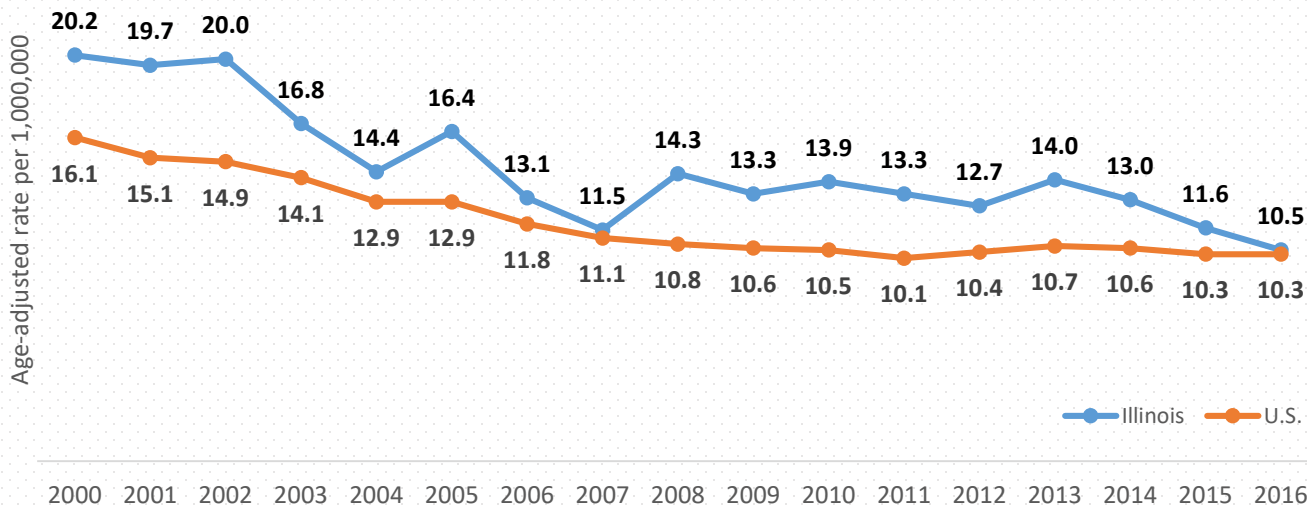


# Asthma Trends

## Mortality 2000-2016

### Executive Summary

Asthma mortality rates in **Illinois** and the **U.S.** are **declining** overall. When compared to the **U.S.**, **Illinois** has historically had higher asthma mortality rates.



### Demographic Disparities

#### Ethnicity

**Blacks** have a **HIGHER** asthma mortality rate compared to **Whites**.

White **7.6**

Black **30.1**



The asthma mortality rate for Blacks is **4 times higher** than Whites in Illinois.



The asthma mortality rate for Blacks is **2.8 times higher** than Whites in the U.S.

#### Age Group

Individuals **65+ years** have a **HIGHER** asthma mortality rate compared to younger groups.

15-34 Years **5.8**

35-64 Years **12.4**

65 Years and Older **26.0**



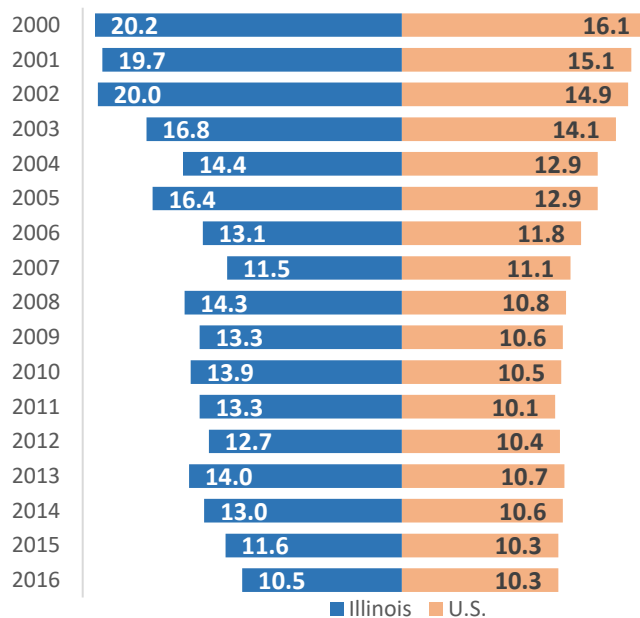
The asthma mortality rate is **4.5 times higher** between the oldest and youngest groups in Illinois

Data Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 1999-2016 on CDC WONDER Online Database, accessed April 2018. \*Asthma listed as the underlying cause of death (ICD-10:J45-J46); Standard 2000 U.S. population used for direct age-adjustment.

