



MISSOURI NURSING WORKFORCE REPORT



2018



Missouri Nursing Workforce Report

By the University of Missouri Office of Social and Economic Data Analysis¹ and School of Medicine Office of Rural Health², and Missouri State Board of Nursing³

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Executive Summary

The following report describes the nursing workforce in Missouri, based on data provided by Missouri Division of Professional Registration Board of Nursing and Nursys^{®1}.

- The Professional Registry includes all nurses licensed in Missouri in 2017 (n=125,946).
- Nursys[®] includes more comprehensive data on nurses who have enrolled in the Nursys[®] system between March 2015 and July 2017 (n=53,889).
- When available, Nursys[®] data are matched with Professional Registry data throughout this document (n=51,051).
- As more Missouri nurses enroll in Nursys[®], more robust data will be included in future editions of the report.

Pursuant to section 324.001.14(4), RSMo, all licensee/registrant data or records provided by the State Board of Nursing shall be deemed the property of the State Board of Nursing. Accordingly, this report and all data contained herein is the property of the State Board of Nursing and shall not be used without the express written permission of the State Board of Nursing.

Highlights from the Data

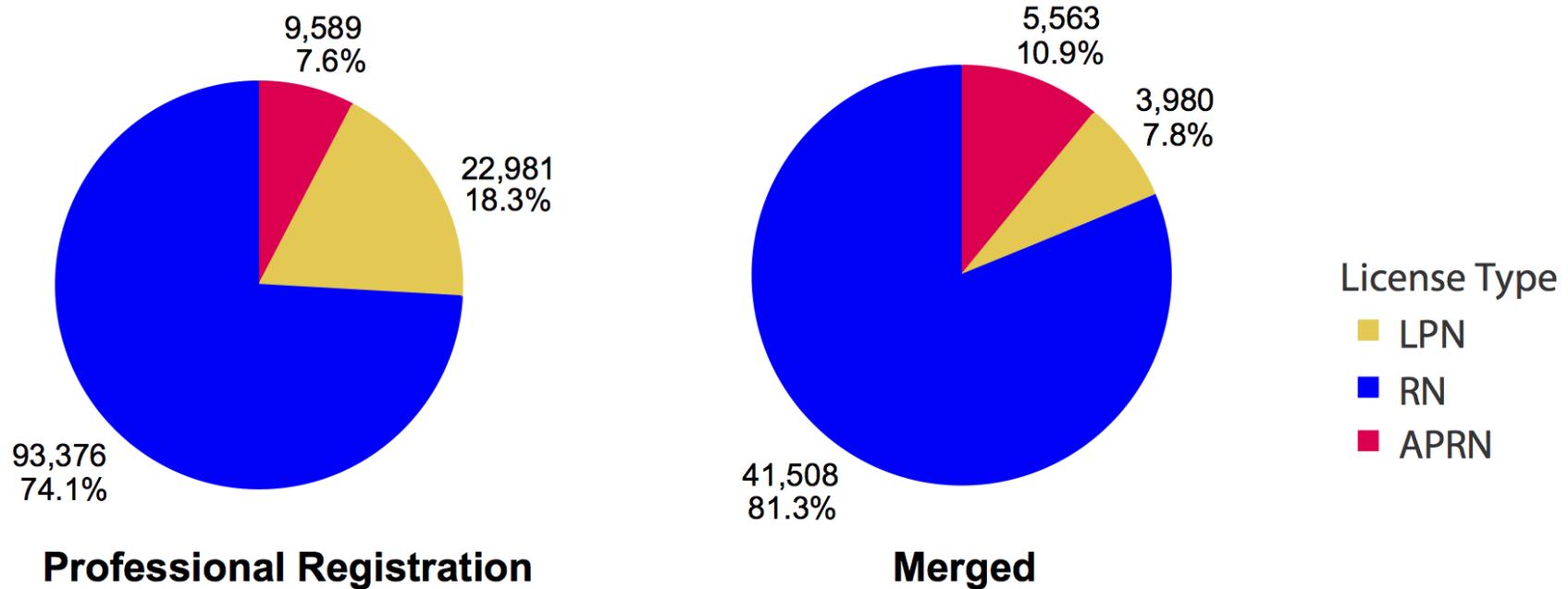
- About three quarters (74.1%) of nurses in Missouri are Registered Nurses (RN), followed by Licensed Practical Nurses (LPN) with 18.3% and Advanced Practice Registered Nurses (APRN) with 7.6%.
- Both the number and the rate of nurses in rural areas are low compared to metropolitan counties. Many micropolitan counties have higher rates of nurses than both rural and metropolitan counties.
 - Most of Missouri's nurses work in metropolitan counties, including 76.1% of LPNs, 90.9% of RNs and 90.2% of APRNs.
 - Over one-third of rural Missouri counties (33.9%) have fewer than 18.49 nurses per 10,000, compared to 18.2% of micropolitan counties and 23.5% of metropolitan counties.

¹ Nursys[®] is a Registered Trademark of the National Council of State Boards of Nursing.

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- Nursing continues to be a female-dominated profession. In the Professional Registry, 94.0% of LPNs, 91.6% of RNs and 86.2% of APRNs are women. The rates of women are even higher in Nursys®: 94.7% of LPNs, 92.7% of RNs and 87% of APRNs are women.
- Nurses are relatively well-distributed across the age spectrum in the Professional Registry. While just 3.1% of all nurses are aged 18-24 and 8.1% are 65 and older, 2.88% are 25-34, 21.88% are 35-44, 21.31% are 45-54 and 22.6% are 55-64.
 - Of concern are the relatively high rates of nurses nearing retirement (aged 55-64) in some counties in the state. See the maps on pages 35-38 for more information.
- Race and ethnicity data in the Professional Registry are not currently collected in a manner consistent with US Census recommendations.
 - The data indicate that the nursing workforce is not as diverse as Missouri's general population, with 89.1% of nurses describing themselves as White/Not Hispanic, 5.6% as African American/Not Hispanic and 5.4% as another category, including Hispanic.
 - In comparison, the US Census estimated Missouri to be 83.2% White Alone and 11.8% African American Alone in 2016.
 - The Census estimates ethnicity as a different category than race, with 4.1% of Missourians identifying as Hispanic or Latino of any race.
- Many nurses hold multiple degrees, both in nursing and other fields.
 - Over half of RNs have a Baccalaureate Degree (n=20,832 or 50.6%). Most of those degrees are in Nursing (n=20,686 or 50.3%).
 - Most APRNs have a Masters degree (n=4,561 or 82.4%), though the degree is not necessarily in Nursing. About three-quarters of APRNs (n=4,265 or 77.2%) hold a Nursing Masters Degree. The remainder hold a Nursing Doctoral Degree (n=81 or 1.5%) or a Certificate (n=1,180 or 21.4%).
- The vast majority of nurses included in both the Professional Registry and Nursys® are actively employed full-time in nursing or a position that requires a nursing license, including:
 - 76.6% or 2,679 LPNs,
 - 79.3% or 28,788 RNs, and
 - 82.1% or 4,350 APRNs.
- There are very few unemployed RNs and APRNs looking for work as a nurse (3.6% of RNs and 2.2% APRNs), indicating that there is a limited supply of RNs and APRNs within the state available to meet the current need.
 - A higher percentage of LPNs, 11.1%, are unemployed and seeking work as a nurse.
- RNs comprise the largest group of nurses in all employment settings, whether they be inpatient, outpatient, institutional or administration.
- With a few exceptions, the most common employment setting for nurses in most counties is inpatient care facilities that are open to the general public (i.e. not Veteran's Affairs or Correctional facilities).
- Employment settings vary by nurse type:
 - LPNs are most often working in nursing homes, extended care or assisted living facilities, where 27.8% or 1,108 LPNs are employed, followed by physicians offices or primary care clinics (12.8% or 508) and home health (9.8% or 390).
 - Nearly half of RNs (46.8% or 19,430) work in hospitals.
 - APRNs are most often working in hospitals (36.0% or 2,001), followed by physician's offices or primary care facilities (19.6% or 1,092).

Number of Nurses by License Type

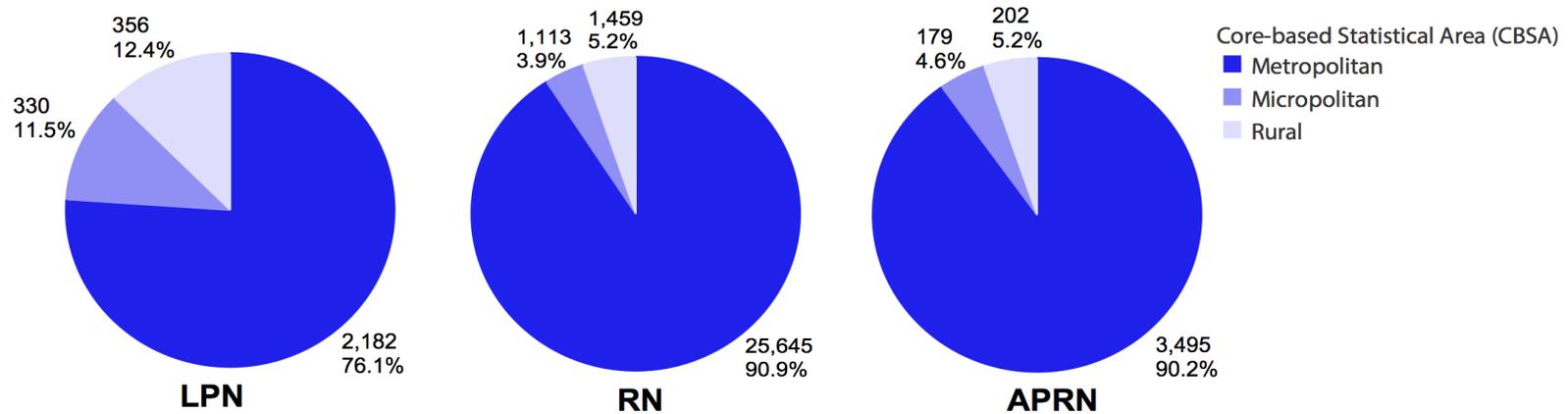


Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017
Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A)
Generated on: 18 January 2017

- According to Professional Registry data for nurses, about three quarters (74.1%) of nurses in Missouri are Registered Nurses (RN), followed by Licensed Practical Nurses (LPN) with 18.3% and Advanced Practice Registered Nurses (APRN) with 7.6%.
- When matched with Nursys® data, the percent of RNs rises to 81.3% and APRNs rise to 10.9%. LPNs fall to 7.8%, indicating that RNs and APRNs are more likely to enroll in Nursys®.

Geographic Distribution of the Nursing Workforce

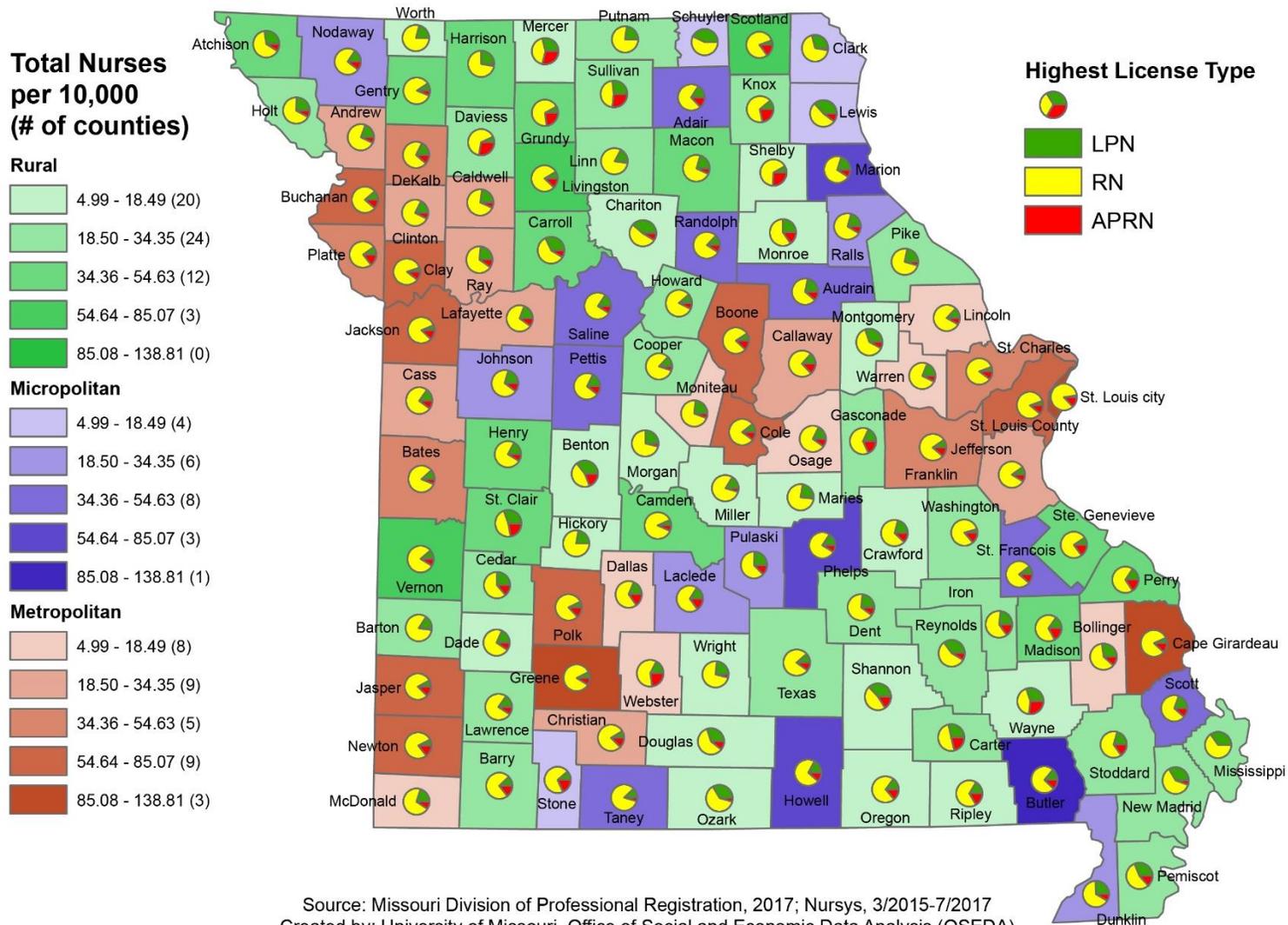
Number of LPNs, RNs and APRNs in Metropolitan, Micropolitan and Rural Counties of Employment in MO (Merged)



n=34,962 nurses (2,868 LPNs, 28,218 RNs, 3,876 APRNs); Chart includes only nurses employed in the State of Missouri.
 Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 19 February 2018

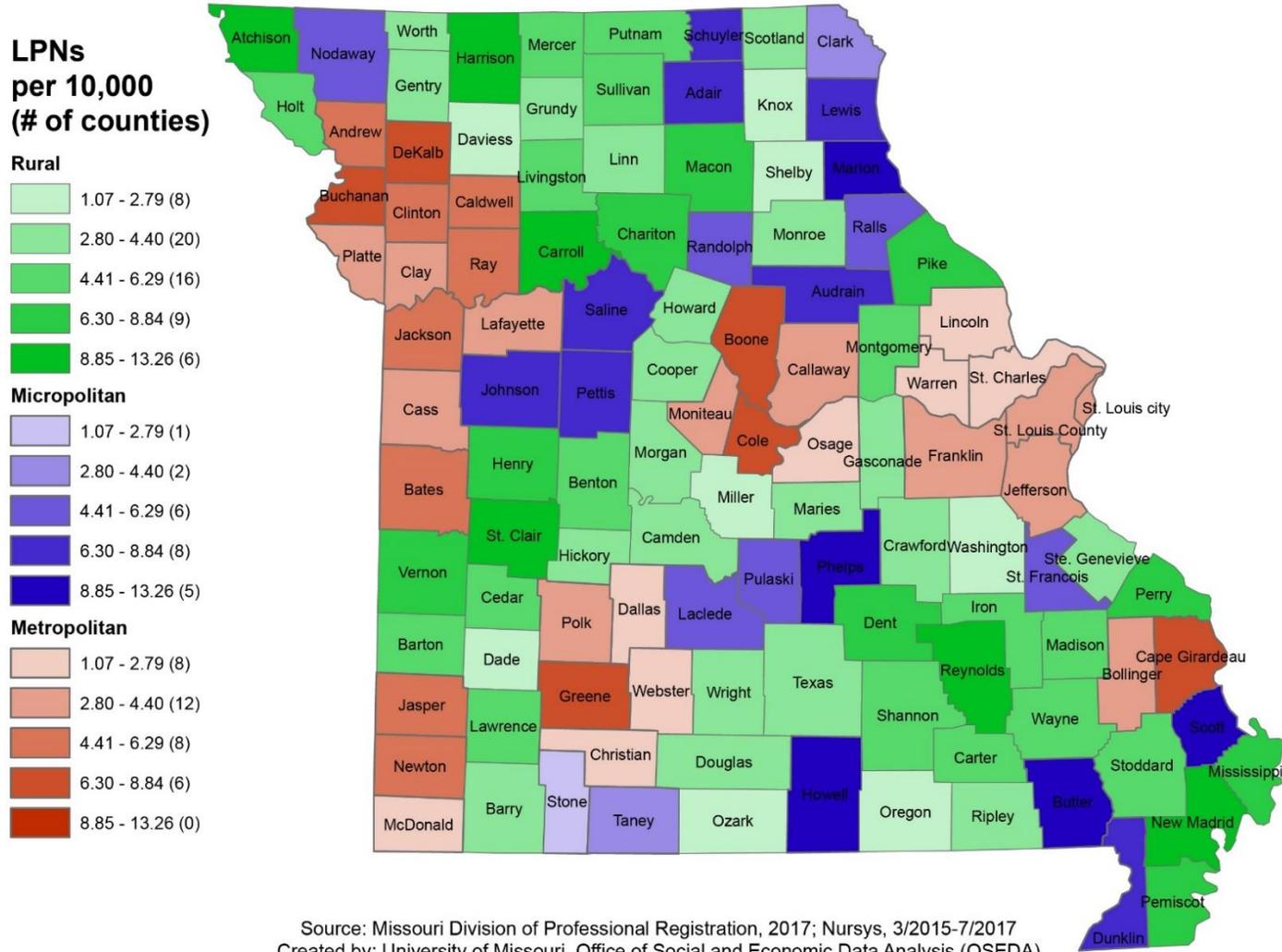
- The majority of nurses enrolled in with Nursys® work in metropolitan counties.
 - Over three-quarters of LPNs (n=2,182; 76.1%) and over 90% of both RNs (n=25,645; 90.9%) and APRNs (n=3,495; 90.2%) work in metropolitan counties.
- The maps below indicate that rural Missouri has lower rates of nurses per 10,000 people compared to micropolitan and metropolitan areas as well.
 - Over one-third of rural Missouri counties (33.9%) have fewer than 18.49 nurses per 10,000, compared to 18.2% of micropolitan counties and 23.5% of metropolitan counties.
 - Likewise, there are no rural Missouri counties with more than 85.08 nurses per 10,000 people, compared to 4.5% of micropolitan counties and 8.8% of metropolitan counties.
- Among nurses who reside in Missouri, are enrolled in Nursys® and are employed (n=34,962), the vast majority work in Missouri (31,785 or 90.9%). An additional 1,248 or 3.6% work in a border state and just 870 or 2.5% work outside Missouri or border state.
- While the majority of Missouri counties are defined as rural by their Core Based Statistical Area, there appear to be fewer employment opportunities for LPNs, RNs and APRNs than in metropolitan and micropolitan counties.
- The low number of nurses employed in rural and micropolitan counties often coincides with a shortage of health care providers and lack of health care access to residents in rural areas of Missouri. Since most nurses who live in Missouri are working in Missouri, there does not appear to be excess capacity to fill the nursing shortage in rural areas by encouraging nurses to work closer to home.

County of Employment for All Nurses by Core Based Statistical Areas



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 19 February 2018

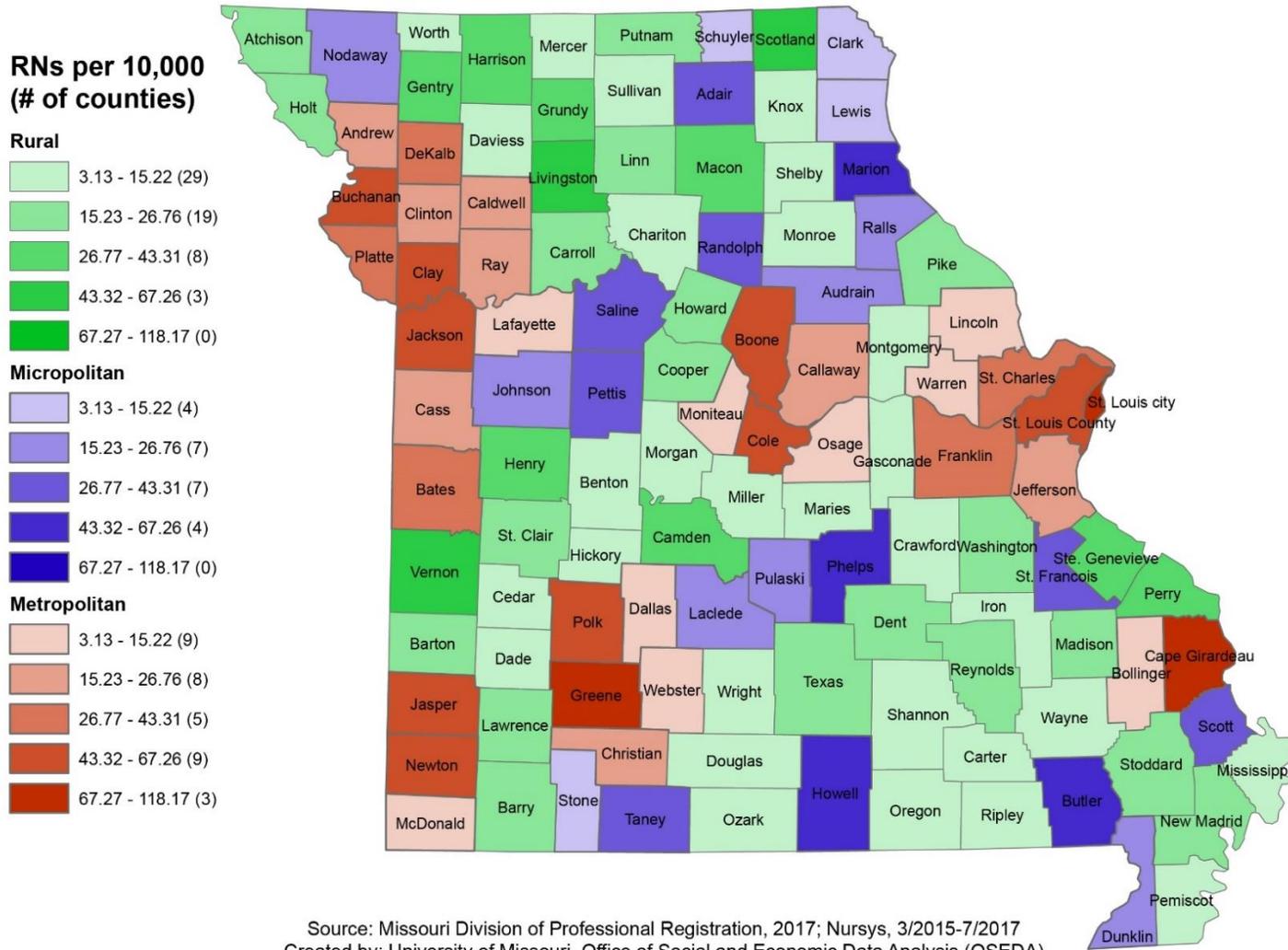
County of Employment for Licensed Practical Nurses by Core Based Statistical Areas



