

I. Causes of Death

Causes of death are classified in accordance with the Tenth Revision of the International Classifications of Diseases (ICD-10), a coding structure developed by the World Health Organization that includes about 8,000 causes of death. A list of 113 categories of death was developed for general analysis of mortality statistics and for ranking leading causes of death. Ranks are assigned by organizing these 113 categories according to the number of deaths in each category from most frequent to least. This Data Book chapter includes overall mortality statistics and data for the ten leading causes of death.

Key findings from this chapter:

- The [ten leading causes of death](#) in Ottawa County are:

- | | |
|--------------------------------------|-----------------------------------|
| 1) Cancer | 6) Unintentional/Accidental |
| 2) Heart Disease | 7) Kidney Disease |
| 3) Alzheimer's Disease | 8) Pneumonia/Influenza |
| 4) Stroke | 9) Diabetes |
| 5) Chronic Lower Respiratory Disease | 10) Intentional Self-Harm/Suicide |

Positive/Neutral Trends

- Over the last 30 years, Ottawa County has had the lowest [overall death rate](#) (i.e. deaths per 100,000 residents) compared to adjacent counties and the State of Michigan. In 2009, Ottawa County's death rate was nearly 20% lower than the State (631.8 deaths per 100,000 county residents compared to 788.6 statewide)
- Ottawa County's death rate from [cancer](#) has been consistently lower than the adjacent counties and the State over the last 20 years. In 2009, Ottawa County's cancer death rate was 15% lower than the State (156.1 deaths per 100,000 county residents compared to 184.8 statewide)
- Ottawa County's death rate from [heart disease](#) has been consistently lower than the adjacent counties and the State over the last 20 years. In 2009, Ottawa County's heart disease death rate was 32% lower than the State (146.6 deaths per 100,000 county residents compared to 216.4 statewide)

- [Stroke](#) deaths in Ottawa County decreased by nearly 45% during the last 10 years (61.2 deaths per 100,000 down to 33.9) compared to a 32% reduction statewide (61.7 deaths per 100,000 down to 41.7)
- [Diabetes](#) deaths in Ottawa County decreased by 30% during the last 10 years (15.6 deaths per 100,000 down to 10.9) compared to 4% statewide (26.5 deaths per 100,000 down to 25.3)
- Ottawa County's death rate from [intentional self-harm/suicide](#) has been consistently lower than the adjacent counties and the State over the last 24 years. In 2009, Ottawa County's death rate from intentional self-harm/suicide was 31% lower than the State (7.6 deaths per 100,000 county residents compared to 11.1 statewide)

Negative Trends

- Ottawa County's death rate from [Alzheimer's Disease](#) has been consistently higher than the statewide rate during the last 10 years. In 2009, Ottawa County's Alzheimer's Disease death rate was 49% higher than the State (34.6 deaths per 100,000 county residents compared to 23.2 statewide)
- [Kidney disease](#) deaths in Ottawa County increased by 45% during the last 10 years (7.9 deaths per 100,000 county residents up to 11.5) while deaths statewide the rate remained flat (15.3 deaths per 100,000 down to 15.2)

All Causes (1980-2009)

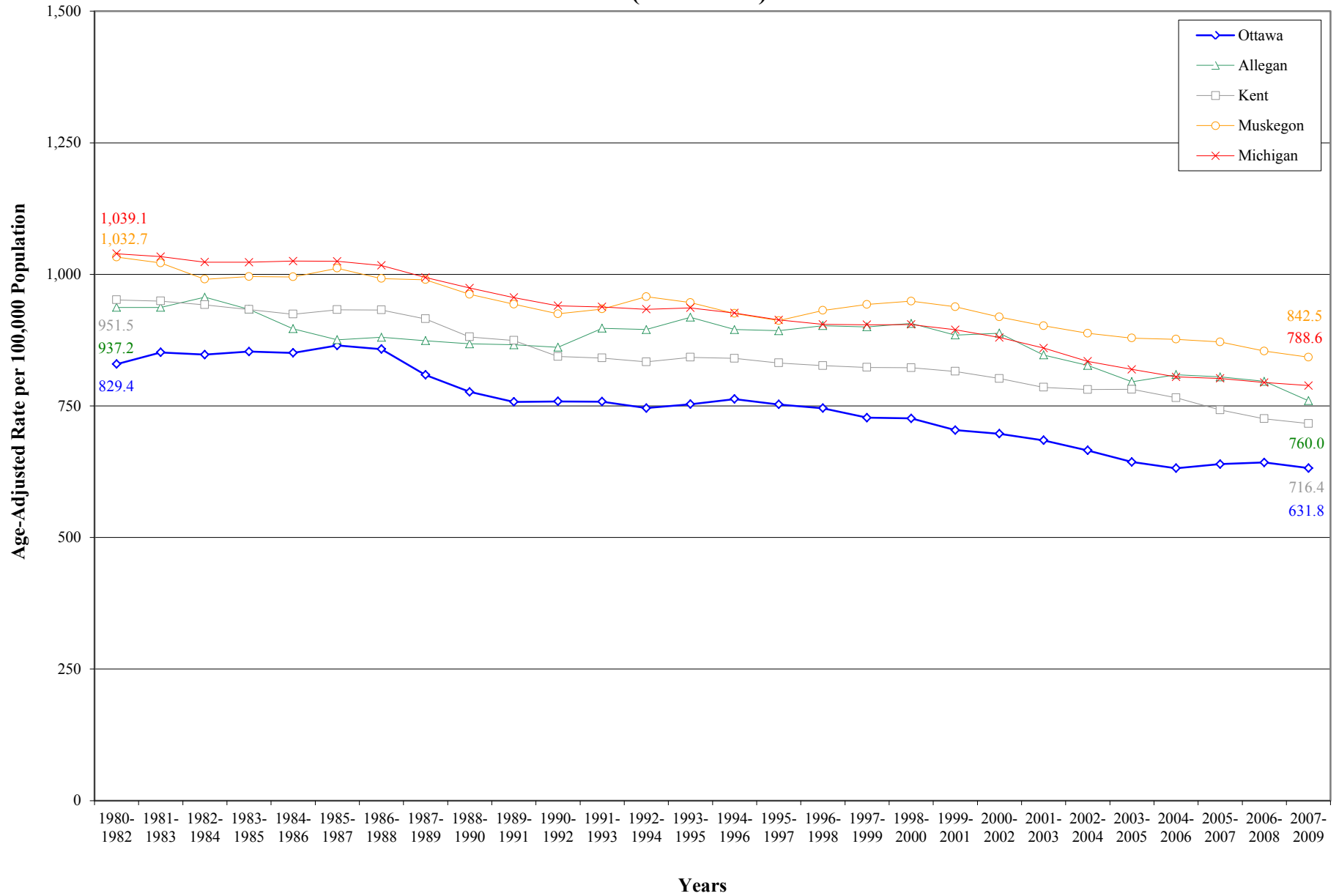
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	829.4	937.2	951.5	1,032.7	1,039.1
1981-1983	851.6	937.1	949.3	1,021.5	1,033.7
1982-1984	847.5	956.5	942.2	990.6	1,023.2
1983-1985	853.2	933.6	933.1	995.8	1,022.9
1984-1986	850.8	896.6	924.2	995.2	1,025.1
1985-1987	864.9	875.8	932.7	1,011.5	1,024.8
1986-1988	857.9	880.5	932.2	992.0	1,017.0
1987-1989	808.9	873.9	915.3	989.7	994.0
1988-1990	776.5	868.0	881.1	962.0	973.9
1989-1991	757.6	866.2	874.3	943.2	956.0
1990-1992	758.5	861.4	843.9	924.9	940.3
1991-1993	758.1	897.5	840.9	934.0	938.1
1992-1994	745.9	895.0	833.6	957.5	933.6
1993-1995	753.2	918.4	842.4	946.3	936.4
1994-1996	763.1	895.2	840.2	925.7	926.4
1995-1997	752.8	892.9	831.6	912.0	913.4
1996-1998	745.7	902.4	826.6	931.4	905.0
1997-1999	727.7	900.3	823.2	942.7	904.3
1998-2000	726.2	906.6	822.4	948.9	904.6
1999-2001	704.0	884.6	815.6	938.4	894.6
2000-2002	697.1	888.2	801.9	919.0	880.0
2001-2003	684.6	846.8	785.2	902.3	859.8
2002-2004	665.5	826.9	781.1	887.9	834.8
2003-2005	643.4	795.9	781.5	878.9	819.4
2004-2006	631.5	809.4	765.5	876.5	805.2
2005-2007	639.4	805.2	742.2	871.5	802.2
2006-2008	642.5	796.7	725.5	854.1	794.5
2007-2009	631.8	760.0	716.4	842.5	788.6

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

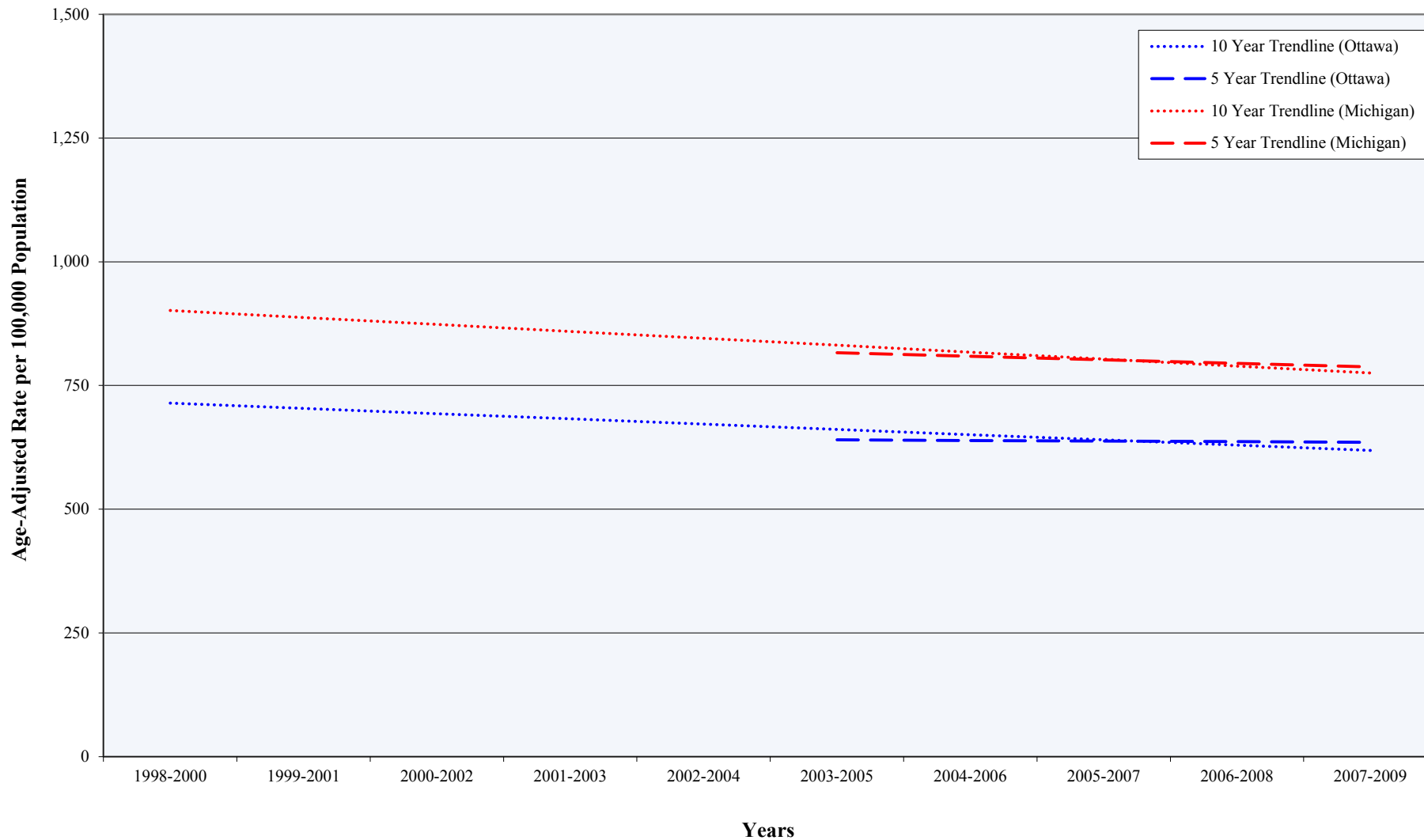
All Causes of Death (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

All Causes of Death

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

All Causes (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

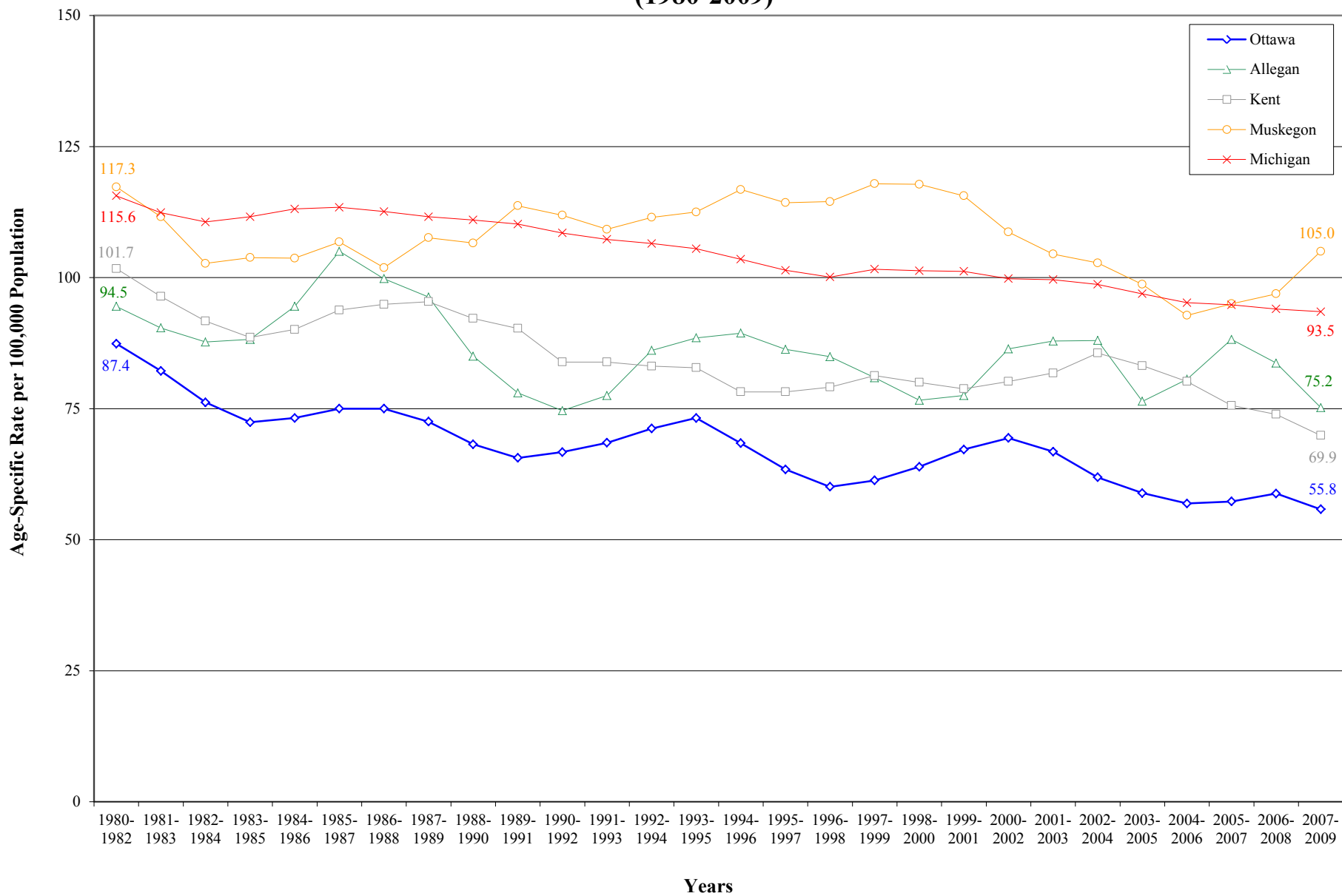
Deaths per 100,000 Population*

Year	Under Age 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	87.4	94.5	101.7	117.3	115.6	1,357.7	1,627.8	1,652.2	1,824.7	1,818.5	7,767.4	8,555.7	8,550.7	8,939.5	8,946.9
1981-1983	82.2	90.4	96.4	111.6	112.4	1,384.3	1,661.4	1,642.0	1,837.4	1,837.5	8,134.8	8,486.8	8,689.6	8,774.2	8,917.0
1982-1984	76.2	87.7	91.7	102.7	110.6	1,394.4	1,624.6	1,621.8	1,795.3	1,835.7	8,186.4	9,023.0	8,793.3	8,624.7	8,867.8
1983-1985	72.4	88.2	88.6	103.8	111.6	1,395.9	1,644.4	1,595.7	1,864.9	1,846.2	8,339.0	8,582.9	8,857.8	8,533.2	8,893.5
1984-1986	73.2	94.5	90.1	103.7	113.1	1,374.0	1,547.5	1,591.8	1,824.6	1,844.7	8,385.9	8,252.3	8,738.8	8,741.1	8,975.6
1985-1987	75.0	105.0	93.8	106.8	113.4	1,371.2	1,524.9	1,607.8	1,896.8	1,859.0	8,627.1	7,841.3	8,815.7	8,811.3	8,974.9
1986-1988	75.0	99.8	94.9	101.9	112.6	1,329.9	1,541.9	1,599.2	1,833.1	1,847.8	8,650.1	7,949.0	8,862.5	8,802.0	8,938.6
1987-1989	72.5	96.3	95.4	107.6	111.6	1,256.2	1,563.3	1,583.6	1,857.4	1,831.5	8,146.5	7,814.2	8,653.0	8,601.7	8,675.3
1988-1990	68.2	85.0	92.2	106.6	111.0	1,218.9	1,538.8	1,554.5	1,798.3	1,796.4	7,783.3	7,999.7	8,248.0	8,408.0	8,511.4
1989-1991	65.6	78.0	90.3	113.7	110.2	1,170.6	1,486.9	1,588.0	1,763.2	1,771.5	7,681.8	8,225.4	8,049.2	8,167.2	8,341.1
1990-1992	66.7	74.6	83.9	111.9	108.5	1,171.8	1,424.9	1,551.9	1,759.3	1,738.2	7,702.3	8,406.7	7,771.9	7,947.3	8,236.5
1991-1993	68.5	77.5	83.9	109.2	107.3	1,150.0	1,517.4	1,528.5	1,741.9	1,725.1	7,773.6	8,636.8	7,793.8	8,134.1	8,254.2
1992-1994	71.2	86.1	83.1	111.5	106.5	1,154.1	1,518.5	1,474.0	1,778.9	1,702.3	7,544.6	8,459.5	7,868.4	8,362.7	8,258.2
1993-1995	73.2	88.5	82.8	112.5	105.5	1,131.9	1,563.3	1,448.5	1,726.0	1,686.9	7,715.8	8,636.8	8,100.2	8,343.3	8,348.2
1994-1996	68.4	89.4	78.2	116.8	103.5	1,106.7	1,490.2	1,412.9	1,667.4	1,653.3	8,042.4	8,454.9	8,243.1	8,142.0	8,310.2
1995-1997	63.4	86.3	78.2	114.3	101.4	1,080.6	1,465.1	1,373.3	1,627.4	1,607.8	8,014.4	8,502.6	8,186.9	8,038.4	8,233.2
1996-1998	60.1	84.9	79.1	114.5	100.1	1,072.4	1,423.5	1,329.4	1,657.4	1,564.2	7,960.1	8,765.1	8,187.6	8,194.0	8,207.8
1997-1999	61.3	80.9	81.3	117.9	101.6	1,061.6	1,406.9	1,309.3	1,655.5	1,525.1	7,643.6	8,759.8	8,101.8	8,265.2	8,246.5
1998-2000	63.9	76.6	80.0	117.8	101.3	1,028.8	1,378.9	1,307.6	1,641.7	1,500.7	7,686.1	8,968.2	8,074.5	8,347.9	8,298.5
1999-2001	67.2	77.5	78.8	115.6	101.2	987.9	1,355.4	1,275.4	1,593.4	1,455.8	7,407.0	8,645.7	8,033.2	8,322.9	8,255.0
2000-2002	69.4	86.4	80.2	108.7	99.8	969.7	1,310.4	1,223.1	1,570.0	1,416.3	7,337.7	8,737.4	7,923.4	8,152.8	8,160.0
2001-2003	66.8	87.9	81.8	104.5	99.6	959.3	1,215.6	1,176.3	1,532.2	1,364.4	7,180.5	8,387.2	7,772.7	8,048.7	8,022.0
2002-2004	61.9	88.0	85.6	102.8	98.7	912.2	1,157.1	1,178.3	1,466.5	1,316.3	7,170.2	8,311.4	7,662.9	8,089.5	7,829.9
2003-2005	58.9	76.4	83.2	98.7	96.9	867.4	1,106.6	1,170.1	1,419.2	1,280.2	6,983.8	8,152.9	7,713.8	8,177.5	7,725.1
2004-2006	56.9	80.6	80.2	92.8	95.2	841.7	1,106.8	1,119.7	1,388.3	1,246.9	6,920.2	8,392.2	7,673.7	8,325.1	7,637.4
2005-2007	57.3	88.2	75.6	95.0	94.8	855.9	1,106.0	1,088.0	1,356.0	1,228.9	6,945.4	8,233.5	7,461.9	8,318.3	7,665.6
2006-2008	58.8	83.7	73.9	96.9	94.0	856.6	1,092.7	1,055.4	1,298.5	1,208.2	7,029.1	8,217.0	7,392.2	8,238.5	7,674.5
2007-2009	55.8	75.2	69.9	105.0	93.5	844.3	1,068.5	1,042.3	1,286.4	1,197.0	6,973.8	7,782.6	7,407.0	8,052.4	7,668.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

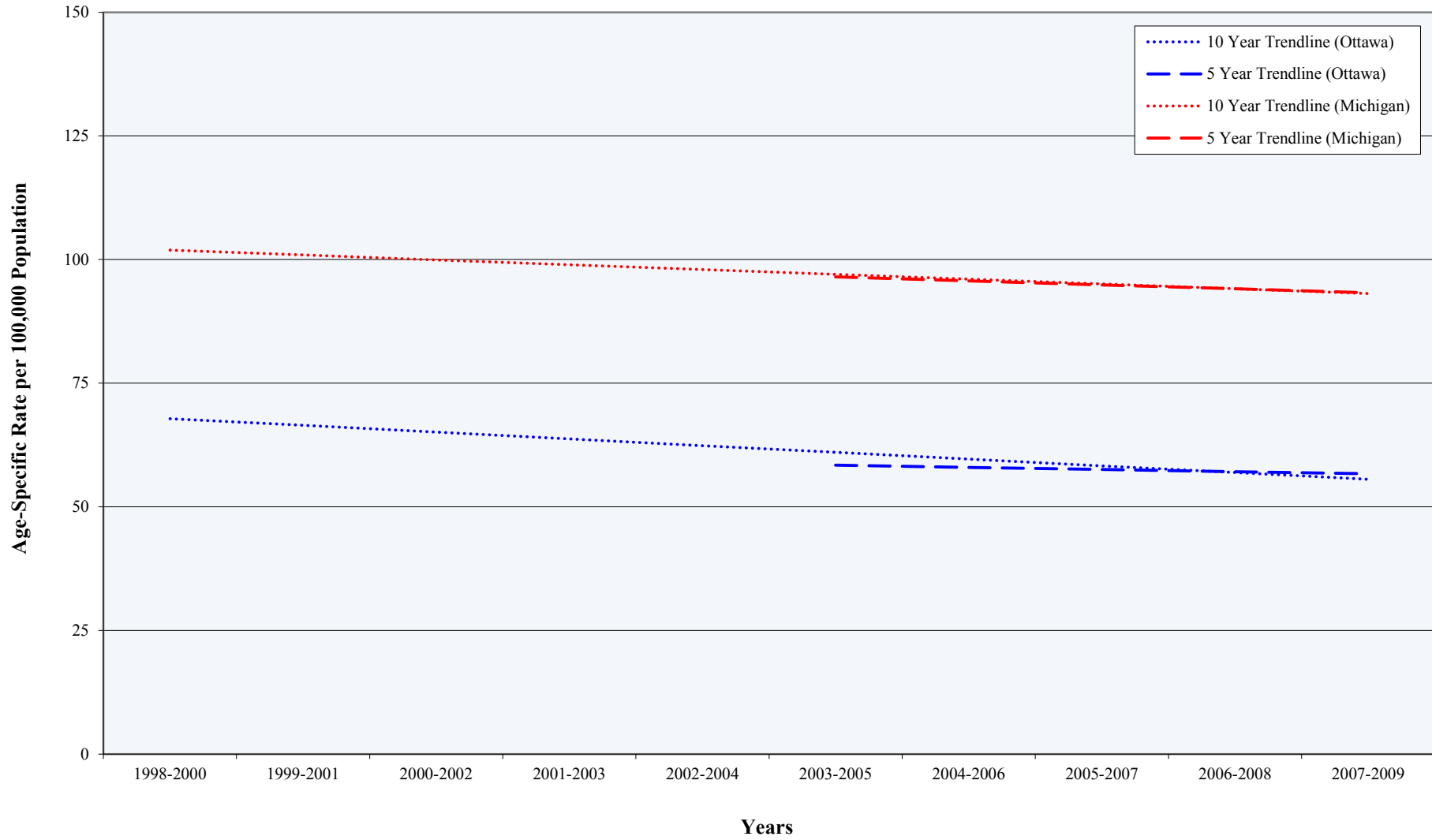
All Causes of Death Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

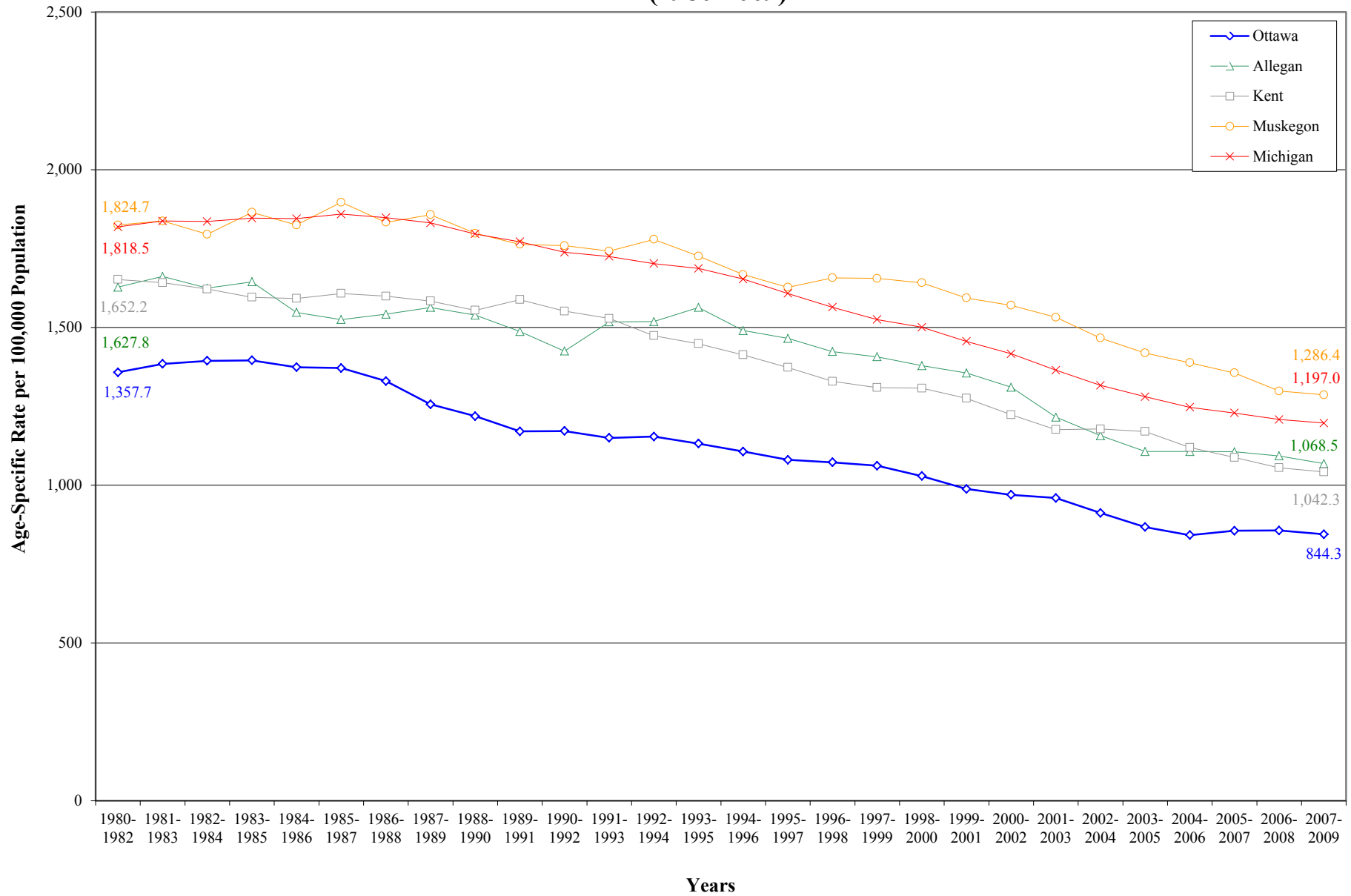
All Causes of Death Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