# Asthma Trends Report

## Mortality 2000-2016

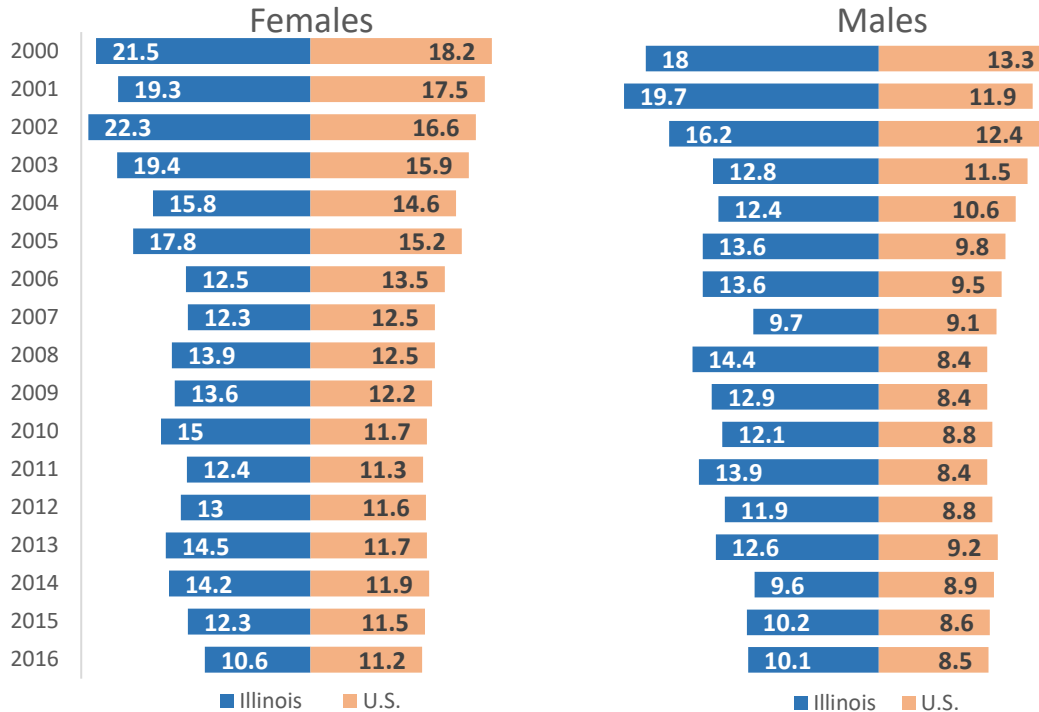
Figure 1: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup>, Illinois vs. U.S., 2000-2016



Asthma mortality rates in Illinois and the U.S. have declined.

When compared to the U.S., Illinois has historically higher rates of asthma mortality.

Figure 2: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup> by Gender, Illinois vs. U.S., 2000-2016



Females have higher asthma mortality rates than males in Illinois. This is similar to the U.S. trend.

