THE GEOGRAPHY OF UNINSURANCE IN MASSACHUSETTS, 2011–2015

MARCH 2017

Although Massachusetts has achieved near-universal health insurance coverage since the implementation of its 2006 health reform initiative, with uninsurance at just 2.8 percent in 2015, some areas of the state continue to experience high levels of uninsurance. This brief documents the distribution of uninsurance across Massachusetts communities using the 2011–2015 fiveyear American Community Survey (ACS). The ACS is an annual survey of about 2 million American households fielded by the U.S. Census Bureau that is designed to collect information on the demographic, social, economic, and housing characteristics of the U.S. population. We provide average uninsurance rates over the 2011-2015 period for a range of geographic areas, including large areas such as congressional districts and counties, and smaller areas such as school districts and census tracts. Definitions of each geographic area are available in Table 1. This brief updates estimates of local uninsurance rates in Massachusetts from an earlier brief, which reported on averages for 2009–2013 from the 2009– 2013 five-year ACS.2

HIGHLIGHTS

The five-year average uninsurance rate fell slightly between 2009–2013 and 2011–2015 in Massachusetts, from 4.0 percent over 2009–2013 to 3.6 percent over 2011–2015. The counties with the highest and lowest overall uninsurance rates and number of uninsured were unchanged since 2009–2013.³ The overall uninsurance rate was highest in Dukes County, at 8.1 percent, and

lowest in Norfolk County, at 2.2 percent, in 2011–2015 (Figure 1 and Table 2). Middlesex County, which is home to nearly a quarter of the population of Massachusetts (over 1.5 million residents), had the highest average number of uninsured over the 2011–2015 period, at about 50,500, although the uninsured rate was only 3.3 percent. Nantucket County, which is the least populous county in the state (about 10,500 residents), had the lowest average number of uninsured over the 2011–2015 period, at 789, despite having the second highest uninsured rate in the state, at 7.5 percent (Table 2).

Across the state, the average uninsurance rate for children (aged 0 to 17) over the 2011–2015 period was 1.5 percent, compared with 4.9 percent for nonelderly adults (aged 18 to 64) and 0.4 percent for seniors (aged 65 and over). Barnstable County had the highest uninsurance rate for children (3.5 percent), while Dukes County had the highest uninsurance rate for adults (12.1 percent) (Table 3). All counties in the state had an uninsurance rate for seniors below 1.0 percent (Appendix E). Middlesex County had the largest number of uninsured among both children (4,360) and nonelderly adults (45,085) (Table 4). These rankings are unchanged from the 2009–2013 period.

In addition, over the 2011–2015 period, men had a higher average uninsurance rate than women in Massachusetts (4.5 and 2.7 percent, respectively). Dukes County had the highest average uninsurance rate for men (11.4 percent), while Nantucket County had the highest average uninsurance rate for women (5.7 percent) (Appendix E).

We note that the 2009-2013 estimates and the 2011-2015 estimates have three years in common, smoothing changes over time.

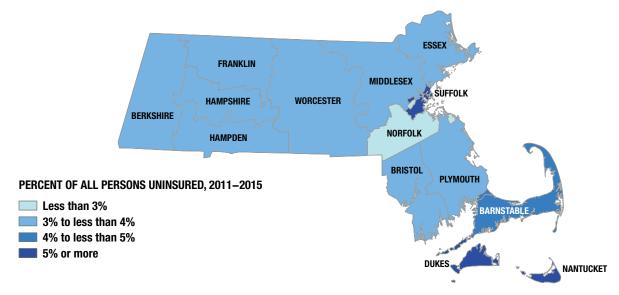




¹ Barnett J and Vornovitsky M. "Health Insurance Coverage in the United States: 2015." Washington, DC: US Government Publishing Office, 2016. Available online at https://www.census.gov/content/dam/Census/library/publications/2016/demo/p60-257.pdf.

² Long SK and Dimmock TH. "The Geography of Uninsurance in Massachusetts, 2009–2013." Boston, MA: Blue Cross Blue Shield of Massachusetts Foundation, 2015. Available online at http://bluecrossfoundation.org/publication/geography-uninsurance-massachusetts-2009-2013.

