



Asthma Surveillance Summary

Asthma Hospitalizations – Mississippi, 2008

Contents

Introduction.....	1
Methods.....	1
Results.....	1
Limitations.....	2
Figure 1.....	2
<i>Hospitalizations by year</i>	
Figure 2.....	2
<i>Hospitalizations by race</i>	
Figure 3.....	3
<i>Hospitalizations by gender</i>	
Figure 4.....	3
<i>Hospitalizations by age</i>	
Figure 5.....	3
<i>Hospitalizations by age and gender</i>	
Map 1.....	4
<i>Hospitalizations by public health district</i>	
Map 2.....	5
<i>Hospitalizations by county of residence</i>	
Table 1.....	6-8
<i>Hospitalizations by county, race, gender, and age</i>	

Introduction: Asthma is a chronic inflammatory respiratory disorder of the lungs characterized by episodes of reversible airway obstruction and responsiveness. Clinical manifestations of asthma include wheezing, coughing, and shortness of breath.

In 2008, the prevalence of self-reported asthma was 10.2% in Mississippi children ages 0 to 17 years and 7% in Mississippi adults with current asthma. Male children (13.2%) had a higher prevalence than female children (7.2%), but male adults (5.5%) had a lower prevalence than female adults (8.5%). A difference in prevalence between whites and blacks existed for children (7.1% vs. 13.5%), but not for adults (6.3% vs. 8.3%). Asthma was more prevalent among persons who did not graduate from high school than among persons who did graduate from high school (8.5% vs. 4.8%) and among persons with household income of less than \$25,000 (11.1%) than among persons with household income between \$25,000 and \$50,000 (6.7%) or income greater than \$50,000 (3.4%).¹

Severe or poorly controlled asthma can lead to acute asthma exacerbations resulting in hospitalizations. Hospitalizations for asthma place considerable burden on the healthcare system but are largely preventable. With appropriate pharmacologic, behavioral, and environmental interventions, asthma is a controllable disease that should neither limit daily activities nor lead to life-threatening exacerbations. Despite the controllable nature of the disease, there were approximately 4000 hospital discharges with asthma listed as the primary diagnosis in Mississippi in 2008. In addition, asthma hospitalization rates in Mississippi (calculated per 10,000 population) vary by race, gender, age, and geographic region.

Methods: Asthma hospitalization discharge data was obtained from the Mississippi Asthma Surveillance System (MASS) for 2008. The MASS solicits asthma hospitalizations data from acute-care hospitals located in the State of Mississippi with asthma listed as the first (or primary) discharge diagnosis (ICD-9 493.xx). During this period, 20 hospitals (located in 7 counties) in Mississippi did not report asthma data to the Mississippi State Department of Health (MSDH). State population data were adjusted to account for non-reporting hospitals and counties without acute care hospitals using the proportion of hospital beds accounted for in the reported data. In 2008, hospitals reporting asthma hospitalizations data to the MSDH accounted for 82.1% of total hospital beds statewide. State population was therefore adjusted by 82.1% excluding counties without acute care hospital(s) in order to estimate statewide asthma hospitalization rates. Statewide estimates of asthma hospitalization rates were obtained by dividing the number of hospitalizations with asthma listed as the primary discharge diagnosis (ICD-9 493.xx) by the adjusted statewide population. All rates were calculated per 10,000 population. Asthma hospitalization rates by race, gender, age, public health district, and county of residence were calculated using 2008 United States Census population estimate data. Race-specific rates were calculated for blacks and whites due to the small number of asthma hospitalization discharges among persons of other races/ethnicities in Mississippi. Age-specific rates were calculated as crude rates and all other rates were age-adjusted to the United States 2000 standard population. Counties with non-reporting hospitals were excluded from county level analysis. Statewide rates are presented for individual years (2006, 2007, and 2008). District and county rates are presented for the year 2008.

