2022 SCPHA

Rural and urban differences and trends in the South Carolina obstetrician-gynecologist workforce





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Key findings

Less than one quarter of SC ZIP Code Tabulation Areas (ZCTAs) had an obstetrician-gynecologist (OB/GYN) during 2006-2017. Lower OB/GYN distribution in rural ZCTAs has been an ongoing issues, and will likely worsen as the providers age towards retirement.

1 Finding 1

In 2017, The numbers of **active** OB/GYNs located in **rural** ZCTAs (n=68) were **23** and in **urban** ZCTYAs (n=362) **629**.

Finding 3

The density of OB/GYNs per 10,000 women aged 15-49 decreased from **9.5 to 8.2** in **rural** ZCTAs, but increased from **12.4 to 13.9** in **urban** ZCTAs;

5 Finding 5

The proportion of **female** OB/GYNs were increased, in **rural** ZCTAs from **17.4 to 34.8%**, and in **urban** ZCTAs from **39.3 to 51.5%**;

2 Finding 2

The **proportion** of ZCTAs with an OB/GYN increased over time, from **8.1 to 9.7%** in **rural**, and **23.5 to 27.1%** in **urban** ZCTAs;

4 Finding 4

The mean age of OB/GYNs increased from 50 to 55 in rural, and from 47 to 52 in urban ZCTAs;

6 Finding 6

The working hours on patient care per week decreased from **56 to 44** for **rural** OB/GYNs, and decreased from **47 to 44** for **urban** OB/GYNs, during 2011-2017.



Introduction

This study aims to

Describe the rural-urban differences and trends in the OB/GYN workforce for South Carolina (SC) at the ZCTA¹ level.

Is there a shortage of obstetrician-gynecologists? --Stonehocker, J., Muruthi, J., & Rayburn, W. F. (2017).

"Findings were based on certain assumptions that the current national supply of obgyns supply is adequate, yet there are <u>insufficient data</u> to either support or refute this...Such forecasts require taking into account the current demographics of the provider workforce, numbers and characteristics of graduates, hours worked, desire for work-life balance, and retirement"

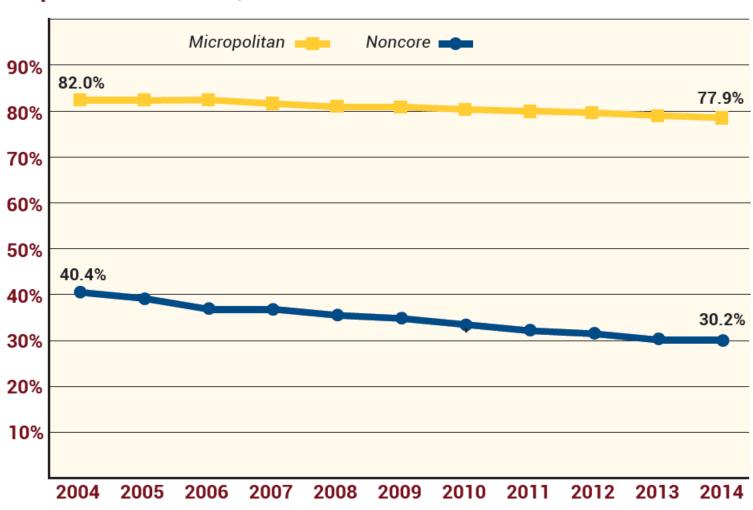


Figure 3. Percent of micropolitan and noncore counties with in-county hospital obstetric care, 2004-14

--Hung, P., Kozhimannil, K., Henning-Smith, C., & Casey, M. (2017).