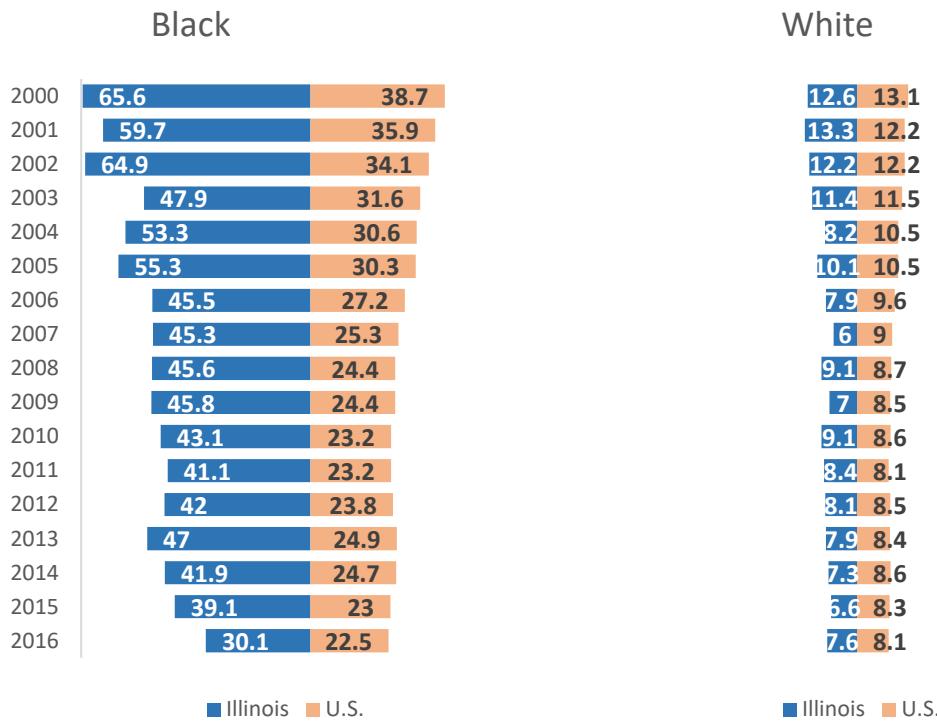
Historically, both females and males in Illinois have had higher mortality rates compared to the U.S. rate.

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46);

<sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

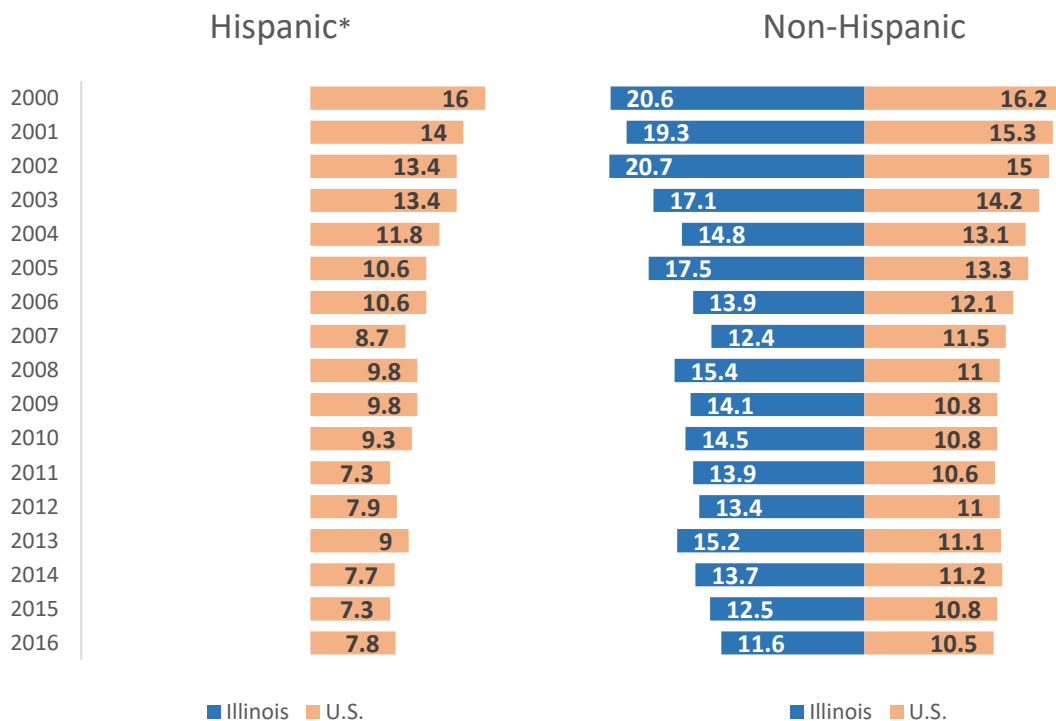
Figure 3: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup> by Race, Illinois vs. U.S., 2000-2016



Blacks have higher mortality rates than Whites in Illinois similar to the U.S. trend. In Illinois, the Black asthma mortality rate is nearly 4 times higher White rate. In the U.S., the Black mortality rate is nearly 3 times higher.

