

Regional HealthCare Workforce Profile

Produced by HealthLandscape, LLC

for

**Urban Universities for HEALTH (Health Equity Alignment through
Leadership and Transformation of the Health Workforce)**

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Introduction

The University of Cincinnati is a member of the Urban Serving Universities, a national coalition working to revitalize urban America by tapping into the vast resources of urban public research universities. The coalition functions to advocate policies, positions and legislative strategies that further the urban agenda at national, state and regional levels.

Urban Universities for HEALTH (Health Equity Alignment through Leadership and Transformation of the Health Workforce) is in need of a regional, small-area profile of the healthcare workforce. Historically, this population is difficult to accurately enumerate and profile, requiring multiple data sources to create a comprehensive view.

Summary of Results and Recommendations

HealthLandscape has created a comprehensive Regional Healthcare Workforce Profile based on reputable and replicable data sources including the American Medical Association Master File (AMA), The Bureau of Health Professions Area Resource File (ARF), the National Plan and Provider Enumeration System (also known as the National Provider Identifier file, or NPI), the American Community Survey Public Use Microdata Sample, and Ohio state licensure files. All data were collected in December 2013.

For many professions, the counts varied widely between the datasets consulted – we attribute this to the differing goals of the datasets and discuss possible reasons for variation, in detail, within each section below. In addition, HealthLandscape reviewed other data sources for completeness and appropriateness, including the US County/ZIP Code Business patterns and business listings from Dunn & Bradstreet. While these data sources were initially considered for inclusion in the counts, we ultimately decided that they were not robust enough to provide more useful information than the traditional provider enumeration datasets. Finally, we provide a comprehensive summary of the demographic makeup and population health of Hamilton County. Detailed tables with population counts can be found in the appendix.

The variation in counts by profession underscores the limitations of the existing datasets. The Ohio state licensure files provide the closest approximation of a comprehensive count, but they are not without flaws. First and foremost, we have no way of knowing whether or not an individual is actively practicing in their listed specialty. Second, we don't know what the actual practice location is, since state licensure data is based on home address rather than business practice location. Third, we have no way of knowing if an individual is represented twice, with multiple license types, under multiple names.

The AMA Masterfile suffers from similar issues, the main limitation being that we have no way of knowing if a listed physician is still practicing medicine. A physicians' AMA

record is established when they enter an accredited medical school and is, theoretically, continually updated as the individual earns additional certifications and moves to practice around the country. There may be significant omissions and/or lag time between updates. A 2007 analysis conducted by the Rutgers Center for State Health Policy suggests that states would be better served by conducting their own internal physician census than by using the AMA Masterfile. They found that the AMA did not accurately capture information on specialty area and current practice status, among other demographic measurements. Further, they find problems with the AMA protocol of listing only one office location per physician – this can lead to incorrect estimates of the number of physicians practicing in any given state or county. This echoes the findings of a 2000 study which showed that relying solely on the AMA Masterfile for local physician counts can result in as much as a 20% overstatement (Konrad, Slifkin, Stevens, & Miller, 2000). There is also no way of knowing if the address on record is actually a practice address, rather than a home or mailing address.

The NPI database contains information for many healthcare professionals beyond just physicians, but the data is of somewhat limited use because it only includes those individuals who have applied for and received a Medicare billing number. We have limited the dataset used for this report to include only those providers whose record shows a Business Practice Location within Hamilton County.

There have been previous efforts to enumerate the local healthcare workforce. Prior to this report, the Primary Care Capacity Study (PCC) attempted to do so in order to evaluate the potential need for primary care providers, given the influx of covered adults under the Affordable Care Act. In order to get past the previously described data limitations, they created a custom dataset by combining information from multiple data sources. Their findings were based on a dataset initialized by The Health Collaborative, and included information from the AMA, Business Courier, Medical Group Management Association, and State License Boards. Initial data was obtained from the state agencies, and then “cleansed” by cross-checking other data sources (internet, yellow pages, phone calls, health systems) to verify practice status. Physicians were only included in the database if they could be verified. Pediatricians were NOT included in the database, as the mission of the PCC was to account for increased demand by Medicaid and newly insured adults.

It is clear that what we lack when it comes to the enumeration of the healthcare workforce is a single, comprehensive database that collects and tracks information at the individual level across all healthcare professions. A 2013 paper by the Medicare and Medicaid Research Review suggests that a more accurate picture of the healthcare workforce could be generated by linking the NPI data with other, more regularly updated datasets such as the AMA Masterfile, the Provider Enrollment, Chain, and Ownership

System, and the Medicare- and Medicaid-Fee-for-Service Claims data (Bindman, 2013). Future research into this type of collaboration is needed.

In addition to a large-scale effort to link existing datasets, we should also explore possible state- and county-level efforts to expand and improve upon the data collected by medical providers. States maintain their own licensure data for a variety of care providers, but there is little standardization across provider types, let alone across state boundaries. One path to explore would be to create a task force to evaluate the data recorded and maintained by the state of Ohio, with the goal of determining whether the data collected is appropriate and sufficient to allow for regular snapshots of the health of the workforce. If the data collection and database maintenance performed by the state is deemed not sufficient, steps could be taken to revise the reporting requirements, collection procedures, and data verification and update schedule to better serve the needs of health workforce researchers. One of the main limitations of the existing datasets is the frequency of updates. With the AMA Masterfile, especially, lags in data updates and lack of detail on current practice status make it difficult to get an accurate view of the current state of the workforce.

While standardization across the state would be ideal, from the standpoint of time and resources it may be impractical. Resources may be better allocated by focusing on a local effort, to include either Hamilton County, alone, or expand to include the larger Cincinnati Metro Area. By focusing efforts on a much smaller geographic area, we may be able to not only develop a solution that works for our region, but take steps to create a model for other regions to follow, as well.

Detailed Results by Profession

Primary Care Physicians

Summary

In order to more narrowly define “physician,” our counts were limited to MDs and DOs who designate themselves in one of the following categories; Family Medicine, General Practice, Internal Medicine, and Pediatrics. We generated counts from three datasets, including the American Medical Association Masterfile (AMA), the National Plan and Provider Enumeration database (NPI), and the Area Resource File (ARF). The three available datasets result in very different physician counts, ranging from 896 in the AMA to 1,496 in the NPI. All three datasets show that most physicians fall into the “internal medicine” category.

Data Availability and Quality

The three datasets used to generate our estimates reflect vastly different ways of counting the number of physicians. A physicians’ AMA record is established when they enter an accredited medical school. Certification information is continually added to that record. The NPI only reflects those physicians who have applied for and received a Medicare billing number. For our purposes, we have limited the dataset to those physicians whose record shows a Business Practice Location within Hamilton County. ARF totals are based on the AMA dataset.

Demographic data comes from the American Community Survey, and only provides a sample estimate for the Cincinnati MSA.

Detailed Tables and Charts

	AMA	NPI*	ARF (2011)
Family Medicine	228	267	232
General Practice	18	27	15
Internal Medicine	404	779	492
Pediatrics	246	423	370
Total	896	1,496	1,109

* Based on primary taxonomy

Demographic Characteristics of Physicians, Cincinnati MSA

	Count	Percent
Age		
25 to 34	925	26.7%
35 to 44	642	18.5%
45 to 54	1053	30.4%
55 to 64	570	16.4%
65 to 74	241	7.0%
75 or Older	37	1.1%
Sex		
Male	2246	64.8%
Female	1222	35.2%
Race		
White	2714	78.3%
Black	73	2.1%
Asian	565	16.3%
Other	116	3.3%
Language Spoken at Home		
English	2573	74.2%
Spanish	92	2.7%
Tagalog	156	4.5%
Urdu	181	5.2%
French	54	1.6%
Other	412	11.9%
Class of Worker		
Employee of a private for-profit	1729	49.9%
Employee of a private not-for-profit	933	26.9%
Local government employee	57	1.6%
State government employee	90	2.6%
Federal government employee	36	1.0%
Self-employed, not incorporated	213	6.1%
Self-employed, incorporated	410	11.8%

Source: American Community Survey 5-year PUMS, 2007-2011

Advanced Practice Nurses (by specialty), Registered Nurses

Summary

There are 13,572 licensed nurses in Hamilton County. Nearly three-quarters (73.3%) of them are Registered Nurses (RN). Nearly a third (32.7%) have been licensed for 5 or fewer years, and slightly more than a third (35.8%) for 21 years or more. According to the American Community Survey PUMS data, 60.8% of nurses are employed by a private, for-profit organization. Nurses are distributed about evenly between the ages of 25 and 64 and the vast majority of nurses are female (90.7%).

Data Availability and Quality

Nursing data are available from Ohio state license files and the NPI (the ARF was left out of this analysis, as it pulls its information from the NPI dataset). For detailed tables and charts, only data from the state license file are included, as it appears to provide a more accurate estimate of the number of nurses in Hamilton County. Data from the NPI can be found in the appendix. Demographic data comes from the American Community Survey, and only provides a sample estimate for the Cincinnati MSA.

Detailed Tables and Charts

Nurses by License Type, Hamilton County

	Count	Percent
COA – Nurse Anesthetist	172	1.3%
COA – Nurse Midwife	8	0.1%
COA – Nurse Practitioner	177	1.3%
COA – Clinical Nurse Specialist	80	0.6%
Certified Dialysis Technician	88	0.6%
PN – IV	1459	10.8%
PN – MEDS	1189	8.8%
PN	11	0.1%
RN	9944	73.3%
RN – COA1 (APN)	27	0.2%
RX – Prescriptive Authority	303	2.2%
RX – EX1 Prescriptive Authority – Externship	44	0.3%
RX – EX2 Prescriptive Authority – Externship Extension	7	0.1%
Community Health Worker	30	0.2%
Medication Aide Certified	29	0.2%
Medication Aide Certified- Residential	4	0.0%
Total	13,572	

Source: Ohio License File, Fall, 2013

Nurses by Years of Practice, Hamilton County

	Count	Percent
5 Years or Fewer	4,442	32.7%
6-10 Years	1,834	13.5%
11-15 Years	1,107	8.2%
16-20 Years	1,323	9.7%
21 Years or More	4,865	35.8%
Missing	1	0.0%
Total	13,572	

Source: Ohio License File, Fall, 2013

Demographic Characteristics of Nurses, Cincinnati MSA

	Count	Percent
Age		
Less than 24	530	4.3%
25 to 34	2746	22.1%
35 to 44	2794	22.5%
45 to 54	3241	26.1%
55 to 64	2604	21.0%
65 to 74	449	3.6%
75 or Older	45	0.4%
Gender		
Male	1154	9.3%
Female	11255	90.7%
Race		
White	11326	91.3%
Black	787	6.3%
Asian	196	1.6%
Other	100	0.8%

(cont.)

Demographic Characteristics of Nurses, Cincinnati MSA (cont.)