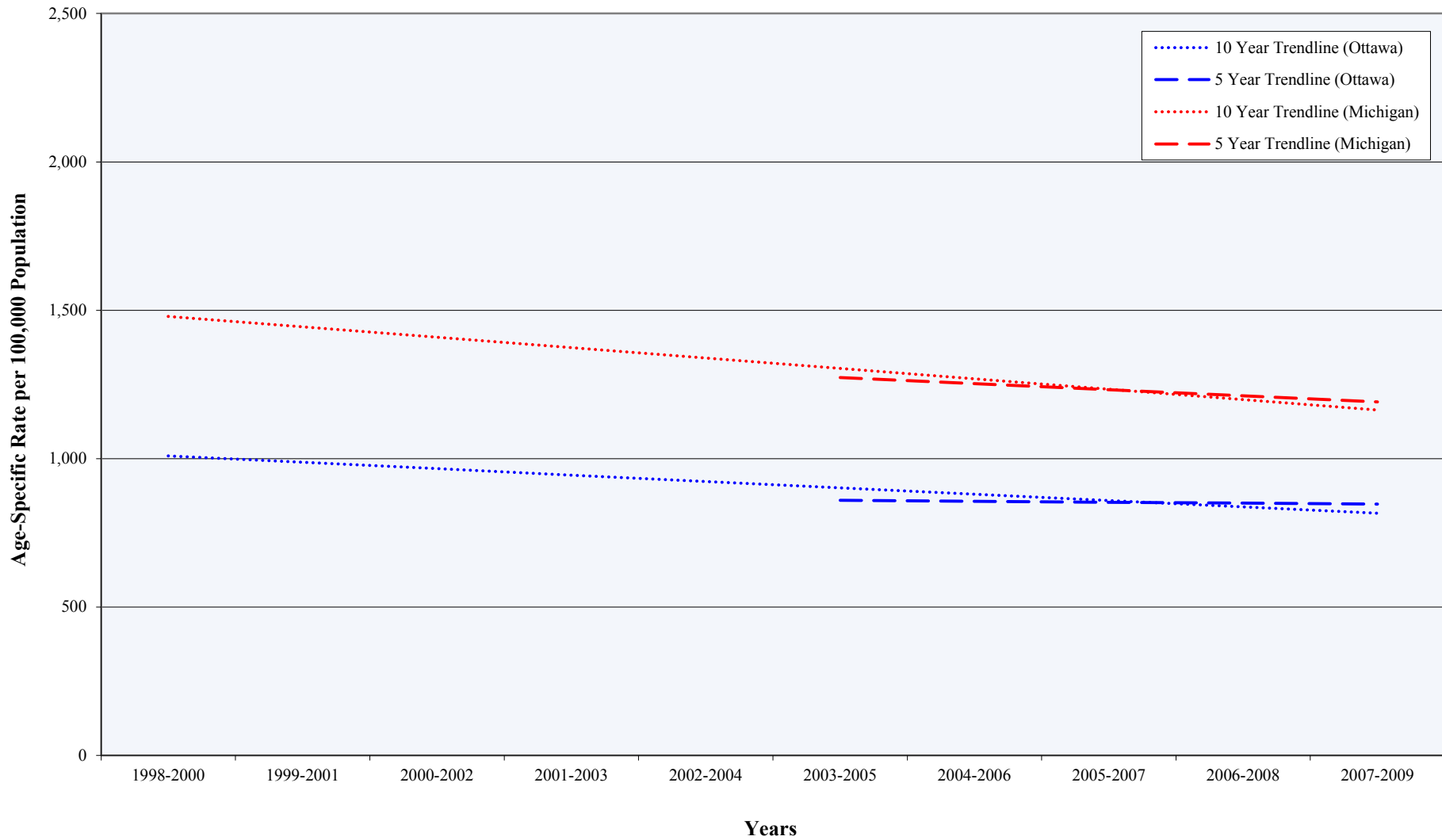
All Causes of Death Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

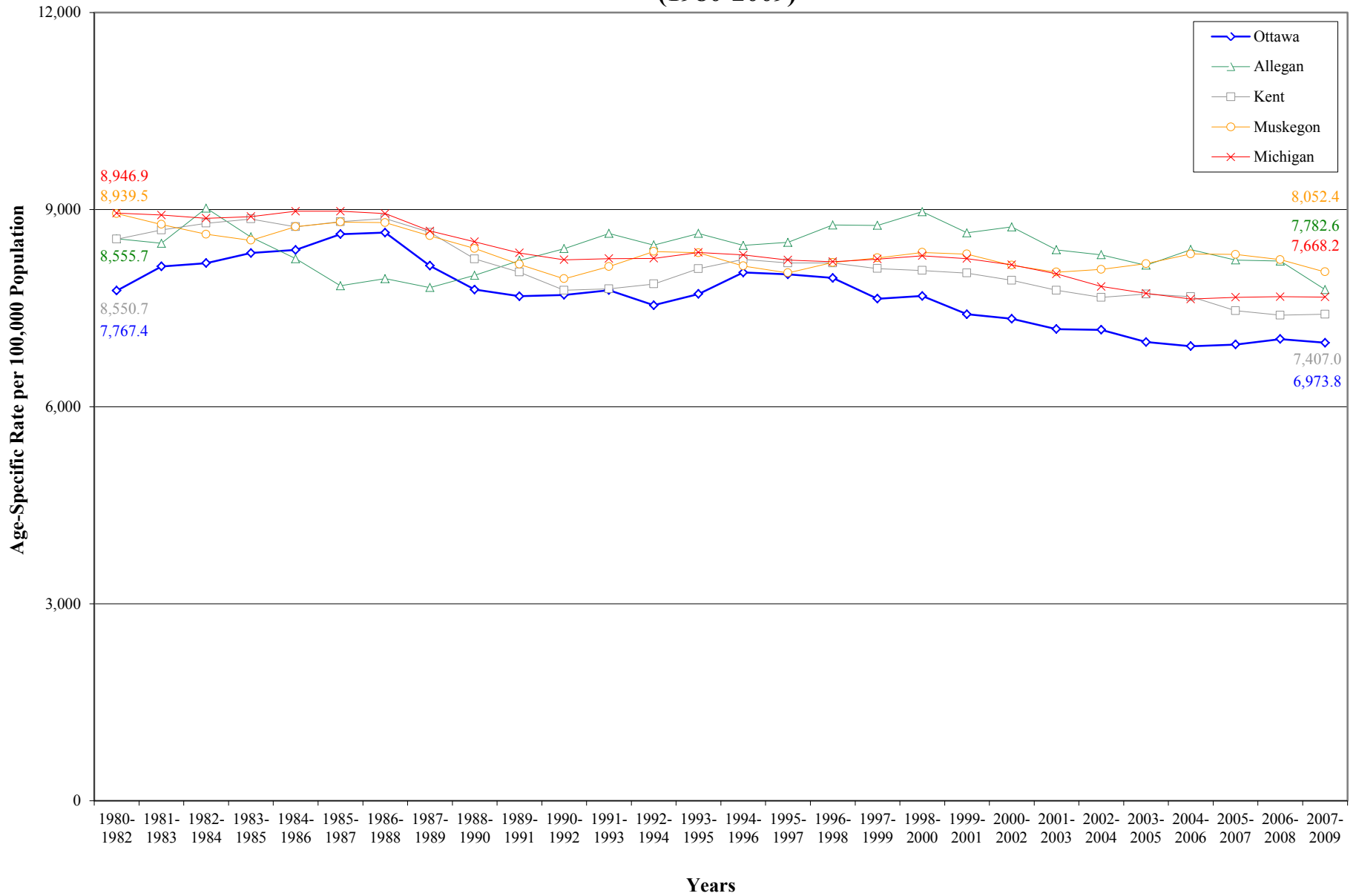
All Causes of Death Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

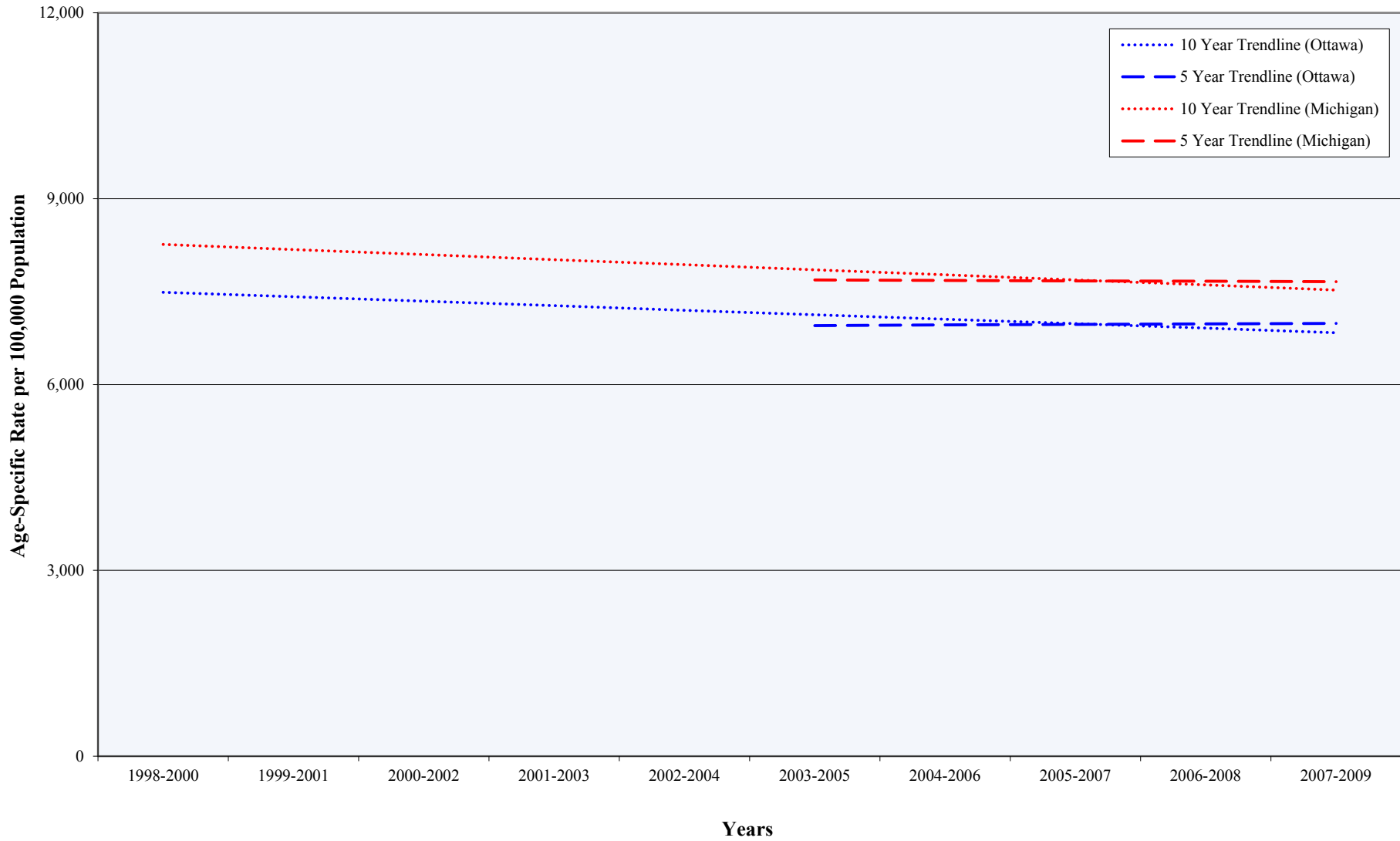
All Causes of Death Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

All Causes of Death Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

All Causes (1989, 1999, 2009)

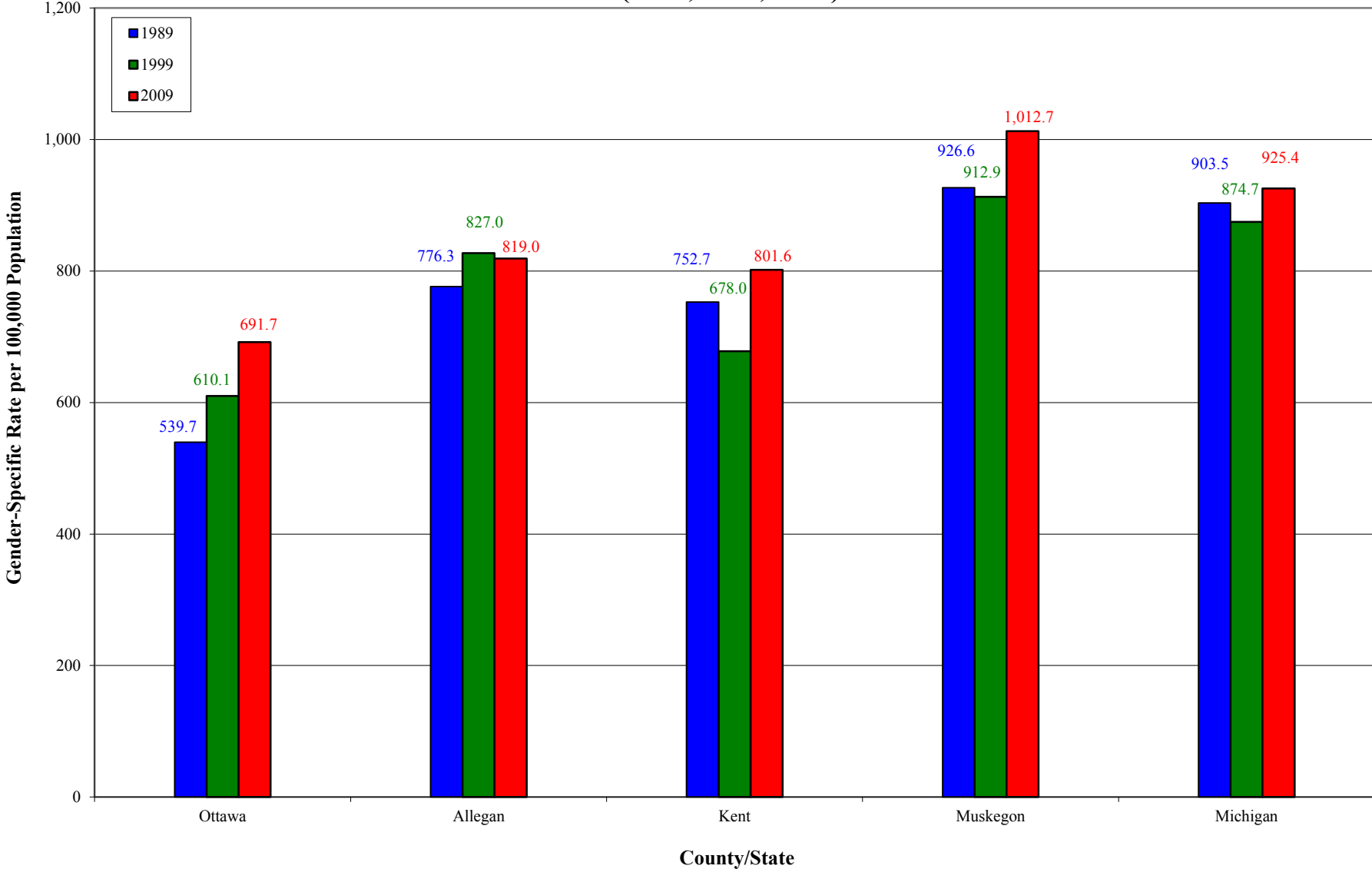
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	539.7	776.3	752.7	926.6	903.5	562.3	652.9	723.1	884.1	797.2
1999	610.1	827.0	678.0	912.9	874.7	621.7	763.9	748.2	978.7	879.8
2009	691.7	819.0	801.6	1,012.7	925.4	516.6	605.8	598.3	737.0	664.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

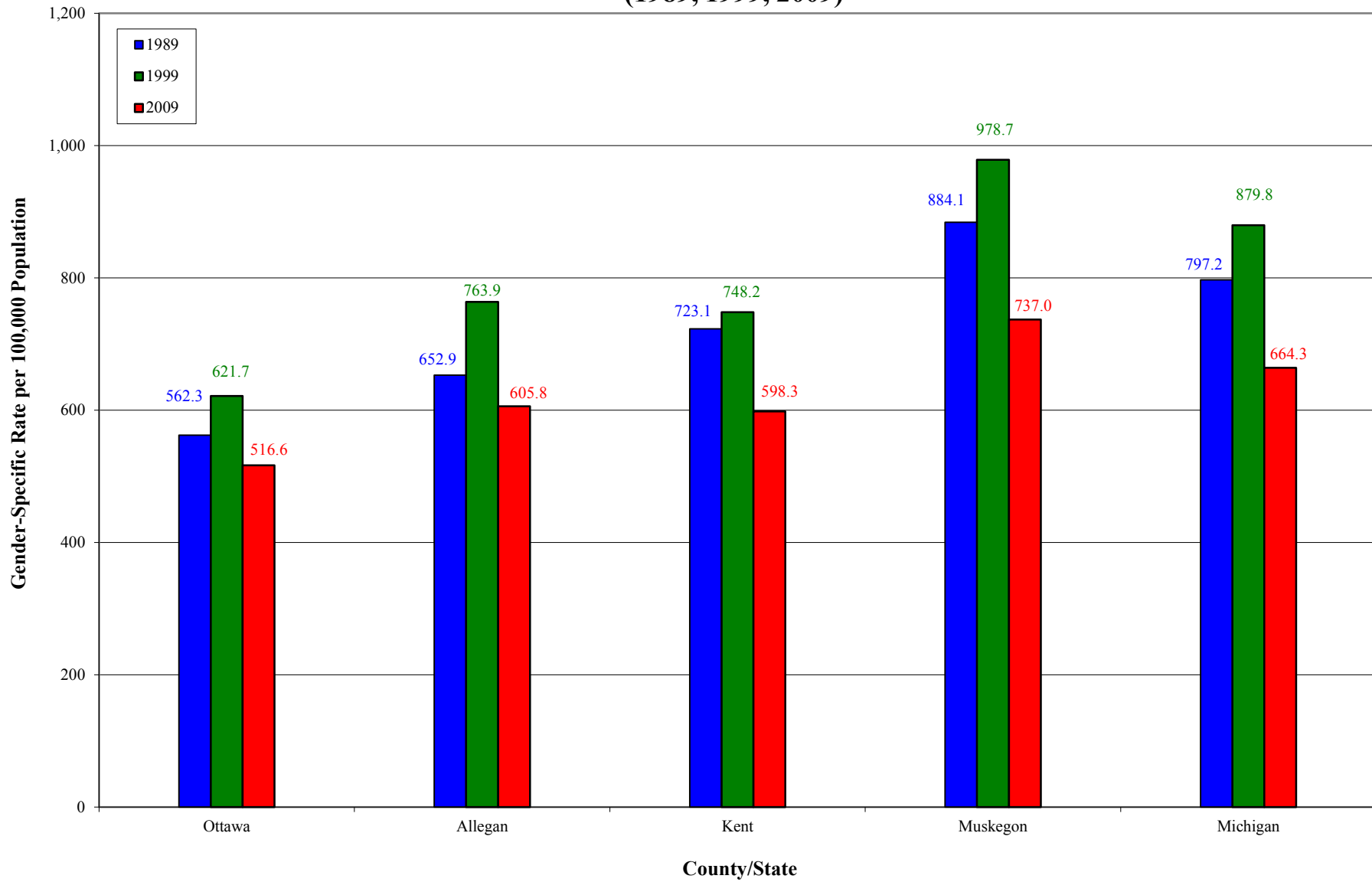
* Death rates are gender-specific and refer to the population of that gender

All Causes of Death Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

All Causes of Death Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

All Causes of Death (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

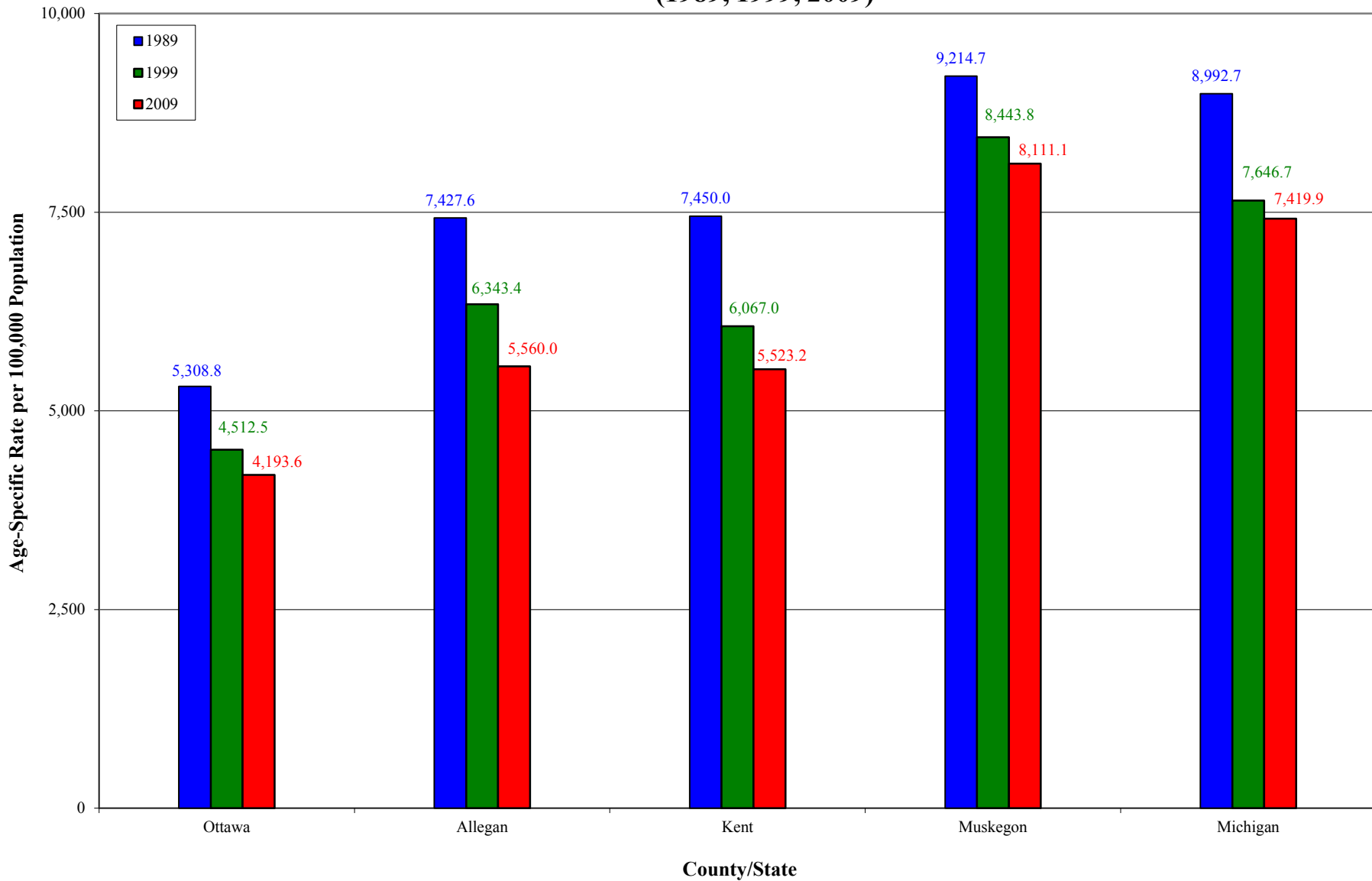
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	5,308.8	7,427.6	7,450.0	9,214.7	8,992.7
1999	4,512.5	6,343.4	6,067.0	8,443.8	7,646.7
2009	4,193.6	5,560.0	5,523.2	8,111.1	7,419.9

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from All Causes of Death (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Ten Leading Causes of Death (2009)

(Ottawa County, Adjacent Counties, State)

	Percent of All Deaths*										
	Cancer	Heart Disease	Alzheimer's Disease	Stroke	CLRD**	Unintentional/Accidental	Kidney Disease	Pneumonia/Influenza	Diabetes	Intentional Self-Harm/Suicide	Other***
Ottawa	23.9%	23.3%	5.4%	5.2%	4.6%	4.6%	2.2%	2.0%	1.5%	1.2%	26.1%
Allegan	24.0%	22.0%	4.0%	5.9%	7.3%	5.9%	2.3%	3.1%	2.1%	1.0%	22.4%
Kent	22.6%	25.9%	4.2%	4.2%	5.2%	5.8%	1.6%	1.9%	2.1%	1.8%	24.7%
Muskegon	23.9%	20.3%	5.2%	6.1%	6.5%	4.7%	2.4%	1.7%	4.3%	1.0%	23.9%
Michigan	23.4%	26.7%	3.0%	5.1%	5.7%	4.3%	2.0%	1.8%	3.1%	1.3%	23.6%

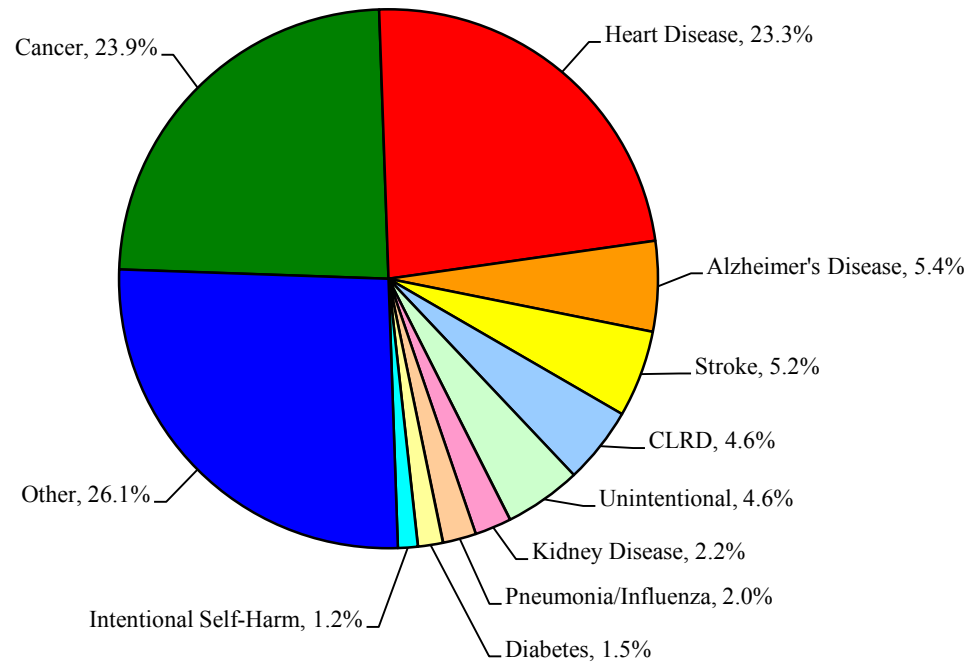
Source: Michigan Department of Community Health, 2009 Michigan Resident Death File, Vital Records & Health Data Development Section

* Causes of death are ranked from most common to least common leading cause in Ottawa County

** Chronic Lower Respiratory Disease

*** Used as a residual to include any other cause of death that is not specified under the ten leading causes of death

Ten Leading Causes of Death in Ottawa County (2009)



Cancer (1980-2009)