FIGURE 1: UNINSURANCE FOR PERSONS OF ALL AGES IN MASSACHUSETTS, BY COUNTY, 2011–2015 AVERAGE



Source: 2011-2015 ACS 5-year Estimates, Table B27001, Health insurance coverage status by sex and age.

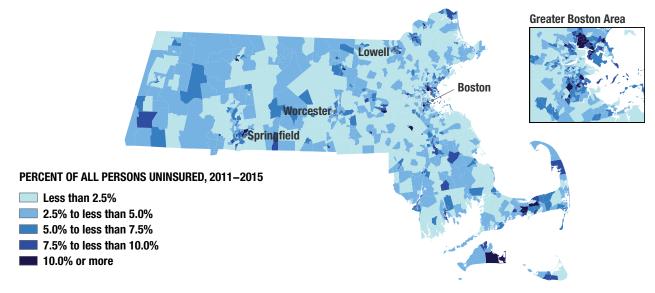
County-level measures of uninsurance in Massachusetts mask significant within-county variation. For example, when we look at county subdivisions, we see that in Middlesex County, where over 20 percent of the state's uninsured live, the uninsurance rate ranged from 0.1 percent in the town of Sudbury to 10.1 percent in the city of Everett (Appendix F). Similarly, in Dukes County, which had the highest average uninsurance rate in the state over the 2011–2015 period, the uninsurance rate ranged from no measured uninsurance in Gosnold to 17.0 percent in Edgartown (Appendix F). The 25 county subdivisions with the highest uninsurance rates were spread across 11 of Massachusetts' 14 counties (Barnstable, Berkshire, Bristol, Dukes, Essex, Hampden, Middlesex, Nantucket, Plymouth, Suffolk, Worcester), reflecting that pockets of high uninsurance are found throughout Massachusetts (Table 5).

Looking more closely within counties at neighborhoods, as represented by census tracts, we find high variation in uninsurance across small geographic areas. For example,

the uninsurance rate was 20.2 percent in a census tract in Suffolk County that is located in Boston, while the uninsurance rate in adjacent census tracts ranged from 8.5 percent to 19.9 percent. Overall, 51 census tracts in 10 of Massachusetts's 14 counties (Barnstable, Bristol, Dukes, Essex, Franklin, Hampden, Middlesex, Norfolk, Suffolk, and Worcester) had uninsurance rates above 10 percent (Figure 2 and Appendix J). For nonelderly adults, the uninsurance rate was at or above 10 percent in 171 neighborhoods spread across 13 counties (Barnstable, Berkshire, Bristol, Dukes, Essex, Franklin, Hampden, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester) (Figure 3 and Appendix J). For children, the uninsurance rate was generally guite low over the 2011–2015 period across the state, but the uninsurance rate was at or above 10 percent in 29 neighborhoods in 9 counties (Barnstable, Bristol, Essex, Hampden, Hampshire, Middlesex, Norfolk, Suffolk, and Worcester) (Figure 4 and Appendix J).

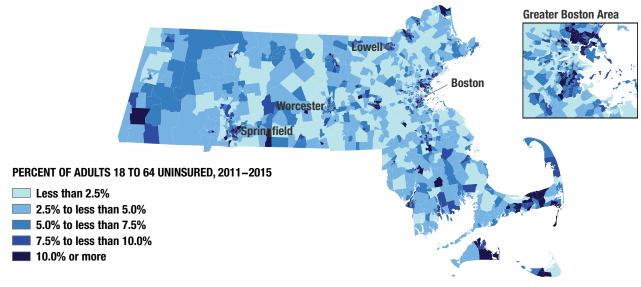
⁴ We note that insurance estimates for small areas such as census tracts can have very large margins of error due to small sample sizes for those areas in the 2011–2015 ACS.

FIGURE 2: UNINSURANCE FOR PERSONS OF ALL AGES IN MASSACHUSETTS, BY CENSUS TRACT, 2011–2015 AVERAGE



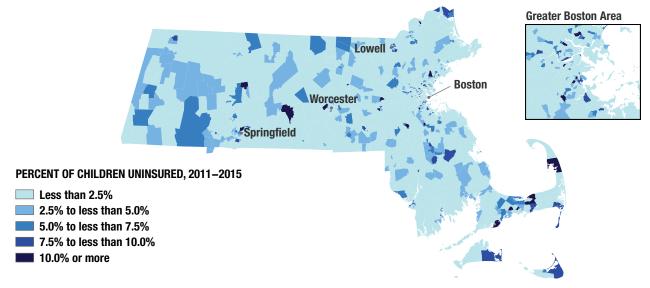
Source: 2011-2015 ACS 5-year Estimates, Table B27001, Health insurance coverage status by sex and age.