	Count	Percent
Class of Worker		
Employee of a private for-profit	7542	60.8%
Employee of a private not-for-profit	3895	31.4%
Local government employee	325	2.6%
State government employee	280	2.3%
Federal government employee	274	2.2%
Self-employed, not incorporated	93	0.8%
ESR		
Employed, at work	10844	87.4%
Employed, not at work	222	1.8%
Unemployed	288	2.3%
Not in labor force	1055	8.5%

Source: American Community Survey 5-year PUMS, 2007-2011

Pharmacists

Summary

There were approximately 1019 Pharmacists in Hamilton County in 2009.

Data Sources including availability & quality

Pharmacist data come from the National Plan and Provider Enumeration System (NPI) database and the Area Resource File. While the NPI database contains more recent data, this dataset only includes pharmacists who have applied for and received a Medicare billing number, thus likely provides an underrepresentation of the actual number of Pharmacists in the county. Pharmaceutical specialty is collected in the NPI, however most pharmacists in Hamilton County did not designate a specialty in the data system.

Detailed Tables and Charts

	Year	Pharmacists
NPI	2013	397
Area Resource File	2009	1019
Area Resource File	2000	895

	Count
Pharmacists (NPI)	397
Specialty (where designated)	
Geriatric	4
Nuclear	1
Nutrition Support	3
Oncology	2
Pharmacist Clinician	25
Pharmacotherapy	24
Psychiatric	5

Source: NPI, Fall, 2013

Audiologists

Summary

There are currently 101 licensed Audiologists in Hamilton County. Over 25 percent are employed at CCHMC. Slightly more than a third have been licensed for 21 or more years.

Data Availability & Quality

Audiologist data were drawn from multiple data sources; the Ohio state licensing bureau, the Area Resource File, and the National Plan Provider and Enumeration System (NPI). The counts from each dataset were relatively close, ranging from 101 in the Ohio license file to 62 in the NPI. The NPI counts are expected to be lower because they only include providers who have applied for and received a Medicare billing number.

Detailed Tables and Charts

Hamilton County Audiologists, by Data Source, Various Years

	Year	Audiologists
Ohio License	2013	101
NPI	2013	62
Area Resource File	2009	92
Area Resource File	2000	65

Audiologists by Years of Practice, Hamilton County

	Count	Percent
5 Years or Fewer	18	17.8%
6-10 Years	13	12.9%
11-15 Years	16	15.8%
16-20 Years	17	16.8%
21 Years or More	37	36.6%
Total	101	

Source: Ohio License File, Fall, 2013

Physical Therapists

Summary

There are currently 648 licensed Physical Therapists and 171 licensed Physical Therapy Assistants in Hamilton County. 23% of Physical Therapists practice in a Health System or Hospital-Based Outpatient Facility/Clinic. The age distribution in this field is unique, with large percentages falling on either end of the spectrum – nearly a third have been practicing for less than 5 years and nearly a quarter have been practicing for 21 or more years.

Data Sources including availability & quality

Physical Therapist and Physical Therapist Assistant data were drawn from multiple data sources; the Ohio state licensing bureau, the Area Resource File, and the National Plan Provider and Enumeration System (NPI). The license dataset contains almost double the number of Physical Therapists. We attribute the vast difference in counts to the fact that the NPI only includes Physical Therapists who have applied for and received a Medicare billing number.

Detailed Tables and Charts

Hamilton County Physical Therapists, by Data Source

	Year	Physical Therapists	PT Assistants
Ohio License	2013	648	171
NPI	2013	338	51
Area Resource File	2009	554	--
Area Resource File	2000	425	110

Physical Therapists by Years of Practice, Hamilton County (Ohio License File)

	Count	Percent
5 Years or Fewer	204	31.5%
6-10 Years	117	18.1%
11-15 Years	109	16.8%
16-20 Years	58	9.0%
21 Years or More	160	24.7%
Total	645	

Source: Ohio License File, Fall, 2013

Registered Dietitians

Summary

There are currently 357 Registered Dietitians in Hamilton County.

Data Availability & Quality

The count of 357 Registered Dietitians comes from the state license files. The NPI database only includes 83 RDs, which we attribute to the fact that many RDs do not have a need to bill Medicare for their services, thus have not received an NPI number.

Detailed Tables and Charts

Hamilton County Dietitians, by Data Source, Various Years

	Year	Licensed Dietitians
Ohio License	2013	357
NPI	2013	83

Social Workers

Summary

The State of Ohio license file includes 2,649 social workers in Hamilton County. The majority hold Licensed Social Worker and Licensed Independent Social Worker licenses. Nearly half of all licensed social workers have been licensed for 5 years or fewer.

Data Availability & Quality

Social Worker data were drawn from the Ohio state licensing bureau and the National Plan Provider and Enumeration System (NPI). The license dataset contains four times the number of Licensed Social Workers. We attribute the vast difference in counts to the fact that the NPI only includes Social Workers who have applied for and received a Medicare billing number.

Detailed Tables & Charts

Hamilton County Social Workers, by Data Source

	Year	Count
Ohio License	2013	2649
NPI	2013	662

Hamilton County Social Workers, by License Type

	Count	Percent
Licensed Professional Counselor	288	10.9%
Licensed Professional Clinical Counselor	349	13.2%
Independent Marriage and Family Therapist	17	0.6%
Licensed Independent Social Worker	780	29.4%
Marriage and Family Therapist	8	0.3%
Licensed Social Worker	1201	45.3%
Registered Social Worker Assistant	6	0.2%
Total	2,649	

Source: Ohio License File, Fall, 2013

Social Workers by Years of Practice, Hamilton County

	Count	Percent
5 Years or Fewer	1289	48.7%
6-10 Years	361	13.6%
11-15 Years	259	9.8%
16-20 Years	246	9.3%
21 Years or More	494	18.6%
Total	2649	

Source: Ohio License File, Fall, 2013

Speech-Language Pathologists

Summary

There are 475 licensed Speech-Language Pathologists in Hamilton County, the largest share of them employed at CCHMC and CPS. About 30% have been practicing for less than 5 years and 31% have been practicing for 21 or more years.

Data Availability & Quality

Speech-Language Pathologist data were drawn from multiple data sources; the Ohio state licensing bureau, the Area Resource File, and the National Plan Provider and Enumeration System (NPI). The counts from the ARF and the state licensing dataset are relatively close. They both contain four times the number of Speech-Language Pathologists as the NPI. Again, we attribute the difference in counts to the fact that the NPI only includes those Speech-Language Pathologists who have applied for and received a Medicare billing number.

Detailed Tables & Charts

Hamilton County Speech-Language Pathologists, by Data Source, Various Years

	Year	SLP
Ohio License	2013	475
NPI	2013	119
Area Resource File	2009	486
Area Resource File	2000	360

Speech-Language Pathologists by Years of Practice, Hamilton County

	Count	Percent
5 Years or Fewer	141	29.7%
6-10 Years	63	13.3%
11-15 Years	83	17.5%
16-20 Years	41	8.6%
21 Years or More	147	30.9%
Total	475	

Source: Ohio License File, Fall, 2013

Community Health Workers

Summary

The NPI dataset only includes three individuals designated as “Community Health Workers.” The state license file, however, includes an additional 30 nurses with that designation.

Data Sources including availability & quality

The small count for Community Health Workers in both the NPI dataset and the state license file may be attributable to the fact that most providers do not have a specialty area designated in their record.

Detailed Tables and Charts

	Year	Community Health Workers
Ohio License (Nursing)	2013	30
NPI	2013	3

Community Profile

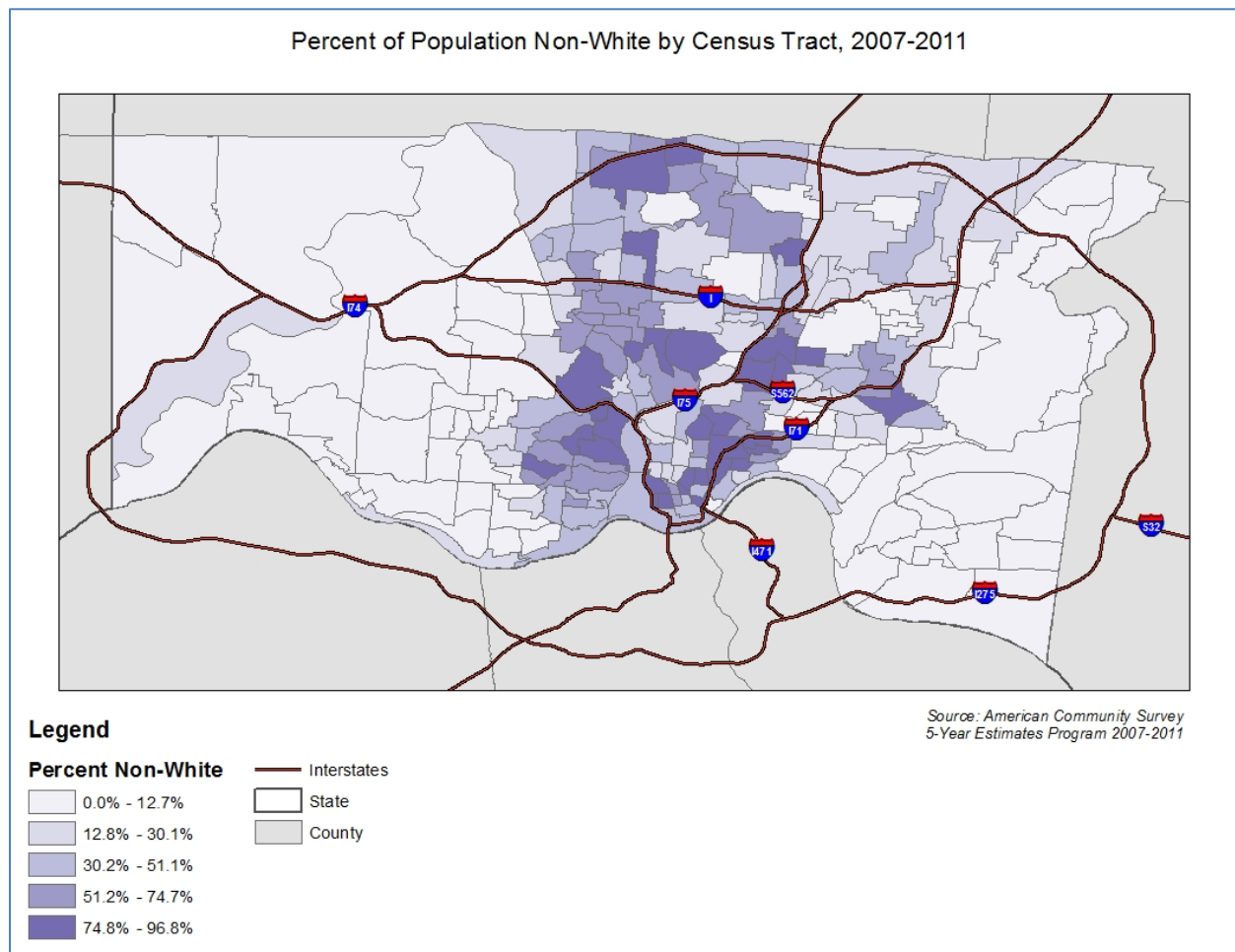
Demographic Profile

Hamilton County, Ohio is home to 801,223 people. The majority of the population is white and not of Hispanic origin. *(Detailed counts for each table are presented in the appendix)*

