra Pacific (21)	33,796	509	1.51	9,082	26.87	23,650	69.98	557	1.65
Desert Pacific (22)	35,921	530	1.48	3,285	9.15	32,101	89.37	8	0.02
Midwest (23)	43,383	1,984	4.57	24,463	56.39	16,937	39.04	4	0.01
<b>Grand Total</b>	<b>868,537</b>	<b>10,956</b>	<b>1.26</b>	<b>336,608</b>	<b>38.76</b>	<b>520,297</b>	<b>59.90</b>	<b>742</b>	<b>0.09</b>

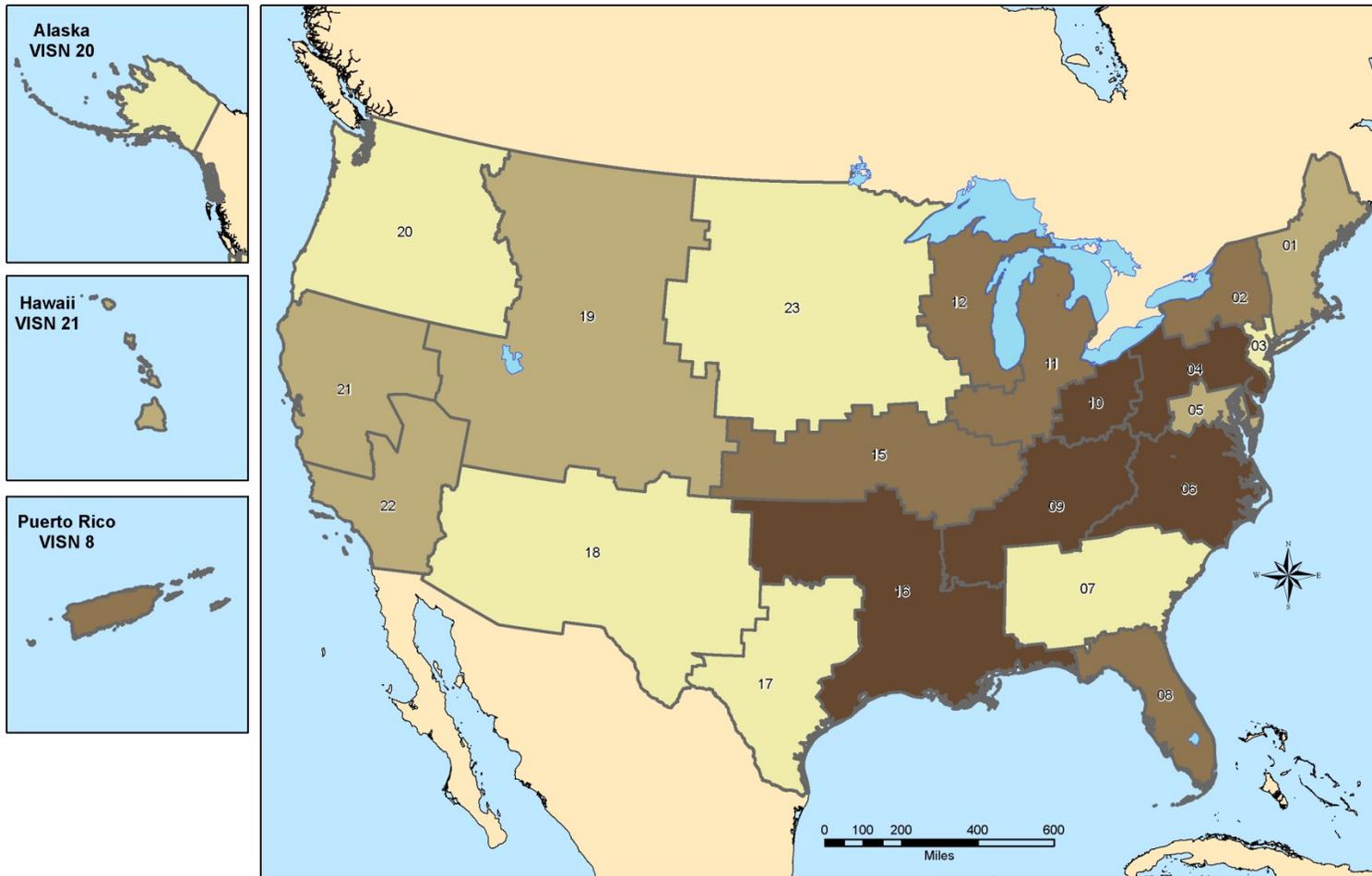


Map 8:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By VISN FY - 2014



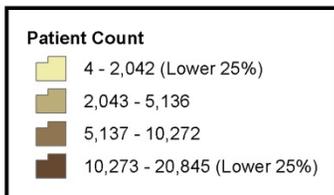
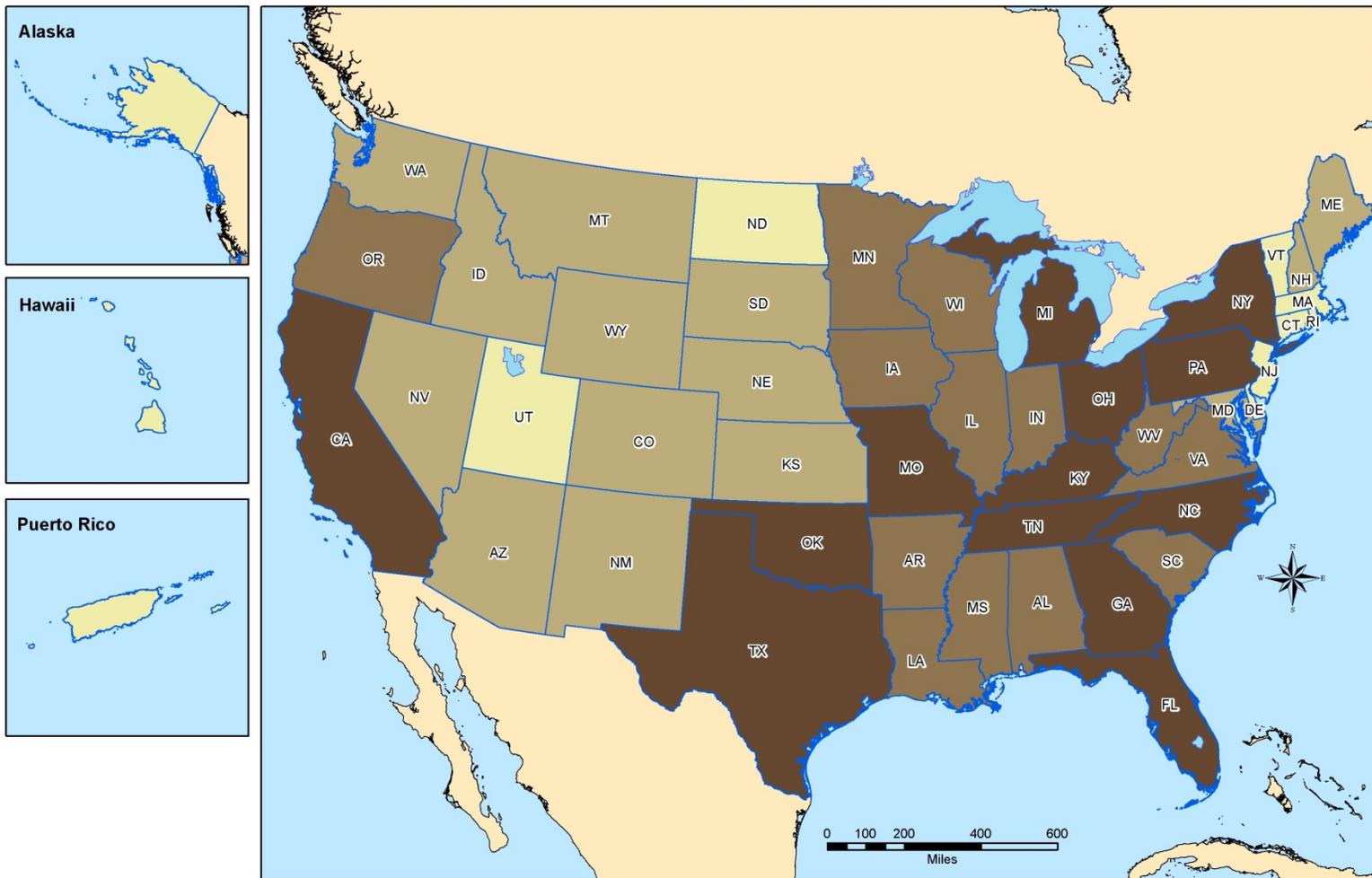
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GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
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# Tobacco Use Disorders



Percent of Patients	
	13.9% - 14.4%
	14.5% - 15.5%
	15.6% - 17.8%
	17.9% - 19.3%

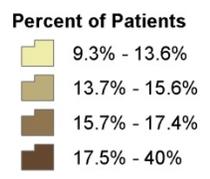
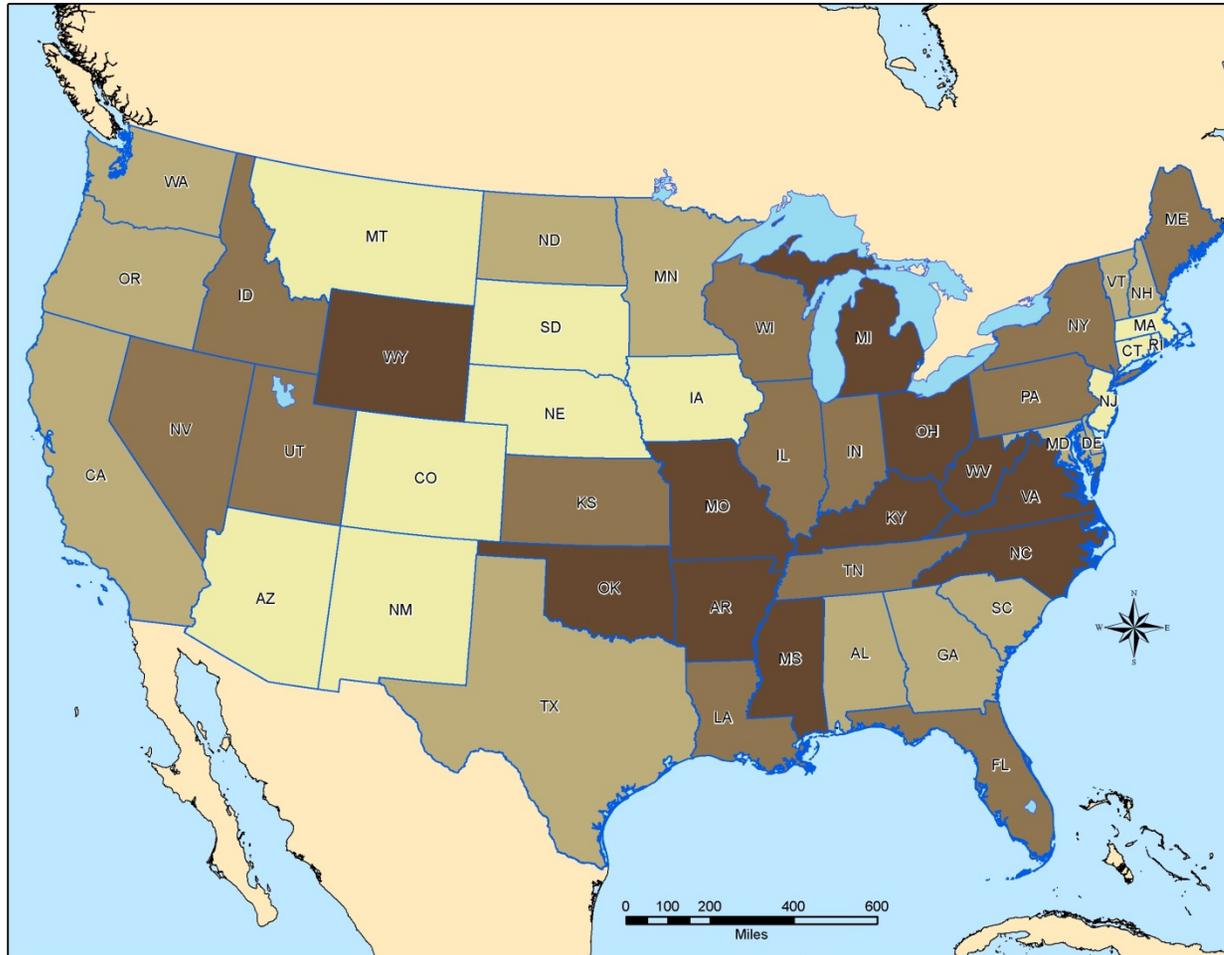
Map 9:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural VHA Patients  
By VISN FY - 2014



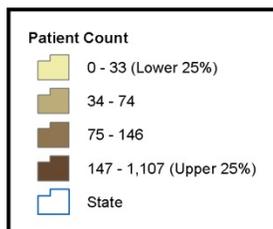
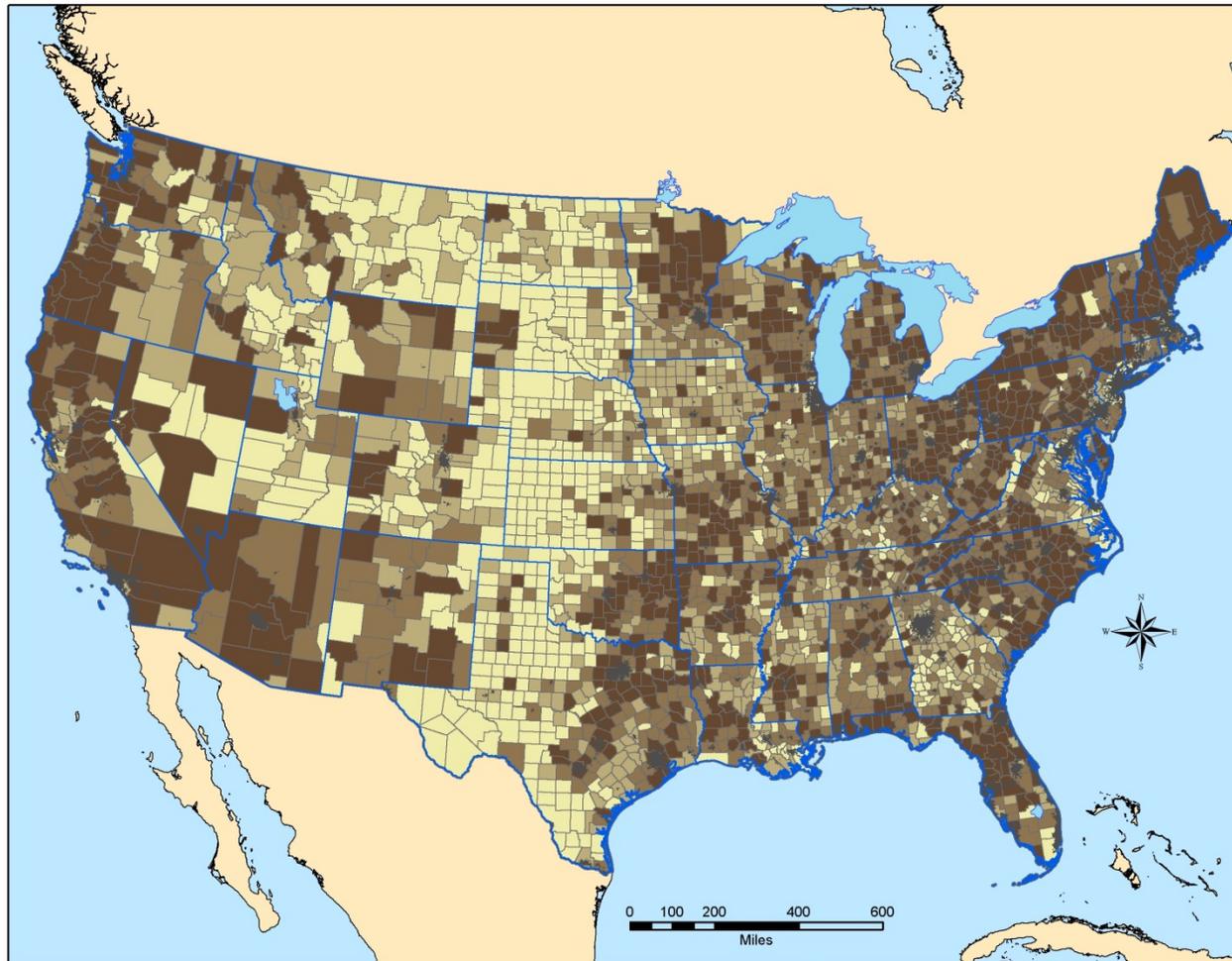
Map 10:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By State FY - 2014

  
 GeoSpatial  
Outcomes Division  
 VHA Office of Rural Health  
 Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
 GeoSpatial Outcomes Division  
 (Map Creation Date: 8/4/2015)  
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# Tobacco Use Disorders



Map 11:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By State FY - 2014



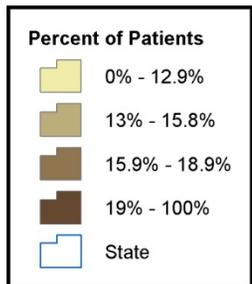
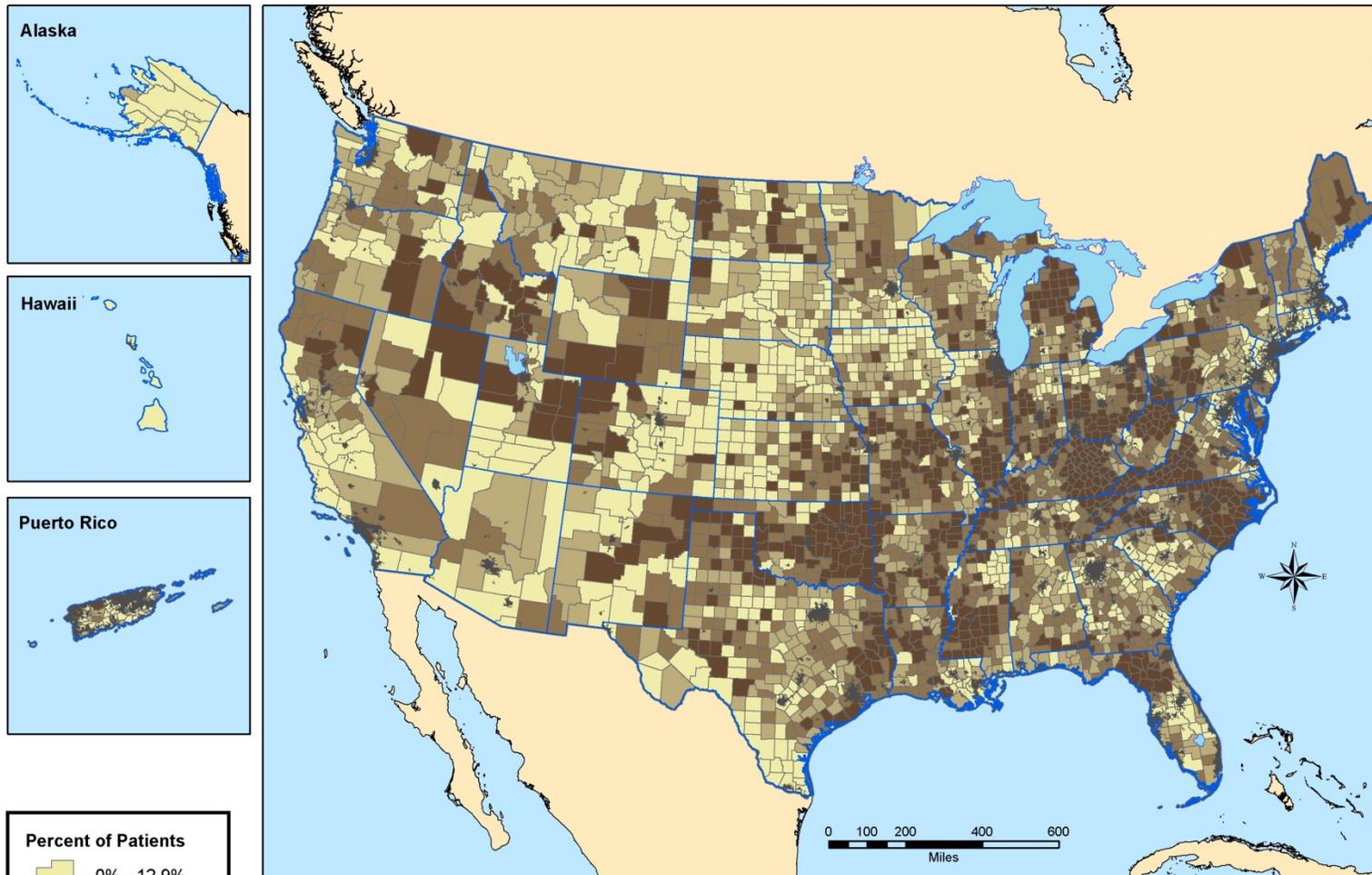
Map 12:

Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By County FY - 2014  
Urban Areas "Shaded"

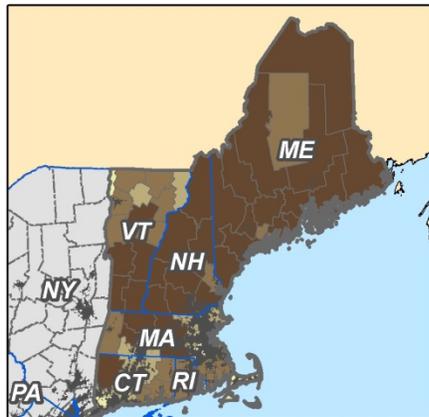


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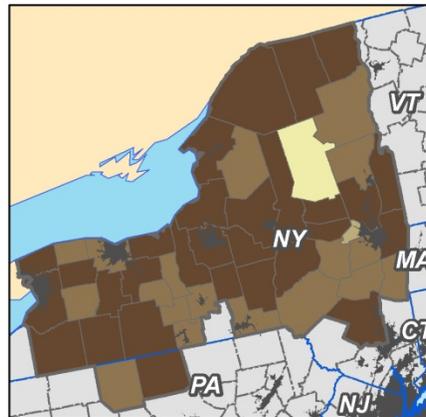
# Tobacco Use Disorders



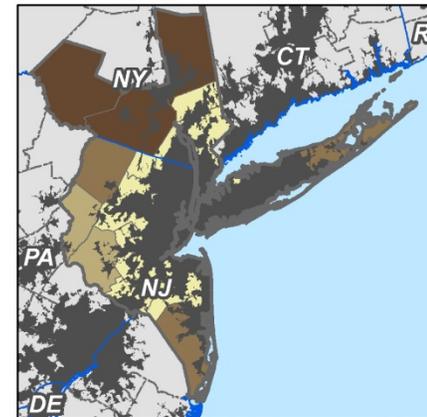
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Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By County FY - 2014  
Urban Areas "Shaded"



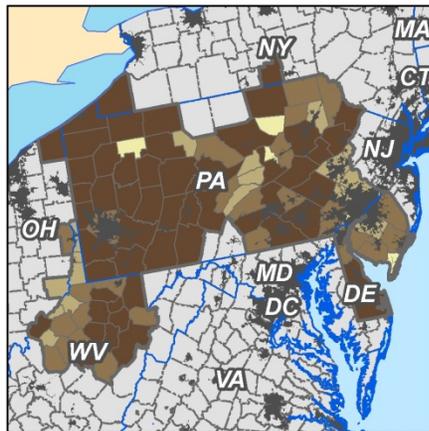
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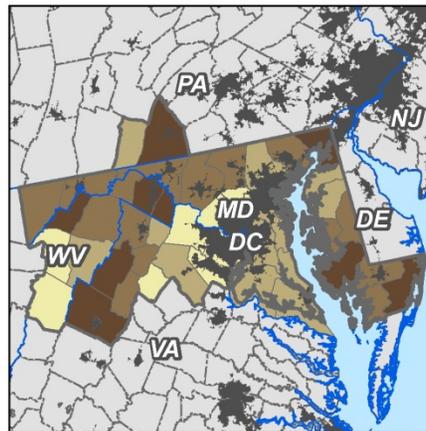
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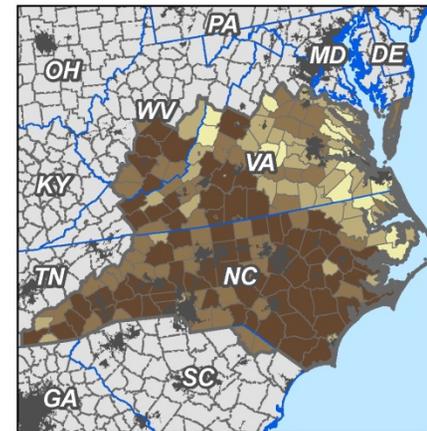
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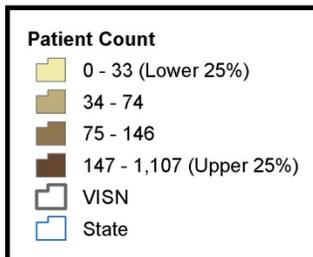
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VISN 5