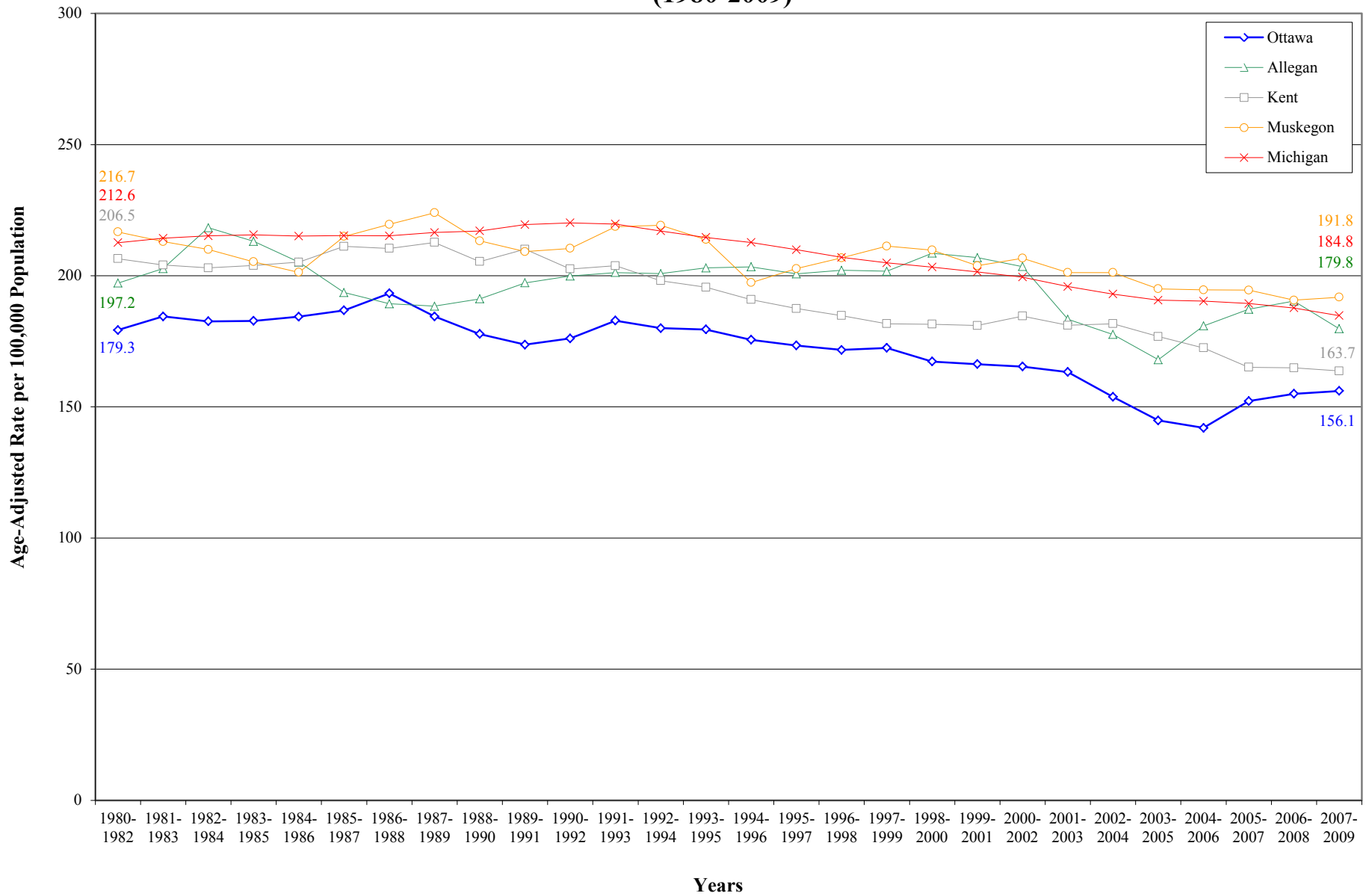
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	179.3	197.2	206.5	216.7	212.6
1981-1983	184.5	202.7	204.1	213.0	214.3
1982-1984	182.6	218.3	203.0	210.0	215.2
1983-1985	182.8	213.1	203.9	205.3	215.6
1984-1986	184.4	205.2	205.2	201.3	215.1
1985-1987	186.8	193.6	211.2	215.0	215.3
1986-1988	193.3	189.3	210.4	219.6	215.2
1987-1989	184.5	188.4	212.7	224.0	216.5
1988-1990	177.8	191.2	205.4	213.3	217.1
1989-1991	173.7	197.3	210.1	209.2	219.5
1990-1992	176.1	199.9	202.6	210.4	220.2
1991-1993	182.9	201.2	203.8	218.7	219.7
1992-1994	180.0	200.8	198.1	219.2	217.1
1993-1995	179.5	203.0	195.6	213.8	214.6
1994-1996	175.6	203.4	190.9	197.4	212.7
1995-1997	173.4	200.7	187.5	202.7	209.9
1996-1998	171.7	202.1	184.8	206.8	207.0
1997-1999	172.5	201.7	181.7	211.3	204.9
1998-2000	167.3	208.6	181.5	209.8	203.3
1999-2001	166.3	206.9	181.0	203.8	201.5
2000-2002	165.4	203.5	184.6	206.7	199.5
2001-2003	163.3	183.4	181.1	201.2	195.9
2002-2004	153.8	177.6	181.7	201.2	193.0
2003-2005	144.8	168.0	176.8	195.0	190.7
2004-2006	142.0	180.9	172.5	194.6	190.3
2005-2007	152.2	187.2	165.1	194.5	189.4
2006-2008	155.0	190.3	164.9	190.7	187.7
2007-2009	156.1	179.8	163.7	191.8	184.8

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

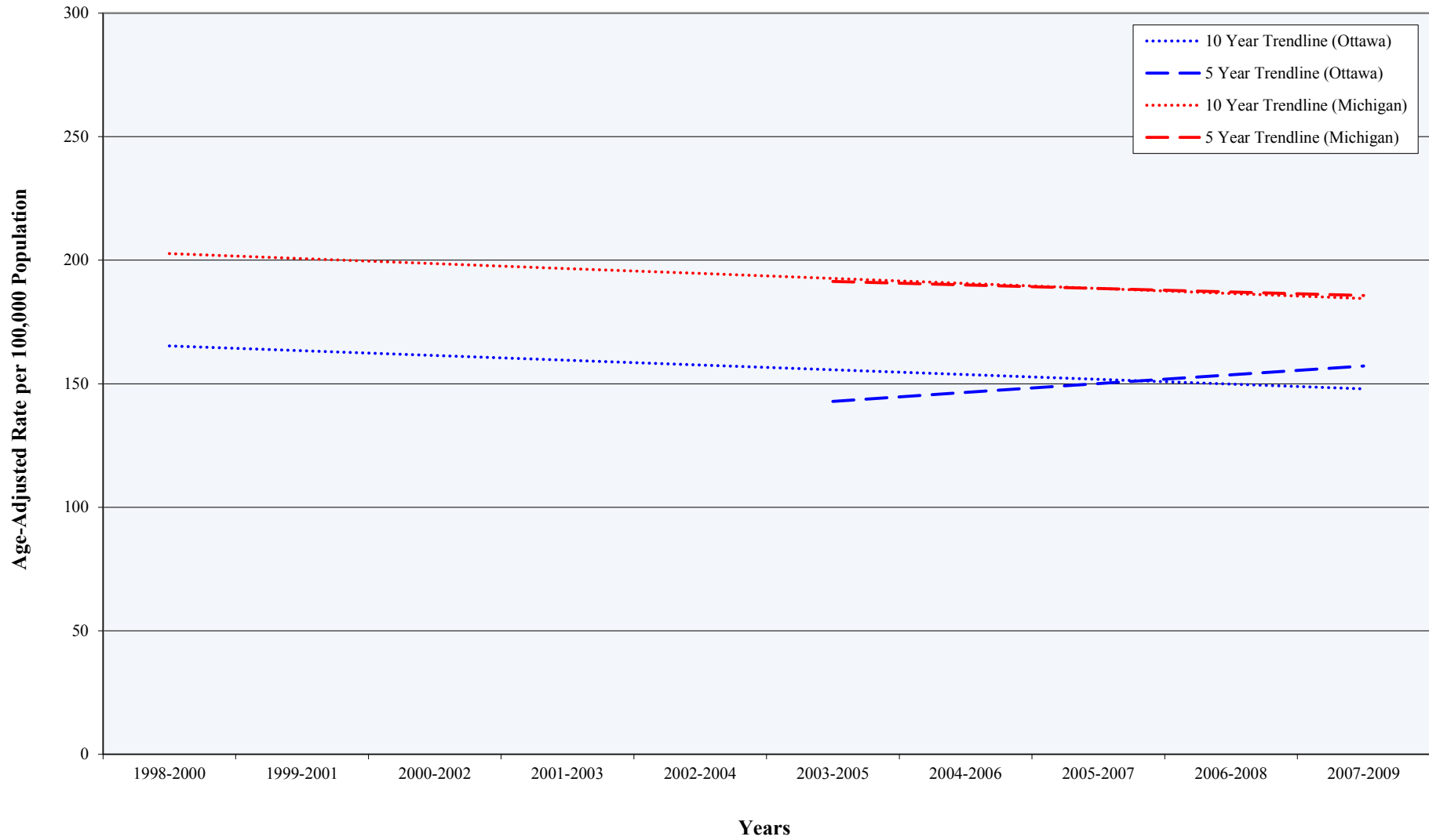
Cancer Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Cancer Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Cancer (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

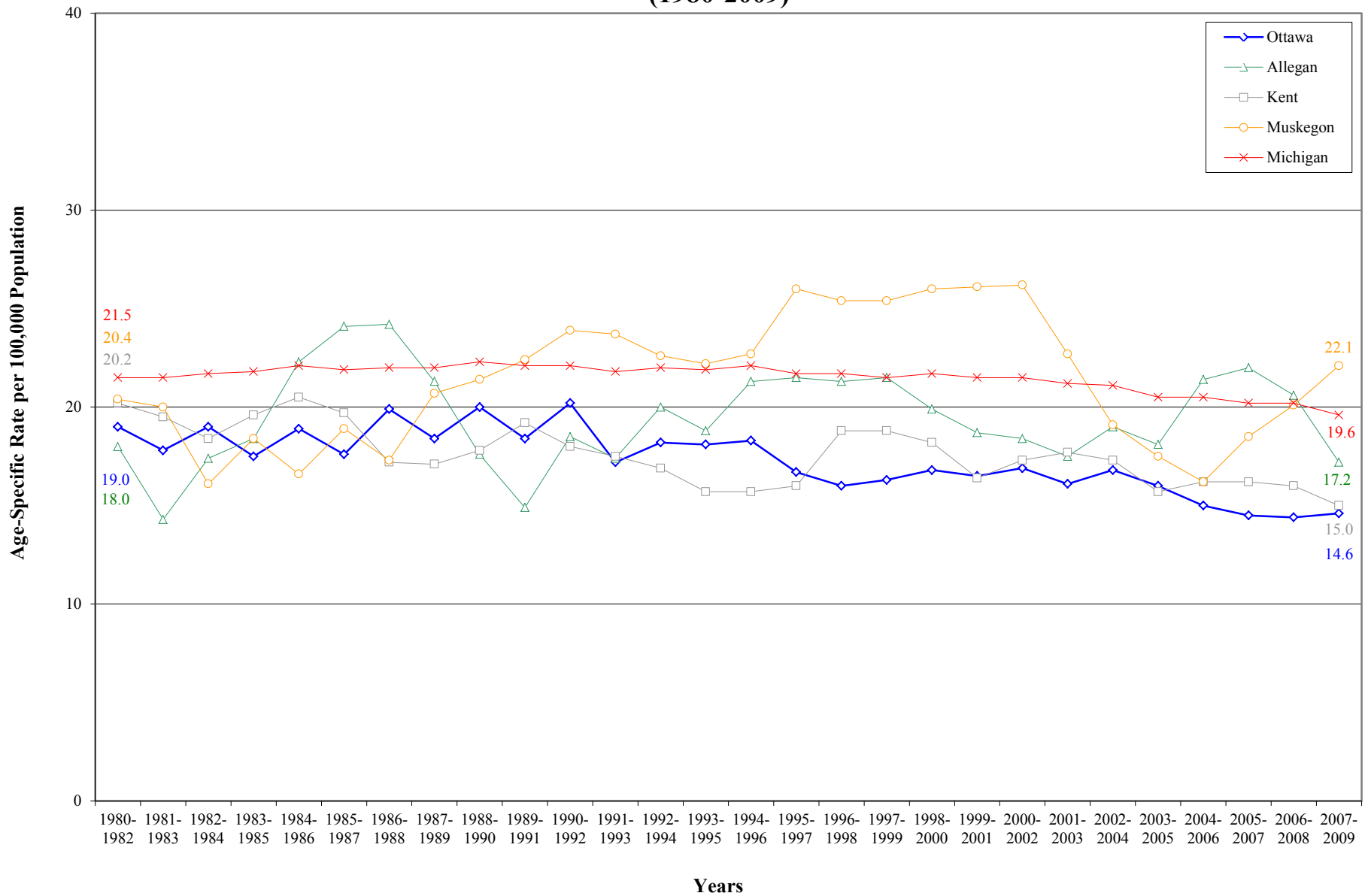
Deaths per 100,000 Population*

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	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	19.0	18.0	20.2	20.4	21.5	430.7	499.3	485.7	547.6	512.9	1,123.0	1,242.9	1,360.6	1,367.7	1,345.0
1981-1983	17.8	14.3	19.5	20.0	21.5	445.9	526.2	491.5	542.9	525.0	1,194.3	1,289.8	1,331.4	1,334.7	1,356.6
1982-1984	19.0	17.4	18.4	16.1	21.7	443.6	520.6	496.9	543.6	533.9	1,192.0	1,511.4	1,342.2	1,363.0	1,361.9
1983-1985	17.5	18.4	19.6	18.4	21.8	468.4	510.3	493.5	543.4	538.7	1,141.0	1,466.0	1,367.3	1,268.1	1,375.4
1984-1986	18.9	22.3	20.5	16.6	22.1	466.3	482.2	488.2	542.0	542.6	1,160.2	1,414.4	1,406.9	1,246.8	1,367.0
1985-1987	17.6	24.1	19.7	18.9	21.9	465.3	483.6	510.0	603.0	549.2	1,221.2	1,226.5	1,450.7	1,271.2	1,369.1
1986-1988	19.9	24.2	17.2	17.3	22.0	441.8	446.8	525.3	602.4	551.3	1,384.0	1,274.1	1,447.7	1,393.1	1,372.8
1987-1989	18.4	21.3	17.1	20.7	22.0	407.1	460.3	540.5	611.1	553.7	1,384.2	1,250.6	1,449.6	1,382.6	1,400.1
1988-1990	20.0	17.6	17.8	21.4	22.3	384.2	459.3	514.9	559.9	553.3	1,336.2	1,365.1	1,418.8	1,375.2	1,420.0
1989-1991	18.4	14.9	19.2	22.4	22.1	395.3	498.2	521.9	529.0	560.0	1,253.5	1,382.4	1,454.7	1,398.4	1,449.6
1990-1992	20.2	18.5	18.0	23.9	22.1	405.5	474.8	507.3	540.4	559.9	1,242.2	1,468.1	1,397.8	1,394.1	1,468.9
1991-1993	17.2	17.4	17.5	23.7	21.8	436.0	499.6	512.3	549.6	556.4	1,301.6	1,427.1	1,409.4	1,488.7	1,480.1
1992-1994	18.2	20.0	16.9	22.6	22.0	426.0	485.0	490.4	578.3	545.4	1,279.0	1,439.6	1,398.8	1,428.7	1,472.6
1993-1995	18.1	18.8	15.7	22.2	21.9	410.0	502.3	476.6	548.7	535.2	1,313.1	1,417.6	1,420.1	1,447.1	1,465.3
1994-1996	18.3	21.3	15.7	22.7	22.1	365.7	485.8	453.0	492.8	525.8	1,392.3	1,439.2	1,421.3	1,362.5	1,461.9
1995-1997	16.7	21.5	16.0	26.0	21.7	357.6	474.9	435.8	496.6	513.4	1,395.6	1,419.2	1,403.2	1,385.6	1,454.8
1996-1998	16.0	21.3	18.8	25.4	21.7	357.8	496.8	420.5	499.5	500.2	1,368.1	1,369.7	1,362.7	1,436.9	1,434.8
1997-1999	16.3	21.5	18.8	25.4	21.5	358.9	481.4	420.9	519.4	484.8	1,352.9	1,385.2	1,290.3	1,419.3	1,430.7
1998-2000	16.8	19.9	18.2	26.0	21.7	337.8	477.0	419.6	491.3	470.4	1,324.8	1,503.2	1,275.0	1,445.1	1,429.7
1999-2001	16.5	18.7	16.4	26.1	21.5	326.8	435.3	401.9	465.9	454.5	1,338.6	1,606.9	1,326.6	1,402.3	1,437.7
2000-2002	16.9	18.4	17.3	26.2	21.5	330.9	410.6	386.1	467.6	442.4	1,298.7	1,620.8	1,406.0	1,419.0	1,430.1
2001-2003	16.1	17.5	17.7	22.7	21.2	313.2	355.7	369.8	461.9	427.2	1,336.2	1,498.4	1,387.5	1,377.2	1,419.0
2002-2004	16.8	19.0	17.3	19.1	21.1	287.3	349.4	372.4	456.1	415.9	1,263.4	1,404.8	1,380.3	1,423.2	1,401.5
2003-2005	16.0	18.1	15.7	17.5	20.5	263.8	336.6	365.5	433.6	409.2	1,195.4	1,309.8	1,331.8	1,409.7	1,383.8
2004-2006	15.0	21.4	16.2	16.2	20.5	268.9	369.9	339.4	430.3	404.7	1,145.1	1,362.2	1,352.9	1,417.8	1,389.4
2005-2007	14.5	22.0	16.2	18.5	20.2	298.4	386.7	321.5	425.1	397.3	1,199.4	1,386.1	1,295.9	1,412.7	1,407.8
2006-2008	14.4	20.6	16.0	20.1	20.2	303.9	392.3	311.7	409.6	386.5	1,235.1	1,429.3	1,335.2	1,394.0	1,428.9
2007-2009	14.6	17.2	15.0	22.1	19.6	308.2	366.4	319.3	409.3	379.4	1,239.1	1,389.6	1,305.1	1,410.6	1,421.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

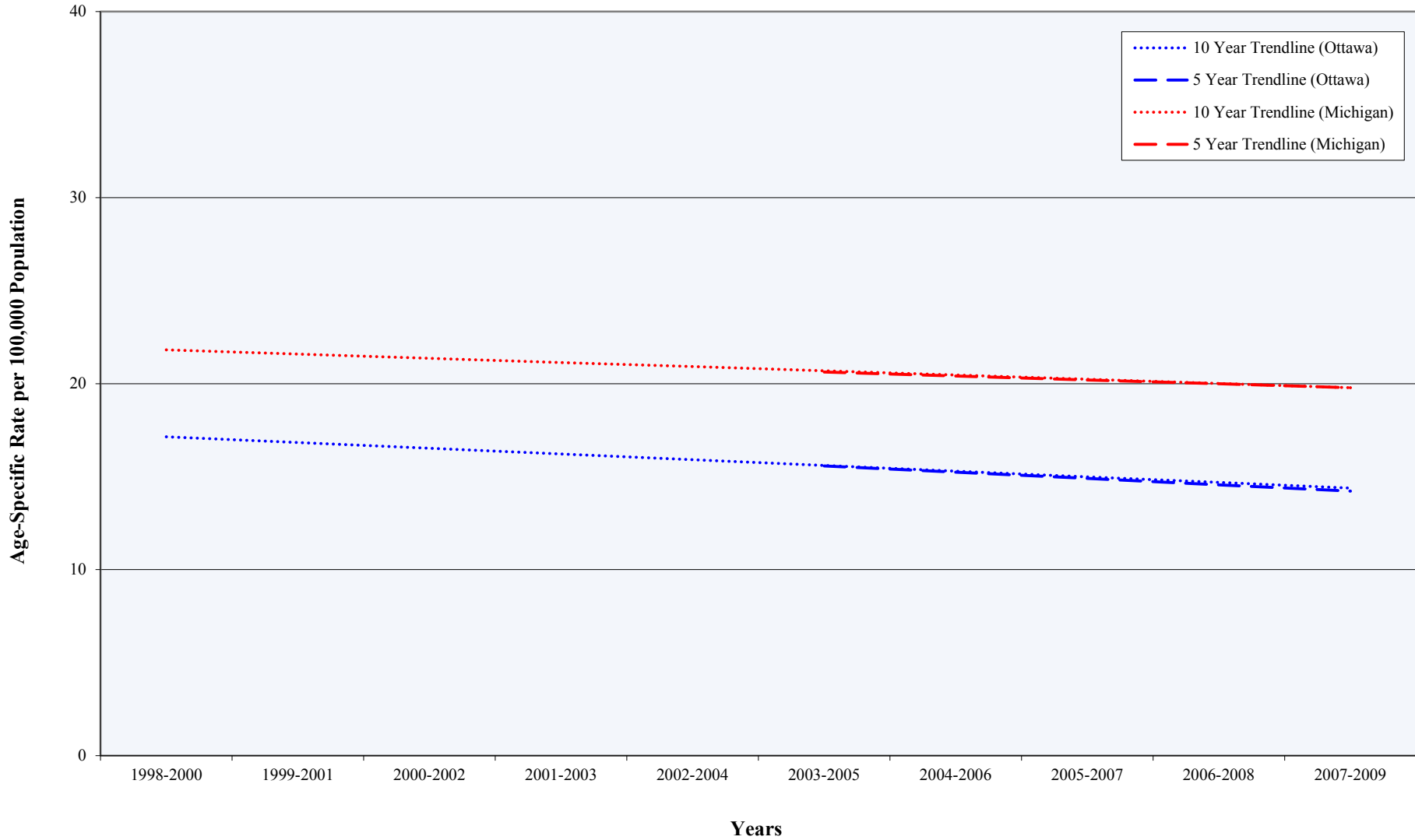
Cancer Deaths Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

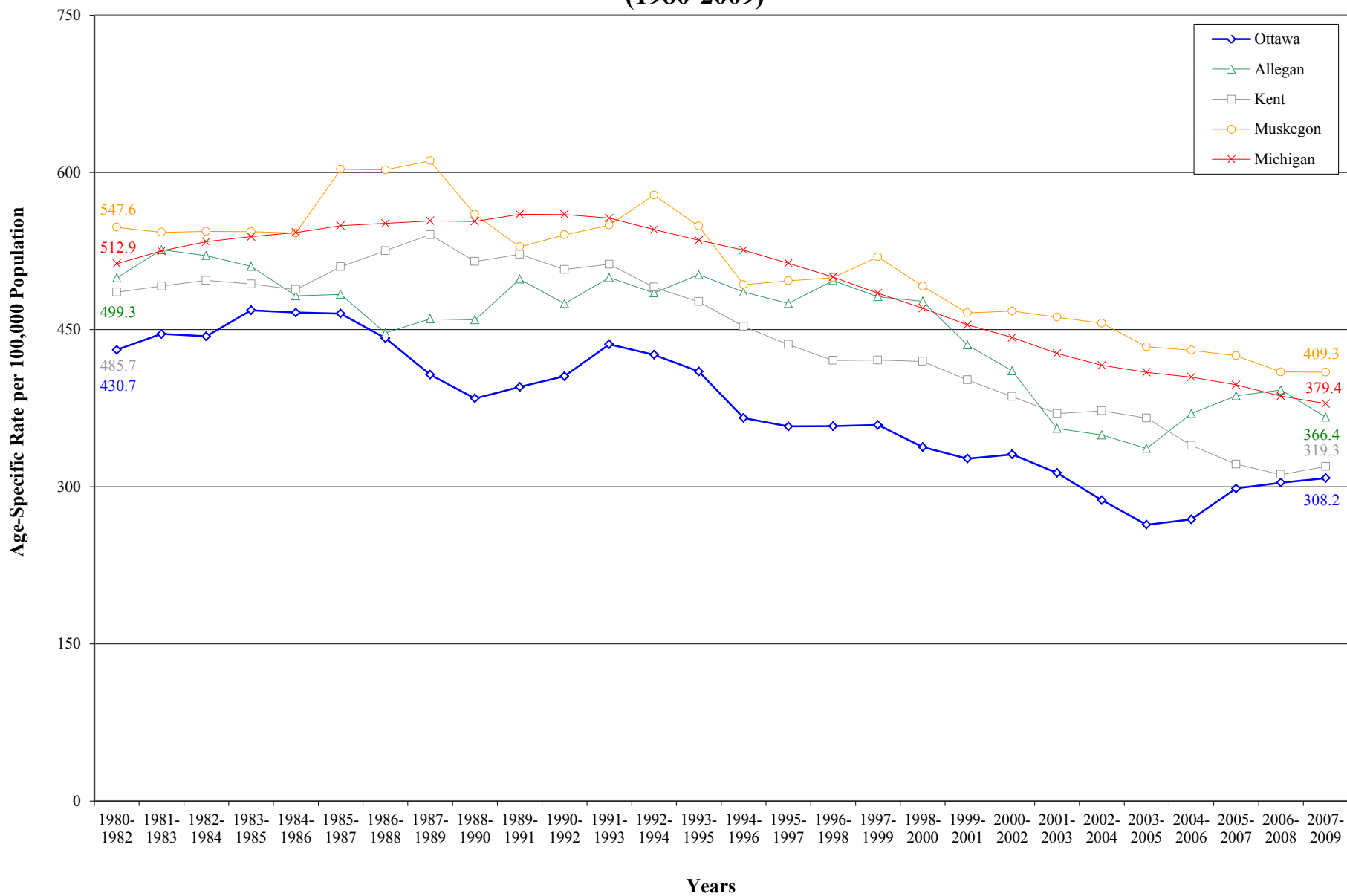
Cancer Deaths Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

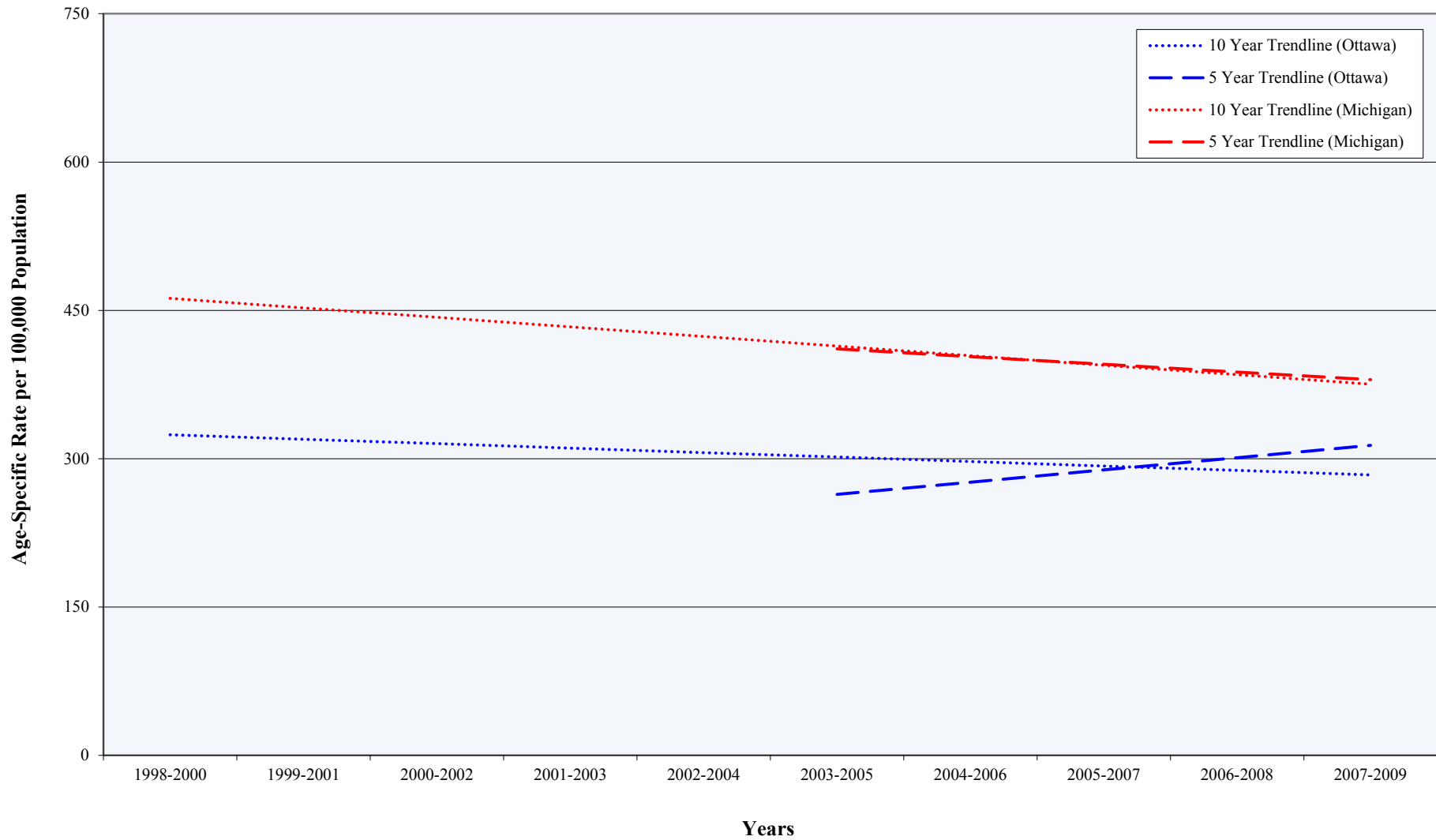
Cancer Deaths Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