Population by Race

	Hamilton County	United States
White	71.5%	76.3%
African-American	26.8%	13.5%
Other Race	1.7%	10.2%

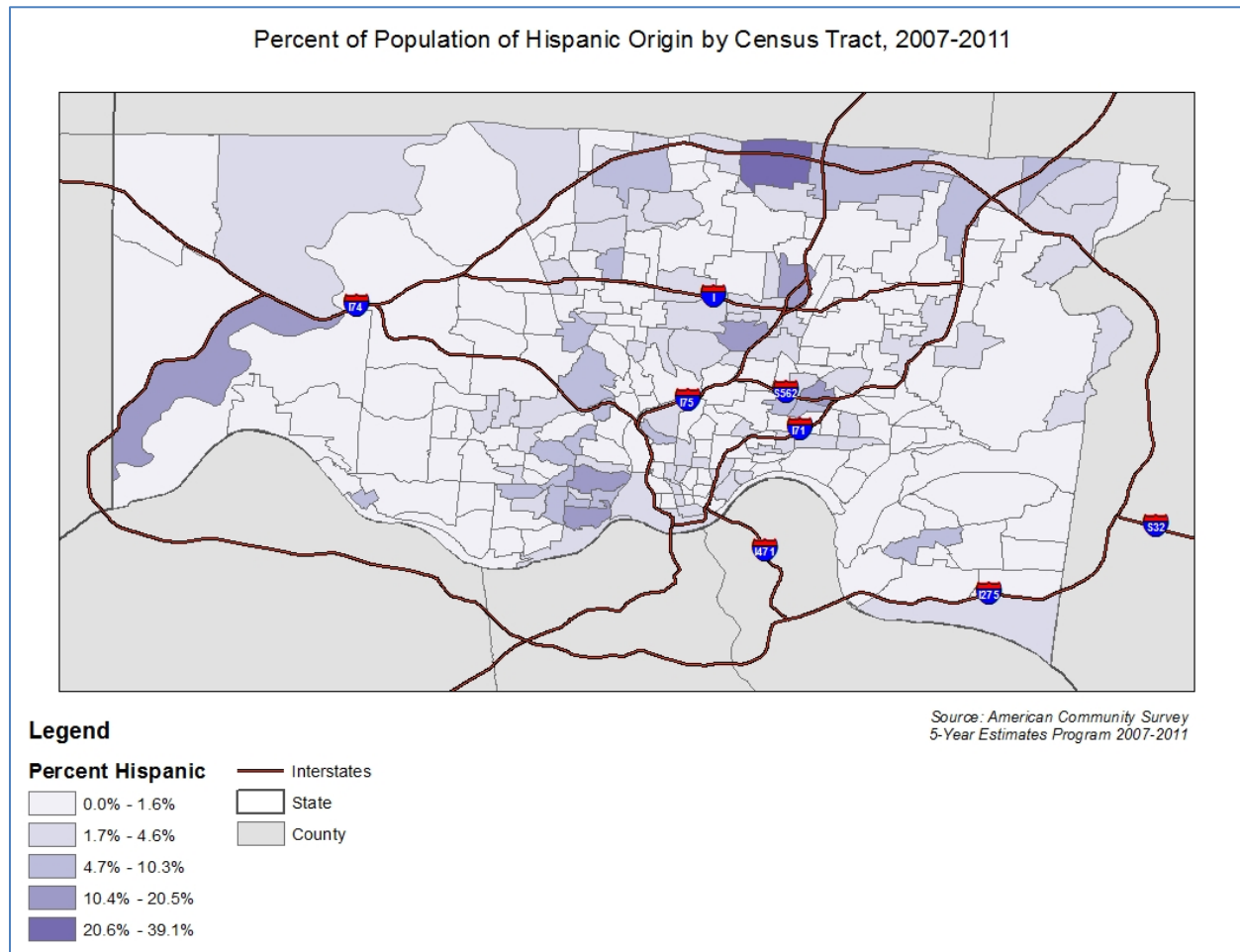
*Source: American Community Survey 5-Year Estimates, 2007-2011



Hispanic Origin

	Hamilton County	United States
Not Hispanic	97.6%	83.9%
Hispanic origin or descent	2.4%	16.1%

*Source: American Community Survey 5-Year Estimates, 2007-2011



Age Distribution

The median age in Hamilton County is 37. The overall Age Dependency Ratio is 59.0, meaning that there are 59 persons either under the age of 15 or older than the age of 64 per 100 persons in the 15-64 age group. The Old-Age Dependency Ratio is 21.1 and the Child Dependency Ratio (Under 15 years) is 37.8.

	Hamilton County	United States
Median age (years)	37	37
65 years and over	13.3%	12.9%
Under 15 Years	19.5%	19.9%
Age dependency ratio	59.0	58.9
Old-age dependency ratio	21.1	20.4
Child dependency ratio	37.8	38.4

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Educational Attainment

The majority of Hamilton County residents aged 25 and over (87.9%) have at least a high school level of education, with nearly a third (32.9%) having received a bachelor's degree from a college or university.

	Hamilton County	United States
Less than 9th grade	3.2%	6.1%
9th to 12th grade, no diploma	8.9%	8.5%
High school graduate (includes equivalency)	27.7%	28.6%
Some college, no degree	19.9%	21.0%
Associate's degree	7.3%	7.6%
Bachelor's degree	20.4%	17.7%
Graduate or professional degree	12.6%	10.5%
High school graduate or higher	87.9%	85.4%
Bachelor's degree or higher	32.9%	28.2%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

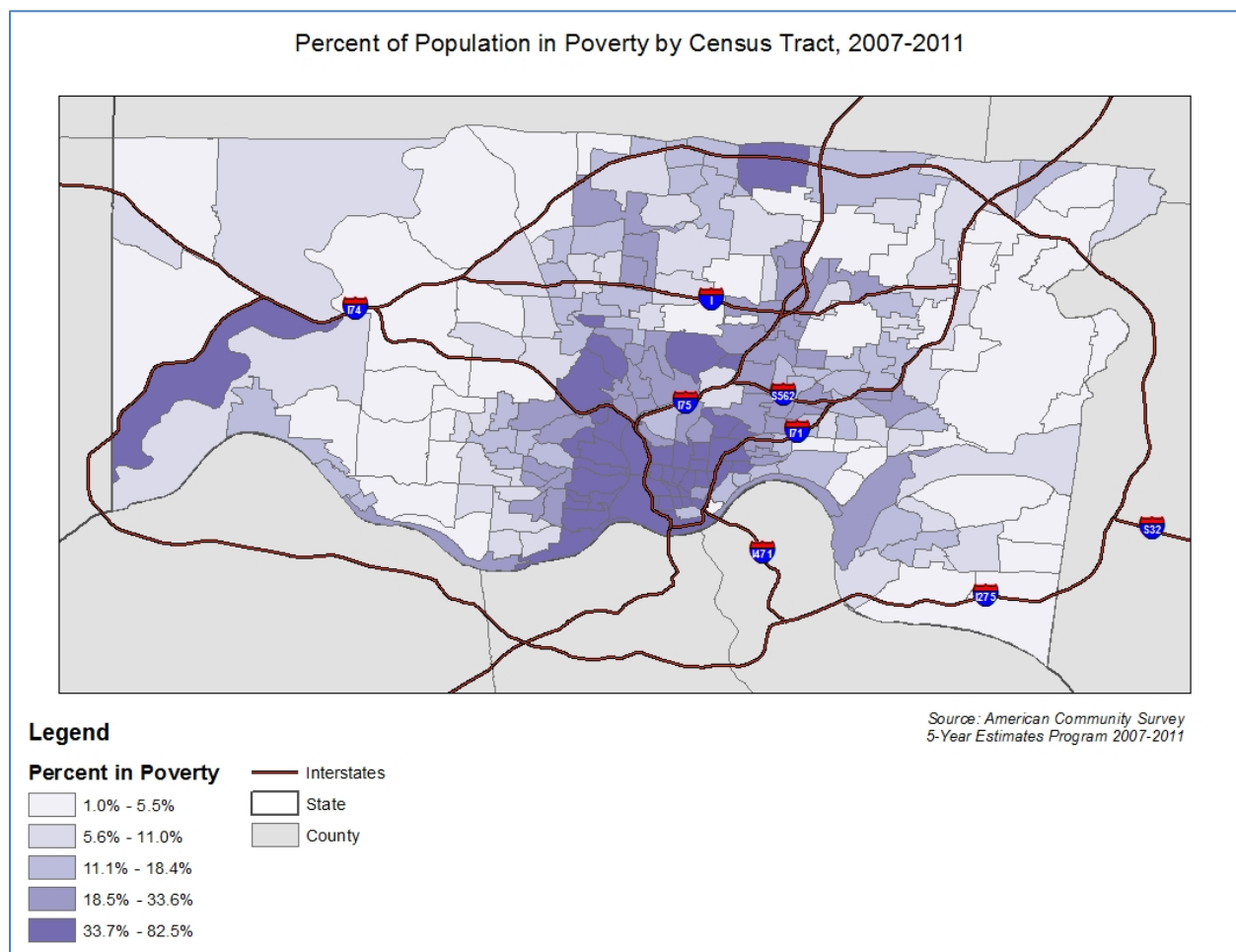
Poverty Status and Income

15.9% of the population falls below the Federal Poverty Level. When looking at poverty status by age group, 23.6% of the population under the age of 18 is living in poverty.