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 31 January 2018

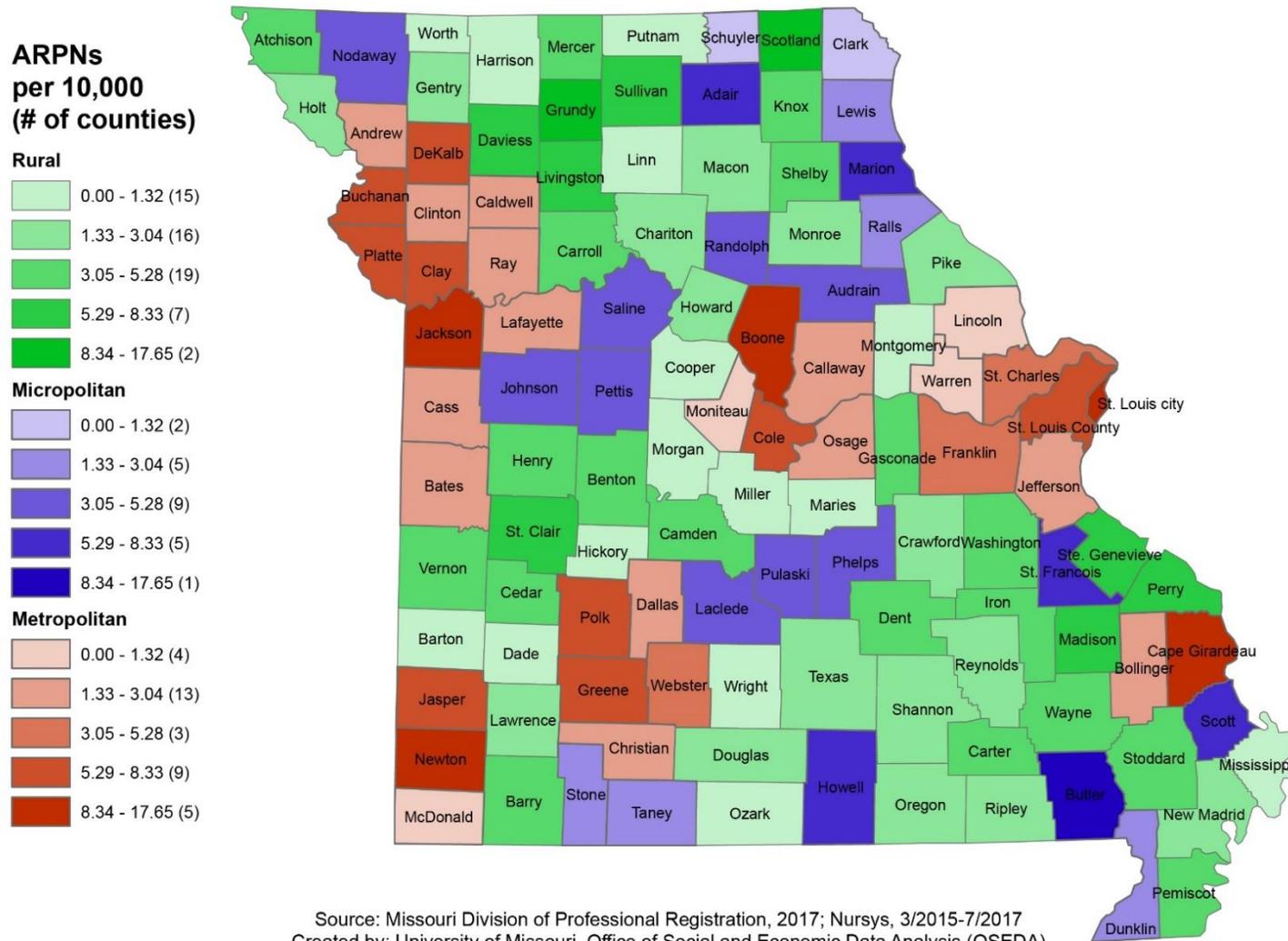
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County of Employment for Registered Nurses by Core Based Statistical Areas



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 31 January 2018

County of Employment for Advanced Practice Registered Nurses by Core Based Statistical Areas



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 31 January 2018

Number and Rate of Nurses in Metropolitan Counties by County of Employment and Nurse Type

County of Employment	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Metropolitan	1,885	24,870	3,421	30,176	151.53	1216.10	171.06	1538.68
Andrew	11	39	4	54	6.10	22.80	2.16	31.06
Bates	8	60	5	73	4.92	35.05	2.67	42.64
Bollinger	5	12	2	19	4.17	9.36	1.78	15.31
Boone	126	1,092	166	1,384	7.72	67.17	10.18	85.07
Buchanan	73	489	74	636	8.16	54.76	8.33	71.25
Caldwell	5	17	2	24	5.83	18.33	1.69	25.85
Callaway	14	76	13	103	3.08	17.09	3.03	23.21
Cape Girardeau	61	690	96	847	8.05	91.17	12.75	111.96
Cass	39	190	26	256	3.92	19.13	2.66	25.71
Christian	15	136	22	173	1.94	17.58	2.87	22.38
Clay	70	1,194	147	1,410	3.13	53.79	6.63	63.55
Clinton	13	53	5	71	6.05	25.75	2.47	34.27
Cole	53	400	52	504	6.93	52.64	6.78	66.35
Dallas	5	16	4	25	2.72	9.83	2.17	14.71
DeKalb	11	45	7	63	8.63	34.72	5.65	48.99
Franklin	40	339	49	428	3.97	33.36	4.82	42.14
Greene	181	2,153	228	2,563	6.59	78.24	8.30	93.13
Jackson	340	4,534	672	5,546	5.04	67.26	9.97	82.27
Jasper	56	568	89	713	4.81	48.36	7.59	60.76
Jefferson	63	532	55	650	2.86	24.33	2.54	29.73
Lafayette	14	51	7	72	4.15	15.22	2.10	21.47
Lincoln	10	61	6	77	1.83	11.52	1.22	14.56
McDonald	4	15	2	21	1.81	6.35	0.88	9.04
Moniteau	6	18	1	25	3.76	11.56	0.85	16.16
Newton	29	303	55	387	5.04	52.20	9.44	66.68
Osage	4	16	2	22	2.79	11.61	1.56	15.96
Platte	34	267	50	352	3.80	29.93	5.63	39.36
Polk	13	147	24	184	4.14	47.14	7.80	59.08
Ray	14	41	6	60	5.90	17.29	2.41	25.59
St. Charles	87	1,279	151	1,516	2.42	35.47	4.18	42.07
St. Louis City	96	3,773	564	4,432	2.99	118.17	17.65	138.81
St. Louis County	371	6,207	820	7,398	3.72	62.13	8.20	74.06
Warren	6	25	2	34	1.98	7.80	0.75	10.54
Webster	9	32	12	54	2.60	8.97	3.38	14.95

Number and Rate of Nurses in Micropolitan Counties by County of Employment and Nurse Type

County of Employment	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Micropolitan	520	2,263	331	3,114	155.95	623.74	89.65	869.33
Adair	21	93	17	132	8.26	36.48	6.64	51.38
Audrain	23	68	12	103	8.84	26.76	4.62	40.22
Butler	53	284	48	385	12.42	66.40	11.21	90.03
Clark	2	5	0	8	3.18	7.50	0.25	10.93
Dunklin	24	61	8	93	7.48	19.07	2.50	29.06
Howell	42	178	28	248	10.30	44.11	6.95	61.36
Johnson	38	125	18	181	7.14	23.74	3.47	34.35
Laclede	17	77	16	110	4.82	21.58	4.63	31.03
Lewis	7	10	2	18	6.59	9.41	1.78	17.78
Marion	38	134	18	190	13.26	46.54	6.17	65.98
Nodaway	12	58	8	78	5.23	24.87	3.42	33.52
Pettis	30	124	18	172	7.21	29.35	4.31	40.87
Phelps	42	204	23	269	9.23	45.13	5.19	59.56
Pulaski	33	85	17	135	6.29	16.31	3.25	25.85
Ralls	6	20	2	29	5.76	20.05	2.32	28.13
Randolph	12	72	8	92	4.71	28.45	3.14	36.30
Saline	17	83	10	110	7.23	35.63	4.21	47.07
Schuyler	3	4	0	7	6.77	9.03	0.00	15.80
Scott	41	148	25	214	10.58	37.69	6.36	54.63
St. Francois	34	250	37	321	5.15	38.28	5.72	49.15
Stone	4	24	6	35	1.20	7.56	1.98	10.73
Taney	22	154	8	184	4.30	29.79	1.52	35.61

Number and Rate of Nurses in Rural Counties by County of Employment and Nurse Type

County of Employment	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Rural	420	1,747	262	2,428	305.43	1135.24	186.91	1627.58
Atchison	6	14	2	22	10.52	24.48	3.48	38.47
Barry	10	63	13	86	2.90	17.75	3.53	24.18
Barton	6	31	1	38	4.83	25.32	0.80	30.96
Benton	11	15	6	33	6.02	7.83	3.23	17.08
Camden	16	191	14	221	3.55	43.31	3.28	50.14
Carroll	11	21	3	35	11.94	22.19	3.23	37.36
Carter	4	7	3	13	6.01	10.47	4.51	20.99
Cedar	9	21	5	34	6.09	14.80	3.31	24.20
Chariton	5	7	1	14	7.00	9.54	1.62	18.17
Cooper	5	32	2	39	2.90	18.33	1.14	22.37

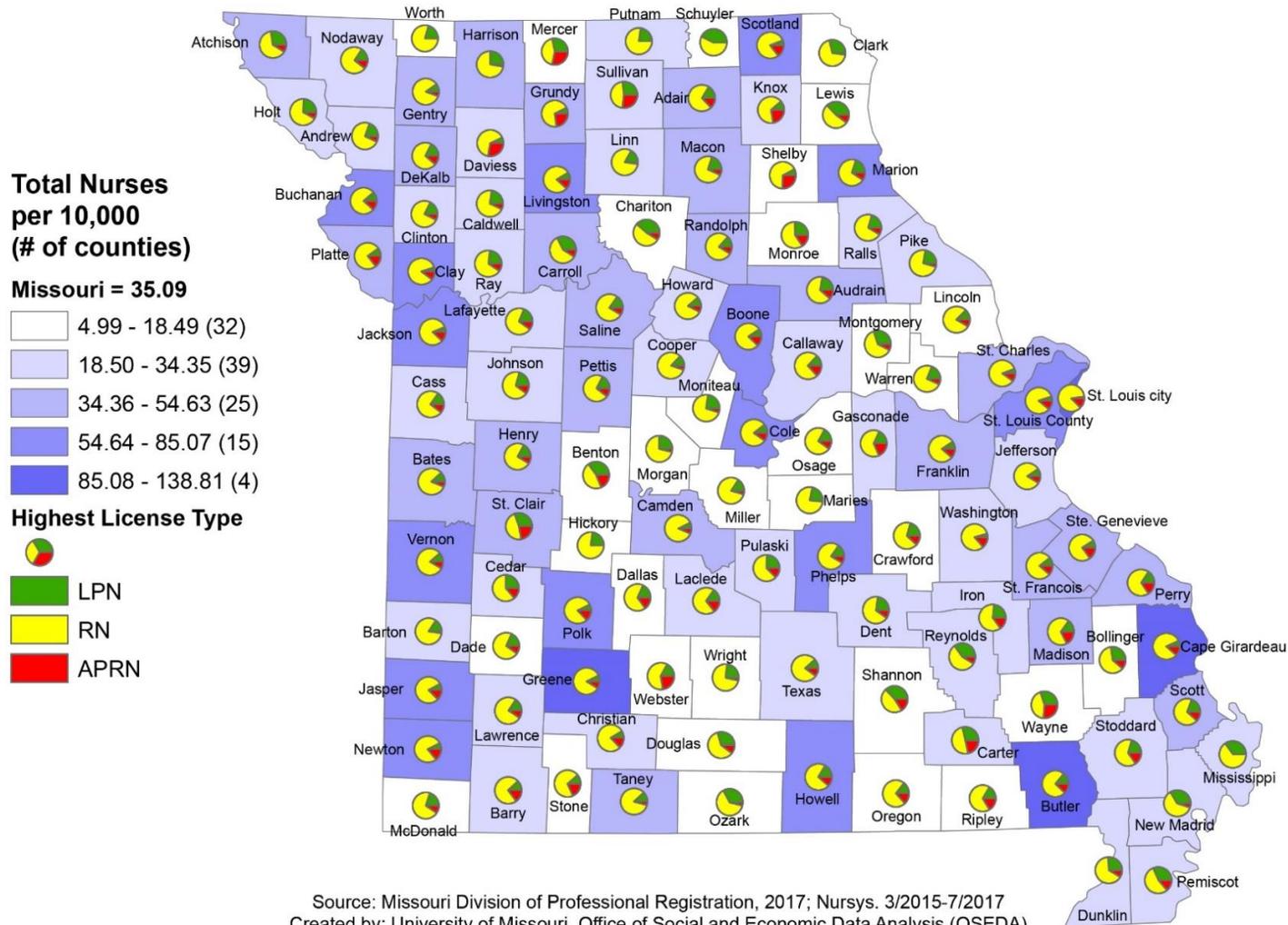
Number and Rate of Nurses in Rural Counties by County of Employment and Nurse Type (cont'd.)

County of Employment	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Crawford	7	24	4	35	2.95	9.68	1.64	14.28
Dade	2	8	1	11	2.51	9.69	1.32	13.52
Daviess	1	12	5	18	1.47	14.33	5.96	21.75
Dent	12	35	5	52	7.76	22.40	3.31	33.47
Douglas	6	12	2	20	4.40	8.84	1.54	14.78
Gasconade	6	22	6	34	4.11	14.43	4.07	22.61
Gentry	3	26	2	31	4.35	38.61	2.61	45.57
Grundy	4	36	12	52	3.86	35.13	11.48	50.47
Harrison	9	26	1	36	9.99	29.55	1.12	40.66
Henry	17	74	9	100	7.65	33.33	3.98	44.96
Hickory	3	12	0	15	3.62	12.43	0.03	16.08
Holt	3	8	1	12	6.15	16.67	2.08	24.90
Howard	3	21	2	26	2.96	21.15	1.91	26.01
Iron	6	16	4	26	5.55	14.98	3.59	24.11
Knox	1	6	2	9	2.42	14.56	4.84	21.82
Lawrence	20	94	12	126	5.12	24.44	3.04	32.59
Linn	6	27	1	33	4.32	20.84	0.62	25.78
Livingston	8	74	11	94	5.31	48.93	7.49	61.73
Macon	12	43	4	59	7.61	27.37	2.61	37.60
Madison	7	31	8	45	5.58	25.08	6.39	37.06
Maries	3	10	0	13	3.13	10.90	0.21	14.24
Mercer	2	3	2	7	5.28	7.93	5.28	18.49
Miller	6	29	2	37	2.35	11.83	0.62	14.80
Mississippi	11	20	0	31	7.45	13.90	0.00	21.34
Monroe	4	8	2	14	3.98	9.41	2.42	15.81
Montgomery	6	13	2	21	5.24	10.78	1.32	17.35
Morgan	7	20	1	28	3.42	9.85	0.51	13.78
New Madrid	18	33	3	54	9.54	17.30	1.49	28.34
Oregon	3	13	2	18	2.46	12.16	2.19	16.81
Ozark	2	3	0	5	1.66	3.13	0.20	4.99
Pemiscot	14	25	6	45	7.77	13.78	3.28	24.83
Perry	13	58	13	83	6.81	30.33	6.81	43.95
Pike	14	46	3	62	7.38	24.59	1.46	33.43
Putnam	3	10	0	13	6.03	20.15	0.00	26.17
Reynolds	7	11	2	19	9.89	15.85	2.42	28.16
Ripley	4	16	4	24	2.85	11.44	2.84	17.13
Scotland	2	27	5	34	4.13	55.59	10.32	70.04
Shannon	5	6	2	14	5.92	7.66	2.54	16.12
Shelby	1	7	3	11	1.39	11.68	4.50	17.56
St. Clair	11	17	8	35	10.98	17.04	7.91	35.93
Ste. Genevieve	8	67	13	89	4.38	37.09	7.32	48.79
Stoddard	16	50	12	77	5.22	16.53	3.88	25.63
Sullivan	4	7	4	15	5.96	10.43	5.96	22.34
Texas	8	58	7	74	3.25	22.21	2.86	28.31
Vernon	15	99	10	124	6.89	46.78	4.87	58.54
Washington	3	50	8	61	1.07	19.81	3.24	24.13
Wayne	6	9	6	21	4.75	6.97	4.16	15.88
Worth	1	3	0	4	3.63	13.68	0.00	17.31
Wright	6	19	1	26	3.16	9.98	0.51	13.64

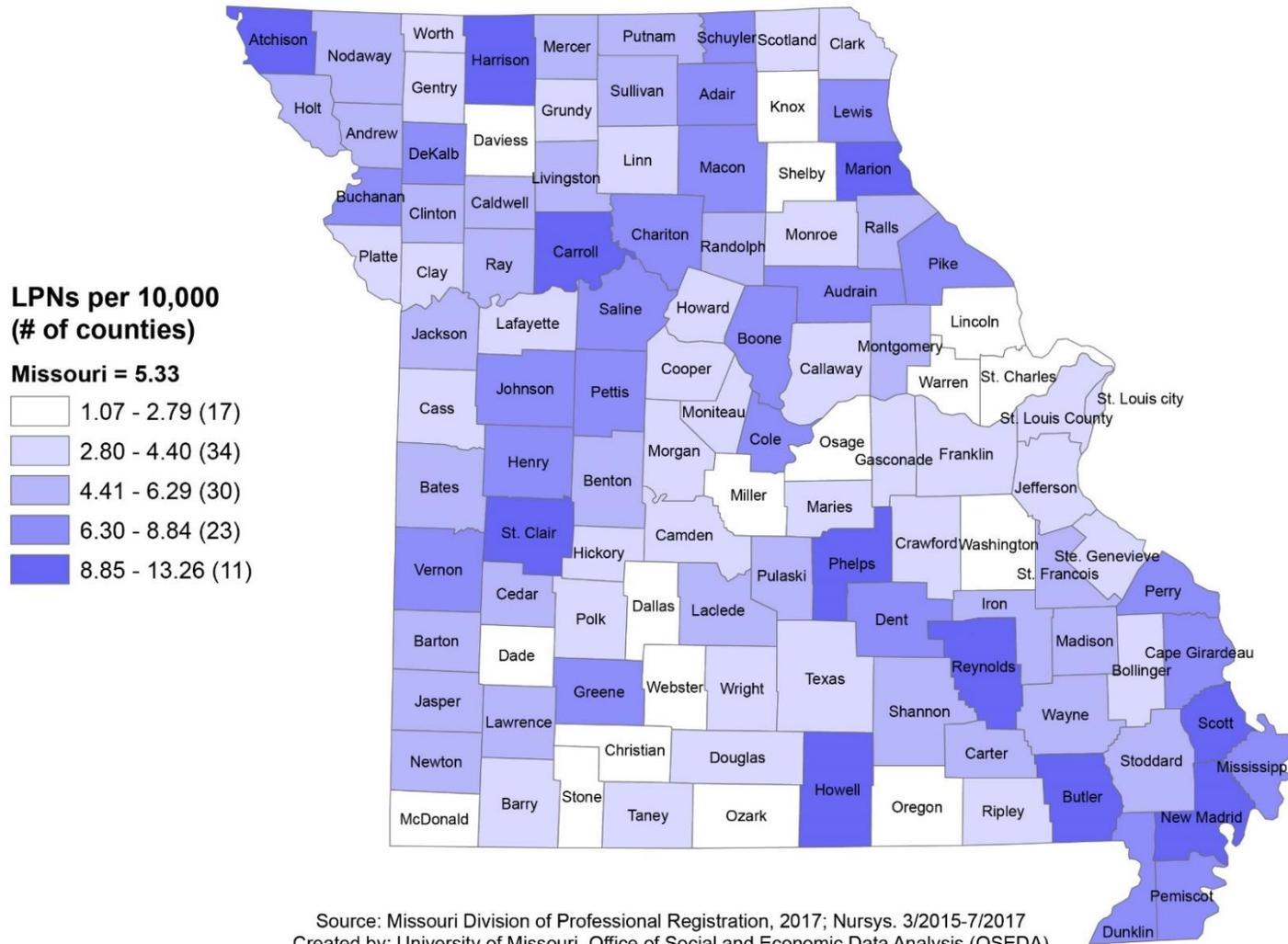
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These maps provide a simplified presentation of county of employment by nursing type.

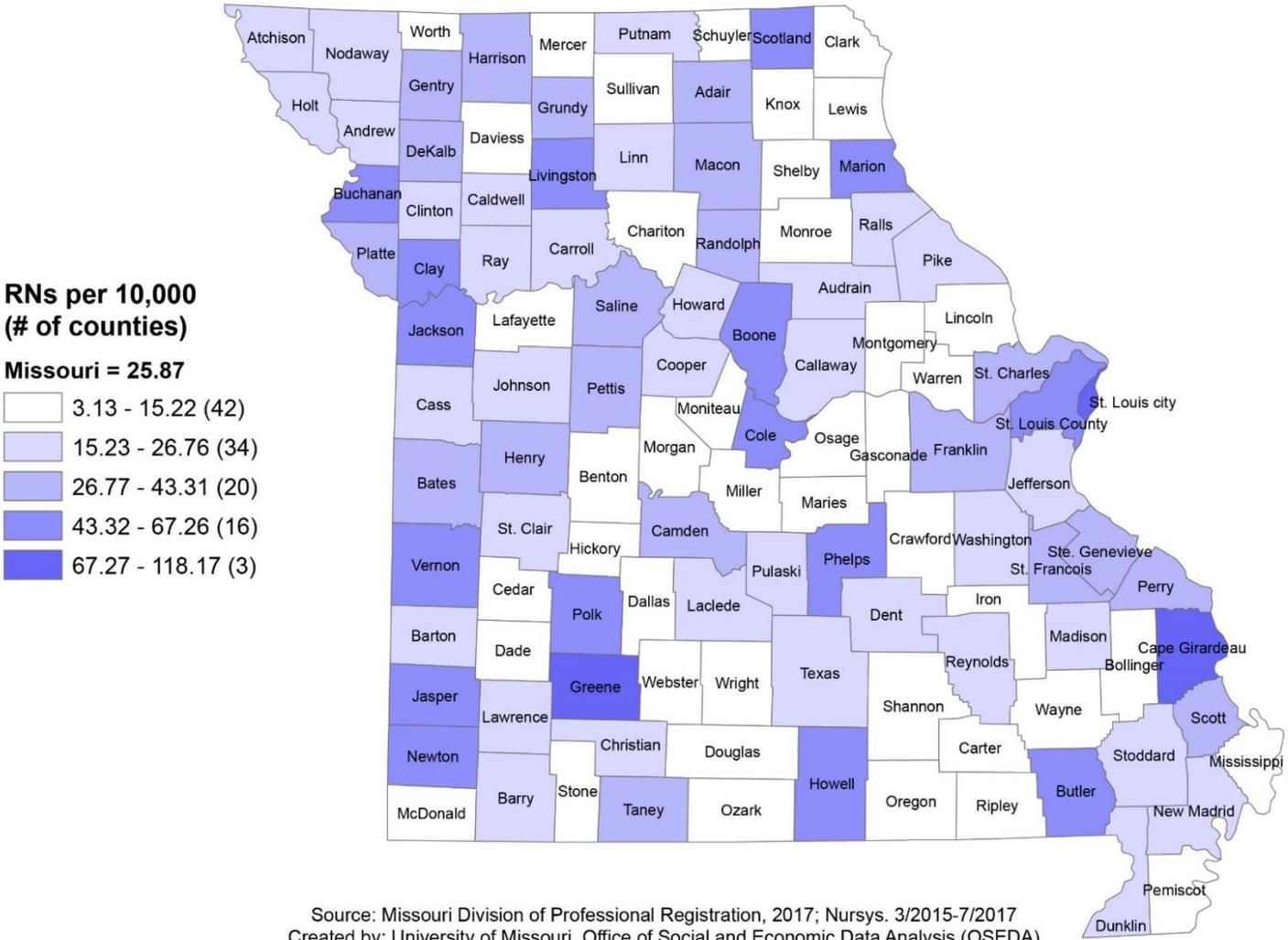
County of Employment For All Nurses



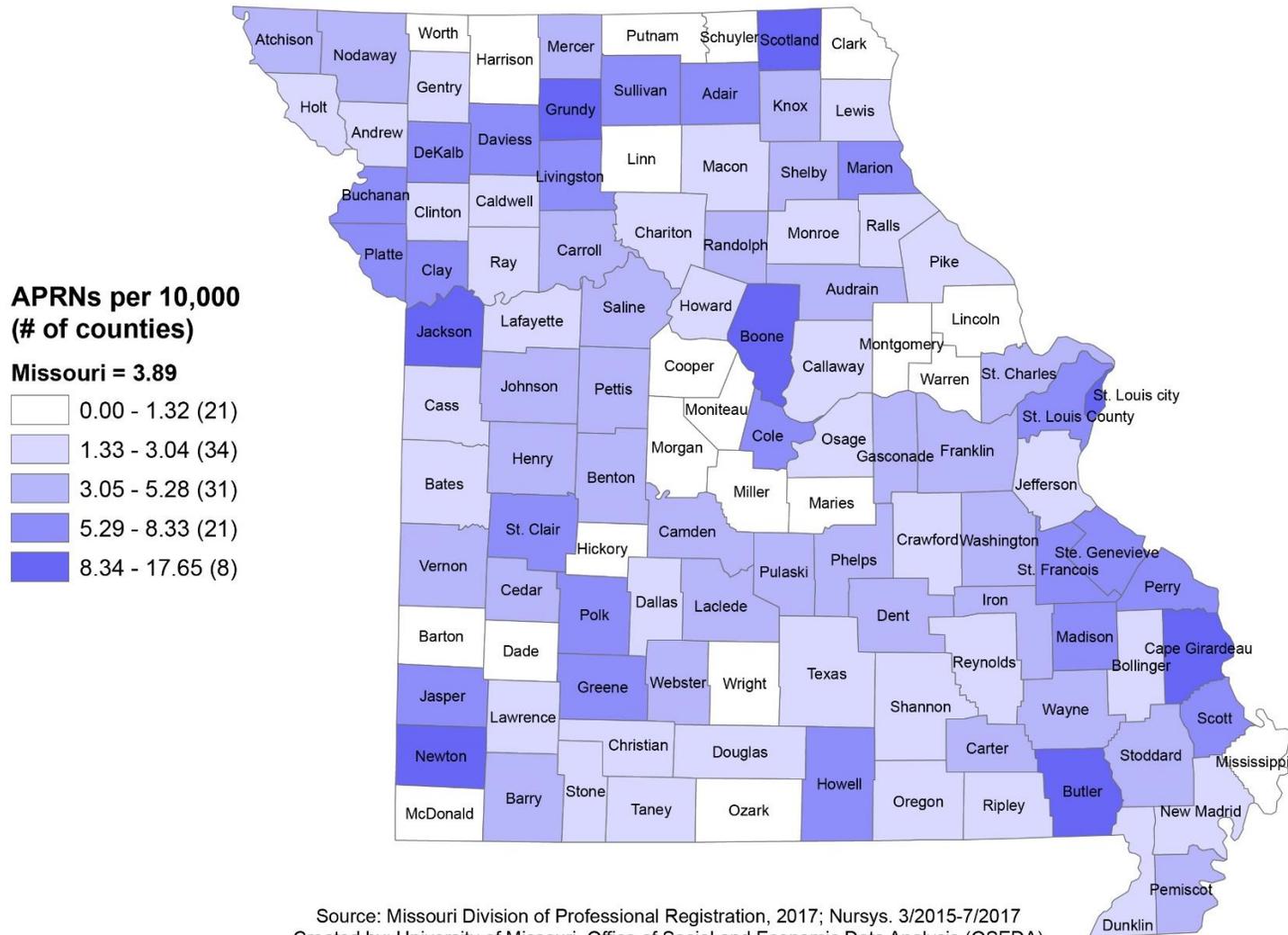
County of Employment for Licensed Practical Nurses