VISN 6



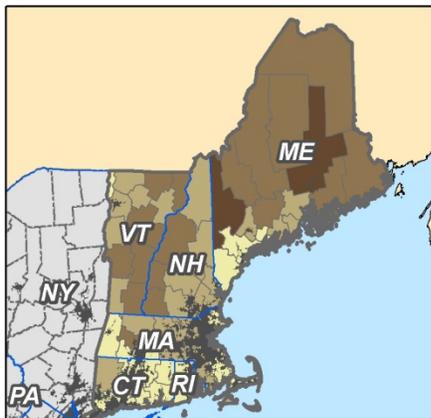
Map 14:

Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By County FY - 2014  
Urban Areas "Shaded"

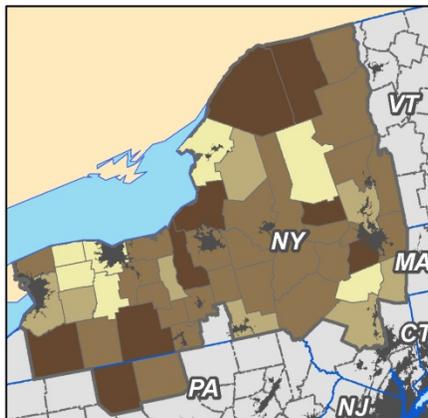


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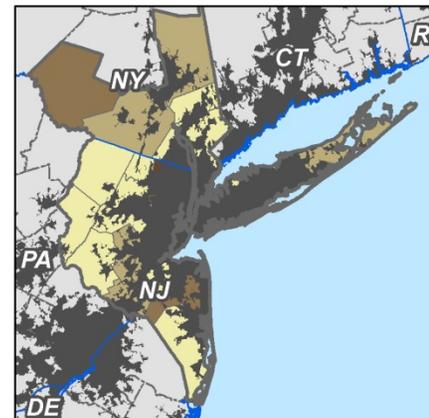
# Tobacco Use Disorders



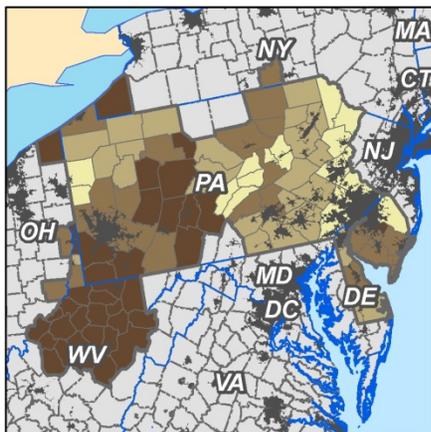
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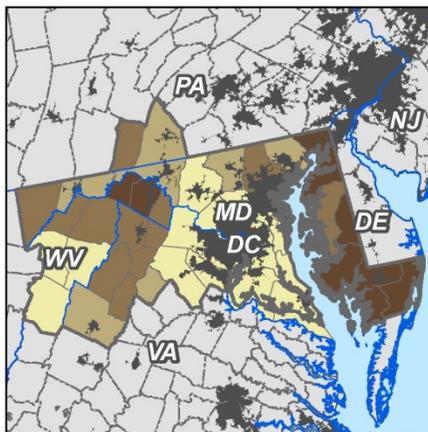
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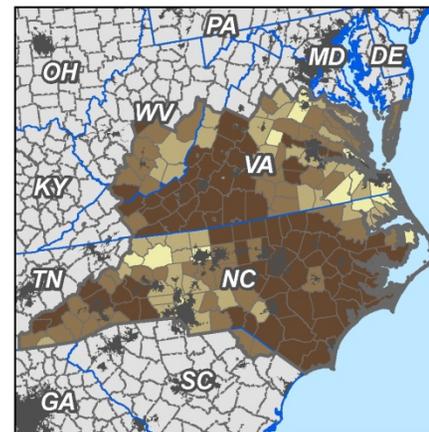
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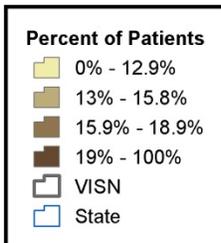
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VISN 5

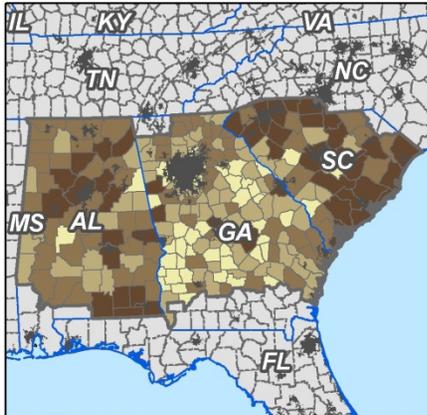


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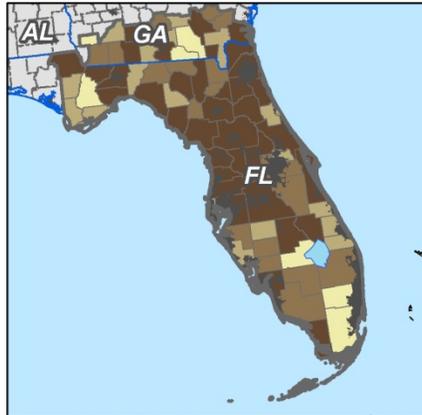


Map 15:

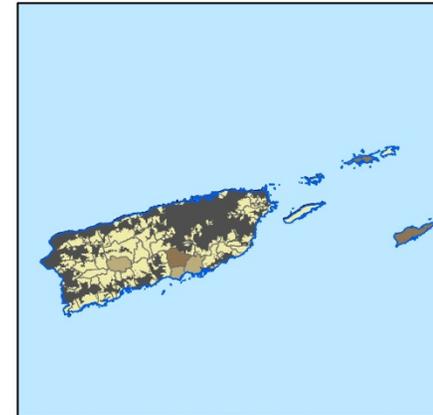
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By County FY - 2014  
Urban Areas "Shaded"



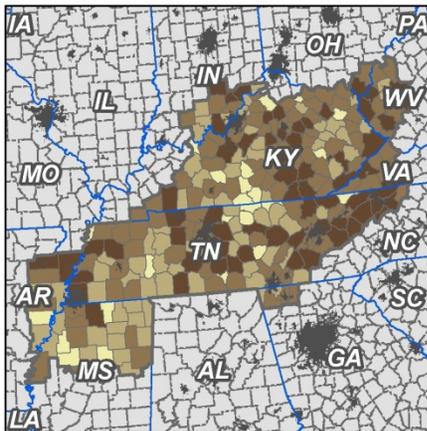
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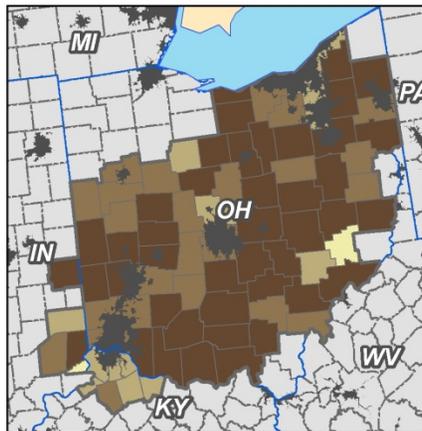
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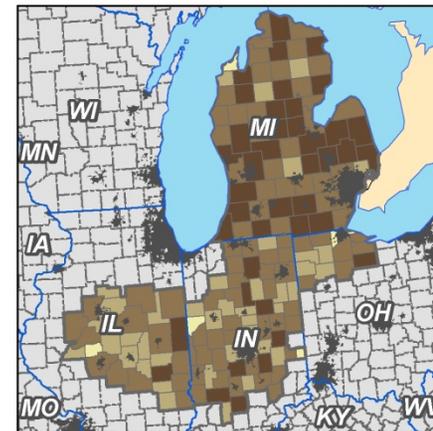
VISN 8 Puerto Rico & Virgin Islands



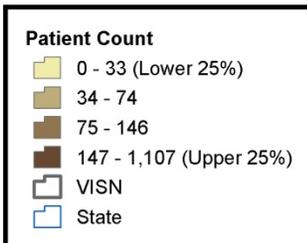
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VISN 10



VISN 11



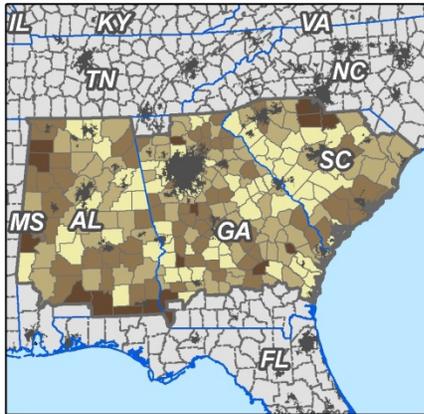
Map 16:

Number of Rural and Highly Rural VHA Patients with Tobacco Use Disorders By County FY - 2014 Urban Areas "Shaded"

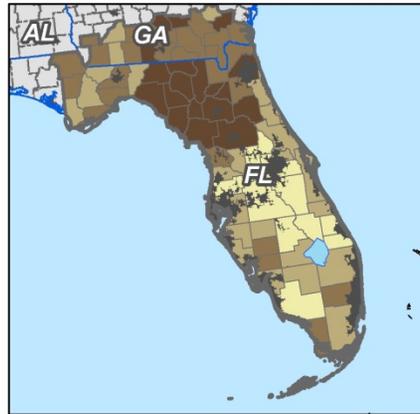


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GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
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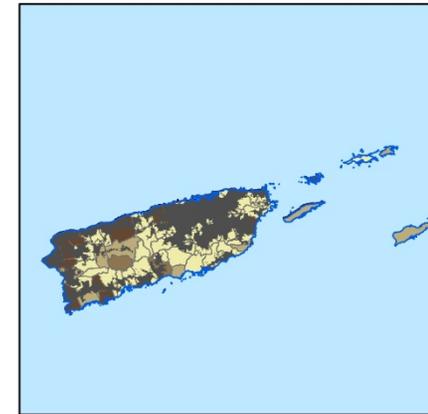
# Tobacco Use Disorders



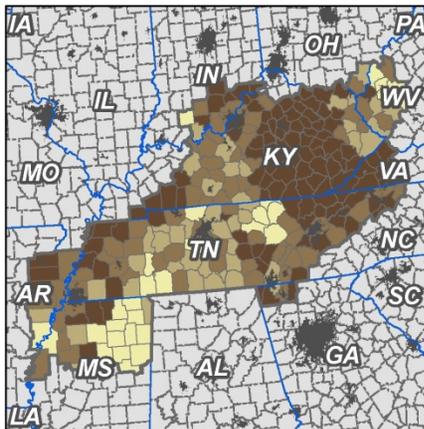
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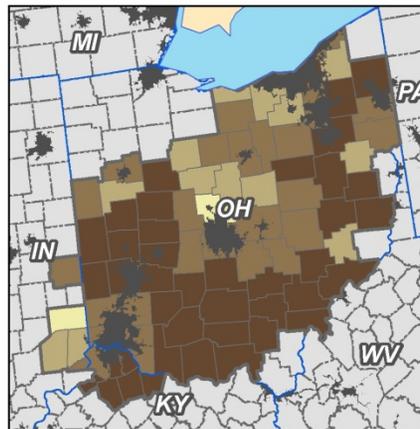
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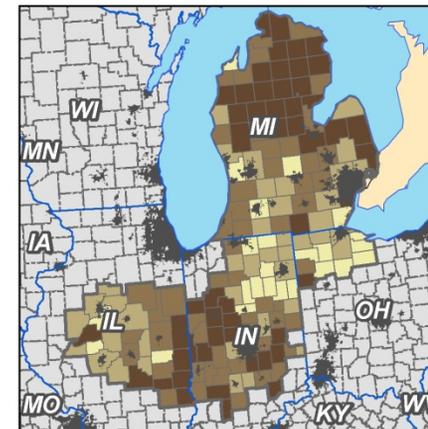
VISN 8 Puerto Rico & Virgin Islands



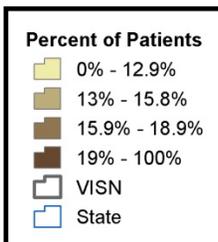
VISN 9



VISN 10

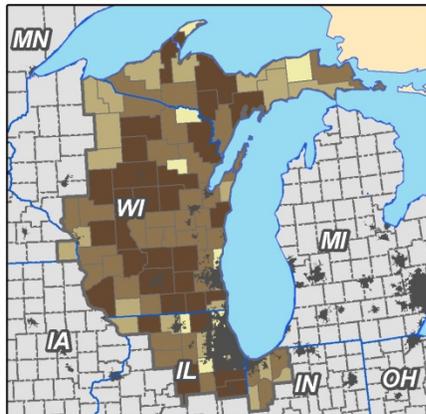


VISN 11

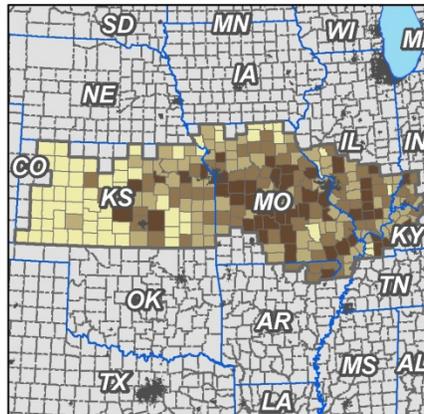


Map 17:

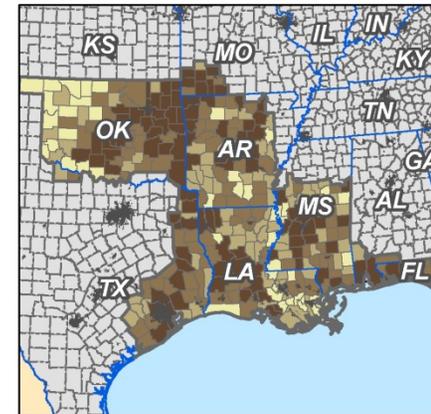
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By County FY - 2014  
Urban Areas "Shaded"



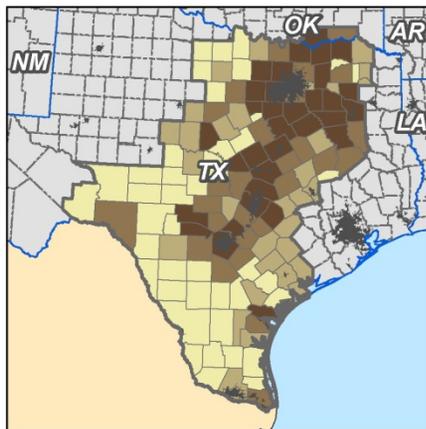
VISN 12



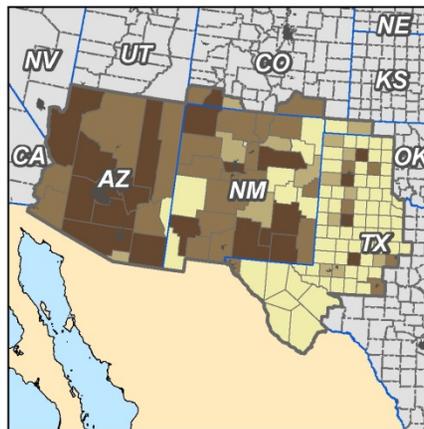
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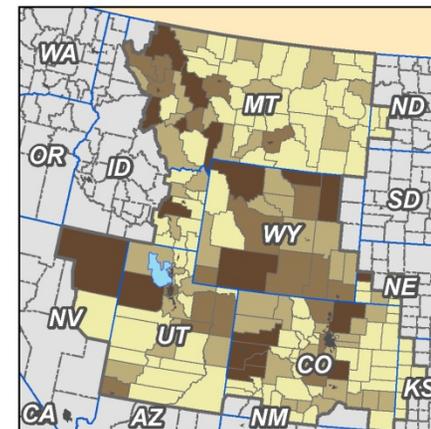
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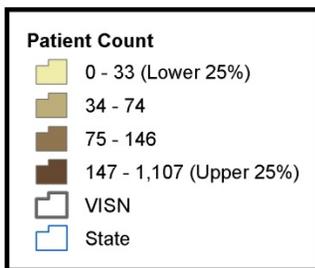
VISN 17



VISN 18



VISN 19



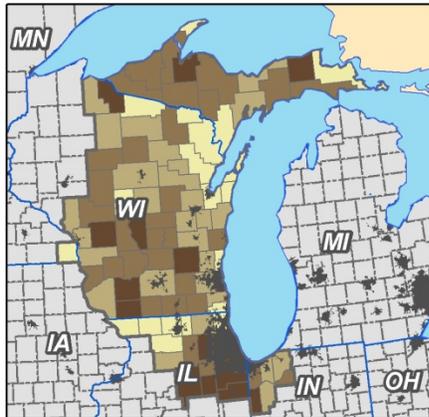
Map 18:

Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By County FY - 2014  
Urban Areas "Shaded"

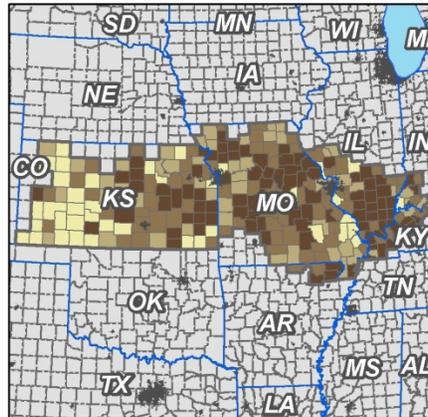


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
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Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

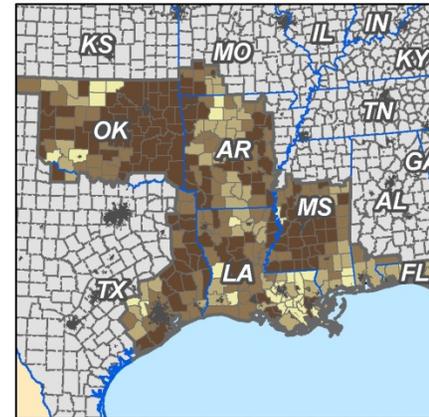
# Tobacco Use Disorders



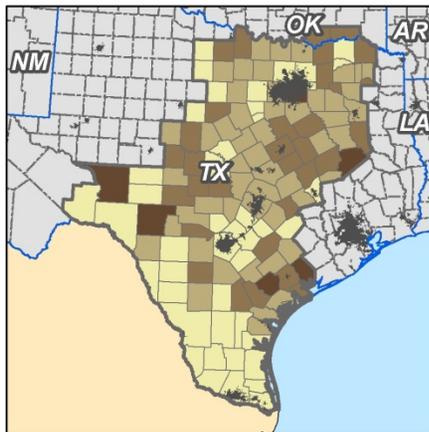
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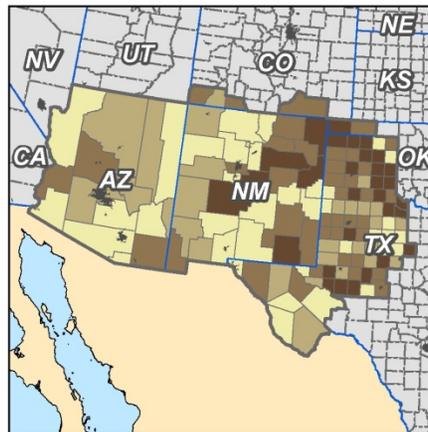
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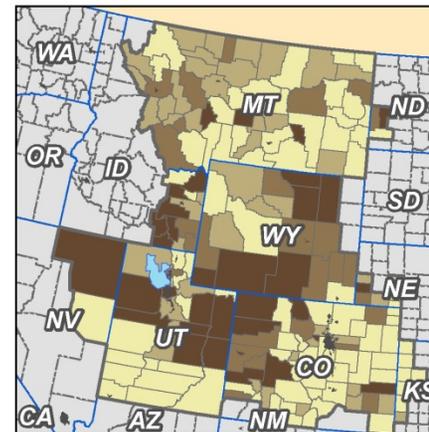
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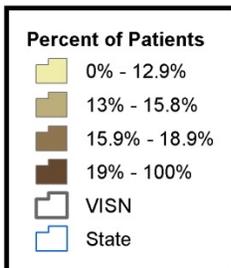
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VISN 18

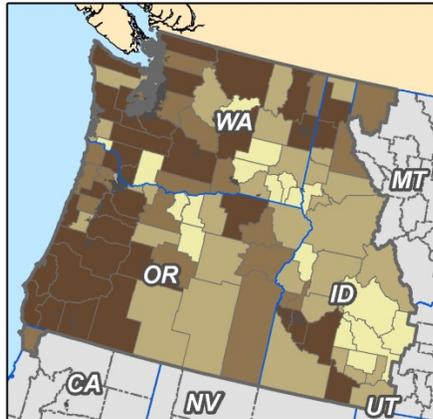


VISN 19



Map 19:

Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By County FY - 2014  
Urban Areas "Shaded"



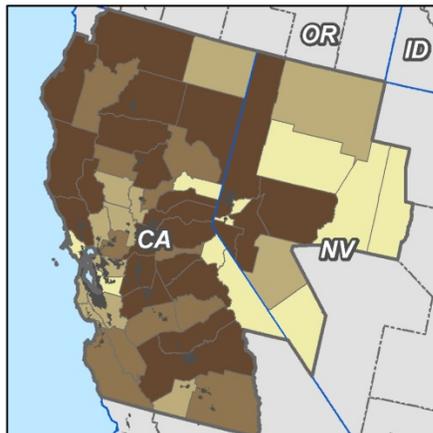
VISN 20



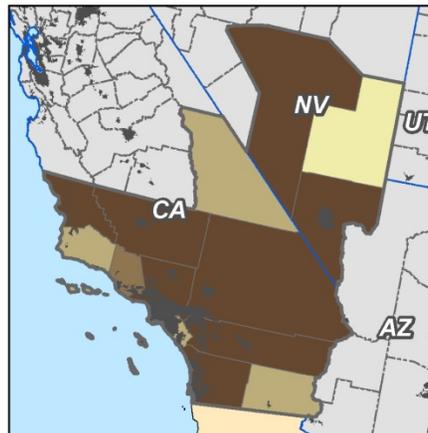
VISN 20- Alaska



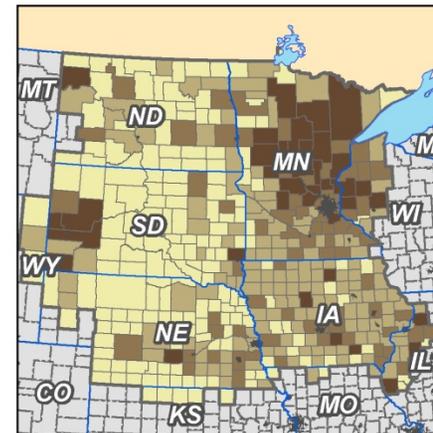
VISN 21- Hawaii



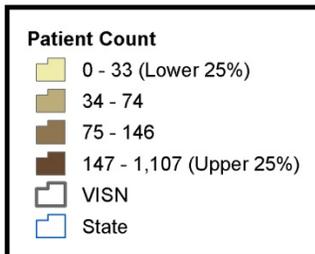
VISN 21



VISN 22



VISN 23



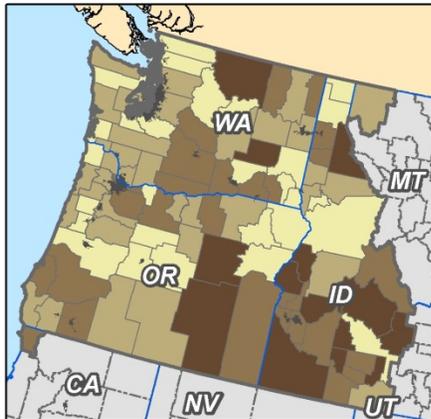
Map 20:

Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
By County FY - 2014  
Urban Areas "Shaded"



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GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



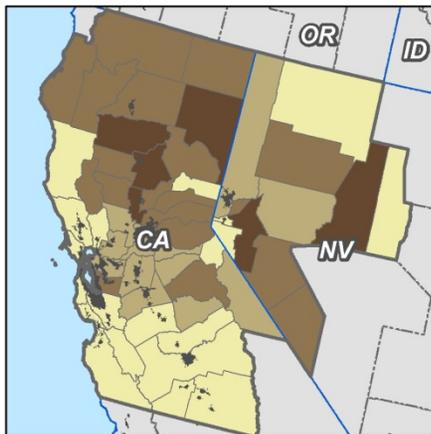
VISN 20



VISN 20- Alaska



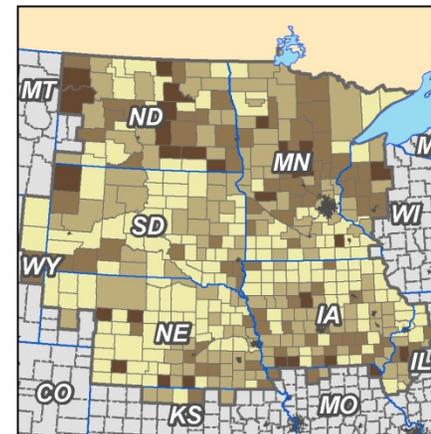
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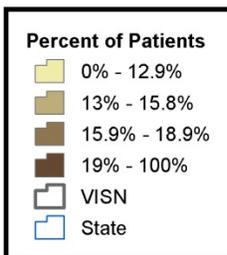
VISN 21



VISN 22



VISN 23



Map 21:

Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Of All Rural and Highly Rural Patients  
By County FY - 2014  
Urban Areas "Shaded"

## Section III Highlights: Rural and Highly Rural VHA Subgroups of Patients with Tobacco Use Disorders

### GENDER

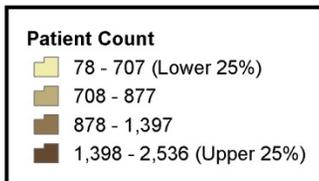
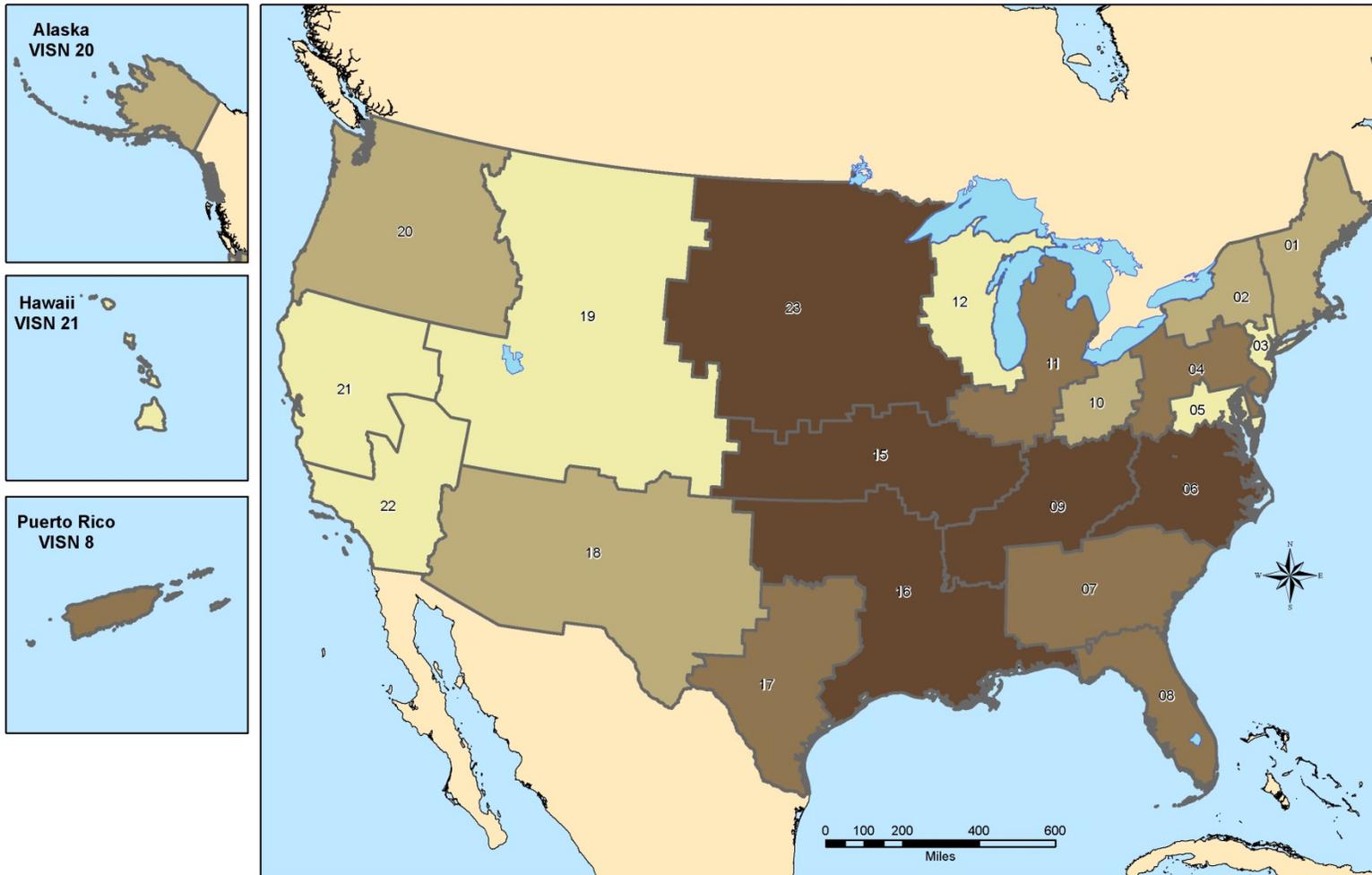
Table 3 further illustrates overall prevalence of Tobacco Use Disorders in each network, broken down by gender of patient and the same rurality categories as in Table 2. For the purposes of simplicity, the percent-column adjacent to the rurality columns are a combined percentage of rural and highly rural patients, indicated in red text. Female patients in rural and highly rural areas comprised 2.39% of total number of patients with Tobacco Use Disorders at the National level, but at the network level, several VISNs had more than 3%. The Heartland Network (VISN 15) represented the highest prevalence of female rural and highly rural patients with Tobacco Use Disorders at 3.55%. Male patients, as expected, represented a much higher percentage of total patients with Tobacco Use Disorders in each network. In three networks, more than half of male patients with Tobacco Use Disorders lived in rural and highly rural areas. Male patients with Tobacco Use Disorders in the Midwest Network (VISN 23) comprised the highest prevalence of 57.63% of total patients with Tobacco Use Disorders in that network. The New York/New Jersey Network (VISN 3) had the lowest prevalence of rural and highly rural patients with Tobacco Use Disorders - both for males (7.02%) and females (0.4%). Maps 22-27 display the number and percentage of rural and highly rural female patients with Tobacco Use Disorders by VISN, State, and county, with the highest 25% in terms of volume and proportion designated by the darkest shade. VISNs 6, 9, and 15 had both a high volume and high proportion (in upper 25% quartile) of rural and highly rural female patients with Tobacco Use Disorders of the total rural and highly rural female patient population, as portrayed in Maps 22 and 23. Seven 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 Tobacco Use Disorders of the total rural and highly rural female patient population. Those U.S. States were Kentucky, Michigan, Missouri, North Carolina, Ohio, Oklahoma, and Tennessee.

# Tobacco Use Disorders



Table 3: National and VISN Numbers and Percentages of VHA Patients with Tobacco Use Disorders, by Rurality and Gender, FY-2014

Prevalence Statistics by Gender and Rurality- Tobacco Use Disorders, FY-2014											
Veterans Integrated Service Network	Total Number of Patients with Tobacco Use Disorders	Female					Male				
		HR	R	%	U	Unk	HR	R	%	U	Unk
New England (01)	31,719	5	709	2.25	1,185	*	140	10,900	34.81	18,779	*
Upstate NY (02)	21,307	*	740	3.47	766	*	9	10,101	47.45	9,697	*
NY/NJ (03)	19,454	*	78	0.40	1,115	*	3	1,362	7.02	16,895	*
VISN 04 (04)	48,631	*	1,249	2.57	1,957	*	3	19,477	40.06	25,937	8
Capitol (05)	19,346	*	262	1.35	1,354	*	*	4,185	21.63	13,545	*
Mid-Atlantic (06)	59,635	*	1,864	3.13	3,108	*	20	27,668	46.43	26,975	5
Southeast (07)	52,121	*	1,397	2.68	2,795	*	4	21,510	41.28	26,415	5
Sunshine (08)	70,317	*	1,120	1.59	4,220	*	11	13,793	19.63	51,158	14
Mid South (09)	49,860	*	1,532	3.07	1,689	*	13	27,168	54.51	19,454	4
Ohio (10)	42,199	*	744	1.76	1,803	*	4	14,160	33.56	25,486	4
Vets in Partnership (11)	46,224	*	1,001	2.17	1,914	*	10	18,339	39.70	24,958	*
Great Lakes (12)	40,099	4	703	1.76	1,787	*	79	11,607	29.14	25,915	5
Heartland (15)	39,992	13	1,406	3.55	1,144	*	296	21,833	55.33	15,293	6
South Central (16)	82,943	10	2,526	3.06	3,172	4	118	40,030	48.40	37,078	9
Heart of Texas (17)	34,797	9	918	2.66	2,126	*	184	11,442	33.41	20,111	8
Southwest (18)	32,295	96	638	2.27	1,679	20	1,622	8,654	31.82	19,548	41
Rocky Mtn. (19)	25,845	209	450	2.55	1,177	*	3,079	6,710	37.88	14,211	11
Northwest (20)	38,653	97	780	2.27	1,606	*	1,884	12,722	37.79	21,557	9
Sierra Pacific (21)	33,796	35	454	1.45	1,553	39	474	8,628	26.93	22,097	518
Desert Pacific (22)	35,921	26	239	0.74	2,038	*	504	3,046	9.88	30,063	7
Midwest (23)	43,383	101	1,343	3.33	1,111	*	1,883	23,120	57.63	15,826	4
<b>Grand Total</b>	<b>868,537</b>	<b>616</b>	<b>20,153</b>	<b>2.39</b>	<b>39,299</b>	<b>73</b>	<b>10,340</b>	<b>316,455</b>	<b>37.63</b>	<b>480,998</b>	<b>664</b>

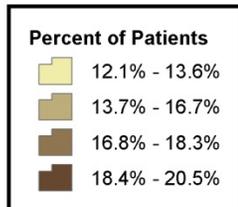
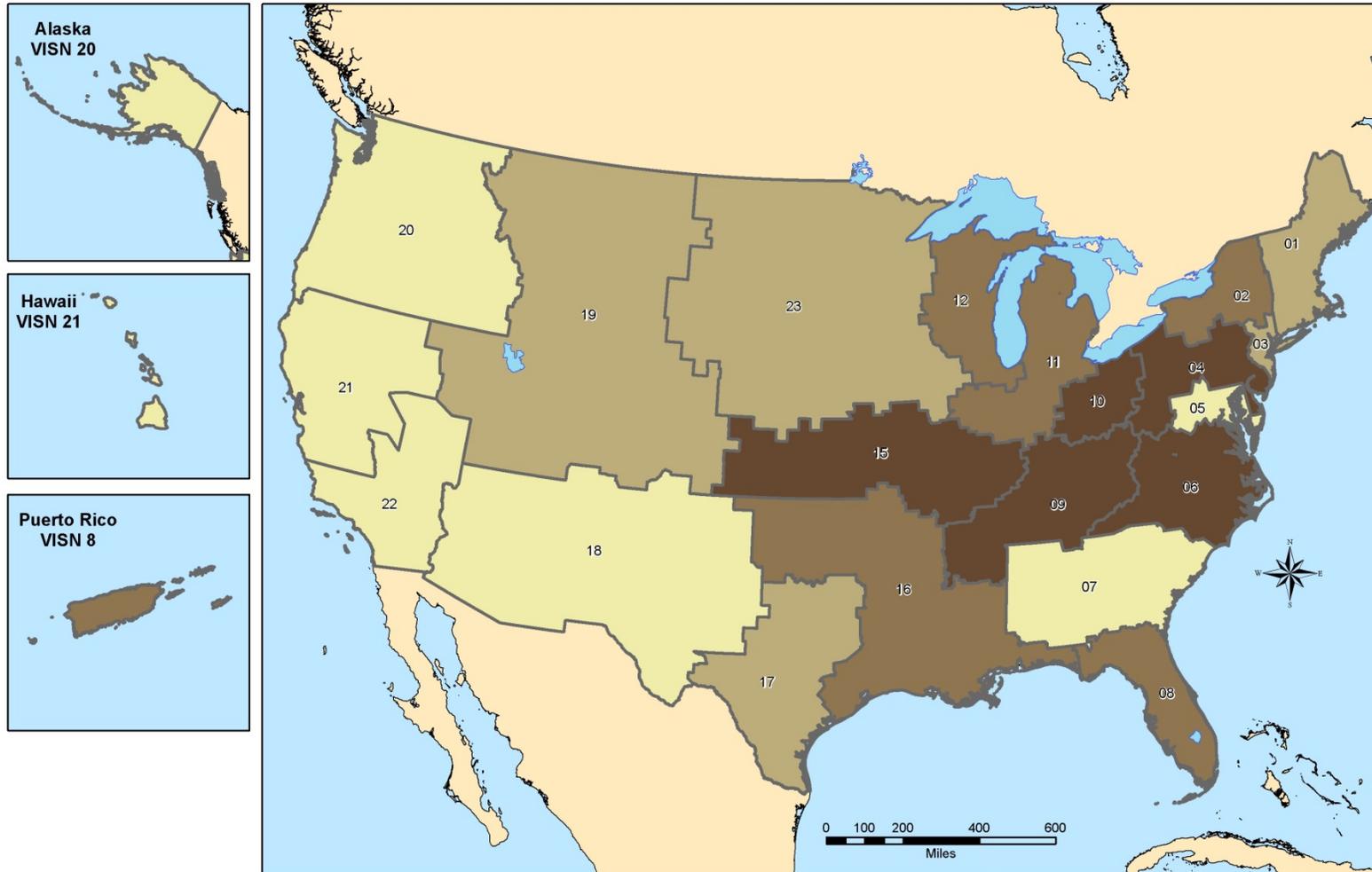


Map 22:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Female  
By VISN FY - 2014



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GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

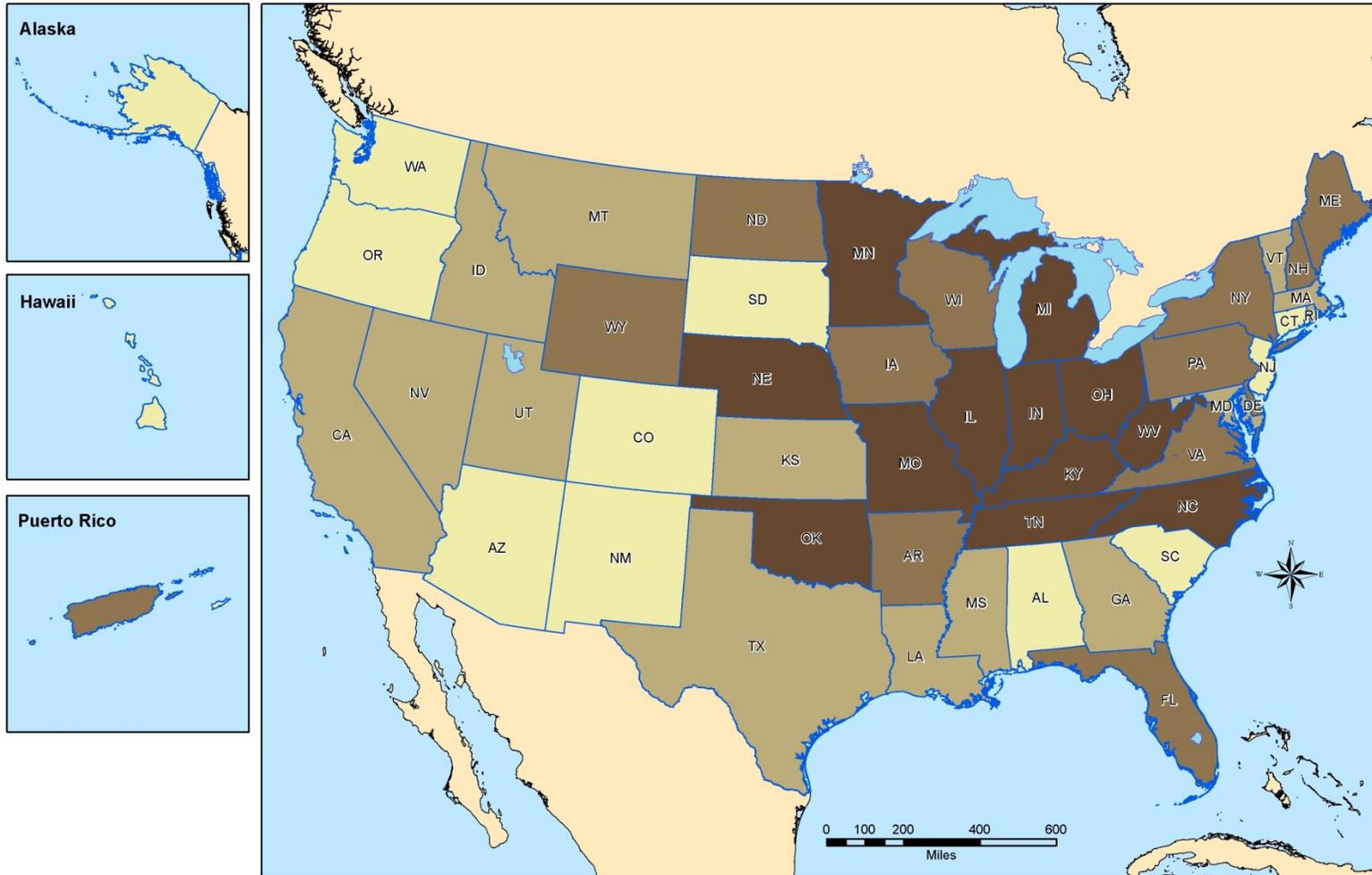
# Tobacco Use Disorders



Map 23:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Female  
Of All Rural and Highly Rural VHA Patients  
Female  
By VISN FY - 2014

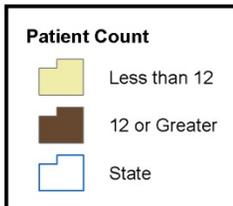
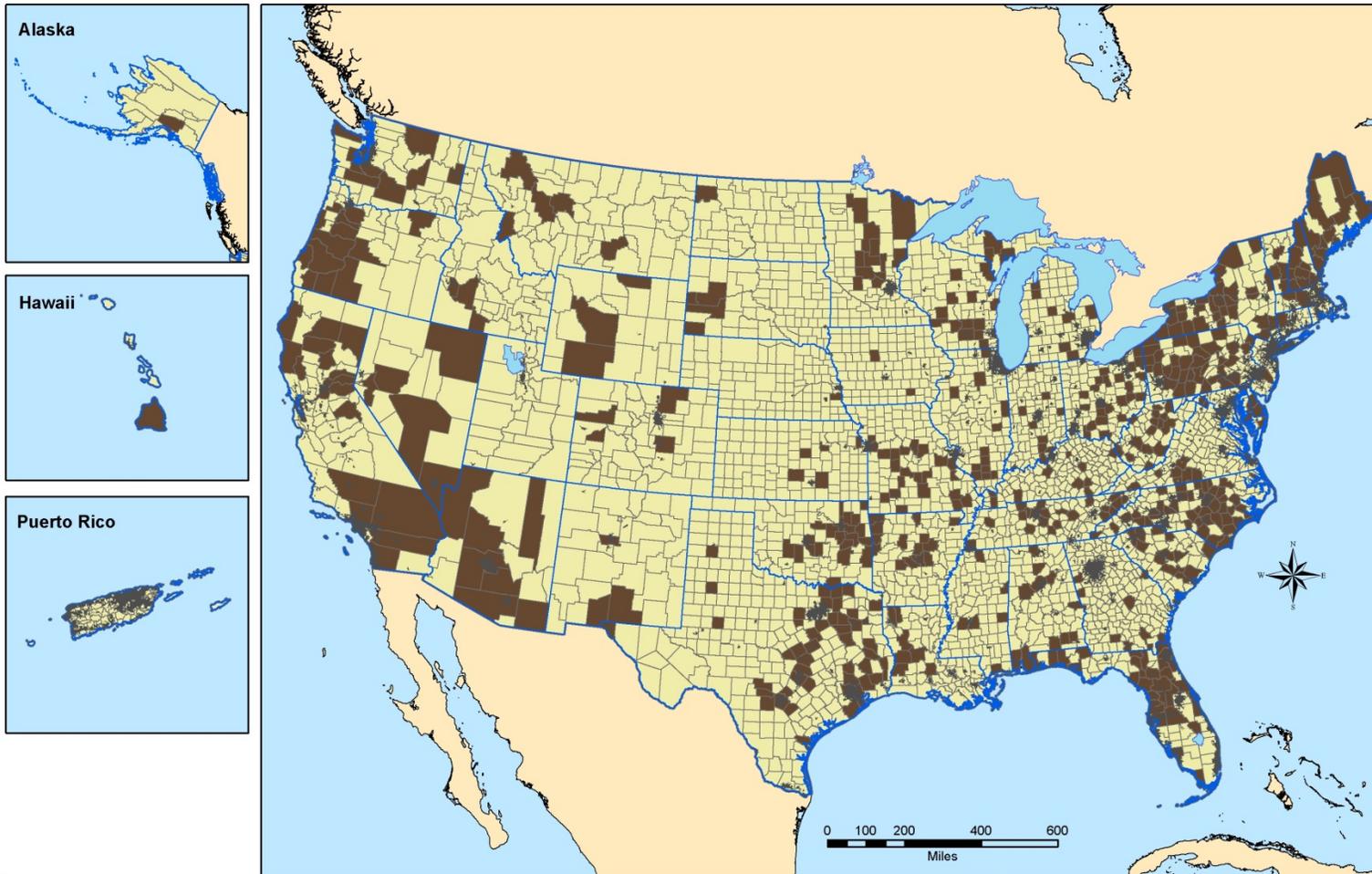


# Tobacco Use Disorders



Percent of Patients	
	6.9% - 13.3%
	13.4% - 15.4%
	15.5% - 18.3%
	18.4% - 50%

Map 25:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Female  
Of All Rural and Highly Rural Patients Female  
By State FY - 2014