Percent of Population Living in Poverty

	Hamilton County	United States
All people	15.9%	14.3%
Under 18 years	23.6%	20.0%
18 years and over	13.5%	12.5%
18 to 64 years	14.5%	13.1%
65 years and over	8.8%	9.4%

**Source: American Community Survey 5-Year Estimates, 2007-2011*



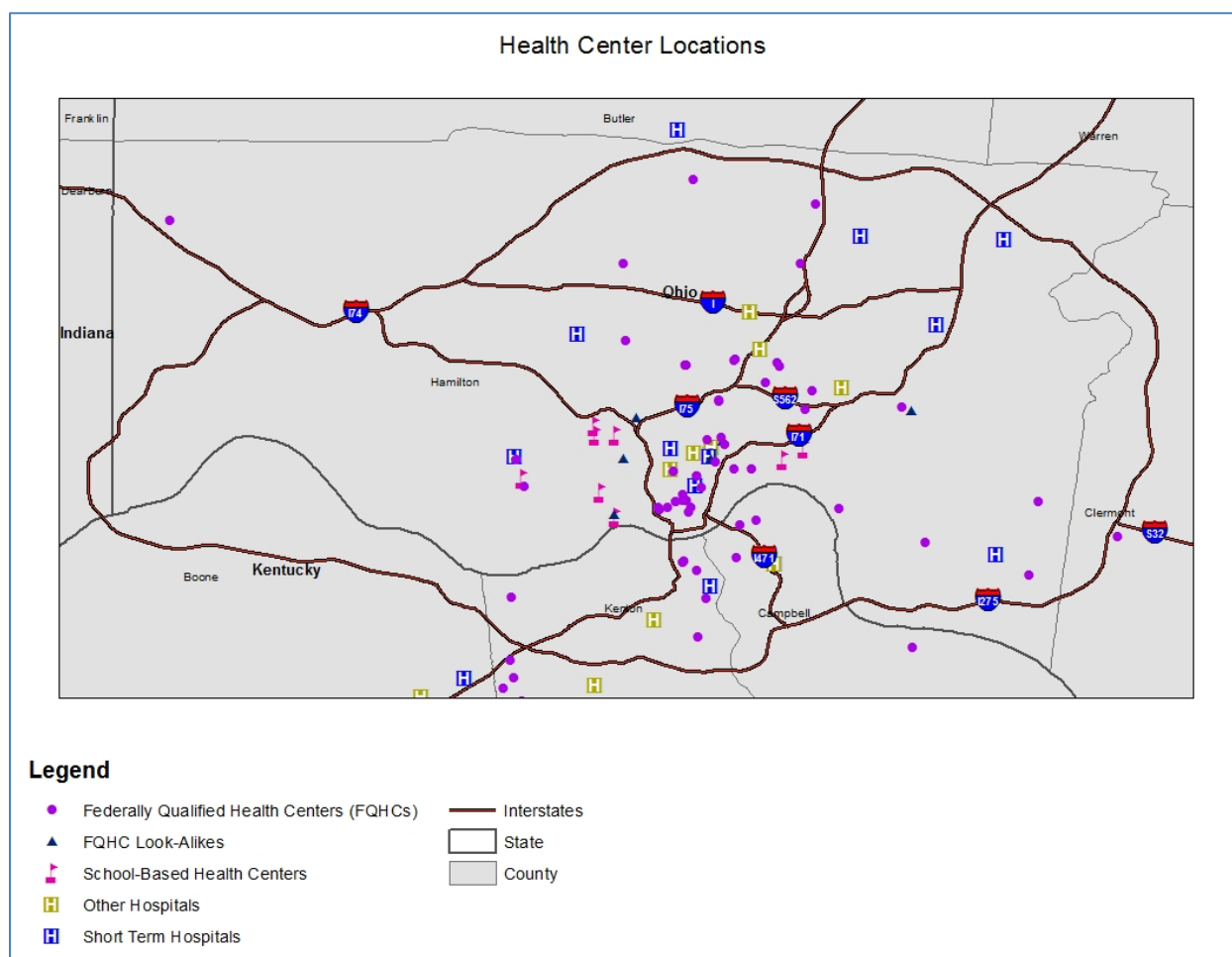
Income

	Hamilton County	United States
Per Capita Income	29,197	27,915
Median Household Income	49,218	52,762

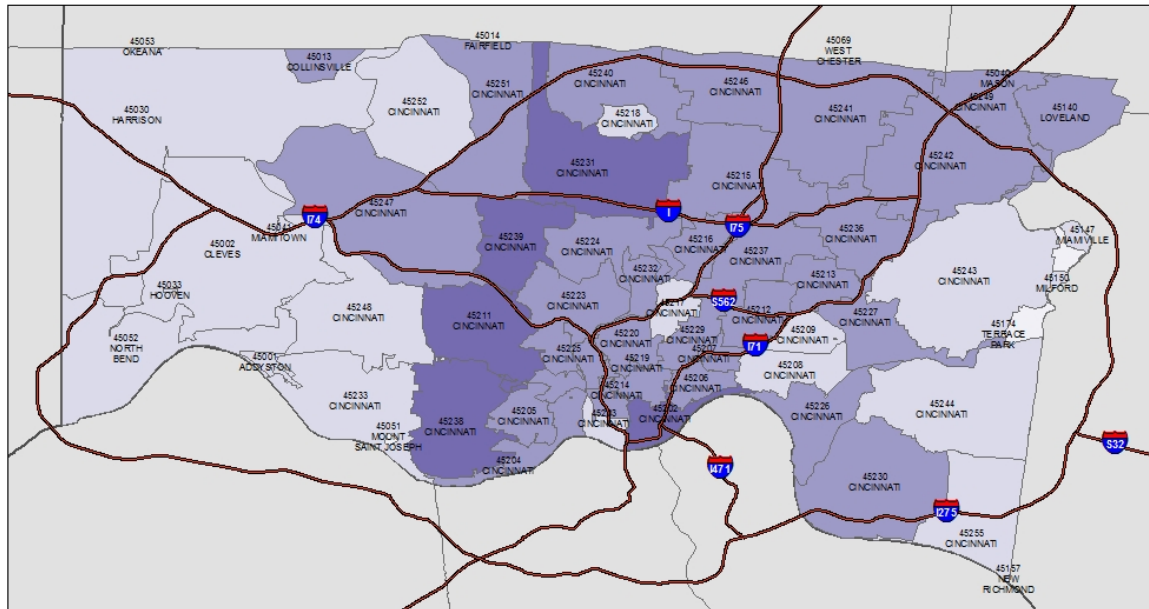
*Source: American Community Survey 5-Year Estimates, 2007-2011

Access to Health Care

There are 41 Federally Qualified Health Centers (FQHC) and 6 FQHC Look-Alikes located in Hamilton County. There are 85 FQHCs in the 15-county region. Hamilton County is also home to 8 School-Based Health Centers.



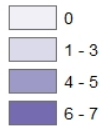
Number of Health Centers Serving ZCTA, 2012



Source: UDSMapper.org

Legend

Health Centers



Interstates

State

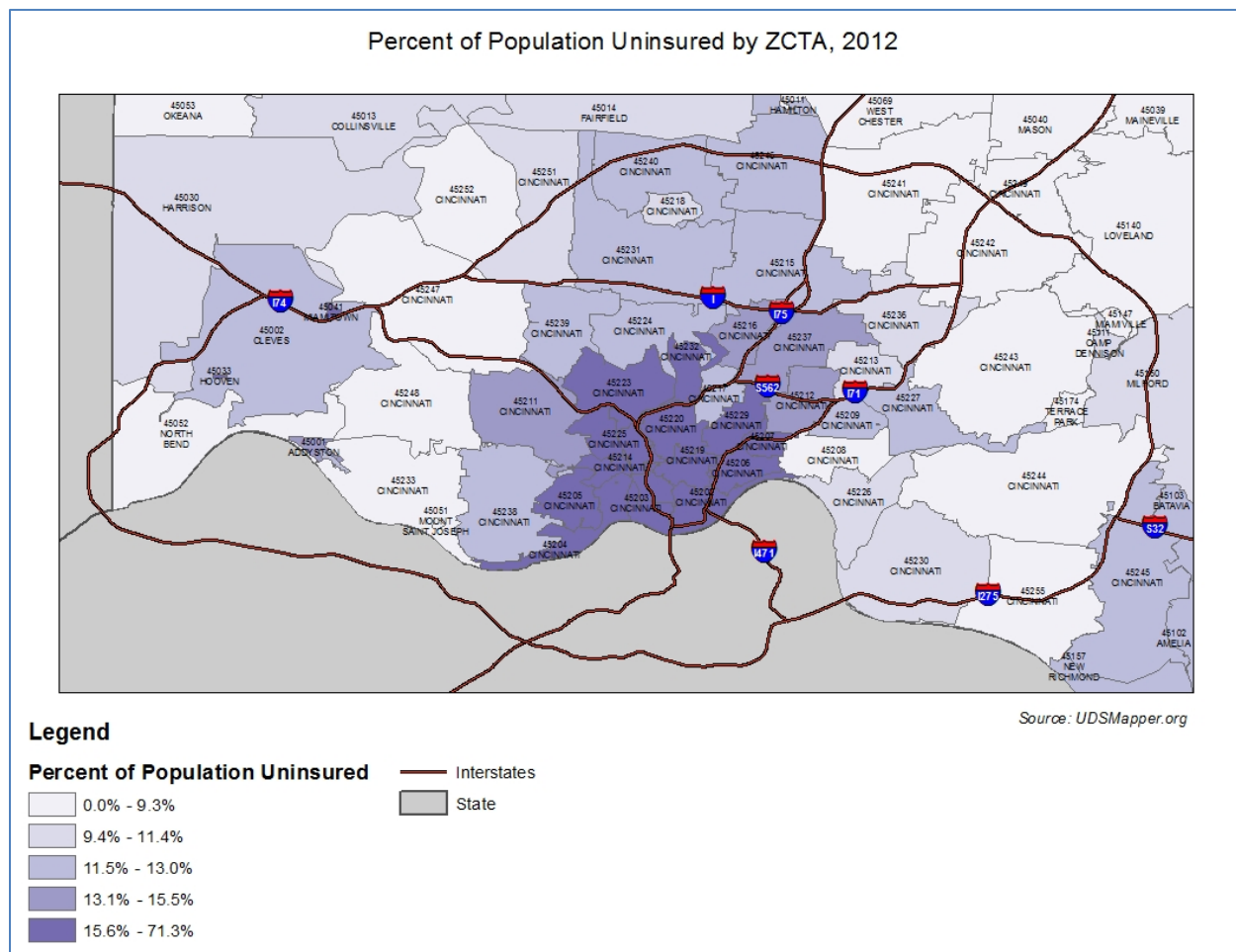
County

Percent of Population Uninsured

Hamilton County has a lower percentage of uninsured individuals at all age categories, compared to the US, overall. 12.0% of individuals in Hamilton County are uninsured.