County of Employment for Registered Nurses

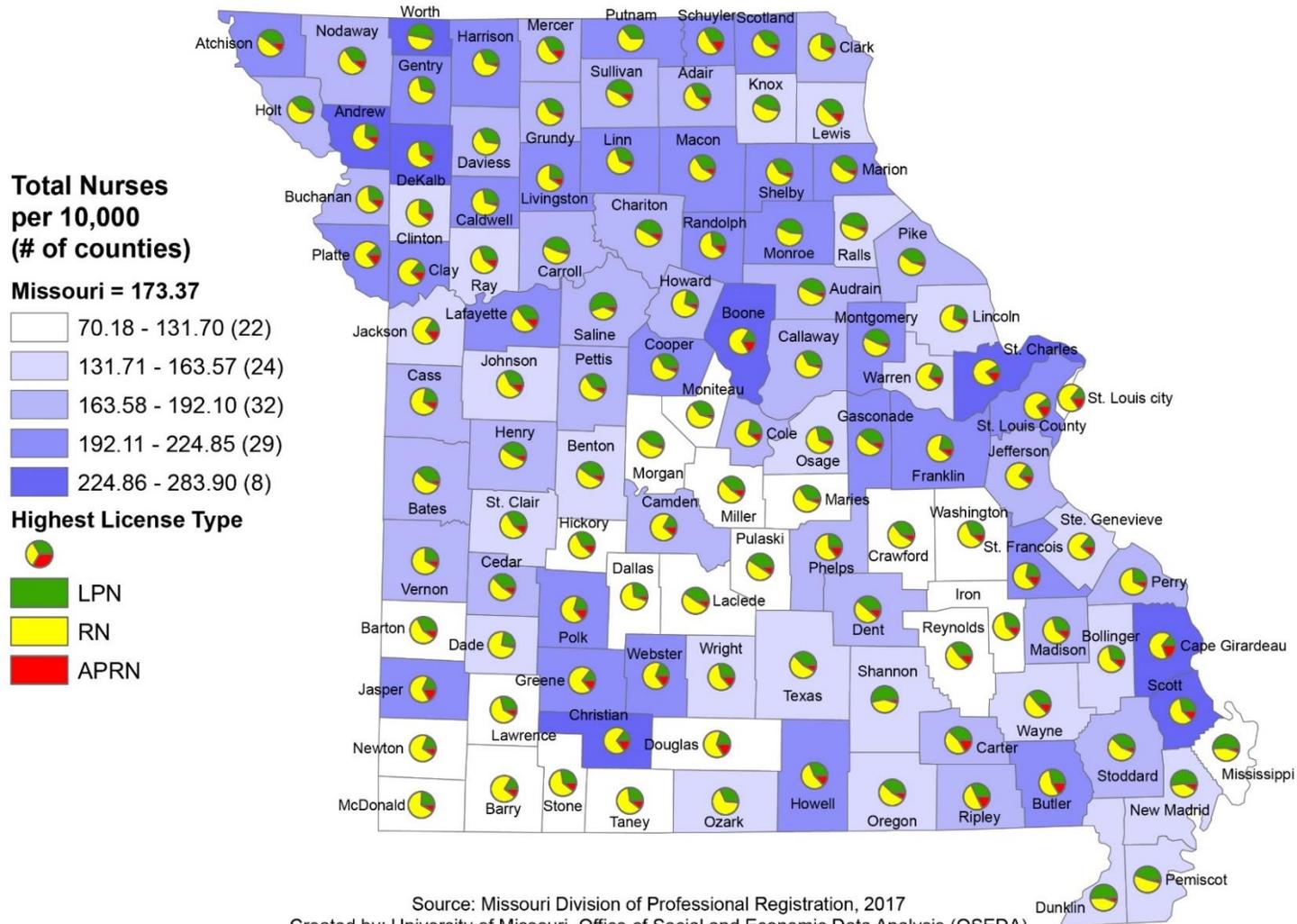


County of Employment for Advanced Practice Registered Nurses



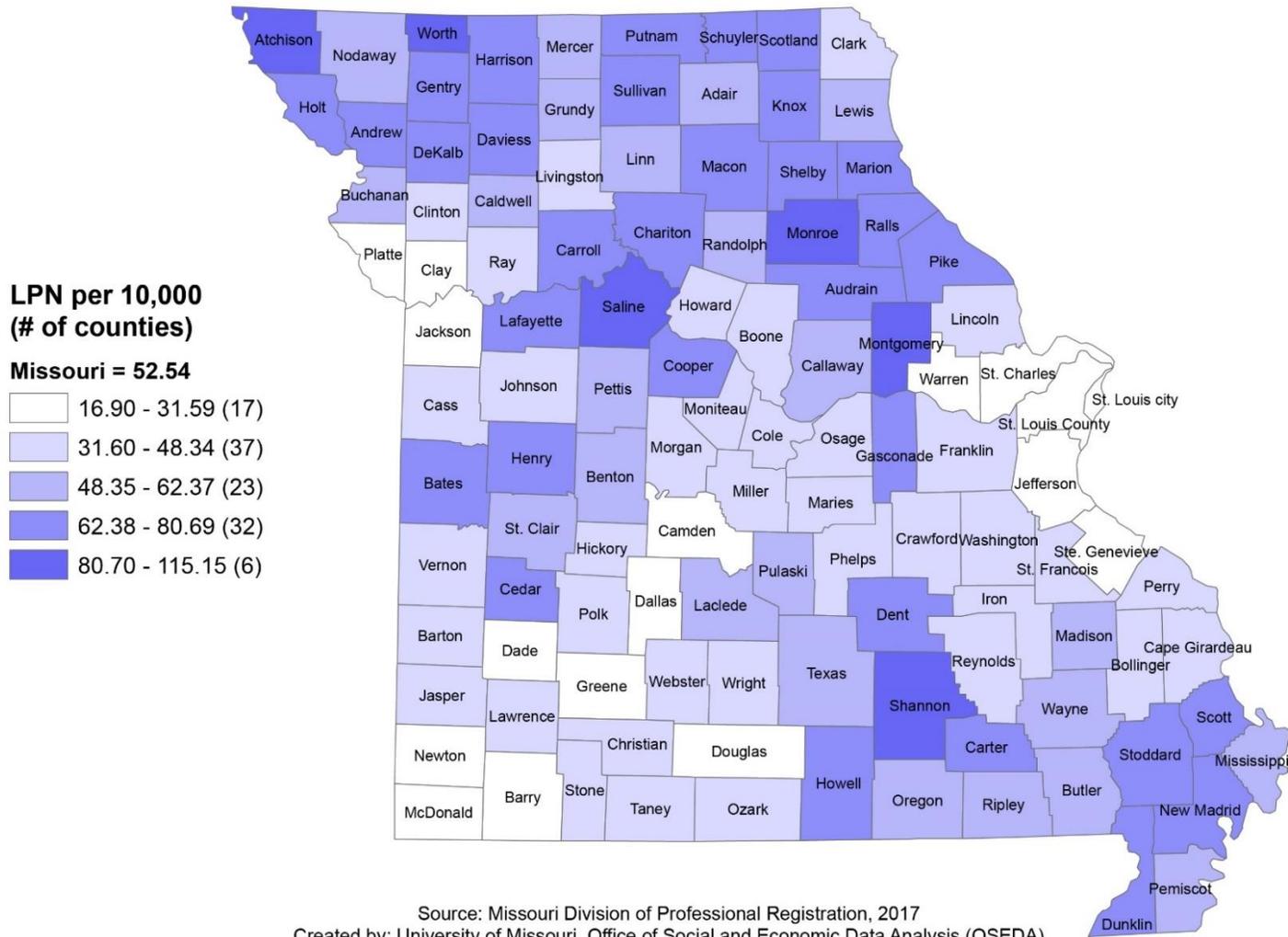
Source: Missouri Division of Professional Registration, 2017; Nursys. 3/2015-7/2017
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County of Residence for All Nurses

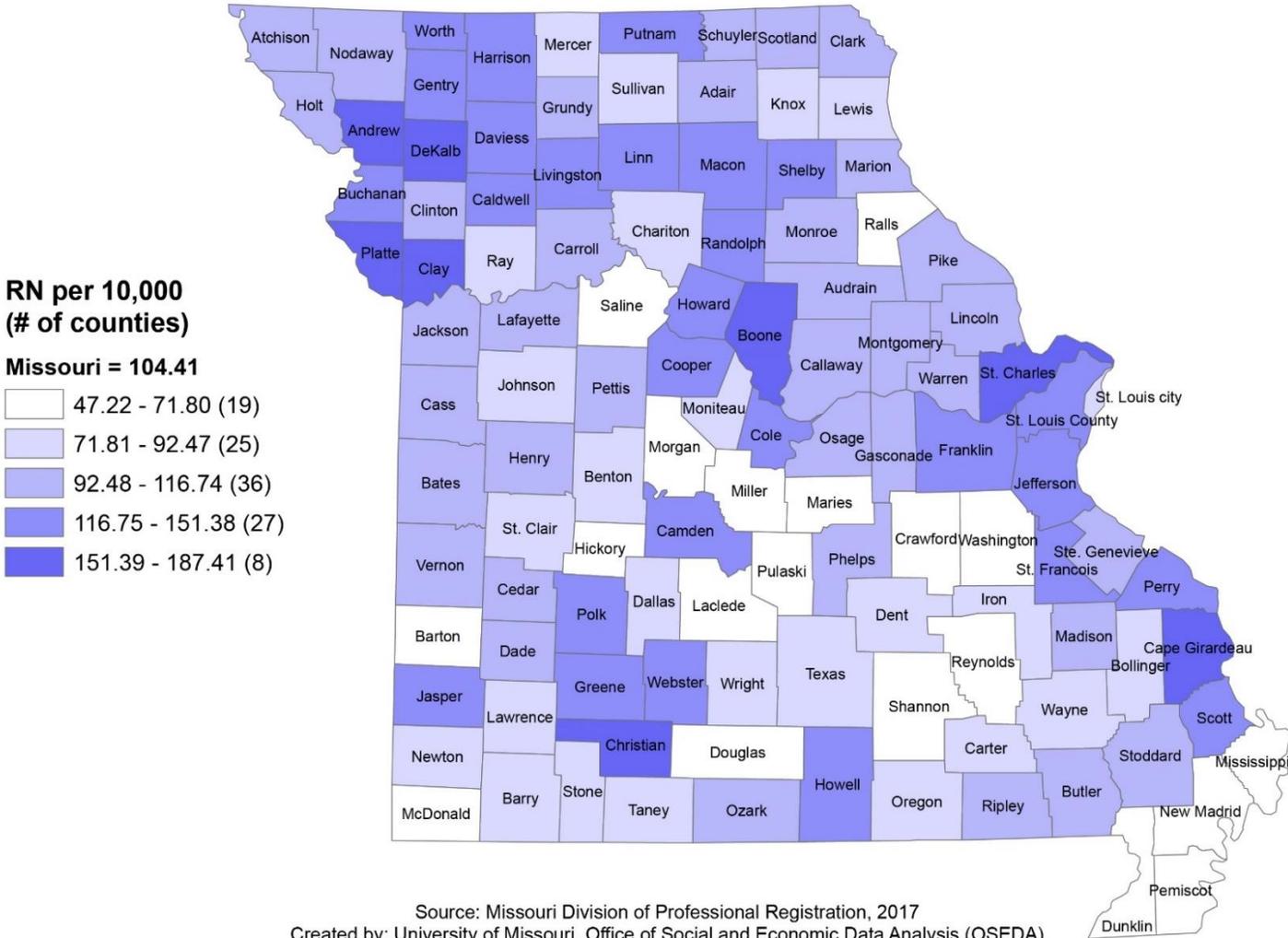


Source: Missouri Division of Professional Registration, 2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 5 January 2018

County of Residence for Licensed Practical Nurses

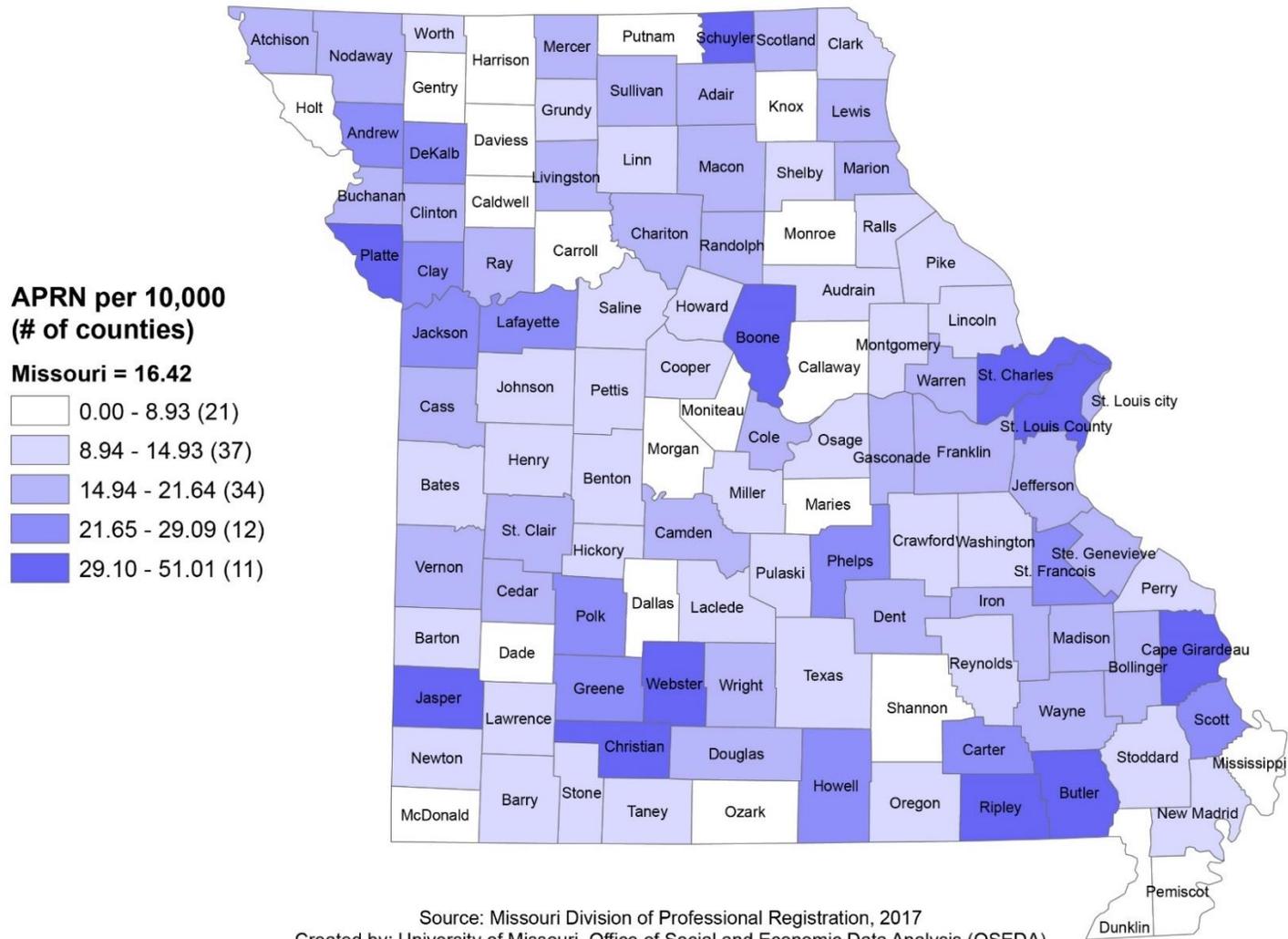


County of Residence for Registered Nurses



Source: Missouri Division of Professional Registration, 2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 5 January 2018

County of Residence for Advanced Practice Registered Nurses



Number and Rate of Nurses in Metropolitan Counties by County of Residence and Nurse Type

County of Residence	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Metropolitan	1,885	24,870	3,421	30,176	151.53	1216.10	171.06	1538.68
Andrew	11	39	4	54	6.10	22.80	2.16	31.06
Bates	8	60	5	73	4.92	35.05	2.67	42.64
Bollinger	5	12	2	19	4.17	9.36	1.78	15.31
Boone	126	1,092	166	1,384	7.72	67.17	10.18	85.07
Buchanan	73	489	74	636	8.16	54.76	8.33	71.25
Caldwell	5	17	2	24	5.83	18.33	1.69	25.85
Callaway	14	76	13	103	3.08	17.09	3.03	23.21
Cape Girardeau	61	690	96	847	8.05	91.17	12.75	111.96
Cass	39	190	26	256	3.92	19.13	2.66	25.71
Christian	15	136	22	173	1.94	17.58	2.87	22.38
Clay	70	1,194	147	1,410	3.13	53.79	6.63	63.55
Clinton	13	53	5	71	6.05	25.75	2.47	34.27
Cole	53	400	52	504	6.93	52.64	6.78	66.35
Dallas	5	16	4	25	2.72	9.83	2.17	14.71
DeKalb	11	45	7	63	8.63	34.72	5.65	48.99
Franklin	40	339	49	428	3.97	33.36	4.82	42.14
Greene	181	2,153	228	2,563	6.59	78.24	8.30	93.13
Jackson	340	4,534	672	5,546	5.04	67.26	9.97	82.27
Jasper	56	568	89	713	4.81	48.36	7.59	60.76
Jefferson	63	532	55	650	2.86	24.33	2.54	29.73
Lafayette	14	51	7	72	4.15	15.22	2.10	21.47
Lincoln	10	61	6	77	1.83	11.52	1.22	14.56
McDonald	4	15	2	21	1.81	6.35	0.88	9.04
Moniteau	6	18	1	25	3.76	11.56	0.85	16.16
Newton	29	303	55	387	5.04	52.20	9.44	66.68
Osage	4	16	2	22	2.79	11.61	1.56	15.96
Platte	34	267	50	352	3.80	29.93	5.63	39.36
Polk	13	147	24	184	4.14	47.14	7.80	59.08
Ray	14	41	6	60	5.90	17.29	2.41	25.59
St. Charles	87	1,279	151	1,516	2.42	35.47	4.18	42.07
St. Louis city	96	3,773	564	4,432	2.99	118.17	17.65	138.81
St. Louis County	371	6,207	820	7,398	3.72	62.13	8.20	74.06
Warren	6	25	2	34	1.98	7.80	0.75	10.54
Webster	9	32	12	54	2.60	8.97	3.38	14.95

Number and Rate of Nurses in Micropolitan Counties by County of Residence and Nurse Type

County of Residence	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Micropolitan	520	2,263	331	3,114	155.95	623.74	89.65	869.33
Adair	21	93	17	132	8.26	36.48	6.64	51.38
Audrain	23	68	12	103	8.84	26.76	4.62	40.22
Butler	53	284	48	385	12.42	66.40	11.21	90.03
Clark	2	5	0	8	3.18	7.50	0.25	10.93
Dunklin	24	61	8	93	7.48	19.07	2.50	29.06
Howell	42	178	28	248	10.30	44.11	6.95	61.36
Johnson	38	125	18	181	7.14	23.74	3.47	34.35
Laclede	17	77	16	110	4.82	21.58	4.63	31.03
Lewis	7	10	2	18	6.59	9.41	1.78	17.78
Marion	38	134	18	190	13.26	46.54	6.17	65.98
Nodaway	12	58	8	78	5.23	24.87	3.42	33.52
Pettis	30	124	18	172	7.21	29.35	4.31	40.87
Phelps	42	204	23	269	9.23	45.13	5.19	59.56
Pulaski	33	85	17	135	6.29	16.31	3.25	25.85
Ralls	6	20	2	29	5.76	20.05	2.32	28.13
Randolph	12	72	8	92	4.71	28.45	3.14	36.30
Saline	17	83	10	110	7.23	35.63	4.21	47.07
Schuyler	3	4	0	7	6.77	9.03	0.00	15.80
Scott	41	148	25	214	10.58	37.69	6.36	54.63
St. Francois	34	250	37	321	5.15	38.28	5.72	49.15
Stone	4	24	6	35	1.20	7.56	1.98	10.73
Taney	22	154	8	184	4.30	29.79	1.52	35.61

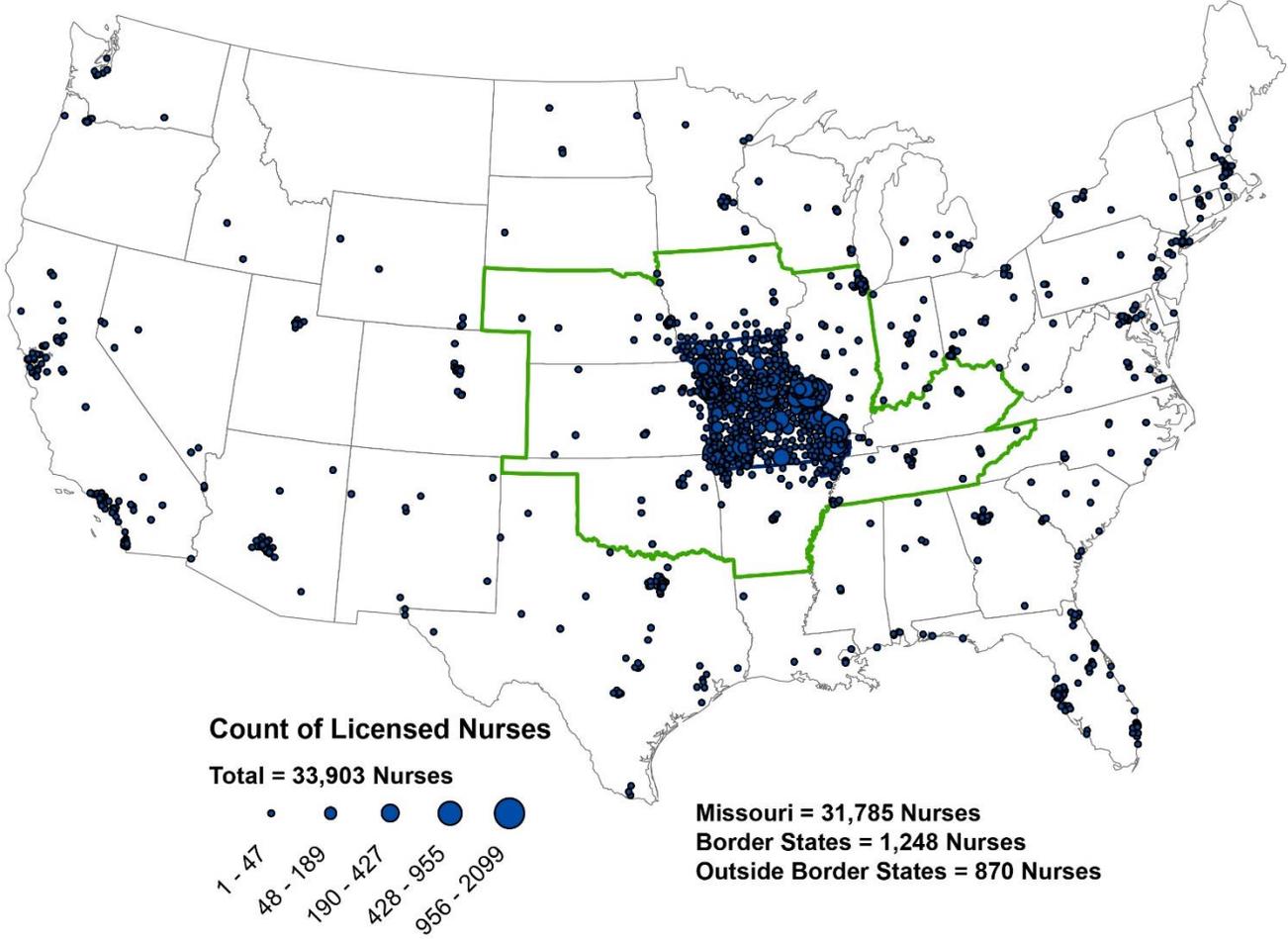
Number and Rate of Nurses in Rural Counties by County of Residence and Nurse Type

County of Residence	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Rural	420	1,747	262	2,428	305.43	1135.24	186.91	1627.58
Atchison	6	14	2	22	10.52	24.48	3.48	38.47
Barry	10	63	13	86	2.90	17.75	3.53	24.18
Barton	6	31	1	38	4.83	25.32	0.80	30.96
Benton	11	15	6	33	6.02	7.83	3.23	17.08
Camden	16	191	14	221	3.55	43.31	3.28	50.14
Carroll	11	21	3	35	11.94	22.19	3.23	37.36
Carter	4	7	3	13	6.01	10.47	4.51	20.99
Cedar	9	21	5	34	6.09	14.80	3.31	24.20
Chariton	5	7	1	14	7.00	9.54	1.62	18.17
Cooper	5	32	2	39	2.90	18.33	1.14	22.37

Number and Rate of Nurses in Rural Counties by County of Residence and Nurse Type (cont'd.)