Additionally, in Illinois the mortality rate for Blacks is higher than the U.S. rate.

Figure 4: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup> by Ethnicity, Illinois vs. U.S., 2000-2016



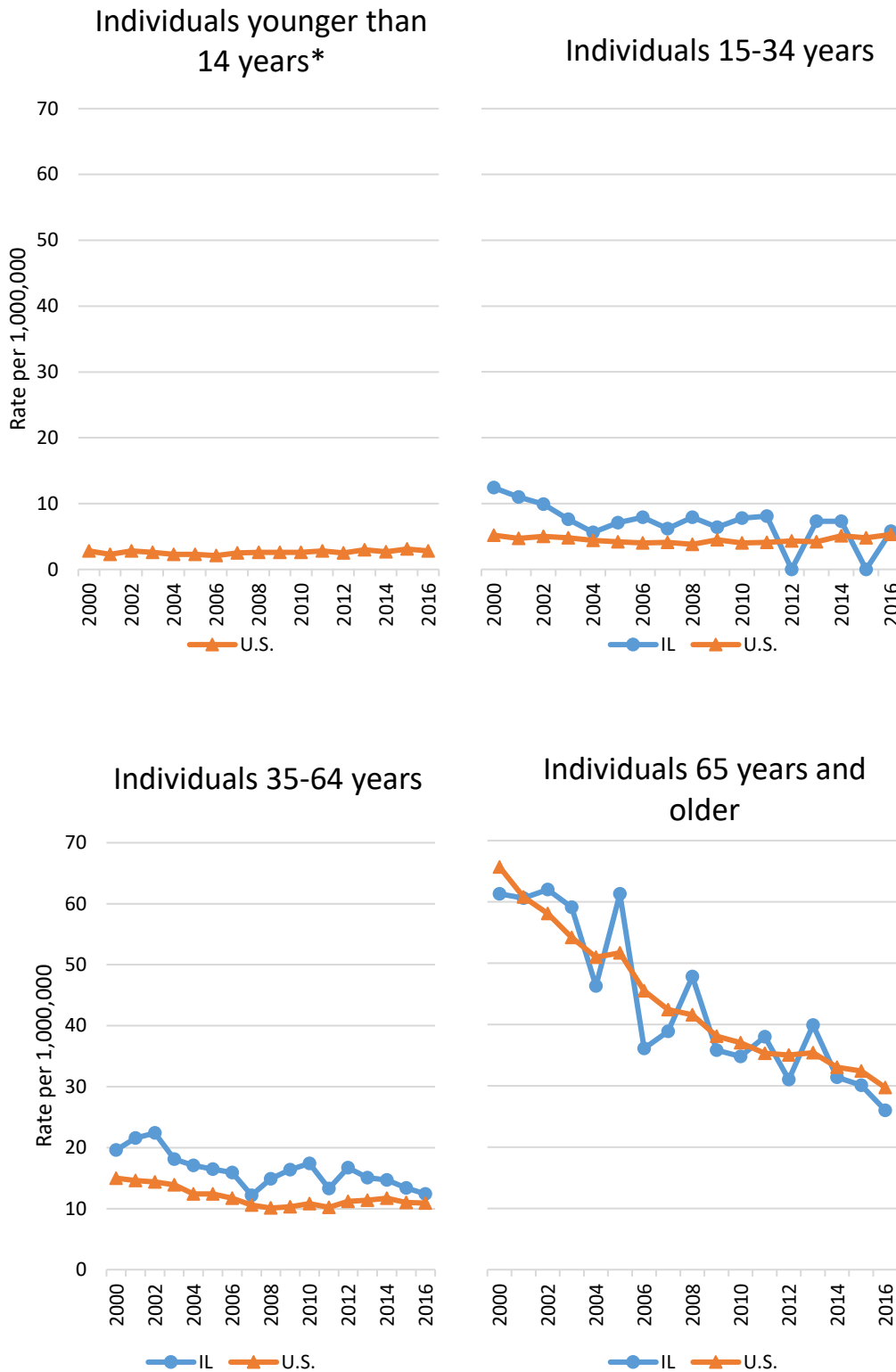
Non-Hispanics have higher mortality rates than Hispanics in Illinois and in the U.S. Asthma mortality rates are declining.