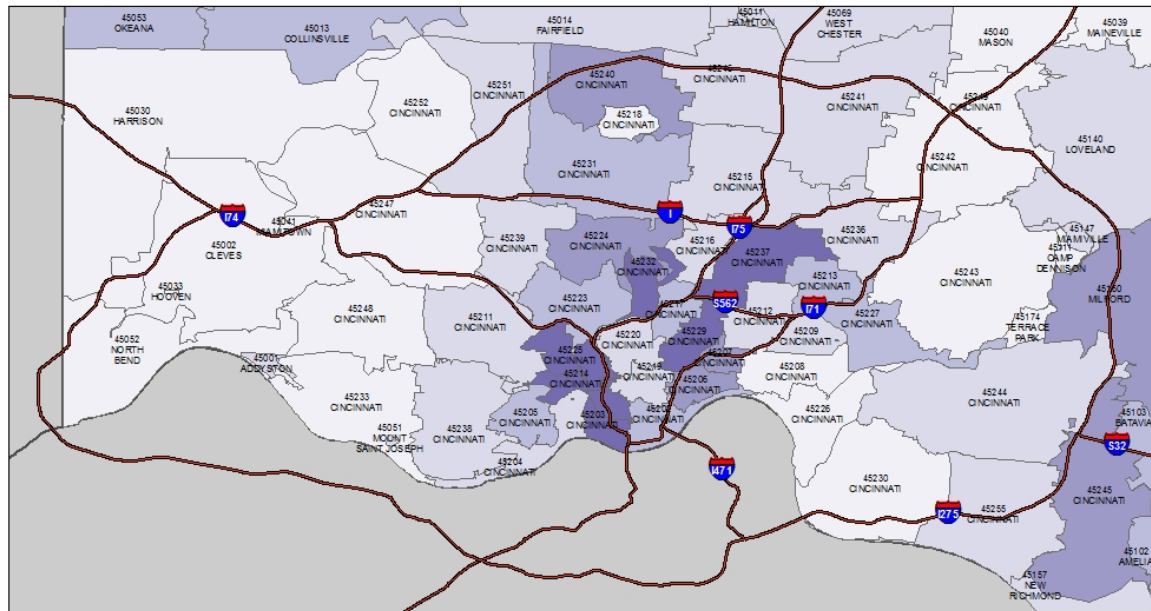
	Hamilton County	United States
All people	12.0%	15.2%
Under 18 years	5.3%	8.0%
18 to 64 years	16.9%	20.9%
65 years and over	0.3%	1.0%

*Source: American Community Survey 3-Year Estimates, 2009-2011



Population Health Indicators

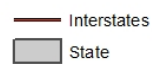
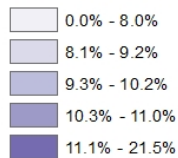
Adults with Diabetes by ZCTA, 2006-2011



Source: UDSMapper.org

Legend

Percent of Adults Ever Told they have Diabetes



[illegible]

Legend

	0.0% - 27.7%
	27.8% - 30.2%
	30.3% - 33.0%
	33.1% - 34.0%
	34.1% - 70.8%

State

A detailed map of the Cincinnati, Ohio metropolitan area. The map displays various ZIP codes, with many labeled as 'CINCINNATI'. Major highways are shown as thick red lines with their respective shields: I-74, I-75, I-76, I-475, I-575, and I-75. Other roads are shown as thinner lines. The map also includes labels for surrounding cities and towns such as OAKLAND, DAYTON, and CINCINNATI. The map is color-coded with shades of blue and green to represent different areas.

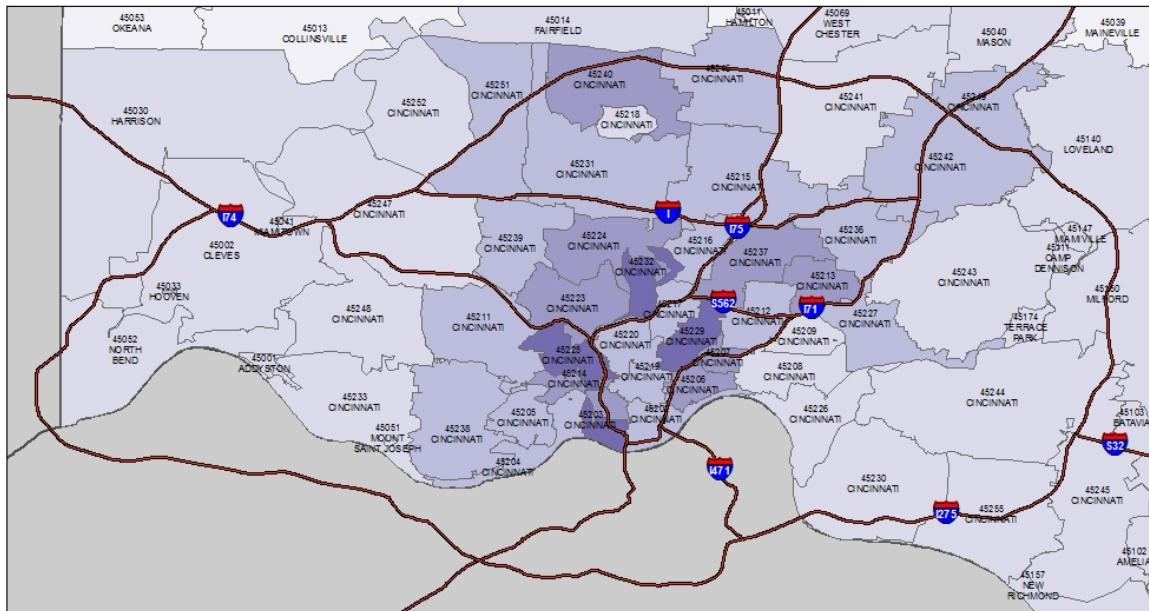
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— Interstates

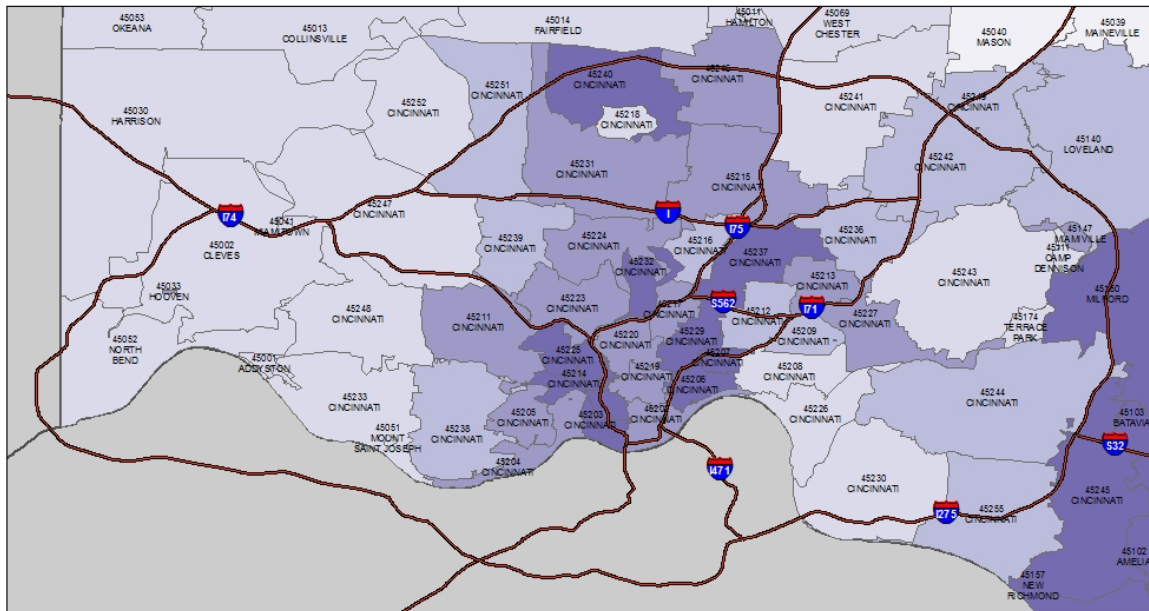
	0.0% - 25.8%
	25.9% - 28.1%
	28.2% - 30.2%
	30.3% - 33.5%
	33.6% - 54.4%

State

Adults Without Usual Source of Care by ZCTA, 2006-2011



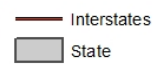
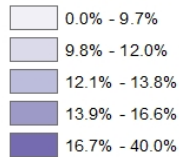
Adults who have Delayed or Not Sought Care by ZCTA, 2006-2011