Results: Statewide asthma hospitalization rates for 2006-2008 remained unchanged (16 per 10,000). Black Mississippians (22 per 10,000) had a higher asthma hospitalization rate than white Mississippians (10 per 10,000). Females (20 per 10,000) had a higher asthma hospitalization rate than males (12 per 10,000). Asthma hospitalization rates were highest among 0 to 4 year olds (45 per 10,000) and persons ages 65 and older (25 per 10,000) and lowest among 12 to 17 year olds (5 per 10,000). Asthma hospitalization rates ranged from 1 per 10,000 in Winston County to 98 per 10,000 in Noxubee County. Asthma hospitalization rates were higher among blacks compared to whites in 56 of the 68 Mississippi counties with available data.²

¹ Comparisons of asthma prevalence are based on statistical significance

² Comparisons of asthma hospitalization rates are not based on statistical significance

Limitations: Statewide asthma hospitalization rates are based on estimated population data due to non-reporting hospitals and counties without acute care hospital(s). Rates were calculated for individual counties with non-reporting hospitals therefore underestimating the rates, and county rates may be underestimated or overestimated due to travel across county lines for asthma care. The population of the 7 counties with non-reporting hospitals is comprised of approximately 3% blacks and 8% whites. In addition, the MASS captures only asthma hospital discharges from Mississippi hospitals. Mississippi residents discharged from a hospital in a bordering state with a primary discharge diagnosis of asthma are not captured by the MASS.

FIGURE 1. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population – Mississippi, 2006-2008

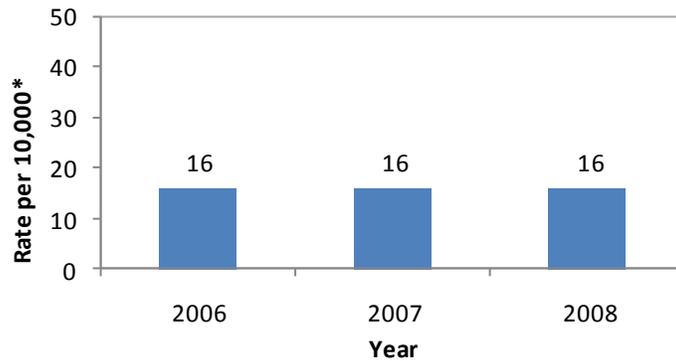
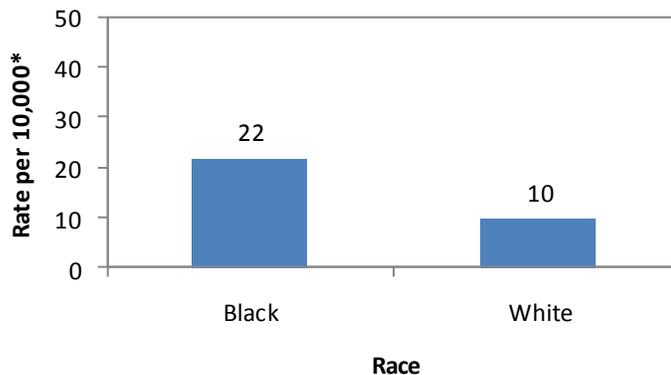


FIGURE 2. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by race – Mississippi, 2008



* Rates are age-adjusted to the US 2000 standard population

FIGURE 3. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by sex – Mississippi, 2008

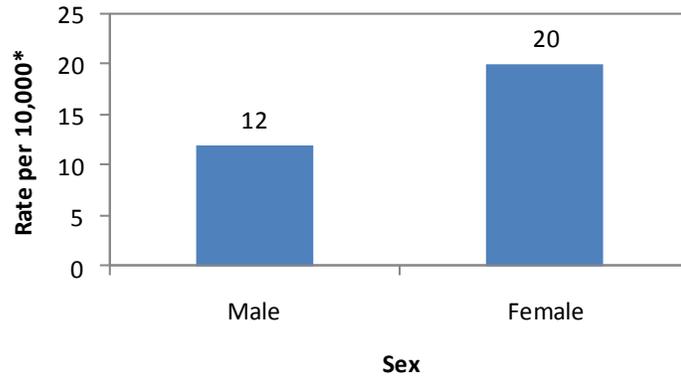


FIGURE 4. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by age – Mississippi, 2008