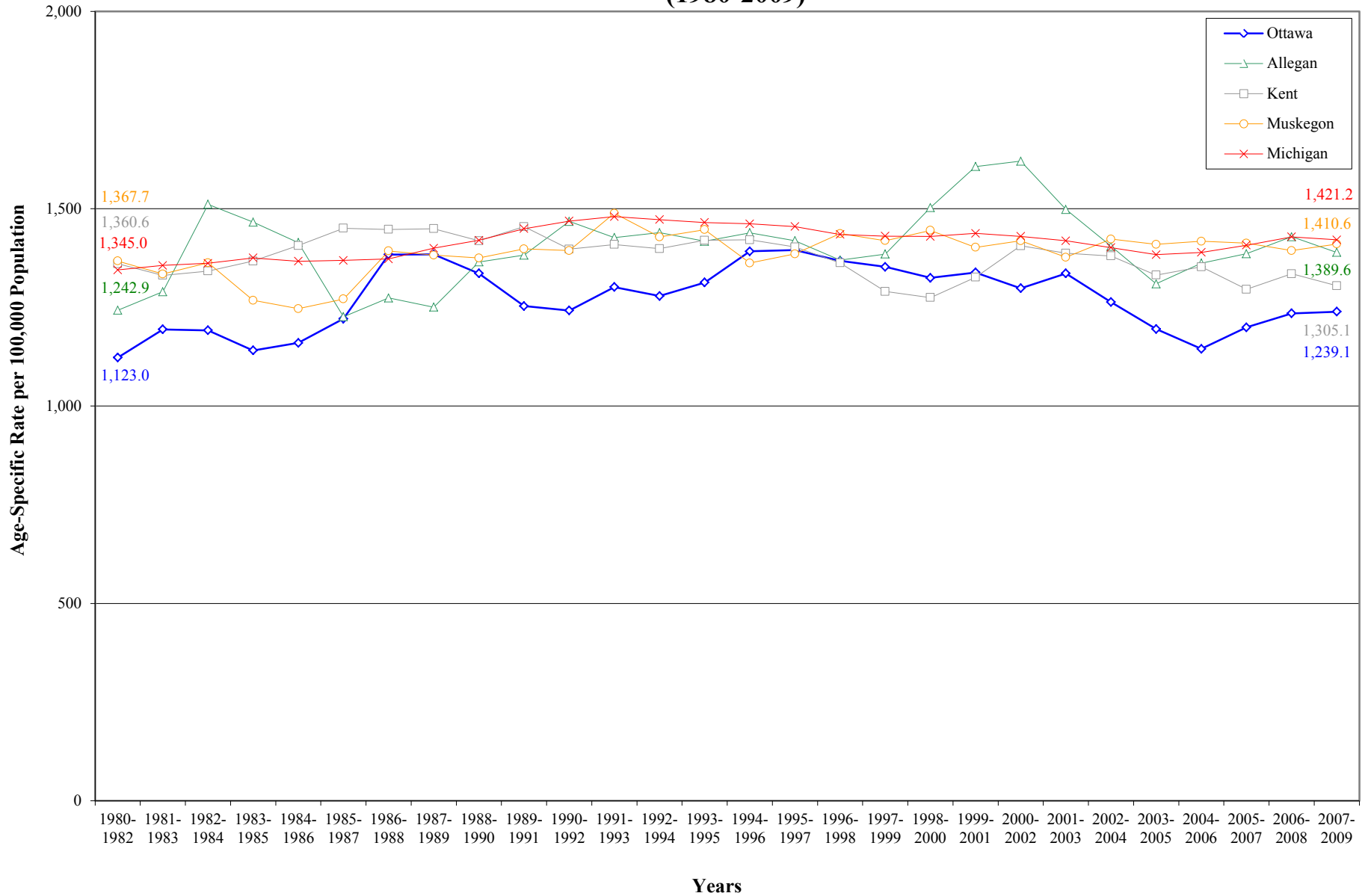
Cancer Deaths Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

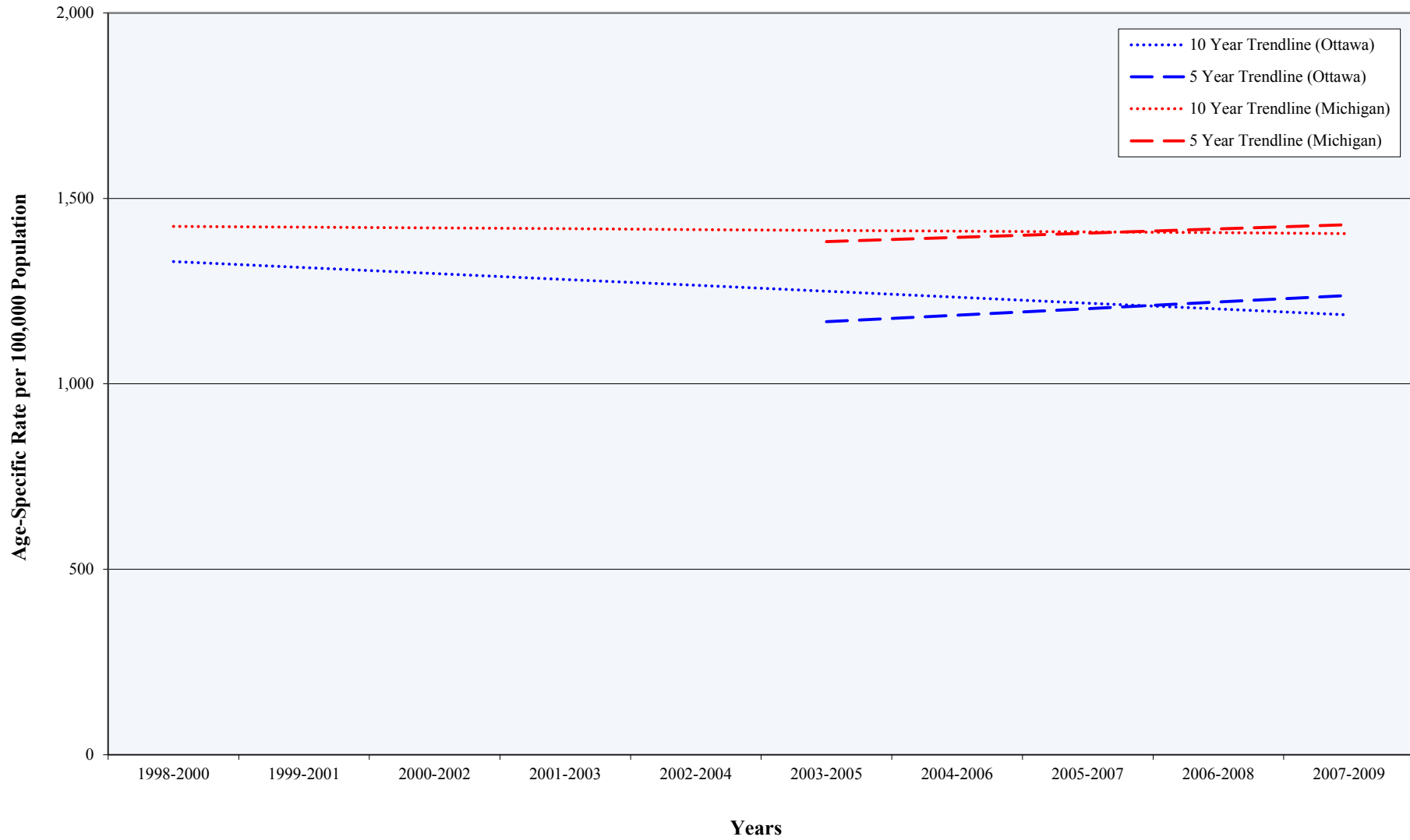
Cancer Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Cancer Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Cancer (1989, 1999, 2009)

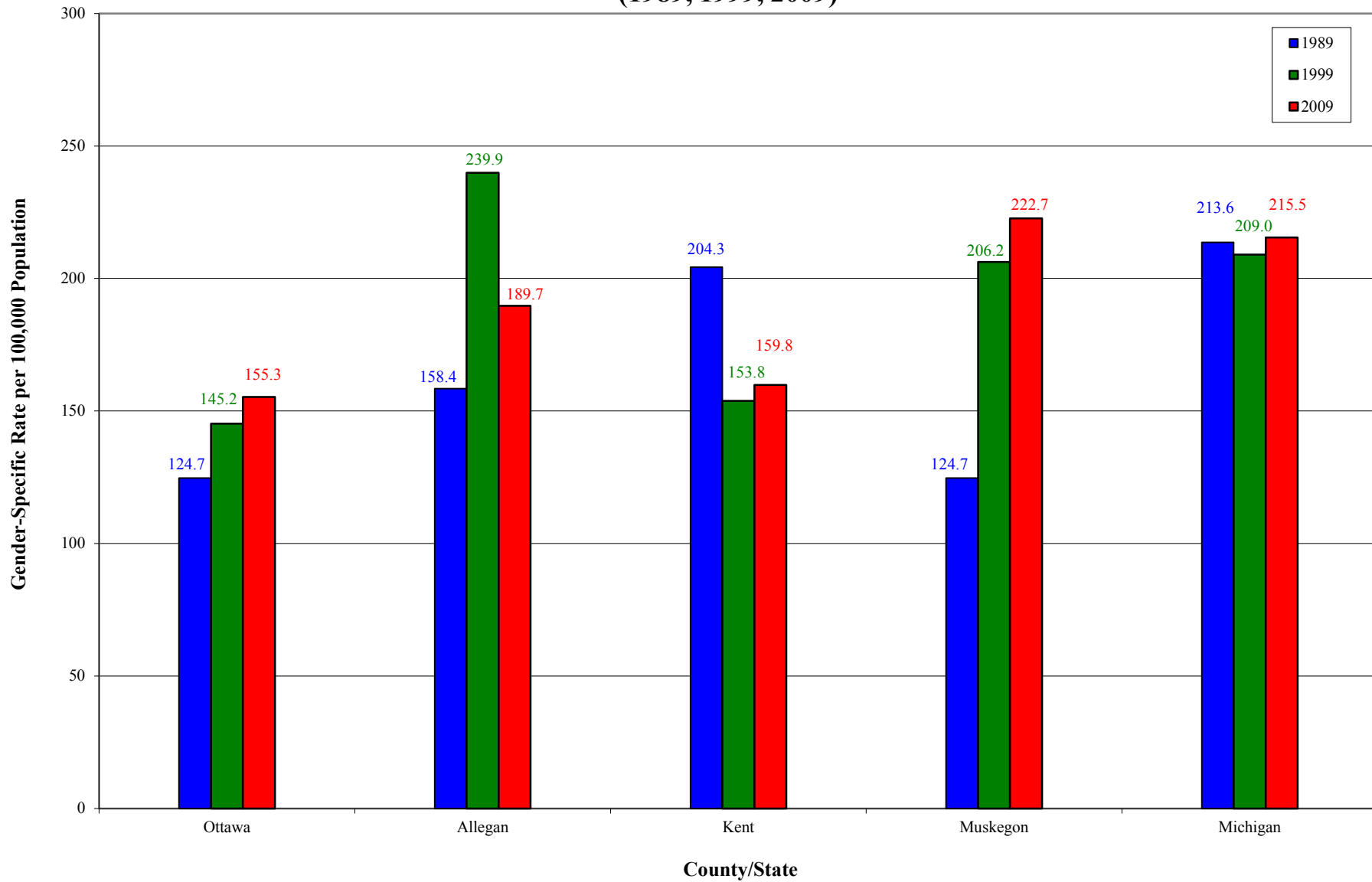
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	124.7	158.4	204.3	124.7	213.6	136.3	157.7	159.5	188.7	181.9
1999	145.2	239.9	153.8	206.2	209.0	140.1	158.5	156.6	208.4	188.9
2009	155.3	189.7	159.8	222.7	215.5	132.7	159.2	149.7	228.8	192.4

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

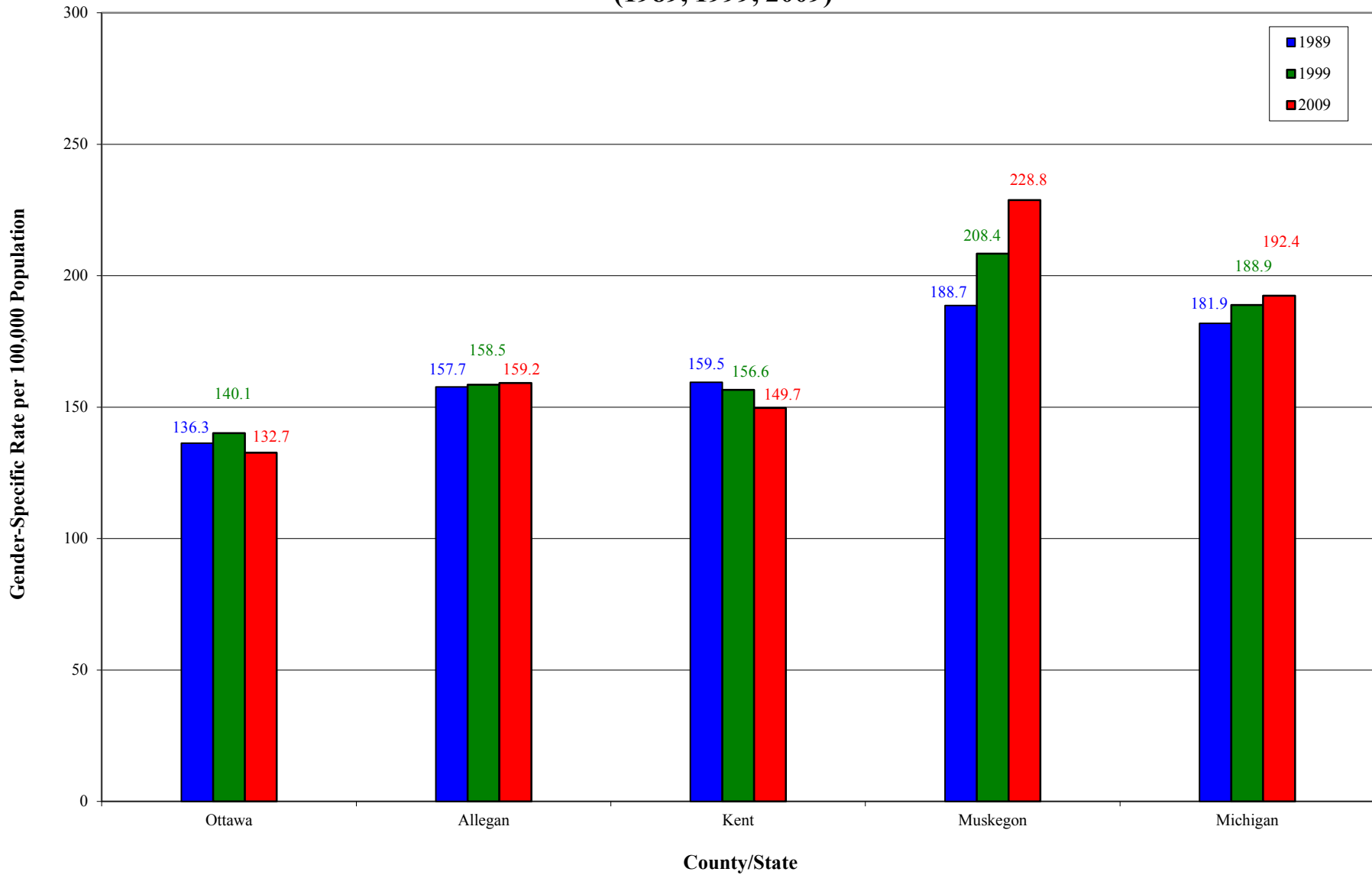
* Death rates are gender-specific and refer to the population of that gender

Cancer Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Cancer Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Cancer Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

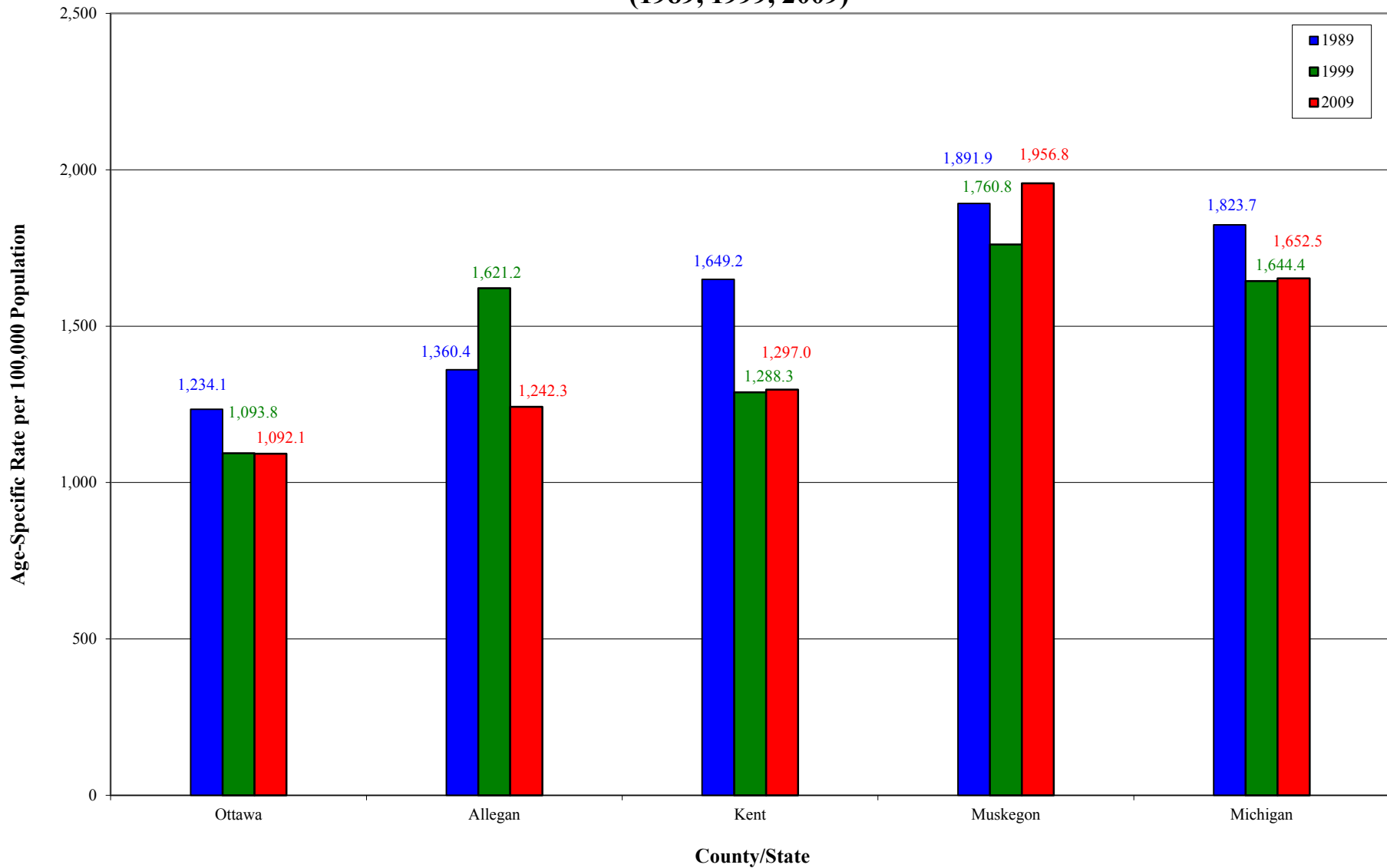
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	1,234.1	1,360.4	1,649.2	1,891.9	1,823.7
1999	1,093.8	1,621.2	1,288.3	1,760.8	1,644.4
2009	1,092.1	1,242.3	1,297.0	1,956.8	1,652.5

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Cancer Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Heart Disease (1980-2009)

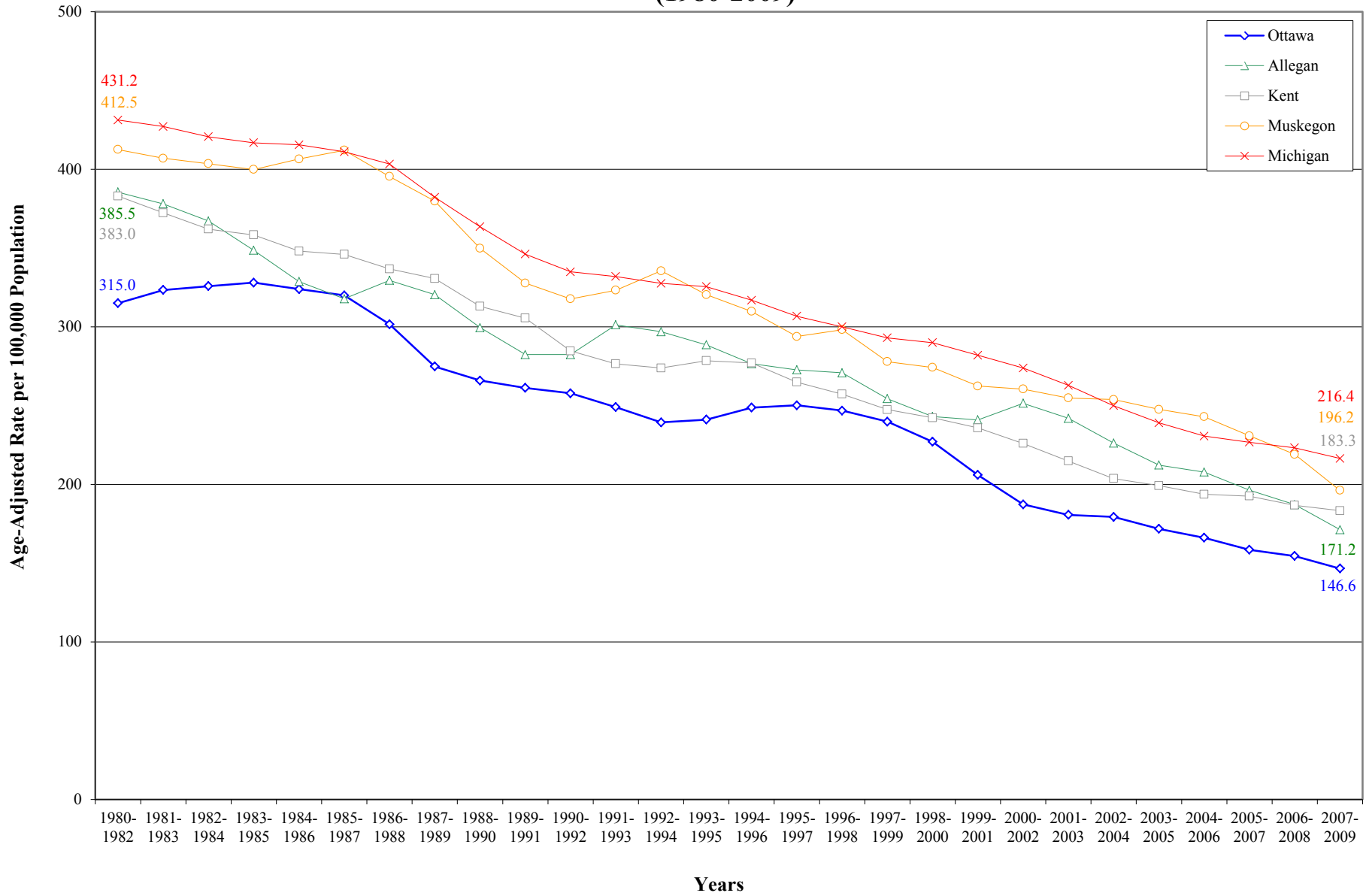
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	315.0	385.5	383.0	412.5	431.2
1981-1983	323.4	378.0	372.3	407.0	427.1
1982-1984	325.8	367.1	362.0	403.5	420.6
1983-1985	328.0	348.6	358.3	399.9	416.8
1984-1986	323.9	328.7	348.0	406.5	415.5
1985-1987	319.9	317.8	346.0	412.1	411.1
1986-1988	301.6	329.5	336.7	395.4	403.3
1987-1989	274.8	320.4	330.6	379.8	382.2
1988-1990	265.9	299.5	313.0	349.8	363.5
1989-1991	261.2	282.4	305.5	327.7	346.1
1990-1992	257.8	282.4	284.7	317.7	334.9
1991-1993	249.0	301.2	276.5	323.2	331.9
1992-1994	239.3	296.9	273.8	335.5	327.6
1993-1995	241.1	288.6	278.5	320.4	325.5
1994-1996	248.7	276.6	277.0	309.8	316.9
1995-1997	250.2	272.7	264.9	293.8	306.7
1996-1998	246.8	270.8	257.3	298.2	300.0
1997-1999	239.8	254.4	247.4	277.9	293.0
1998-2000	227.0	243.1	242.2	274.2	289.9
1999-2001	206.0	240.9	235.8	262.4	281.9
2000-2002	187.3	251.5	226.0	260.5	273.8
2001-2003	180.6	241.9	214.8	254.8	262.8
2002-2004	179.3	226.2	203.7	253.8	249.9
2003-2005	171.8	212.2	199.2	247.6	239.0
2004-2006	166.1	207.8	193.7	242.9	230.6
2005-2007	158.5	196.3	192.5	230.8	226.7
2006-2008	154.5	187.1	186.7	219.0	223.2
2007-2009	146.6	171.2	183.3	196.2	216.4

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

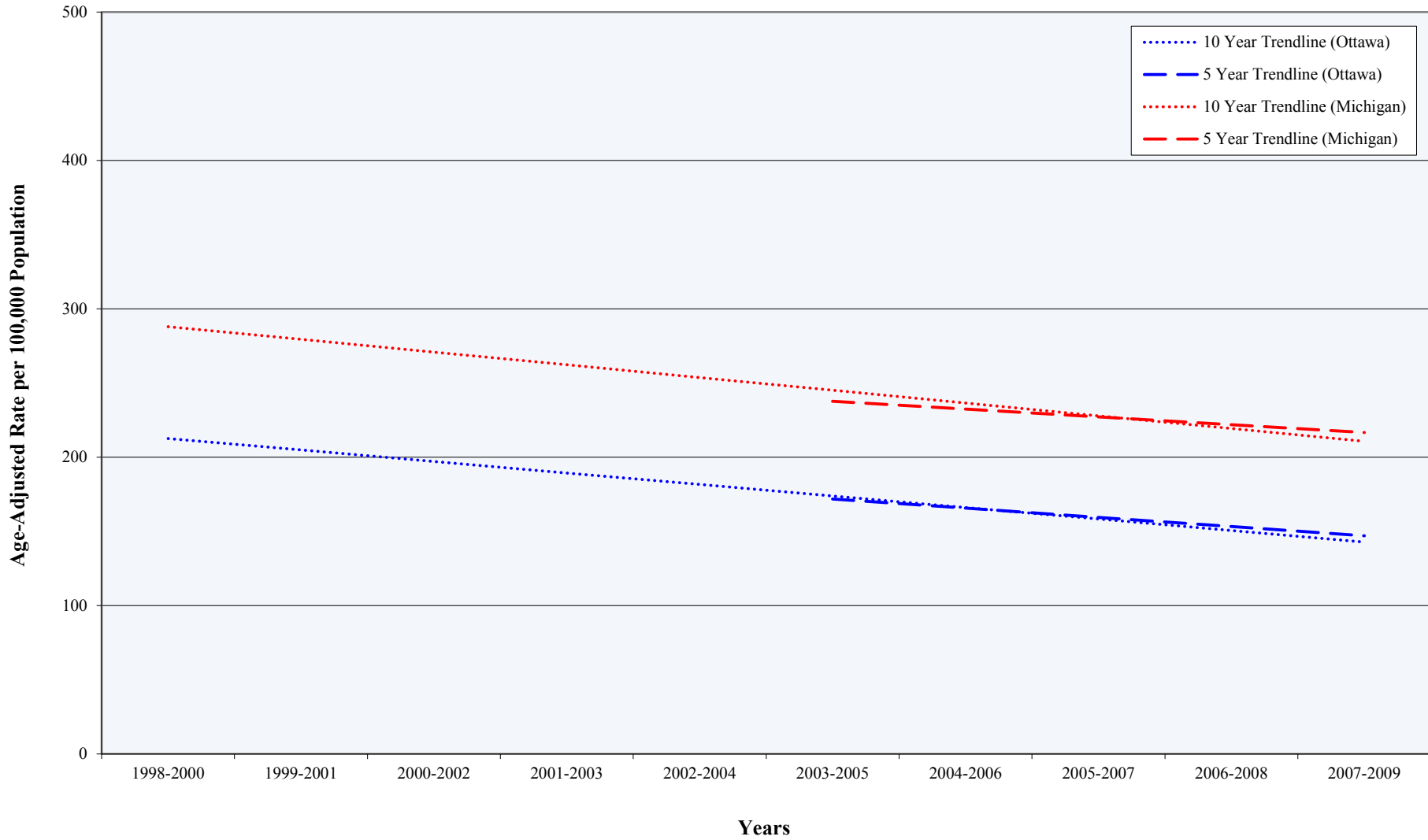
Heart Disease Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Heart Disease Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Heart Disease (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