FIGURE 3: UNINSURANCE FOR NONELDERLY ADULTS AGED 18 TO 64 IN MASSACHUSETTS, BY CENSUS TRACT, 2011–2015 AVERAGE



Source: 2011–2015 ACS 5-year Estimates, Table B27001, Health insurance coverage status by sex and age.

FIGURE 4: UNINSURANCE FOR CHILDREN AGED 0 TO 17 IN MASSACHUSETTS, BY CENSUS TRACT, 2011–2015 AVERAGE



Source: 2011-2015 ACS 5-year Estimates, Table B27001, Health insurance coverage status by sex and age

ABOUT THE AMERICAN COMMUNITY SURVEY

The ACS is an annual survey of roughly 2 million households conducted by the U.S. Census Bureau to provide information on the demographic, socioeconomic, and housing circumstances of U.S. residents. The ACS uses an address-based sample frame and collects data by mail continuously throughout the year, with phone and in-person follow-up for nonrespondents. The survey sample for Massachusetts ranges from 40,000 to 45,000 households each year over the 2011–2015 period, for a total combined sample of over 200,000 Massachusetts residents. By combining survey responses across years, the 2011–2015 ACS is able to provide estimates of uninsurance rates for small areas such as census tracts, improving our understanding of the distribution of the uninsured in Massachusetts. 6

For this project we rely on the 2011–2015 ACS five-year average data obtained from American FactFinder, which provides data across a range of geographic units for Massachusetts, from nine U.S. congressional districts to

1,478 census tracts. The geographic units include both legal units (e.g., congressional districts, state legislative districts, and counties) and statistical units, which are defined by the Census Bureau for tabulating and reporting data (e.g., census tracts). We report on ten geographic units, which are defined in Table 1.

For each geographic unit, the ACS provides an estimate of the average number of people and the average number of uninsured people in the area for the 2011–2015 period by age and gender. We use those data to construct an estimate of the average uninsurance rate in each area. We provide detailed tables in the appendices showing the uninsurance rate overall, by gender, and by age group (children 0 to 17, nonelderly adults 18 to 64, and elderly adults 65 and older) for each of these geographic units.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the comments and suggestions of Sharon K. Long of the Urban Institute.

⁵ For additional information on the ACS, see https://www.census.gov/programs-surveys/acs/.

⁶ We note that insurance estimates for small areas, such as census tracts, can have very large margins of error due to small sample sizes for those areas in the 2011–2015 ACS.