Source: UDSMapper.org

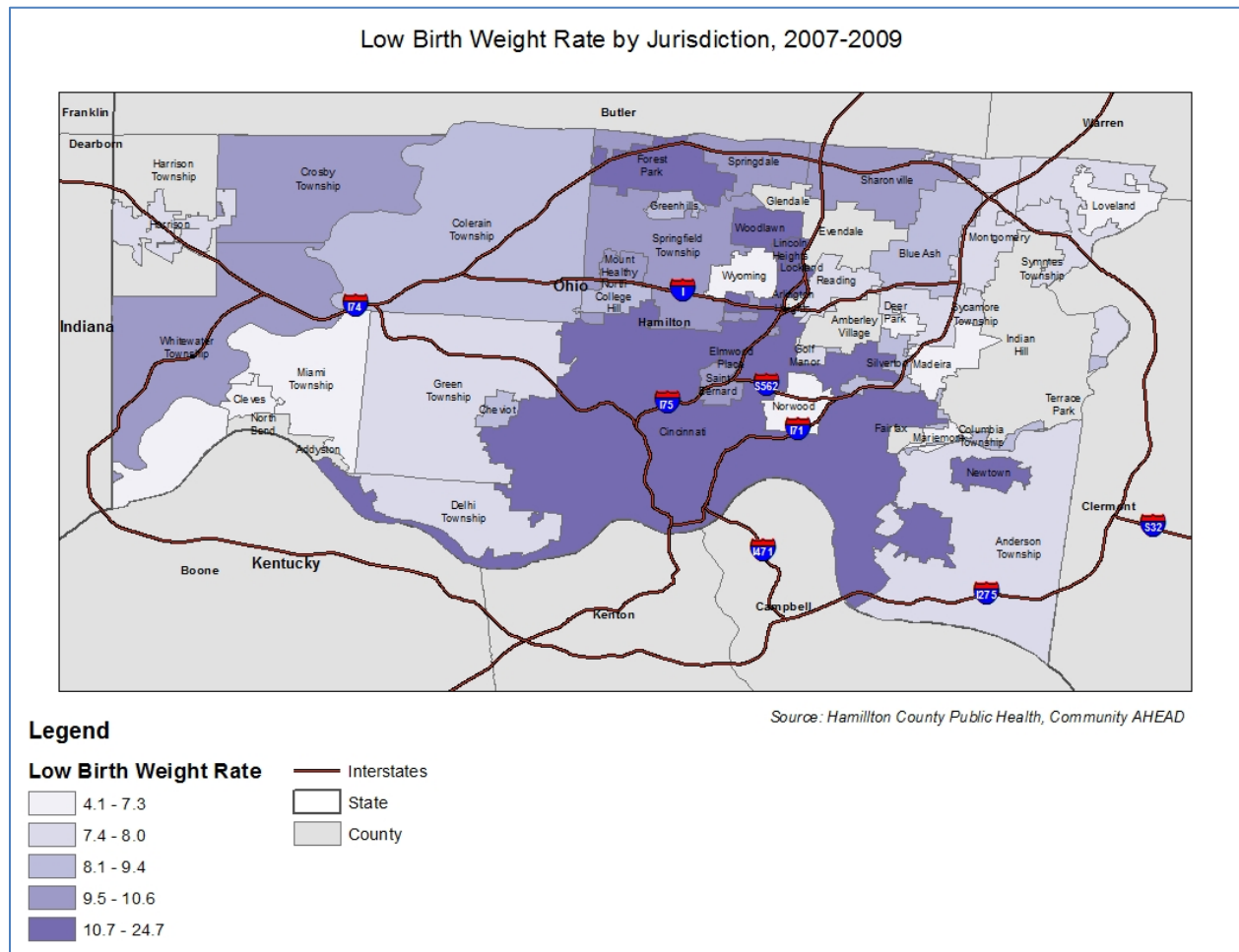
Legend

Percent of Adults who have Delayed or Not Sought Care Due to High Cost

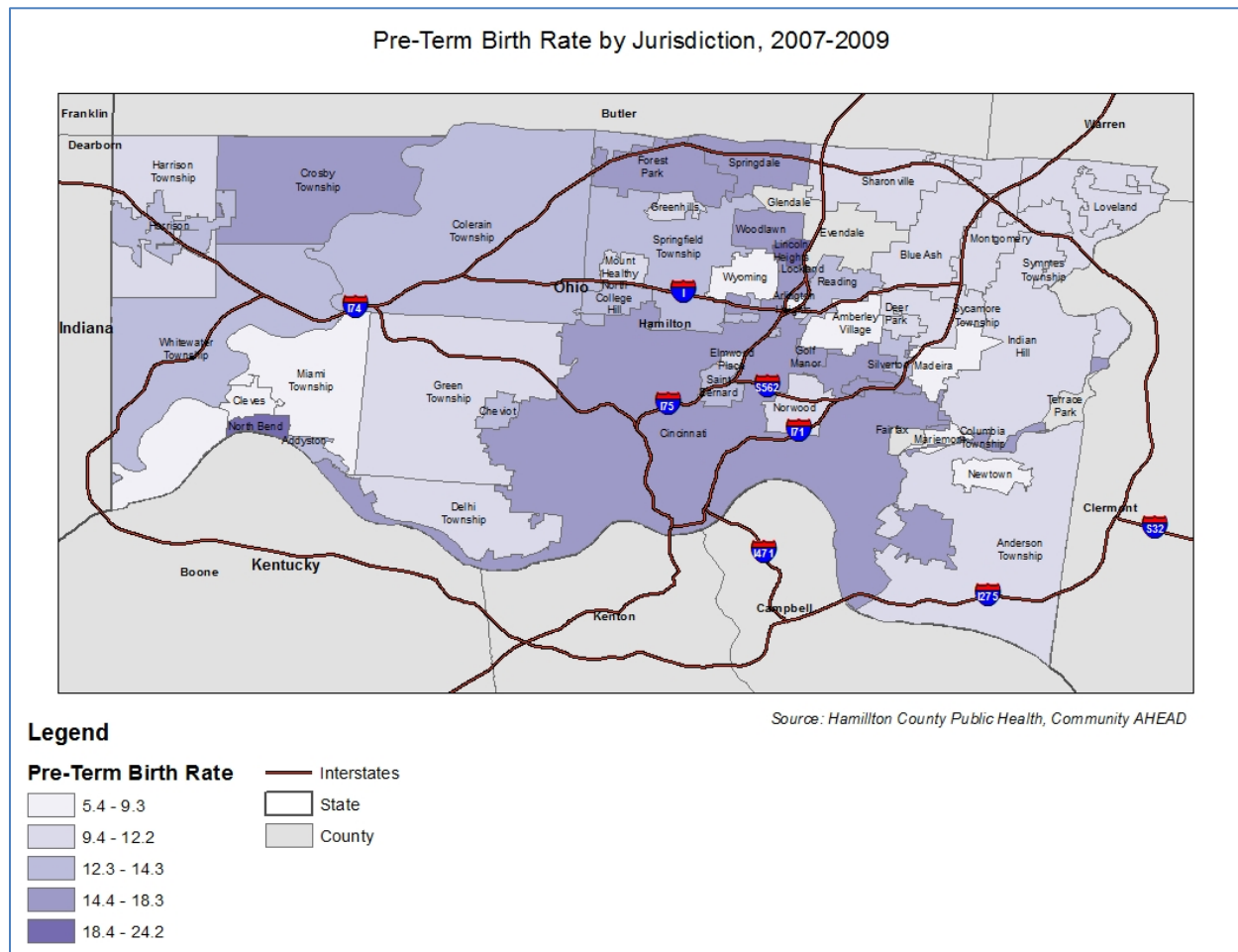


Maternal and Child Health

The overall low birth weight rate for Hamilton County is 10.2. Lincoln Heights has the highest low birth weight rate (24.7), followed by Woodlawn (14.6) and Forest Park (13.1).

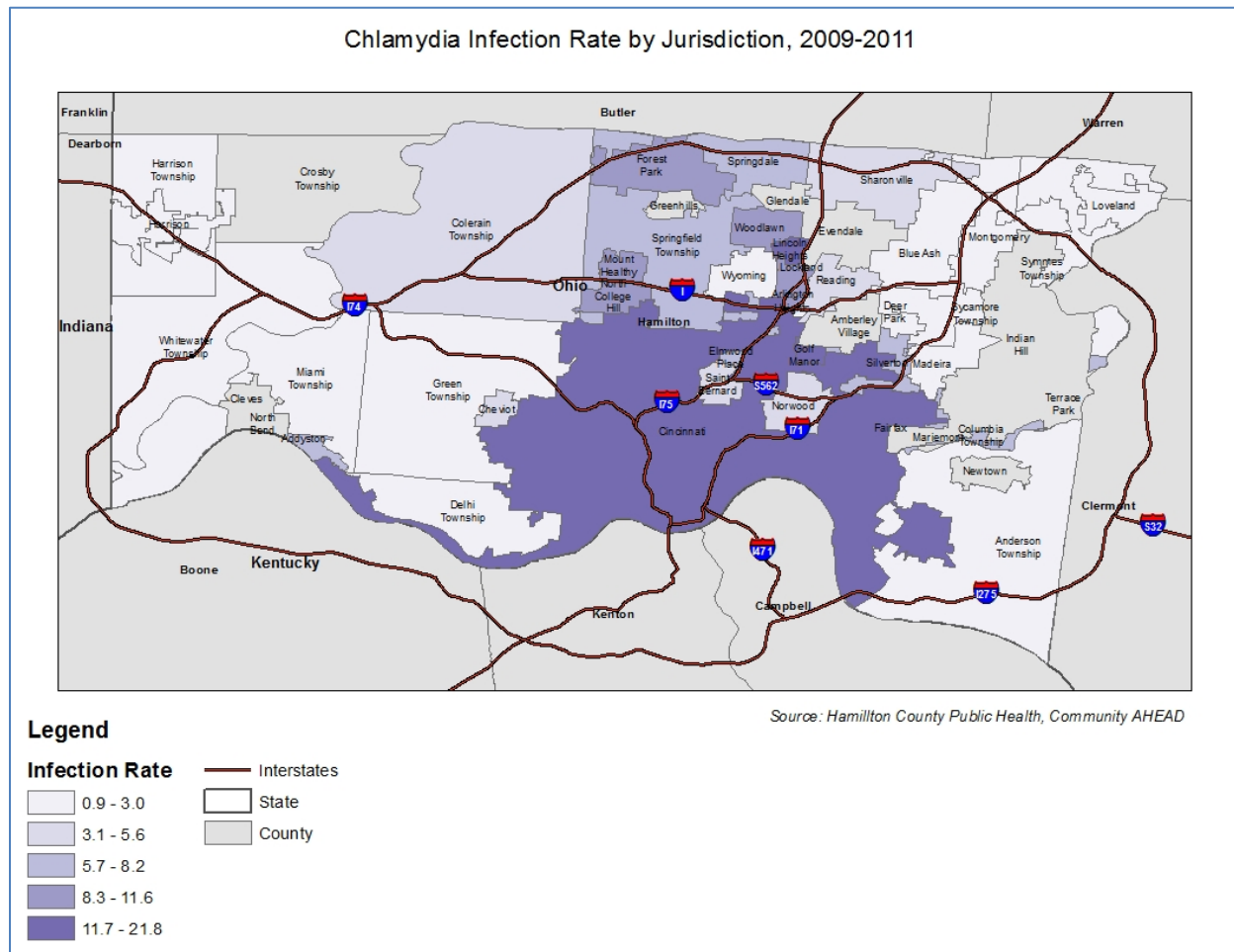


The overall pre-term birth rate for Hamilton County is 14.1. Lincoln Heights has the highest pre-term birth rate (24.2), followed by North Bend (23.9) and Lockland (18.3).