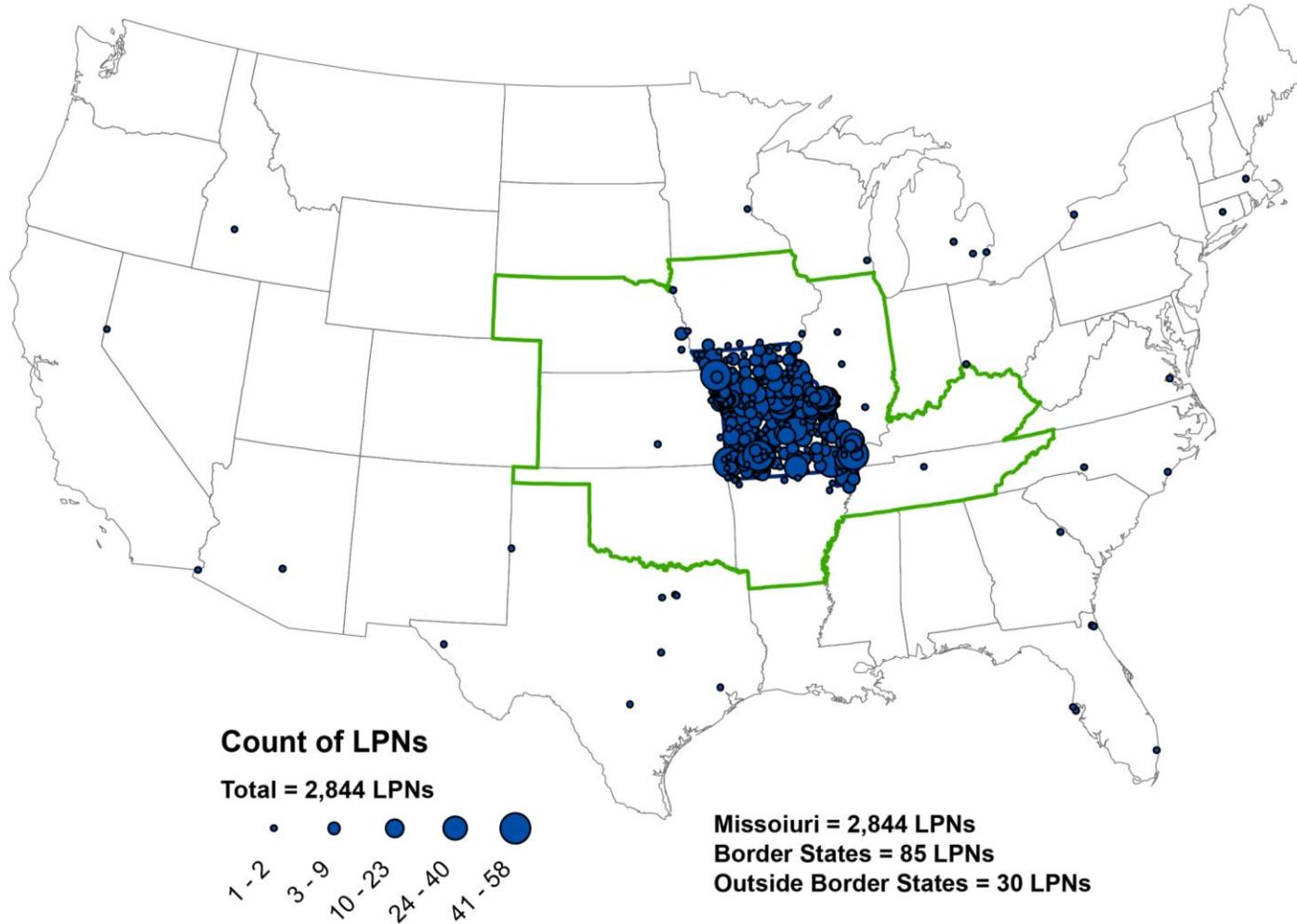
County of Residence	Number of Nurses				Rate of Nurses per 10,000			
	LPN	RN	APRN	Number of All Nurses	LPN	RN	APRN	Rate of All Nurses
Crawford	7	24	4	35	2.95	9.68	1.64	14.28
Dade	2	8	1	11	2.51	9.69	1.32	13.52
Daviess	1	12	5	18	1.47	14.33	5.96	21.75
Dent	12	35	5	52	7.76	22.40	3.31	33.47
Douglas	6	12	2	20	4.40	8.84	1.54	14.78
Gasconade	6	22	6	34	4.11	14.43	4.07	22.61
Gentry	3	26	2	31	4.35	38.61	2.61	45.57
Grundy	4	36	12	52	3.86	35.13	11.48	50.47
Harrison	9	26	1	36	9.99	29.55	1.12	40.66
Henry	17	74	9	100	7.65	33.33	3.98	44.96
Hickory	3	12	0	15	3.62	12.43	0.03	16.08
Holt	3	8	1	12	6.15	16.67	2.08	24.90
Howard	3	21	2	26	2.96	21.15	1.91	26.01
Iron	6	16	4	26	5.55	14.98	3.59	24.11
Knox	1	6	2	9	2.42	14.56	4.84	21.82
Lawrence	20	94	12	126	5.12	24.44	3.04	32.59
Linn	6	27	1	33	4.32	20.84	0.62	25.78
Livingston	8	74	11	94	5.31	48.93	7.49	61.73
Macon	12	43	4	59	7.61	27.37	2.61	37.60
Madison	7	31	8	45	5.58	25.08	6.39	37.06
Maries	3	10	0	13	3.13	10.90	0.21	14.24
Mercer	2	3	2	7	5.28	7.93	5.28	18.49
Miller	6	29	2	37	2.35	11.83	0.62	14.80
Mississippi	11	20	0	31	7.45	13.90	0.00	21.34
Monroe	4	8	2	14	3.98	9.41	2.42	15.81
Montgomery	6	13	2	21	5.24	10.78	1.32	17.35
Morgan	7	20	1	28	3.42	9.85	0.51	13.78
New Madrid	18	33	3	54	9.54	17.30	1.49	28.34
Oregon	3	13	2	18	2.46	12.16	2.19	16.81
Ozark	2	3	0	5	1.66	3.13	0.20	4.99
Pemiscot	14	25	6	45	7.77	13.78	3.28	24.83
Perry	13	58	13	83	6.81	30.33	6.81	43.95
Pike	14	46	3	62	7.38	24.59	1.46	33.43
Putnam	3	10	0	13	6.03	20.15	0.00	26.17
Reynolds	7	11	2	19	9.89	15.85	2.42	28.16
Ripley	4	16	4	24	2.85	11.44	2.84	17.13
Scotland	2	27	5	34	4.13	55.59	10.32	70.04
Shannon	5	6	2	14	5.92	7.66	2.54	16.12
Shelby	1	7	3	11	1.39	11.68	4.50	17.56
St. Clair	11	17	8	35	10.98	17.04	7.91	35.93
Ste. Genevieve	8	67	13	89	4.38	37.09	7.32	48.79
Stoddard	16	50	12	77	5.22	16.53	3.88	25.63
Sullivan	4	7	4	15	5.96	10.43	5.96	22.34
Texas	8	58	7	74	3.25	22.21	2.86	28.31
Vernon	15	99	10	124	6.89	46.78	4.87	58.54
Washington	3	50	8	61	1.07	19.81	3.24	24.13
Wayne	6	9	6	21	4.75	6.97	4.16	15.88
Worth	1	3	0	4	3.63	13.68	0.00	17.31
Wright	6	19	1	26	3.16	9.98	0.51	13.64

Employment Zipcode of All Missouri Licensed Nurses whose Residence is in Missouri



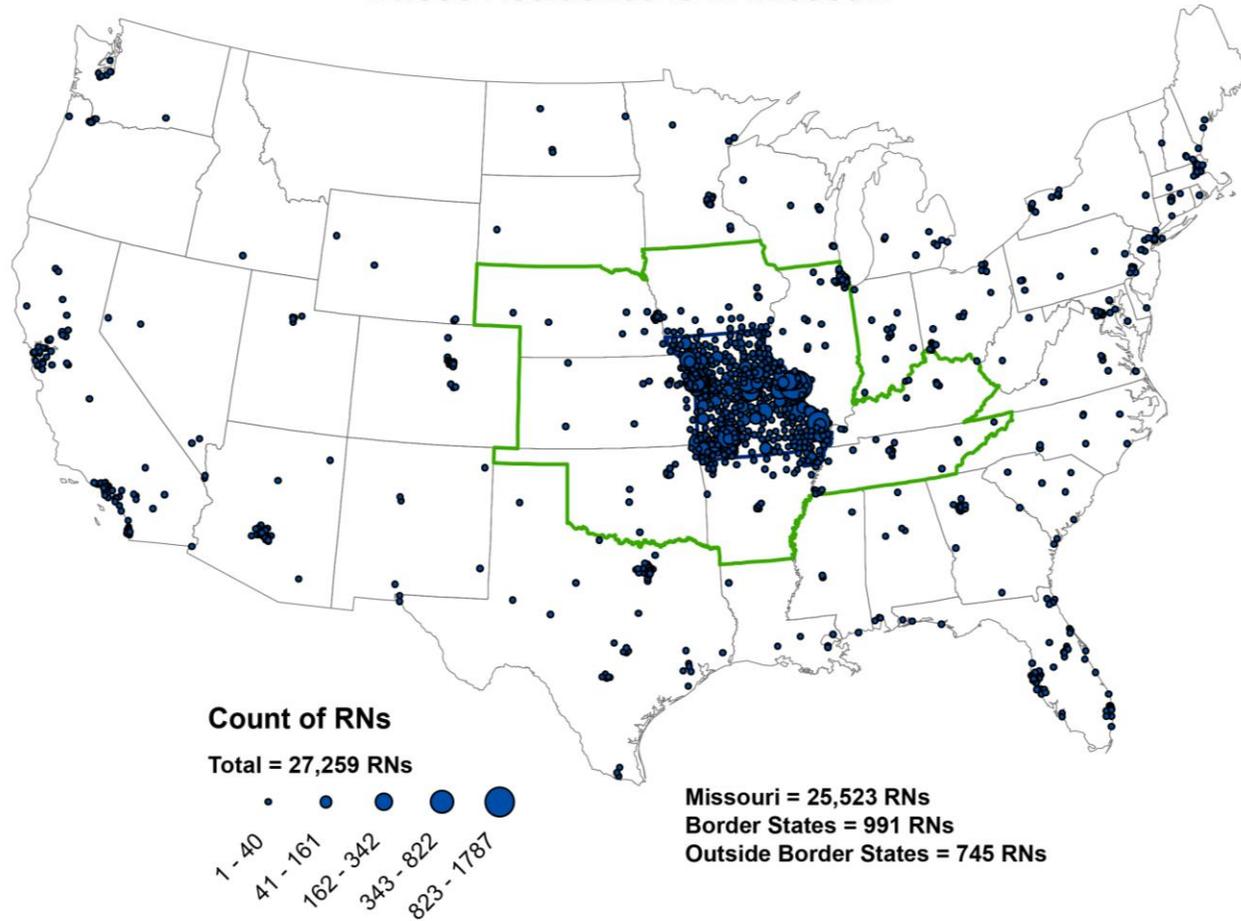
Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 19 February 2018

Employment Zipcode of All Missouri Licensed Practical Nurses whose Residence is in Missouri



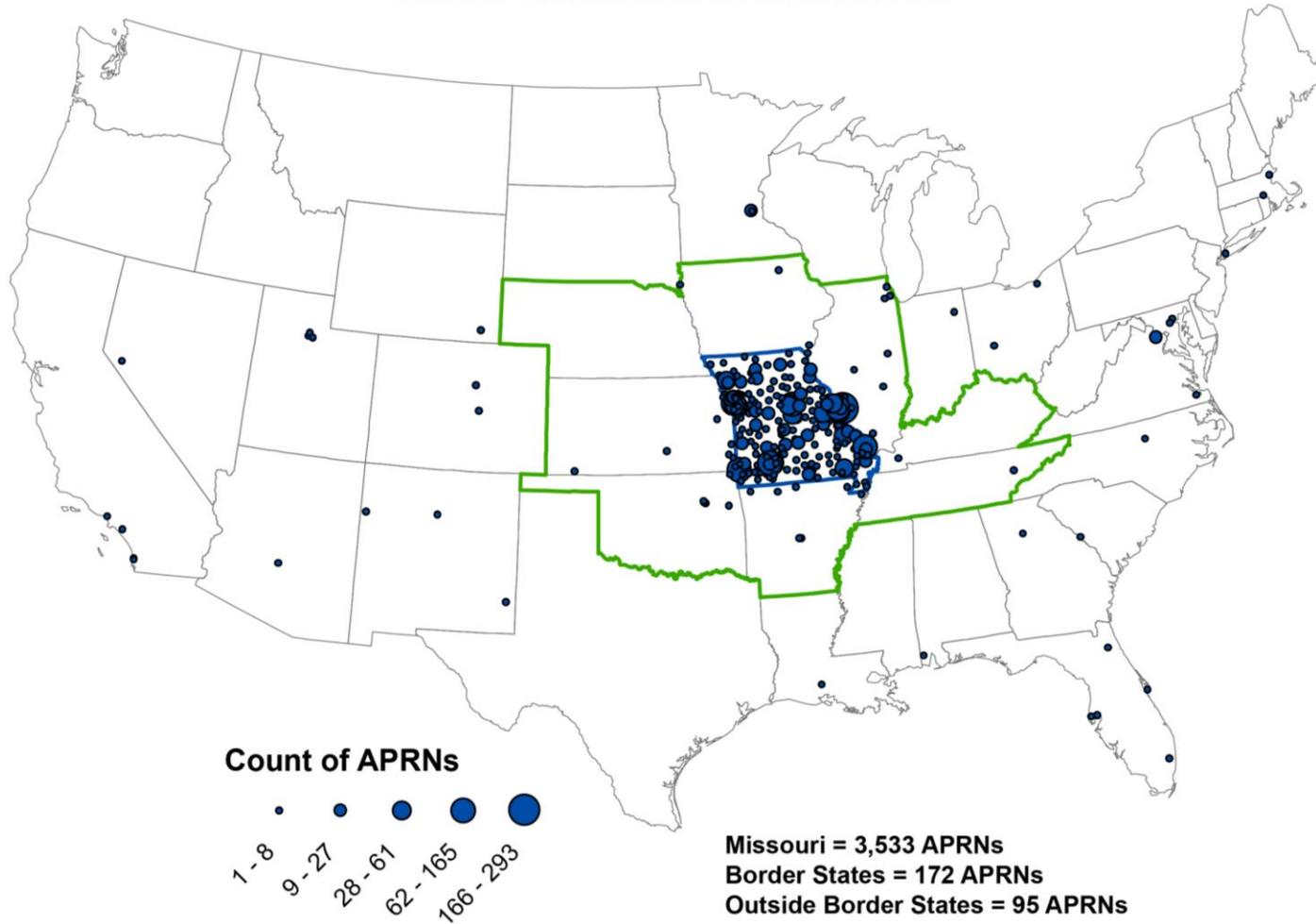
Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
Generated on: 19 February 2018

Employment Zipcode of All Missouri Registered Nurses whose Residence is in Missouri



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
Generated on: 19 February 2018

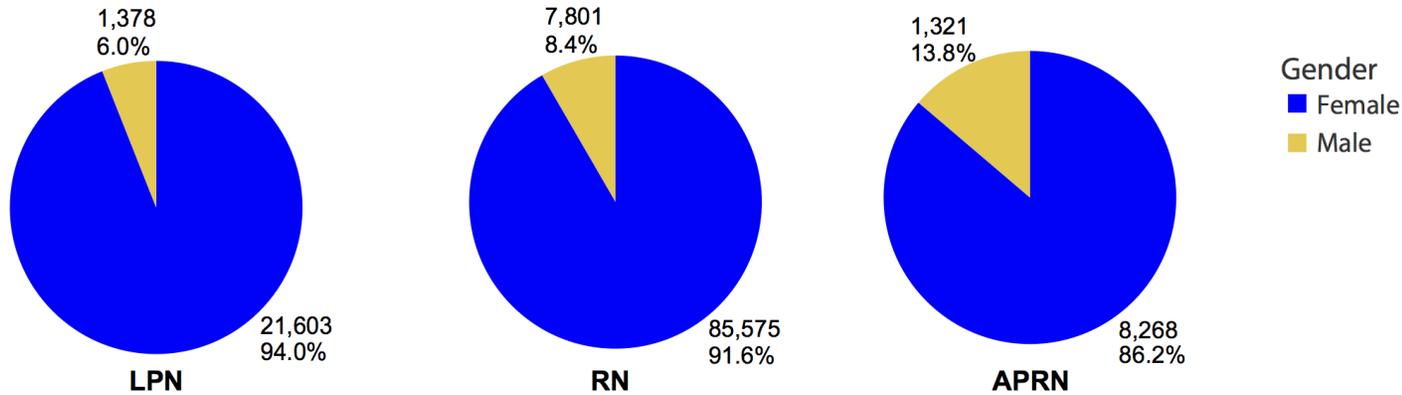
Employment Zipcode of All Missouri Advanced Practice Registered Nurses whose Residence is in Missouri



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDa)
Generated on: 19 February 2018

Gender Distribution of the Nursing Workforce

Gender of LPNs, RNs and APRNs in MO (Professional Registration), 2017

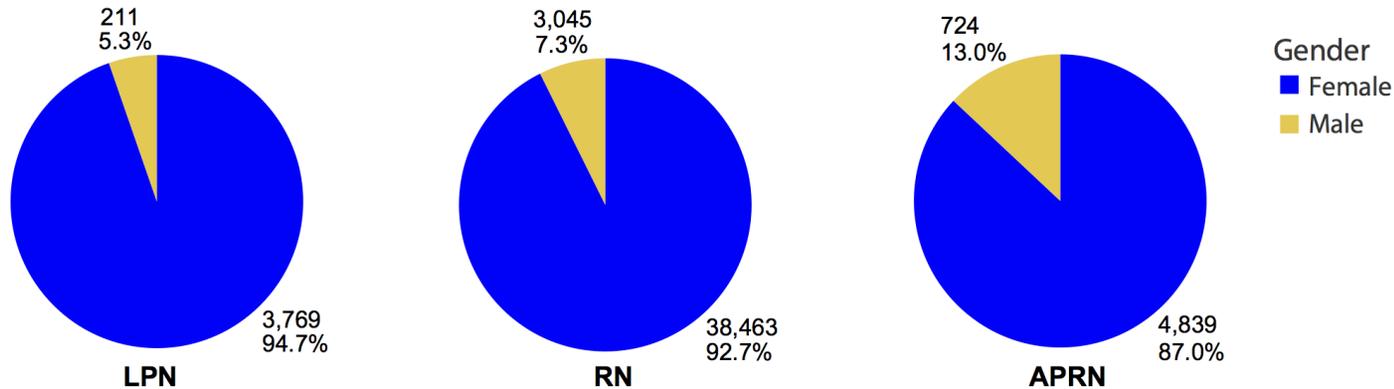


LPNs= 22,981, RNs= 93,376, APRNs= 9,589 (N=125,946)

Source: Missouri Division of Professional Registration, 2017; Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on: 19 February 2018

Gender of LPNs, RNs and APRNs in MO (Merged), 2017



LPNs= 3,980, RNs= 41,508, APRNs= 5,563 (N=51,051)

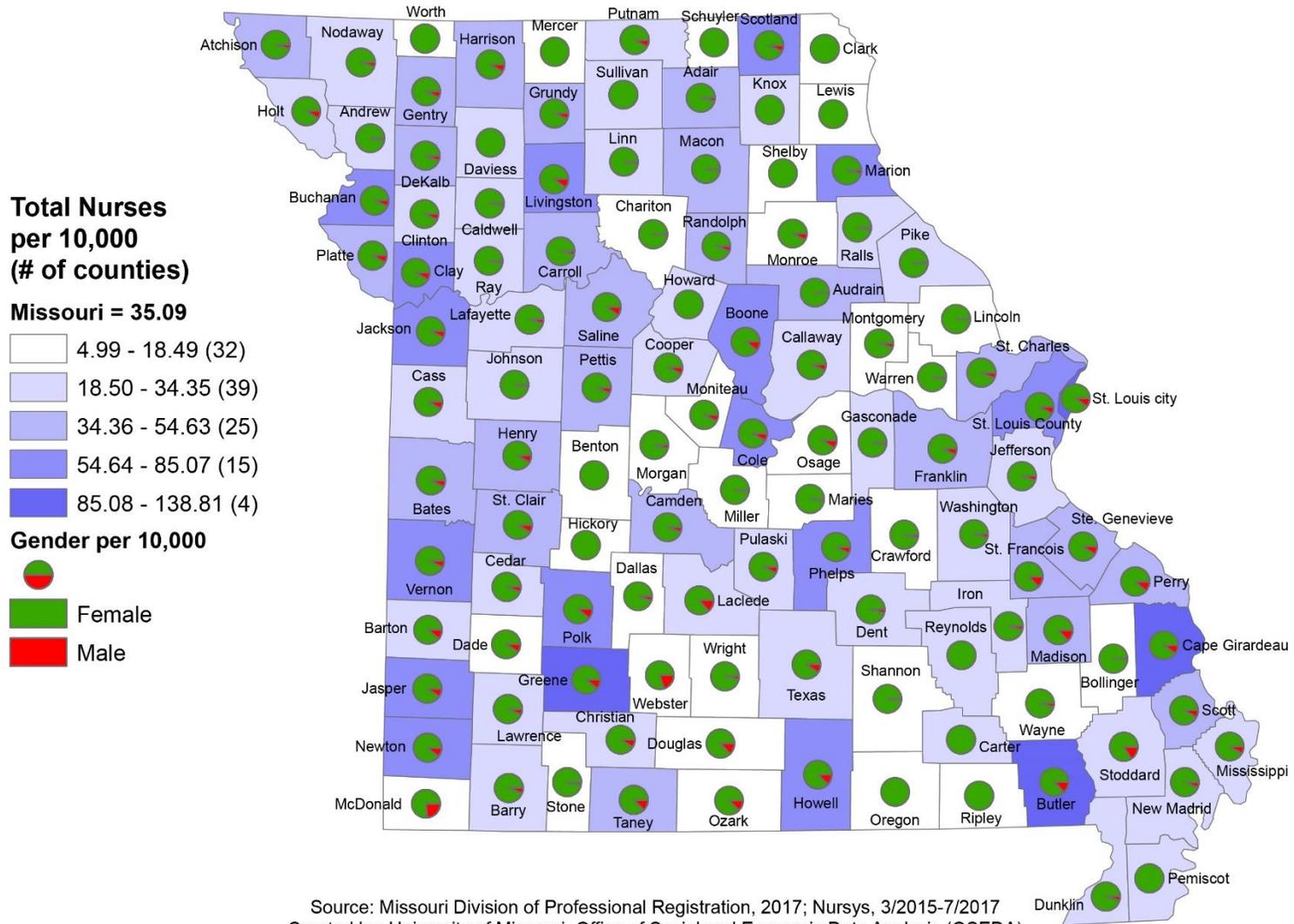
Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017

Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on: 19 February 2018

- Nursing continues to be a female-dominated profession. In the Professional Registry, 94.0% of LPNs, 91.6% of RNs and 86.2% of APRNs are women. The rates of women are even higher in Nursys®: 94.7% of LPNs, 92.7% of RNs and 87% of APRNs are women.