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TABLE 1: SUIVIVIARY	UP GEOGRAPHIC HINES	IN THE 2011-2015 ACS

UNIT	DESCRIPTION
Congressional Districts	Congressional districts are the 435 areas in the nation from which people are elected to the U.S. House of Representatives. Massachusetts congressional districts are non-overlapping areas that cover the entire state. For the 112th Congress (January 2011–January 2013), Massachusetts had 10 congressional districts. For the 113th Congress (January 2013–January 2015) and the 114th Congress (January 2015–January 2017) Massachusetts had nine congressional districts as a result of reapportionment based on the 2010 census. The tabulations here use the congressional districts for the 114th Congress.
State Legislative Districts	State legislative districts (SLDs) are the areas from which members are elected to state legislatures. SLDs pertain to the upper (senate) and lower (house) chambers of the state legislature. SLDs are non-overlapping and cover the entire state. There are 40 state senate districts and 160 state house districts in Massachusetts.*
Public Use Microdata Areas	Public Use Microdata Areas (PUMAs) are created by the Census Bureau to partition each state into non-overlapping areas containing about 100,000 residents each. PUMAs are based on counties, subsets of counties (in urban areas), and combinations of counties (in more rural areas). There are 52 PUMAs in Massachusetts.
Counties	Counties or county equivalents are the primary legal divisions of most states. There are 14 counties in Massachusetts. Berkshire, Essex, Franklin, Hampden, Hampshire, Middlesex, and Worcester counties are no longer legal governmental units; however, the Census Bureau continues to present data for these historical entities in order to provide comparable geographic units at the county level of the geographic hierarchy, and it represents them as nonfunctioning legal entities in data products.
County Subdivisions	County subdivisions are the primary divisions of counties. Minor civil divisions (MCDs) are the primary governmental or administrative divisions of a county in many states. In some states, all or some incorporated places are not part of any MCD; these places are termed independent places. County subdivisions are non-overlapping and cover the entire state. There are 357 MCDs in Massachusetts. There are 298 towns with functioning, but not necessarily active, governments. The 53 incorporated places (see below) are independent of MCDs and serve as county subdivisions. In addition, there are six MCDs that consist entirely of water area within the territorial limits of Massachusetts.
Places	Places include incorporated places and census-designated places (CDPs). An incorporated place is established to provide governmental functions for a concentration of people, whereas a minor civil division generally is created to provide services or administer an area without regard, necessarily, to population. An incorporated place usually is a city, town, village, or borough but can have other legal descriptions. For Census Bureau data tabulation and presentation purposes, incorporated places exclude towns in Massachusetts. CDPs are the statistical counterparts of incorporated places and are delineated to provide data for settled concentrations of population that are identifiable by name but are not legally incorporated. There are no population size requirements for CDPs. Places are non-overlapping but do not necessarily cover the entire state. Massachusetts has 246 places: 53 incorporated places and 193 CDPs. The incorporated places are all cities.
School Districts	School districts are geographic entities that provide public educational services for the area's residents. The Census Bureau obtains the boundaries, names, local education agency codes, and school district levels for school districts from state and local school officials. Massachusetts has 68 elementary school districts, 32 secondary school districts, and 208 unified school districts.
Zip Code Tabulation Areas	ZIP Code Tabulation Areas (ZCTAs) are approximate area representations of U.S. Postal Service (USPS) five-digit ZIP code service areas that the Census Bureau creates, using whole blocks to present statistical data from censuses and surveys. The Census Bureau defines ZCTAs by allocating each block that contains addresses to a single ZCTA, usually to the ZCTA that reflects the ZIP code most frequently occurring for the addresses within that tabulation block. ZCTAs are non-overlapping and cover the entire state. There are 538 ZCTAs in Massachusetts.
Census Tracts	Census tracts are small, relatively permanent statistical subdivisions of a county. Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. Census tracts are non-overlapping areas that cover the entire state. Massachusetts has 1,478 census tracts.

^{*} In addition, there is one state senate district and one state house district not defined, each of which encompasses water areas. Sources: http://www.census.gov/geo/reference/guidestloc/st25_ma.html; http://www.census.gov/geo/reference/terms.html; http://www.census.gov/geo/reference/puma.html.

TABLE 2: RANKING OF COUNTIES IN MASSACHUSETTS BY UNINSURANCE RATE AND NUMBER OF UNINSURED FOR PERSONS OF ALL AGES, 2011–2015 AVERAGE

RANK BY UNINSURANCE RATE	TOTAL POPULATION	NUMBER Uninsured	UNINSURANCE Rate (%)	RANK BY NUMBER UNINSURED	TOTAL POPULATION	NUMBER UNINSURED	UNINSURANCE Rate (%)
Dukes County	16,937	1,373	8.1	Middlesex County	1,540,469	50,461	3.3
Nantucket County	10,504	789	7.5	Suffolk County	751,838	37,427	5.0
Suffolk County	751,838	37,427	5.0	Essex County	756,354	28,891	3.8
Barnstable County	212,288	9,389	4.4	Worcester County	798,977	25,877	3.2
Hampden County	462,556	18,254	3.9	Bristol County	545,791	20,921	3.8
Bristol County	545,791	20,921	3.8	Hampden County	462,556	18,254	3.9
Essex County	756,354	28,891	3.8	Plymouth County	496,174	16,134	3.3
Franklin County	70,394	2,369	3.4	Norfolk County	679,055	15,038	2.2
Middlesex County	1,540,469	50,461	3.3	Barnstable County	212,288	9,389	4.4
Plymouth County	496,174	16,134	3.3	Hampshire County	159,407	5,043	3.2
Worcester County	798,977	25,877	3.2	Berkshire County	127,024	3,997	3.1
Hampshire County	159,407	5,043	3.2	Franklin County	70,394	2,369	3.4
Berkshire County	127,024	3,997	3.1	Dukes County	16,937	1,373	8.1
Norfolk County	679,055	15,038	2.2	Nantucket County	10,504	789	7.5