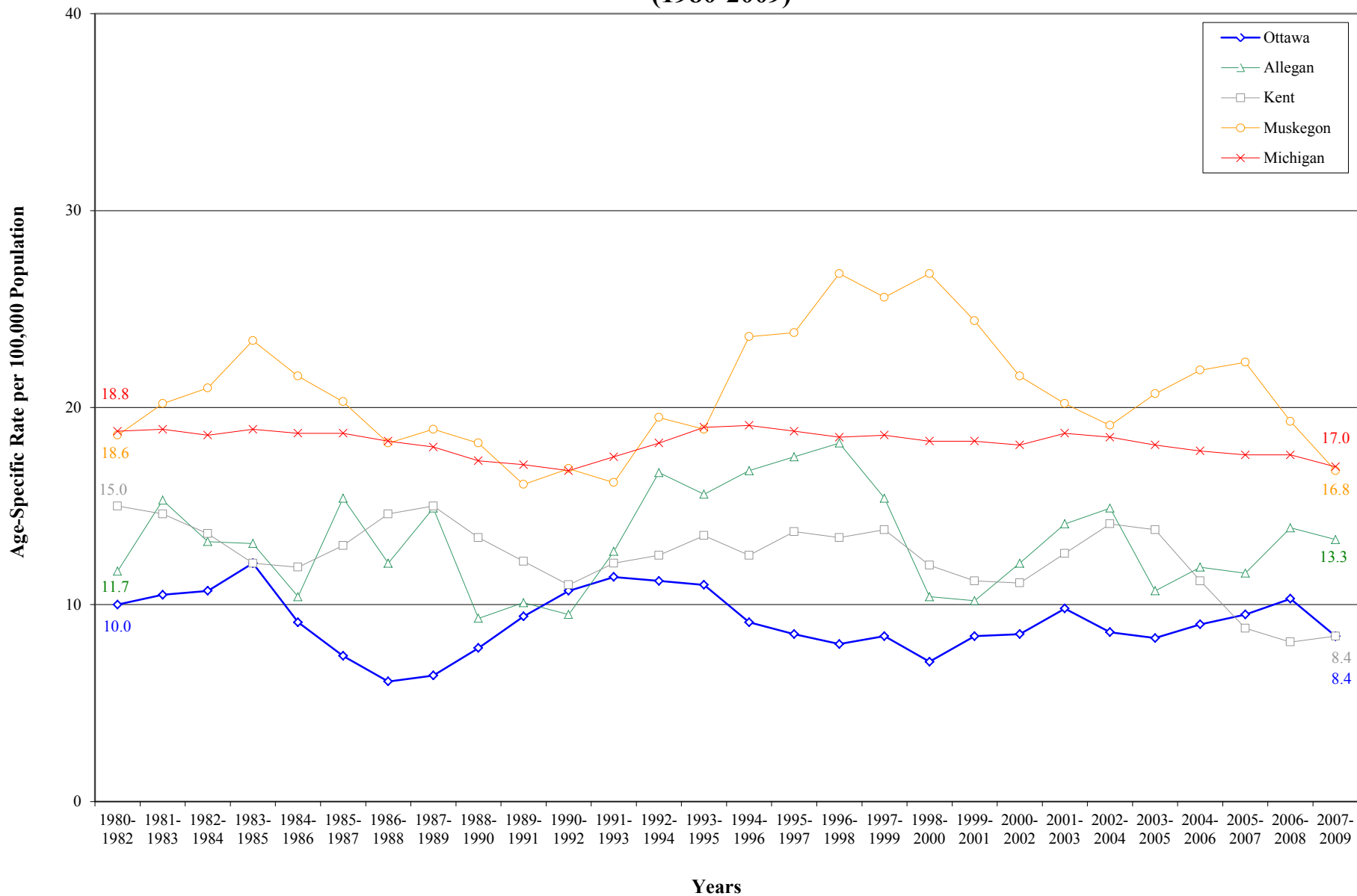
Deaths per 100,000 Population*

Year	Under Age 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	10.0	11.7	15.0	18.6	18.8	484.7	631.2	648.4	652.1	682.0	3,310.5	3,959.9	3,787.0	4,122.9	4,288.0
1981-1983	10.5	15.3	14.6	20.2	18.9	482.0	615.2	612.1	672.6	685.1	3,470.2	3,850.8	3,765.7	3,955.9	4,247.2
1982-1984	10.7	13.2	13.6	21.0	18.6	493.4	571.2	567.1	656.9	674.2	3,499.9	3,878.7	3,797.9	3,966.9	4,222.4
1983-1985	12.1	13.1	12.1	23.4	18.9	453.4	583.2	546.6	685.0	667.5	3,659.5	3,527.3	3,860.4	3,822.6	4,209.1
1984-1986	9.1	10.4	11.9	21.6	18.7	433.4	520.5	533.0	661.2	654.7	3,709.5	3,462.3	3,762.4	4,066.7	4,254.6
1985-1987	7.4	15.4	13.0	20.3	18.7	404.8	511.7	537.7	684.8	648.8	3,767.0	3,231.3	3,714.3	4,132.6	4,222.9
1986-1988	6.1	12.1	14.6	18.2	18.3	388.8	512.6	501.4	634.4	634.0	3,535.9	3,485.4	3,664.9	4,068.7	4,166.1
1987-1989	6.4	14.9	15.0	18.9	18.0	368.1	500.0	499.6	608.1	610.2	3,158.8	3,321.7	3,565.5	3,886.9	3,921.1
1988-1990	7.8	9.3	13.4	18.2	17.3	361.8	465.2	481.7	556.9	579.5	3,015.1	3,200.7	3,364.4	3,582.6	3,739.8
1989-1991	9.4	10.1	12.2	16.1	17.1	321.2	402.4	485.1	555.2	550.3	3,052.5	3,115.9	3,248.6	3,263.0	3,566.4
1990-1992	10.7	9.5	11.0	16.9	16.8	303.4	380.3	450.5	558.5	527.2	3,037.5	3,211.1	3,045.1	3,105.3	3,476.6
1991-1993	11.4	12.7	12.1	16.2	17.5	290.3	412.3	421.3	539.6	518.9	2,927.5	3,364.8	2,986.9	3,260.3	3,453.7
1992-1994	11.2	16.7	12.5	19.5	18.2	302.5	445.8	419.7	519.6	509.9	2,732.7	3,129.2	2,945.2	3,481.0	3,407.4
1993-1995	11.0	15.6	13.5	18.9	19.0	311.8	442.0	409.5	485.6	498.3	2,726.4	3,031.1	3,043.3	3,375.3	3,402.4
1994-1996	9.1	16.8	12.5	23.6	19.1	317.9	421.3	403.5	476.1	478.3	2,846.4	2,891.0	3,056.5	3,183.7	3,330.6
1995-1997	8.5	17.5	13.7	23.8	18.8	310.5	403.1	363.8	451.9	454.9	2,890.2	2,874.9	2,967.0	3,009.4	3,241.1
1996-1998	8.0	18.2	13.4	26.8	18.5	300.3	390.9	345.9	457.4	438.4	2,872.3	2,857.0	2,898.3	3,010.6	3,181.7
1997-1999	8.4	15.4	13.8	25.6	18.6	291.2	368.9	334.8	417.2	421.2	2,772.8	2,679.5	2,754.1	2,813.3	3,108.7
1998-2000	7.1	10.4	12.0	26.8	18.3	260.3	343.0	328.5	412.7	403.3	2,728.4	2,630.5	2,707.6	2,727.6	3,109.2
1999-2001	8.4	10.2	11.2	24.4	18.3	224.2	352.3	315.1	395.4	378.6	2,520.1	2,539.9	2,643.2	2,606.0	3,054.7
2000-2002	8.5	12.1	11.1	21.6	18.1	203.8	352.8	287.8	390.5	354.9	2,307.2	2,660.2	2,564.1	2,618.6	3,007.0
2001-2003	9.8	14.1	12.6	20.2	18.7	204.8	329.9	262.0	380.0	336.1	2,172.6	2,574.5	2,450.5	2,596.7	2,897.3
2002-2004	8.6	14.9	14.1	19.1	18.5	205.1	294.0	252.6	364.6	320.6	2,176.0	2,461.2	2,287.7	2,674.7	2,759.2
2003-2005	8.3	10.7	13.8	20.7	18.1	196.9	274.9	242.7	355.1	311.0	2,101.2	2,385.0	2,266.3	2,628.8	2,640.4
2004-2006	9.0	11.9	11.2	21.9	17.8	193.8	252.2	237.3	342.2	296.2	2,024.0	2,406.7	2,236.1	2,592.6	2,576.5
2005-2007	9.5	11.6	8.8	22.3	17.6	182.3	235.7	231.9	324.1	287.2	1,958.9	2,292.2	2,290.0	2,464.9	2,568.1
2006-2008	10.3	13.9	8.1	19.3	17.6	167.7	211.8	224.3	309.7	275.5	1,964.1	2,209.0	2,266.5	2,361.1	2,576.9
2007-2009	8.4	13.3	8.4	16.8	17.0	153.0	207.3	217.9	281.0	268.3	1,928.2	1,947.5	2,260.0	2,112.8	2,514.8

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

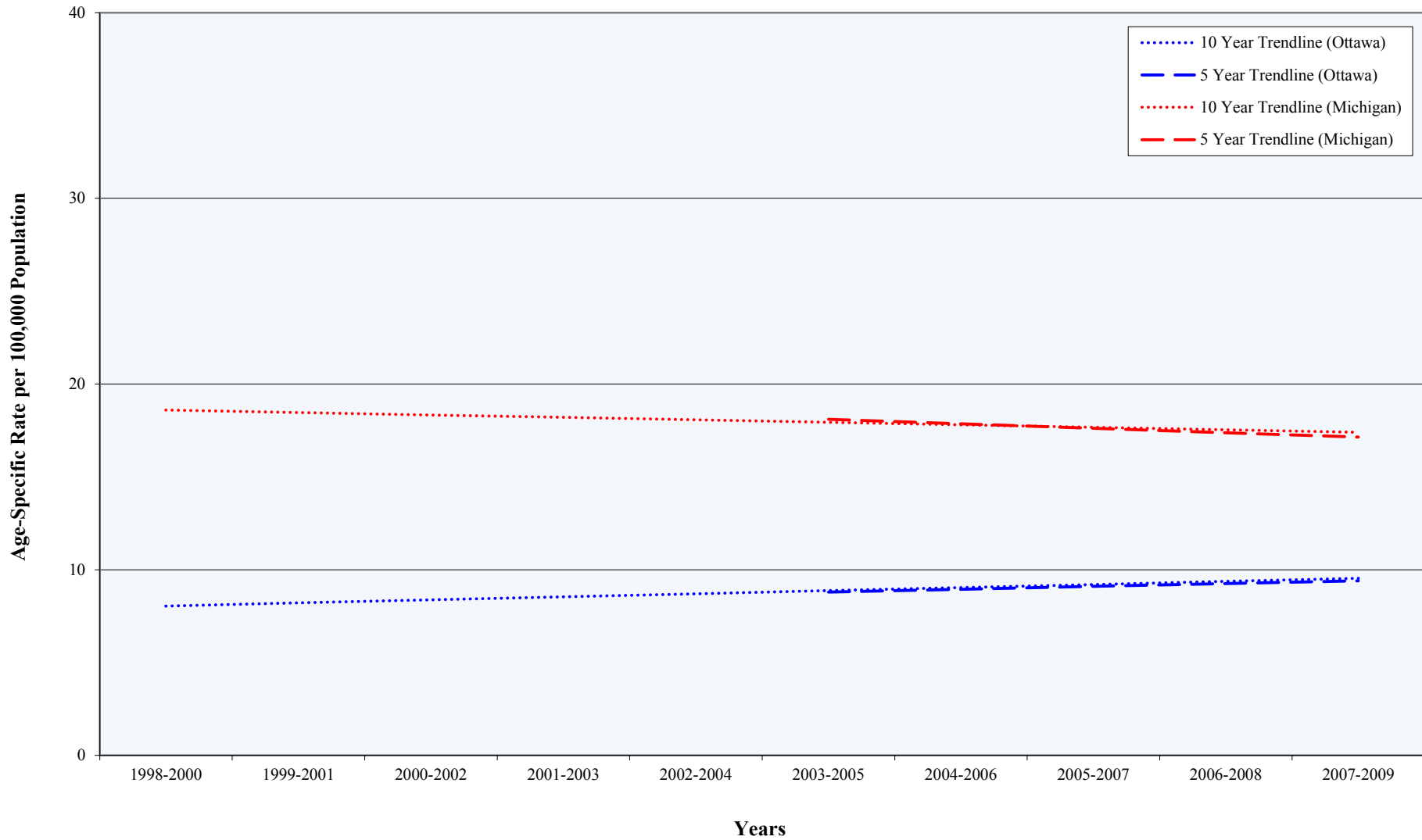
Heart Disease Deaths Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

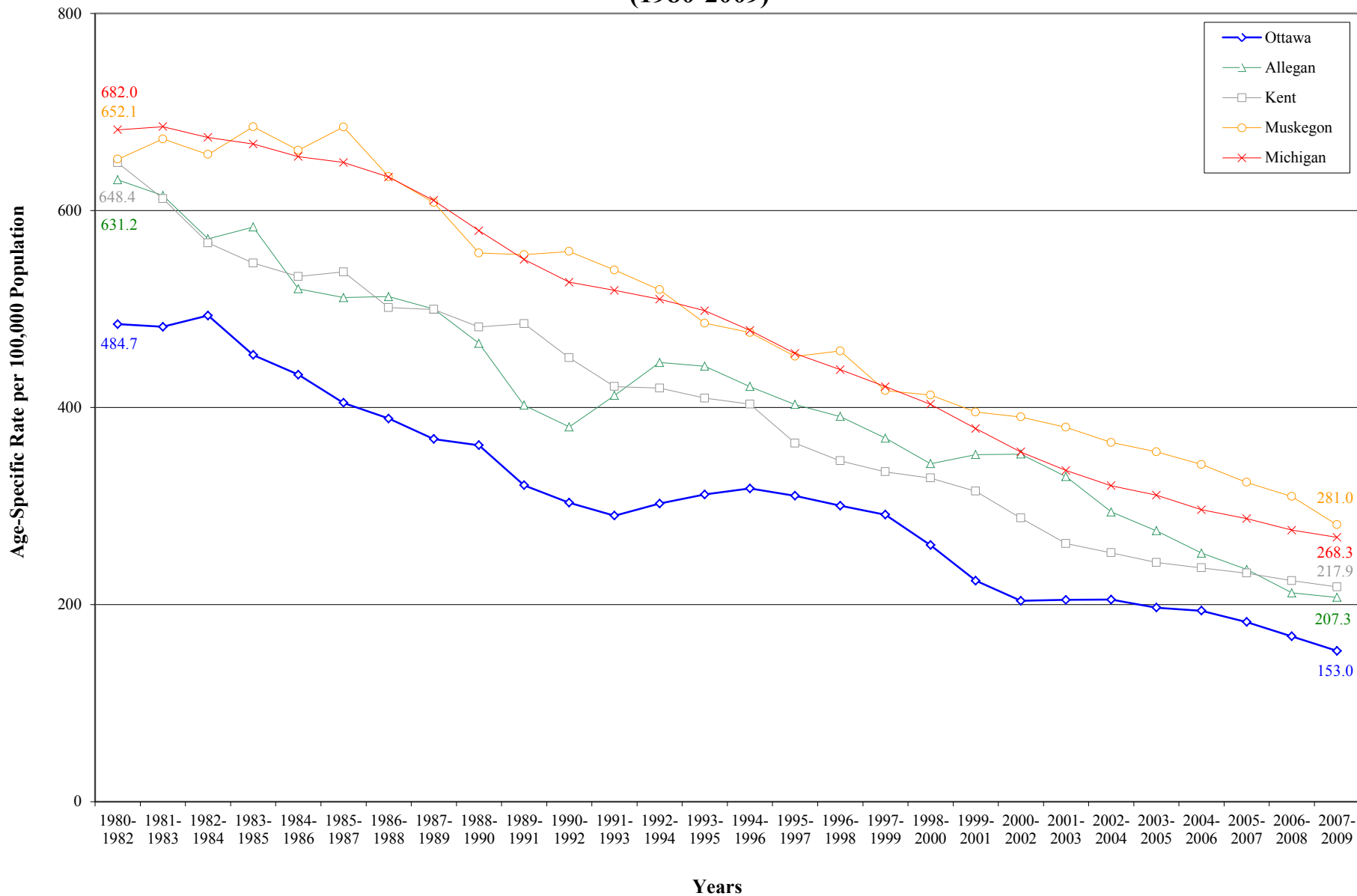
Heart Disease Deaths Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

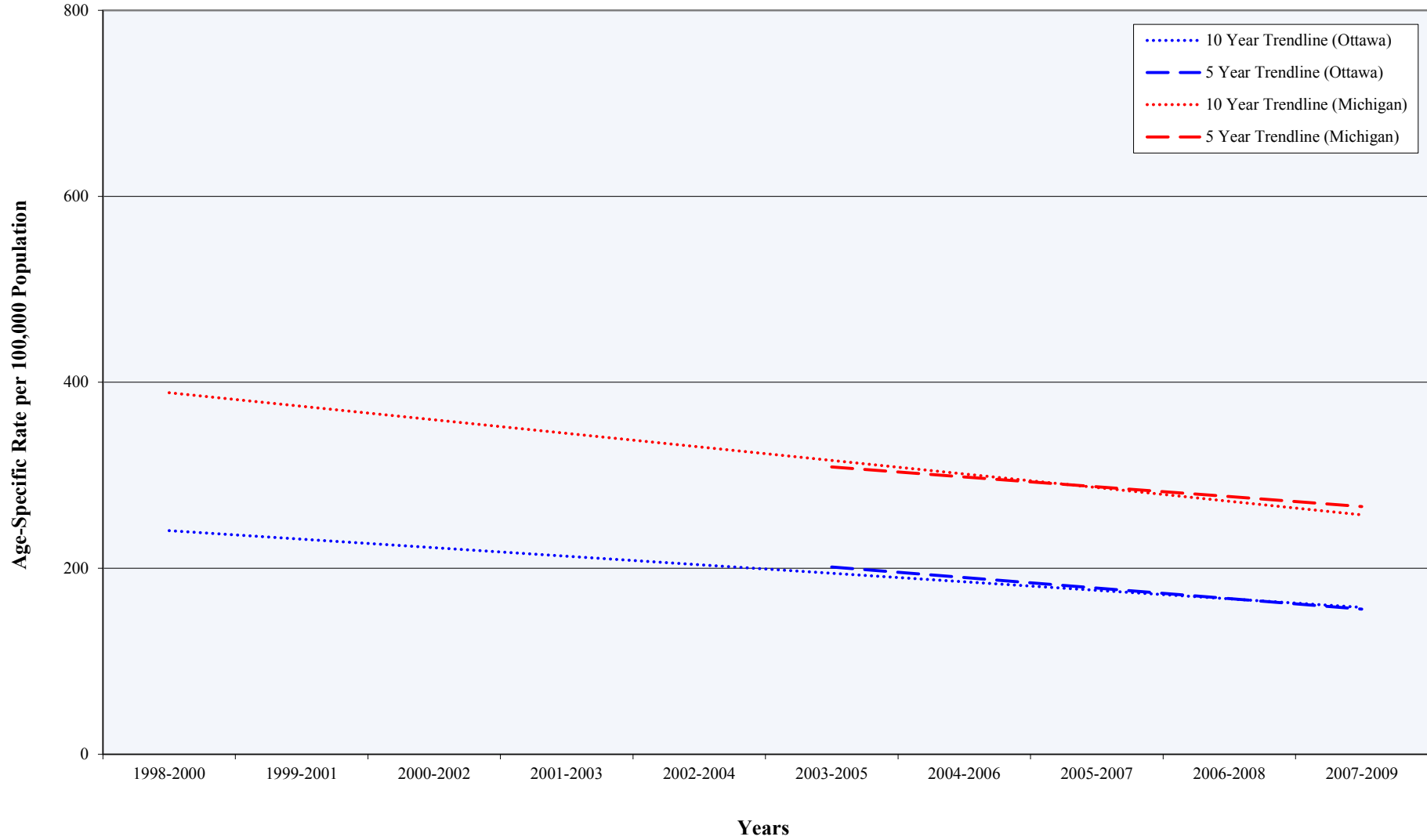
Heart Disease Deaths Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

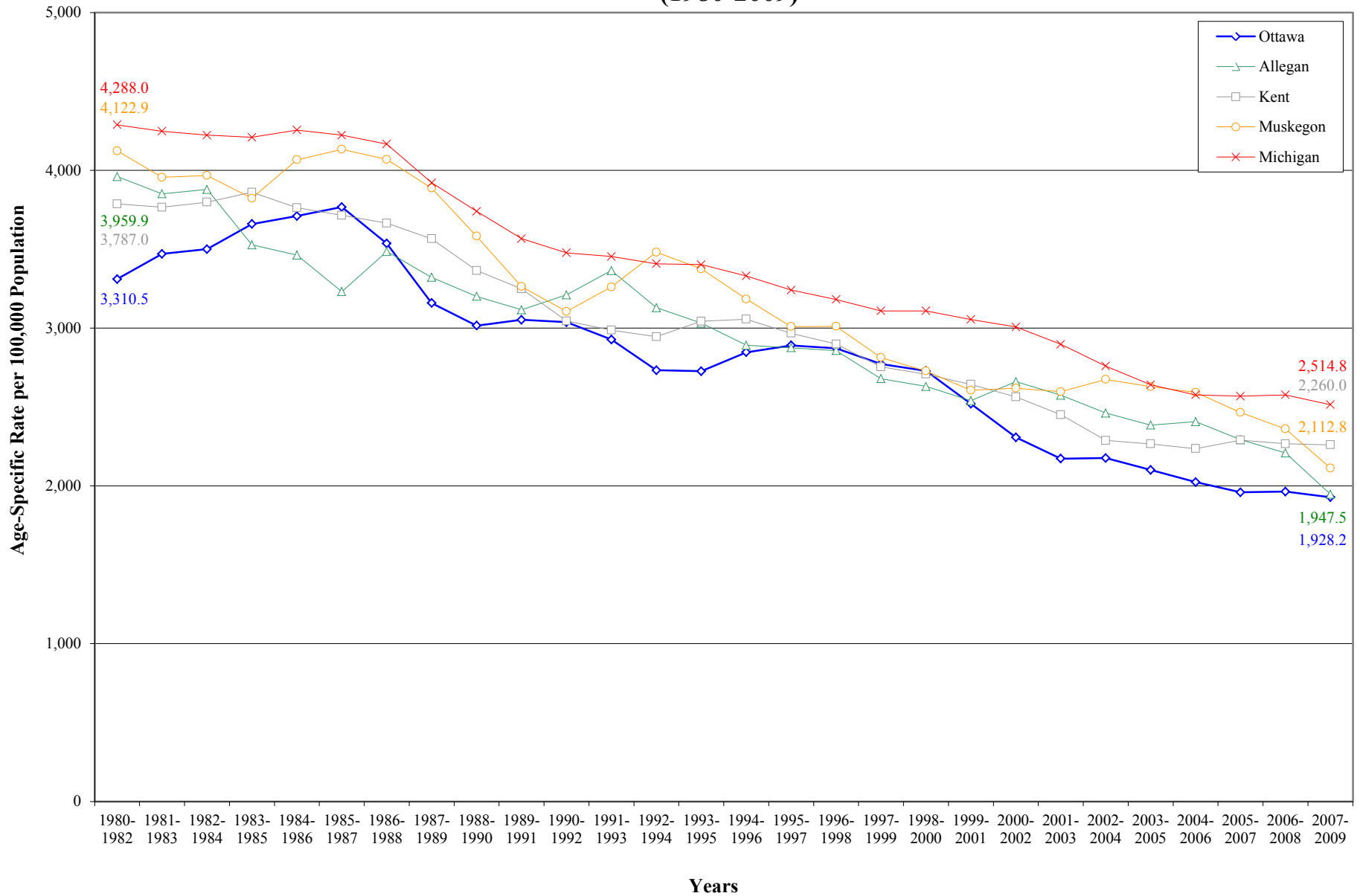
Heart Disease Deaths Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

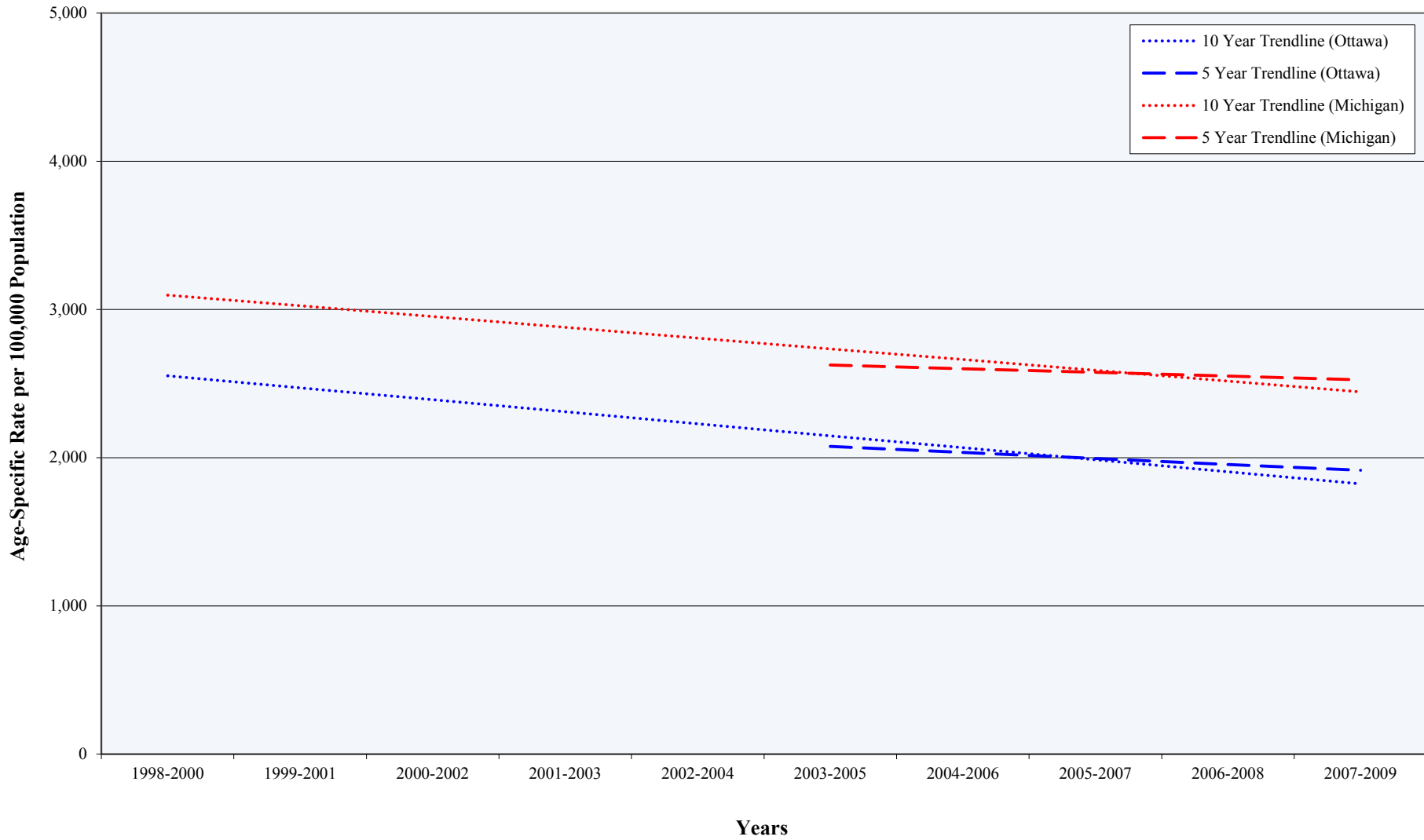
Heart Disease Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Heart Disease Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Heart Disease (1989, 1999, 2009)

