

# Tennessee Deaths

# 2009

December 2010

Tennessee Department of Health

## Introduction

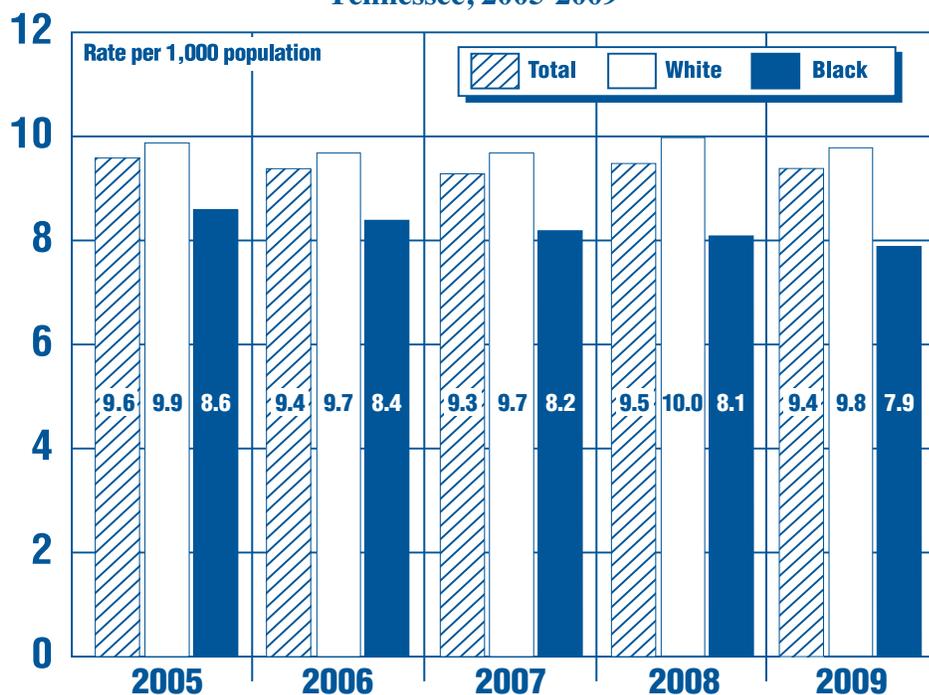
Tennessee's death data provide information on 2009 final mortality data for state residents. Resident data include events which occurred to residents of the state irrespective of where the events took place. Certificates filed with the Office of Vital Records supplied the data for this report.

Over the past century, improvements in scientific technology and research have created a better quality of life. Tennesseans now have the potential for increased longevity of life and reductions in illnesses.

The 2009 total death rate of 9.4 per 1,000 population decreased 2.1 percent from the rate of 9.6 in 2005. The mortality rate for the white population decreased 1.0 percent from 9.9 in 2005 to 9.8 in 2009. The rate for the black population decreased 8.1 percent from 8.6 per 1,000 population to 7.9 over the 5-year period.

Age-specific death rates for 2009 show the total rates for the age group 65-74 three times that of the age group 45-64. Rates by age group for the black residents were higher than those for the white residents, except for the population group 85 years and older when the white rate was higher than both the total and black rate. The black infant death rate of 16.0 was 2.7 times higher than the white rate of 6.0 per 1,000 births.

Death Rates by Race, Resident Data, Tennessee, 2005-2009



Population estimates used to calculate rates were revised February 2008. (See Note on last page)

Number of Deaths by Age and Race, with Rates per 100,000 Population, Resident Data, Tennessee, 2009

Age Groups	Total	Rate	White	Rate	Black	Rate
Total	58,023	935.4	49,542	982.6	8,181	787.4
Under 1*	655	8.0	364	6.0	277	16.0
1-4 years	88	27.0	65	26.4	22	30.9
5-14 years	115	14.3	71	11.6	42	24.1
15-24 years	785	92.7	575	87.0	196	115.3
25-44 years	3,200	190.6	2,435	179.3	732	262.9
45-64 years	13,358	806.9	10,775	779.9	2,496	1,016.7
65-74 years	10,748	2,380.8	9,216	2,304.3	1,478	3,181.0
75-84 years	14,613	5,715.9	12,958	5,642.9	1,598	6,550.3
85+ years	14,458	13,563.6	13,080	13,720.3	1,340	12,298.1

\*Rates for deaths under age one are per 1,000 live births. All other age groups are per 100,000 population. Totals includes deaths of other races and deaths with race or age not stated.