\*Illinois rate data is suppressed for Hispanics (see Data Tables section for counts).

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46); <sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

Figure 5: Age-specific asthma mortality<sup>†</sup> rates<sup>§</sup>, Illinois vs. U.S., 2000-2016



Similar to the U.S., those 65 years and older have the highest asthma mortality rate in Illinois. This group has seen the greatest decrease in mortality rates.

\*Illinois rate data for youth younger than 14 years is unavailable for most years due to small numbers (see Data Table section for counts).

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46);

<sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

## Asthma Trends: Mortality Report 2000-2016 Data Tables

Data for Figure 1: Age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Illinois			U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	247	20.2	17.7-22.7	4,487	16.1	15.6-16.6
2001	243	19.7	17.2-22.2	4,269	15.1	14.6-15.5
2002	248	20.0	17.5-22.5	4,261	14.9	14.4-15.3
2003	210	16.8	14.5-19.1	4,099	14.1	13.6-14.5
2004	179	14.4	12.3-16.5	3,816	12.9	12.5-13.3
2005	209	16.4	14.1-18.6	3,884	12.9	12.5-13.3
2006	169	13.1	11.1-15.1	3,613	11.8	11.4-12.2
2007	149	11.5	9.7-13.4	3,447	11.1	10.7-11.5
2008	186	14.3	12.2-16.3	3,397	10.8	10.4-11.1
2009	173	13.3	11.3-15.3	3,388	10.6	10.2-10.9
2010	183	13.9	11.8-15.9	3,404	10.5	10.1-10.8
2011	176	13.3	11.3-15.3	3,345	10.1	9.8-10.5
2012	174	12.7	10.7-14.6	3,534	10.4	10.1-10.8
2013	192	14.0	12.0-16.0	3,630	10.7	10.3-11.0
2014	167	13.0	10.4-14.1	3,651	10.6	10.3-11.0
2015	157	11.6	9.7-13.4	3,615	10.3	10.0-10.7
2016	149	10.5	8.8-12.3	3,518	10.3	10.2-10.5

Data for Figure 2a: Female age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Females in Illinois			Females in U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	144	21.5	17.9-25.0	2,855	18.2	17.5-18.8
2001	132	19.3	16.0-22.6	2,790	17.5	16.9-18.2
2002	154	22.3	18.7-25.8	2,681	16.6	16.0-17.3
2003	136	19.4	16.1-22.6	2,606	15.9	15.3-16.6
2004	108	15.8	12.8-18.8	2,430	14.6	14.0-15.2
2005	130	17.8	14.7-20.8	2,569	15.2	14.6-15.7
2006	90	12.5	10.0-15.4	2,317	13.5	13.0-14.1
2007	90	12.3	9.9-15.2	2,173	12.5	11.9-13.0
2008	102	13.9	11.2-16.7	2,211	12.5	12.0-13.0
2009	97	13.6	11.0-16.6	2,168	12.2	11.6-12.7
2010	109	15.0	12.1-17.9	2,121	11.7	11.2-12.2
2011	91	12.4	9.9-15.3	2,083	11.3	10.8-11.8
2012	99	13.0	10.5-15.9	2,174	11.6	11.1-12.1
2013	112	14.5	11.7-17.2	2,220	11.7	11.2-12.2
2014	107	14.2	11.4-16.9	2,259	11.9	11.4-12.4
2015	93	12.3	9.9-15.5	2,227	11.5	11.0-12.0
2016	82	10.6	8.3-13.2	2,162	11.2	10.7-11.7

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment. <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