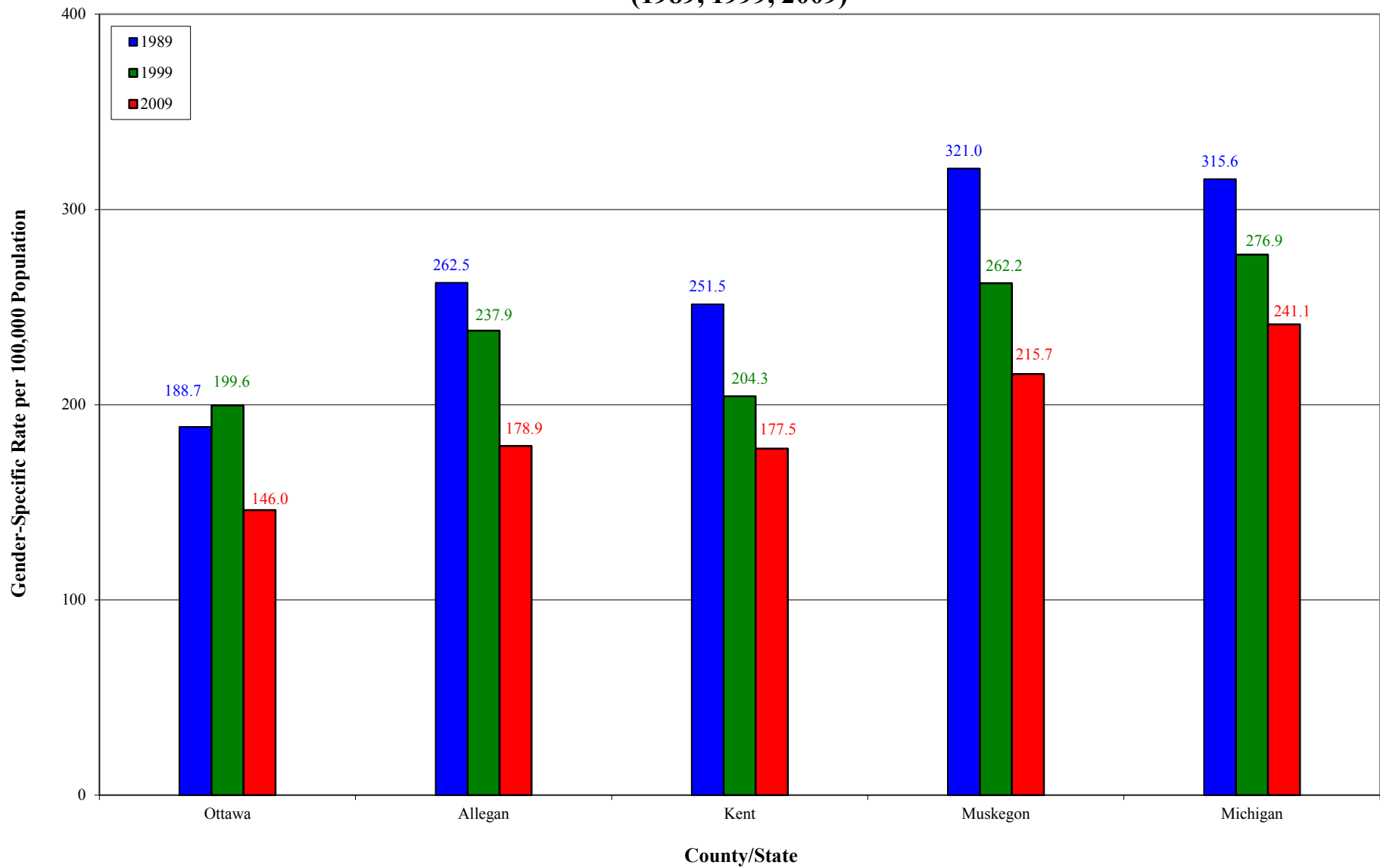
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	188.7	262.5	251.5	321.0	315.6	173.9	219.8	261.5	319.4	290.9
1999	199.6	237.9	204.3	262.2	276.9	193.8	191.0	219.2	263.4	279.6
2009	146.0	178.9	177.5	215.7	241.1	134.2	141.3	177.4	167.8	224.7

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

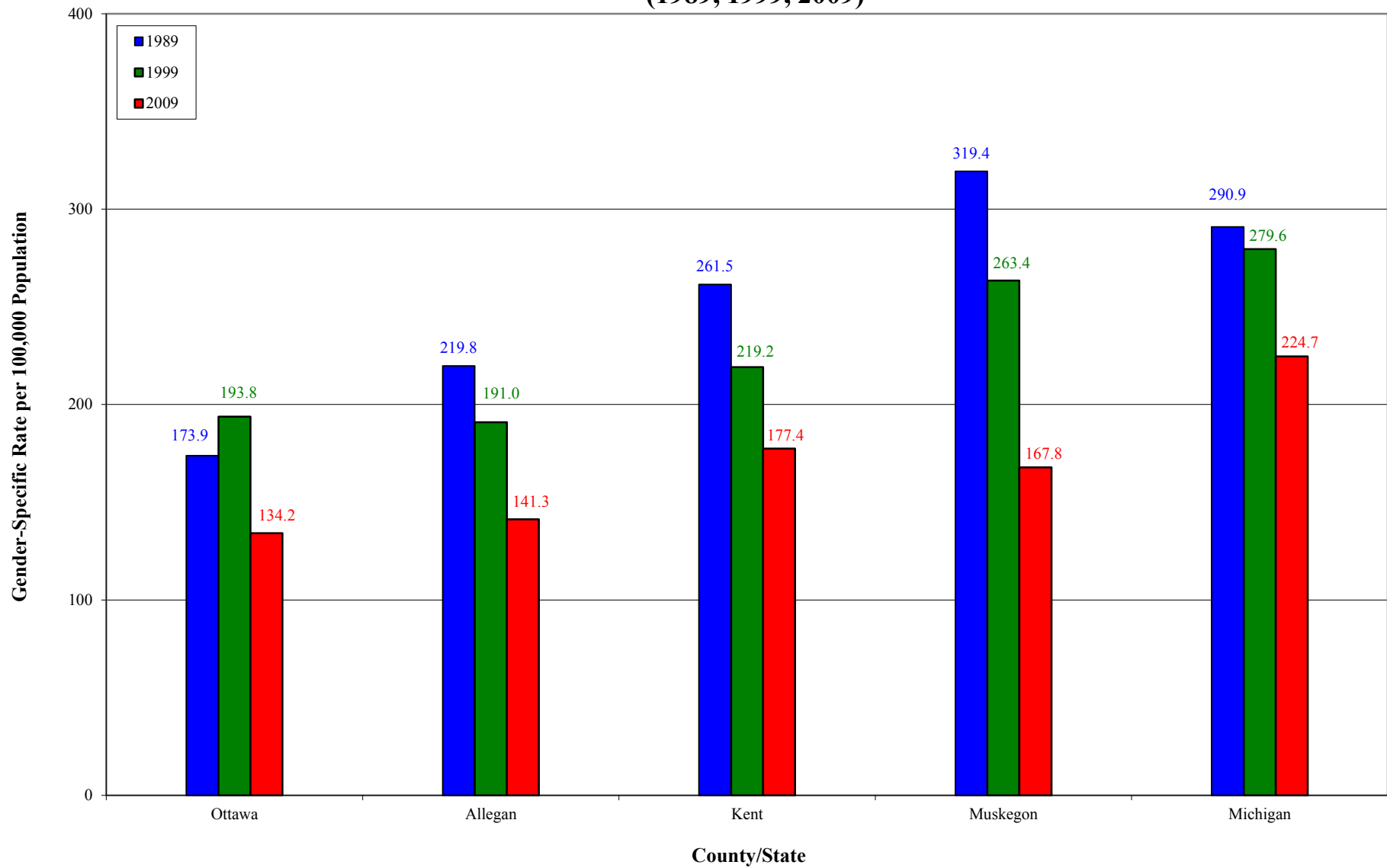
* Death rates are gender-specific and refer to the population of that gender

Heart Disease Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Heart Disease Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Heart Disease Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

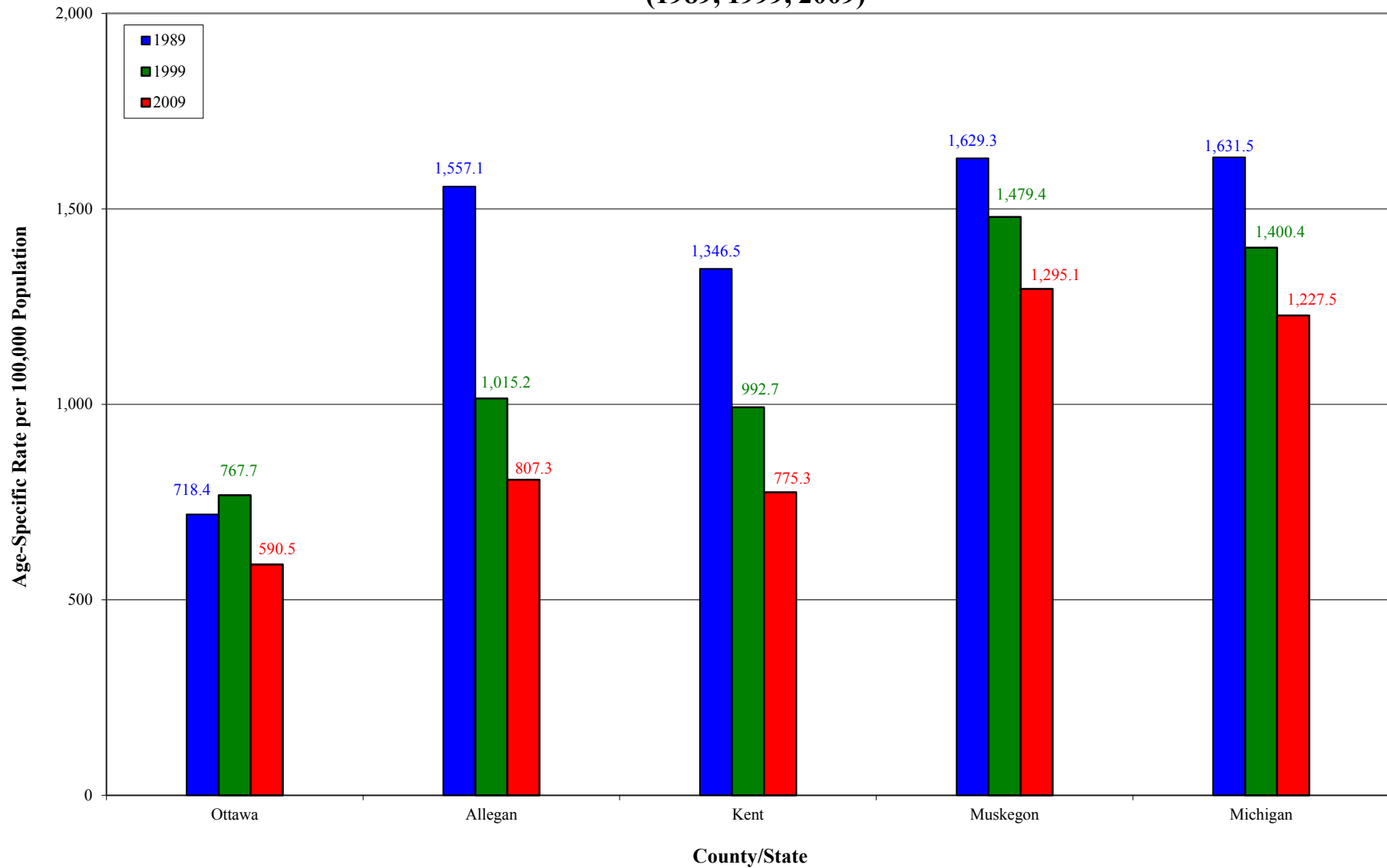
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	718.4	1,557.1	1,346.5	1,629.3	1,631.5
1999	767.7	1,015.2	992.7	1,479.4	1,400.4
2009	590.5	807.3	775.3	1,295.1	1,227.5

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Heart Disease Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Alzheimer's Disease (1999-2009)

Deaths by Year (Ottawa County, Adjacent Counties, State)

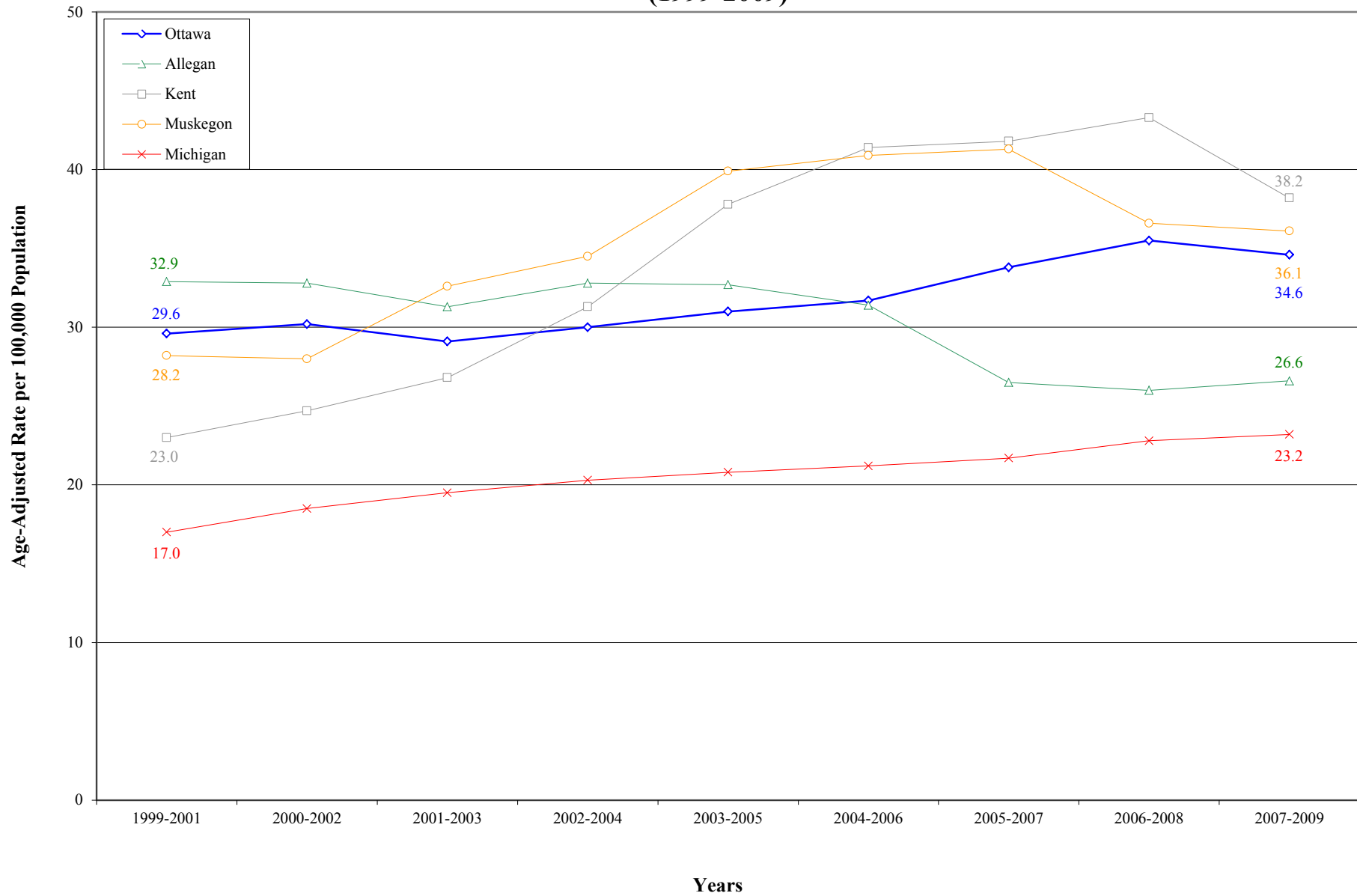
Year*	Deaths per 100,000 Population**				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	29.6	32.9	23.0	28.2	17.0
2000-2002	30.2	32.8	24.7	28.0	18.5
2001-2003	29.1	31.3	26.8	32.6	19.5
2002-2004	30.0	32.8	31.3	34.5	20.3
2003-2005	31.0	32.7	37.8	39.9	20.8
2004-2006	31.7	31.4	41.4	40.9	21.2
2005-2007	33.8	26.5	41.8	41.3	21.7
2006-2008	35.5	26.0	43.3	36.6	22.8
2007-2009	34.6	26.6	38.2	36.1	23.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Alzheimer's Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

**Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

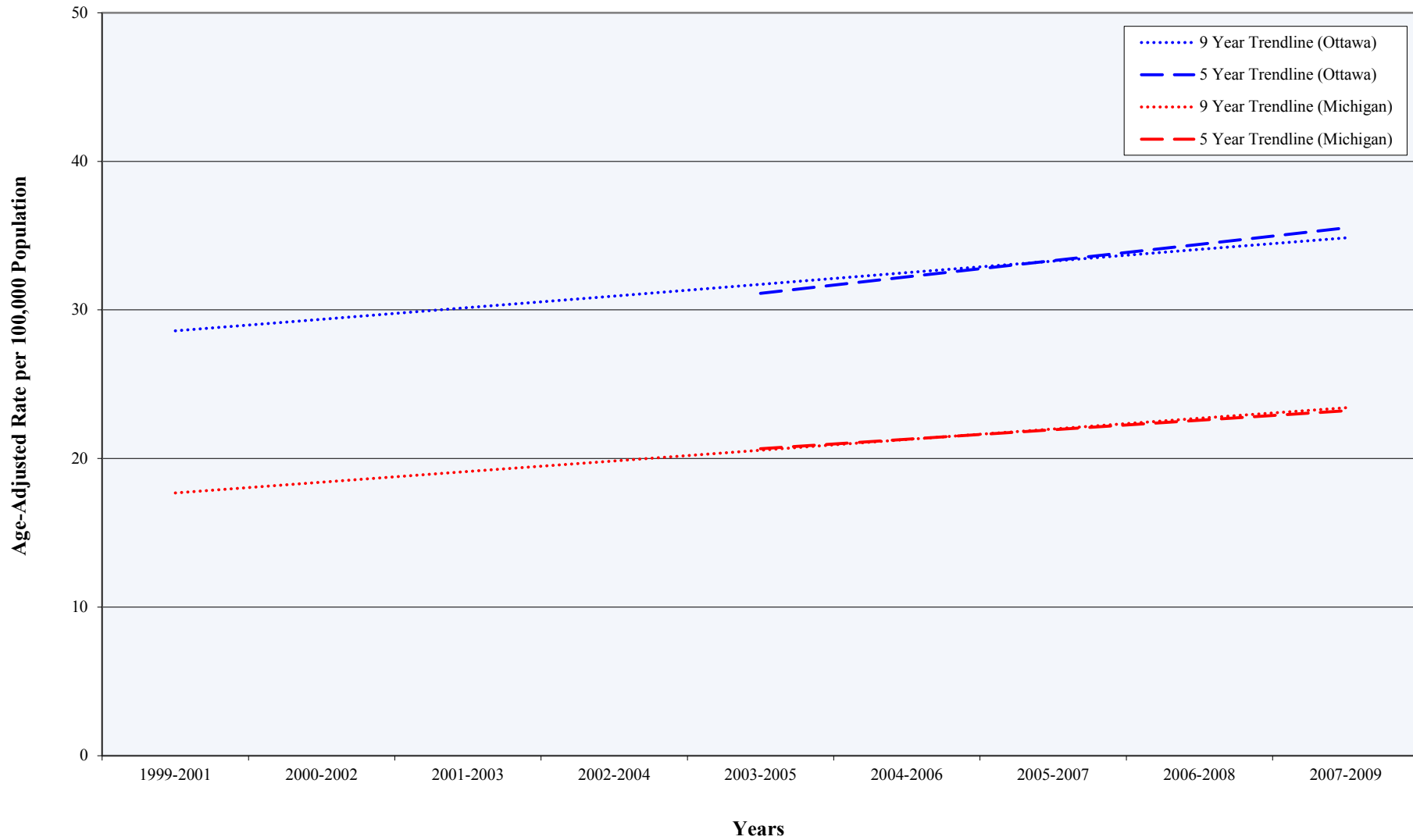
Alzheimer's Disease Deaths (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Alzheimer's Disease Deaths

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Alzheimer's Disease (1999-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

Deaths per 100,000 Population**

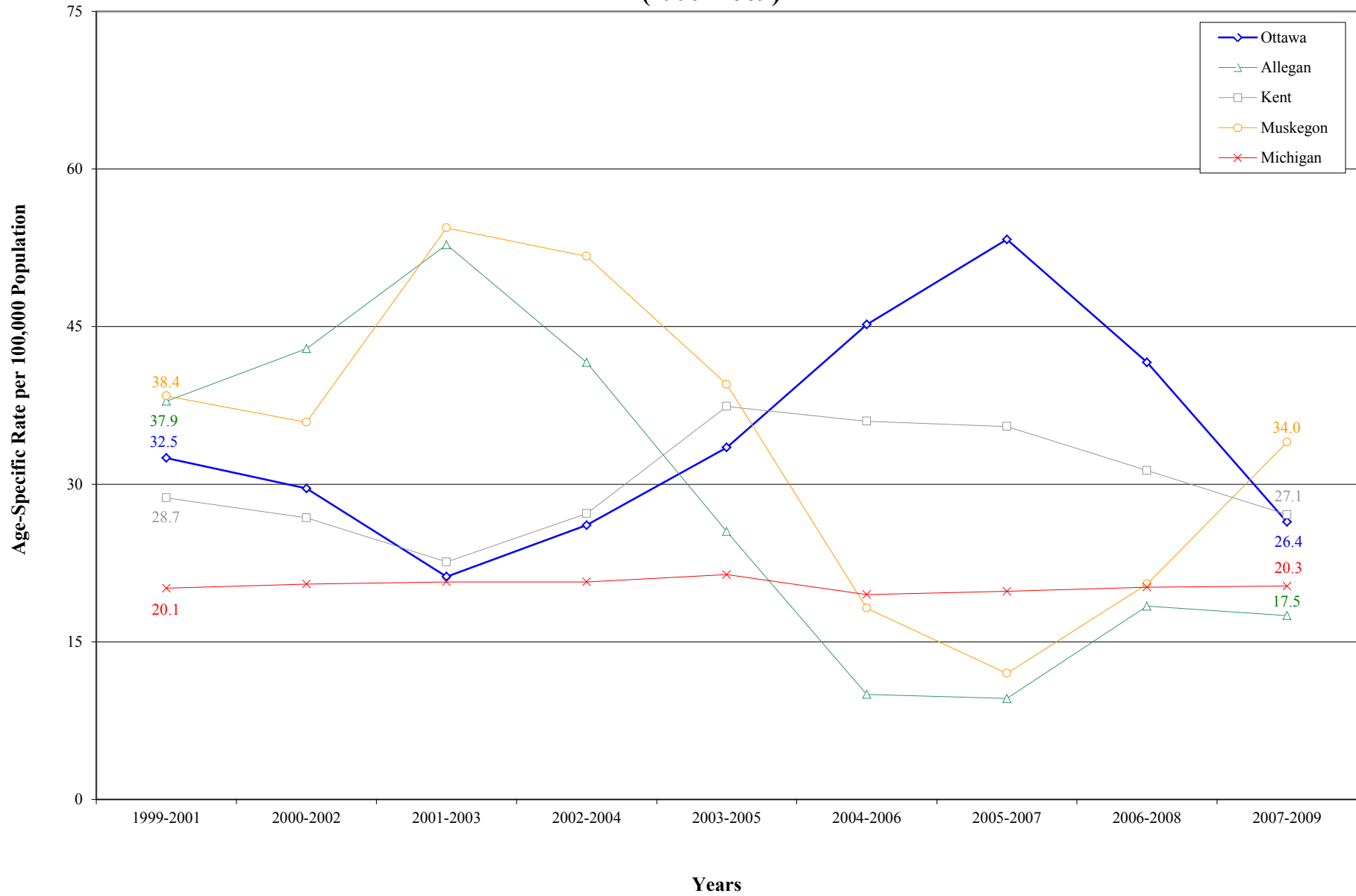
Year*	Age 65-74					Age 75-84					Age 85 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	32.5	37.9	28.7	38.4	20.1	243.1	262.8	147.3	203.2	132.2	1,049.2	1,249.7	943.8	1,068.1	616.4
2000-2002	29.6	42.9	26.8	35.9	20.5	227.5	236.2	172.3	205.8	145.0	1,151.1	1,231.1	974.1	1,056.1	671.8
2001-2003	21.2	52.8	22.6	54.4	20.7	239.8	257.2	182.7	265.3	152.7	1,081.8	1,044.6	1,097.9	1,127.5	715.8
2002-2004	26.1	41.6	27.2	51.7	20.7	250.3	201.2	217.7	273.2	159.2	1,081.6	1,414.6	1,298.9	1,291.9	745.7
2003-2005	33.5	25.5	37.4	39.5	21.4	285.4	276.9	262.9	339.7	162.7	1,007.7	1,302.1	1,578.5	1,599.4	767.4
2004-2006	45.2	10.0	36.0	18.2	19.5	249.7	229.3	315.6	312.6	166.7	1,098.4	1,428.3	1,671.1	1,871.0	787.8
2005-2007	53.3	9.6	35.5	12.0	19.8	247.5	212.0	331.0	302.0	171.2	1,208.0	1,144.9	1,604.4	1,949.0	804.1
2006-2008	41.6	18.4	31.3	20.5	20.2	252.9	157.9	356.5	216.3	182.3	1,345.5	1,186.4	1,575.9	1,758.6	844.7
2007-2009	26.4	17.5	27.1	34.0	20.3	250.1	164.9	330.1	244.4	181.8	1,376.5	1,169.6	1,347.3	1,530.3	870.9

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Alzheimer's Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

** Death rates are age-specific and refer to the population in a specific age group

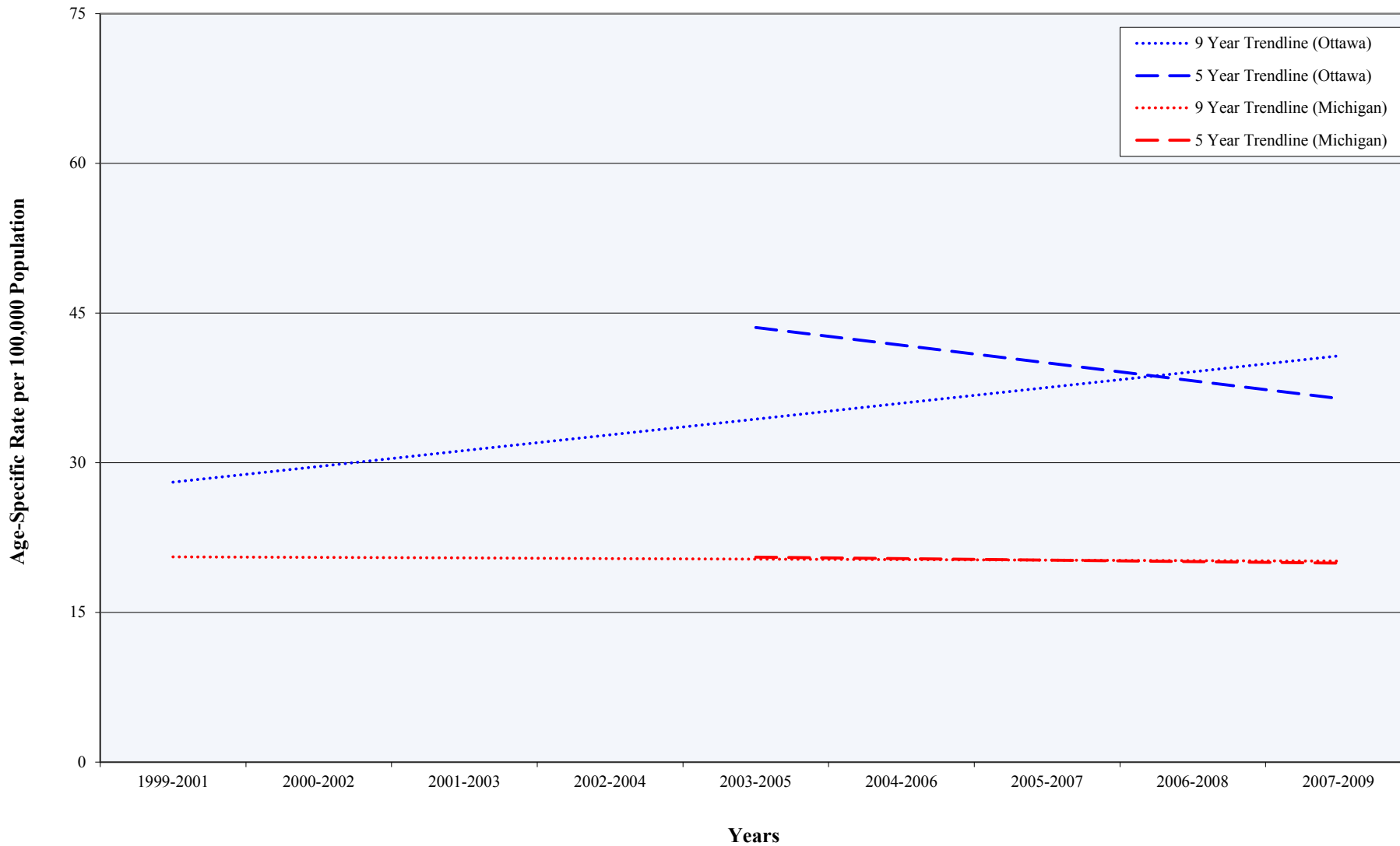
Alzheimer's Disease Deaths Among Persons Age 65-74 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