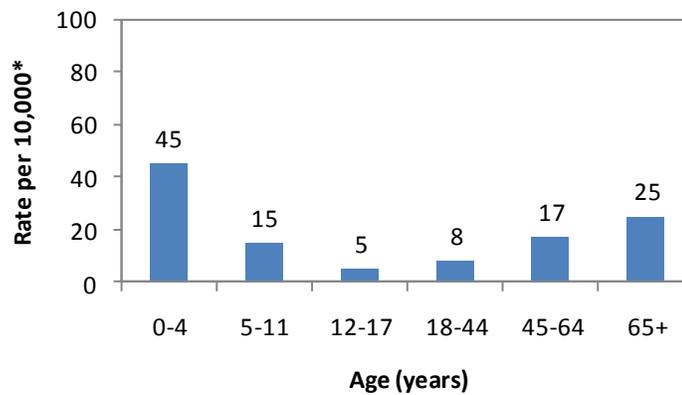
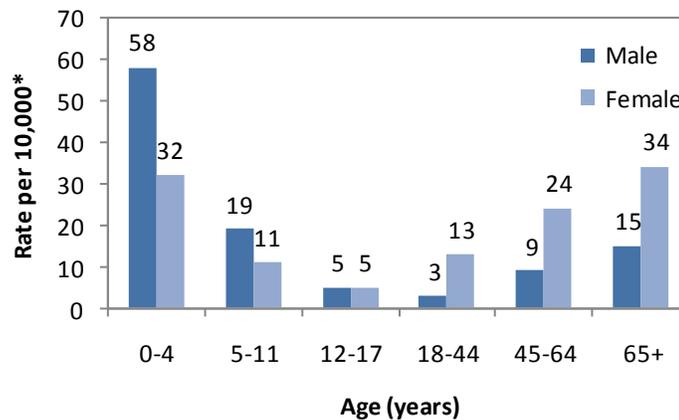
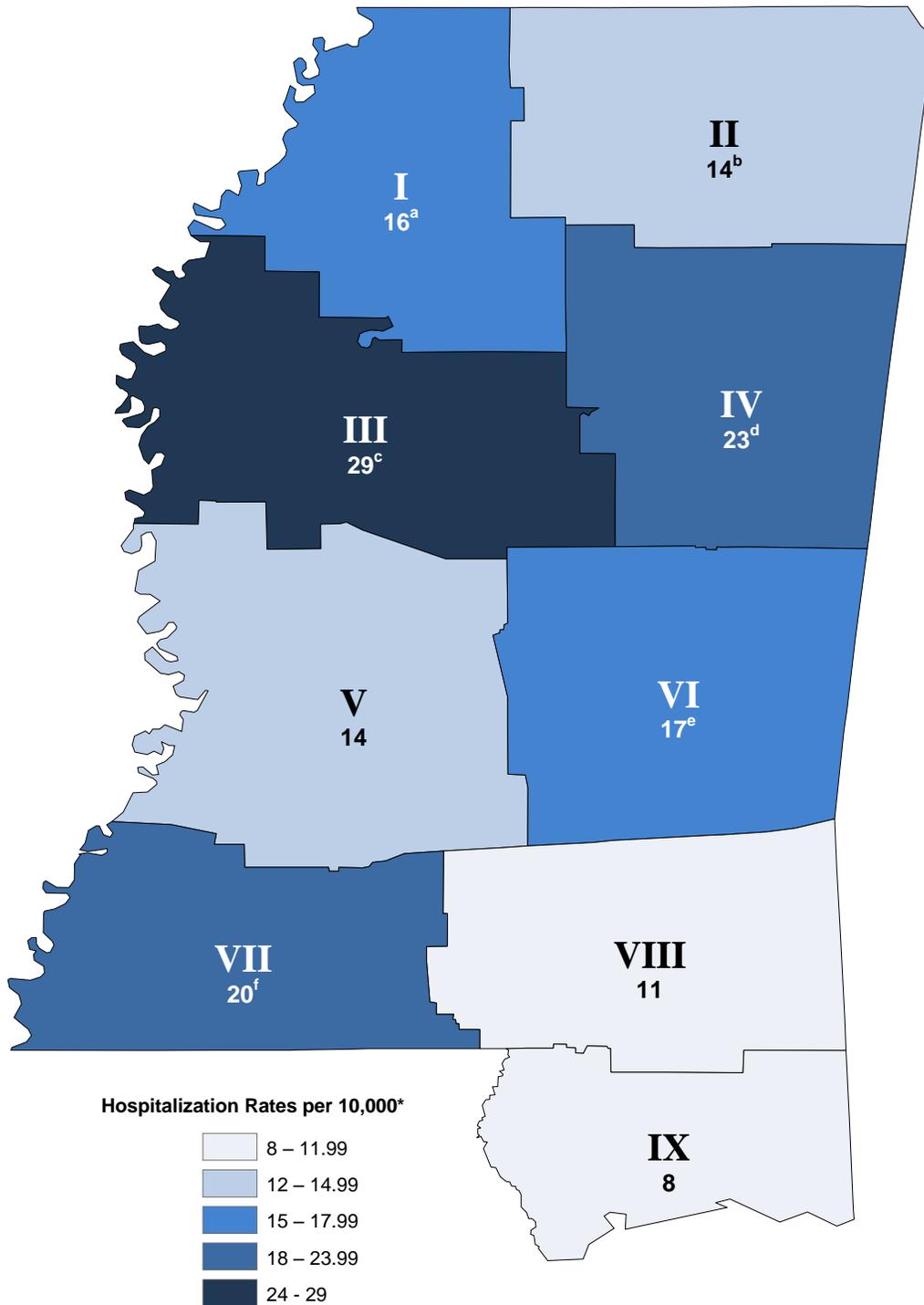