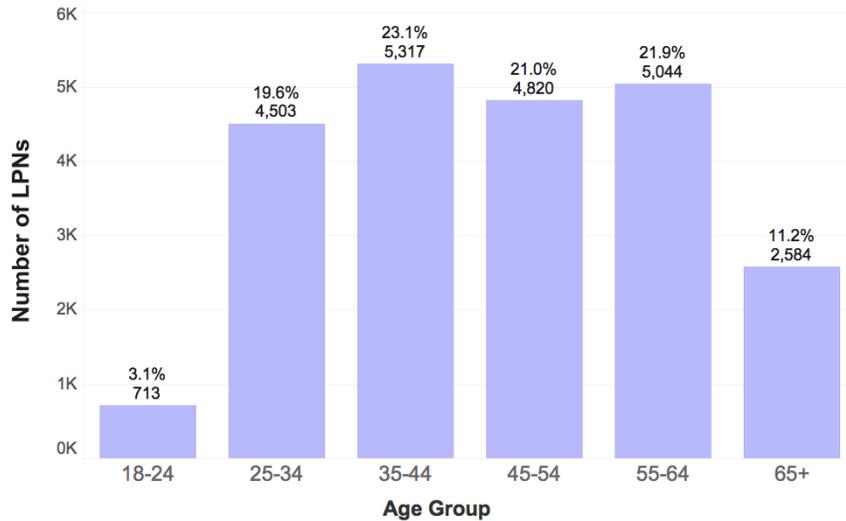
Gender for All Nurses by County of Employment



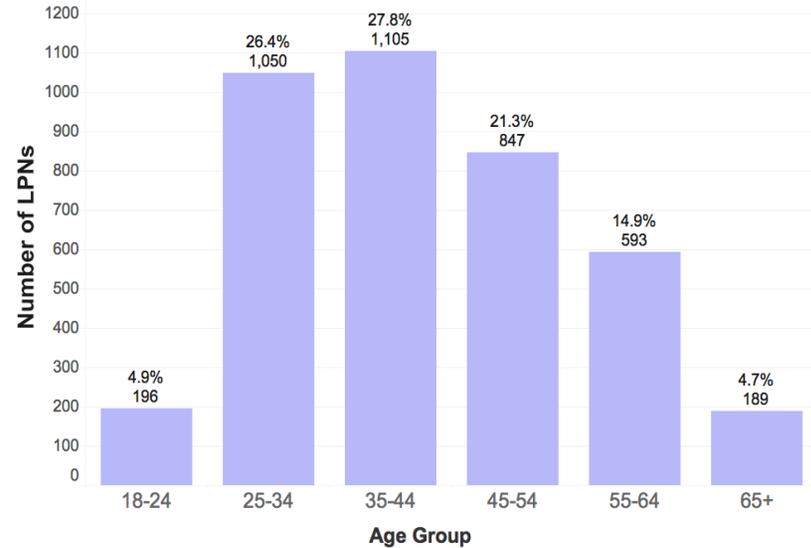
Age Distribution of the Nursing Workforce

Age Distribution-Licensed Practical Nurses

Distribution of Ages for LPNs in MO (Professional Registration), 2017



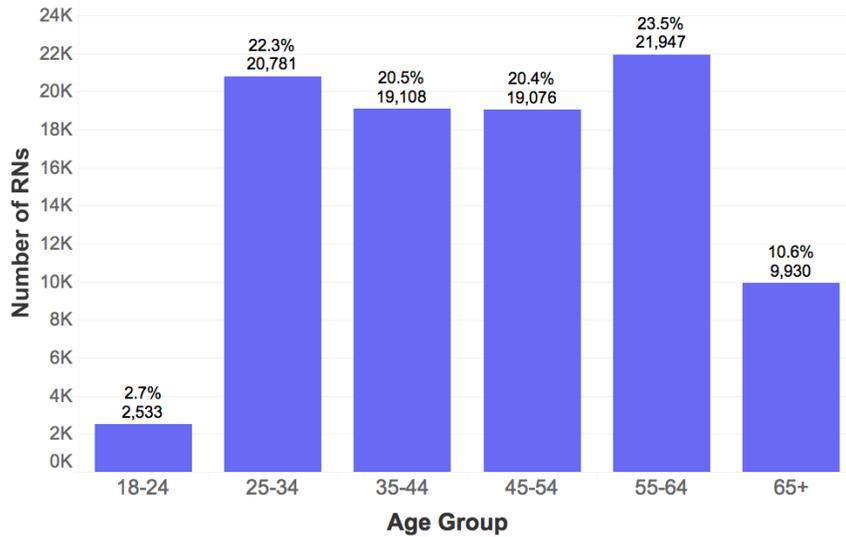
Distribution of Ages for LPNs in MO (Merged), 2017



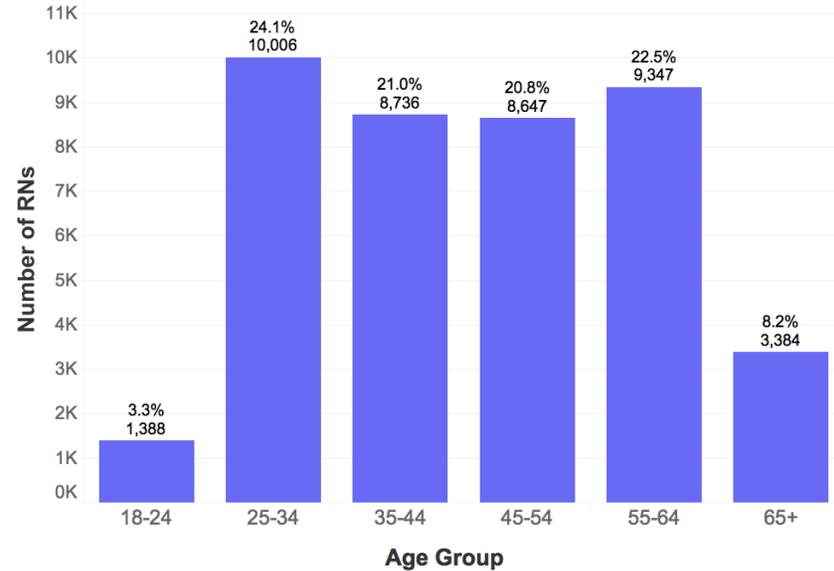
- The Professional Registry for Nursing, the most comprehensive source of data on the nursing workforce in Missouri, indicates that Licensed Practical Nurses (LPNs) are evenly distributed between the age groups 25-34, 35-44, 45-54 and 55-64.
- LPNs who also enroll in Nursys® are younger, with more than half (54.2%) of LPNs in both Professional Registry and Nursys® being under 45.

Age Distribution-Registered Nurses

Distribution of Ages for RNs in MO (Professional Registration), 2017



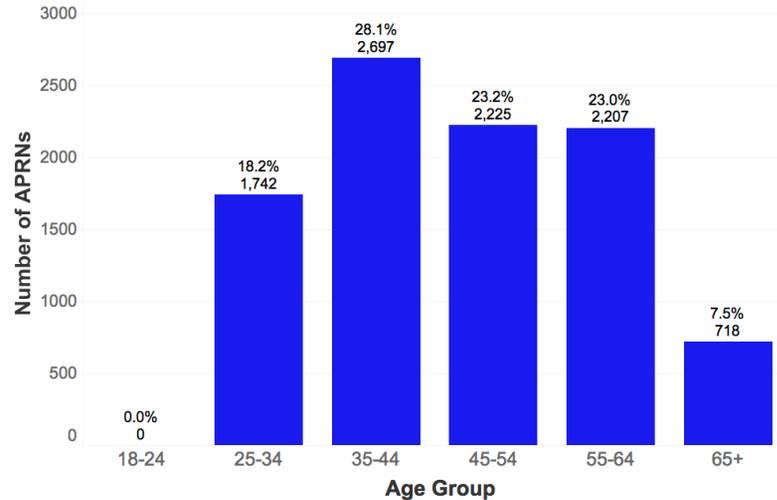
Distribution of Ages for RNs in MO (Merged), 2017



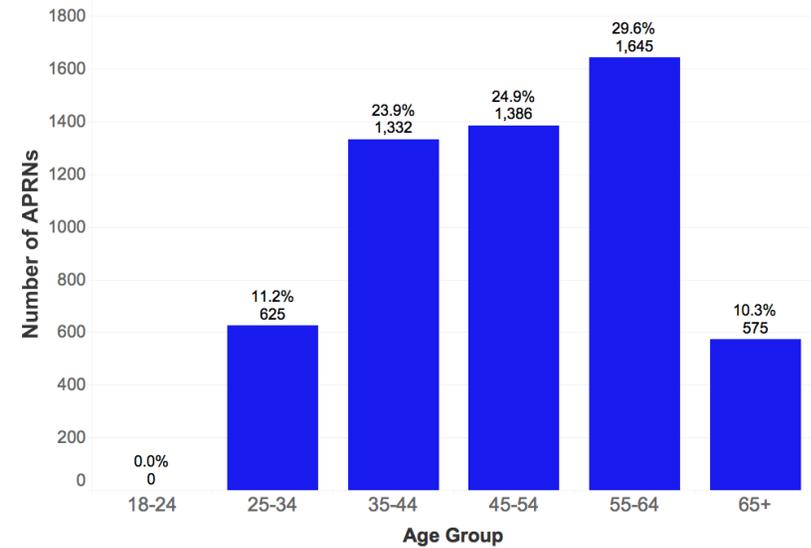
- The Professional Registry for Nursing reports that the largest number of Registered Nurses (RNs) are between the ages of 55 and 64. Nearly a quarter of RNs in Missouri (23.5% or 21,947) are near the common age for retirement.
- Fortunately, the second largest age group of RNs are those aged 25-34. They comprise 22.3% or 20,781 of Missouri’s RNs.
- The matched data from Professional Registry and Nursys® reveal that RNs from all age groups are enrolling in Nursys® in a relatively consistent manner.

Age Distribution-Advanced Practice

**Distribution of Ages for APRNs in MO
(Professional Registration), 2017**

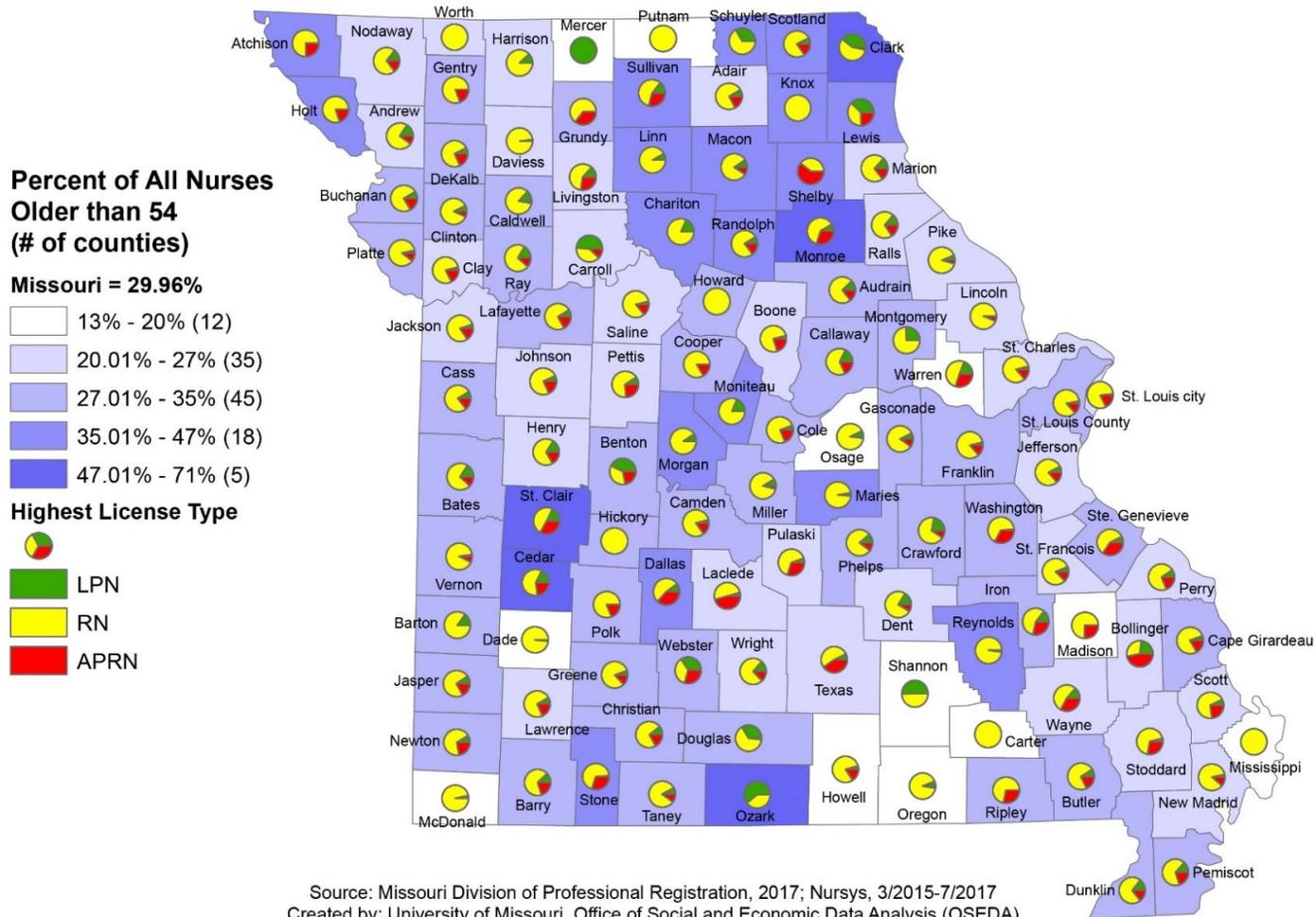


Distribution of Ages for APRNs in MO (Merged), 2017



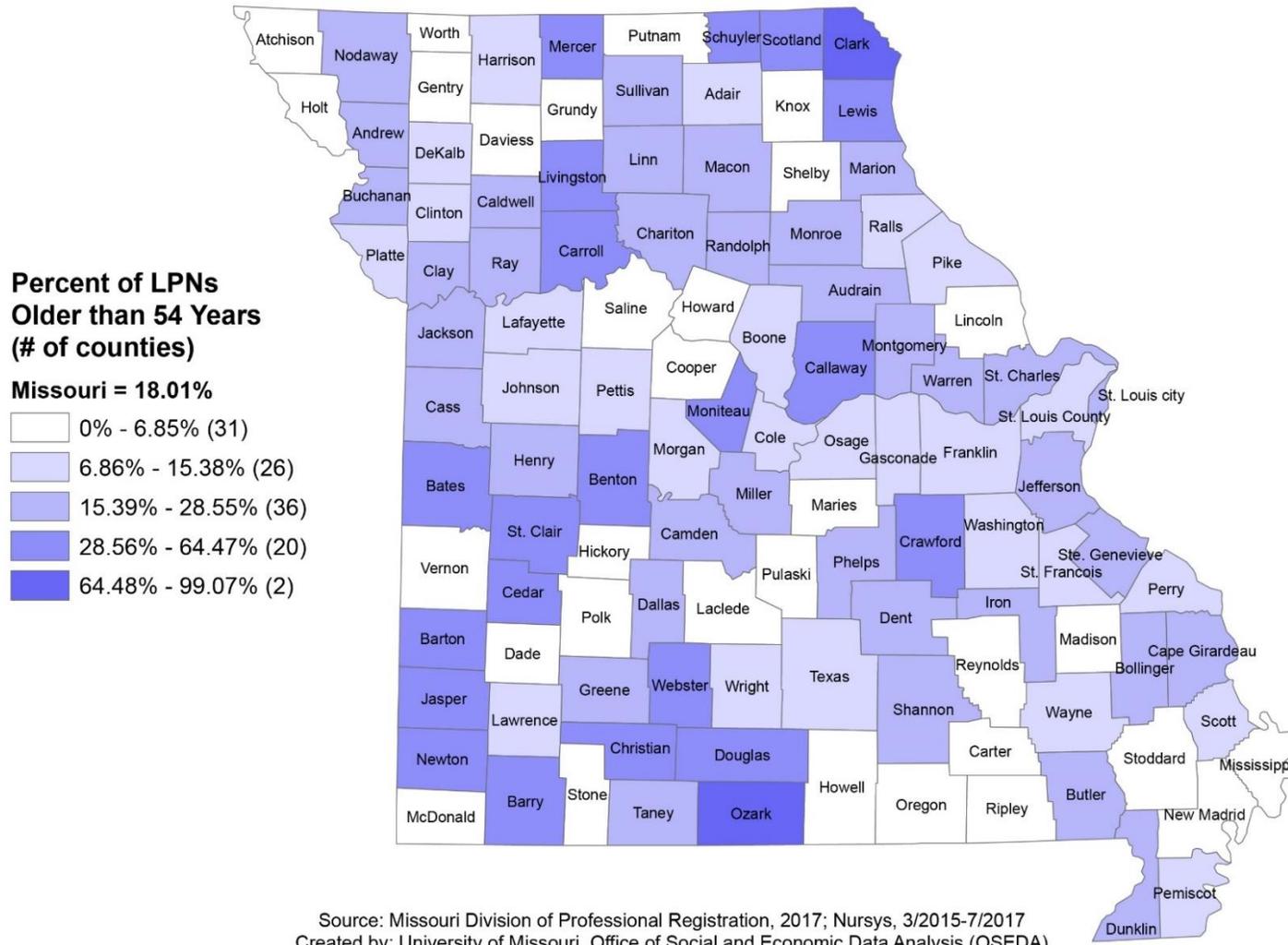
- The largest age group of Advanced Practice Registered Nurses (APRNs) in the Professional Registry for Nursing are those aged 35 to 44, comprising 28.1% or 2,697 APRNs in the Registry.
- In contrast to LPNs, the matched Registry and Nursys® data indicate that APRNs aged 55-64 are the most likely to also register with both systems.

County of Employment for All Nurses Older than 54 Years



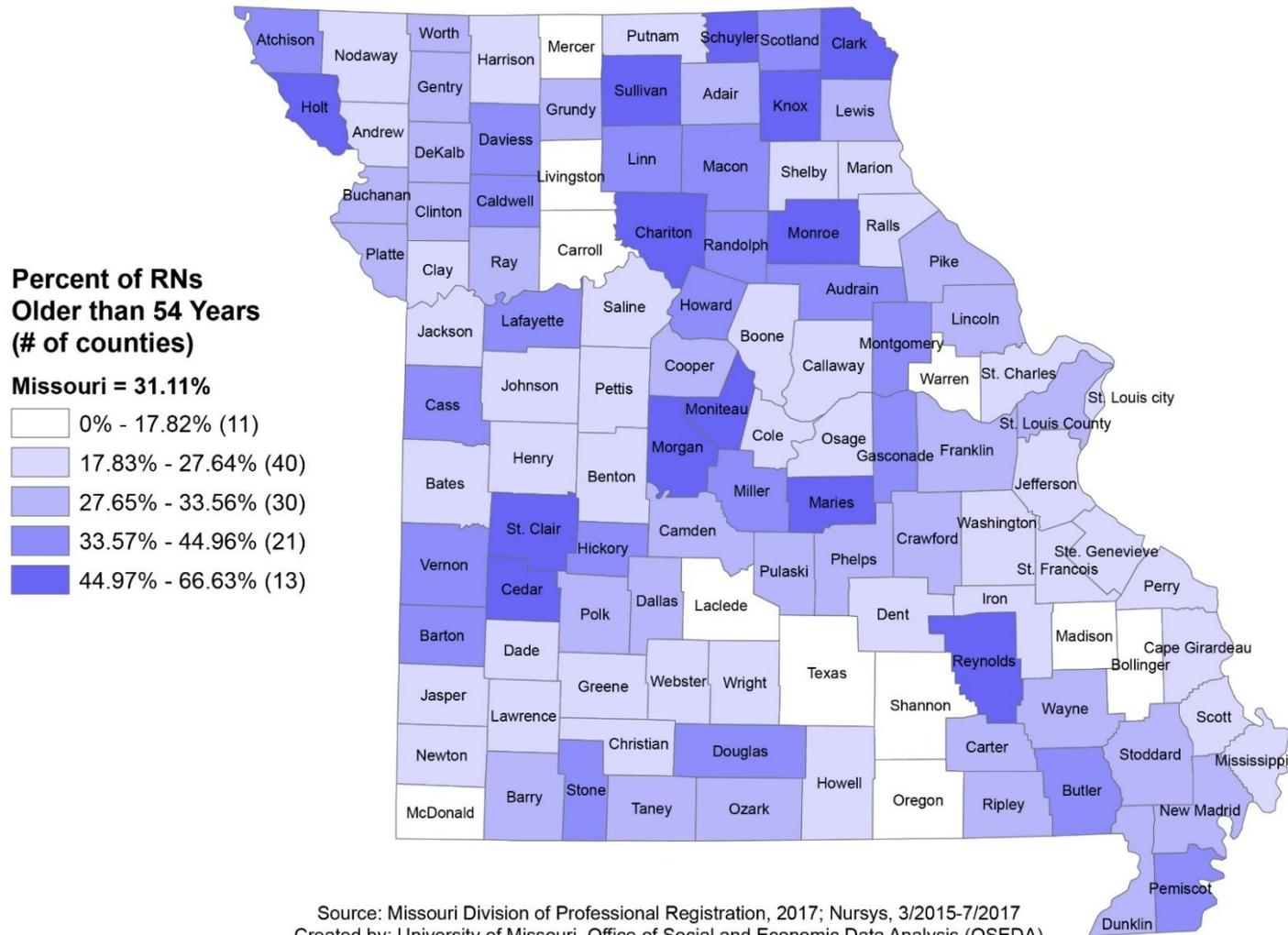
- A series of maps about the County of Employment for Nurses Older than 54 Years are provided to provide information on where the nursing workforce is near retirement in Missouri. Some counties, such as Clark in far northeast Missouri have a sizeable portion of their workforce over the age of 54.

County of Employment for Licensed Practical Nurses Older than 54 Years

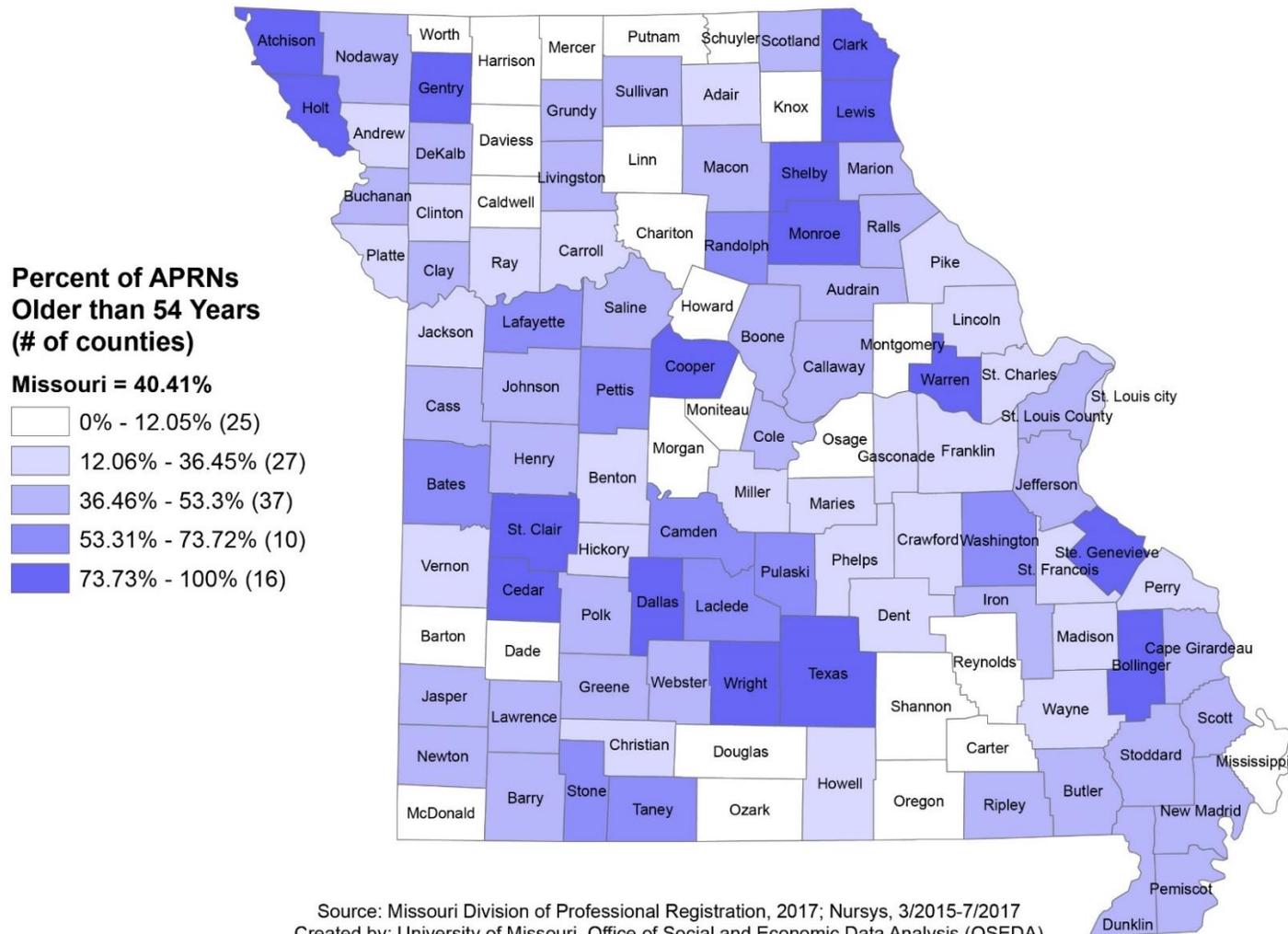


Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 5 January 2018

County of Employment for Registered Nurses Older than 54 Years



County of Employment for Advanced Practice Registered Nurses Older than 54 Years

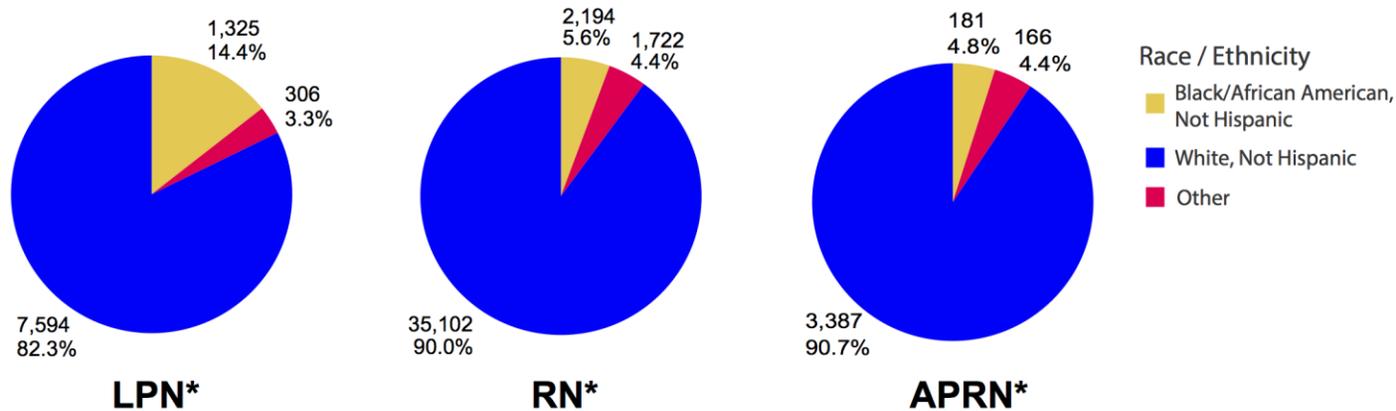


Race and Ethnicity Distribution of Nursing Workforce

Exercise caution when examining the race and ethnicity charts below.

- Race and ethnicity data in the Professional Registry and Nursys® do not currently comply with US Census Standards, and have a high percentage of “NA” or “Unknown” responses.
 - According to US Census Standards, race and ethnicity (Hispanic and Not Hispanic) should be treated as separate categories. Professional Registry and Nursys® combine race and ethnicity into one category.
 - In the Professional Registry, 59.9% of LPNs, 58.2% of RNs and 61.1% of APRNs are coded as “NA” or “Unknown.”