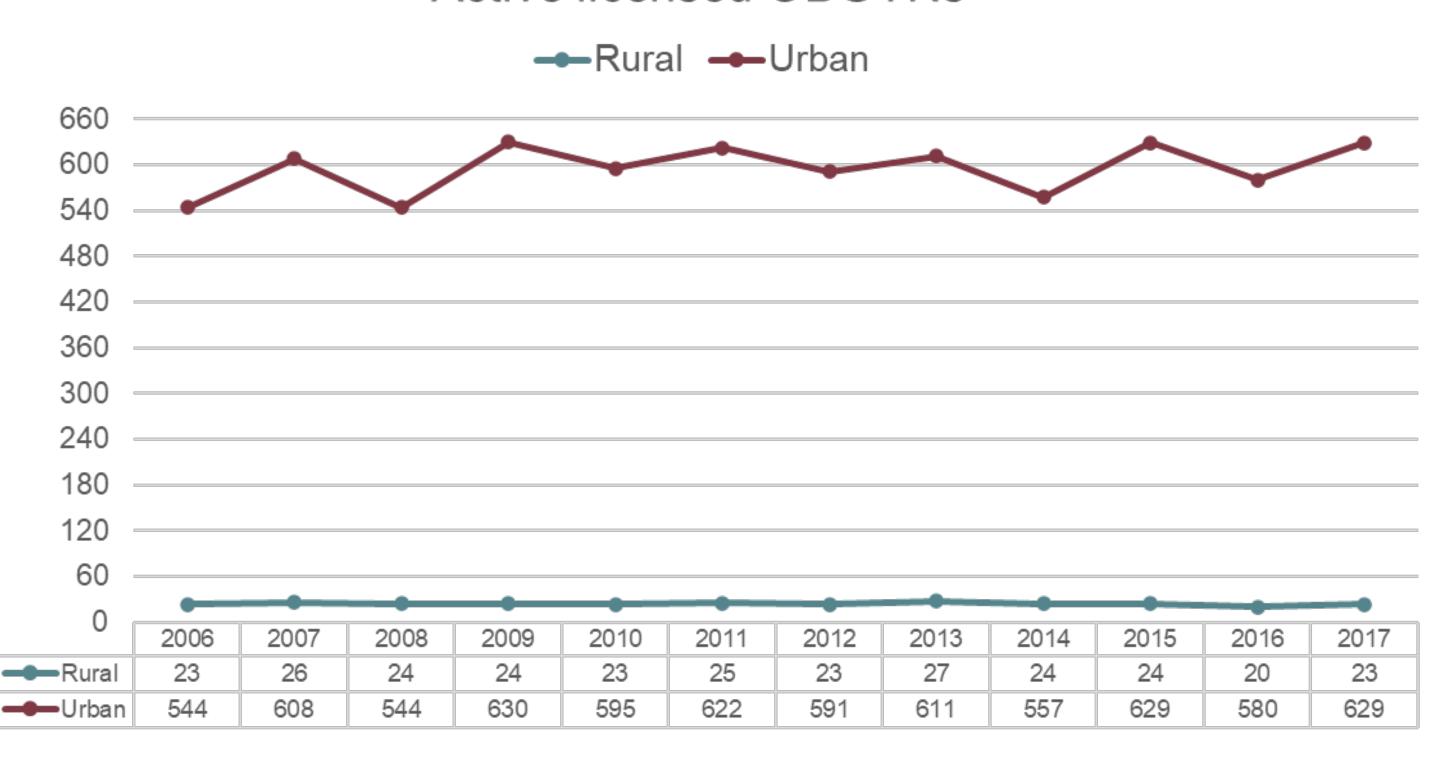
Method

Definition Study Design Analysis Data Descriptive analysis; 2010 rural-urban Categorization C from WWAMI Rural Health Research Center commuting area Bivariate analysis: • Urban: 1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1 (RUCA) codes; Rural Urban • Rural: 4.0, 4.2, 5.0, 5.2, 6.0, 6.1, 7.0, 7.2, 7.3, 7.4, 8.0, 8.2, 8.3, Fisher's Exact test, student-t test 8.4, 9.0, 9.1, 9.2, 10.0, 10.2, 10.3, 10.4, 10.5, and 10.6 2005-2017 SC Primary specialty (obstetrics/gynecology, Licensure data. maternal fetal medicine, and **OB/GYN** every two years. neonatal/perinatal medicine) at the primary practice location Rural-urban Trends and Comparison: 2005-2017 SC Active OB/GYN: valid license covers a certain year. Active licensed OB/GYNs. Licensure data. New practice: A physician with a newly issued Newly licensed & Quitted OB/GYNs, every two years. Valid license number, license in a certain year. Net changes in OB/GYNs, Quitted practice: A previously licensed physician OB/GYNs' mean working hours, demographics stopped renewing the license.. OB/GYNs' mean working hours on patient care, Practice location: office zip codes, if missing then (supply) ZCTAs with locally licensed OB/GYNs; replaced by primary zip codes OB/GYNs' age, OB/GYNs' gender, & OB/GYNs' race. Rural-urban Trends and Comparison: 2011-2017 SC Population: Females aged 15-49 OB/GYN specialists among 10,000 Licensure data. females aged 15-49. every two years. **Density** 2011-2017 American (supply-need) Community Survey.