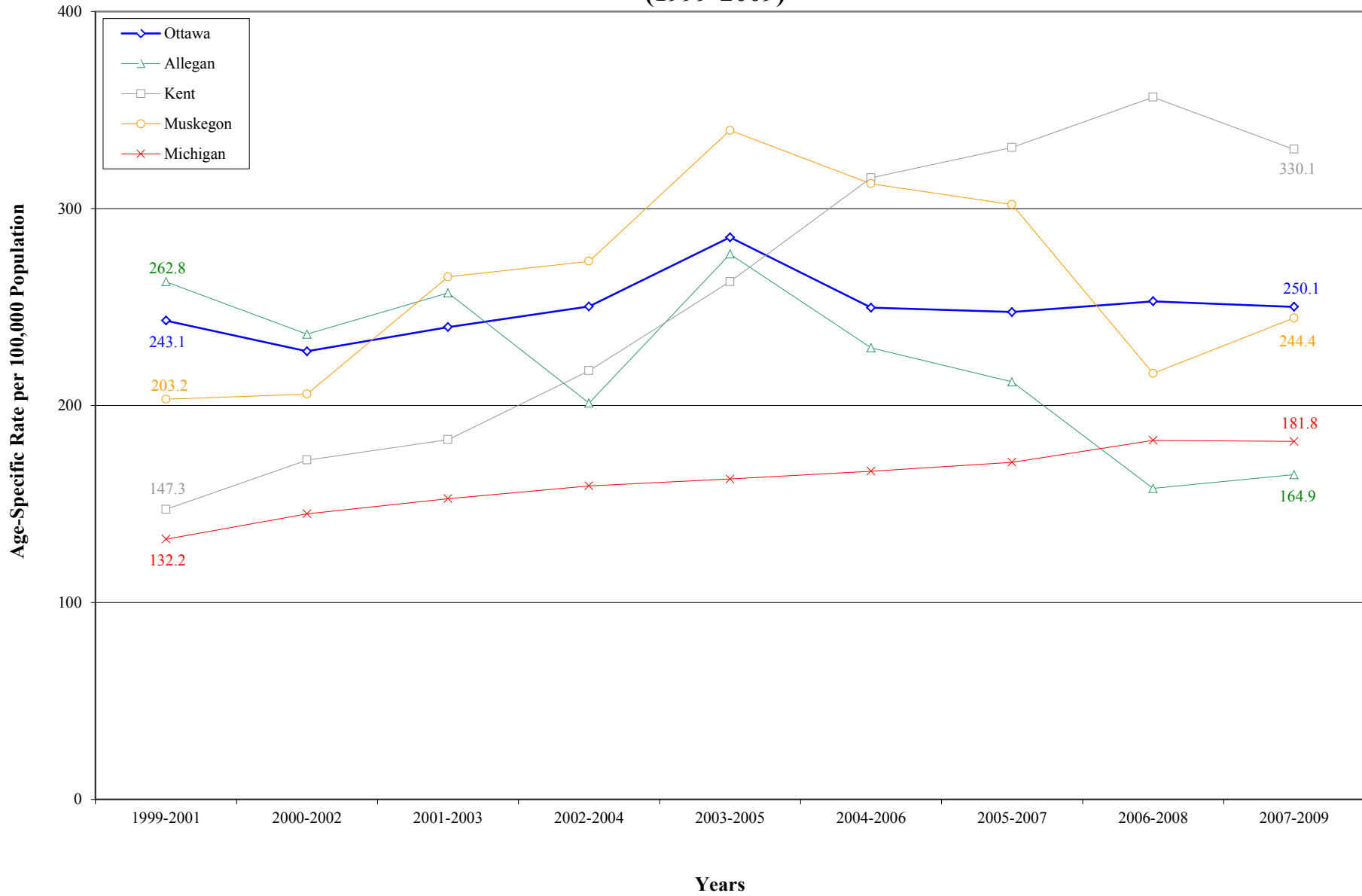
Alzheimer's Disease Deaths Among Persons Age 65-74

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

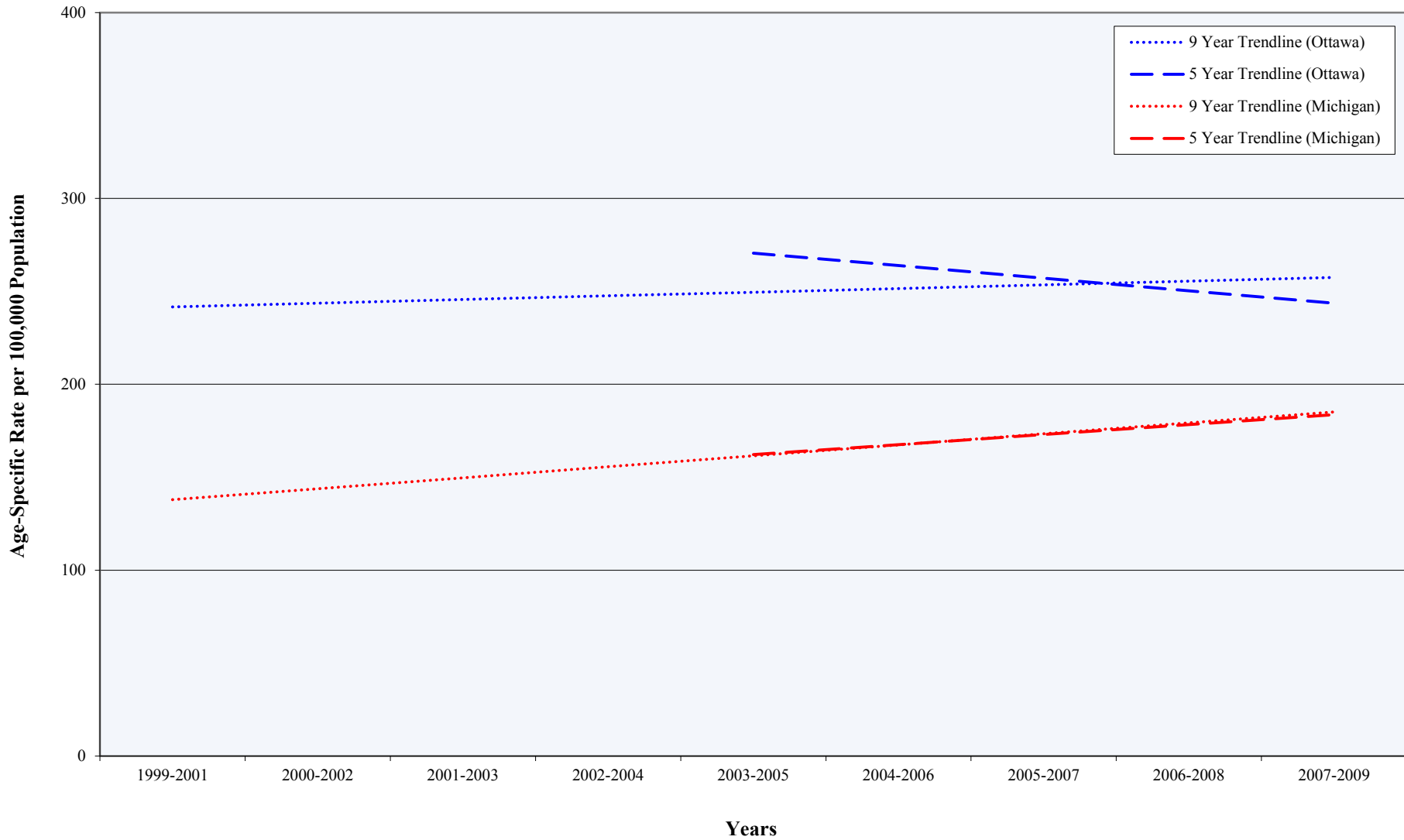
Alzheimer's Disease Deaths Among Persons Age 75-84 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

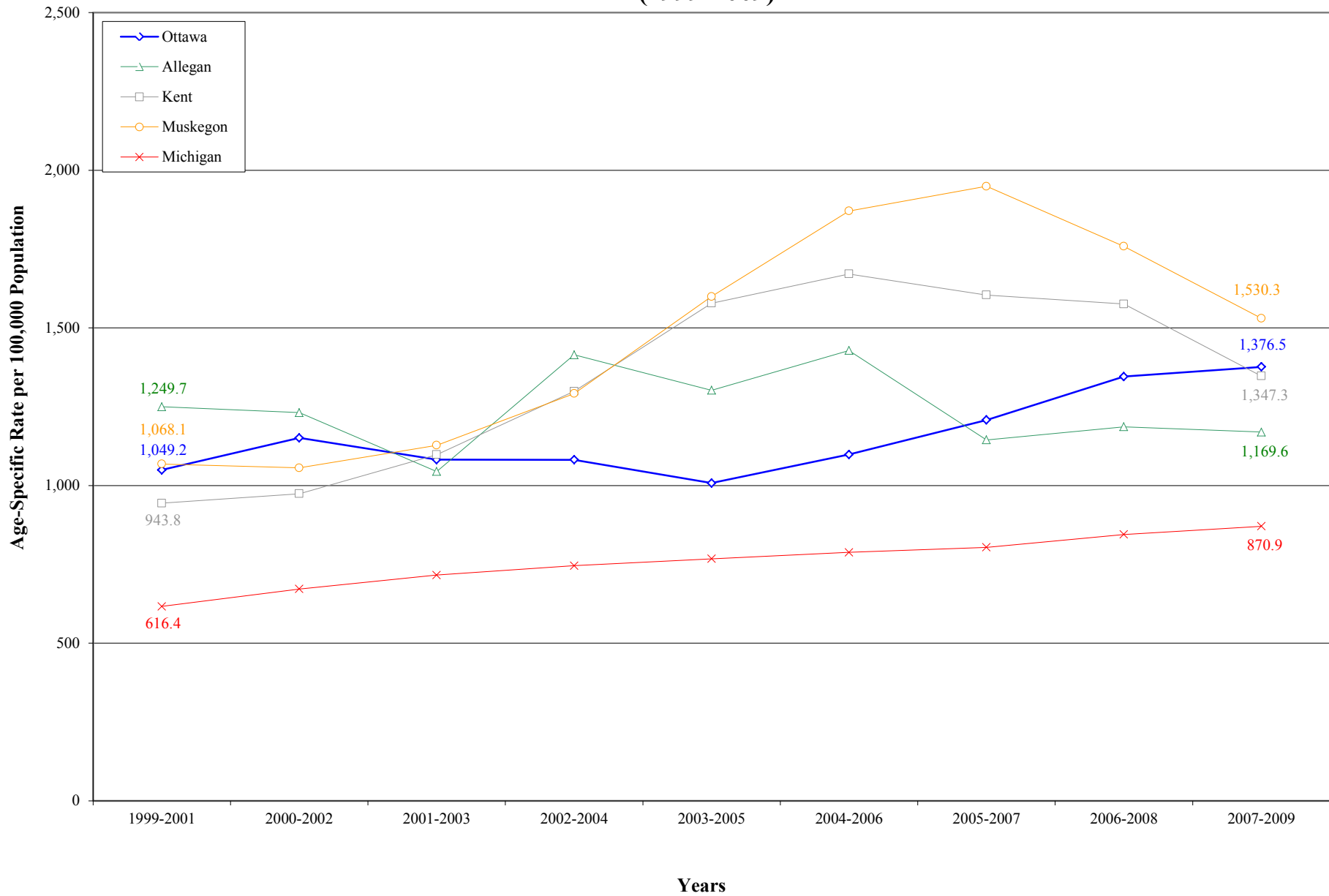
Alzheimer's Disease Deaths Among Persons Age 75-84

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

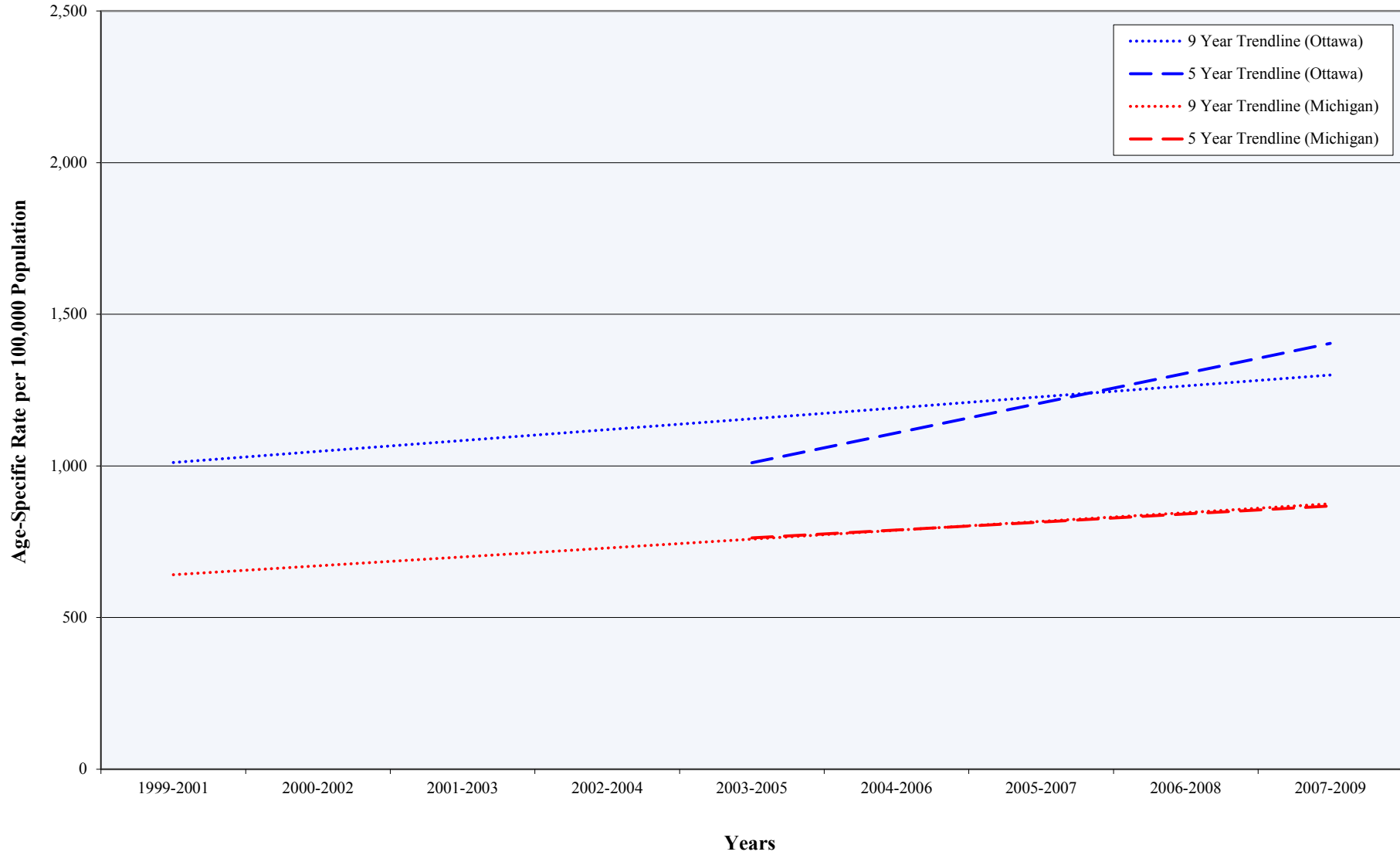
Alzheimer's Disease Deaths Among Persons Age 85 and Older (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Alzheimer's Disease Deaths Among Persons Age 85 and Older

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Alzheimer's Disease (1999, 2009)

Deaths by Gender (Ottawa County, Adjacent Counties, State)

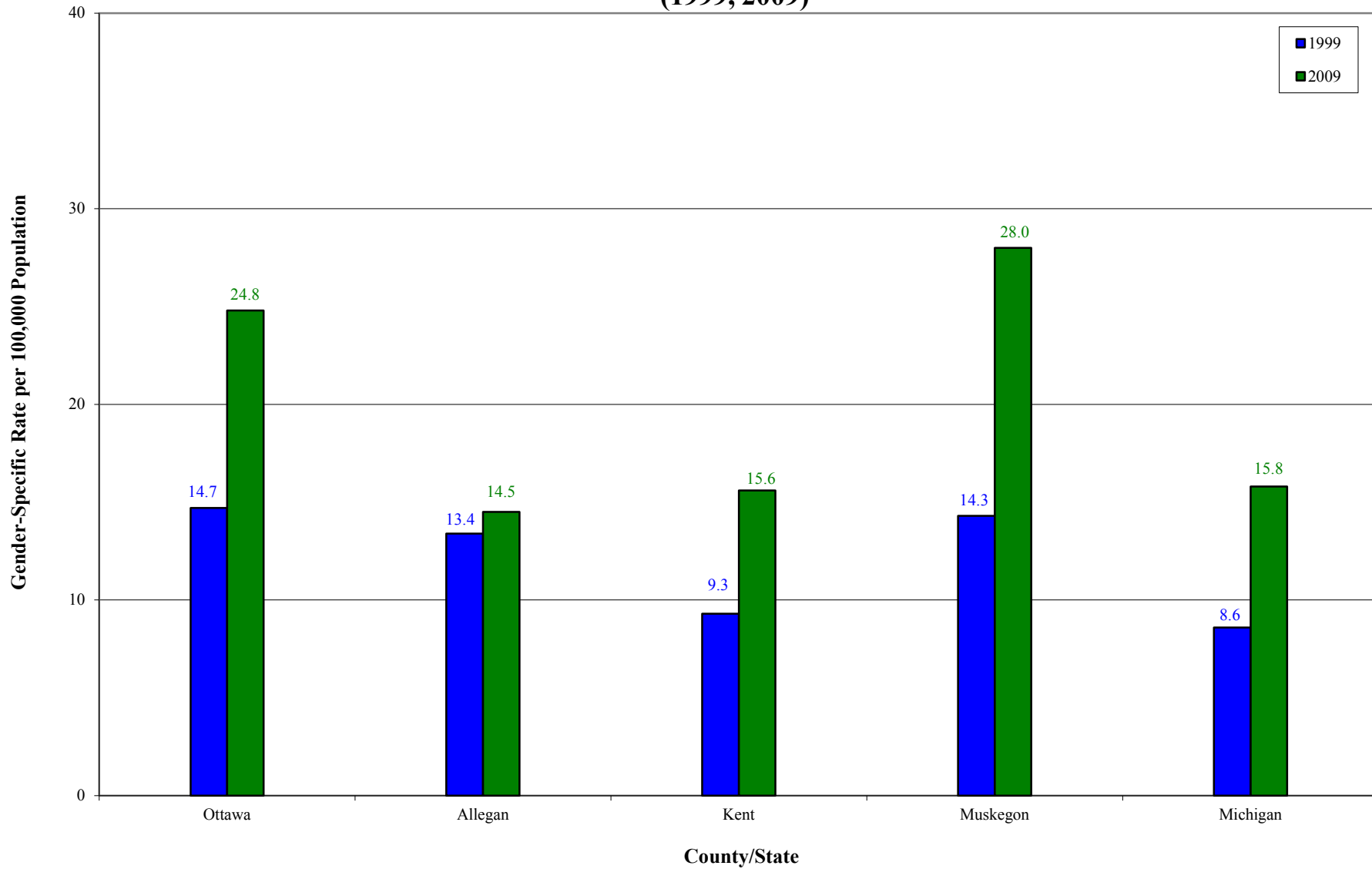
Year*	Deaths per 100,000 Population**									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999	14.7	13.4	9.3	14.3	8.6	28.5	43.9	28.4	45.7	20.1
2009	24.8	14.5	15.6	28.0	15.8	39.5	42.9	41.7	70.1	35.4

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* The coding and classification for Alzheimer's Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

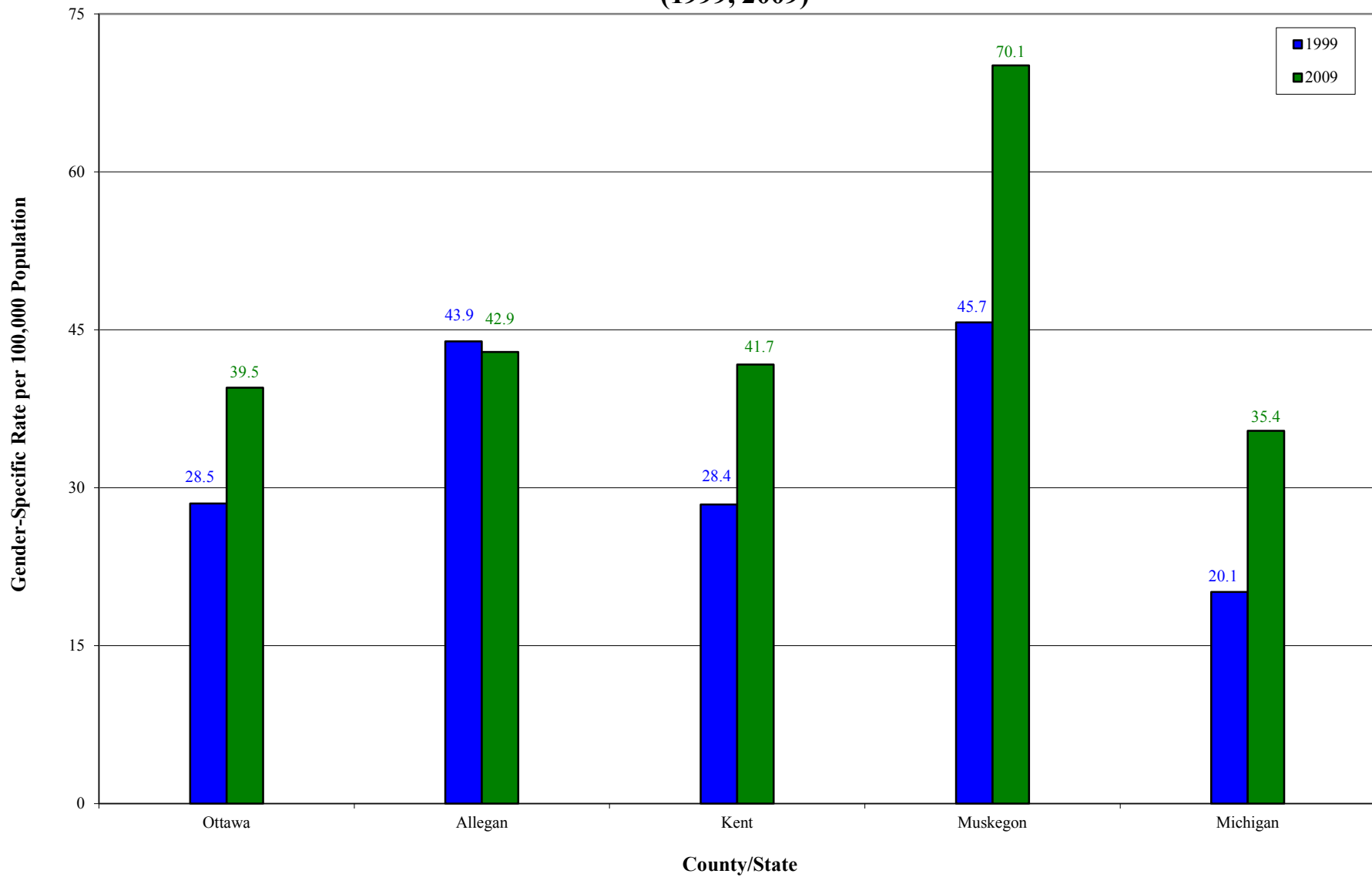
** Death rates are gender-specific and refer to the population of that gender

Alzheimer's Disease Deaths Among Males (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Alzheimer's Disease Deaths Among Females (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Stroke (1980-2009)

Deaths by Year (Ottawa County, Adjacent Counties, State)

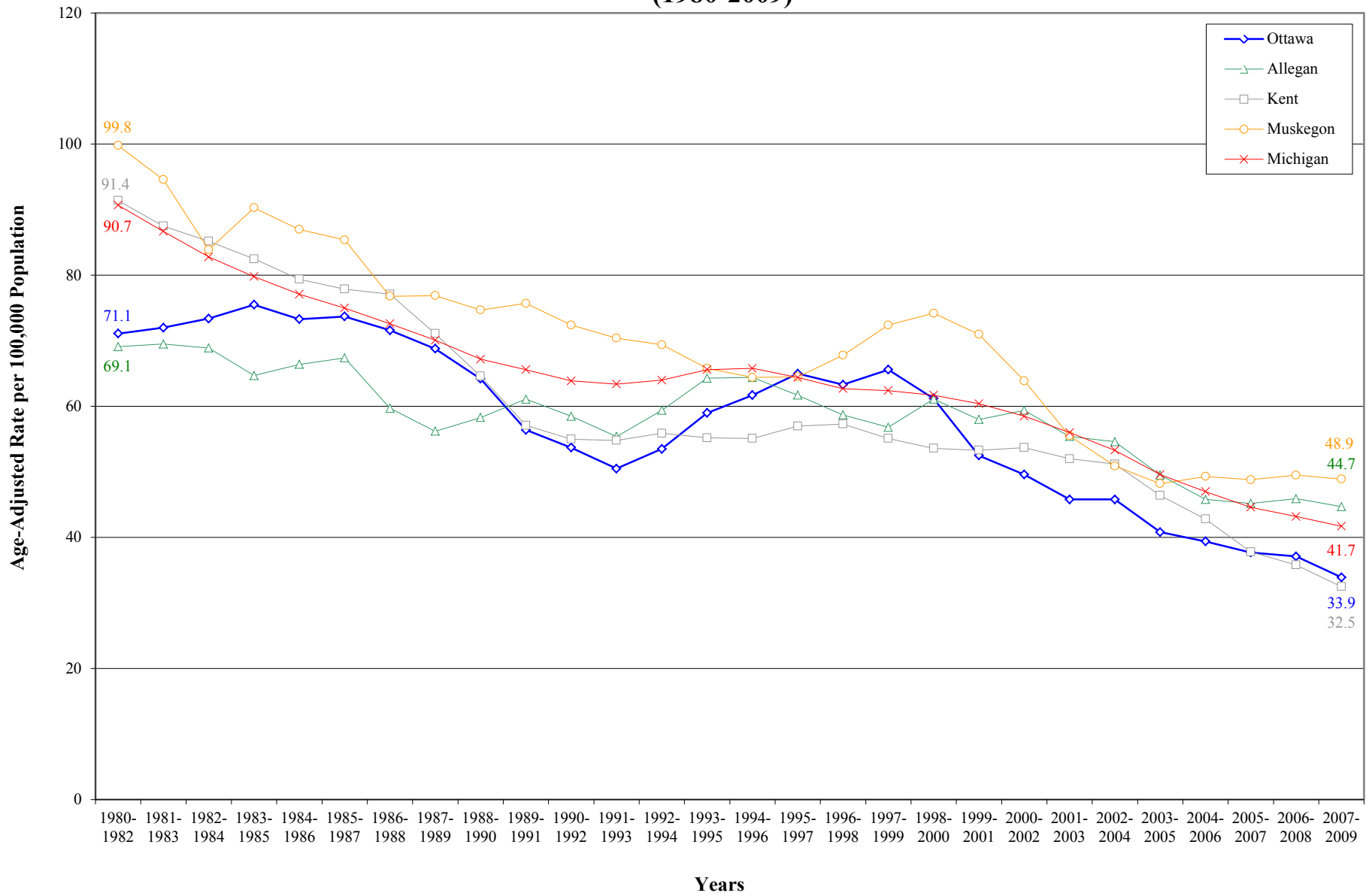
Year*	Deaths per 100,000 Population**				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	71.1	69.1	91.4	99.8	90.7
1981-1983	72.0	69.5	87.5	94.6	86.7
1982-1984	73.4	68.9	85.2	83.9	82.8
1983-1985	75.5	64.7	82.5	90.3	79.8
1984-1986	73.3	66.4	79.4	87.0	77.1
1985-1987	73.7	67.4	77.9	85.4	75.0
1986-1988	71.6	59.7	77.1	76.8	72.6
1987-1989	68.8	56.2	71.1	76.9	70.1
1988-1990	64.2	58.3	64.6	74.7	67.2
1989-1991	56.4	61.1	57.1	75.7	65.6
1990-1992	53.7	58.5	55.0	72.4	63.9
1991-1993	50.5	55.4	54.8	70.4	63.4
1992-1994	53.5	59.4	55.9	69.4	64.0
1993-1995	59.0	64.3	55.2	65.8	65.6
1994-1996	61.7	64.4	55.1	64.4	65.8
1995-1997	65.0	61.7	57.0	64.5	64.4
1996-1998	63.3	58.7	57.3	67.8	62.7
1997-1999	65.6	56.8	55.1	72.4	62.4
1998-2000	61.2	61.1	53.6	74.2	61.7
1999-2001	52.5	58.0	53.3	71.0	60.4
2000-2002	49.6	59.4	53.7	63.9	58.5
2001-2003	45.8	55.4	52.0	55.5	56.0
2002-2004	45.8	54.6	51.2	50.9	53.3
2003-2005	40.8	49.5	46.4	48.2	49.6
2004-2006	39.4	45.8	42.8	49.3	47.0
2005-2007	37.7	45.2	37.8	48.8	44.6
2006-2008	37.1	45.9	35.8	49.5	43.2
2007-2009	33.9	44.7	32.5	48.9	41.7