Race of LPNs, RNs and APRNs in MO (Professional Registration), 2017



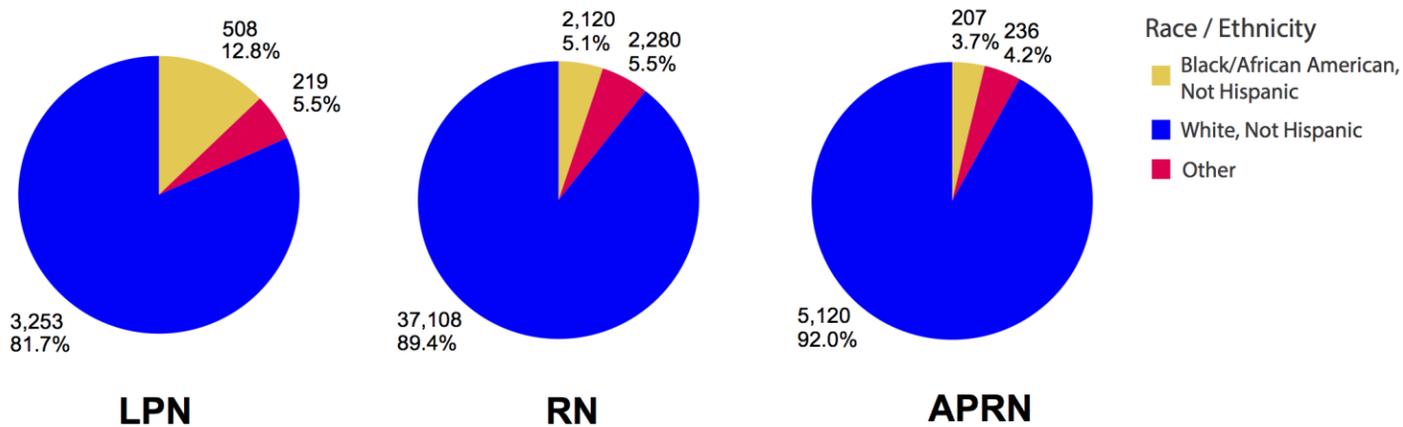
*Excluding N/A and Unknown responses, only 9,225/22,981 (40.1%) LPNs, 39,018/93,376 (41.8%) RNs, and 3,734/9,589 (38.9%) APRNs reported their race/ethnicity; total number of excluded responses: NA=29,142; Unknown= 44,827

"Other" includes American Indian / Alaskan Native, Asian, Native Hawaiian / Pacific Islander, 2+ races, and Hispanic / Latino

Source: Missouri Division of Professional Registration, 2017; Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on: 26 January 2018

Race of LPNs, RNs, and APRNs in MO (Merged), 2017



"Other" includes American Indian / Alaskan Native, Asian, Native Hawaiian / Pacific Islander, 2+ races, and Hispanic / Latino

Source: Missouri Division of Professional Registration, Nursys, 03/2015 - 07/2017

Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on: 26 January 2018

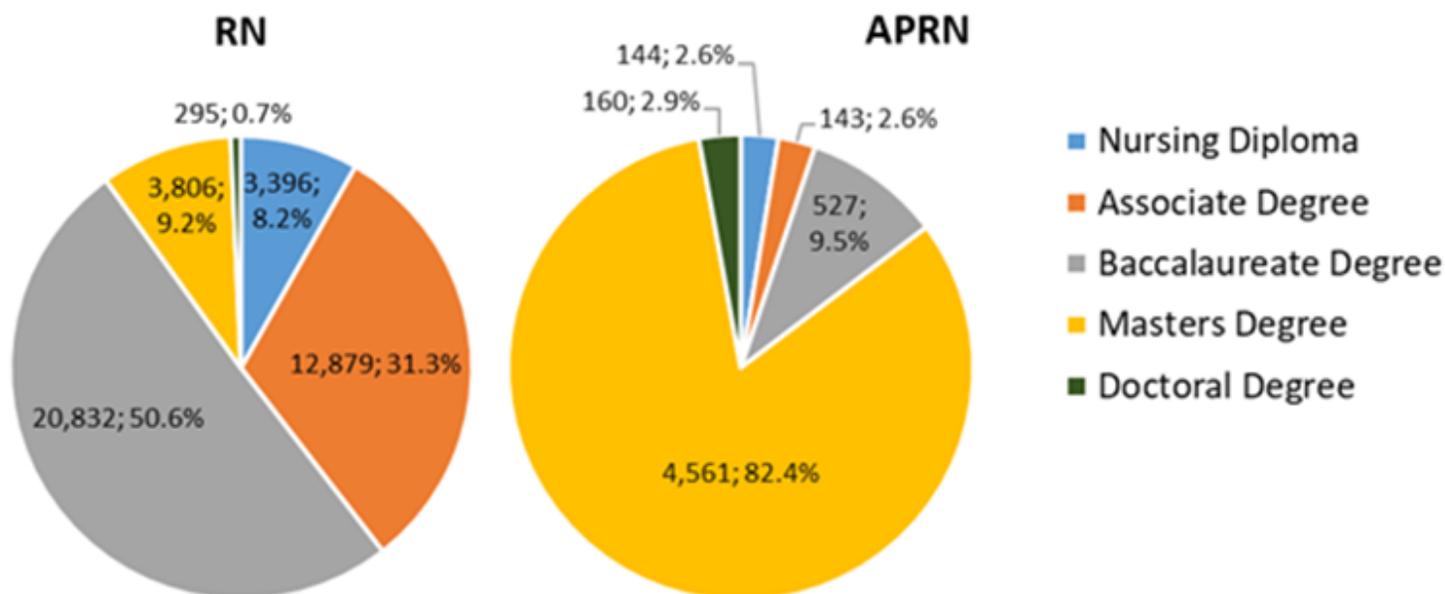
Education of the Nursing Workforce

Highest Education Level of RNs and APRNs in MO (Merged)

Only includes RNs and APRNs who reported their highest level of education (n=41,208/41,508 RNs; n=5,535/5,563 APRNs).

LPNs are excluded due to low response rate to the question about highest level of education (n=467/3,980 LPNs).

APRNs with less than a Masters Degree hold certificates qualifying them to be APRNs.



Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015-07/2017

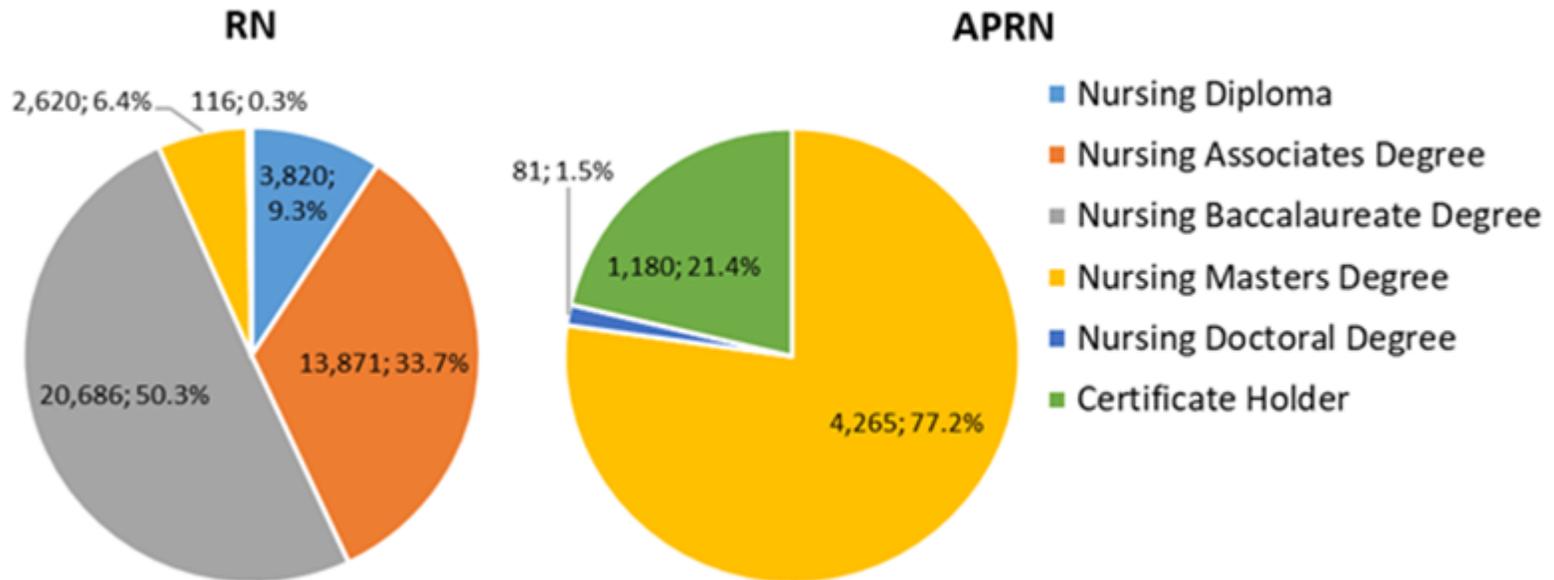
Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on 26 April 2018

- Many nurses hold multiple degrees, both in nursing and other fields. This chart describes the highest level of education held by RNs and APRNs, including non-nursing degrees.
- LPNs are excluded from this analysis because only 467 out of the 3,980 LPNs enrolled in Nursys® responded to the question about highest level of education.
- Over half of RNs hold a Baccalaureate Degree (n=20,832 or 50.6%) and almost a third hold an Associate Degree (n=12,879 or 31.3%).
- The vast majority of APRNs have a Masters Degree (n=4,561 or 82.4%).
 - APRNs with less than a Masters Degree are able to practice as an APRN with a certificate. See *Highest Level of Nursing Education* (page 43) for information on APRNs who hold certificates.

Highest Level of Nursing Education of RNs and APRNs in MO (Merged)

Only includes RNs and APRNs who reported their highest level of nursing education (n=41,113/41,508 RNs; n=5,526/5,563 APRNs).
 LPNs are excluded due to low response rate to the question about highest level of nursing education (n=205/3,980 LPNs).



Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015-07/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on 26 April 2018

- LPNs are excluded from this analysis because only 205 out of the 3,980 LPNs enrolled in Nursys® responded to the question about highest level of nursing education.
- More than half of RNs hold a Nursing Baccalaureate Degree (n=20,686 or 50.3%).
- The vast majority of APRNs hold a Nursing Masters Degree, which is the current requirement for initial APRN recognition in Missouri. A significant portion of APRNs are Certificate Holders (n=1,180 or 21.4%). Certificate Holders with APRNs include two groups:
 - APRNs who received recognition before the new educational requirements were in place and were grandfathered in, or
 - APRNs whose initial recognition was received in another state and later applied for Missouri recognition.

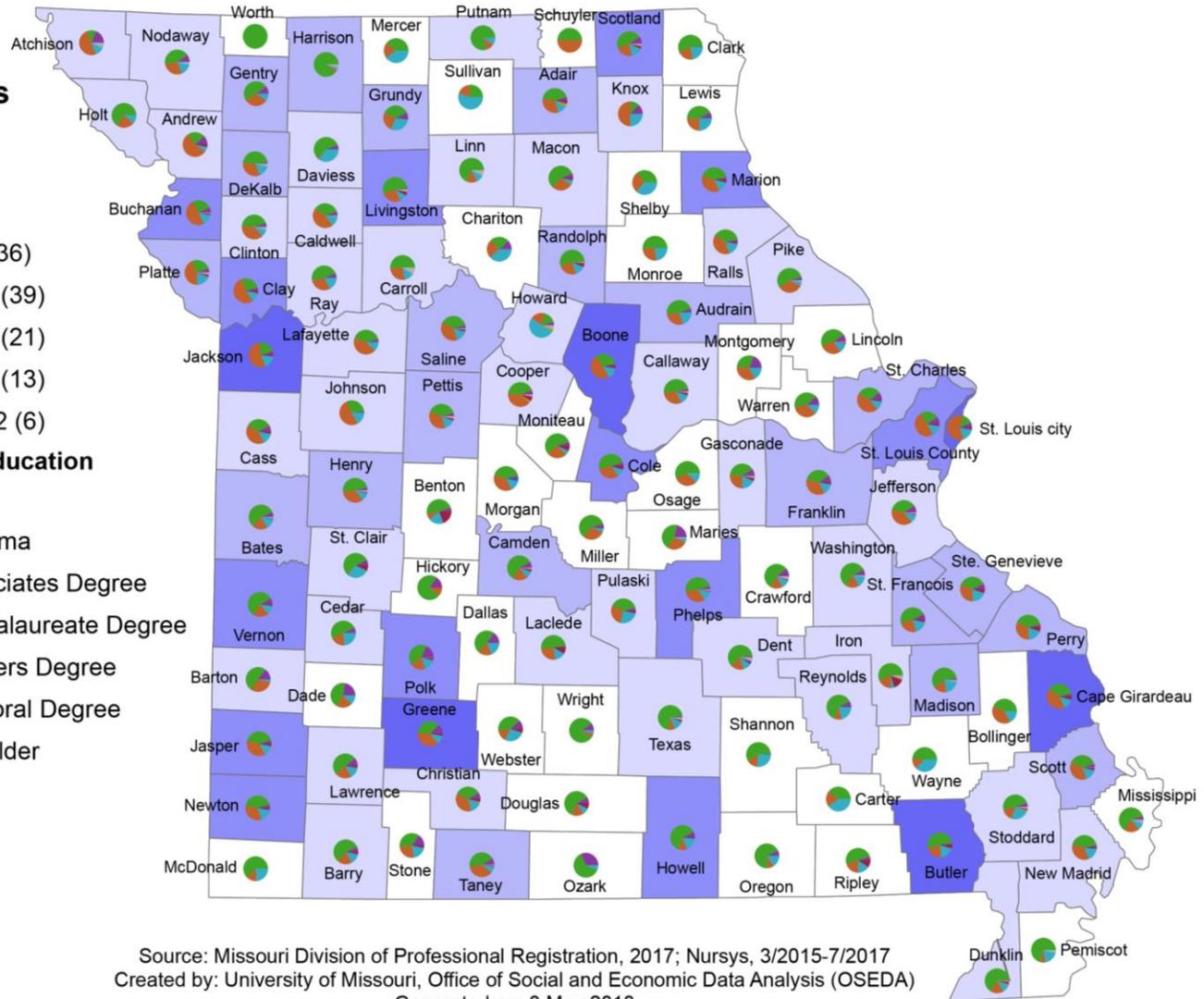
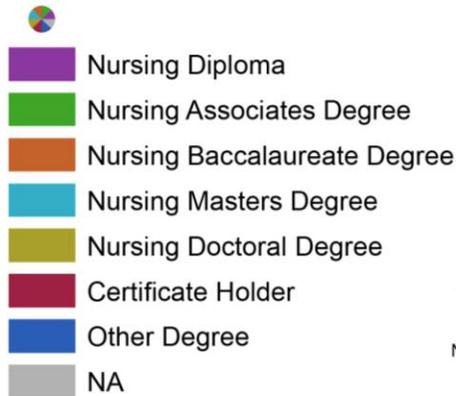
Highest Nursing Education for Registered Nurses and Advanced Practice Registered Nurses by County of Employment

**RNs and APRNs
per 10,000
(# of counties)**

Missouri = 29.76



Highest Nursing Education



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 3 May 2018

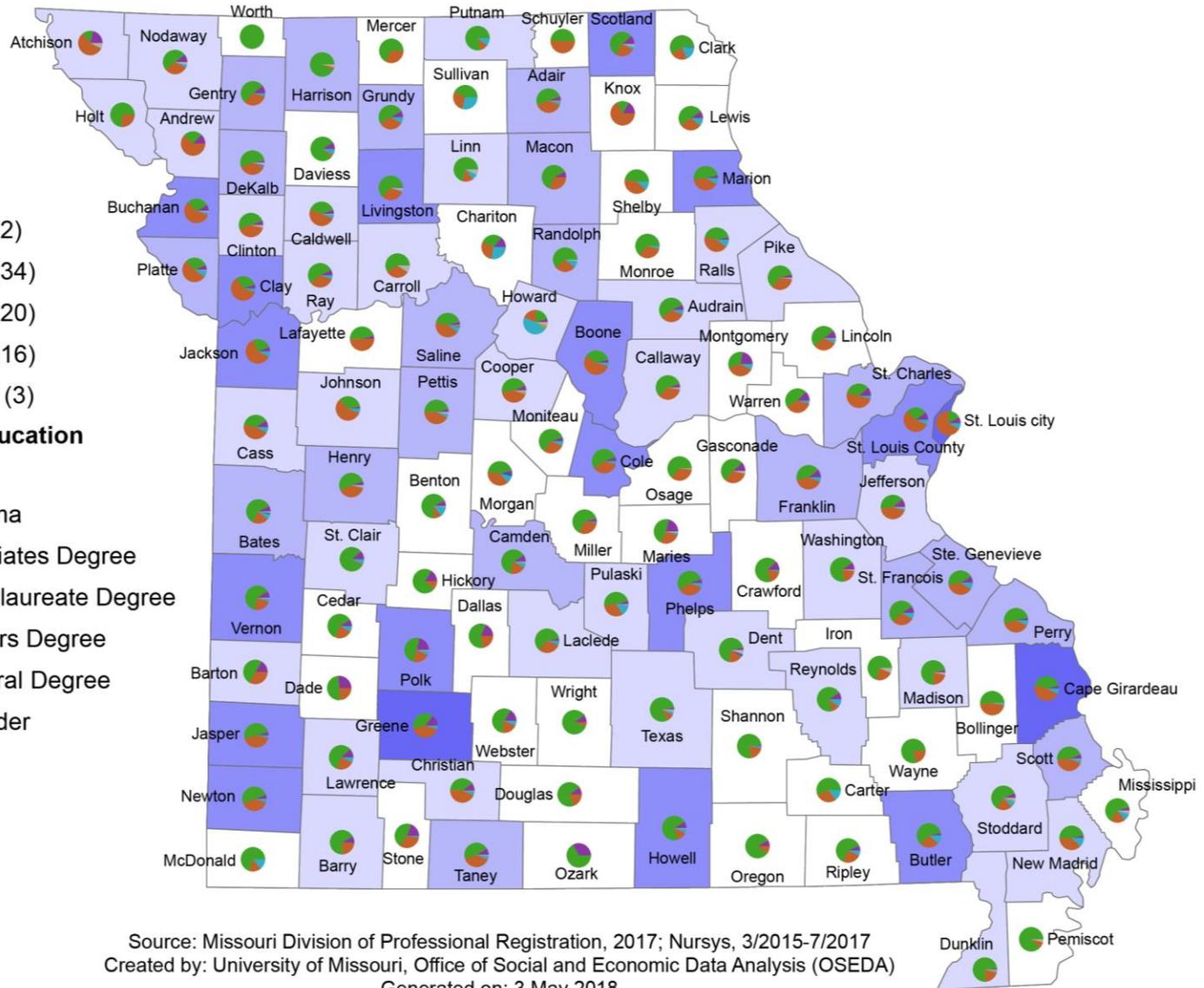
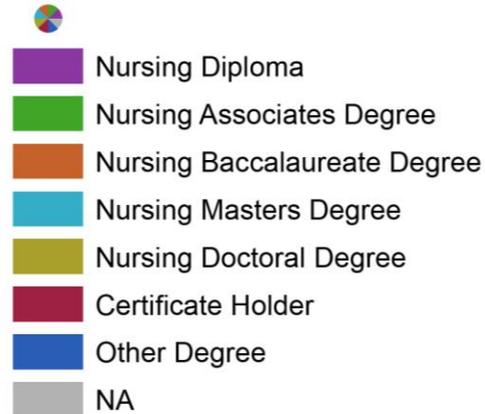
Highest Nursing Education for Registered Nurses by County of Employment

**RNs per 10,000
(# of counties)**

Missouri = 25.87

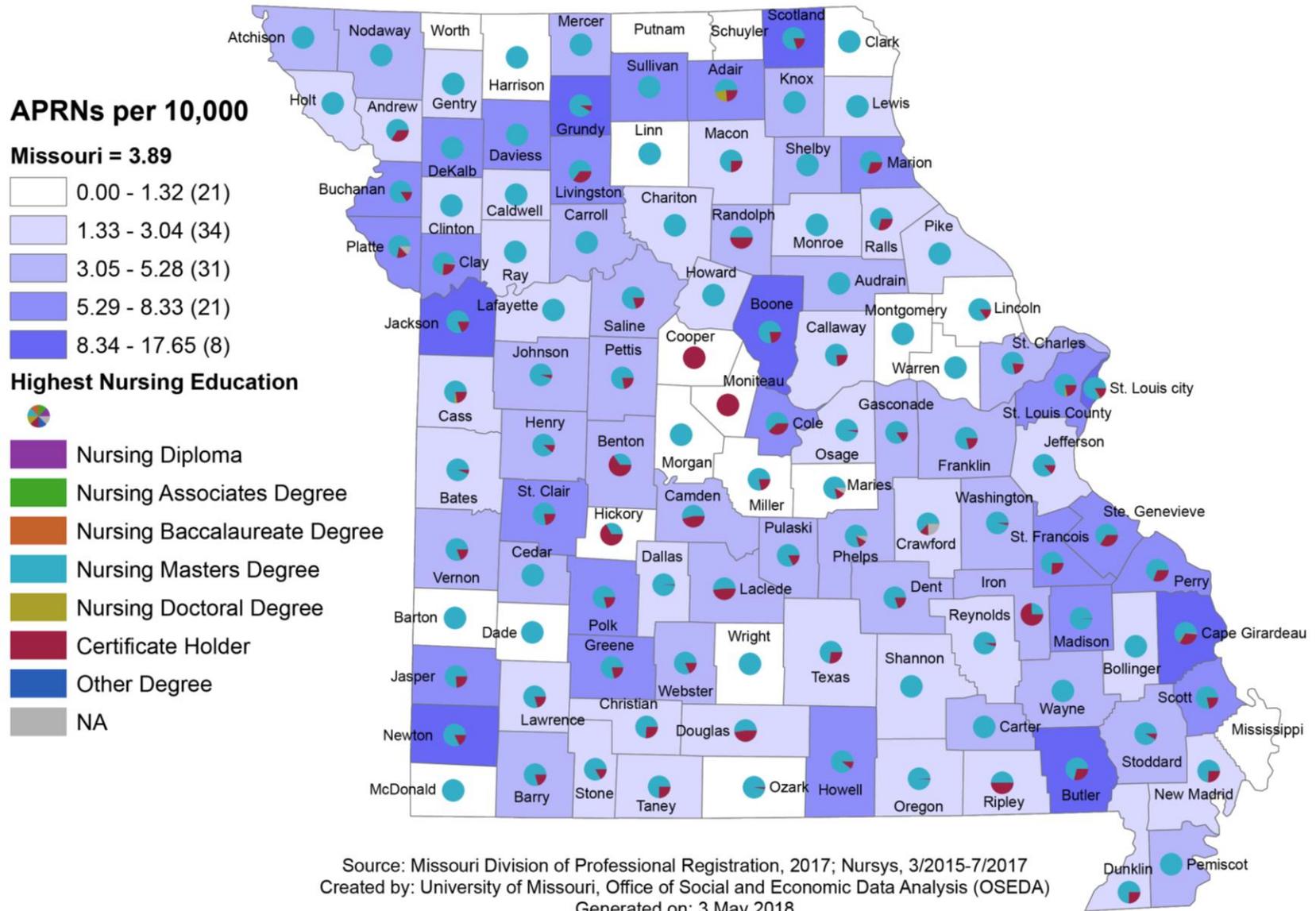


Highest Nursing Education



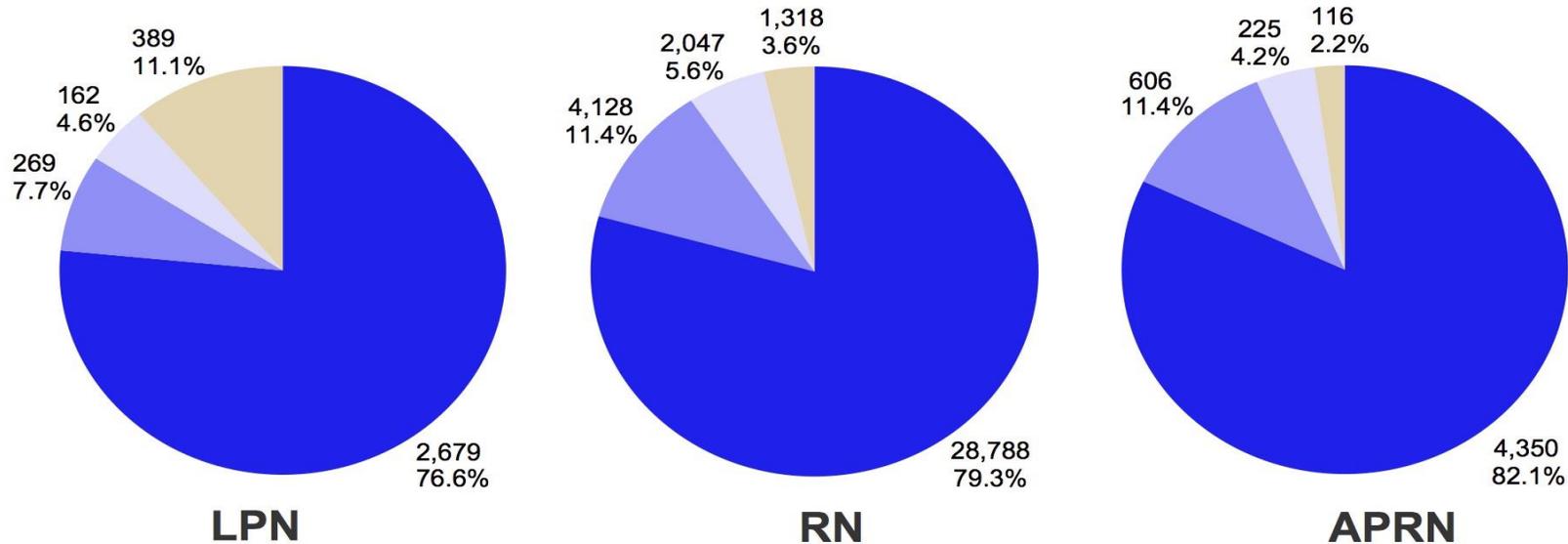
Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 3 May 2018