Tennessee's ten leading causes of death accounted for 44,531 or 76.7 percent of the total 58,023 deaths in 2009. In recent years, there has been a shift in the leading causes of death. For 2009, chronic lower respiratory diseases increased to the third cause of death, while cerebrovascular diseases declined to the fifth cause. The codes used for cause of death were from the Tenth Revision International Classification of Diseases.

*Notes: Age-adjustment is a technique that removes the effects that differences in age distributions have on mortality rates for two or more groups being compared. Beginning in 1999, the standard population used in the direct method calculations was revised to the 2000 United States estimated population, as recommended by the National Center for Health Statistics. Thus, any age-adjusted rate values calculated in 1999 and later have a different scale of values from similar rates calculated prior to 1999.*

**Leading Causes of Death (ICD-10 Codes) with Rates and Age-Adjusted Rates per 100,000 Population, Resident Data, Tennessee, 2009**

Cause	Number	Rate	Age-Adjusted Rate
Total Deaths	58,023	935.4	882.2
1. Diseases of heart (I00-I09, I11, I13, I20-I51)	14,144	228.0	213.4
2. Malignant neoplasms (C00-C97)	13,409	216.2	200.2
3. Chronic lower respiratory diseases (J40-J47)	3,485	56.2	53.3
4. Accidents (V01-X59, Y85-Y86)	3,148	50.8	49.5
Motor vehicle accidents (V02-V04, V09.0, V09.2, V12-V14, V19.0-V19.2, V19.4-V19.6, V20-V79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0-V88.8, V89.0, V89.2)	1,018	16.4	16.1
5. Cerebrovascular diseases (I60-I69)	3,136	50.6	48.0
6. Alzheimer's disease (G30)	2,197	35.4	34.0
7. Diabetes mellitus (E10-E14)	1,751	28.2	26.4
8. Influenza and pneumonia (J10-J18)	1,380	22.2	21.1
9. Nephritis, nephrotic syndrome and nephrosis (N00-N07, N17-N19, N25-N27)	942	15.2	14.4
10. Intentional self-harm (suicide) (X60-X84, Y87.0)	939	15.1	14.7

**Number of Infant and Neonatal Deaths by Race, with Rates per 1,000 Live Births, Resident Data, Tennessee, 2009**

Infant Deaths	Number	Rate	Neonatal Deaths	Number	Rate
Total	655	8.0	Total	390	4.7
White	364	6.0	White	211	3.5
Black	277	16.0	Black	170	9.8

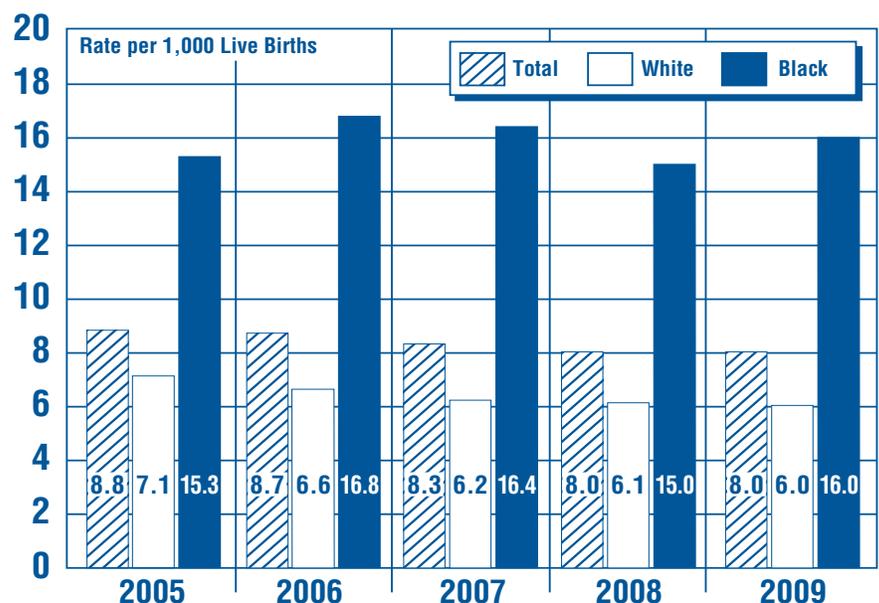
Infant Death - A death of a live-born infant under one year of age.  
 Neonatal Death - A death of a live-born infant under 28 days of age.