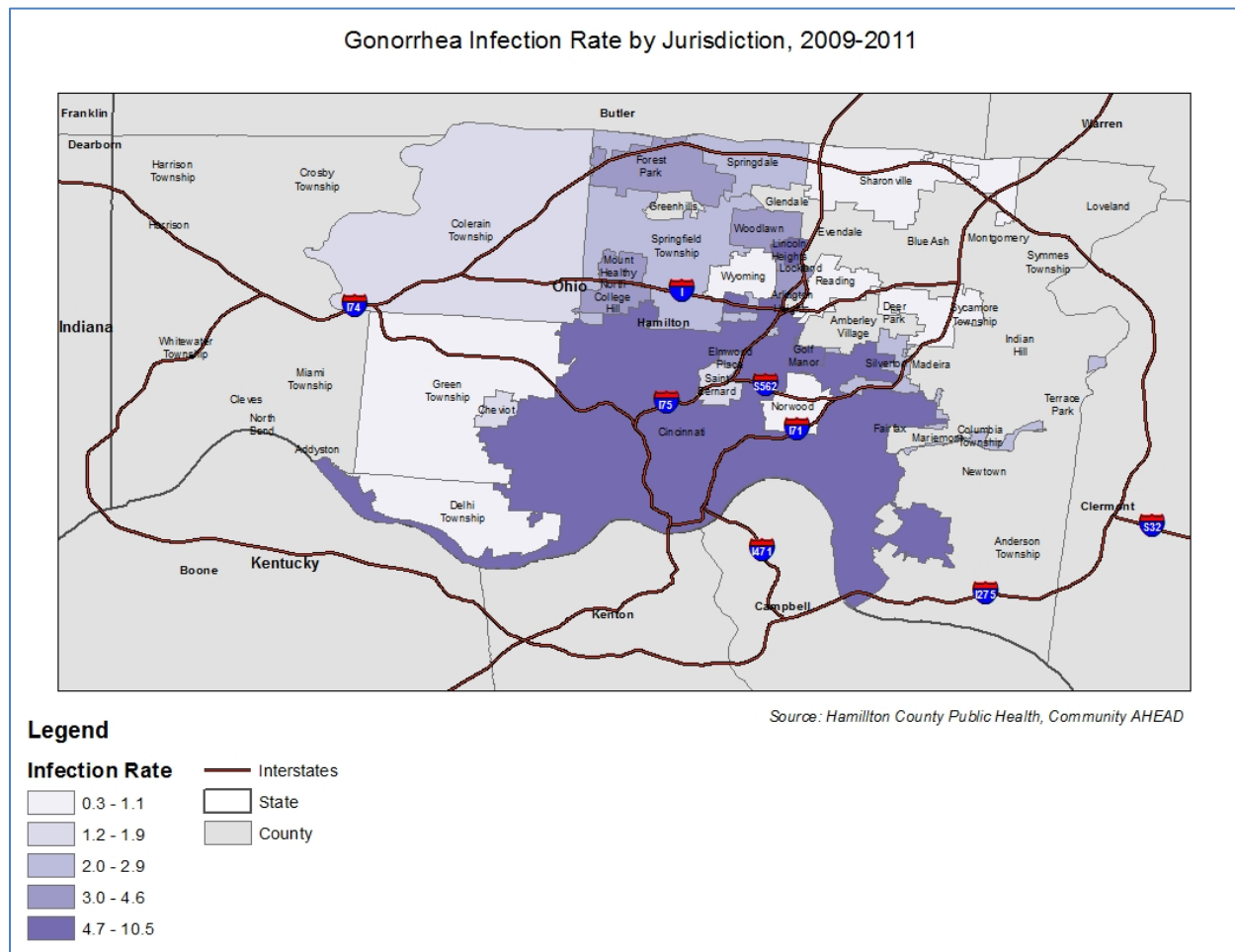


Communicable Diseases – Sexually Transmitted Infections

The overall Chlamydia infection rate for Hamilton County is 8.4. The jurisdictions with the highest rates of infection are Lincoln Heights (21.8), Cincinnati (15.5), and Golf Manor (14.6).

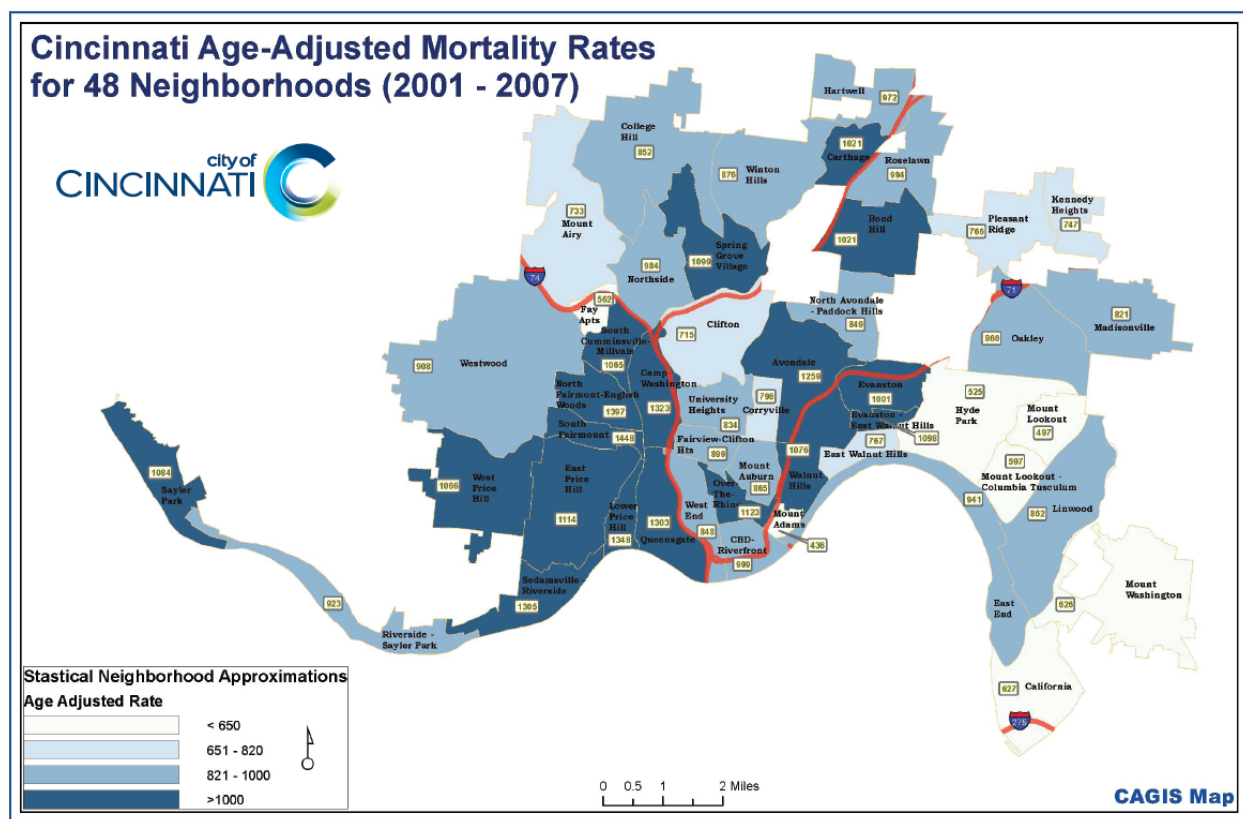


The overall Gonorrhea infection rate for Hamilton County is 3.5. The jurisdictions with the highest rates of infection mirror those of Chlamydia – Lincoln Heights (10.5), Cincinnati (7.2), and Golf Manor (6.4).



Mortality

Life expectancy, or the estimated average number of years that a person may expect to live, if mortality rates stay the same over time, is often used as an indicator of the health of a population. The Cincinnati Health Department recently released findings on life expectancy for each of 47 neighborhood groupings. The neighborhoods that fare the worst in terms of life expectancy are South Fairmount (66.4 years), Lower Price Hill (66.8), and Sedamsville/Riverside (67). Cincinnati's overall life expectancy is 76.7 years. While this particular analysis focuses on the geographic variation at the neighborhood level, life expectancy may also be greatly influenced by individuals' health conditions and demographic factors.



Neighborhood	Life Expectancy
South Fairmount	66.4
Lower Price Hill	66.8
Sedamsville/Riverside	67
Camp Washington	67.8
Avondale	68.2
Walnut Hills	69.6
West End	69.8
Over the Rhine	70.6
East Price Hill	70.8
South Cumminsville/Millvale	71.2
Evanston	71.8
North Fairmount/English Woods	72.1
Northside	72.6
Corryville	72.6
East End	72.6
Linwood	72.7
Carthage	72.9
Bond Hill	73
Evanston/East Walnut Hills	73.5
University Heights	74
Fairview/Clifton Heights	74.1
Sayler Park	74.4
Winton Hills	74.5
Mt Auburn	74.5

Neighborhood	Life Expectancy
Hartwell	74.7
Roselawn	75.1
Spring Grove Village	76.1
Westwood	76.1
Riverside/Sayler Park	76.5
Kennedy Heights	76.7
CBD/Riverfront	76.9
East Walnut Hills	77.2
Fay Apartments	77.3
Pleasant Ridge	79.1
Oakley	79.2
Clifton	79.3
West Price Hill	80.4
College Hill	81.1
California	81.2
Mt Airy	82.3
Mt Washington	82.9
Madisonville	83.1
Hyde Park	83.2
Mt Lookout	85.9
Mt Adams	86.4
North Avondale/Paddock Hills	87.1
Mt Lookout/Columbia Tusculum	87.8
Cincinnati Overall	76.7

References

Bindman, A. (2013). Using the National Provider Identifier for Health Care Workforce Evaluation. *Medicare and Medicaid Research Review*, 3(3), E1-E10.

Jones, T., Brownlee, S., Cantor, J., & Abramo, J. (2007). Accuracy of Available Data on the Supply of Patient Care Physicians in New Jersey. *Facts and Findings*, Rutgers Center for State Health Policy.

Konrad, T.R., Slifkin, R.T, Stevens, C., & Miller, J. (2000). Using the American Medical Association physician Masterfile to measure physician supply in small towns. *Journal of Rural Health*, 16(2), Spring, 162-167.

Data Sources

Source	URL
American Community Survey	www.census.gov/acs/www
American Medical Association Masterfile	www.ama-assn.org/go/masterfile
Area Resource File	www.arf.hrsa.gov/download.htm
Cincinnati Health Department	www.cincinnati-oh.gov/health
Hamilton County Public Health	www.hamiltoncountyhealth.org
National Provider Index	www.nppes.cms.hhs.gov/NPPES
Ohio License Bureau	https://license.ohio.gov/lookup/default.asp
UDSMapper	www.UDSMapper.org

Appendix A. Community Profile Detailed Tables

Demographic Profile

Population by Race

Race	Hamilton County	
	Count	Percent
White	572,675	71.5%
African-American	214,946	26.8%
Other Race	13,602	1.7%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Hispanic Origin

Hispanic Origin	Hamilton County	
	Count	Percent
Not Hispanic	781,659	97.6%
Hispanic	19,564	2.4%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Age Distribution

	Hamilton County	
	Count	Percent
Under 5 years	52,987	6.6%
5 to 9 years	51,547	6.4%
10 to 14 years	51,883	6.5%
15 to 19 years	58,629	7.3%
20 to 24 years	58,604	7.3%
25 to 34 years	107,576	13.4%
35 to 44 years	100,351	12.5%
45 to 54 years	120,084	15.0%
55 to 59 years	52,358	6.5%
60 to 64 years	40,617	5.1%
65 to 74 years	52,704	6.6%
75 to 84 years	36,962	4.6%
85 years and over	16,921	2.1%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Educational Attainment

	Hamilton County	
	Count	Percent
Population 25 years and over	527,573	--
Less than 9th grade	16,998	3.2%
9th to 12th grade, no diploma	46,992	8.9%
High school graduate (includes equivalency)	146,178	27.7%
Some college, no degree	104,843	19.9%
Associate's degree	38,753	7.3%
Bachelor's degree	107,541	20.4%
Graduate or professional degree	66,268	12.6%
Percent high school graduate or higher	463,583	87.9%
Percent bachelor's degree or higher	173,809	32.9%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Poverty Status and Income

Population Living in Poverty

	Hamilton County	
	Count	Percent
All people	124,841	15.9%
Under 18 years	44,340	23.6%
18 years and over	80,501	13.5%
18 to 64 years	71,653	14.5%
65 years and over	8,848	8.8%

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Income

	Hamilton County	
	Count	Percent
Less than \$10,000	31,359	9.6%
\$10,000 to \$14,999	19,611	6.0%
\$15,000 to \$24,999	37,150	11.4%
\$25,000 to \$34,999	33,760	10.4%
\$35,000 to \$49,999	42,855	13.2%
\$50,000 to \$74,999	56,653	17.4%
\$75,000 to \$99,999	37,807	11.6%
\$100,000 to \$149,999	38,469	11.8%
\$150,000 to \$199,999	13,732	4.2%
\$200,000 or more	14,370	4.4%
Median household income (dollars)	49,218	
Mean household income (dollars)	69,853	