Active licensed OBGYNs by rurality in South Carolina, 2006-2017

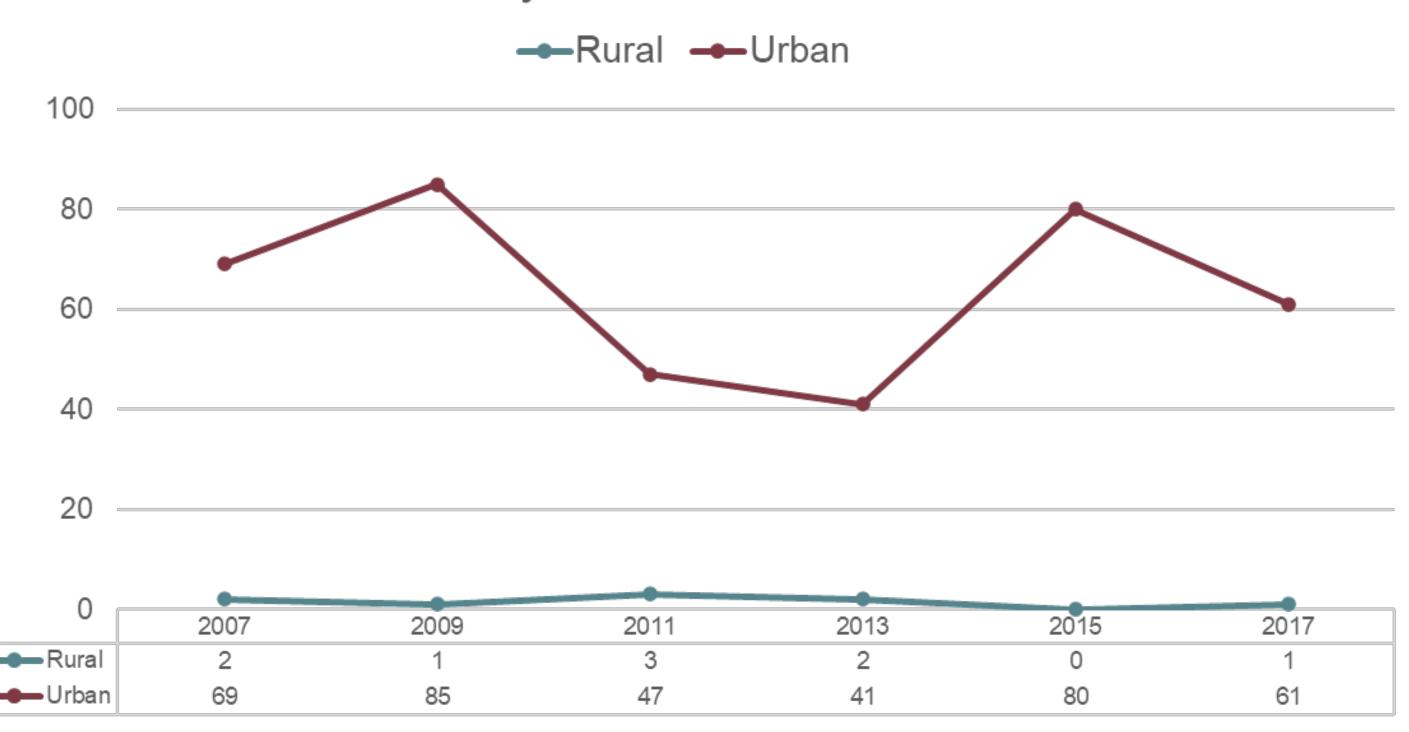
Active licensed OBGYNs





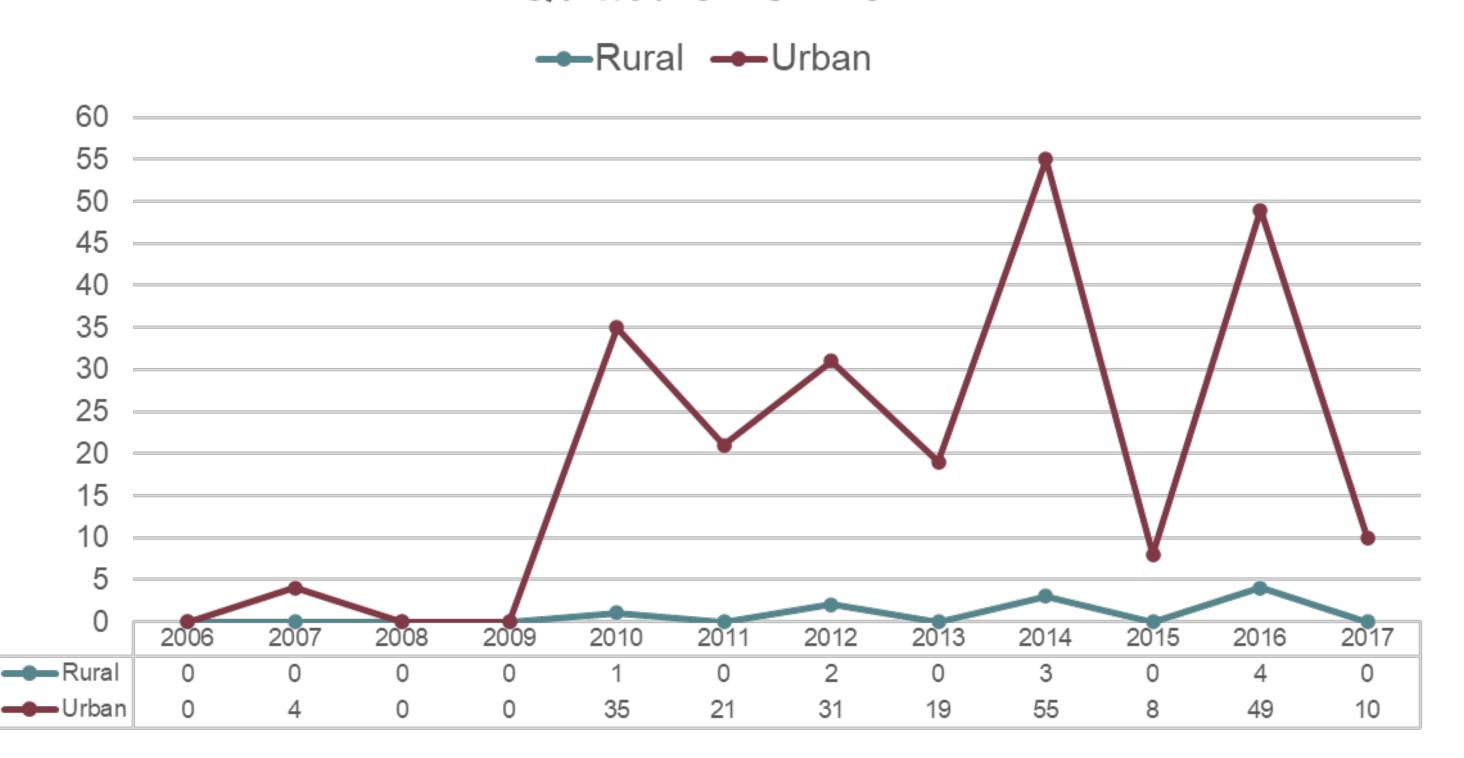
Newly licensed OBGYNs by rurality in South Carolina, 2007-2017