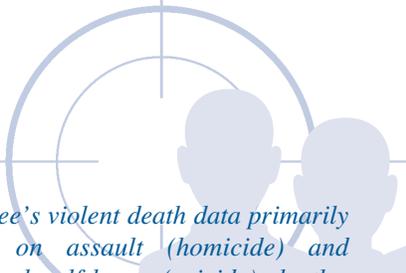
Tennessee had 655 infant deaths in 2009. The total infant mortality rate per 1,000 live births was 8.0. The number of white infant deaths was 364 with a mortality rate of 6.0. The number of black infant deaths was 277, and the rate was 16.0 per 1,000 live births. The total number of neonatal deaths was 390 with a rate of 4.7. There were 211 white and 170 black neonatal deaths with corresponding rates of 3.5 and 9.8 per 1,000 live births.

**Infant Death Rates by Race, Resident Data Tennessee, 2005-2009**

For the period 2005-2009, Tennessee's total and white infant death rates decreased. The black rate fluctuated but remained highest for each year. The 2009 black infant death rate of 16.0 increased 4.6 percent over the 2005 rate of 15.3 per 1,000 live births.

Early prenatal care and educating mothers on the importance of proper nutrition and good health habits, and informative programs like the "Back to Sleep" campaign, have been important factors in the ongoing effort to decrease infant deaths. While these deaths overall have declined since the early 1900's, infant death reduction will continue to be a high priority for health professionals.





Tennessee's violent death data primarily focuses on assault (homicide) and intentional self-harm (suicide) deaths. Also provided is information on firearm deaths, which includes accidental deaths as well as assault and intentional self-harm deaths due to firearm use. In addition to the violent deaths, there were 2 deaths from legal intervention in 2009.

The 2009 assault death rate for black residents was 25.3 per 100,000 population. This rate was 5.6 times the white rate of 4.5. The 2009 intentional

self-harm rate for the white population was 17.3. This rate was 3.3 times the black rate of 5.3.

**Number of Assault and Intentional Self-Harm Deaths by Race and Gender, with Rates per 100,000 Population, Resident Data, Tennessee, 2009**

	Assault		Intentional Self-harm	
	Number	Rate	Number	Rate
Total	491	7.9	939	15.1
White	225	4.5	872	17.3
White Male	159	6.4	695	28.0
White Female	66	2.6	177	6.9
Black	263	25.3	55	5.3
Black Male	229	46.7	43	8.8
Black Female	34	6.2	12	2.2
Other Races	3	2.5	11	9.0
Other Male	2	3.3	6	10.0
Other Female	1	1.6	5	8.1

- During 2009, there were 491 assault deaths among residents of Tennessee. The corresponding death rate was 7.9 per 100,000 population.
- In 2009, 263 or 53.6 percent of the total assault deaths occurred among the black population.
- Of the total 2009 assault deaths, 79.4 percent were males while 46.6 percent of the total were black males.
- The number of intentional self-harm deaths for 2009 was 939 with a rate of 15.1 per 100,000 population.
- The white population accounted for 872 or 92.9 percent of the total 2009 intentional self-harm deaths.
- Of the total 2009 intentional self-harm deaths, 79.2 percent were males while 74.0 percent of the total were white males.
- In 2009, intentional self-harm was the tenth leading cause of death in Tennessee.

In 2009, there were 26 assault deaths among children under 15 years of age. The highest rate for assault deaths occurred to persons 20-24 years, while the highest rate for intentional self-harm was for persons 45-54 years of age.