**Source: American Community Survey 5-Year Estimates, 2007-2011*

Access to Health Care

Percent of Population Uninsured

	Hamilton County	
	Count	Percent
Total civilian noninstitutionalized population	94,766	12.0%
Under 18 years	9,929	5.3%
18 to 64 years	84,555	16.9%
65 years and older	282	0.3%

**Source: American Community Survey 3-Year Estimates, 2009-2011*

Population Health Indicators

Maternal and Child Health

	Birth Rate	Pre-Term Birth Rate	Low Birth Weight Rate	Rate of Babies Born to Mothers > 34 Years	Rate of Babies Born to Teen Mothers
Hamilton County	14.4	14.1	10.2	12.4	11.6
Addyston	19.6	14.3	*S*	*S*	17.9
Amberley Village	10.1	9.3	*S*	32.4	*S*
Anderson Township	10.1	10.8	7.7	27.6	2
Arlington Heights	15.9	5.4	*S*	*S*	*S*
Blue Ash	8.6	11.7	9.2	17.1	7.6
Cheviot	17.7	13.7	8.9	12.2	6.7
Cincinnati	17.5	16.3	12.3	10	14.9
Cleves	14.7	7.9	5	14.4	9.4
Colerain Township	12.7	12.6	8.2	9.8	11.4
Columbia Township	15.5	15.6	8.5	9.4	7.1
Crosby Township	11.3	16	10.6	*S*	16
Deer Park	16	12.2	6.8	11.9	2.9
Delhi Township	10.6	11.9	8	12.5	8.2
Elmwood Place	17.6	11.6	10.7	*S*	24
Evendale	4.9	*S*	*S*	23.8	*S*
Fairfax	12.4	*S*	*S*	*S*	*S*
Forest Park	15.1	15.5	13.1	11.9	13.5
Glendale	10.8	*S*	*S*	22.9	*S*
Golf Manor	16.4	15.9	7.7	10.4	17
Green Township	11.5	10.9	7.5	14.2	6.2
Greenhills	16	9.6	8.4	13.5	5.1
Harrison	15.9	13.6	7.8	10.9	7.3
Harrison Township	7.3	10.8	*S*	12.9	15.1
Indian Hill	3.1	11.1	*S*	46.3	*S*
Lincoln Heights	18	24.2	24.7	7	25.8
Lockland	20.9	18.3	11	8.7	16
Loveland	13.6	10.2	6.5	11.3	8.6
Madeira	10.2	8.2	4.1	23	4.8
Mariemont	14.1	6.9	6.9	25	*S*

(cont.)

	Birth Rate	Pre-Term Birth Rate	Low Birth Weight Rate	Rate of Babies Born to Mothers > 34 Years	Rate of Babies Born to Teen Mothers
Miami Township	10.6	8.1	5.7	20.8	3.6
Montgomery	7.3	10.2	8	36.9	*S*
Mount Healthy	18.9	10.6	10.1	8.4	7.3
Newtown	11.1	8	11.5	12.6	*S*
North Bend	19	23.9	*S*	*S*	30.4
North College Hill	13.3	13.9	9.4	10.5	13.9
Norwood	15.7	10.8	7.3	11.2	12.1
Reading	14.9	13.5	7.6	9.1	8.5
Saint Bernard	13.1	14.2	10.2	9.7	15.9
Sharonville	14.3	11.2	9.8	13.1	6.4
Silverton	13.6	14.1	8.6	9.1	11.6
Springdale	15.8	15.4	10.2	8.9	12.3
Springfield Township	12.6	13.6	9.9	14.1	12.5
Sycamore Township	10.9	12.1	7.8	17	5.2
Symmes Township	10.7	11.7	7.6	21.4	3
Terrace Park	7.8	*S*	*S*	58.5	*S*
Whitewater Township	12.1	12.5	10.5	8.5	15
Woodlawn	12.8	17.1	14.6	13.8	12.2
Wyoming	7.7	7.7	5.1	28.2	*S*

**Source: Hamilton County Public Health Community AHEAD, 2009-2011*

**S* denotes values that have been suppressed due to low base sizes*

Communicable Diseases – Sexually Transmitted Infection Rates

	Sexually Transmitted Infection Rate, 2009-2011		
	Chlamydia	Gonorrhea	Syphilis
Hamilton County	8.4	3.5	0.4
Addyston	8.2	*S*	*S*
Amberley Village	*S*	*S*	*S*
Anderson Township	1.2	*S*	*S*
Arlington Heights	11.6	*S*	*S*
Blue Ash	1.8	*S*	*S*
Cheviot	4.9	1.5	*S*
Cincinnati	15.5	7.2	1
Cleves	*S*	*S*	*S*
Colerain Township	5	1.7	*S*
Columbia Township	6.8	2.6	*S*
Crosby Township	*S*	*S*	*S*
Deer Park	3	*S*	*S*
Delhi Township	1.5	0.3	*S*
Elmwood Place	7.3	3.6	*S*
Evendale	*S*	*S*	*S*
Fairfax	*S*	*S*	*S*
Forest Park	9.5	3.8	0.4
Glendale	*S*	*S*	*S*
Golf Manor	14.6	6.4	*S*
Green Township	2	0.4	*S*
Greenhills	*S*	*S*	*S*
Harrison	1.7	*S*	*S*
Harrison Township	1.7	*S*	*S*
Indian Hill	*S*	*S*	*S*
Lincoln Heights	21.8	10.5	*S*
Lockland	11	4.6	*S*
Loveland	1.6	*S*	*S*
Madeira	1.1	*S*	*S*
Mariemont	*S*	*S*	*S*

(cont.)

	Sexually Transmitted Infection Rate, 2009-2011		
	Chlamydia	Gonorrhea	Syphilis
Miami Township	1.6	*S*	*S*
Montgomery	0.9	*S*	*S*
Mount Healthy	10.3	4.6	*S*
Newtown	*S*	*S*	*S*
North Bend	*S*	*S*	*S*
North College Hill	10.8	4.3	*S*
Norwood	4.2	1.1	*S*
Reading	5	0.7	*S*
Saint Bernard	5.6	1.9	*S*
Sharonville	3.2	0.7	*S*
Silverton	6.2	2.3	*S*
Springdale	7.1	2.9	*S*
Springfield Township	6.9	2.8	*S*
Sycamore Township	1.9	0.4	*S*
Symmes Township	1.8	*S*	*S*
Terrace Park	*S*	*S*	*S*
Whitewater Township	1.7	*S*	*S*
Woodlawn	9.4	3.9	*S*
Wyoming	2.1	0.8	*S*

**Source: Hamilton County Public Health Community AHEAD, 2009-2011*

**S* denotes values that have been suppressed due to low base sizes*

Mortality

The standardized mortality ratio is the ratio of observed deaths to the expected deaths in a community. The SMR is age-standardized to the Hamilton County population. This helps adjust for varying age distributions in our communities. An SMR over 100 indicates higher than expected level of deaths, whereas an SMR under 100 indicates a lower than expected level of deaths. The expected number of deaths is calculated from age-specific, county-level figures.

	Standardized Mortality Ratio (SMR), 2007-2009			
	Standardized	Heart Disease	Diabetes	Malignant Neoplasms
Baseline Reference	100	100	100	100
Addyston	108	130	141	105
Amberley Village	63	66	60	60
Anderson Township	75	65	72	75
Arlington Heights	135	183	N/A	190
Blue Ash	77	67	71	70
Cheviot	106	126	166	100
Cincinnati	114	112	128	112
Cleves	151	174	158	165
Colerain Township	96	100	82	104
Columbia Township	98	141	84	86
Crosby Township	102	117	N/A	122
Deer Park	98	107	44	105
Delhi Township	90	108	83	84
Elmwood Place	159	227	121	187
Evendale	47	40	N/A	51
Fairfax	140	126	N/A	128
Forest Park	107	97	180	104
Glendale	77	74	72	62
Golf Manor	92	90	88	108
Green Township	83	94	67	93
Greenhills	88	87	177	74
Harrison	76	87	97	91
Harrison Township	103	75	111	93
Indian Hill	49	42	N/A	70
Lincoln Heights	121	124	138	116
Lockland	129	107	111	131
Loveland	87	82	35	98

(cont.)

	Standardized Mortality Ratio (SMR), 2007-2009			
	Standardized	Heart Disease	Diabetes	Malignant Neoplasms
Baseline Reference	100	100	100	100
Madeira	77	69	49	81
Mariemont	86	91	N/A	51
Miami Township	87	97	44	91
Montgomery	76	57	52	91
Mount Healthy	102	85	190	94
Newtown	107	81	47	135
North Bend	69	79	93	39
North College Hill	108	108	110	87
Norwood	127	127	122	120
Reading	104	84	112	128
Saint Bernard	101	118	190	87
Sharonville	96	91	127	95
Silverton	103	85	90	123
Springdale	80	83	75	63
Springfield Township	99	103	100	98
Sycamore Township	94	96	102	87
Symmes Township	105	118	77	113
Terrace Park	57	65	N/A	93
Whitewater Township	94	99	87	108
Woodlawn	106	93	151	44
Wyoming	54	47	N/A	67

**Source: Hamilton County Public Health Community AHEAD, 2007-2009*

**S* denotes values that have been suppressed due to low base sizes*

Appendix B. NPI Nursing Data

	NPI
Licensed Practical Nurse	382
Licensed Vocational Nurse	15
Registered Nurse	392
Clinical Nurse Specialist	29
Nurse Practitioner	261
Physician Assistant	155
Nurse Anesthetist	288
Advanced Practice Midwife	43

**includes 59 nurses who fall into multiple categories
1506 NPI records, overall*

Appendix C. Ohio Medical School Graduates

The most recent data from the MedSchool Mapper, produced by HealthLandscape and the Robert Graham Center, shows that of the 24,423 graduates who were trained in Ohio Medical Schools, 42% have gone on to practice in Ohio.

Practice Location	
Graduates Trained in Ohio Medical Schools	24,423
Percent Remaining In State	42%

Practice Setting	Ohio	US
Rural Areas	5%	11%
Shortage Areas (HPSA/MUA)	9%	29%
Primary Care	18%	37%
Family Medicine	9%	17%
Low Income Areas	23%	59%

Appendix D. Data Points Collected by the Ohio License Center

The state of Ohio maintains a database that captures Legal Name, Date of Birth, Birthplace, Practice/Employment History, Background Information, Practice Address, Residential Address, Professional Graduation, Credentials, Specialties, and Formal Actions for a variety of healthcare professionals. The specific information recorded varies by license type.