 $Source:\ 2011-2015\ ACS\ 5-year\ Estimates,\ Table\ B27001,\ Health\ insurance\ coverage\ status\ by\ sex\ and\ age.$

TABLE 3: RANKING OF COUNTIES IN MASSACHUSETTS BY UNINSURANCE RATE FOR CHILDREN AND NONELDERLY ADULTS, 2011–2015 AVERAGE

	CHILDREN 0 TO 17				NONELDERLY ADULTS 18 TO 64			
RANK BY UNINSURANCE RATE	TOTAL Population	NUMBER UNINSURED	UNINSURANCE Rate (%)	RANK BY UNINSURANCE RATE	TOTAL Population	NUMBER UNINSURED	UNINSURANCE Rate (%)	
Barnstable County	34,706	1,219	3.5	Dukes County	10,586	1,281	12.1	
Dukes County	3,158	73	2.3	Nantucket County	6,893	753	10.9	
Hampshire County	25,268	486	1.9	Barnstable County	120,957	8,102	6.7	
Berkshire County	23,320	406	1.7	Suffolk County	542,174	34,775	6.4	
Franklin County	13,183	224	1.7	Hampden County	289,579	16,459	5.7	
Plymouth County	114,990	1,810	1.6	Bristol County	347,511	19,222	5.5	
Hampden County	106,375	1,656	1.6	Essex County	475,165	25,913	5.5	
Essex County	169,527	2,628	1.6	Plymouth County	305,700	14,011	4.6	
Suffolk County	131,042	1,877	1.4	Berkshire County	78,947	3,573	4.5	
Nantucket County	2,231	31	1.4	Franklin County	45,239	2,047	4.5	
Middlesex County	321,884	4,360	1.4	Worcester County	512,342	23,182	4.5	
Bristol County	117,963	1,585	1.3	Middlesex County	1,011,846	45,085	4.5	
Worcester County	180,326	2,381	1.3	Hampshire County	112,357	4,496	4.0	
Norfolk County	150,294	1,662	1.1	Norfolk County	427,183	13,028	3.0	

 $Source:\ 2011-2015\ ACS\ 5-year\ Estimates,\ Table\ B27001,\ Health\ insurance\ coverage\ status\ by\ sex\ and\ age.$

TABLE 4: RANKING OF COUNTIES IN MASSACHUSETTS BY NUMBER OF UNINSURED FOR CHILDREN AND NONELDERLY ADULTS, 2011–2015 AVERAGE

		CHILDREN 0 TO 1	7		NONELDERLY ADULTS 18 TO 64			
RANK BY NUMBER UNINSURED	TOTAL Population	NUMBER Uninsured	UNINSURANCE Rate (%)	RANK BY NUMBER UNINSURED	TOTAL Population	NUMBER Uninsured	UNINSURANCE RATE (%)	
Middlesex County	321,884	4,360	1.4	Middlesex County	1,011,846	45,085	4.5	
Essex County	169,527	2,628	1.6	Suffolk County	542,174	34,775	6.4	
Worcester County	180,326	2,381	1.3	Essex County	475,165	25,913	5.5	
Suffolk County	131,042	1,877	1.4	Worcester County	512,342	23,182	4.5	
Plymouth County	114,990	1,810	1.6	Bristol County	347,511	19,222	5.5	
Norfolk County	150,294	1,662	1.1	Hampden County	289,579	16,459	5.7	
Hampden County	106,375	1,656	1.6	Plymouth County	305,700	14,011	4.6	
Bristol County	117,963	1,585	1.3	Norfolk County	427,183	13,028	3.0	
Barnstable County	34,706	1,219	3.5	Barnstable County	120,957	8,102	6.7	
Hampshire County	25,268	486	1.9	Hampshire County	112,357	4,496	4.0	
Berkshire County	23,320	406	1.7	Berkshire County	78,947	3,573	4.5	
Franklin County	13,183	224	1.7	Franklin County	45,239	2,047	4.5	
Dukes County	3,158	73	2.3	Dukes County	10,586	1,281	12.1	
Nantucket County	2,231	31	1.4	Nantucket County	6,893	753	10.9	

Source: 2011–2015 ACS 5-year Estimates, Table B27001, Health insurance coverage status by sex and age.