**Number of Assault and Intentional Self-Harm Deaths by Age with Rates per 100,000 Population, Resident Data, Tennessee, 2009**

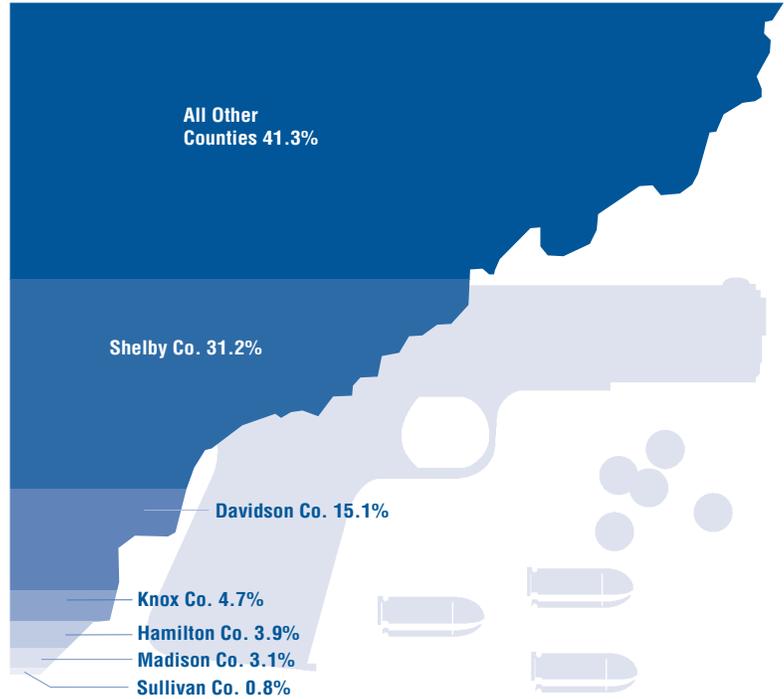
Age Groups	Assault		Intentional Self-harm	
	Number	Rate	Number	Rate
Total	491	7.9	939	15.1
Under 1*	10	0.1	-	-
1-9 years	12	1.7	-	-
10-14 years	4	1.0	5	1.2
15-19 years	57	13.3	39	9.1
20-24 years	68	16.3	71	17.0
25-29 years	64	15.6	60	14.6
30-34 years	56	13.6	70	17.1
35-44 years	90	10.5	164	19.1
45-54 years	64	7.0	241	26.2
55-64 years	36	4.9	138	18.7
65-74 years	20	4.4	81	17.9
75-84 years	9	3.5	50	19.6
85+ years	-	-	19	17.8

\*Rates for deaths under one are per 1,000 births. All other age groups are per 100,000 population.

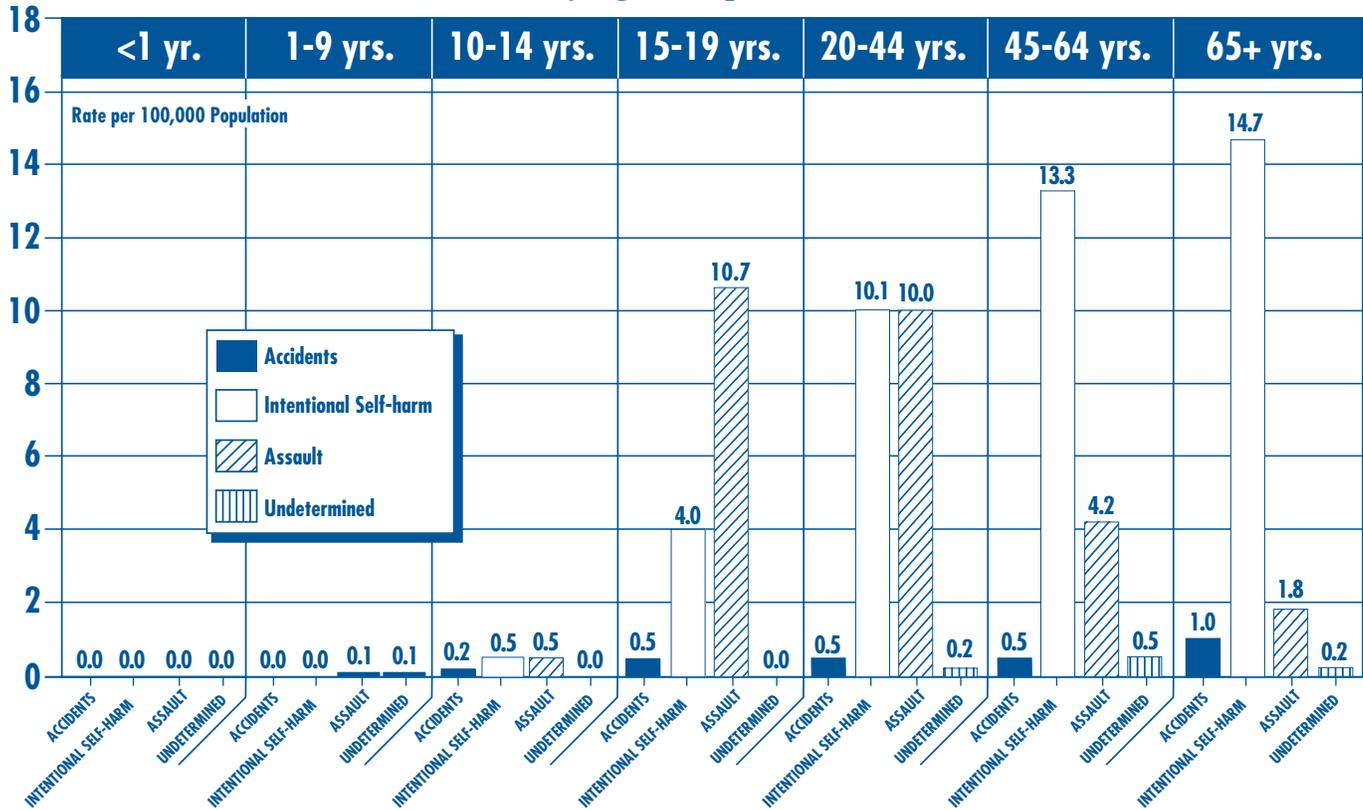
In 2009, Tennessee's assault mortality by county of residence reveals high numbers for the metropolitan areas of Shelby and Davidson Counties. These two counties accounted for 46.2 percent of the state's total number of assault deaths, with almost one-third of the total assault deaths occurring in Shelby County.