Highest Nursing Education for Advanced Practice Registered Nurses by County of Employment



Employment Status of the Nursing Workforce

Employment Status of Nurses in MO (Merged), 2017



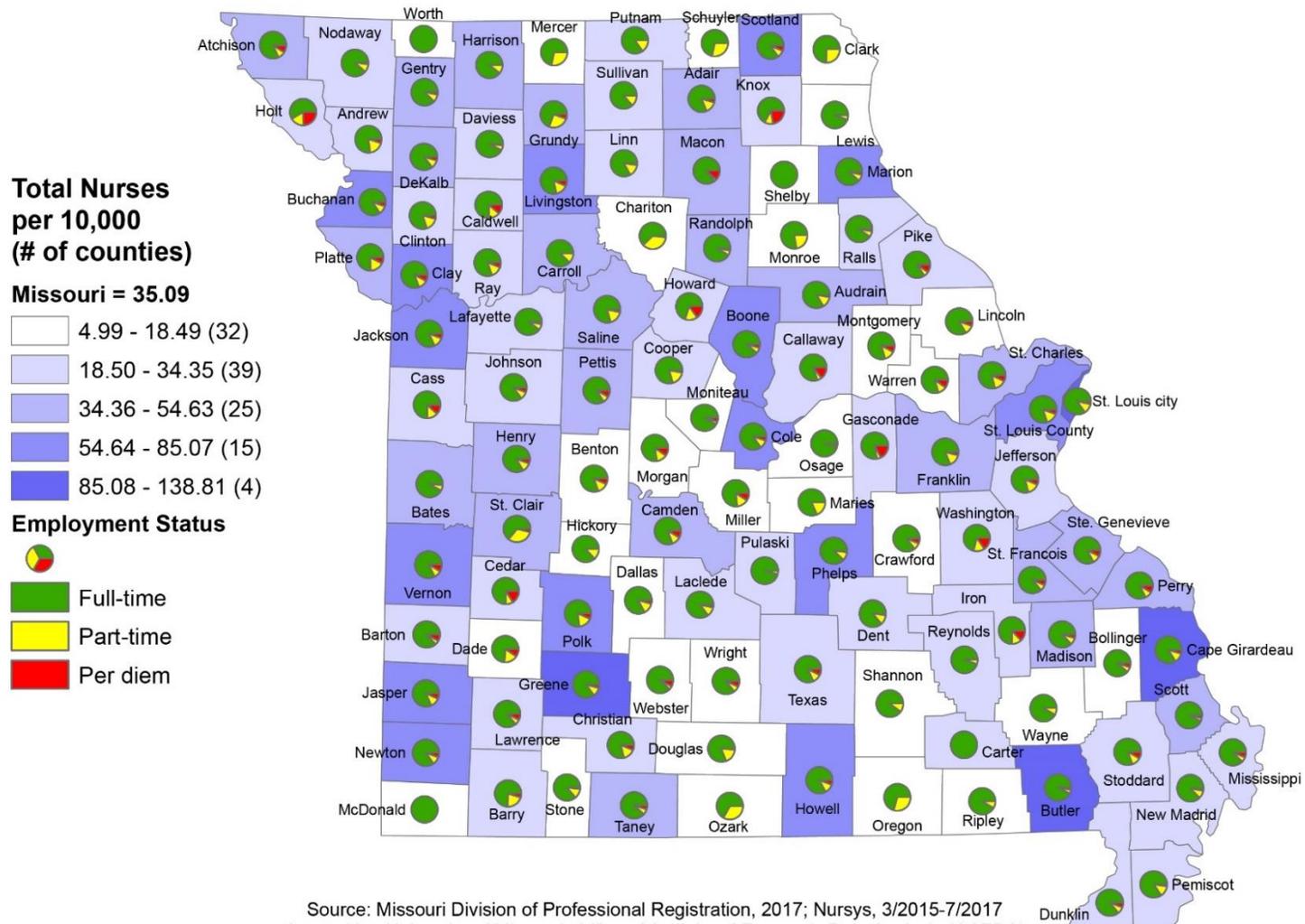
Current Employment Status

- Actively employed in nursing or in a position that requires a nurse license - Full-time
- Actively employed in nursing or in a position that requires a nurse license - Part-time
- Actively employed in nursing or in a position that requires a nurse license - Per diem
- Unemployed - Seeking work as a nurse

Responses of N/A were excluded (NA= 8137)
 Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 18 January 2017

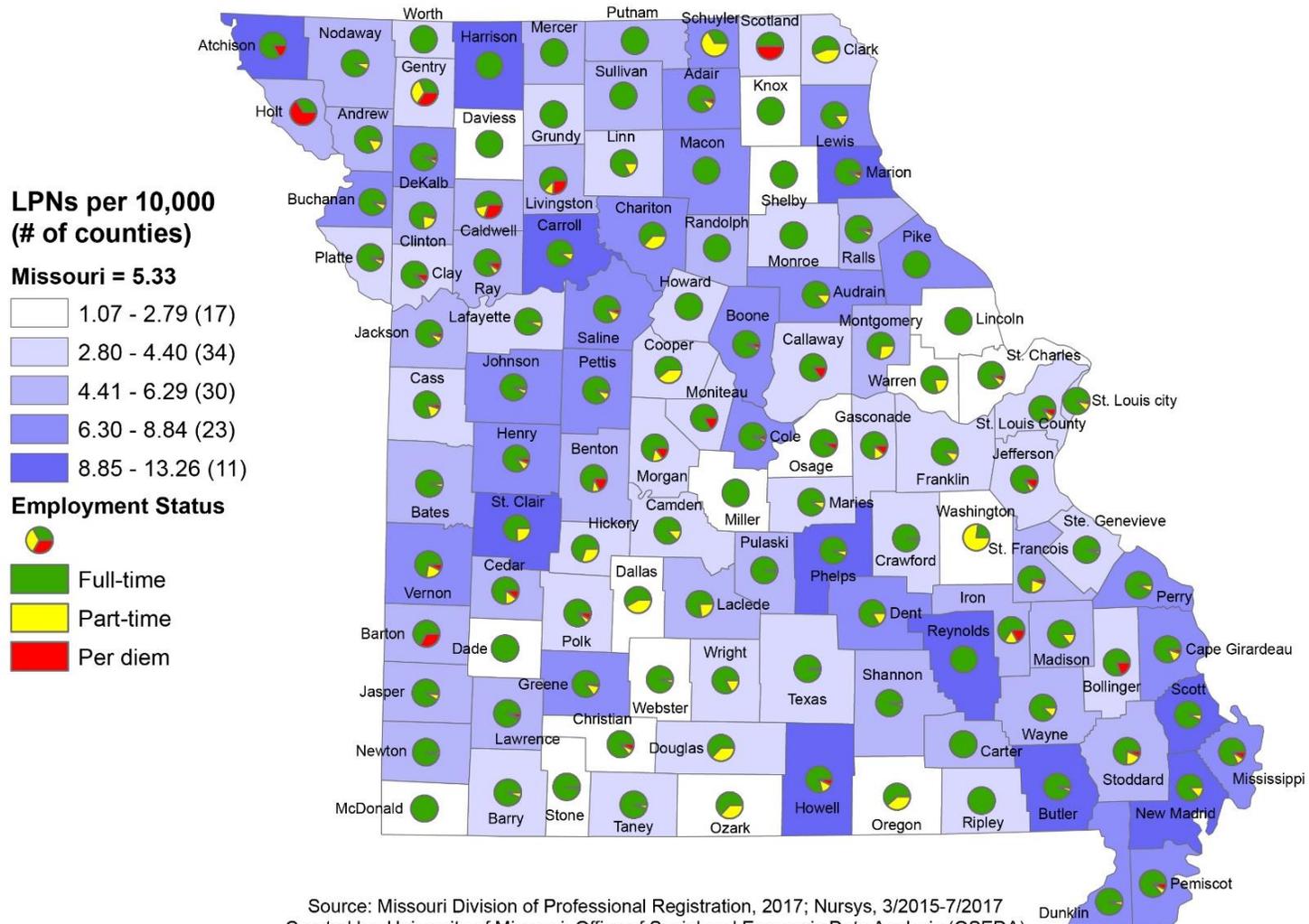
- The vast majority of nurses included in both the Professional Registry and Nursys® are actively employed full-time in nursing or a position that requires a nursing license, including:
 - 76.6% or 2,679 LPNs,
 - 79.3% or 28,788 RNs, and
 - 82.1% or 4,350 APRNs.
- There are very few unemployed RNs and APRNs looking for work as a nurse (3.6% of RNs and 2.2% APRNs), indicating that there is a limited supply of RNs and APRNs within the state available to meet the current need.
- A higher percentage of LPNs, 11.1%, are unemployed and seeking work as a nurse.

Employment Status for All Actively Employed Nurses by County of Employment

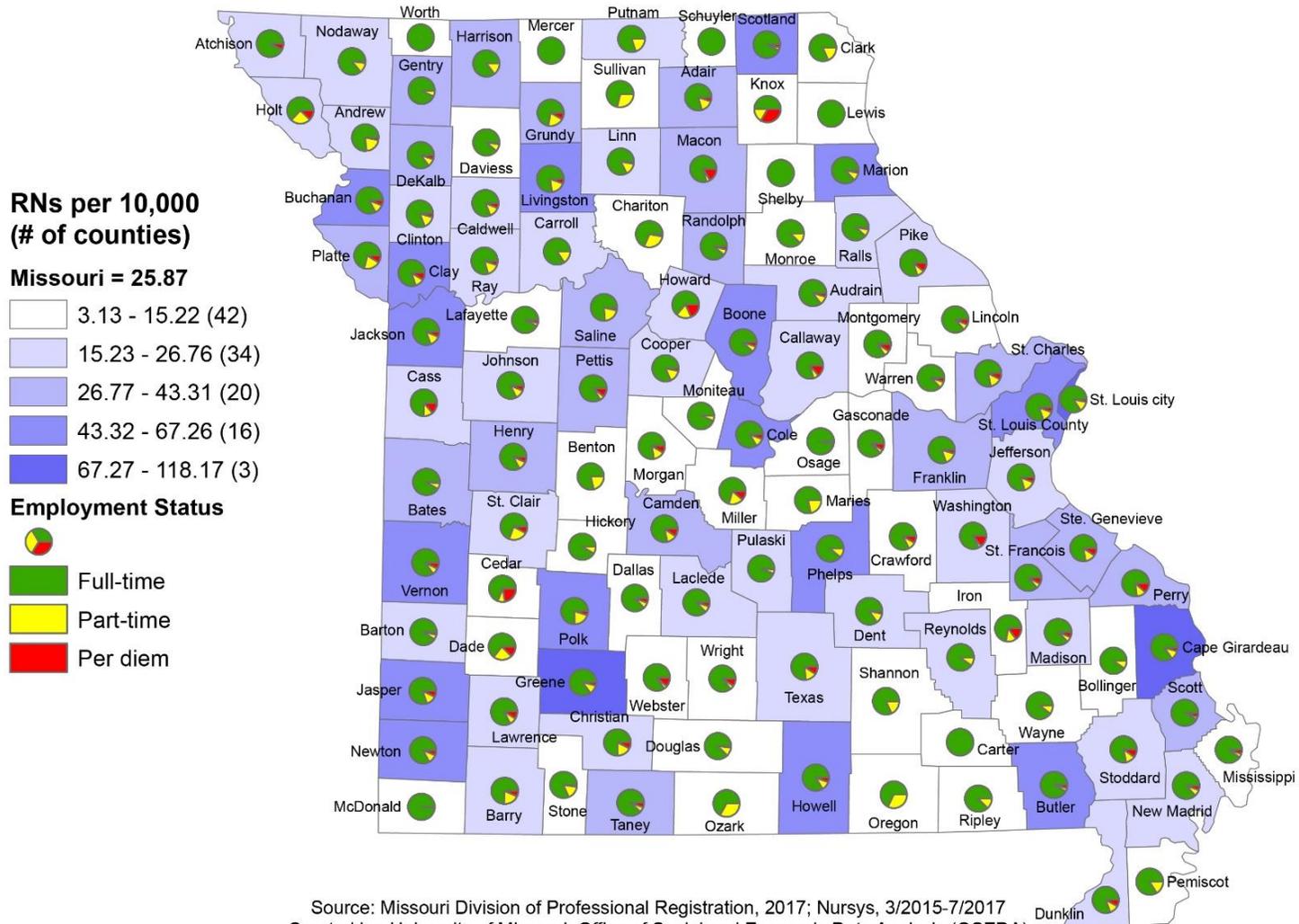


Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 5 January 2018

Employment Status for All Actively Employed Licensed Practical Nurses by County of Employment

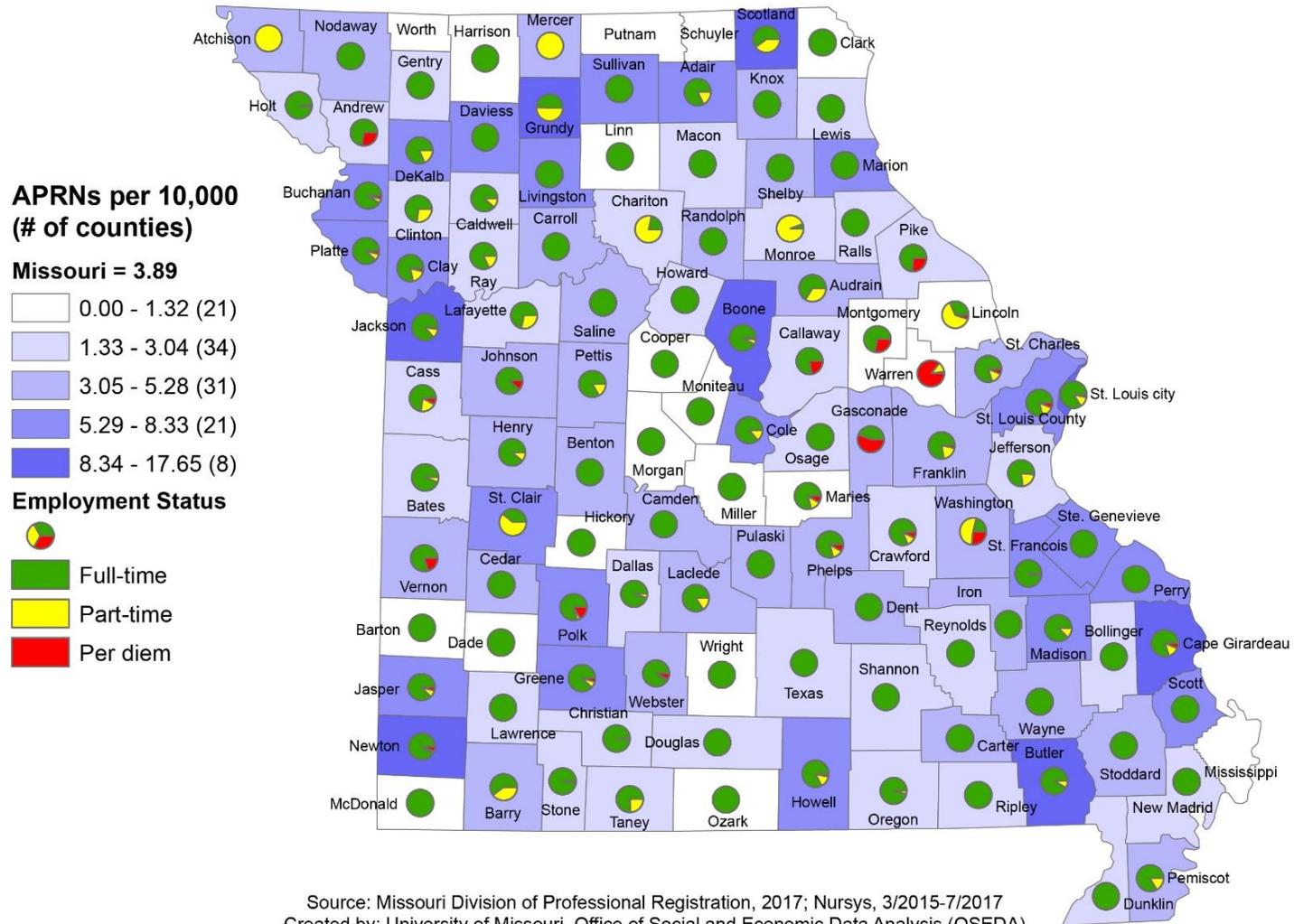


Employment Status for All Actively Employed Registered Nurses by County of Employment



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 30 January 2018

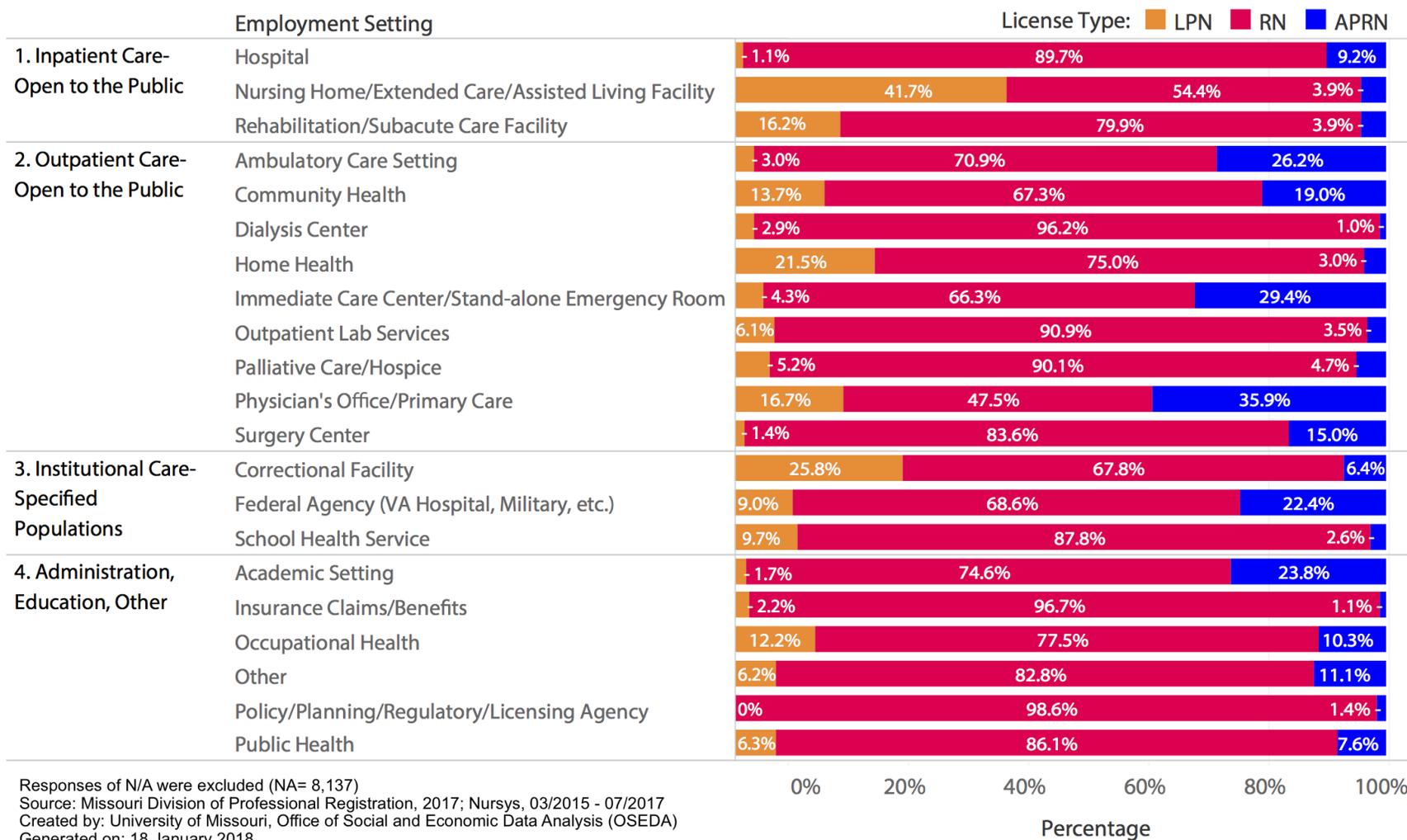
Employment Status for All Actively Employed Advanced Practice Registered Nurses by County of Employment



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 30 January 2018

Employment Setting

Percent of LPNs, RNs, APRNs in Each Employment Setting (Merged), 2017



Responses of N/A were excluded (NA= 8,137)

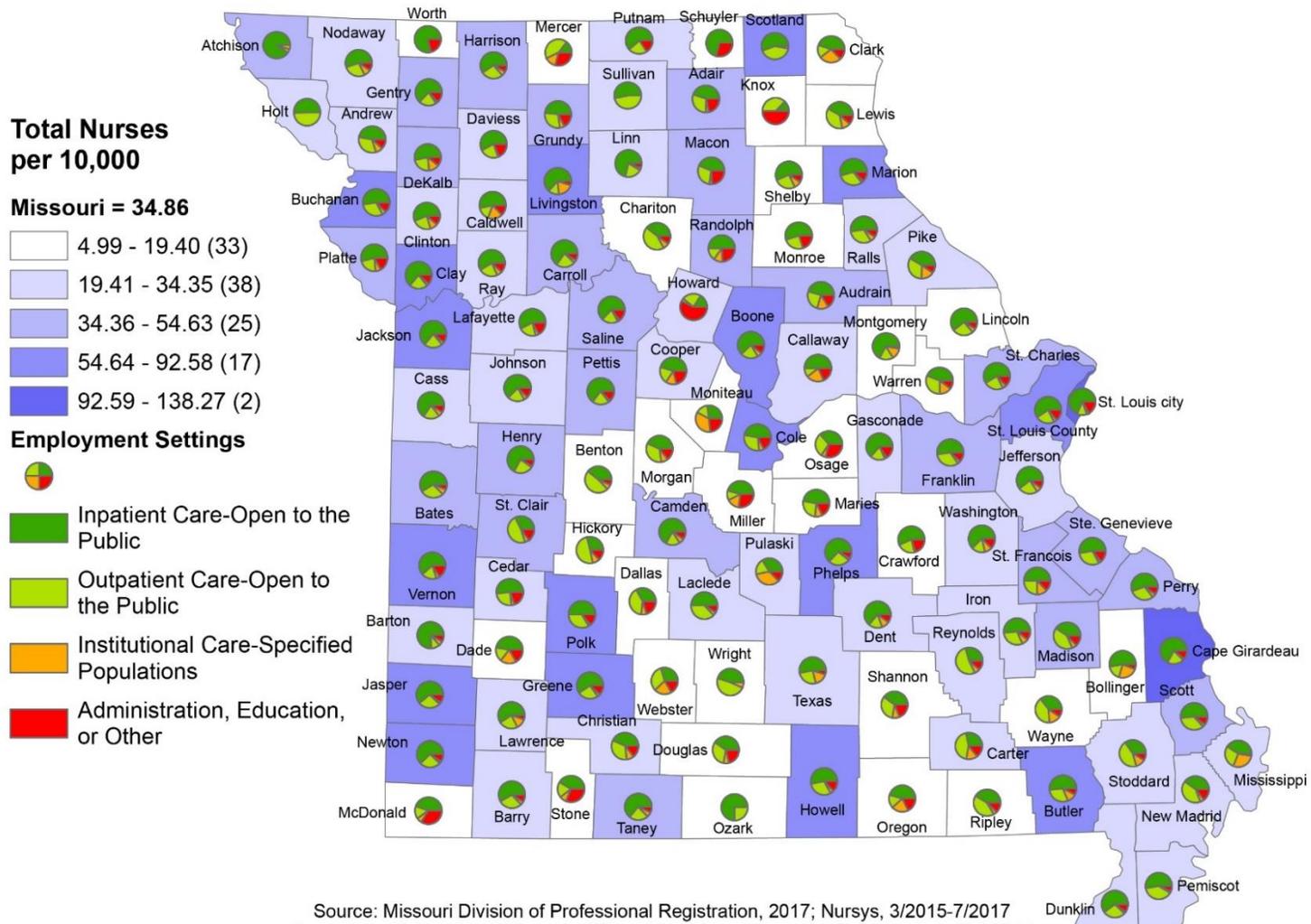
Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017

Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)

Generated on: 18 January 2018

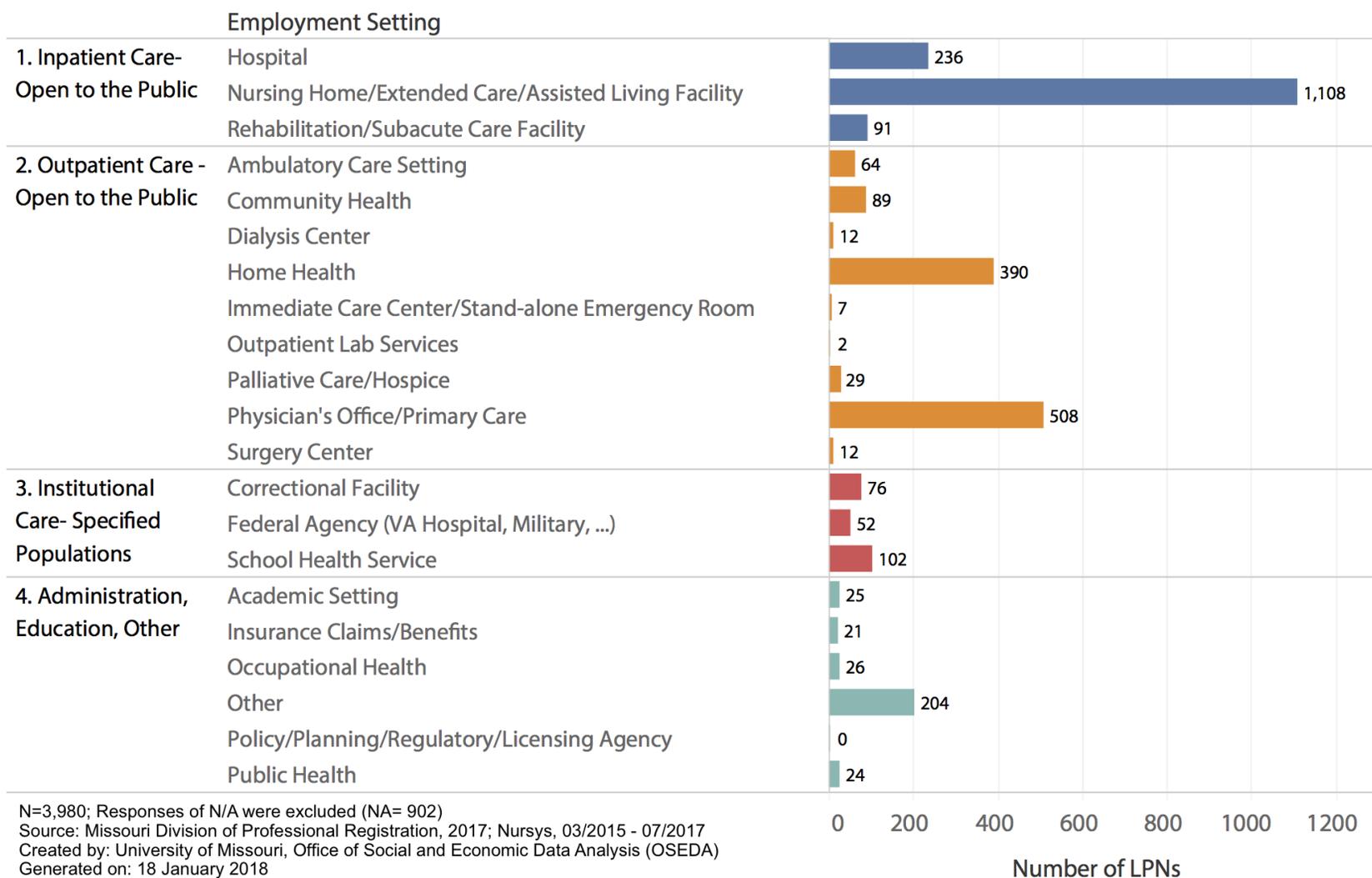
- RNs comprise the largest group of nurses in all employment settings, whether they be inpatient, outpatient, institutional or administration.
- LPNs are relatively more common in nursing homes, extended care and assisted living facilities, where they comprise 41.7% of nurses.
- APRNs are more common in Physician's Offices or Primary Care, where they are 35.9% of nurses.