Newly licensed OBGYNs



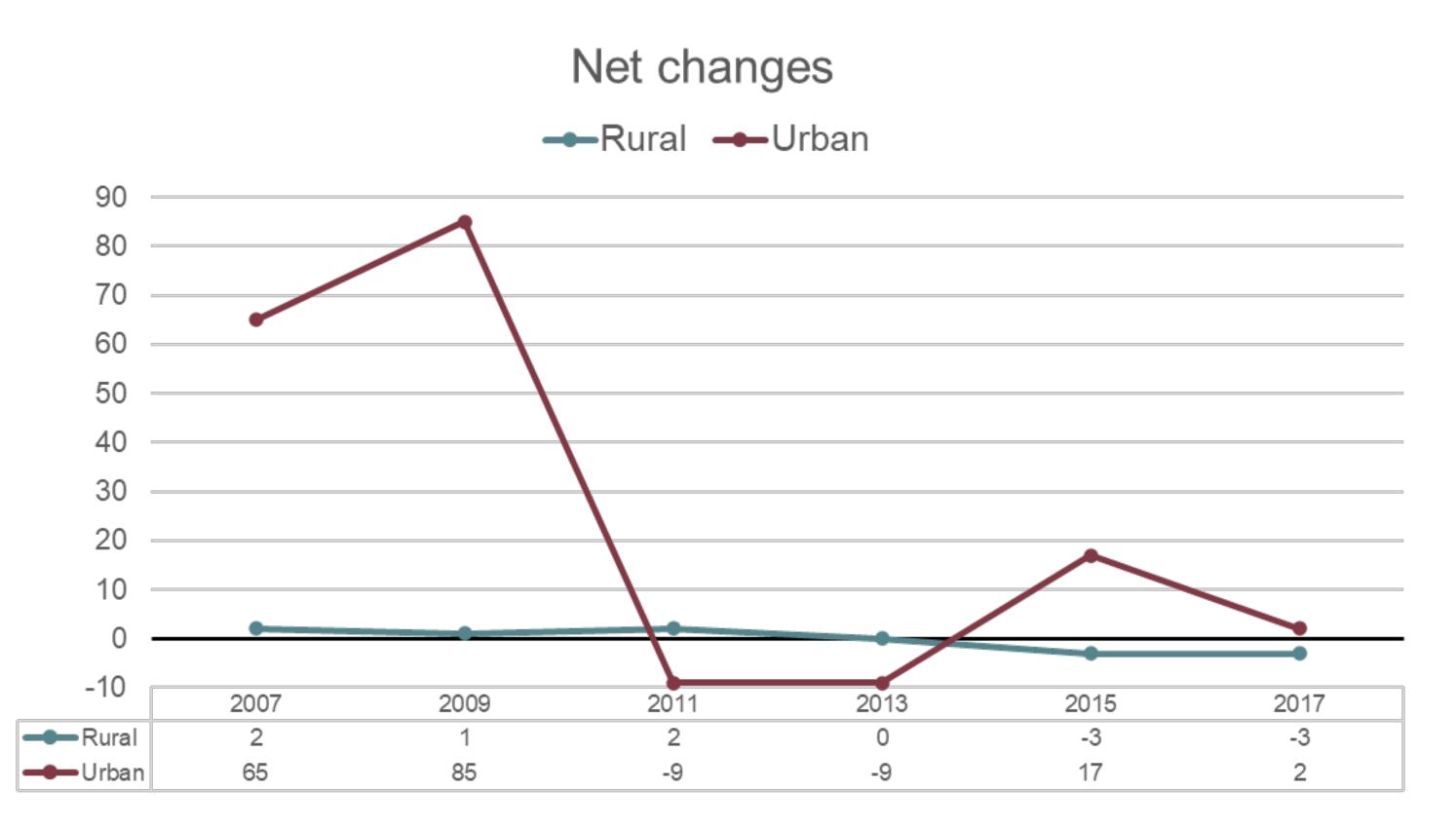
Quitted OBGYNs by rurality in South Carolina, 2006-2017

Quitted OBGYNs



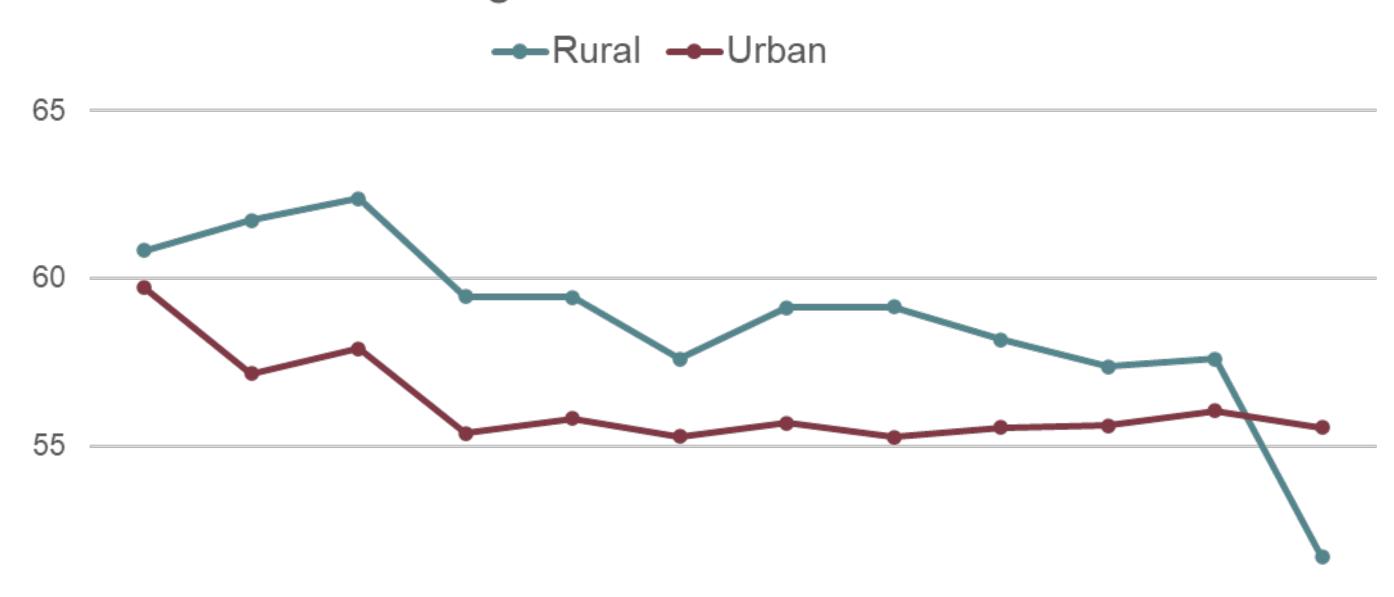


Net changes in numbers of licensed OBGYNs by rurality in South Carolina, 2006-2017