In 2009, 2 children under the age of 10 years died from firearm injuries. Of these deaths, 1 was assault and 1 was undetermined intent. While accidental death is the leading cause of mortality for young children, violence toward children and youth is of increasing concern. For children ages 10-14, there were 5 firearm deaths. Of these deaths, 1 was accidental, 2 were assault deaths, and 2 were intentional self-harm. For the age group 15-19, assault was the leading cause of firearm mortality with 46 deaths, while intentional self-harm was the leading cause of all age groups 20 years and older.

Tennessee's Assault Deaths by Metropolitan and Rural Counties, Resident Data, 2009



Firearm Death Rates, by Age Group, Resident Data, Tennessee, 2009

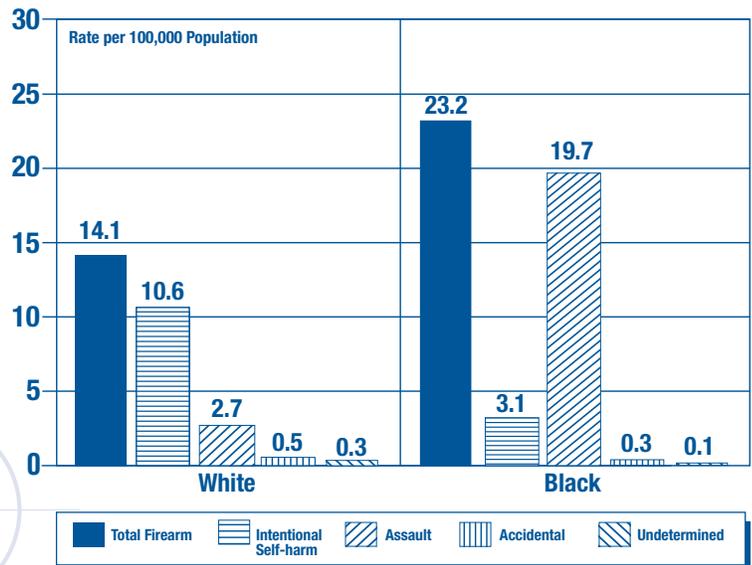


Rates for deaths under one are per 1,000 live births. All other age groups are per 100,000 population.

Deaths attributed to firearm injury are classified according to ICD-10 codes as follows: accident codes W32-W34; intentional self-harm codes X72-X74; assault codes X93-X95, and undetermined whether accidentally or purposely inflicted, codes Y22-Y24.