TABLE 5: TOP 25 COUNTY SUBDIVISIONS IN MASSACHUSETTS BY UNINSURANCE RATE AND NUMBER OF UNINSURED FOR PERSONS OF ALL AGES, 2011–2015 AVERAGE

RANK BY UNINSURANCE RATE	TOTAL POPULATION	NUMBER UNINSURED	UNINSURANCE RATE (%)	RANK BY Number Uninsured	TOTAL Population	NUMBER UNINSURED	UNINSURANCI RATE (%)
Edgartown town, Dukes County	4,187	711	17.0	Boston city, Suffolk County	643,908	29,987	4.7
Everett city, Middlesex County	43,714	4,413	10.1	Springfield city, Hampden County	153,063	8,308	5.4
Washington town, Berkshire County	554	55	9.9	Worcester city, Worcester County	181,287	7,730	4.3
Chelsea city, Suffolk County	37,110	3,605	9.7	Lowell city, Middlesex County	108,161	7,091	6.6
Great Barrington town, Berkshire County	6,510	544	8.4	Lawrence city, Essex County	78,108	6,216	8.0
Wellfleet town, Barnstable County	3,109	253	8.1	Lynn city, Essex County	91,294	5,575	6.1
Lawrence city, Essex County	78,108	6,216	8.0	New Bedford city, Bristol County	93,475	5,374	5.7
Halifax town, Plymouth County	7,663	601	7.8	Fall River city, Bristol County	87,611	5,203	5.9
Tisbury town, Dukes County	4,038	307	7.6	Framingham town, Middlesex County	69,128	4,906	7.1
Nantucket town, Nantucket County	10,504	789	7.5	Brockton city, Plymouth County	93,441	4,800	5.1
Salisbury town, Essex County	8,648	640	7.4	Everett city, Middlesex County	43,714	4,413	10.1
Framingham town, Middlesex County	69,128	4,906	7.1	Malden city, Middlesex County	60,477	3,611	6.0
Chester town, Hampden County	1,535	106	6.9	Chelsea city, Suffolk County	37,110	3,605	9.7
Barnstable Town city, Barnstable County	44,456	3,014	6.8	Somerville city, Middlesex County	78,436	3,555	4.5
Lowell city, Middlesex County	108,161	7,091	6.6	Revere city, Suffolk County	52,858	3,248	6.1
Russell town, Hampden County	1,561	102	6.5	Quincy city, Norfolk County	92,700	3,061	3.3
Acushnet town, Bristol County	10,374	645	6.2	Barnstable Town city, Barnstable County	44,456	3,014	6.8
Revere city, Suffolk County	52,858	3,248	6.1	Cambridge city, Middlesex County	107,534	2,864	2.7
Lynn city, Essex County	91,294	5,575	6.1	Haverhill city, Essex County	61,372	2,372	3.9
Yarmouth town, Barnstable County	23,468	1,413	6.0	Waltham city, Middlesex County	62,220	2,225	3.6
Malden city, Middlesex County	60,477	3,611	6.0	Taunton city, Bristol County	55,727	2,180	3.9
Fall River city, Bristol County	87,611	5,203	5.9	Leominster city, Worcester County	40,822	2,027	5.0
West Brookfield town, Worcester County	3,613	208	5.8	Chicopee city, Hampden County	55,688	1,953	3.5
New Bedford city, Bristol County	93,475	5,374	5.7	Marlborough city, Middlesex County	38,999	1,905	4.9
Cummington town, Hampshire County	907	52	5.7	Fitchburg city, Worcester County	39,964	1,800	4.5

 $Source: 2011-2015 \ ACS \ 5-year \ Estimates, Table \ B27001, Health insurance \ coverage \ status \ by \ sex \ and \ age.$