Data for Figure 2b: Male age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Males in Illinois			Males in U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	103	18.0	14.4-21.5	1,632	13.3	12.6-13.9
2001	111	19.7	16.0-23.5	1,479	11.9	11.2-12.5
2002	94	16.2	13.0-19.8	1,580	12.4	11.8-13.0
2003	74	12.8	10.0-16.2	1,493	11.5	10.9-12.1
2004	71	12.4	9.7-15.7	1,386	10.6	10.0-11.1
2005	79	13.6	10.7-17.0	1,315	9.8	9.3-10.4
2006	79	13.6	10.7-17.1	1,296	9.5	9.0-10.0
2007	59	9.7	7.3-12.5	1,274	9.1	8.5-9.6
2008	84	14.4	11.5-17.9	1,186	8.4	7.9-8.9
2009	76	12.9	10.1-16.2	1,220	8.4	8.0-8.9
2010	74	12.1	9.5-15.3	1,283	8.8	8.3-9.2
2011	85	13.9	11.0-17.2	1,262	8.4	8.0-8.9
2012	75	11.9	9.3-15.0	1,357	8.8	8.4-9.3
2013	80	12.6	9.9-15.7	1,410	9.2	8.7-9.7
2014	60	9.6	7.3-12.4	1,392	8.9	8.4-9.4
2015	64	10.2	7.9-13.1	1,388	8.6	8.2-9.1
2016	67	10.1	7.8-12.9	1,356	8.5	8.0-8.9

Data for Figure 3a: Black age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Illinois			U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	117	65.6	53.5-77.8	1,158	38.7	36.4-41.0
2001	103	59.7	47.9-71.5	1,108	35.9	33.7-38.0
2002	115	64.9	52.8-76.9	1,096	34.1	32.0-36.1
2003	84	47.9	38.0-59.5	1,030	31.6	29.6-33.6
2004	91	53.3	42.7-65.8	1,008	30.6	28.7-32.6
2005	96	55.3	44.6-67.8	1,016	30.3	28.4-32.2
2006	82	45.5	36.0-56.7	957	27.2	25.5-29.0
2007	81	45.3	35.8-56.5	902	25.3	23.6-27.0
2008	83	45.6	36.1-56.8	902	24.4	22.8-26.1
2009	87	45.8	36.6-56.7	924	24.4	22.8-26.1
2010	80	43.1	34.1-53.8	879	23.2	21.6-24.8
2011	77	41.1	32.3-51.6	909	23.2	21.6-24.7
2012	78	42.0	33.0-52.6	955	23.8	22.3-25.4
2013	90	47.0	37.6-57.9	1,006	24.9	23.3-26.5
2014	80	41.9	33.1-52.3	1,020	24.7	23.2-26.3
2015	74	39.1	30.6-49.2	990	23.0	21.5-24.5
2016	60	30.1	22.8-38.9	978	22.5	21.1-23.9

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46);

<sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

Data for Figure 3b: White age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rate<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Illinois			U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	130	12.6	10.4-14.8	3,144	13.1	12.6-13.5
2001	139	13.3	11.1-15.6	2,990	12.2	11.8-12.7
2002	128	12.2	10.1-14.3	3,014	12.2	11.8-12.7
2003	122	11.4	9.4-13.4	2,888	11.5	11.1-12.0
2004	87	8.2	6.6-10.1	2,658	10.5	10.1-10.9
2005	110	10.1	8.2-12.0	2,714	10.5	10.1-10.9
2006	85	7.9	6.3-9.8	2,497	9.6	9.2-10.0
2007	66	6.0	4.6-7.6	2,376	9.0	8.6-9.3
2008	100	9.1	7.3-10.9	2,342	8.7	8.3-9.0
2009	76	7.0	5.5-8.8	2,299	8.5	8.1-8.8
2010	100	9.1	7.3-10.9	2,366	8.6	8.2-8.9
2011	94	8.4	6.8-10.3	2,261	8.1	7.7-8.9
2012	94	8.1	6.5-9.9	2,436	8.5	8.2-8.9
2013	92	7.9	6.3-9.7	2,415	8.4	8.1-8.8
2014	85	7.3	5.8-9.1	2,445	8.6	8.2-8.9
2015	77	6.6	5.2-8.3	2,423	8.3	7.9-8.6
2016	87	7.6	6.0-9.4	2,357	8.1	7.7-8.4