FIGURE 5. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by age and sex – Mississippi, 2008



* Rates are age-adjusted to the US 2000 standard population

MAP 1. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by Public Health District – Mississippi, 2008*



* Rates are age-adjusted to US 2000 standard population

^a DeSoto, Tunica, and Tallahatchie Counties were excluded from District I rate calculations due to non-reporting hospitals

^b Lafayette, Prentiss and Union Counties were excluded from District II rate calculations due to non-reporting hospitals. Benton and Itawamba counties without acute care hospital(s)

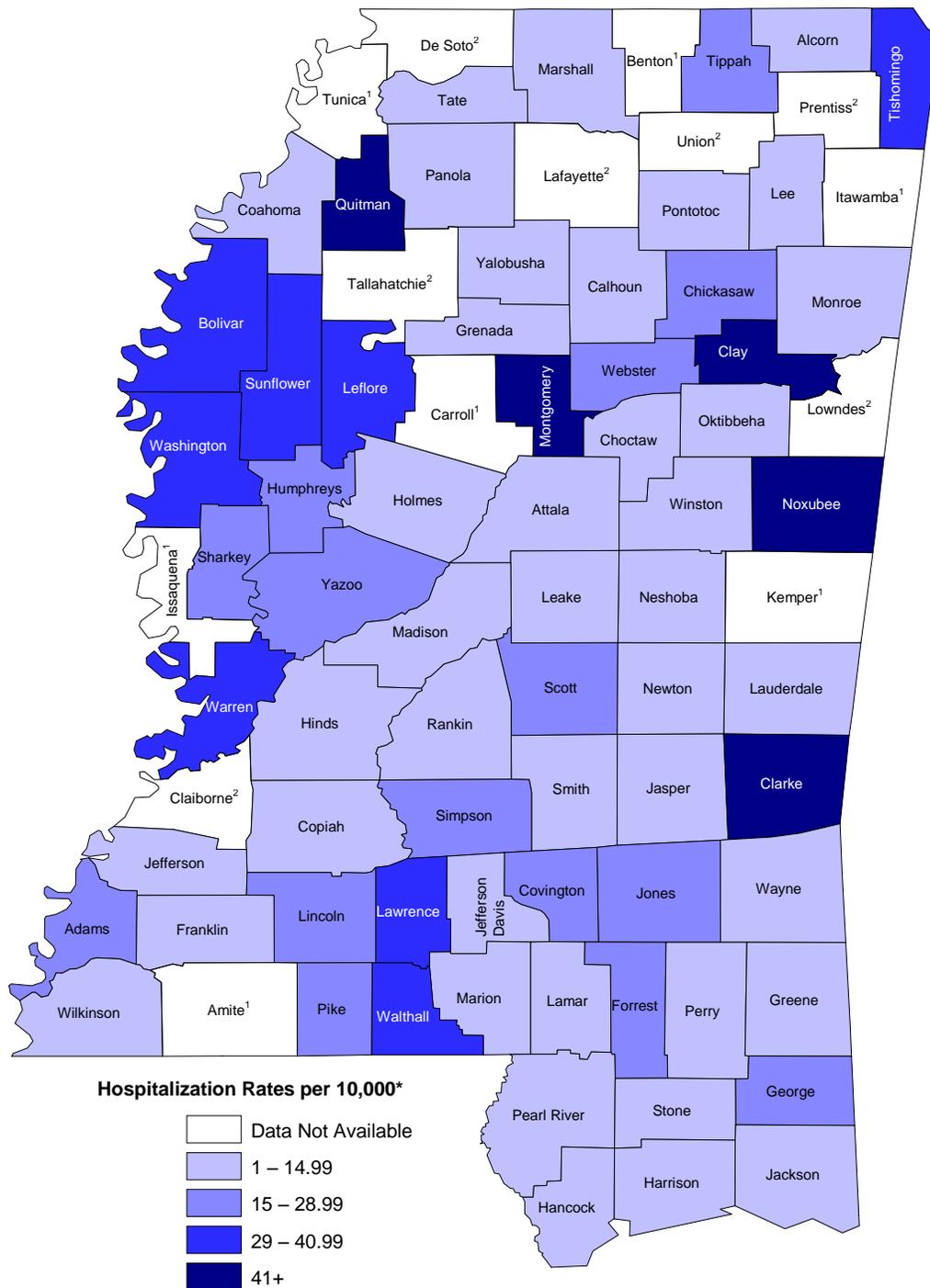
^c Carroll County was excluded from District III rate calculations due to no acute care hospital within the county