Mean working hours of licensed OBGYNs by rurality in South Carolina, 2006-2017

Mean working hours of licensed OBGYNs

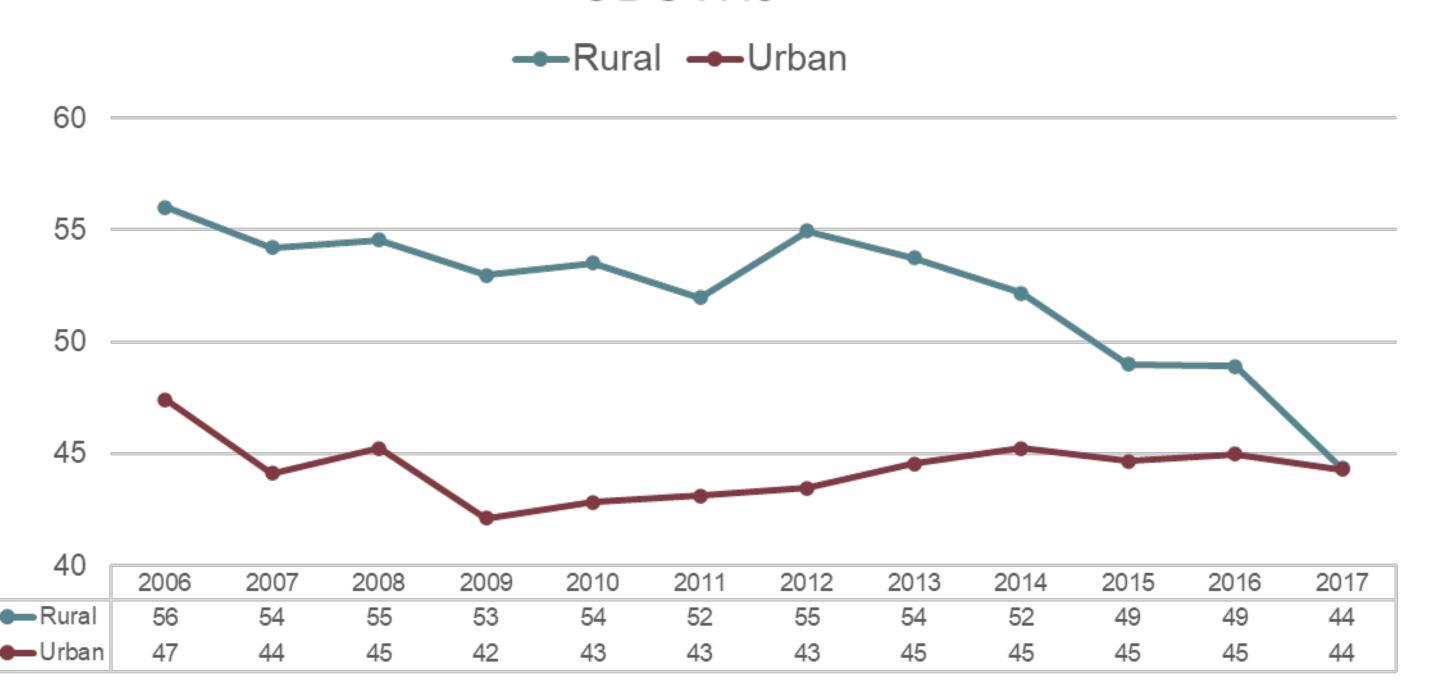


Note: Differences were not significant at the 95% significance level.

50												
50	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Rural	61	62	62	59	59	58	59	59	58	57	58	52
─ Urban	60	57	58	55	56	55	56	55	56	56	56	56

Mean working hours on patient care among licensed OBGYNs by rurality in South Carolina, 2006-2017