Data for Figure 4a: Hispanic age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Illinois			U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	13	U	5.1-21.3	292	16.0	13.9-18.0
2001	18	U	15.2-51.3	274	14.0	12.2-15.9
2002	*	*	*	287	13.4	11.7-15.1
2003	11	U	7.6-31.8	299	13.4	11.7-15.1
2004	10	U	5.4-24.7	281	11.8	10.3-13.3
2005	*	*	*	248	10.6	9.2-12.1
2006	*	*	*	257	10.6	9.1-12.0
2007	*	*	*	239	8.7	7.5-10.0
2008	*	*	*	271	9.8	8.5-11.1
2009	11	U	3.2-14.4	302	9.8	8.5-11.0
2010	14	U	6.7-25.7	292	9.3	8.2-10.5
2011	16	U	6.6-23.7	244	7.3	6.3-8.3
2012	12	U	3.7-16.7	277	7.9	6.9-8.9
2013	10	U	3.0-13.5	327	9.0	7.9-10.0
2014	*	*	*	301	7.7	6.5-8.2
2015	10	U	3.0-13.6	305	7.3	6.5-8.2
2016	*	*	*	334	7.8	6.9-8.7

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment. <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46).

<sup>§</sup>Rate per 1,000,000. \*Data suppressed due to small numbers of death. U= unreliable.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.

Data for Figure 4b: Non-Hispanic age-adjusted<sup>†</sup> asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois vs. U.S., 2000-2016

Year	Illinois			U.S.		
	Number	Rate	95% CI	Number	Rate	95% CI
2000	230	20.6	17.9-23.2	4,164	16.2	15.7-16.7
2001	218	19.3	16.7-21.9	3,976	15.3	14.8-15.8
2002	234	20.7	18.0-23.3	3,950	15.0	14.6-15.5
2003	196	17.1	14.7-19.5	3,786	14.2	13.8-14.7
2004	167	14.8	12.5-17.0	3,524	13.1	12.6-13.5
2005	203	17.5	15.1-19.9	3,626	13.3	12.9-13.7
2006	161	13.9	11.7-16.1	3,343	12.1	11.7-12.5
2007	144	12.4	10.3-14.4	3,207	11.5	11.1-11.9
2008	178	15.4	13.1-17.7	3,115	11.0	10.6-11.4
2009	162	14.1	11.9-16.3	3,076	10.8	10.4-11.1
2010	168	14.5	12.3-16.7	3,099	10.8	10.4-11.1
2011	160	13.9	11.7-16.1	3,093	10.6	10.2-11.0
2012	162	13.4	11.3-15.6	3,243	11.0	10.6-11.4
2013	182	15.2	12.9-17.5	3,295	11.1	10.7-11.5
2014	163	13.7	11.6-15.9	3,336	11.2	10.8-11.5
2015	145	12.5	10.4-14.6	3,280	10.8	10.5-11.2
2016	141	11.6	9.6-13.6	3,167	10.5	10.1-10.9

Data for Figure 51L: age-specific asthma mortality<sup>‡</sup> rates<sup>§</sup>, Illinois, 2000-2016

Year	<14 years			15-34 years			35-64 years			65+ years		
	Num	Rate	95%CI	Num	Rate	95%CI	Num	Rate	95%CI	Num	Rate	95%CI
2000	20	7.4	4.5-11.4	44	12.4	9.0-16.6	91	19.6	15.8-24.0	92	61.3	49.4-75.2
2001	11	U	2.0-8.3	39	11.0	7.8-15.0	102	21.6	17.4-25.8	91	60.6	48.8-74.4
2002	13	U	2.6-8.3	35	9.9	6.9-13.7	107	22.4	18.2-26.6	93	62.0	50.1-76.0
2003	*	*	*	27	7.6	5.0-11.1	87	18.1	14.5-22.3	89	59.1	47.5-72.7
2004	*	*	*	20	5.6	3.4-8.7	83	17.1	13.6-21.2	70	46.3	36.1-58.5
2005	10	U	1.8-6.9	25	7.1	4.6-10.4	81	16.5	13.1-20.5	93	61.3	49.5-75.1
2006	*	*	*	28	7.9	5.3-11.4	79	15.9	12.6-19.8	55	36.1	27.2-47.0
2007	*	*	*	22	6.2	3.9-9.4	61	12.2	9.3-15.7	60	38.9	29.7-50.1
2008	*	*	*	28	7.9	5.2-11.4	75	14.9	11.7-18.7	75	47.8	37.6-59.9
2009	10	U	1.8-7.1	23	6.4	4.1-9.6	83	16.4	13.1-20.4	57	35.8	27.1-46.4
2010	11	U	3.0-9.2	28	7.8	5.2-11.3	88	17.4	13.9-21.4	56	34.8	26.3-45.2
2011	14	U	3.0-9.2	29	8.1	5.4-11.6	68	13.3	10.3-17.0	65	38.0	29.2-48.5
2012	12	U	2.4-8.3	17	U	2.8-7.7	88	16.7	13.3-20.7	56	31.0	23.3-40.3
2013	13	U	2.8-8.9	26	7.3	4.8-10.8	81	15.1	11.9-18.9	72	39.9	31.2-50.3
2014	*	*	*	26	7.3	4.8-10.8	77	14.7	11.5-18.4	57	31.4	23.7-40.7
2015	15	U	3.4-10.1	17	U	2.8-7.7	69	13.4	10.3-17.1	56	30.1	22.7-39.2
2016	10	U	2.0-7.6	20	5.8	3.5-8.9	70	12.4	9.6-15.8	49	26.0	19.2-34.5