^d Lowndes County was excluded from District IV rate calculations due to a non-reporting hospital.

^e Kemper County was excluded from District VI rate calculations due to no acute care hospital within the county

^f Amite County was excluded from District VII rate calculations due to no acute care hospital within the county

MAP 2. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by county of residence – Mississippi, 2008*



* Rates are age-adjusted to the US 2000 standard population

¹ Counties in Mississippi with no acute care hospital(s)

² Data not available due to non-reporting hospitals located within the county. Rates may be underestimated or overestimated due to travel across county lines for emergency asthma care

TABLE 1. Estimated number of hospital discharges with asthma listed as the first (or primary) discharge diagnosis per 10,000 population, by county, race, gender, and age – Mississippi, 2008

County	Total**	White*	Black*	Male*	Female*	Ages 0-4	Ages 5-11	Ages 12-17	Ages 18-44	Ages 45-64	Ages 65+
Public Health District I											
Coahoma	14	9	15	14	14	38	6	0	13	13	21
DeSoto	Data not available due to non-reporting hospital(s)										
Grenada	11	6	21	10	12	18	19	0	6	12	24
Panola	13	9	17	8	18	21	8	6	13	15	13
Quitman	45	24	48	43	38	35	103	34	51	33	16
Tallahatchie	Data not available due to non-reporting hospital(s)										
Tate	12	5	32	8	16	0	0	4	7	27	27
Tunica	County with no acute care hospital(s)										
Yalobusha	4	4	10	3	6	0	0	0	2	3	23
Public Health District II											
Alcorn	14	13	25	7	42	17	15	7	8	21	26
Benton	County with no acute care hospital(s)										
Itawamba	County with no acute care hospital(s)										
Lafayette	Data not available due to non-reporting hospital(s)										
Lee	12	8	21	8	16	42	25	7	4	13	11
Marshall	2	2	2	1	2	0	0	0	0	5	0
Pontotoc	5	7	0	3	9	18	3	0	4	10	3
Prentiss	Data not available due to non-reporting hospital(s)										
Tippah	20	19	17	12	26	0	21	0	8	27	70
Tishomingo	31	31	16	18	42	17	19	7	10	50	95
Union	Data not available due to non-reporting hospital(s)										
Public Health District III											
Attala	12	9	14	6	18	13	17	6	9	8	30
Bolivar	34	25	39	30	37	141	31	25	20	30	38
Carroll	County with no acute care hospital(s)										
Holmes	12	2	15	6	16	16	5	0	5	29	16
Humphreys	28	13	32	2	50	10	10	10	35	33	32
Leflore	29	21	34	35	24	162	45	18	8	30	15
Montgomery	50	11	97	26	71	89	62	64	25	66	57
Sunflower	36	29	34	21	47	81	29	26	11	37	98
Washington	34	13	44	27	38	122	37	13	23	36	27