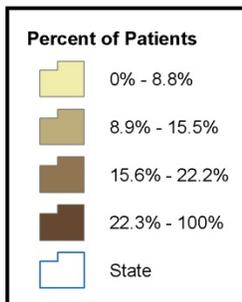
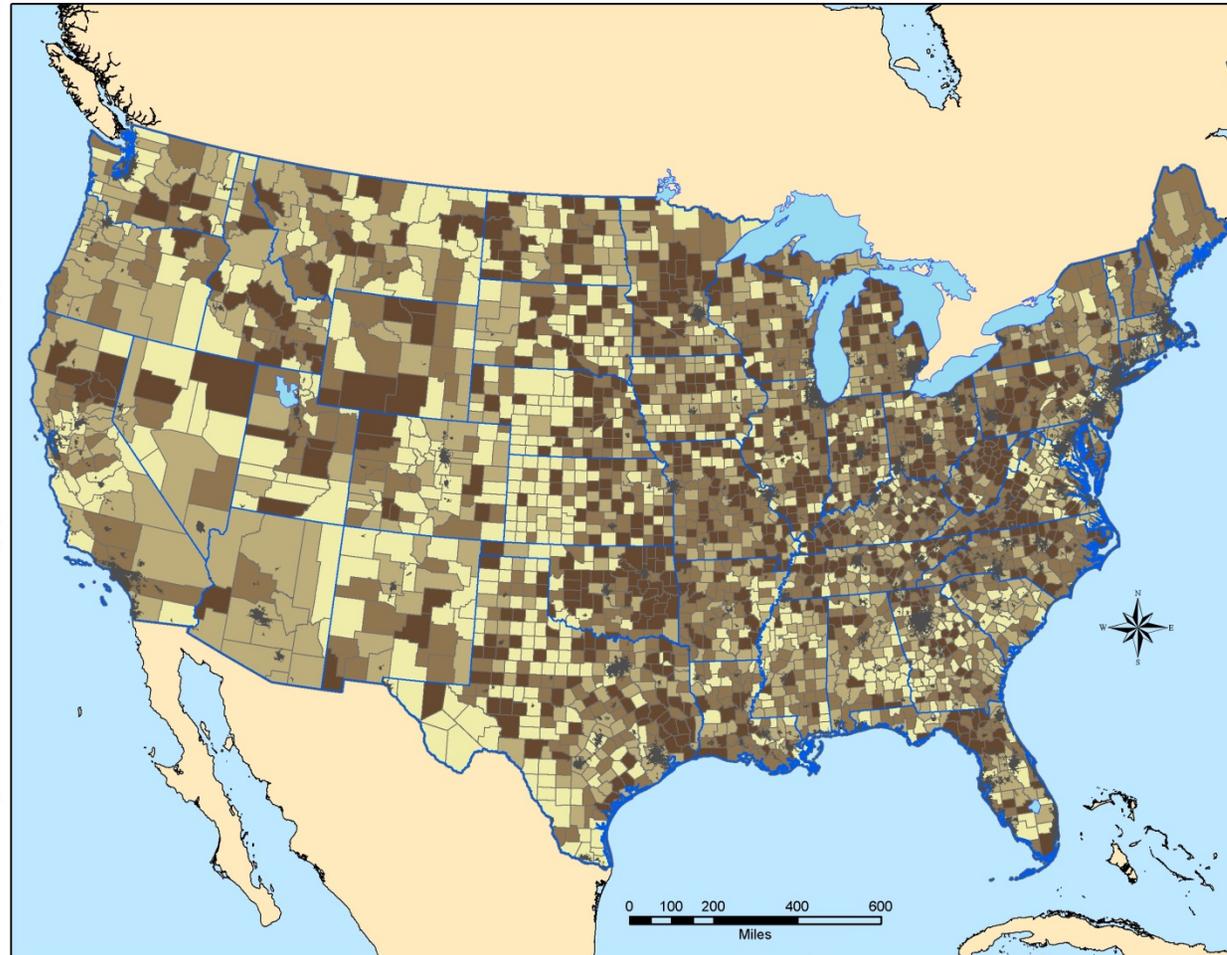


Map 26:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Female  
By County FY - 2014  
Urban Areas "Shaded"



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GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



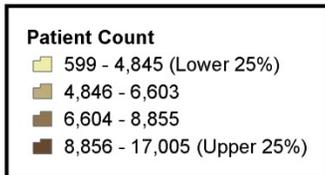
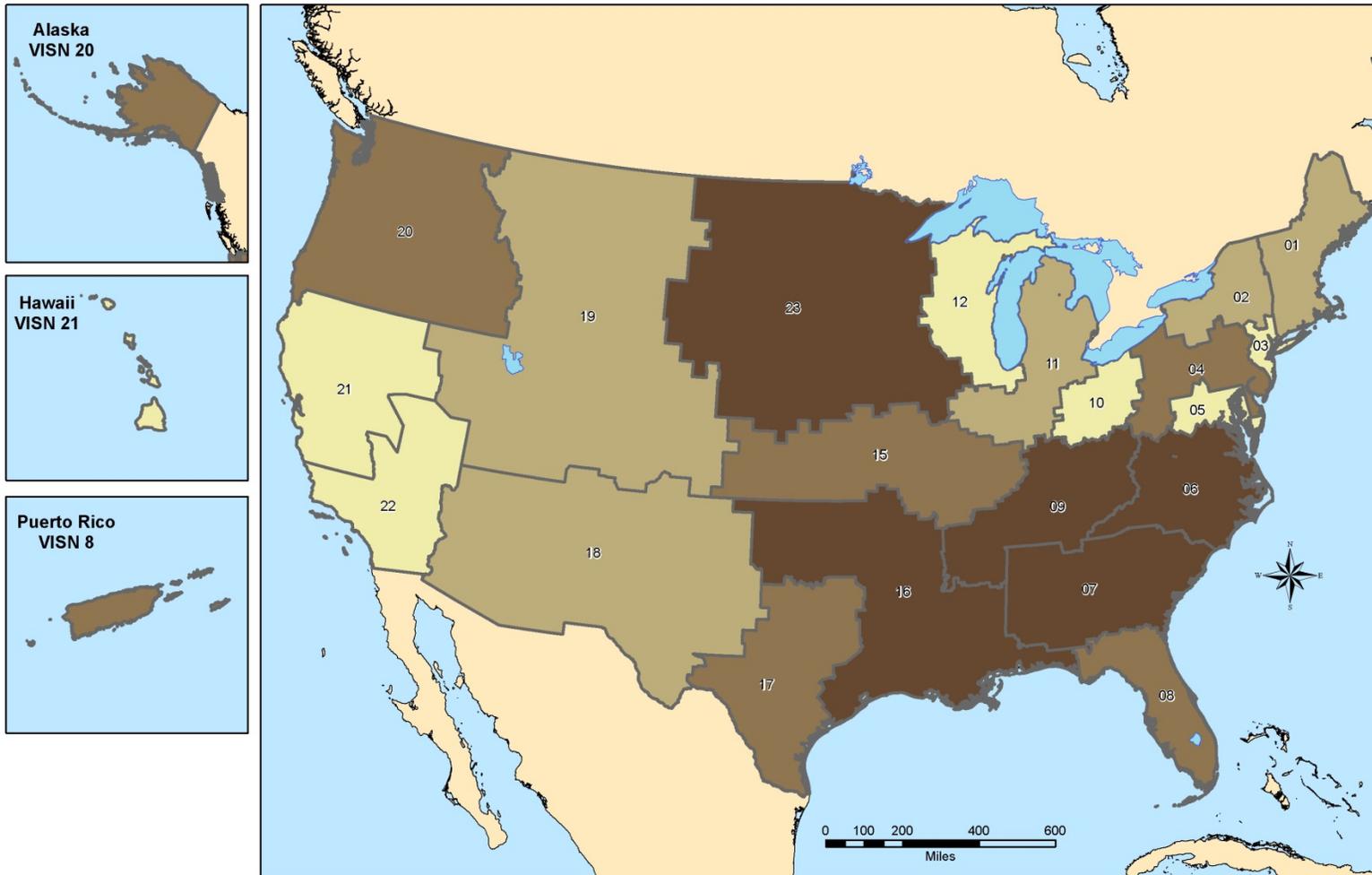
Map 27:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Female  
Of All Rural and Highly Rural VHA Patients Female  
By County FY - 2014  
Urban Areas "Shaded"

## 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 Tobacco Use Disorders in rural and highly rural areas at 12.74%. The 55-64 age group of this same cohort ranked closely behind nationally at 12.63%. Both age groups showed significant prevalence in rural and highly rural areas at the network level. The Midwest Network (VISN 23), for example, ranked highest in both age groups: 8,543 patients aged 65-74 (19.69% of the total number of patients with Tobacco Use Disorders in that network), followed by 7,906 patients aged 55-64 (18.22% of the total number of patients with Tobacco Use Disorders in that network). 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 age 65 and over with Tobacco Use Disorders of the total rural and highly rural patient population age 65 and over. Maps 28-33 display the number and percentage of rural and highly rural patients age 65 and over with Tobacco Use Disorders by VISN, State, and county, with the highest 25% in terms of volume and proportion designated by the darkest shade. VISN 7 was the only network with both a high volume and high proportion (in upper 25% quartile) of rural and highly rural patients age 65 and over with Tobacco Use Disorders of the total rural and highly rural patient population age 65 and over, as portrayed in Maps 28 and 29. Seven of the 50 U.S. States, as shown on Maps 30 and 31, had both a high volume and high proportion (in upper 25% quartile) of rural and highly rural patients age 65 and over with Tobacco Use Disorders of the total rural and highly rural patient population age 65 and over. Those U.S. States were Kentucky, Missouri, North Carolina, Ohio, Oklahoma, Tennessee, and Virginia.

**Table 4: National and VISN Numbers and Percentages of VHA Patients with Tobacco Use Disorders, by Rurality and Age Group, FY-2014**

Prevalence Statistics by Age Group and Rurality- Tobacco Use Disorders, FY-2014																
Veterans Integrated Service Network	Total Number of Patients with Tobacco Use Disorders	<45			45-54			55-64			65-74			75+		
		HR	R	%	HR	R	%	HR	R	%	HR	R	%	HR	R	%
New England (01)	31,719	14	1,939	6.16	11	1,939	6.15	47	3,534	11.29	60	3,647	11.69	13	863	2.76
Upstate NY (02)	21,307	*	1,914	8.99	*	1,914	8.98	3	3,310	15.55	*	3,167	14.87	*	755	3.55
NY/NJ (03)	19,454	*	235	1.21	*	235	1.21	*	405	2.09	*	513	2.64	*	106	0.54
Stars and Stripes (04)	48,631	*	3,662	7.53	*	3,662	7.53	*	5,610	11.54	*	6,684	13.75	*	1,808	3.72
Capitol (05)	19,346	*	643	3.32	*	643	3.32	*	1,375	7.11	*	1,420	7.34	*	348	1.80
Mid-Atlantic (06)	59,635	5	4,757	7.99	*	4,757	7.98	5	9,617	16.13	9	8,962	15.04	*	1,912	3.21
Southeast (07)	52,121	*	3,237	6.21	*	3,237	6.21	3	8,001	15.36	*	6,885	13.21	*	1,278	2.45
Sunshine (08)	70,317	3	1,883	2.68	3	1,883	2.68	*	5,110	7.27	4	4,583	6.52	*	1,059	1.51
Mid South (09)	49,860	4	4,304	8.64	4	4,304	8.64	4	8,910	17.88	3	9,202	18.46	*	1,882	3.77
Ohio (10)	42,199	*	2,327	5.52	*	2,327	5.52	*	4,839	11.47	*	4,591	10.88	*	939	2.23
Vets in Partnership (11)	46,224	3	3,145	6.81	6	3,145	6.82	*	6,040	13.07	*	6,160	13.33	*	1,123	2.43
Great Lakes (12)	40,099	14	2,052	5.15	17	2,052	5.16	27	3,707	9.31	18	3,924	9.83	7	869	2.18
Heartland (15)	39,992	41	3,488	8.82	43	3,488	8.83	93	7,181	18.19	100	7,397	18.75	32	1,779	4.53
South Central (16)	82,943	23	6,632	8.02	18	6,632	8.02	32	13,708	16.57	43	13,313	16.10	12	3,152	3.81
Heart of Texas (17)	34,797	28	1,811	5.28	22	1,811	5.27	51	4,114	11.97	73	4,112	12.03	19	778	2.29
Southwest (18)	32,295	153	1,217	4.24	194	1,217	4.37	495	2,925	10.59	650	3,217	11.97	226	766	3.07
Rocky Mtn. (19)	25,845	490	1,374	7.21	365	1,374	6.73	1,026	2,236	12.62	1,138	2,120	12.61	269	426	2.69
Northwest (20)	38,653	235	1,928	5.60	252	1,928	5.64	645	4,383	13.01	691	4,565	13.60	159	825	2.55
Sierra Pacific (21)	33,796	50	1,183	3.65	57	1,183	3.67	157	2,927	9.13	194	3,366	10.53	51	669	2.13
Desert Pacific (22)	35,921	32	529	1.56	60	529	1.64	171	1,077	3.47	208	1,050	3.50	59	189	0.69
Midwest (23)	43,383	290	4,012	9.92	249	4,012	9.82	603	7,303	18.22	665	7,878	19.69	178	1,888	4.76
<b>Grand Total</b>	<b>868,537</b>	<b>1,391</b>	<b>52,272</b>	<b>6.18</b>	<b>1,306</b>	<b>52,272</b>	<b>6.17</b>	<b>3,370</b>	<b>106,312</b>	<b>12.63</b>	<b>3,862</b>	<b>106,756</b>	<b>12.74</b>	<b>1,029</b>	<b>23,414</b>	<b>2.81</b>

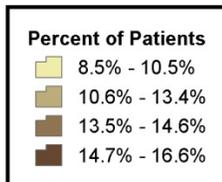
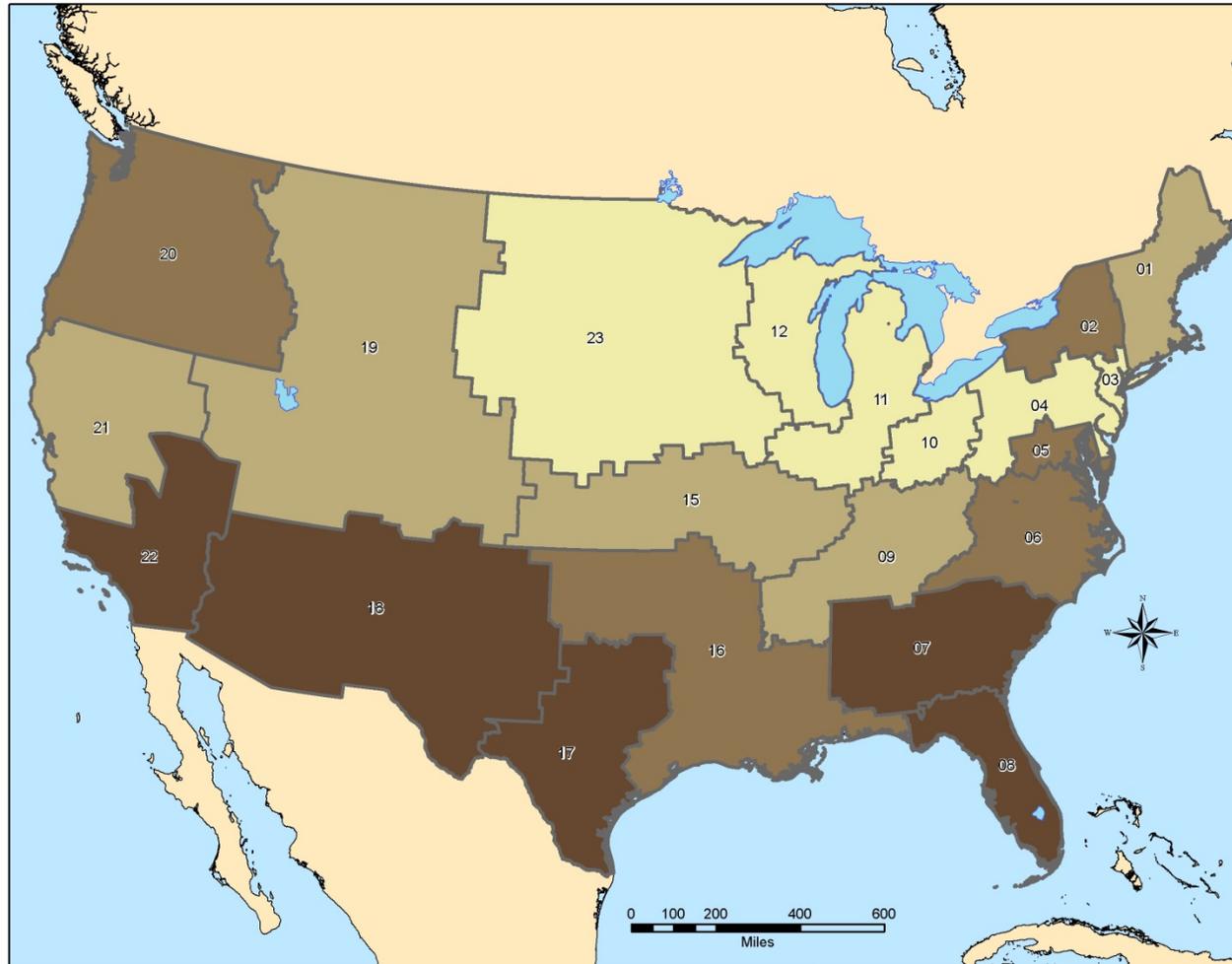


Map 28:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Age 65 and Over  
By VISN FY - 2014

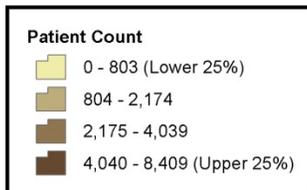
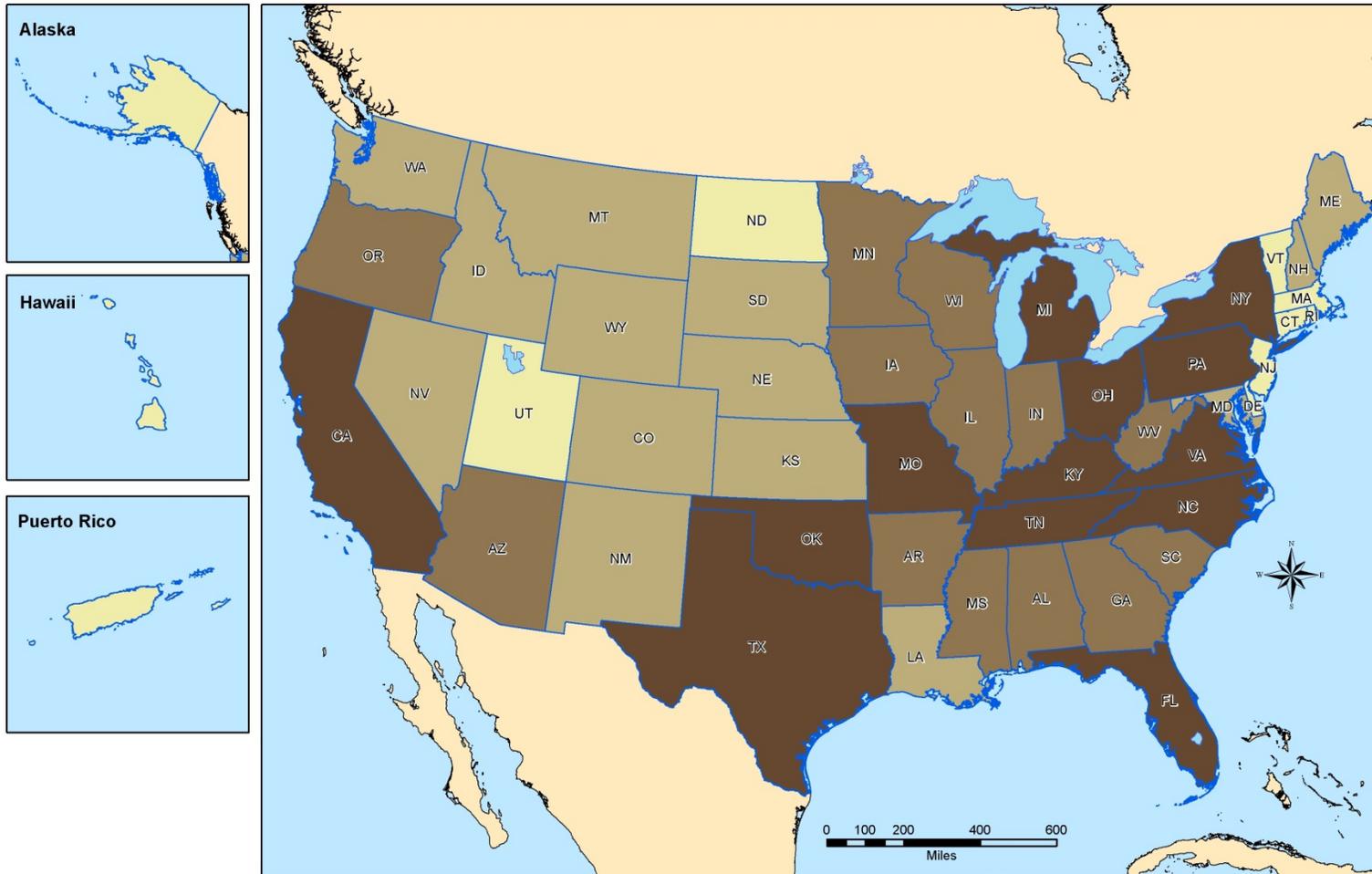


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 29:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Age 65 and Over  
Of All Rural and Highly Rural VHA Patients Age 65 and Over  
By VISN FY - 2014

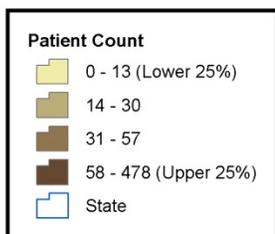
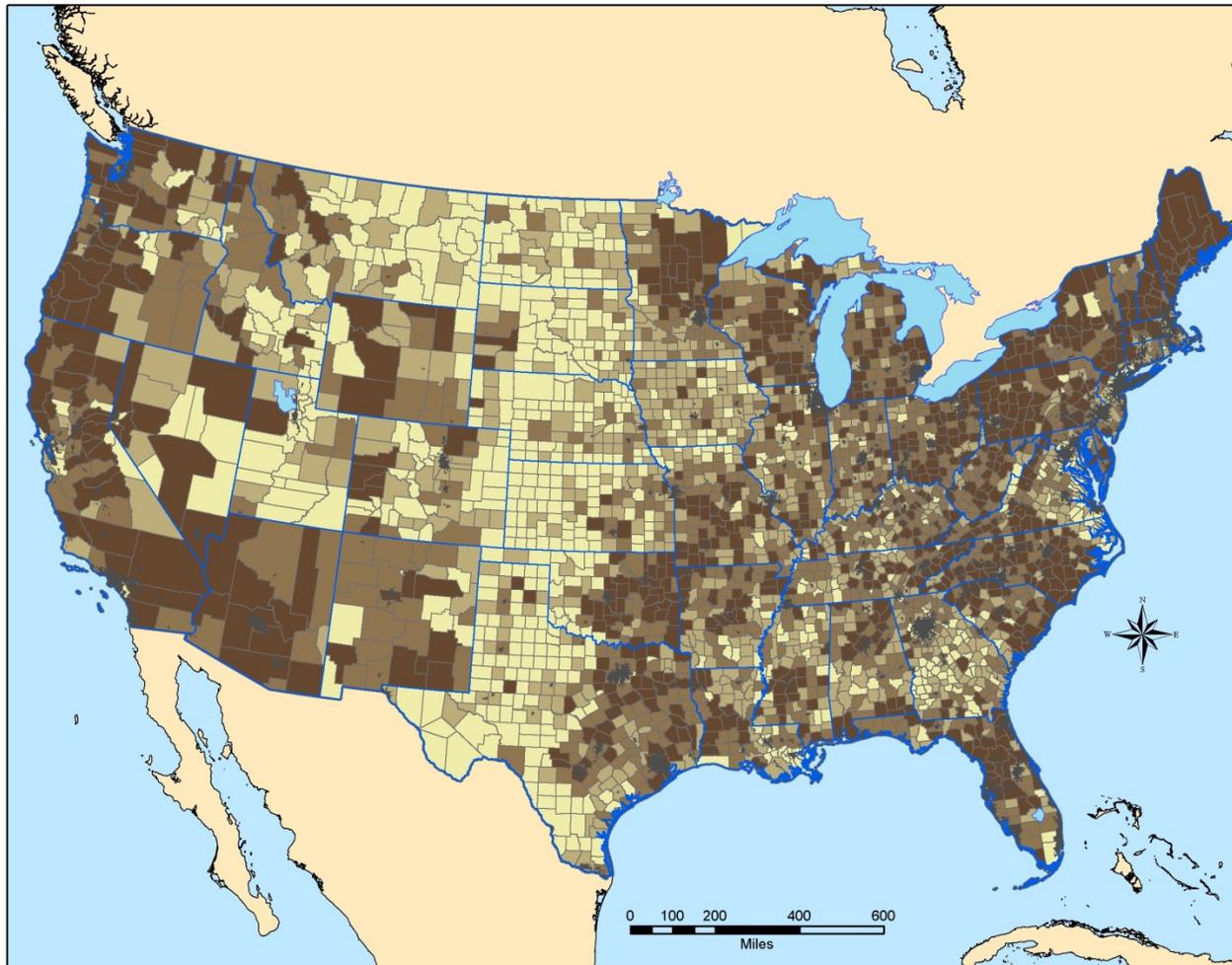