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46);

<sup>§</sup>Rate per 1,000,000. \*Data suppressed due to small numbers of death; U= unreliable.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.



Data for Figure 5US: Age-specific asthma mortality<sup>†</sup> rates<sup>§</sup>, U.S., 2000-2016

Year	<14 years			15-34 years			35-64 years			65+ years		
	Num	Rate	95%CI	Num	Rate	95%CI	Num	Rate	95%CI	Num	Rate	95%CI
2000	169	2.8	2.4-3.2	416	5.2	4.7-5.7	1,612	15.0	14.3-15.8	2,290	65.7	63.0-68.4
2001	140	2.3	1.9-2.7	373	4.7	4.2-5.2	1,611	14.6	13.9-15.3	2,145	60.8	58.2-63.4
2002	170	2.8	2.4-3.2	404	5.0	4.5-5.5	1,616	14.4	13.7-15.1	2,070	58.1	55.6-60.6
2003	154	2.6	2.2-3.0	385	4.8	4.3-5.3	1,605	13.9	13.2-14.6	1,955	54.2	51.8-56.6
2004	141	2.3	2.0-2.7	356	4.4	3.9-4.8	1,458	12.4	11.7-13.0	1,861	51.0	48.6-53.3
2005	138	2.3	1.9-2.7	338	4.2	3.7-4.6	1,484	12.4	11.7-13.0	1,924	51.7	49.4-54.1
2006	131	2.1	1.8-2.5	329	4.0	3.6-4.5	1,431	11.7	11.1-12.3	1,722	45.5	43.3-47.6
2007	152	2.5	2.1-2.9	334	4.1	3.7-4.5	1,319	10.6	10.0-11.2	1,640	42.4	40.3-44.5
2008	155	2.6	2.2-3.0	323	3.8	3.4-4.3	1,275	10.1	9.6-10.7	1,644	41.6	39.6-43.6
2009	157	2.6	2.2-3.0	379	4.5	4.1-5.0	1,316	10.3	9.8-10.9	1,536	38.1	36.2-40.0
2010	156	2.6	2.2-3.0	342	4.0	3.6-4.5	1,387	10.8	10.2-11.4	1,519	37.0	35.1-38.8
2011	169	2.8	2.3-3.2	352	4.1	3.7-4.5	1,333	10.2	9.7-10.8	1,491	35.3	33.5-37.1
2012	152	2.5	2.1-2.8	371	4.3	3.8-4.7	1,467	11.2	10.6-11.8	1,540	35.0	33.3-36.8
2013	183	3.0	2.6-3.4	368	4.2	3.8-4.7	1,483	11.4	10.8-12.0	1,596	35.4	33.6-37.1
2014	161	2.7	2.3-3.1	444	5.1	4.6-5.6	1,520	11.7	11.1-12.3	1,526	33.0	31.3-34.7
2015	189	3.1	2.7-3.6	423	4.8	4.3-5.3	1,459	11.0	10.4-11.6	1,544	32.4	30.8-34.1
2016	169	2.8	2.4-3.2	475	5.3	4.9-5.8	1,438	10.9	10.3-11.5	1,436	29.7	28.1-31.2

<sup>†</sup>Standard 2000 U.S. population used for direct age-adjustment; <sup>‡</sup>Asthma listed as the underlying cause of death (ICD-10:J45-J46);  
<sup>§</sup>Rate per 1,000,000.

Source: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed April 2018.