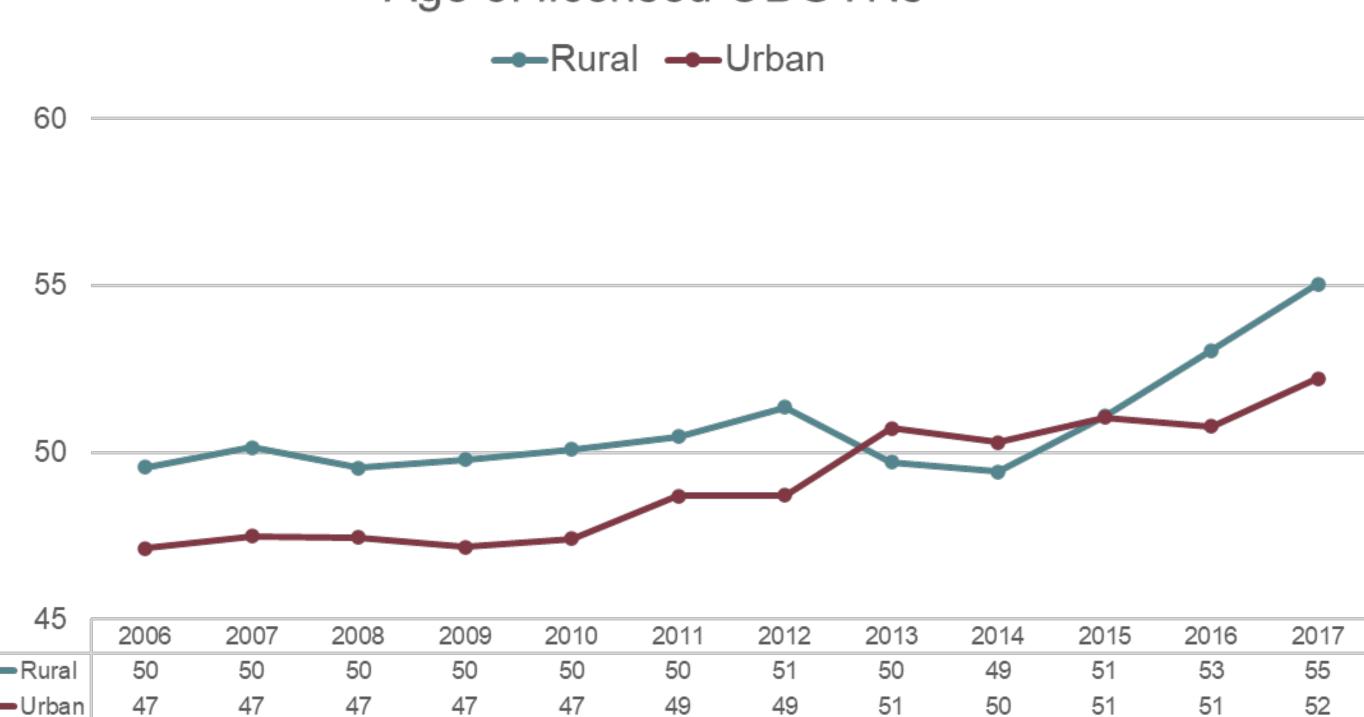
Mean working hours on patient care of licensed OBGYNs



Note:
Differences were significant at the 95% significance level before 2013.

Age of licensed OBGYNs by rurality in South Carolina, 2006-2017

Age of licensed OBGYNs



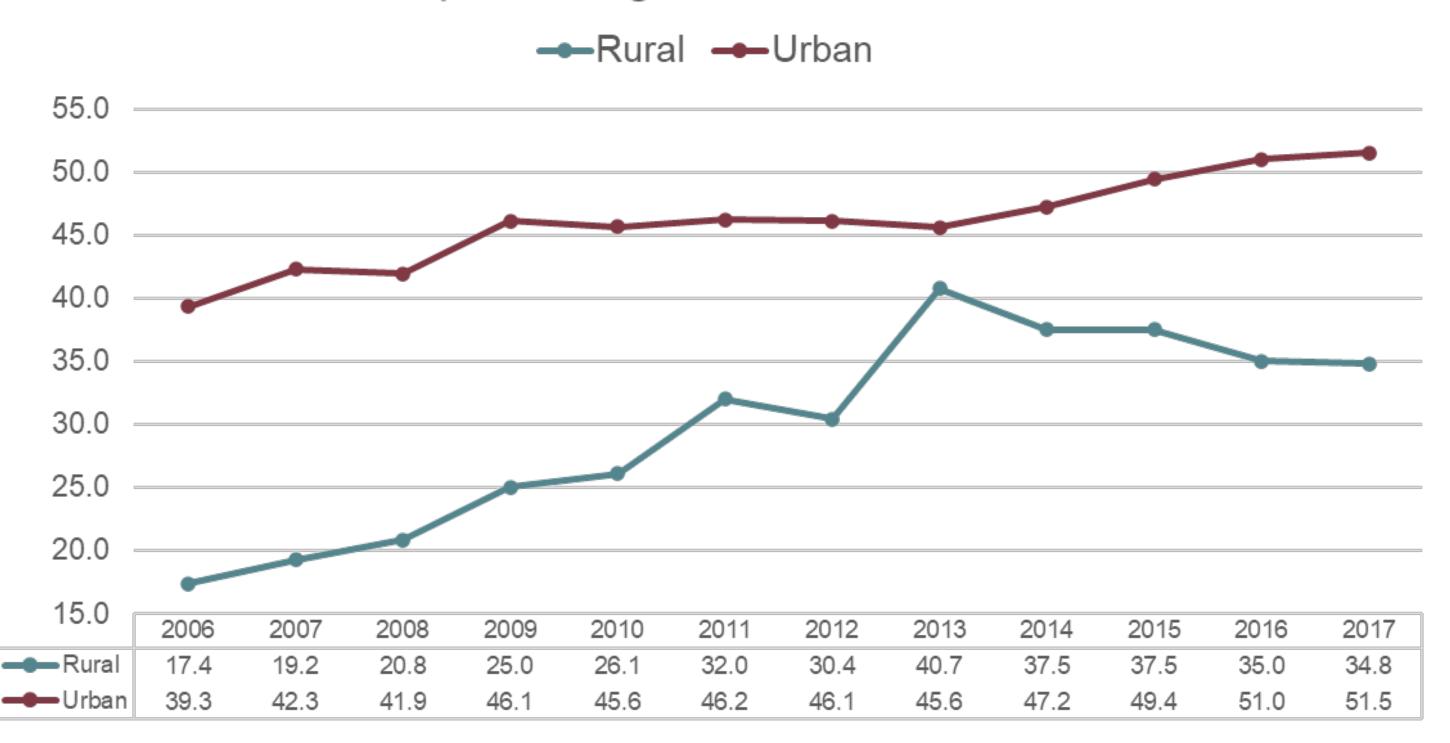
Differences were not significant at the 95% significance level.