Map 30:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Age 65 and Over  
By State FY - 2014



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x



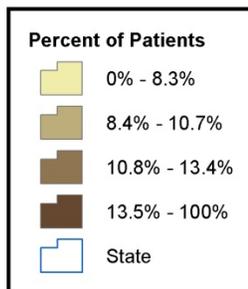
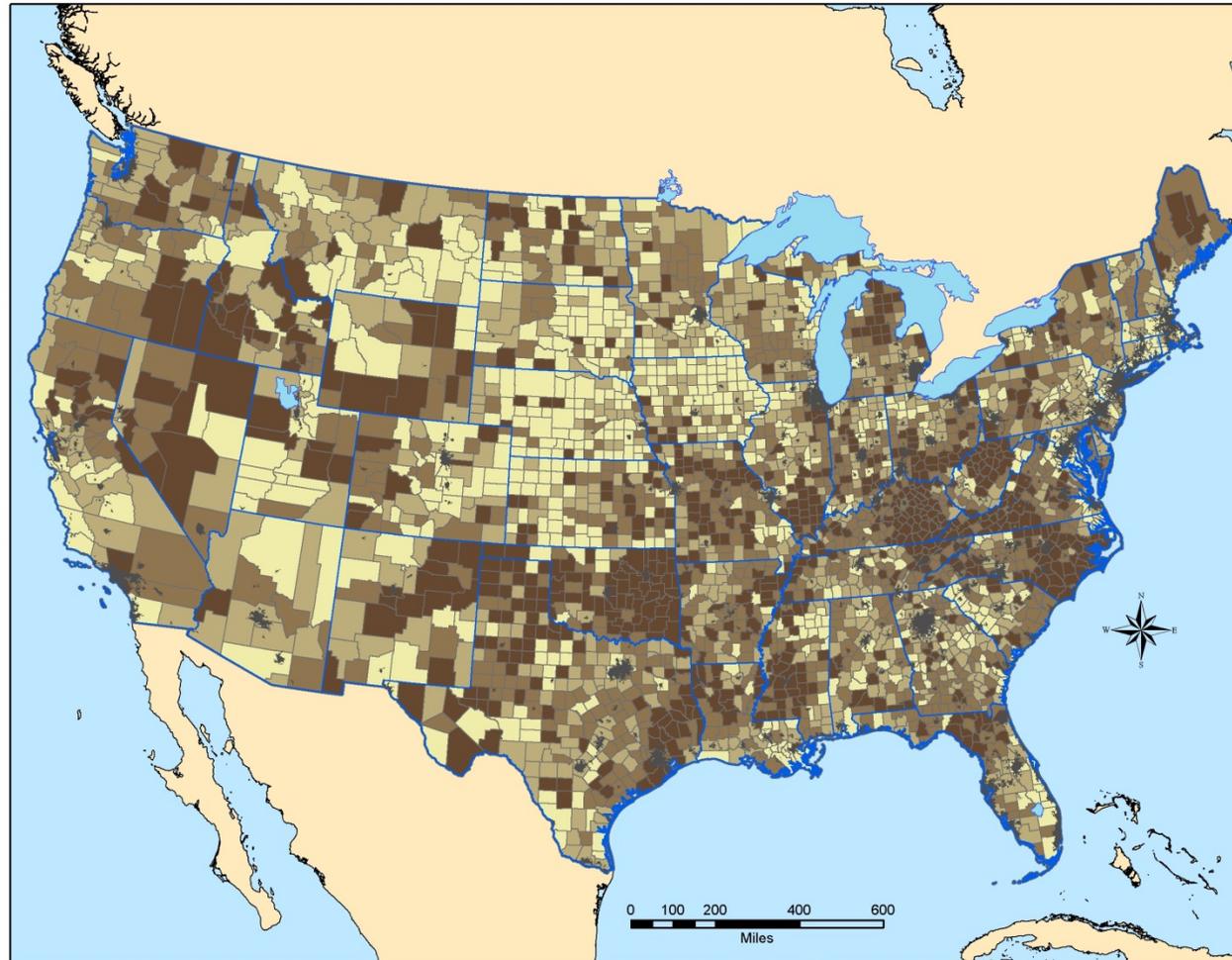


Map 32:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Age 65 and Over  
By County FY - 2014  
Urban Areas "Shaded"



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 33:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Age 65 and Over  
Of All Rural and Highly Rural Patients Age 65 and Over  
By County FY - 2014  
Urban Areas "Shaded"

## 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 Tobacco Use Disorders with a service-connected disability represented 19.28% of the total number of patients with Tobacco Use Disorders in the VHA. At the network level, South Central Network (VISN 16) ranked the highest with 21,452 rural and highly rural service-connected patients with Tobacco Use Disorders. However, Midwest Network (VISN 23) ranked the highest at 32.99%, in terms of percentage of rural and highly rural patients with Tobacco Use Disorders to all patients with Tobacco Use Disorders.

Patients with Tobacco Use Disorders residing in rural and highly rural areas who were Priority Group 5 represented 11.88% of the total patient population with Tobacco Use Disorders across the United States. South Central Network (VISN 16) again ranked the highest with 12,539 rural and highly rural low-income/non-Service-Connected/non-compensable Service-Connected patients with Tobacco Use Disorders. The Heartland Network (VISN 15) had the highest proportion at 17.93%.

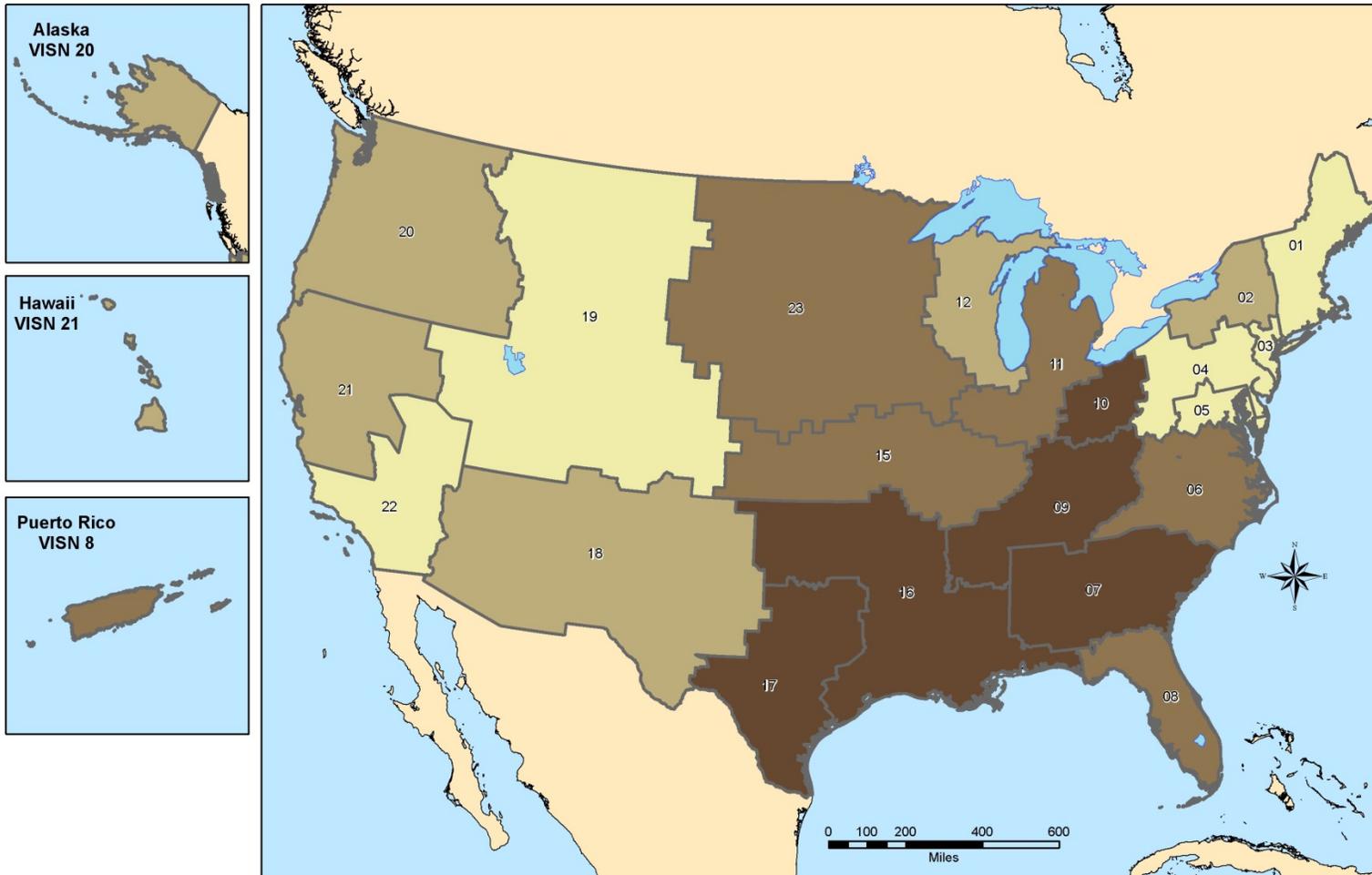
The map series following Table 5 examines the numbers and percentages of rural and highly rural Service-Connected Veterans (numerator) of the total rural and highly rural Service-Connected Veteran patient population (denominator) in Map 34 – Map 39. Similar information is presented for the Low Income (Priority 5) Veterans in Map 40 – Map 44.

# Tobacco Use Disorders



**Table 5: National and VISN Numbers and Percentages of VHA Patients with Tobacco Use Disorders, by Rurality and Enrollment Priority Group, FY-2014**

Prevalence Statistics by Service Connection Type and Low Income by Rurality- Tobacco Use Disorders, FY-2014											
Veterans Integrated Service Network	Total Number of Patients with Tobacco Use Disorders	Service Connected Priority 1-3					Low Income				
		HR	R	%	U	Unk	HR	R	%	U	Unk
New England (01)	31,719	72	5,920	18.89	9,516	*	43	2,886	9.23	5,487	*
Upstate NY (02)	21,307	3	4,858	22.81	4,258	*	3	3,329	15.64	3,697	*
NY/NJ (03)	19,454	*	627	3.23	7,512	*	*	466	2.41	6,240	*
Stars and Stripes (04)	48,631	3	8,800	18.10	11,513	*	*	6,011	12.36	9,154	*
Capitol (05)	19,346	*	1,898	9.81	6,233	*	*	1,436	7.43	5,451	*
Mid-Atlantic (06)	59,635	11	14,919	25.04	15,296	*	7	8,749	14.68	9,055	*
Southeast (07)	52,121	*	11,520	22.10	14,621	*	*	7,298	14.01	9,204	*
Sunshine (08)	70,317	10	6,149	8.76	24,316	4	*	5,381	7.66	19,110	8
Mid South (09)	49,860	9	14,305	28.71	9,996	*	4	8,626	17.31	6,734	*
Ohio (10)	42,199	4	6,192	14.68	10,311	*	*	5,145	12.19	10,728	*
Vets in Partnership (11)	46,224	7	9,300	20.13	11,271	*	3	5,927	12.83	9,914	*
Great Lakes (12)	40,099	38	5,467	13.73	10,660	*	30	3,350	8.43	9,120	*
Heartland (15)	39,992	114	10,966	27.71	6,756	*	103	7,067	17.93	5,933	*
South Central (16)	82,943	55	21,397	25.86	19,469	*	36	12,503	15.12	12,291	*
Heart of Texas (17)	34,797	98	6,309	18.41	12,076	*	59	3,611	10.55	6,215	*
Southwest (18)	32,295	781	4,255	15.59	10,016	8	566	2,926	10.81	6,926	21
Rocky Mtn. (19)	25,845	1,491	3,535	19.45	7,738	*	913	1,918	10.95	4,591	4
Northwest (20)	38,653	957	6,985	20.55	11,246	3	676	3,945	11.96	7,376	*
Sierra Pacific (21)	33,796	240	4,100	12.84	10,529	328	153	3,011	9.36	8,433	115
Desert Pacific (22)	35,921	222	1,485	4.75	14,158	*	200	1,124	3.69	11,309	*
Midwest (23)	43,383	926	13,388	32.99	9,076	*	489	5,218	13.15	4,350	*
<b>Grand Total</b>	<b>868,537</b>	<b>5,043</b>	<b>162,375</b>	<b>19.28</b>	<b>236,567</b>	<b>346</b>	<b>3,293</b>	<b>99,927</b>	<b>11.88</b>	<b>171,318</b>	<b>155</b>



**Patient Count**

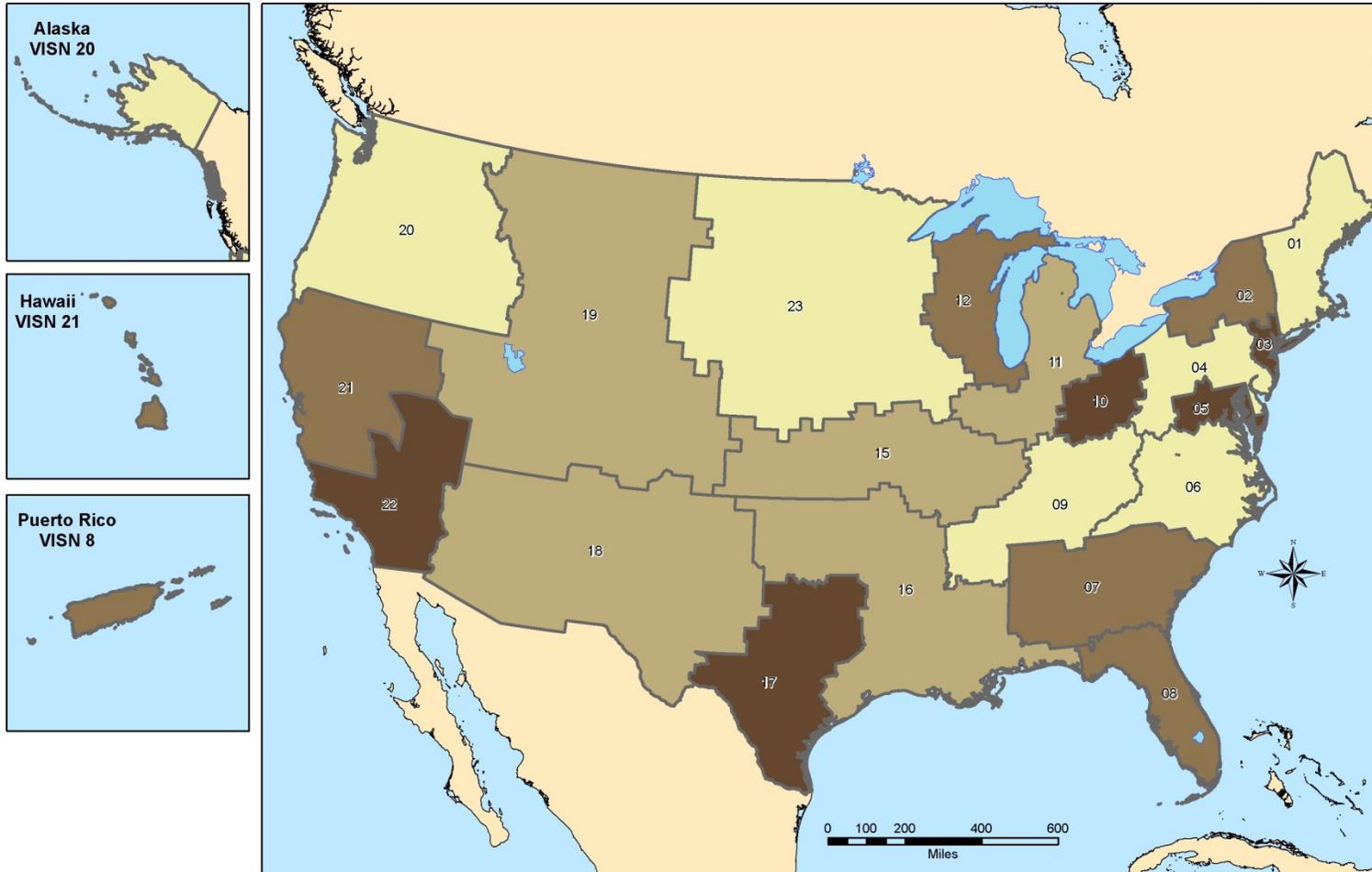
- 5,489 - 10,701 (Lower 25%)
- 10,702 - 14,812
- 14,813 - 17,680
- 17,681 - 32,532 (Upper 25%)

Map 34:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Priority 1-3  
By VISN FY - 2014



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# Tobacco Use Disorders

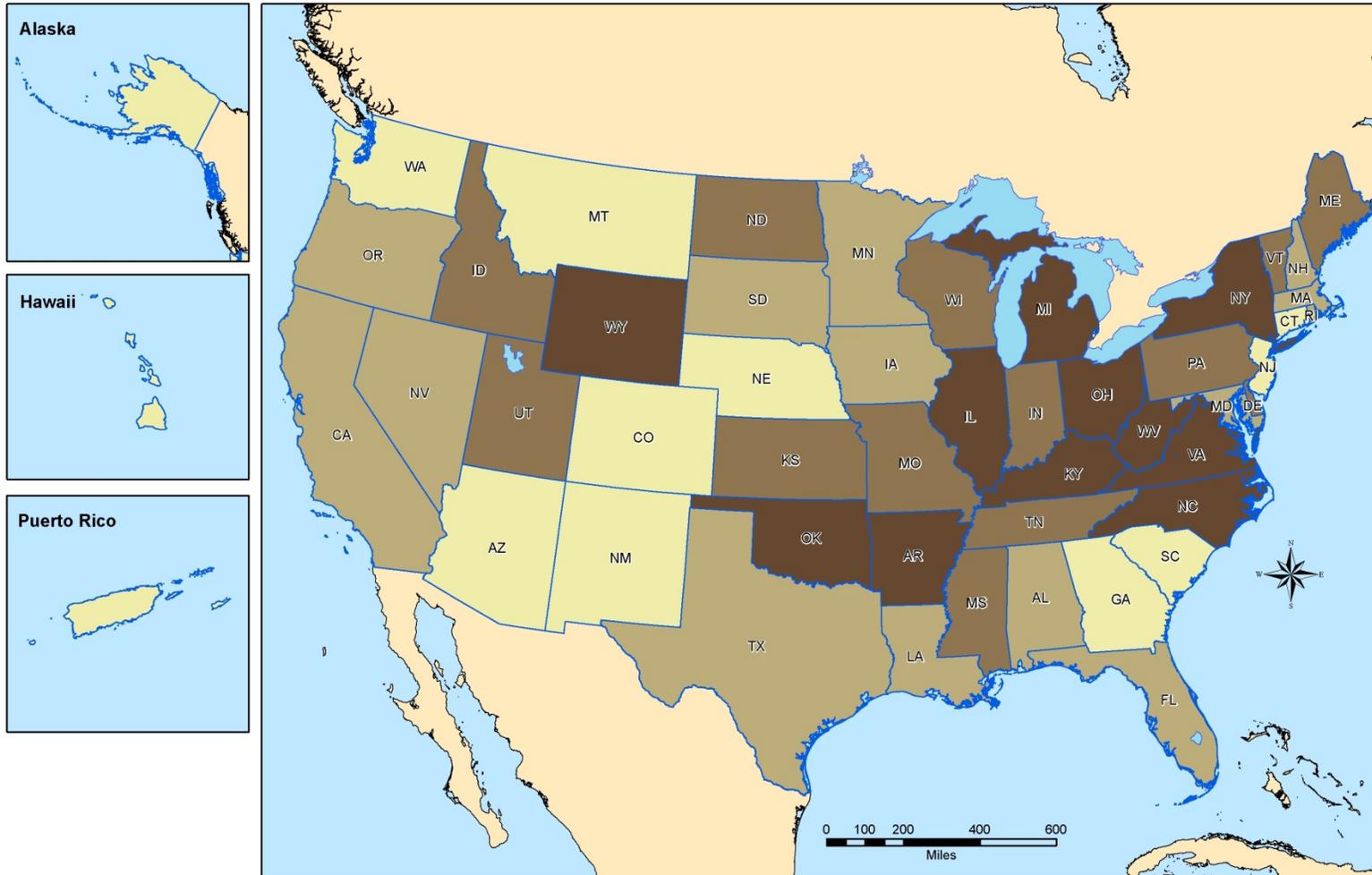


Percent of Patients	
	16.2% - 26.7%
	26.8% - 31.2%
	31.3% - 45.6%
	45.7% - 127.8%

Map 35:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 1-3  
Of All Rural and Highly Rural VHA Patients Priority 1-3  
By VISN FY - 2014

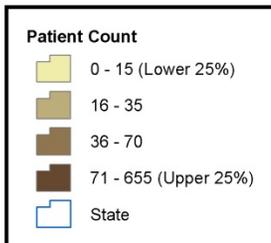
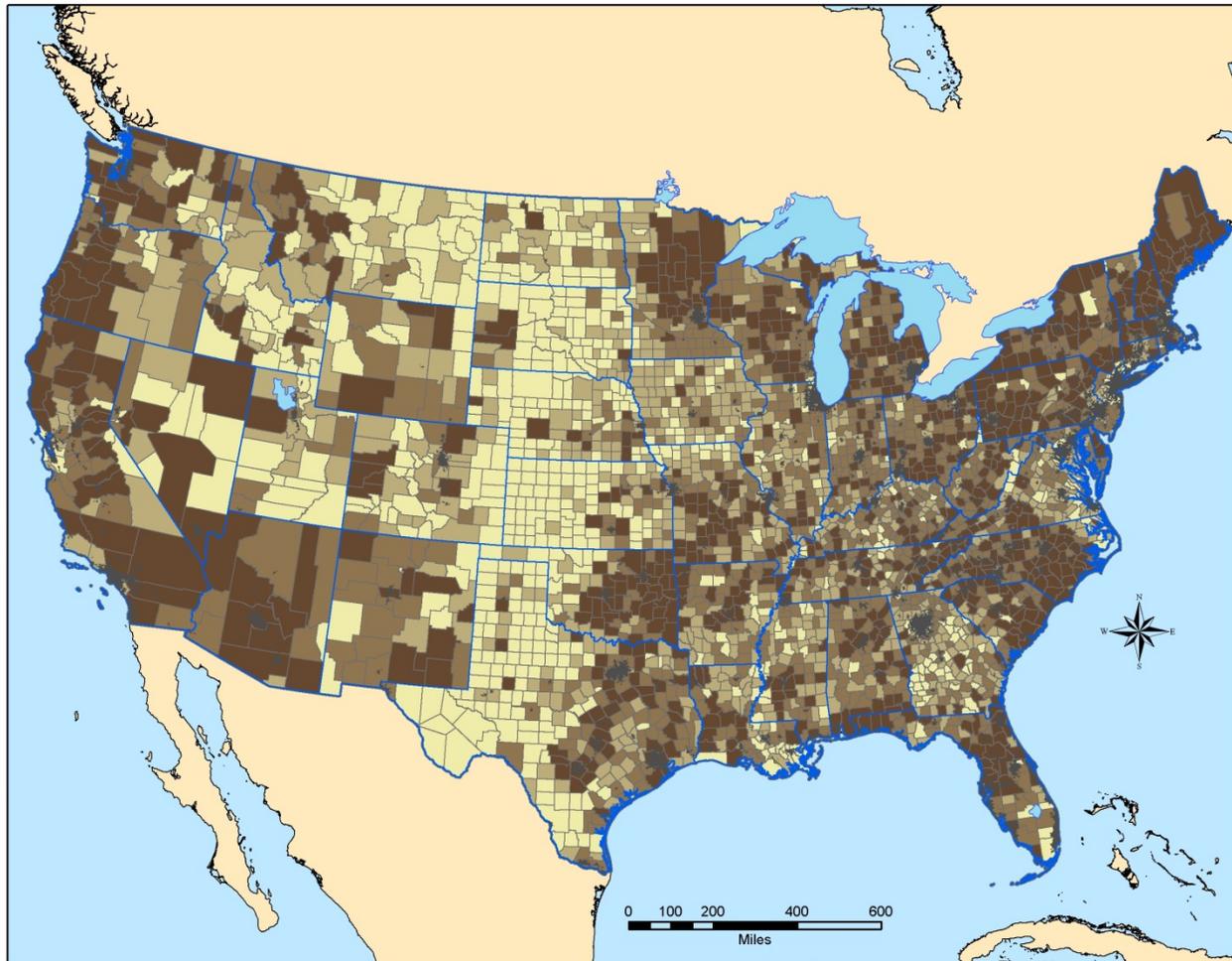