Tennessee had 710 firearm deaths for white residents and 241 for black residents in 2009. The white firearm death rate was 14.1 per 100,000 population. The black rate of 23.2 was 1.6 times greater than the white rate. The white intentional self-harm firearm mortality rate was 3.4 times greater than the black rate, while the black assault firearm death rate was 7.3 times greater than the white rate. The 2009 accidental firearm death rates for the white and black population groups were 0.5 and 0.3 respectively. The undetermined cause rate was 0.3 for the white population and 0.1 for the black population.

**Firearm Death Rates, by Race, Resident Data, Tennessee 2009**



**Number of Firearm Deaths by Race and Gender, with Rates per 100,000 Population, Resident Data, Tennessee, 2009**

	Number	Rate
Total	959	15.5
White	710	14.1
White Male	605	24.4
White Female	105	4.1
Black	241	23.2
Black Male	224	45.7
Black Female	17	3.1
Other Races	7	5.7
Other Male	6	10.0
Other Female	1	1.6

For 2009, firearm death rates by race and gender show that black males had the highest rate (45.7) per 100,000 population. The population group of other females had the lowest firearm death rate of 1.6 per 100,000 other female population.

course of action for conflict, emotional distress, and criminal activity; but health programs alone are not sufficient to deal with this complicated problem. Implementing prevention programs involves the cooperative efforts of public health, mental health, criminal justice, social services, and professional education. Reducing these preventable deaths is imperative in the goal toward increased longevity of life.

Violent deaths have become an important health issue as it appears that violent behavior has grown to be the

From 2005 to 2009, Tennessee’s total death rate for diseases of heart decreased 8.8 percent, while the rate for malignant neoplasms (cancer) remained fairly constant. Although heart disease continues to be the leading cause of death for the total population, the cancer death rate for the population under 85 years of age exceeded the rate for heart disease for 2005-2009. This relationship is similar to comparative data at the national level. Smoking, obesity, poor diet, and lack of exercise are all contributing factors to both heart disease and cancer deaths.

**Number Deaths for Diseases of Heart and Malignant Neoplasms By Age Group, With Rates Per 100,000 Population, Resident Data, Tennessee, 2005-2009**

Year	Total		Under 85 Years		85 Years and Older	
	Number	Rate	Number	Rate	Number	Rate
<b>Diseases of Heart</b>						
2005	14,896	250.1	10,255	174.9	4,641	4,948.3
2006	14,582	241.5	10,219	172.0	4,362	4,464.6
2007	14,202	233.2	9,748	162.8	4,454	4,428.8
2008	14,636	238.2	9,968	165.0	4,668	4,507.7
2009	14,144	228.0	9,645	158.2	4,498	4,219.7
<b>Malignant Neoplasms</b>						
2005	12,970	217.8	11,433	195.0	1,537	1,638.8
2006	13,007	215.4	11,386	191.7	1,621	1,659.1
2007	13,112	215.3	11,534	192.6	1,578	1,569.1
2008	13,108	213.3	11,472	189.9	1,636	1,579.8
2009	13,409	216.2	11,783	193.3	1,626	1,525.4

Tennessee's injury deaths include unintentional and intentional deaths for the 5-year period of 2005-2009. Motor vehicle deaths (1,018) with a rate of 16.4 per 100,000 population accounted for 32.3 percent of all accidental deaths in 2009.

**Number of Injury Deaths, By Type With Rates Per 100,000  
Population Resident Data, Tennessee, 2005-2009**

Year	Accidents Including Motor Vehicle		Intentional Self-harm		Assault	
	Number	Rate	Number	Rate	Number	Rate
2009	3,148	50.8	939	15.1	491	7.9
2008	3,220	52.4	965	15.7	480	7.8
2007	3,206	52.6	833	13.7	468	7.7
2006	3,266	54.1	866	14.3	482	8.0
2005	3,117	52.3	851	14.3	492	8.3

More detailed county level mortality data may be obtained by contacting the Tennessee Department of Health, Division of Health Statistics or at our Web site <http://health.state.tn.us>

**2009  
Total Population  
6,202,803**

**2009  
White Population  
5,041,974**

**2009  
Black Population  
1,038,967**

**NOTE: The population estimates for Tennessee used to calculate the rates in this report were based on figures prepared from the 2000 census in February 2008 by the Division of Health Statistics. These population figures may result in rates that differ from those published in previous time periods.**

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