County	Total**	White*	Black*	Male*	Female*	Ages 0-4	Ages 5-11	Ages 12-17	Ages 18-44	Ages 45-64	Ages 65+
Public Health District IV											
Calhoun	12	13	12	11	15	20	8	0	6	8	44
Chickasaw	16	5	35	10	22	7	5	6	14	17	44
Choctaw	8	10	26	10	25	41	0	0	3	10	13
Clay	44	49	41	37	48	76	146	53	2	42	72
Lowndes	Data not available due to non-reporting hospital(s)										
Monroe	14	9	23	12	16	38	21	3	7	15	21
Noxubee	98	46	87	63	131	42	33	9	127	150	63
Oktibbeha	3	2	5	3	3	10	0	0	2	2	7
Webster	19	13	40	10	28	14	11	12	12	43	12
Winston	1	0	1	1	0	7	0	0	0	0	0
Public Health District V											
Claiborne	Data not available due to non-reporting hospital(s)										
Copiah	8	11	5	5	8	21	8	0	3	15	10
Hinds	11	4	16	6	14	18	6	2	5	14	27
Issaquena	County with no acute care hospital(s)										
Madison	6	3	13	5	15	10	4	2	3	8	19
Rankin	10	9	16	5	15	9	6	2	5	16	26
Sharkey	16	16	20	20	12	44	0	0	12	38	0
Simpson	17	16	17	14	20	64	11	4	10	18	21
Warren	32	30	34	19	42	24	26	9	18	42	81
Yazoo	18	12	21	18	19	43	15	8	4	16	57
Public Health District VI											
Clarke	53	38	77	44	58	96	184	68	2	49	80
Jasper	13	8	14	6	19	70	17	0	5	13	11
Kemper	County with no acute care hospital(s)										
Lauderdale	7	5	10	6	7	28	7	1	3	8	7
Leake	11	6	14	11	11	41	8	4	5	10	21
Neshoba	20	14	47	11	28	27	28	11	26	18	3
Newton	6	4	10	4	7	11	14	5	2	7	6
Scott	17	14	27	17	18	44	7	4	11	17	40
Smith	5	5	4	1	8	0	0	14	2	3	18
Public Health District VII											
Adams	21	9	30	15	26	34	21	23	14	29	20
Amite	County with no acute care hospital(s)										
Franklin	11	14	7	5	12	17	13	0	10	14	8
Jefferson	14	10	16	8	18	33	0	0	6	26	32

County	Total**	White*	Black*	Male*	Female*	Ages 0-4	Ages 5-11	Ages 12-17	Ages 18-44	Ages 45-64	Ages 65+
Lawrence	40	33	58	38	31	133	0	0	6	26	32
Lincoln	21	18	26	4	12	64	39	10	12	17	24
Pike	25	21	31	10	37	33	5	6	23	32	42
Walthall	32	19	48	16	46	45	54	7	17	38	65
Wilkinson	3	3	3	2	4	0	0	0	3	8	0
Public Health District VIII											
Covington	20	19	21	15	25	33	0	16	7	43	35
Forrest	17	13	26	14	20	34	8	10	6	16	58
Greene	6	6	4	2	10	13	0	0	2	3	29
Jefferson Davis	4	0	6	5	3	36	0	0	0	3	5
Jones	25	18	40	18	30	71	24	8	18	24	30
Lamar	10	9	13	6	14	15	2	0	2	15	37
Marion	8	4	13	7	7	54	8	0	2	8	3
Perry	12	10	18	4	20	23	16	0	4	13	32
Wayne	2	2	2	0	3	7	0	0	0	2	4
Public Health District IX											
George	20	13	114	23	12	48	8	0	14	14	55
Hancock	6	6	8	4	8	17	17	0	2	3	12
Harrison	6	5	7	4	7	9	5	2	4	7	8
Jackson	10	8	19	11	10	47	20	3	6	7	5
Pearl River	3	3	2	2	3	8	4	0	2	2	4
Stone	6	4	11	2	10	9	6	8	0	16	0

*Rates are age-adjusted to the US 2000 standard population

+Total includes 'other' and 'unknown' races