# Tobacco Use Disorders



Percent of Patients	
	8.9% - 14.1%
	14.2% - 16.1%
	16.2% - 18.3%
	18.4% - 40%

Map 37:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 1-3  
Of All Rural and Highly Rural Patients Priority 1-3  
By State FY - 2014

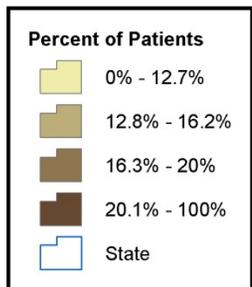
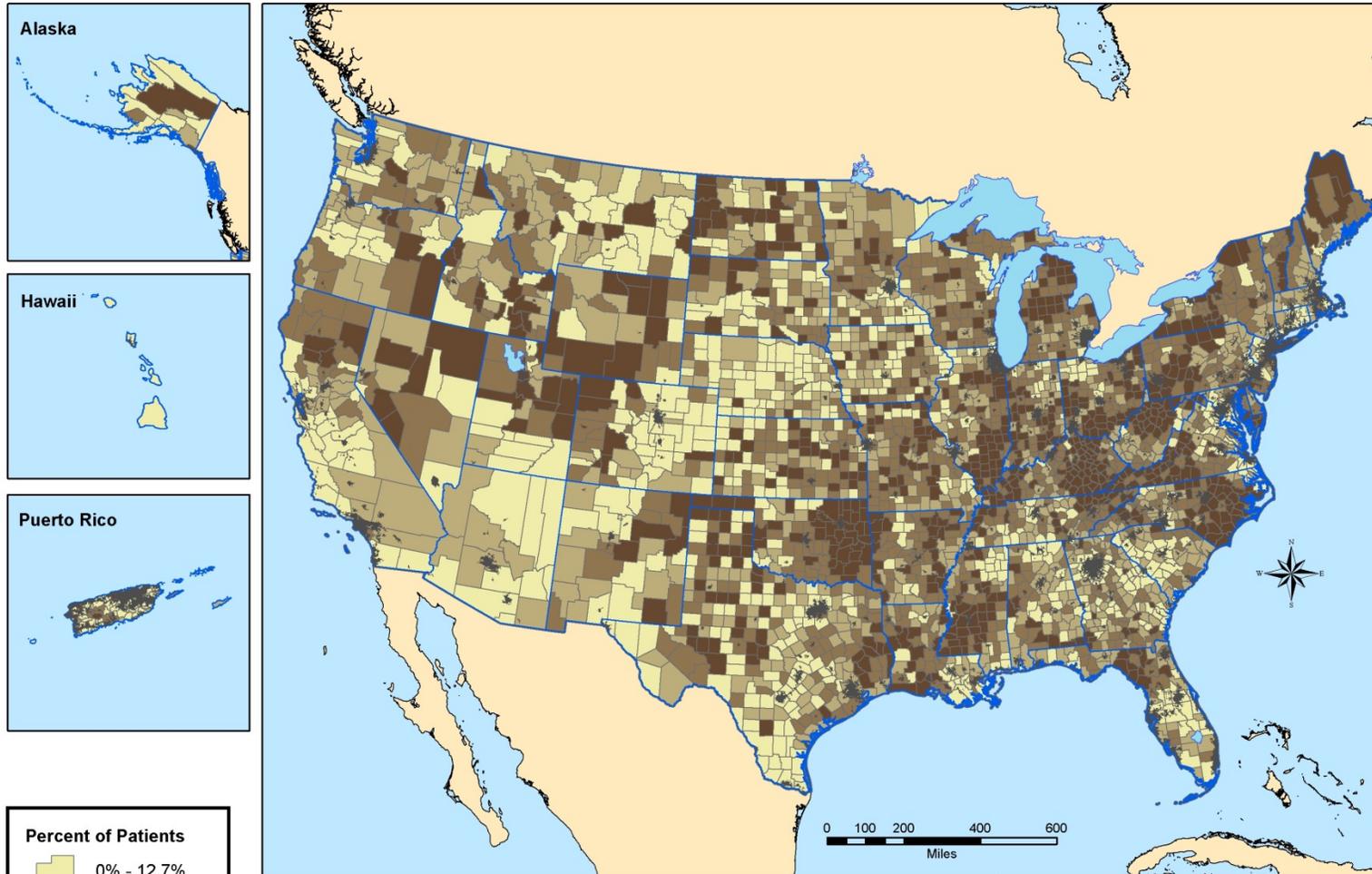


Map 38:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Priority 1-3  
By County FY - 2014  
Urban Areas "Shaded"

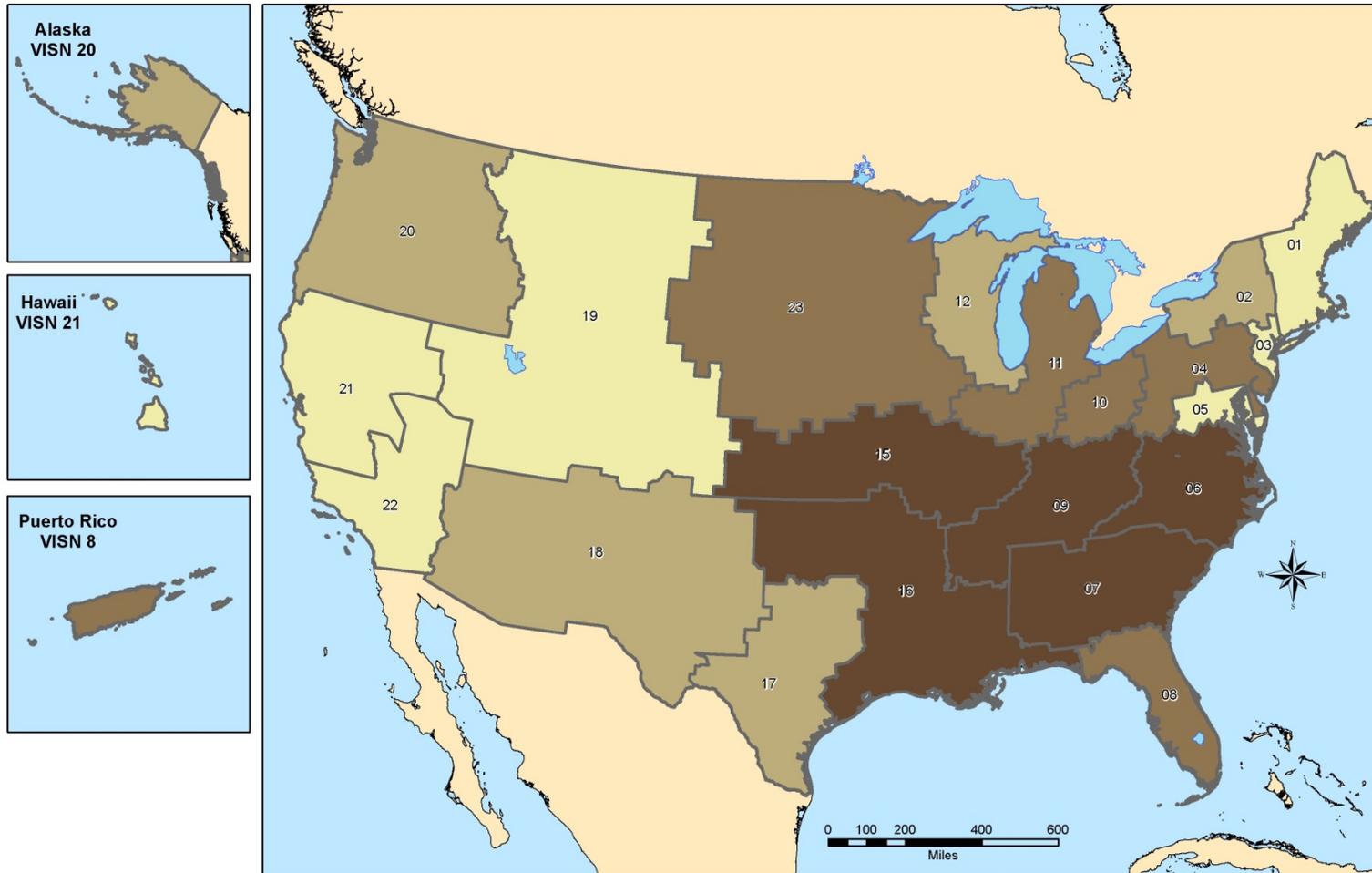


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 39:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 1-3  
Of All Rural and Highly Rural Patients Priority 1-3  
By County FY - 2014  
Urban Areas "Shaded"



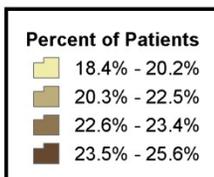
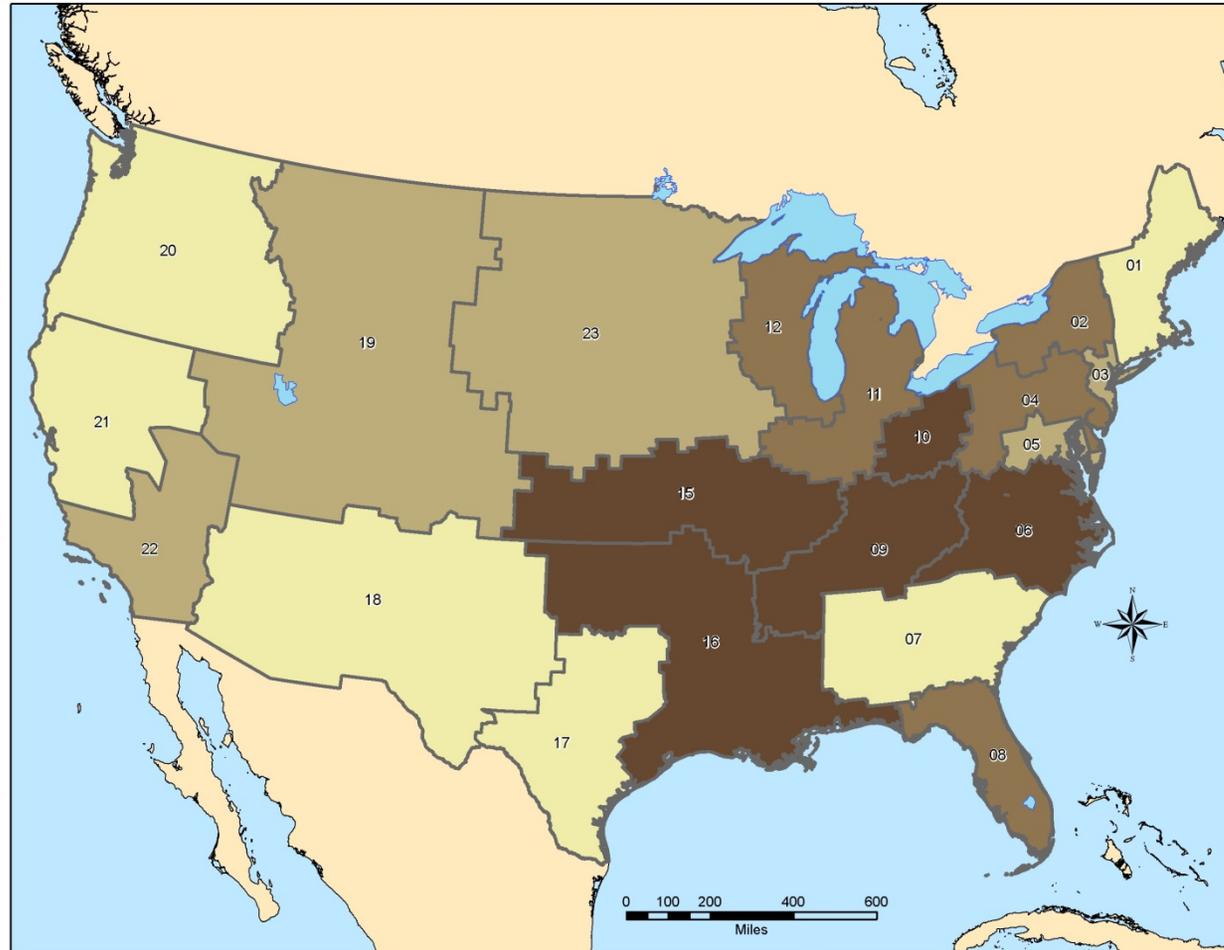
Patient Count	
Lightest yellow	468 - 3,164 (Lower 25%)
Light brown	3,165 - 4,621
Dark brown	4,622 - 6,011
Darkest brown	6,012 - 12,539 (Upper 25%)

Map 40:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 5  
By VISN FY - 2014

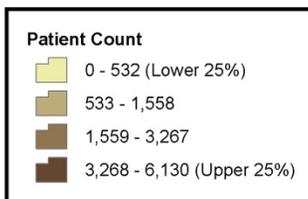
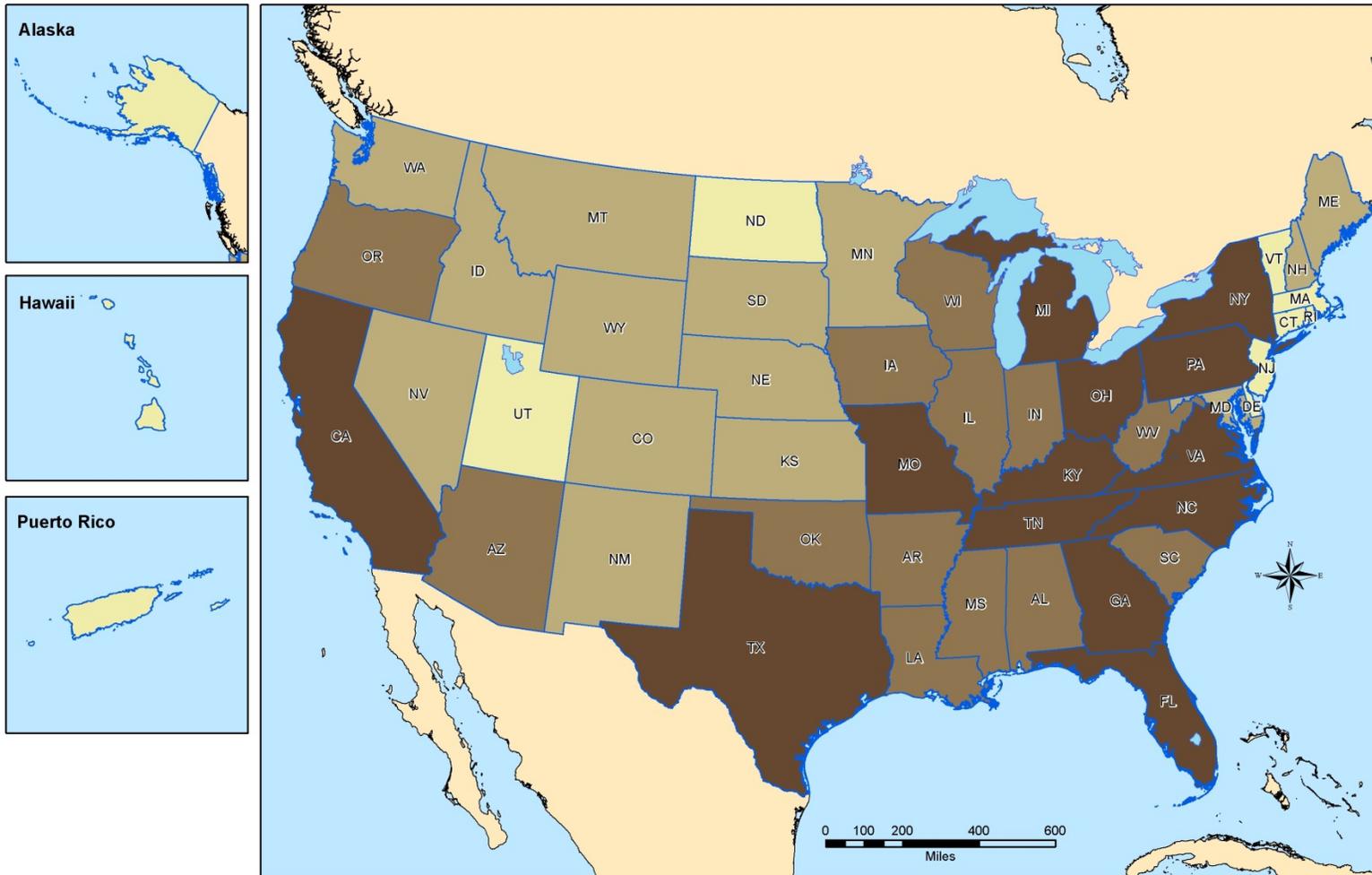


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GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 41:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 5  
Of All Rural and Highly Rural VHA Patients Priority 5  
By VISN FY - 2014

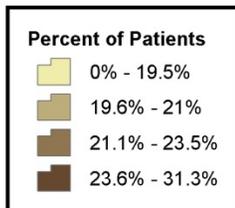
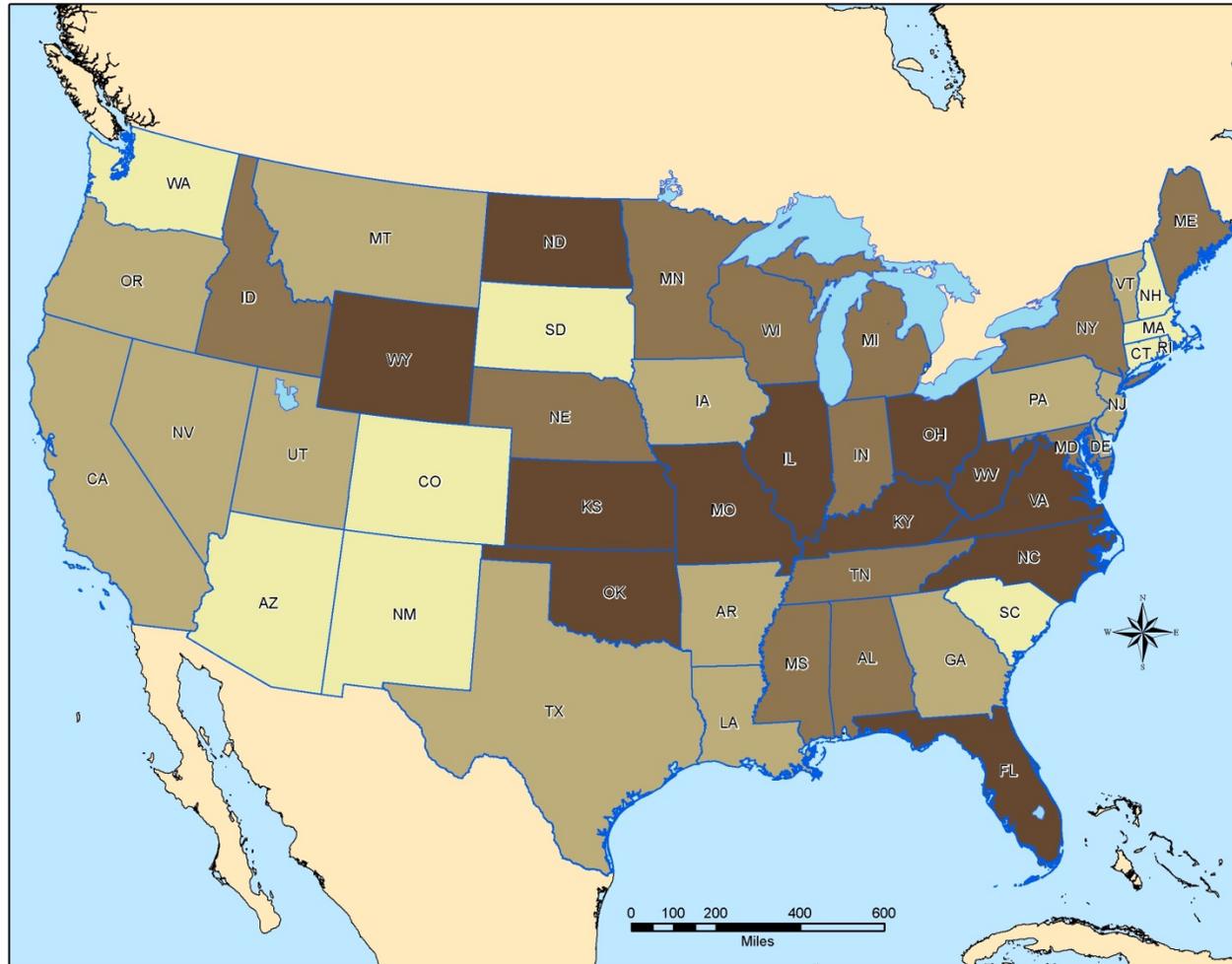


Map 42:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Priority 5  
By State FY - 2014

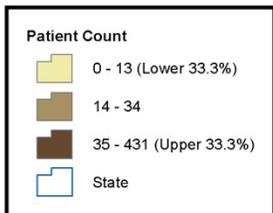
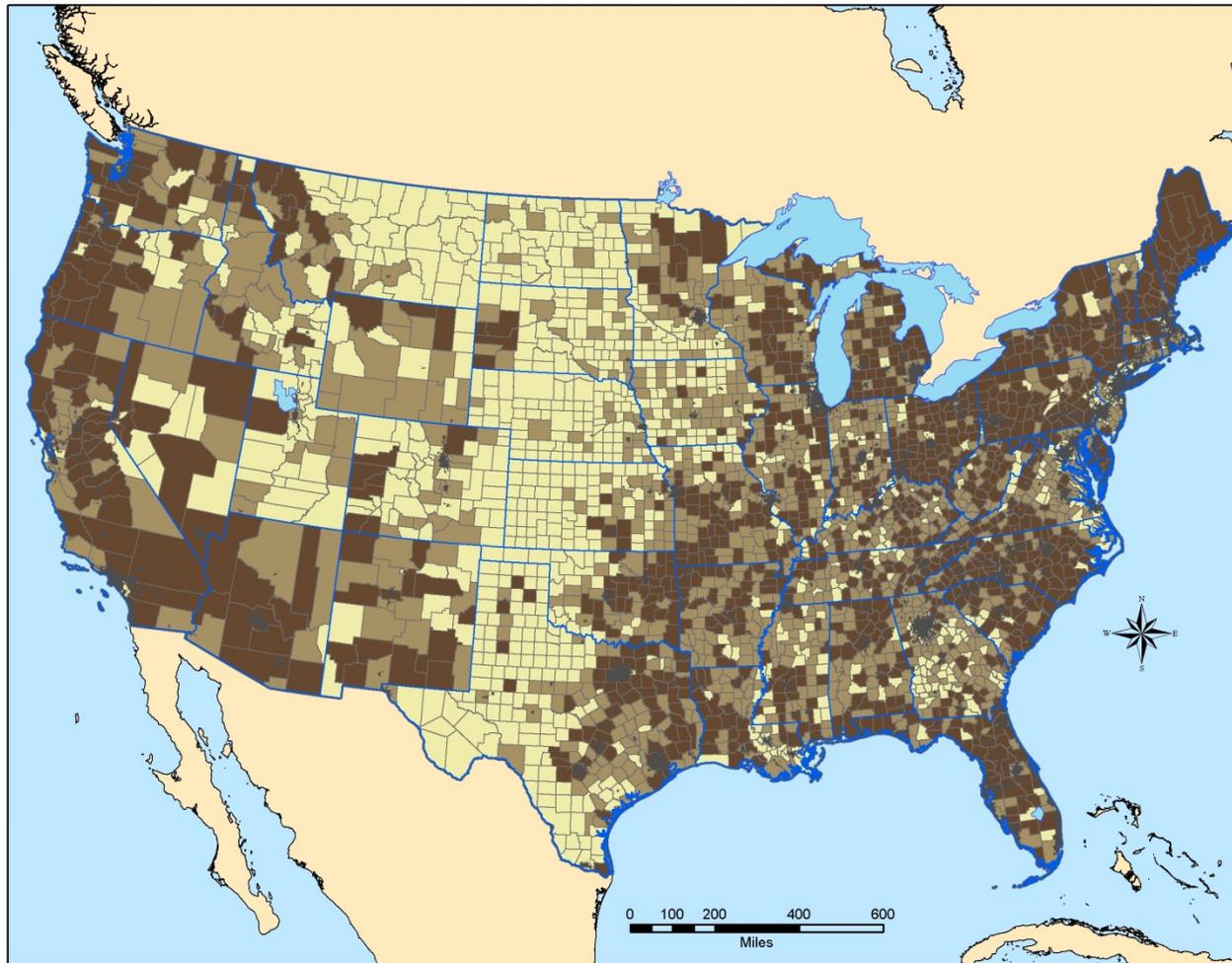


Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 43:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 5  
Of All Rural and Highly Rural Patients Priority 5  
By State FY - 2014

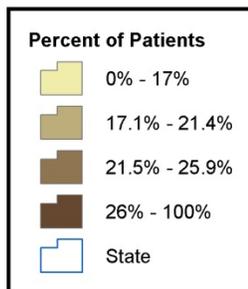
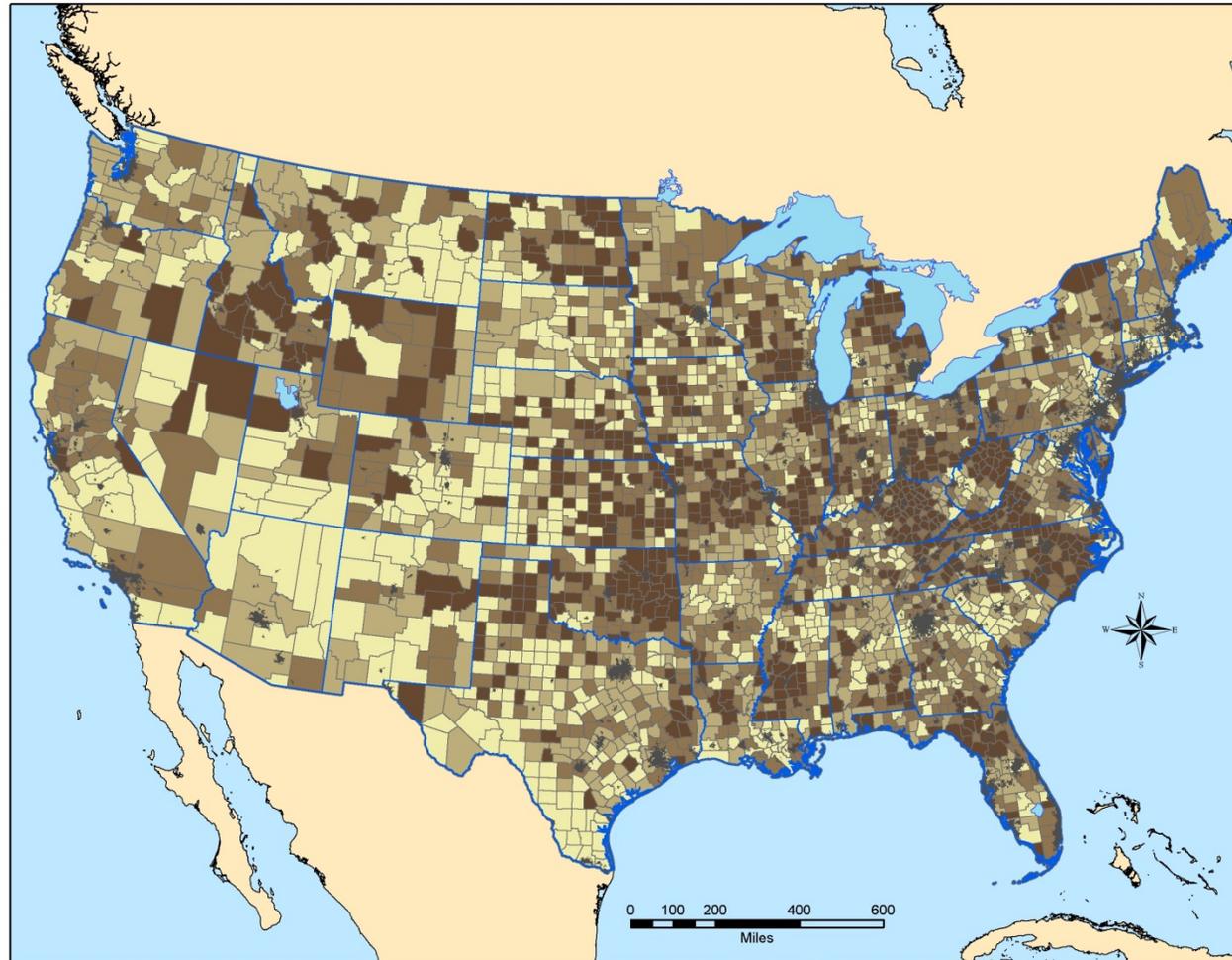


Map 44:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Priority 5  
By County FY - 2014  
Urban Areas "Shaded"



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/5/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 45:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Priority 5  
Of All Rural and Highly Rural Patients Priority 5  
By County FY - 2014  
Urban Areas "Shaded"

## Section IV Highlights: VHA Patients with Tobacco Use Disorders (Outpatient Utilization)

Table 6 examines overall utilization of VHA health care facilities by those VHA patients with a primary diagnosis of Tobacco Use Disorders. That is, patients who may have had an encounter with the diagnosis set as the primary diagnosis. At the National level, 2.46% (N=153,050) of all VHA patients had a primary diagnosis of Tobacco Use Disorders. At the network level, the range ran from a low of 2,905 individuals in Capitol Network (VISN 5), representing 1.94%, to a high of 12,400 individuals in the Sunshine Network (VISN 8), representing 2.15%.

Using the example of the Sunshine Network (VISN 8), a small percent (0.14%) of all 17,255,468 outpatient encounters were by those VHA patients with a primary diagnosis of Tobacco Use Disorders. 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 level. Again, looking at the Sunshine Network (VISN 8), combined rural patients with a primary diagnosis of Tobacco Use Disorders represented only 0.02% of all outpatient encounters in that network, compared to 0.14% 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 Tobacco Use Disorders by rurality. In this table, some very interesting urban-rural comparisons across VISNs emerge. For example, the Heartland Network (VISN 15) had a total of 10,983 outpatient encounters for patients who had a primary diagnosis of Tobacco Use Disorders. More than half (59.74%) of the encounters were from patients living in rural or highly rural areas of the VISN. Following VISN 15, three other networks (in rank order, VISNs 23, 9, and 2) 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 Tobacco Use Disorders**

Overall Resource Utilization- Tobacco Use Disorders (Primary Diagnosis Group) Compared to All Users, FY-2014										
Veterans Integrated Service Network	Total Number of Patients	Patients with Tobacco Use Disorders		Outpatient Encounters						
	N	N	%	Total	Tobacco Use Disorders					
				N	HR	R	%	U	Unk	%
New England (01)	253,326	6,990	2.76	7,306,431	32	3,239	0.04	9,935	0	0.18
Upstate NY (02)	136,497	3,575	2.62	4,189,442	3	2,690	0.06	2,669	0	0.13
NY/NJ (03)	174,457	3,740	2.14	5,308,815	0	326	0.01	6,031	0	0.12
Stars and Stripes (04)	310,940	7,962	2.56	8,188,223	0	4,767	0.06	8,559	2	0.16
Capitol (05)	150,012	2,905	1.94	3,919,003	0	753	0.02	3,444	0	0.11
Mid-Atlantic (06)	359,692	9,486	2.64	9,682,967	7	8,719	0.09	9,416	0	0.19
Southeast (07)	408,164	7,741	1.90	10,588,864	0	5,022	0.05	8,075	0	0.12
Sunshine (08)	576,411	12,400	2.15	17,255,468	0	4,243	0.02	19,089	2	0.14
Mid South (09)	298,396	6,505	2.18	8,424,188	0	5,325	0.06	4,843	3	0.12
Ohio (10)	231,319	9,037	3.91	7,511,566	0	5,369	0.07	13,003	3	0.24
Vets in Partnership (11)	282,135	7,634	2.71	7,691,758	1	4,512	0.06	8,537	0	0.17
Great Lakes (12)	266,879	8,953	3.35	7,705,668	42	4,811	0.06	12,534	0	0.23
Heartland (15)	245,357	6,576	2.68	7,009,124	72	6,489	0.09	4,420	2	0.16
South Central (16)	502,681	11,541	2.30	13,310,260	38	7,847	0.06	8,460	8	0.12
Heart of Texas (17)	306,581	5,922	1.93	7,950,682	60	2,859	0.04	6,354	0	0.12
Southwest (18)	271,557	5,107	1.88	6,738,226	380	2,240	0.04	6,594	20	0.14
Rocky Mtn. (19)	202,350	4,892	2.42	4,987,574	905	2,079	0.06	4,796	5	0.16
Northwest (20)	288,322	7,628	2.65	6,791,502	628	4,091	0.07	8,792	2	0.20
Sierra Pacific (21)	293,645	7,528	2.56	6,828,680	163	3,310	0.05	10,021	33	0.20
Desert Pacific (22)	328,951	8,444	2.57	8,520,022	122	1,804	0.02	19,469	2	0.25
Midwest (23)	324,728	8,484	2.61	8,146,785	473	7,641	0.10	7,054	0	0.19
<b>Grand Total</b>	<b>6,212,400</b>	<b>153,050</b>	<b>2.46</b>	<b>168,055,248</b>	<b>2,926</b>	<b>88,136</b>	<b>0.05</b>	<b>182,095</b>	<b>82</b>	<b>0.16</b>

Table 7: Outpatient Encounters of Patients with a Primary Diagnosis of Tobacco Use Disorders by Rurality

Veterans Integrated Service Network	Outpatient Encounters by Patients with Primary Tobacco Use Disorders DX					
	Total	Rurality				
	N	HR	R	%	U	Unk
New England (01)	13,206	32	3,239	24.77	9,935	0
Upstate NY (02)	5,362	3	2,690	50.22	2,669	0
NY/NJ (03)	6,357	0	326	5.13	6,031	0
VISN 04 (04)	13,328	0	4,767	35.77	8,559	2
Capitol (05)	4,197	0	753	17.94	3,444	0
Mid-Atlantic (06)	18,142	7	8,719	48.10	9,416	0
Southeast (07)	13,097	0	5,022	38.34	8,075	0
Sunshine (08)	23,334	0	4,243	18.18	19,089	2
Mid South (09)	10,171	0	5,325	52.35	4,843	3
Ohio (10)	18,375	0	5,369	29.22	13,003	3
Vets in Partnership (11)	13,050	1	4,512	34.58	8,537	0
Great Lakes (12)	17,387	42	4,811	27.91	12,534	0
Heartland (15)	10,983	72	6,489	59.74	4,420	2
South Central (16)	16,353	38	7,847	48.22	8,460	8
Heart of Texas (17)	9,273	60	2,859	31.48	6,354	0
Southwest (18)	9,234	380	2,240	28.37	6,594	20
Rocky Mtn. (19)	7,785	905	2,079	38.33	4,796	5
Northwest (20)	13,513	628	4,091	34.92	8,792	2
Sierra Pacific (21)	13,527	163	3,310	25.67	10,021	33
Desert Pacific (22)	21,397	122	1,804	9.00	19,469	2
Midwest (23)	15,168	473	7,641	53.49	7,054	0
<b>TOTAL</b>	<b>273,239</b>	<b>2,926</b>	<b>88,136</b>	<b>33.33</b>	<b>182,095</b>	<b>82</b>

# Tobacco Use Disorders



Table 8 examines the overall outpatient encounters at VHA health care facilities by those VHA patients with a secondary diagnosis of a Tobacco Use Disorder. That is, patients who had an encounter with a Tobacco Use Disorder as the secondary diagnosis. At the National level, 13.12% (N=814,993) of all VHA patients had secondary diagnosis of Tobacco Use Disorders. At the network level, the range ran from a low of 18,372 individuals in Capitol Network (VISN 5), representing 12.40%, to a high of 78,666 individuals in the Sunshine Network (VISN 8), representing 15.65%.

In Table 9 (similar to Table 7 for patients with a primary diagnosis of Tobacco Use Disorders) information on outpatient encounters for all patients with a secondary diagnosis of Tobacco Use Disorders by rurality is reported. The percentage of encounters by rural and highly rural patients constituted a large share of the total Tobacco Use Disorder encounters in VISN 23 (58.21%). Following VISN 23, three other networks (in rank order, VISNs 15, 9, and 2) had more than half of the encounters from patients with a secondary diagnosis of a Tobacco Use Disorder living in rural and highly rural areas of the VISN.

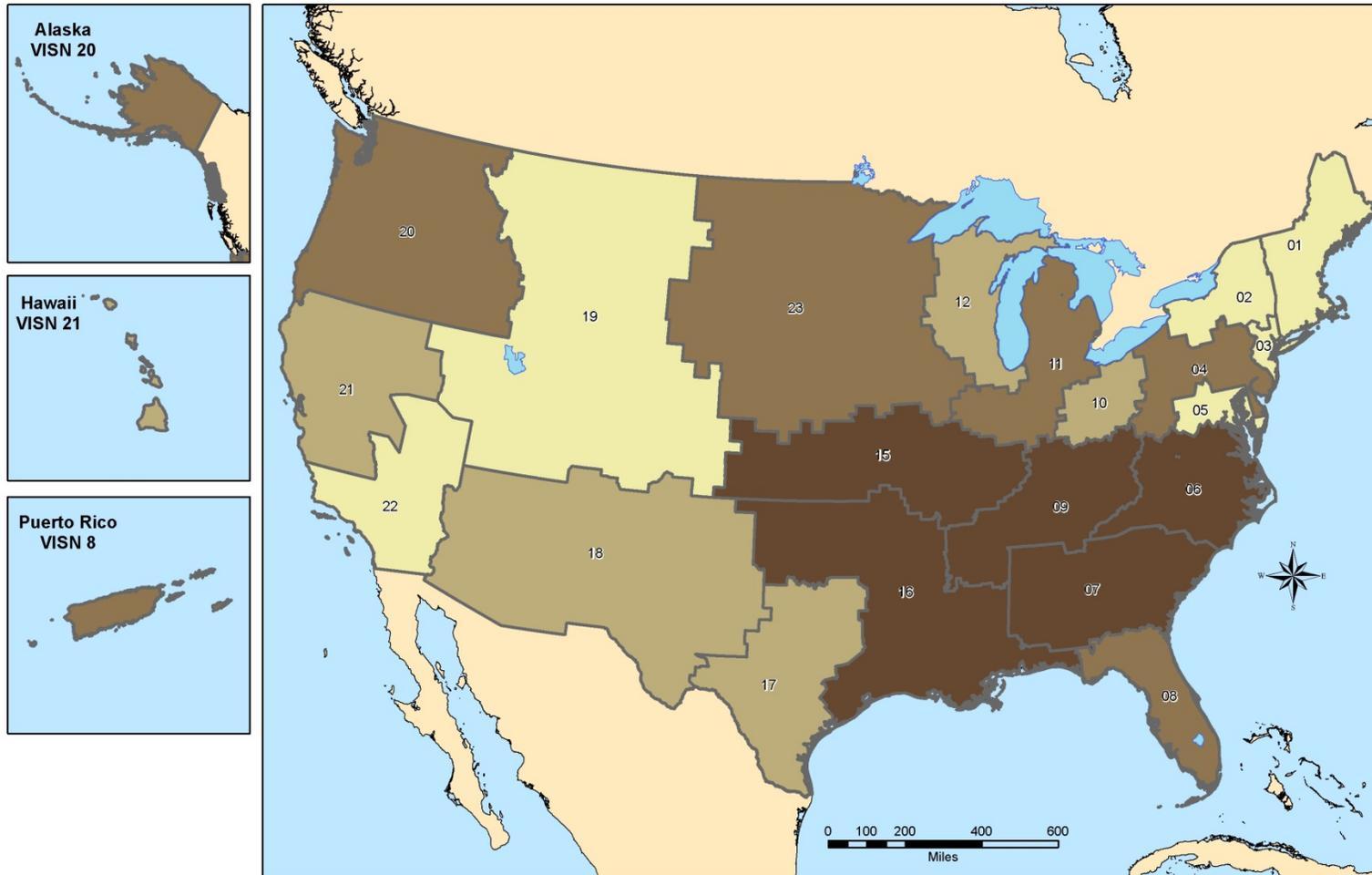
Table 8: Outpatient Encounters of Patients with a Secondary Diagnosis of Tobacco Use Disorders

Overall Resource Utilization- Tobacco Use Disorders (Secondary Diagnosis Group) Compared to All Users, FY-2014										
Veterans Integrated Service Network	Total Number of Patients	Patients with Tobacco Use Disorders		Outpatient Encounters						
	N	N	%	Total	Tobacco Use Disorders					
				N	HR	R	%	U	Unk	%
New England (01)	253,326	29,267	11.55	7,306,431	251	19,295	0.27	38,072	3	0.79
Upstate NY (02)	136,497	20,193	14.79	4,189,442	13	19,201	0.46	18,899	0	0.91
NY/NJ (03)	174,457	18,372	10.53	5,308,815	1	3,370	0.06	36,075	1	0.74
Stars and Stripes (04)	310,940	45,806	14.73	8,188,223	13	34,036	0.42	50,540	6	1.03
Capitol (05)	150,012	18,599	12.40	3,919,003	6	7,890	0.20	30,802	1	0.99
Mid-Atlantic (06)	359,692	56,592	15.73	9,682,967	35	48,611	0.50	51,350	5	1.03
Southeast (07)	408,164	49,007	12.01	10,588,864	5	33,444	0.32	46,731	10	0.76
Sunshine (08)	576,411	66,245	11.49	17,255,468	31	25,371	0.15	103,158	24	0.75
Mid South (09)	298,396	47,599	15.95	8,424,188	20	43,291	0.51	33,149	3	0.91
Ohio (10)	231,319	39,350	17.01	7,511,566	4	27,475	0.37	62,998	2	1.20
Vets in Partnership (11)	282,135	43,449	15.40	7,691,758	21	29,858	0.39	44,483	2	0.97
Great Lakes (12)	266,879	37,605	14.09	7,705,668	125	19,657	0.26	53,408	8	0.95
Heartland (15)	245,357	37,691	15.36	7,009,124	444	36,545	0.53	27,014	11	0.91
South Central (16)	502,681	78,666	15.65	13,310,260	192	65,188	0.49	67,026	21	0.99
Heart of Texas (17)	306,581	32,585	10.63	7,950,682	710	21,846	0.28	44,173	7	0.84
Southwest (18)	271,557	30,212	11.13	6,738,226	2,662	15,005	0.26	33,642	90	0.76
Rocky Mtn. (19)	202,350	24,023	11.87	4,987,574	4,947	11,851	0.34	24,740	12	0.83
Northwest (20)	288,322	35,539	12.33	6,791,502	2,834	19,102	0.32	38,019	8	0.88
Sierra Pacific (21)	293,645	31,070	10.58	6,828,680	760	13,545	0.21	39,512	769	0.80
Desert Pacific (22)	328,951	32,892	10.00	8,520,022	796	4,443	0.06	49,990	7	0.65
Midwest (23)	324,728	40,231	12.39	8,146,785	3,281	40,152	0.53	31,181	4	0.92
<b>Grand Total</b>	<b>6,212,400</b>	<b>814,993</b>	<b>13.12</b>	<b>168,055,248</b>	<b>17,151</b>	<b>539,176</b>	<b>0.33</b>	<b>924,962</b>	<b>994</b>	<b>0.88</b>

# Tobacco Use Disorders

Table 9: Outpatient Encounters of Patients with a Secondary Diagnosis of Tobacco Use Disorders by Rurality

Veterans Integrated Service Network	Outpatient Encounters by Patients with Secondary Tobacco Use Disorders DX					
	Total	Rurality				
	N	HR	R	%	U	Unk
New England (01)	57,621	251	19,295	33.92	38,072	3
Upstate NY (02)	38,113	13	19,201	50.41	18,899	0
NY/NJ (03)	39,447	1	3,370	8.55	36,075	1
VISN 04 (04)	84,595	13	34,036	40.25	50,540	6
Capitol (05)	38,699	6	7,890	20.40	30,802	1
Mid-Atlantic (06)	100,001	35	48,611	48.65	51,350	5
Southeast (07)	80,190	5	33,444	41.71	46,731	10
Sunshine (08)	128,584	31	25,371	19.76	103,158	24
Mid South (09)	76,463	20	43,291	56.64	33,149	3
Ohio (10)	90,479	4	27,475	30.37	62,998	2
Vets in Partnership (11)	74,364	21	29,858	40.18	44,483	2
Great Lakes (12)	73,198	125	19,657	27.03	53,408	8
Heartland (15)	64,014	444	36,545	57.78	27,014	11
South Central (16)	132,427	192	65,188	49.37	67,026	21
Heart of Texas (17)	66,736	710	21,846	33.80	44,173	7
Southwest (18)	51,399	2,662	15,005	34.37	33,642	90
Rocky Mtn. (19)	41,550	4,947	11,851	40.43	24,740	12
Northwest (20)	59,963	2,834	19,102	36.58	38,019	8
Sierra Pacific (21)	54,586	760	13,545	26.21	39,512	769
Desert Pacific (22)	55,236	796	4,443	9.48	49,990	7
Midwest (23)	74,618	3,281	40,152	58.21	31,181	4
<b>TOTAL</b>	<b>1,482,283</b>	<b>17,151</b>	<b>539,176</b>	<b>37.53</b>	<b>924,962</b>	<b>994</b>