	45	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
-	Rural		50										
-	U rban	47	47	47	47	47	49	49	51	50	51	51	52

Note:

Female percentage of licensed OBGYNs by rurality in South Carolina, 2006-2017

Female percentage of licensed OBGYNs



2007.

Note:

Differences were

only significant

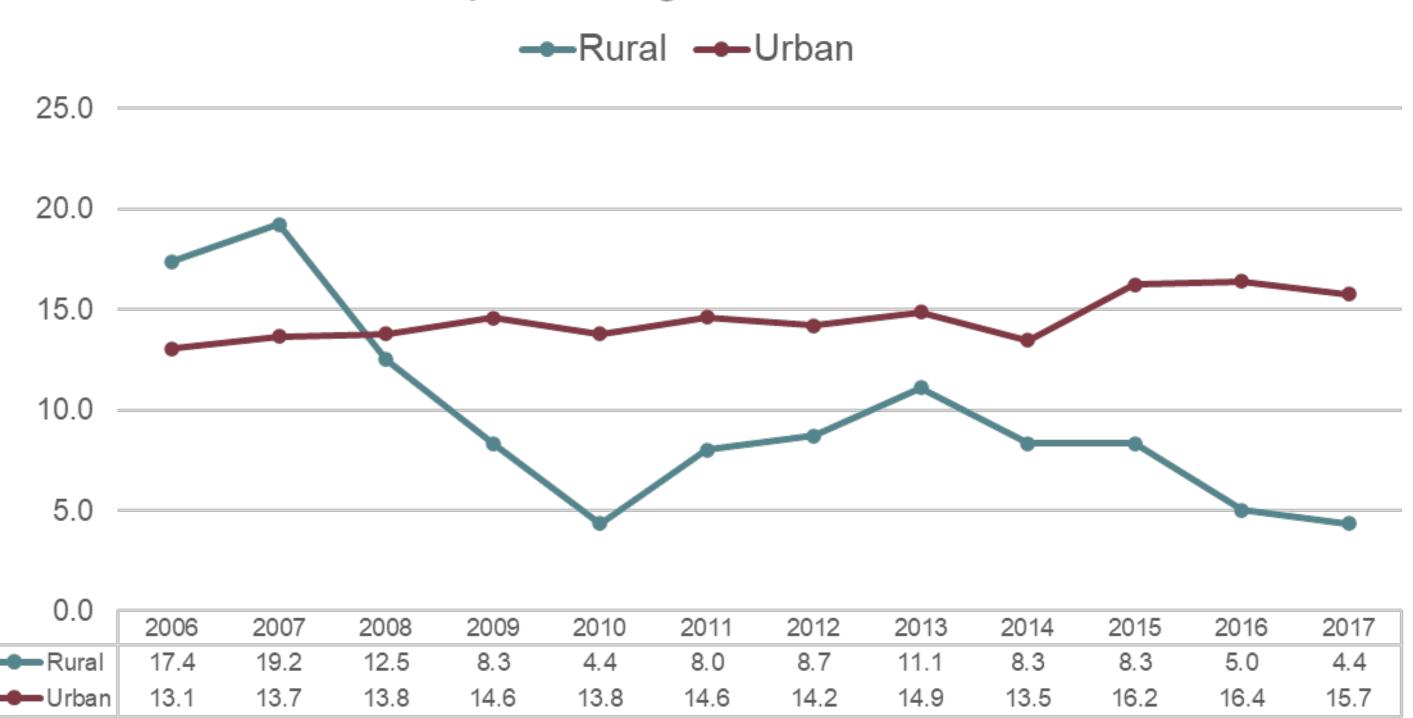
level in 2006 &

at the 95%

significance

Non-White percentage of licensed OBGYNs by rurality in South Carolina, 2006-2017

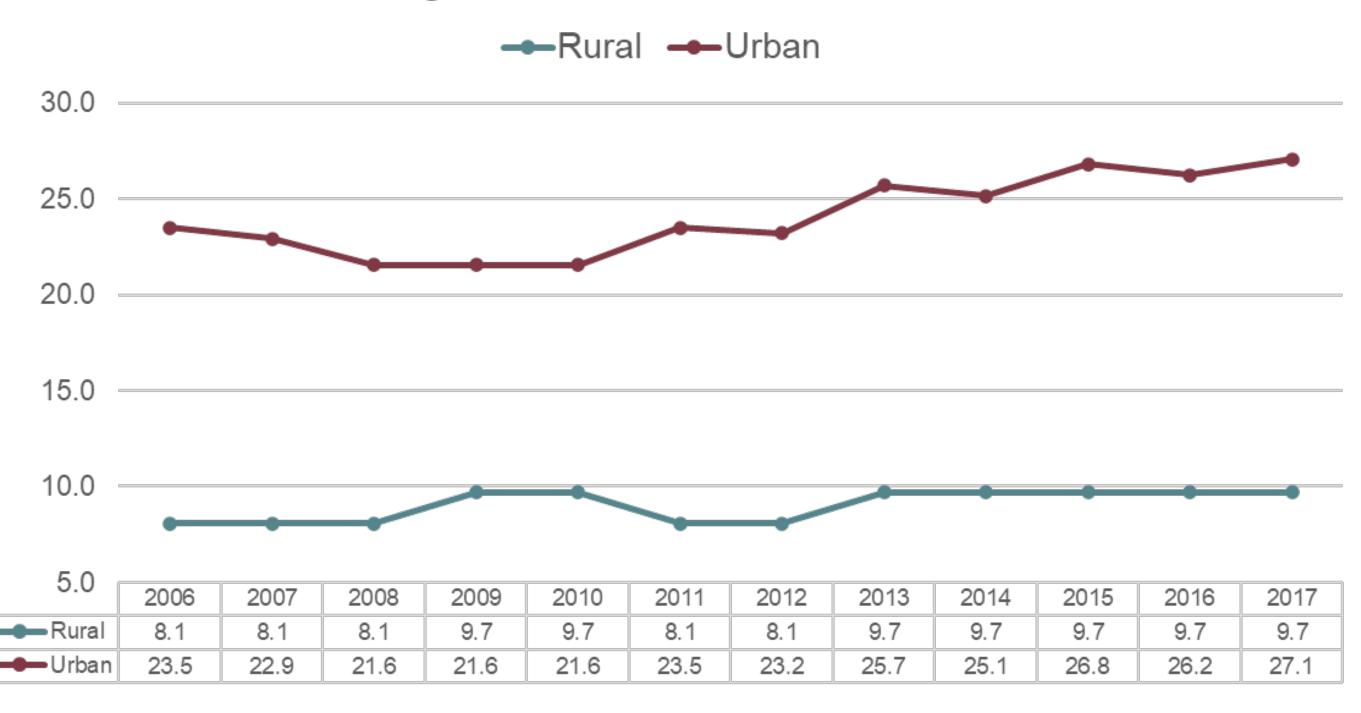
Non-Whites percentage of licensed OBGYNs



Note: Differences were not significant at the 95% significance level.

Percentage of ZCTAs with local licensed OBGYNs by rurality in South Carolina, 2006-2017

Percentage of ZCTAs with local OBGYNs



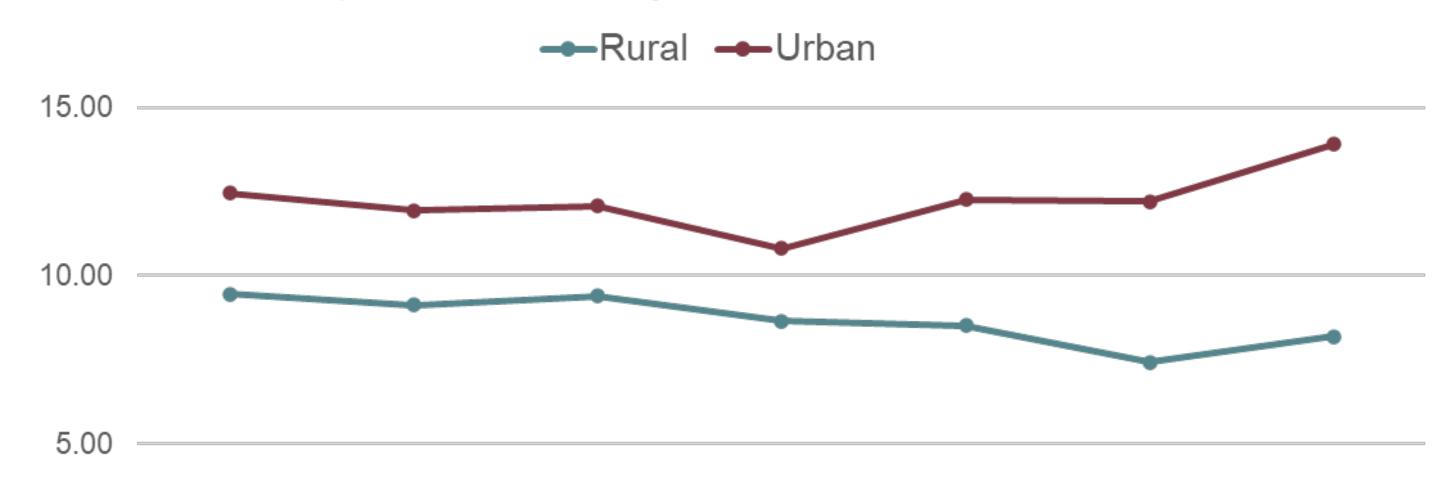
Note: Differences were all significant at the 95% significance level.

May interact with perceived travel burden which could delay prenatal care initiation and may be associated with inadequate prenatal care use.



Population density of licensed OBGYNs per 10,000 females aged 15-49 by rurality in South Carolina, 2011-2017

Population density of licensed OBGYNs



0.00	2011	2012	2013	2014	2015	2016	2017
	2011	2012	2013	2014	2015	2010	2017
Rural	9.45	9.13	9.39	8.65	8.51	7.42	8.18
─ Urban	12.44	11.94	12.06	10.81	12.26	12.21	13.91



Takeaways

South Carolina is losing OBGYN workforce, especially in rural areas.

- Less than one quarter of SC ZCTAs have a local OB/GYN.
- In ZCTAs where there is at least one local OBGYN, OB/GYNs density per 10,000 females aged 15-49 was 8.18 in rural and 13.91 in urban ZCTAs in 2017.
- The number of rural OB/GYNs did not change, that of urban OB/GYNs increased slightly, during 2016-2017 SC.
- The number of newly licensed OB/GYNs was declining, and the number of quitted OB/GYNs was increasing in rural
- The mean total working hours and mean working hours on patient care were both declined in rural OB/GYNs.
- OB/GYNs in both rural and urban SC were aging. Female & non-White proportion of rural OB/GYNs started to decrease since 2013.

Thank You

South Carolina Center for Rural and Primary Healthcare



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