Employment Setting for All Actively Employed Nurses by County of Employment



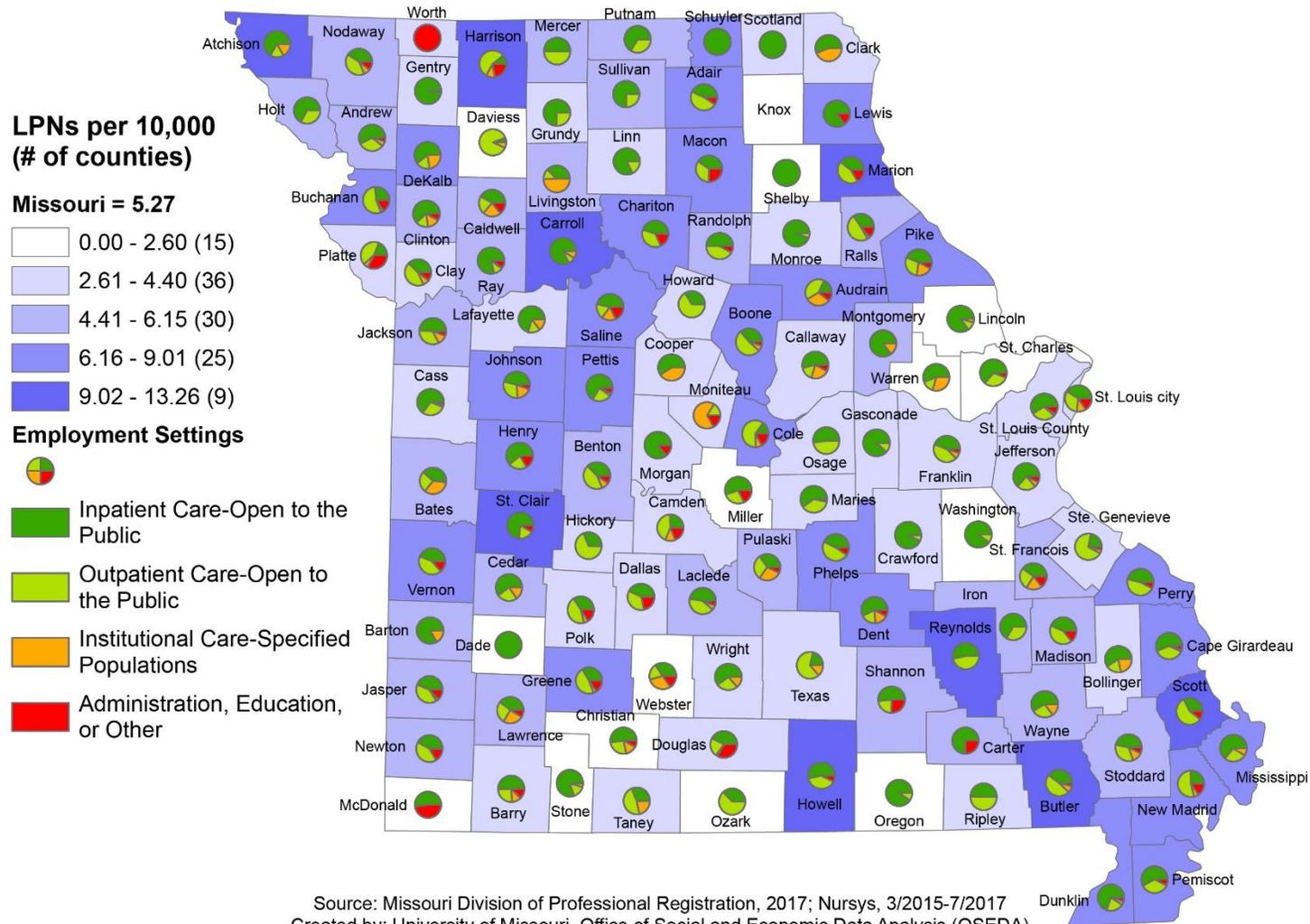
Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSEDA)
 Generated on: 5 January 2018

Number of LPNs in Each Employment Setting (Merged), 2017

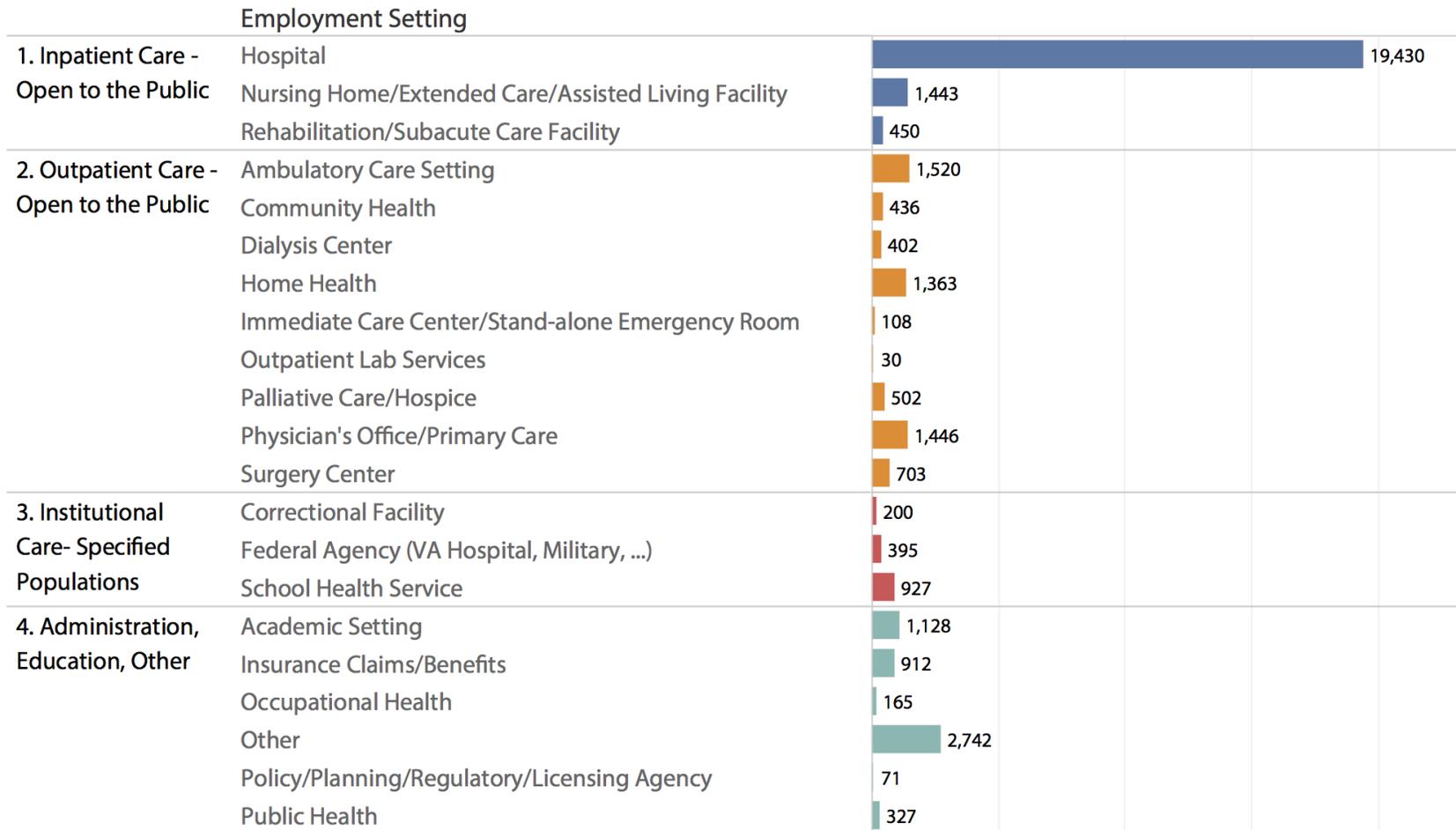


- LPNs are most often working in nursing homes, extended care or assisted living facilities, where 27.8% or 1,108 LPNs are employed, followed by physicians offices or primary care clinics (12.8% or 508) and home health (9.8% or 390).

Employment Setting for All Actively Employed Licensed Practical Nurses by County of Employment



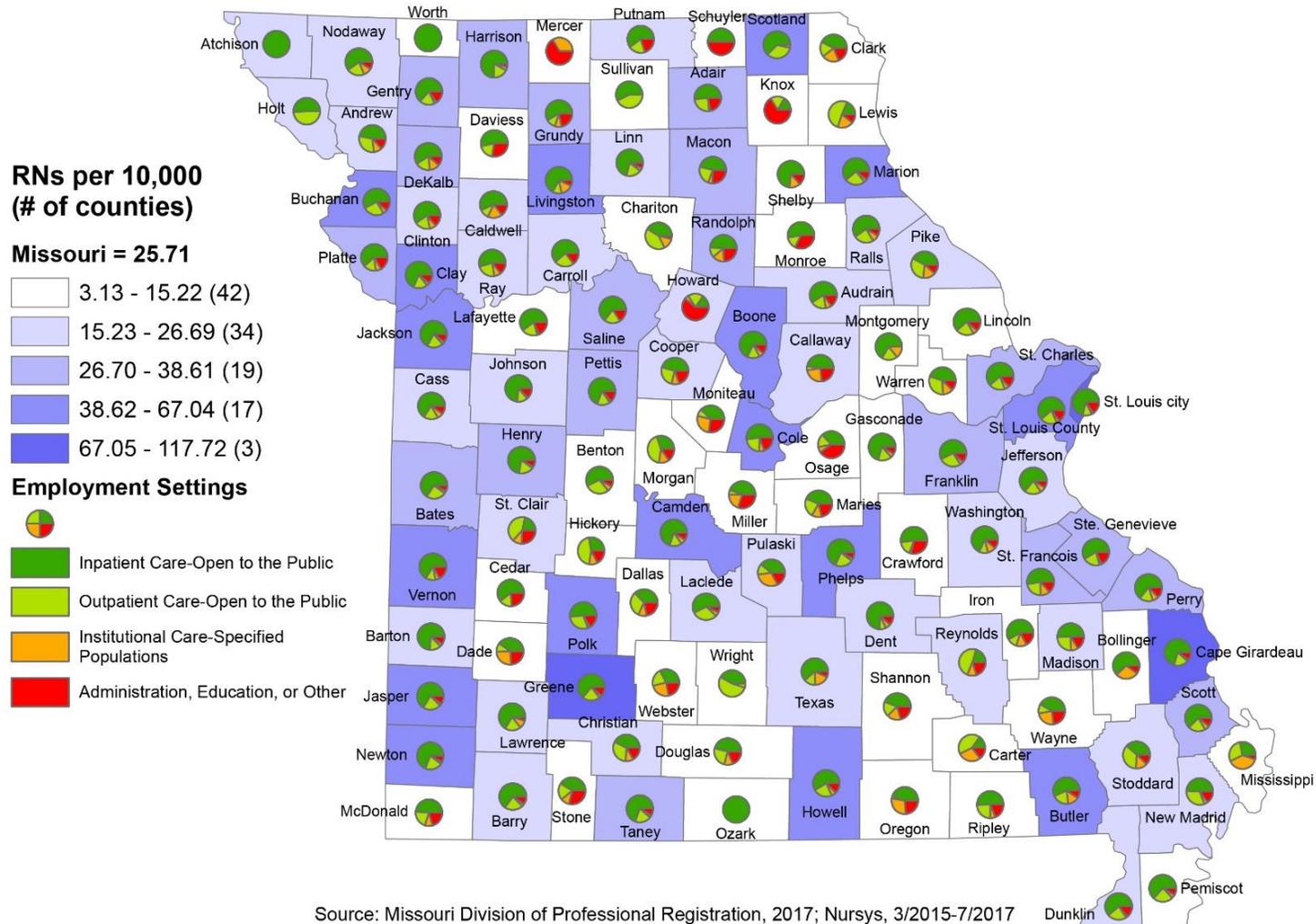
Number of RNs in Each Employment Setting (Merged), 2017



N= 41,508; responses of N/A were excluded (NA= 6,808)
 Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 18 January 2018

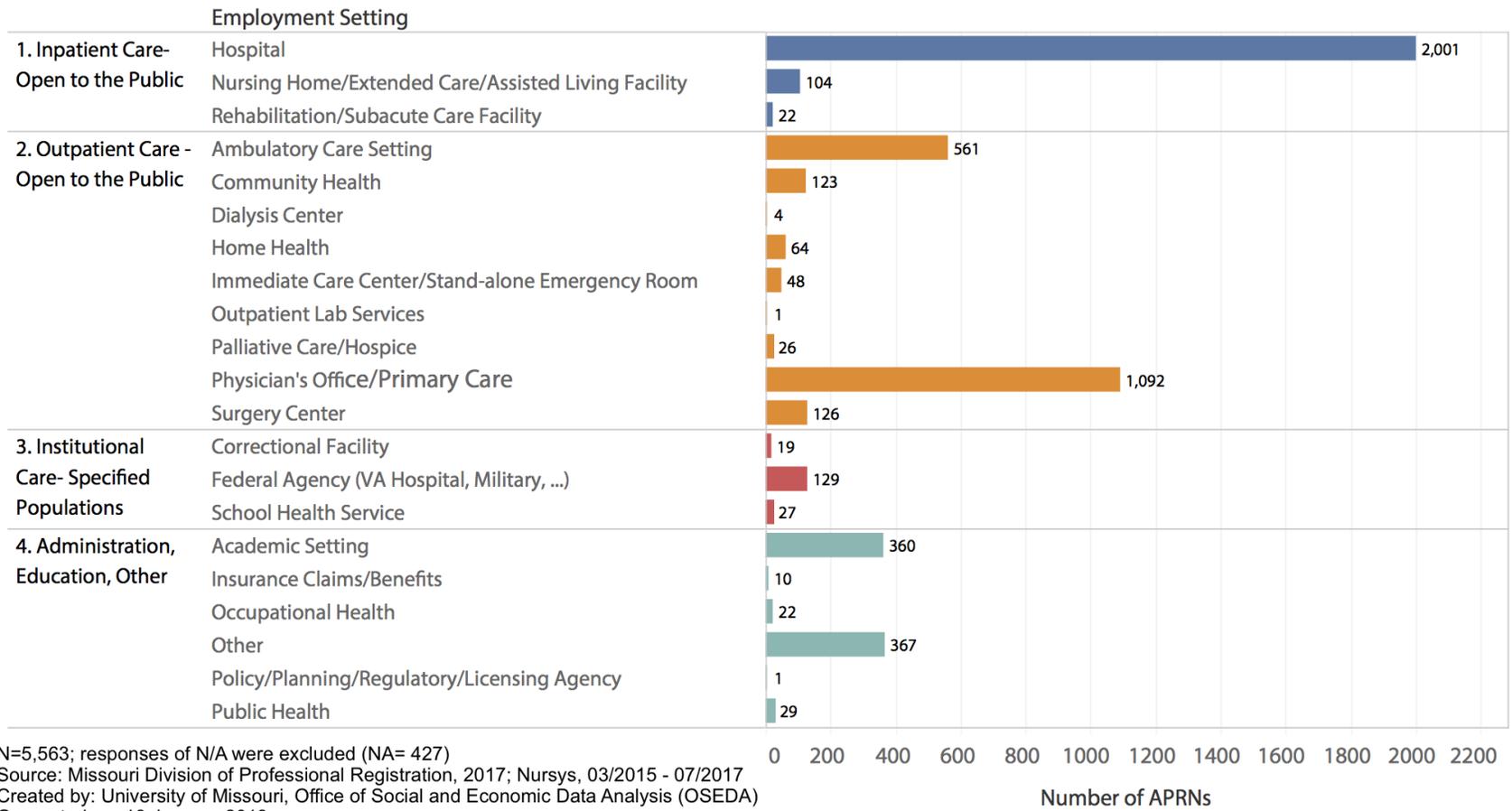
- Nearly half of RNs (46.8% or 19,430) work in hospitals.

Employment Setting for All Actively Employed Registered Nurses by County of Employment



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 30 January 2018

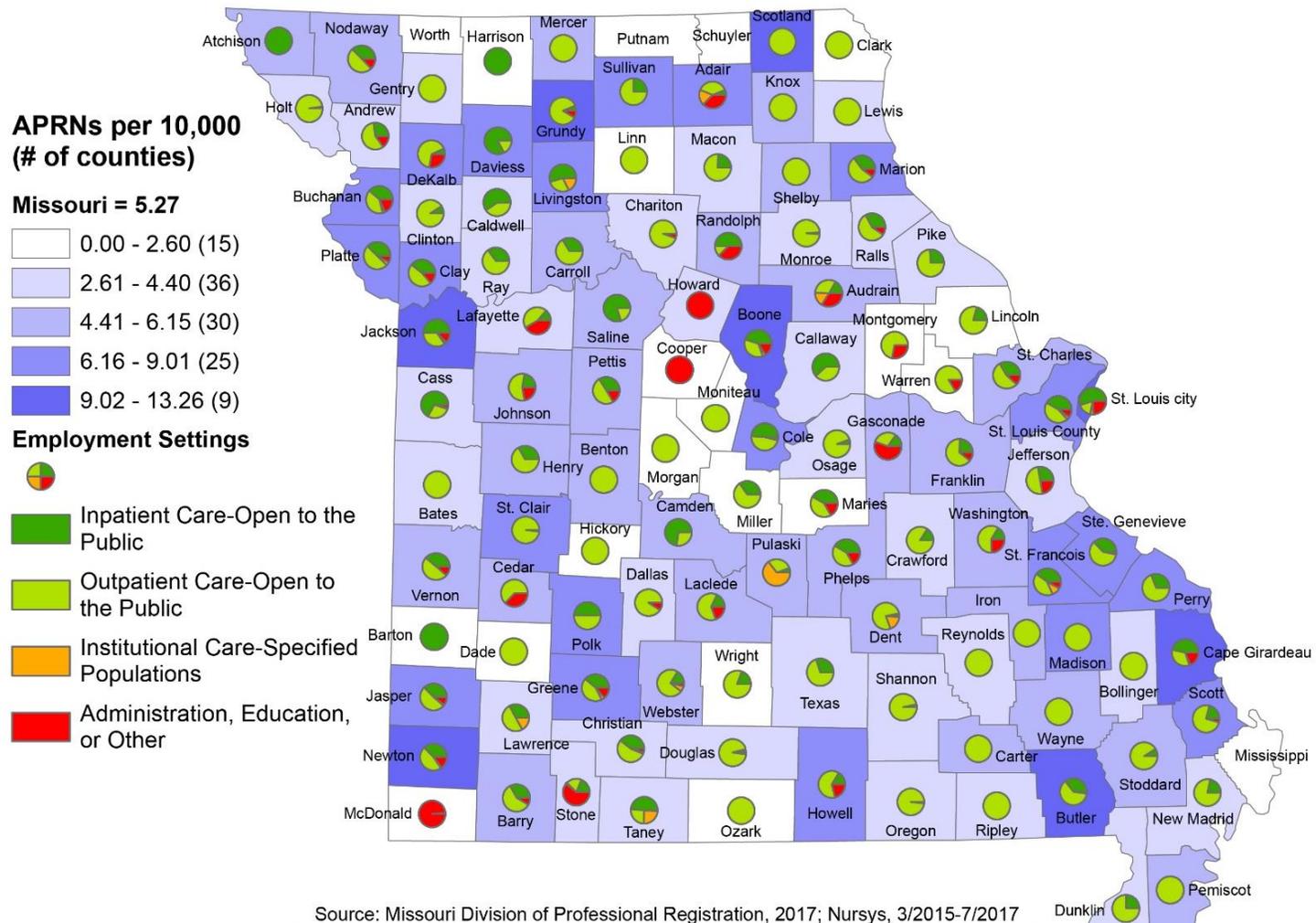
Number of APRNs in Each Employment Setting (Merged), 2017



N=5,563; responses of N/A were excluded (NA= 427)
 Source: Missouri Division of Professional Registration, 2017; Nursys, 03/2015 - 07/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 18 January 2018

- APRNs are most often working in hospitals (36.0% or 2,001), followed by physician’s offices or primary care facilities (19.6% or 1,092).

Employment Setting for All Actively Employed Advanced Practice Registered Nurses by County of Employment



Source: Missouri Division of Professional Registration, 2017; Nursys, 3/2015-7/2017
 Created by: University of Missouri, Office of Social and Economic Data Analysis (OSED)A
 Generated on: 30 January 2018

Summary of Methods

This report is the result of extensive collaboration between the Missouri Division of Professional Registration Board of Nursing and the University of Missouri Office of Social and Economic Data Analysis (OSED), School of Medicine Office of Rural Health and the Center for Health Policy (CHP).

The data in the report are from two sources: Missouri Division of Professional Registration Board of Nursing Registry and Nursys®. The Professional Registry includes all nurses licensed in Missouri in 2017 (n=125,946). The Nursys® database is a repository of license and disciplinary data maintained by the not-for-profit National Council of State Boards of Nursing (NCSBN). The Missouri State Board of Nursing is a member of NCSBN. Nursys®.com and the Nursys® e-Notify service are maintained by NCSBN with the participation of boards of nursing in order to support the mission and work of individual boards of nursing. Pursuant to the Nursys® e-Notify terms of use, the National Council of State Boards of Nursing (NCSBN) does not sell information. Workforce related information provided in the registration is used for the purposes of nursing workforce research.

Nursys® collects a wide variety of information from nurses enrolled in the system, beyond what is collected by the Professional Registry. These data elements include employment location, setting, and status, as well as education. The Nursys® data in this report include nurses licensed in Missouri who enrolled in the Nursys® system between March 2015 and July 2017 (n=53,889).

When available, Nursys® data are matched with Professional Registry data throughout this document (n=51,051).

Next Steps

The Missouri Division of Professional Registration Board of Nursing and the University of Missouri will continue to collaborate on providing information on the nursing workforce in Missouri. As more Missouri nurses enroll in Nursys®, more robust data will be included in future editions of the report. This will include more refined data on race and ethnicity, as well as further geographical analysis on Missouri's nursing workforce.

The Missouri Nursing Workforce Report is part of a larger collaboration on the healthcare workforce in Missouri. Next steps include doing similar analysis for other health care providers, such as physicians, physical therapists and pharmacists. Data, charts and graphics included in this report will be available through a Missouri healthcare workforce web application, which will house data on a wide variety of healthcare professions.