**Patient Encounters**

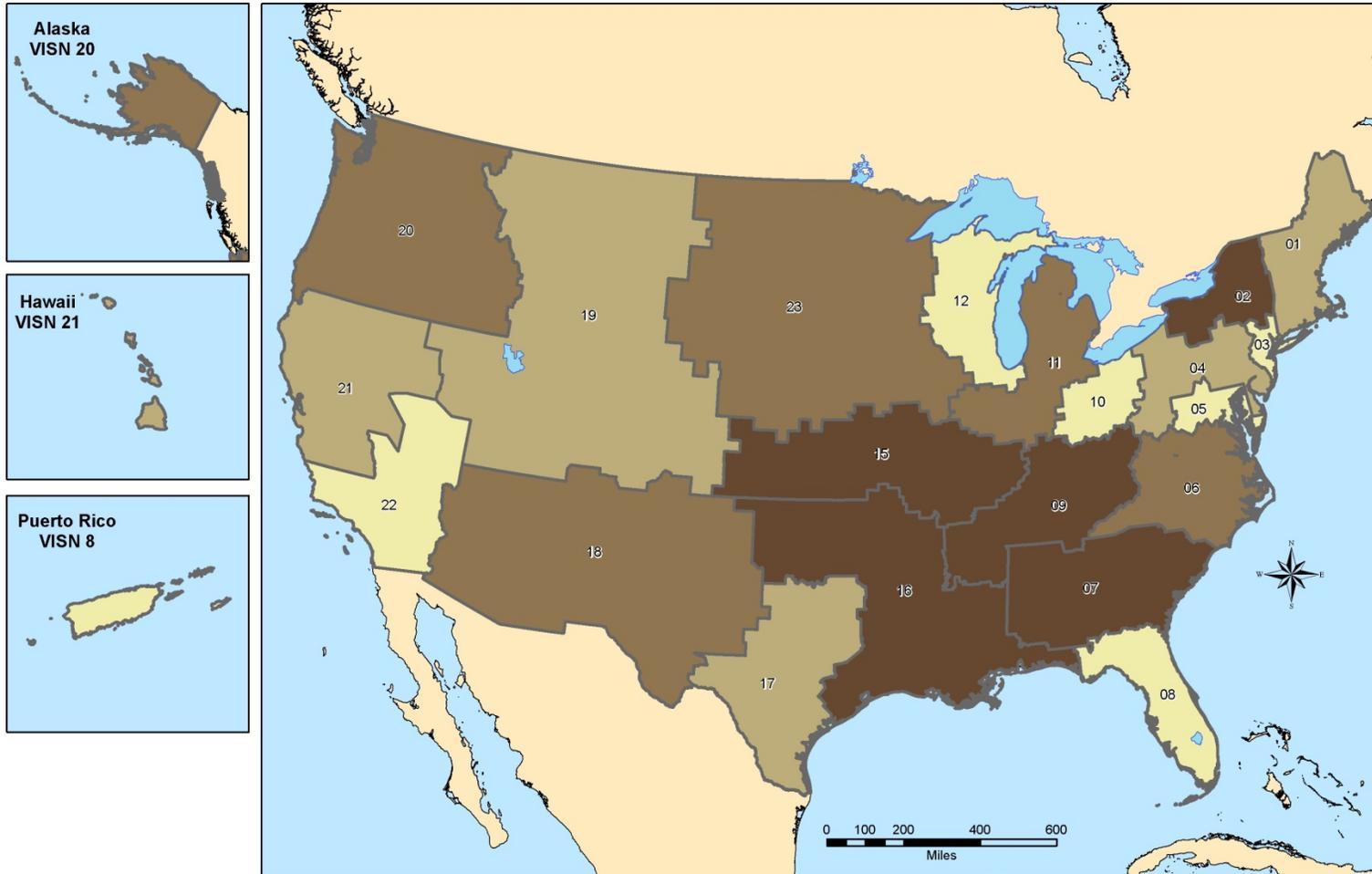
- 2,100 - 14,592 (Lower 25%)
- 14,593 - 20,452
- 20,453 - 27,294
- 27,295 - 53,463 (Upper 25%)

Map 46:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Encounters  
By VISN FY - 2014



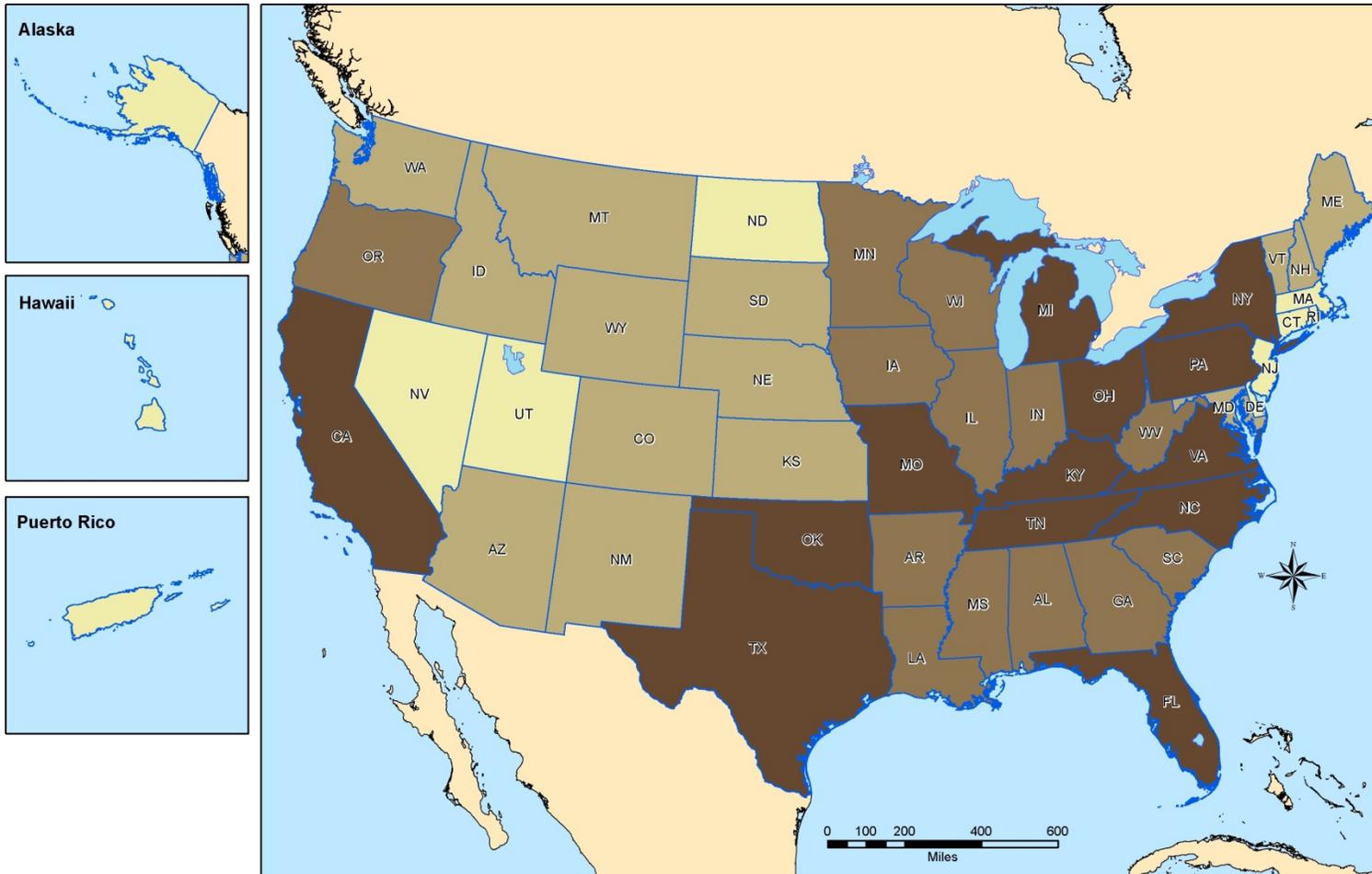
Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Percent of Encounters	
4.6% - 18.8%	(Lightest Brown)
18.9% - 28.4%	(Light Brown)
28.5% - 31.7%	(Medium Brown)
31.8% - 42.3%	(Darkest Brown)

Map 47:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Encounters  
Of All VHA Patient Tobacco Use Disorder Encounters  
By VISN FY - 2014



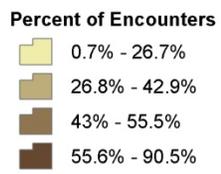
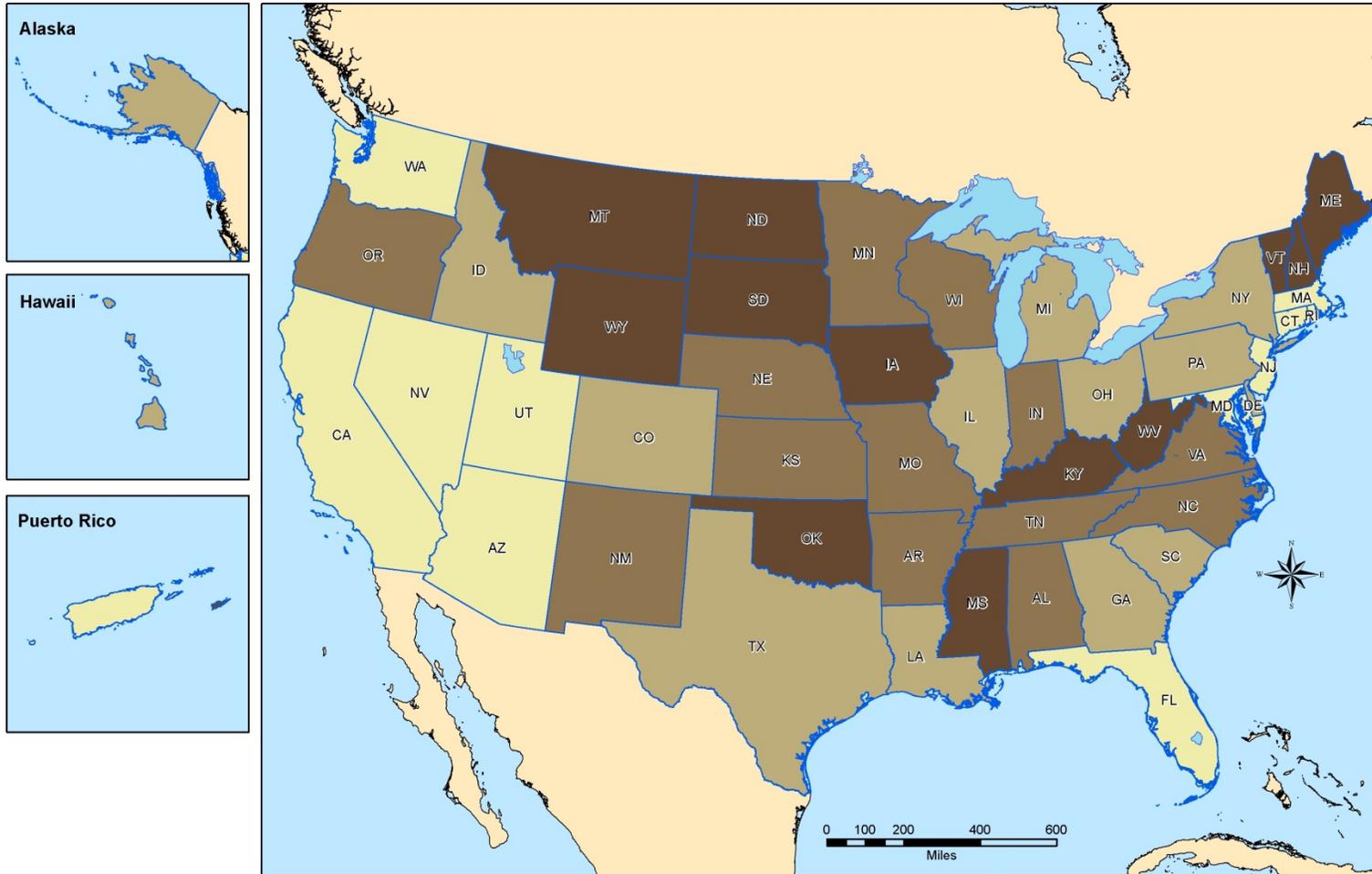
Patient Encounters	
<span style="display:inline-block; width:15px; height:15px; background-color:#ffffcc; border:1px solid black;"></span>	0 - 3,841 (Lower 25%)
<span style="display:inline-block; width:15px; height:15px; background-color:#f4d03f; border:1px solid black;"></span>	3,842 - 9,612
<span style="display:inline-block; width:15px; height:15px; background-color:#c8a2c8; border:1px solid black;"></span>	9,613 - 19,473
<span style="display:inline-block; width:15px; height:15px; background-color:#8e44ad; border:1px solid black;"></span>	19,474 - 41,475 (Upper 25%)

Map 48:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders  
Encounters  
By State FY - 2014

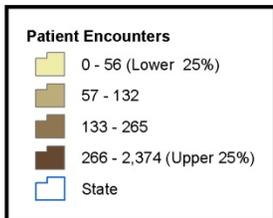
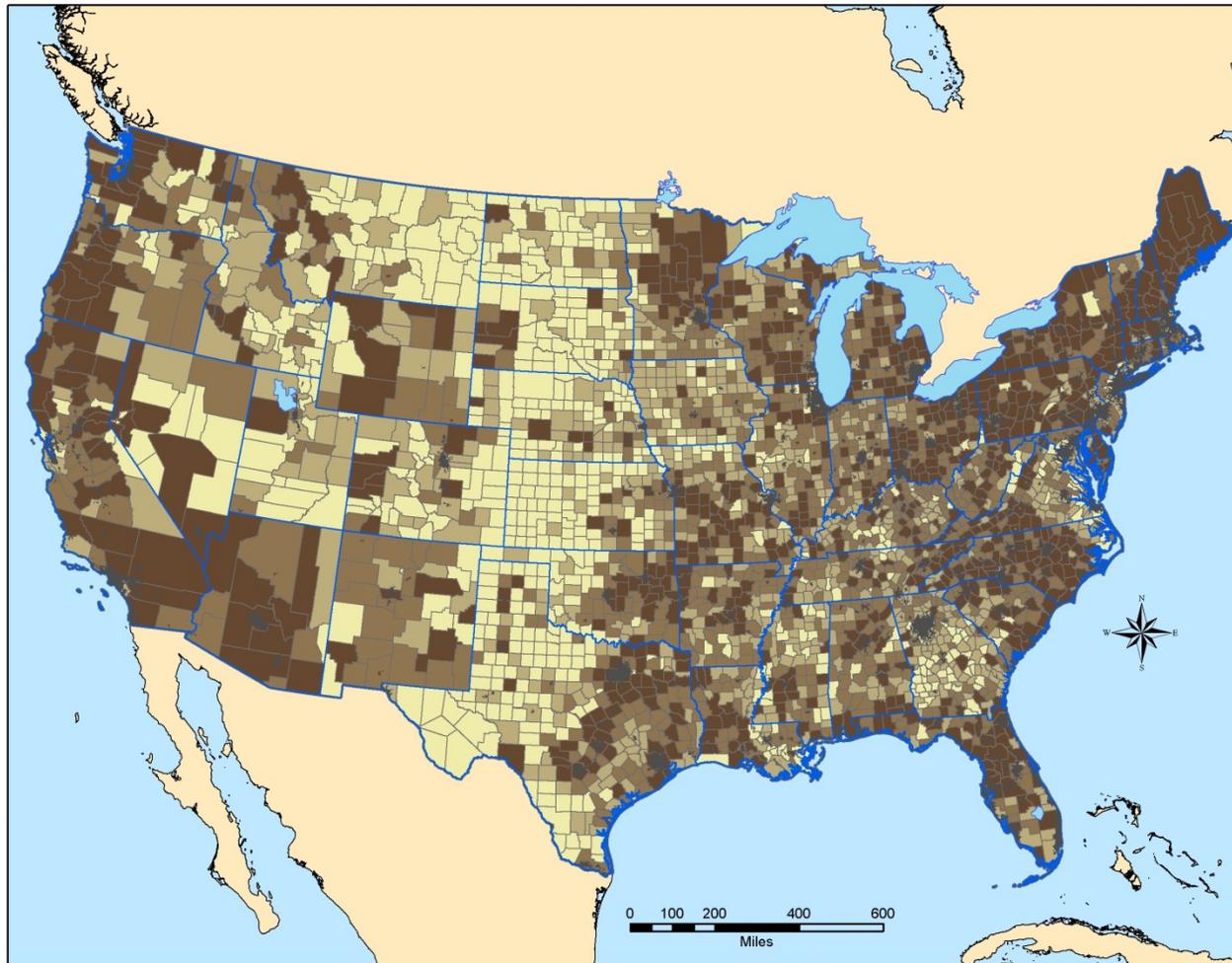
 **GeoSpatial Outcomes Division**  
VHA Office of Rural Health

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GeoSpatial Outcomes Division  
(Map Creation Date: 8/4/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 49:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Encounters  
Of All VHA Patient Tobacco Use Disorder Encounters  
By State FY - 2014

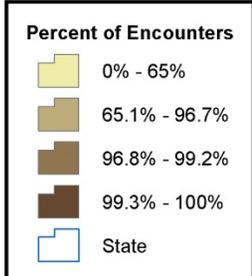
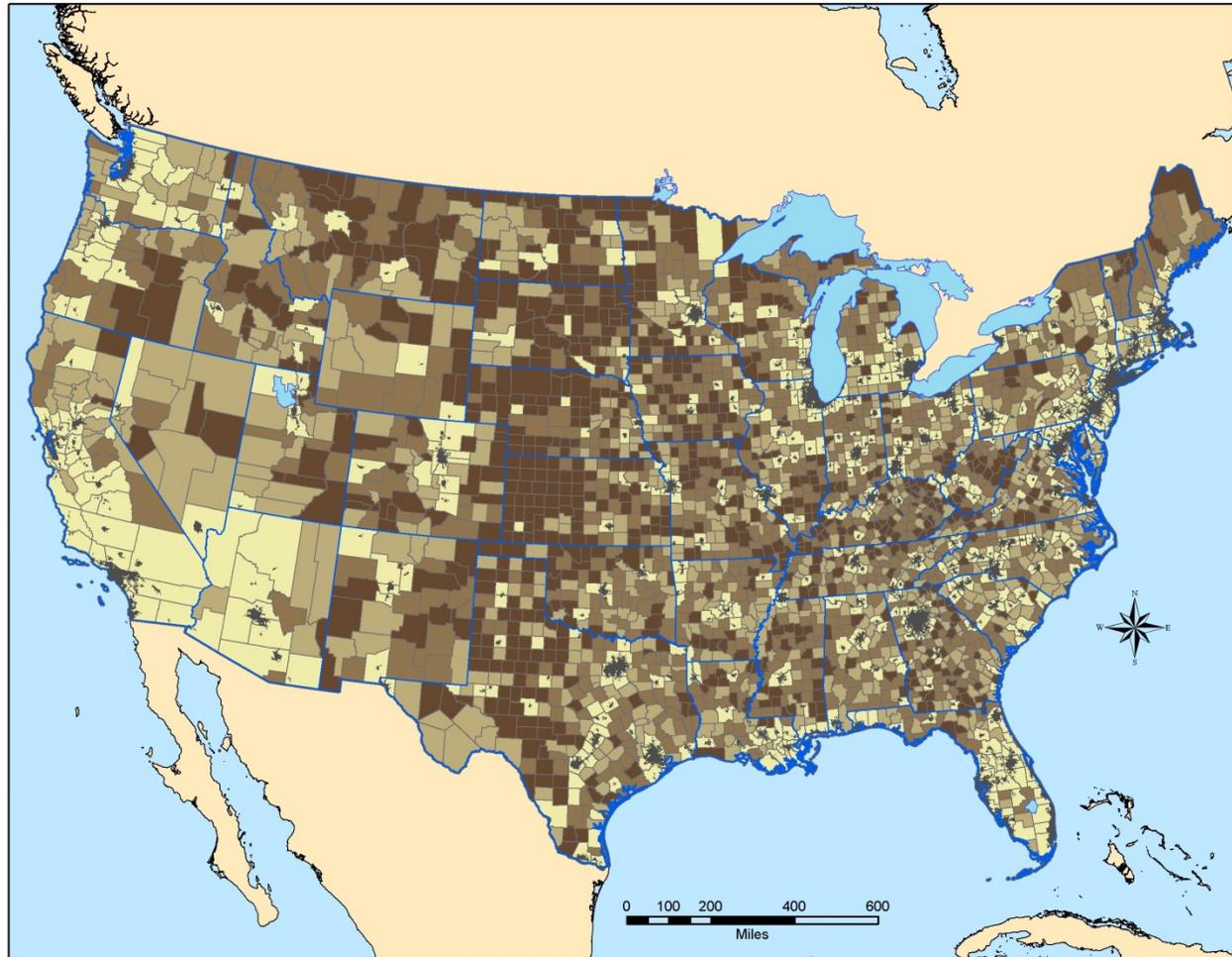


Map 50:  
Number of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Encounters  
By County FY - 2014  
Urban Areas "Shaded"



Map Created By: ORH RHRC-ER (DCR, LKW, JKA, ERL)  
GeoSpatial Outcomes Division  
(Map Creation Date: 8/6/2015)  
Map Information by: PSSG, VSSC, ESRI  
ArcGIS 10.2x

# Tobacco Use Disorders



Map 51:  
Percent of Rural and Highly Rural VHA Patients  
with Tobacco Use Disorders, Encounters  
Of All VHA Patient Tobacco Use Disorder Encounters  
By County FY - 2014  
Urban Areas "Shaded"

## 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](http://www.va.gov/healthbenefits/resources/publications/IB10-441_enrollment_priority_groups.pdf).

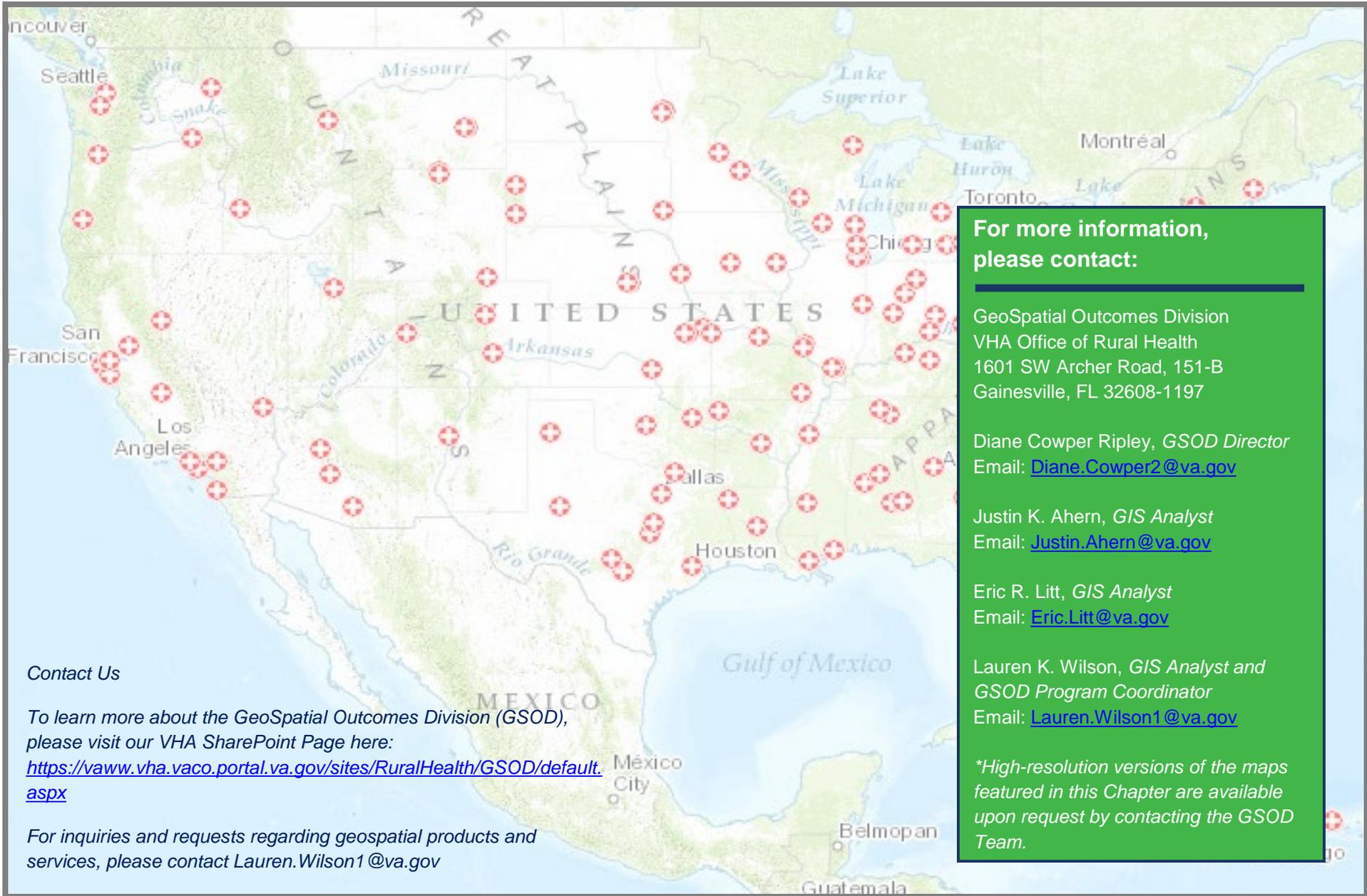
## Project Team

**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>

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