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Stroke deaths was revised in 1999 to reflect changing medical opinion and practice. As a result, caution should be taken when comparing Stroke mortality statistics over time. Nevertheless, Stroke mortality data is presented from 1980 to 2009 because there is a clear downward trend in the death rate

**Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

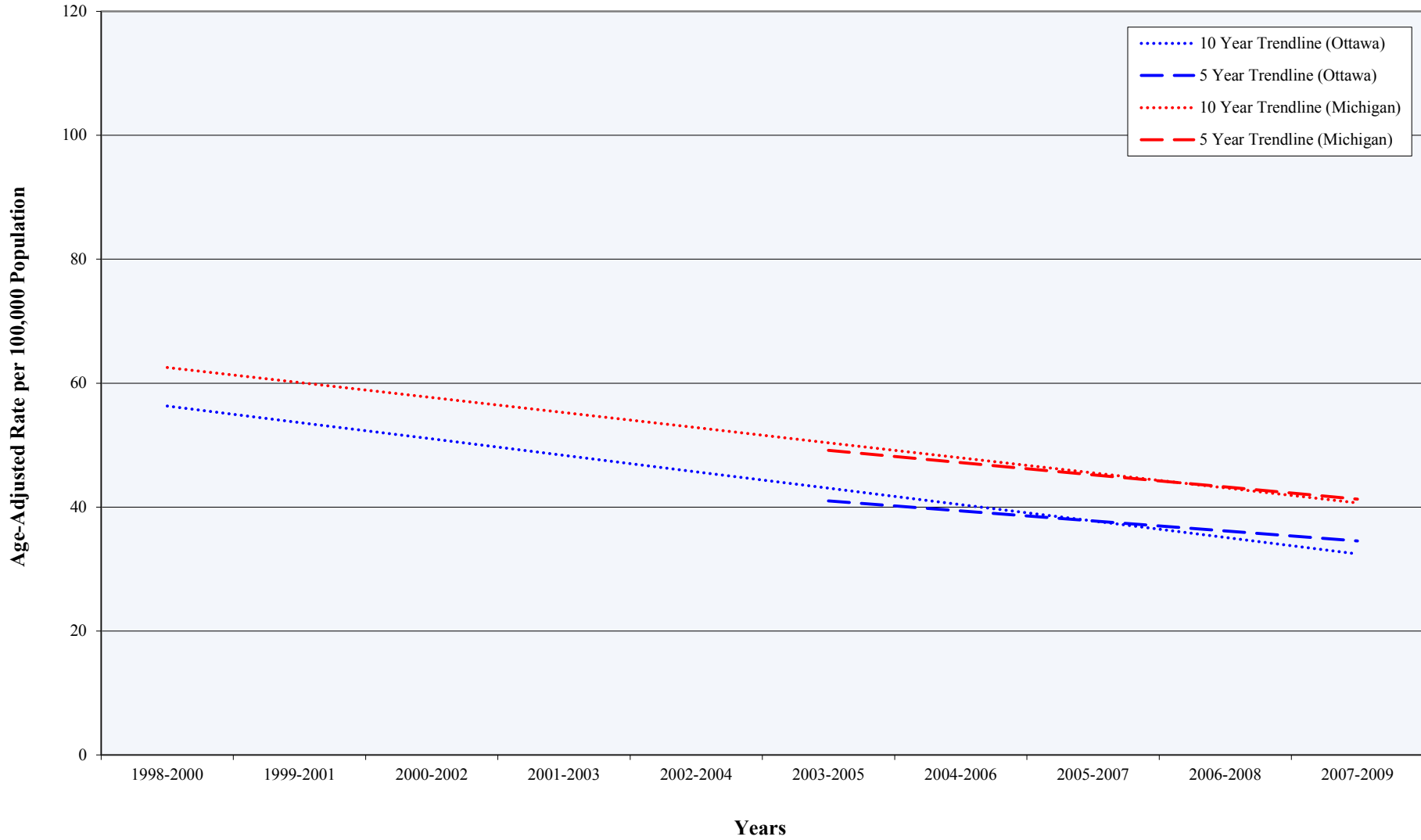
Stroke Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Stroke Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Stroke (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

Deaths per 100,000 Population**

Year*	Under Age 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	2.6	***	1.7	3.7	3.5	63.4	56.8	83.9	119.0	101.2	912.4	915.3	1,178.9	1,144.7	1,054.2
1981-1983	2.1	***	1.4	4.0	3.6	71.0	66.8	83.4	111.1	99.3	912.6	897.3	1,131.4	1,084.1	1,001.9
1982-1984	***	***	1.2	3.5	3.4	78.8	68.9	86.6	109.3	95.6	925.3	883.2	1,092.2	930.6	906.9
1983-1985	***	***	1.6	4.1	3.5	75.8	81.0	89.2	116.8	94.1	967.5	781.9	1,042.0	1,007.1	920.8
1984-1986	1.5	***	1.8	4.7	3.3	71.5	82.7	83.9	109.2	91.1	941.4	798.3	1,005.4	978.7	893.1
1985-1987	***	***	2.1	4.1	3.3	69.5	78.3	76.7	101.7	90.4	955.3	837.4	1,000.7	987.3	864.3
1986-1988	1.7	***	2.3	3.5	3.5	71.8	71.8	73.8	97.1	86.0	900.6	739.8	991.0	873.4	839.3
1987-1989	1.7	***	2.7	3.7	3.6	70.6	61.5	67.8	104.4	83.2	857.8	708.9	908.7	848.6	809.4
1988-1990	2.1	***	3.0	4.3	3.5	66.0	57.2	64.5	89.5	78.8	793.9	740.4	808.7	856.5	780.0
1989-1991	1.3	2.9	2.3	4.8	3.4	51.1	56.7	62.6	87.5	77.4	732.9	754.7	700.7	881.4	762.0
1990-1992	***	3.8	1.6	3.7	3.3	43.9	52.1	60.6	84.4	75.3	717.3	708.8	684.6	859.4	744.5
1991-1993	***	4.2	0.9	3.6	3.3	38.9	64.6	58.0	88.9	73.9	679.7	622.6	702.7	815.1	740.3
1992-1994	1.5	3.7	1.3	3.6	3.4	47.7	59.7	56.0	75.5	73.5	691.6	709.7	718.7	841.3	751.7
1993-1995	2.7	3.7	2.2	5.6	3.6	48.2	60.3	54.8	69.1	73.5	762.1	797.0	700.1	774.8	776.3
1994-1996	2.2	3.6	2.2	6.1	3.7	51.5	57.4	55.5	63.8	72.6	801.0	801.7	698.5	762.3	782.7
1995-1997	2.4	2.7	2.9	7.2	3.6	53.4	63.1	55.6	68.0	70.3	844.6	755.3	720.9	734.7	769.9
1996-1998	1.2	***	2.4	6.6	3.6	53.2	61.5	54.8	70.8	67.6	832.9	723.1	733.7	788.5	749.8
1997-1999	1.3	***	2.7	5.8	3.4	51.2	61.2	51.1	80.6	65.9	871.4	703.9	701.5	839.6	750.8
1998-2000	1.1	***	2.4	5.7	3.3	43.5	52.6	50.3	80.5	63.1	843.3	797.1	682.1	863.3	747.9
1999-2001	1.1	***	2.5	5.4	3.1	36.5	53.8	49.8	71.4	59.0	740.9	725.7	675.4	843.9	743.9
2000-2002	1.6	***	2.5	5.4	3.1	33.6	43.0	46.4	63.4	55.3	704.9	786.9	692.5	754.3	725.7
2001-2003	1.3	2.9	2.4	3.8	3.1	30.3	44.5	44.0	57.0	51.9	657.6	711.6	676.3	664.3	699.9
2002-2004	1.6	2.5	2.8	2.4	3.1	26.5	43.0	43.3	54.1	49.3	668.5	713.6	663.5	621.3	668.5
2003-2005	***	***	2.6	2.2	2.8	19.7	37.5	42.3	52.1	47.5	621.0	660.4	593.4	600.9	622.5
2004-2006	***	***	2.7	2.7	2.6	20.8	31.0	37.9	55.7	45.1	598.0	646.1	549.4	607.6	593.0
2005-2007	***	***	2.3	4.1	2.5	22.5	29.9	33.8	56.6	43.4	569.6	652.6	487.6	577.4	564.8
2006-2008	***	***	2.2	5.2	2.4	28.1	40.9	29.9	51.1	41.3	544.4	617.2	475.7	600.0	555.2
2007-2009	***	***	1.7	5.6	2.4	25.3	36.6	27.1	45.6	39.6	500.3	611.6	446.2	603.2	538.6

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

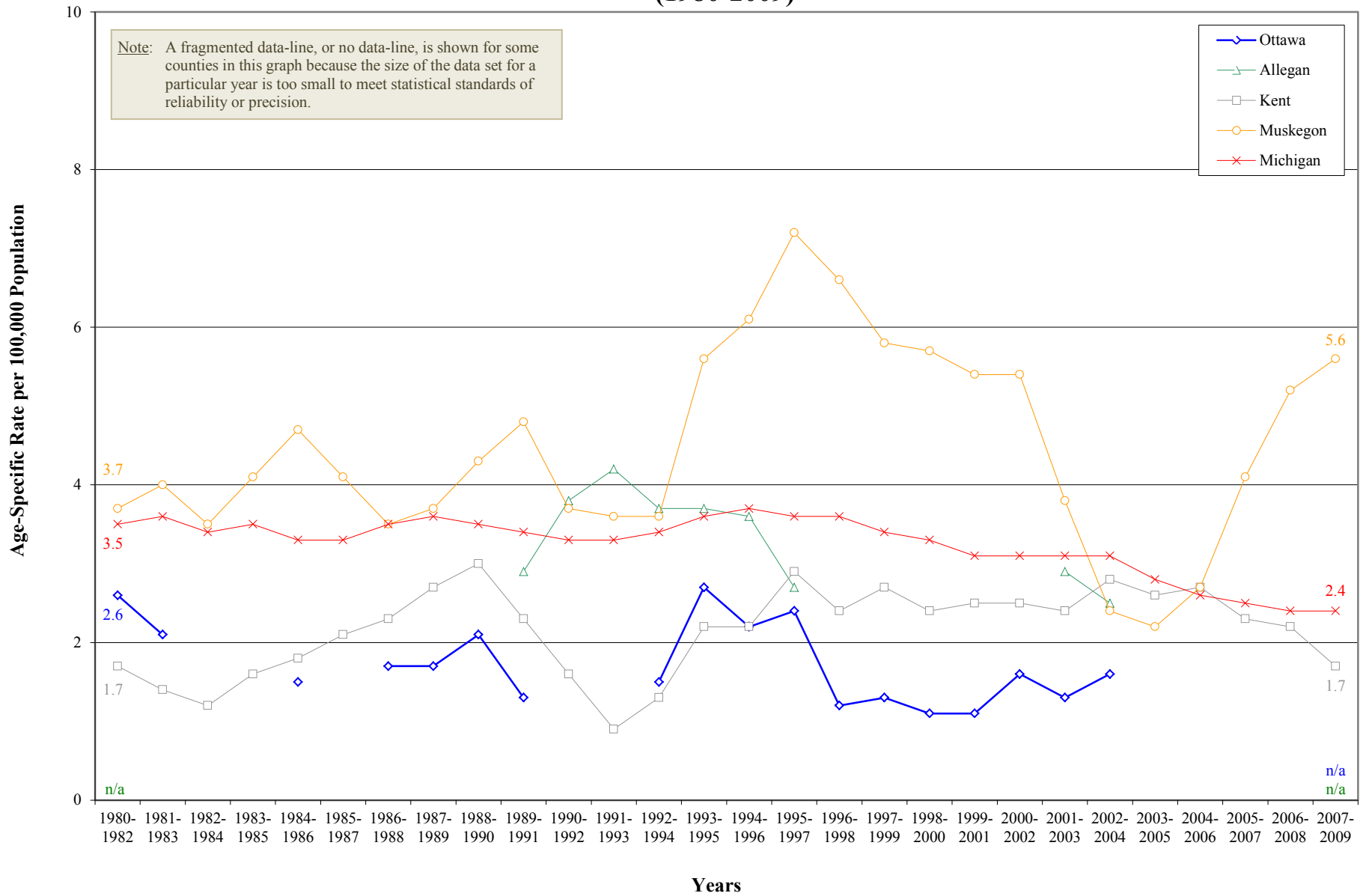
* The coding and classification for Stroke deaths was revised in 1999 to reflect changing medical opinion and practice. As a result, caution should be taken when comparing Stroke mortality statistics over time.

Nevertheless, Stroke mortality data is presented from 1980 to 2009 because there is a clear downward trend in the death rate

** Death rates are age-specific and refer to the population in a specific age group

***A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

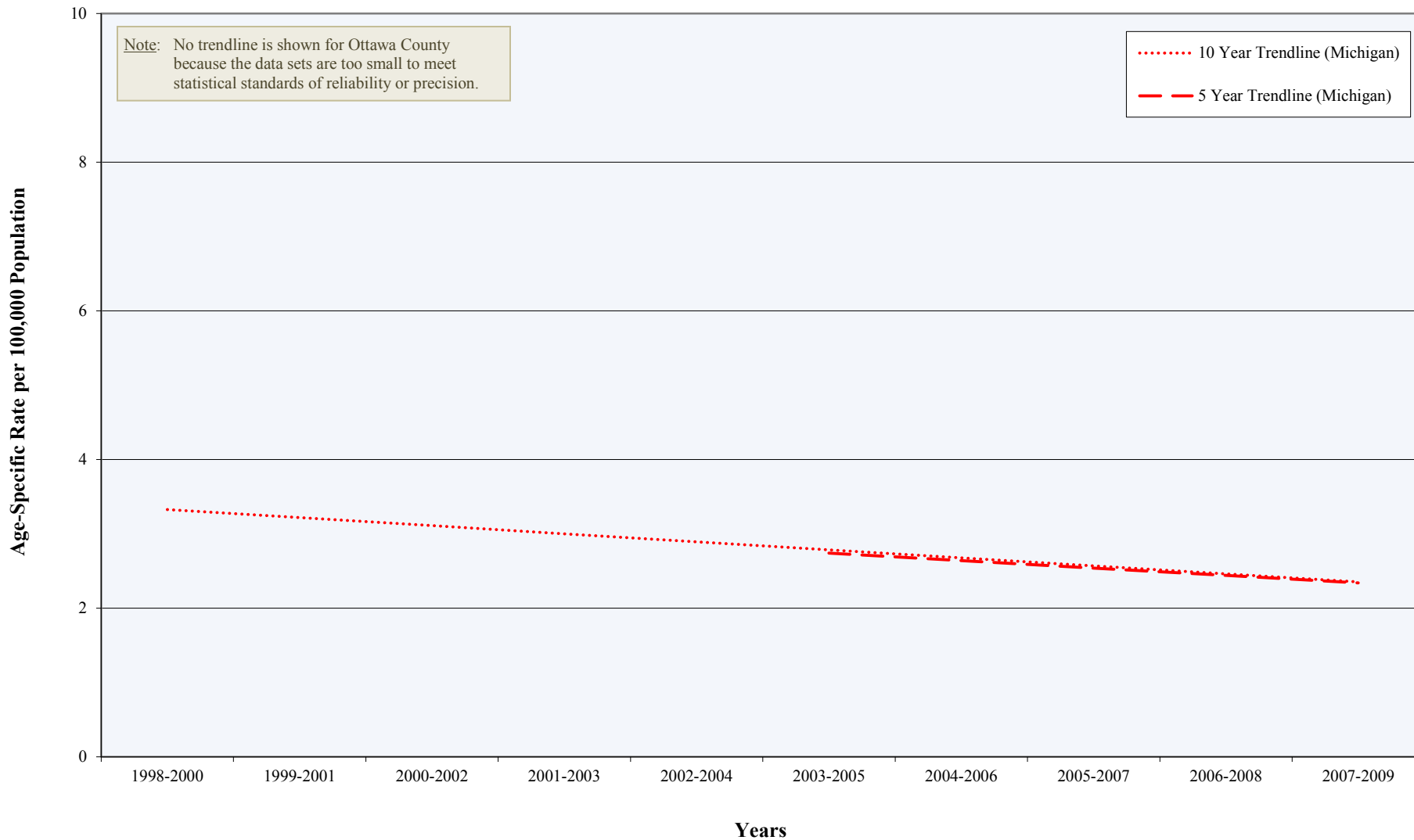
Stroke Deaths Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

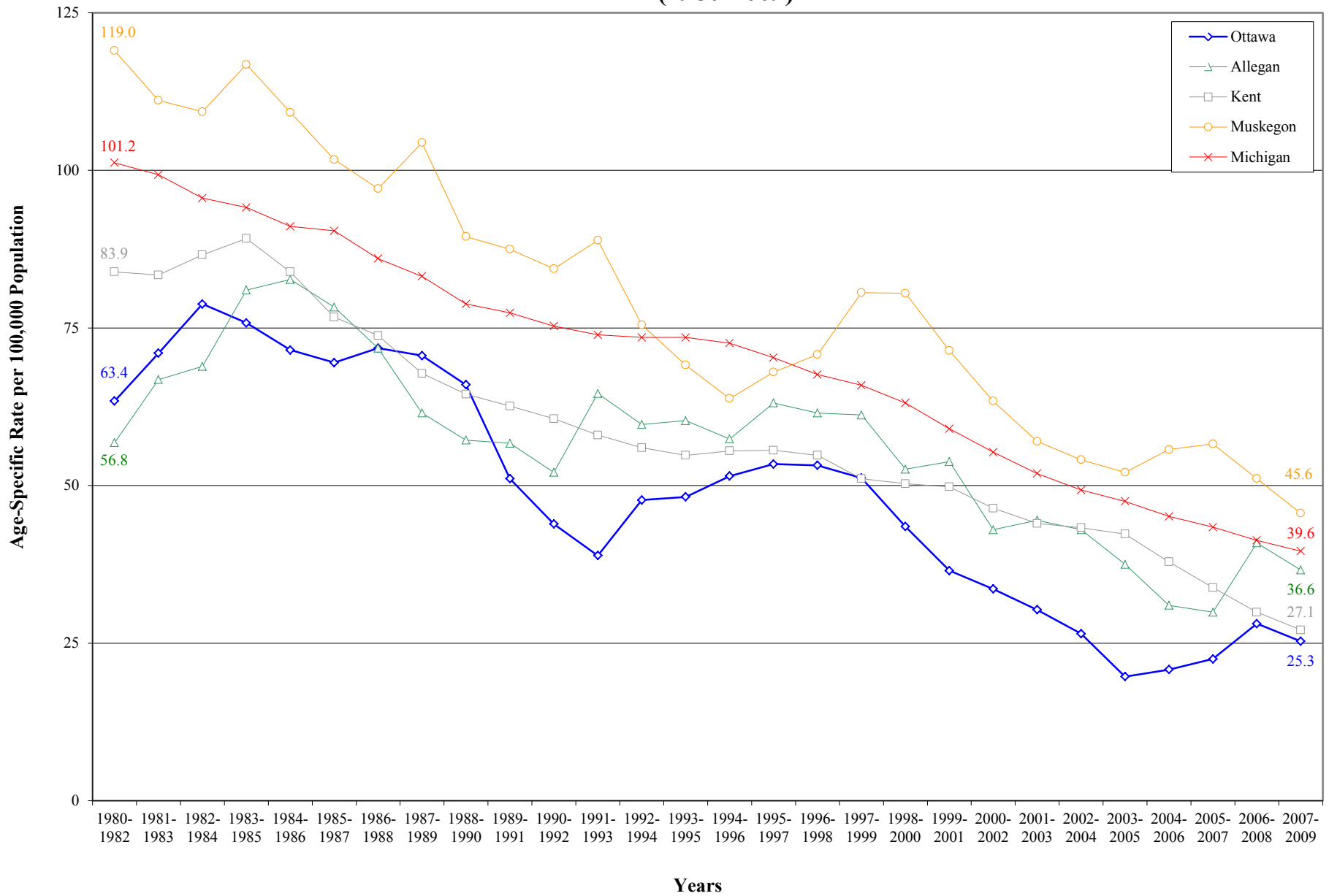
Stroke Deaths Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

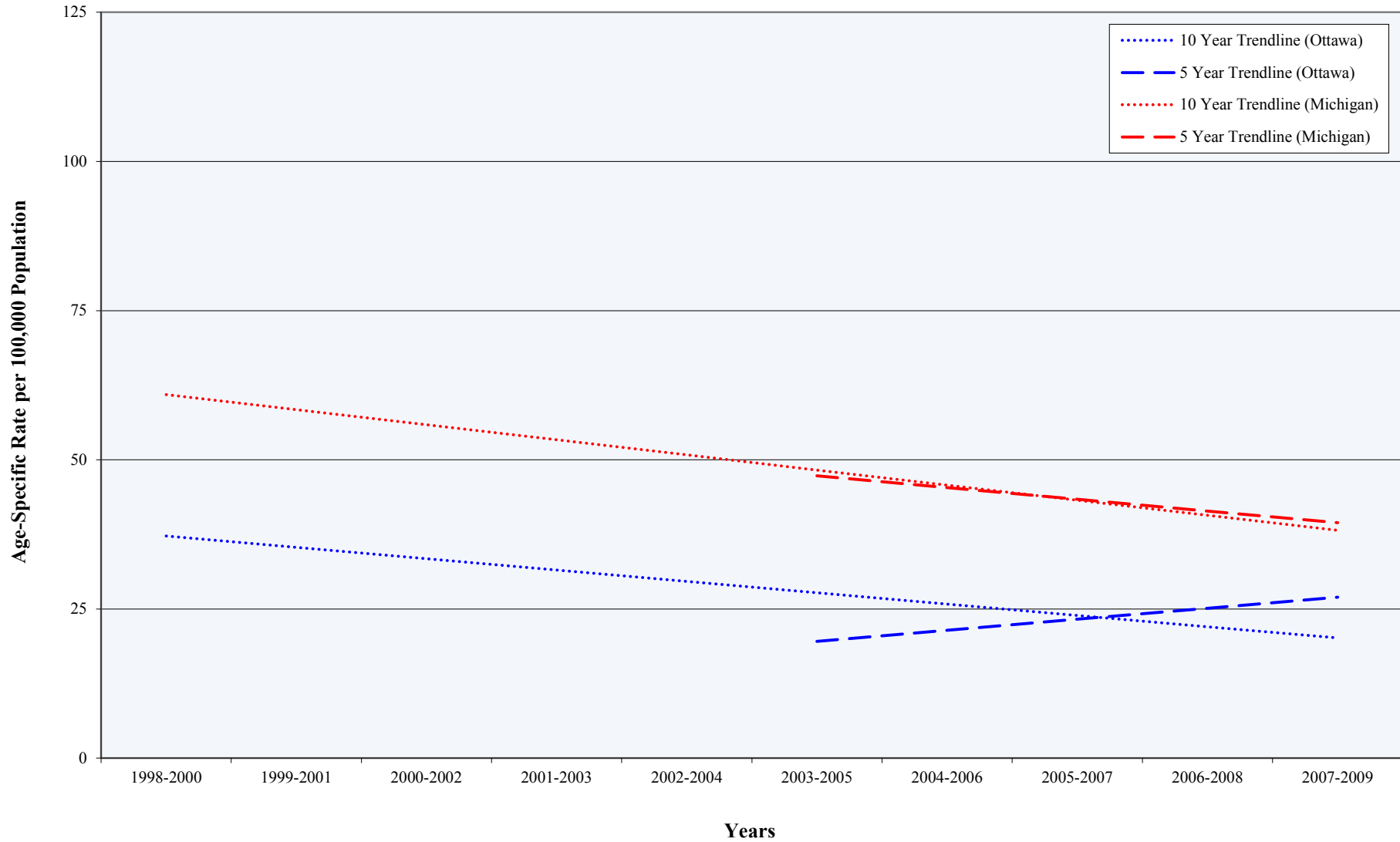
Stroke Deaths Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

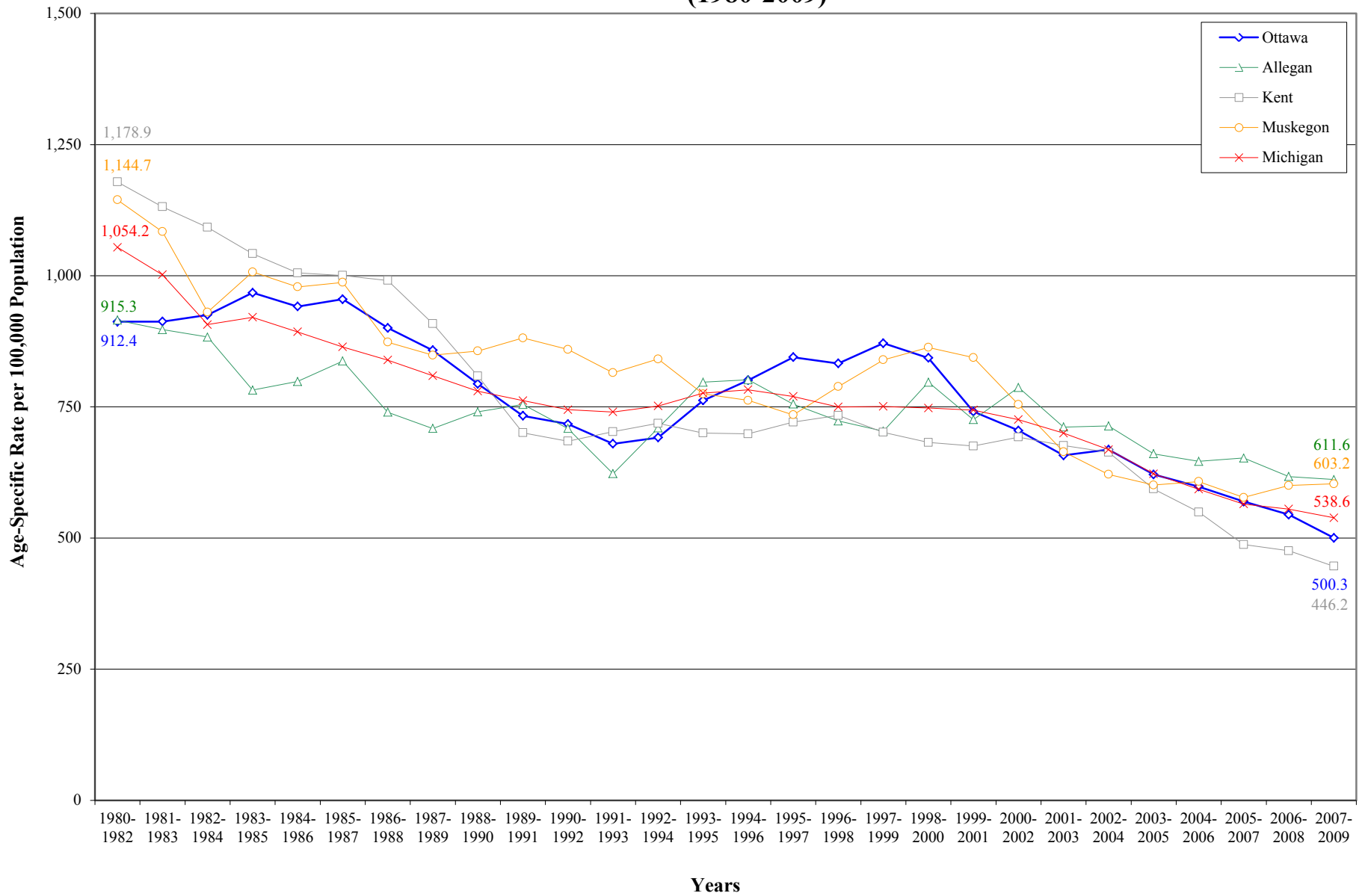
Stroke Deaths Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

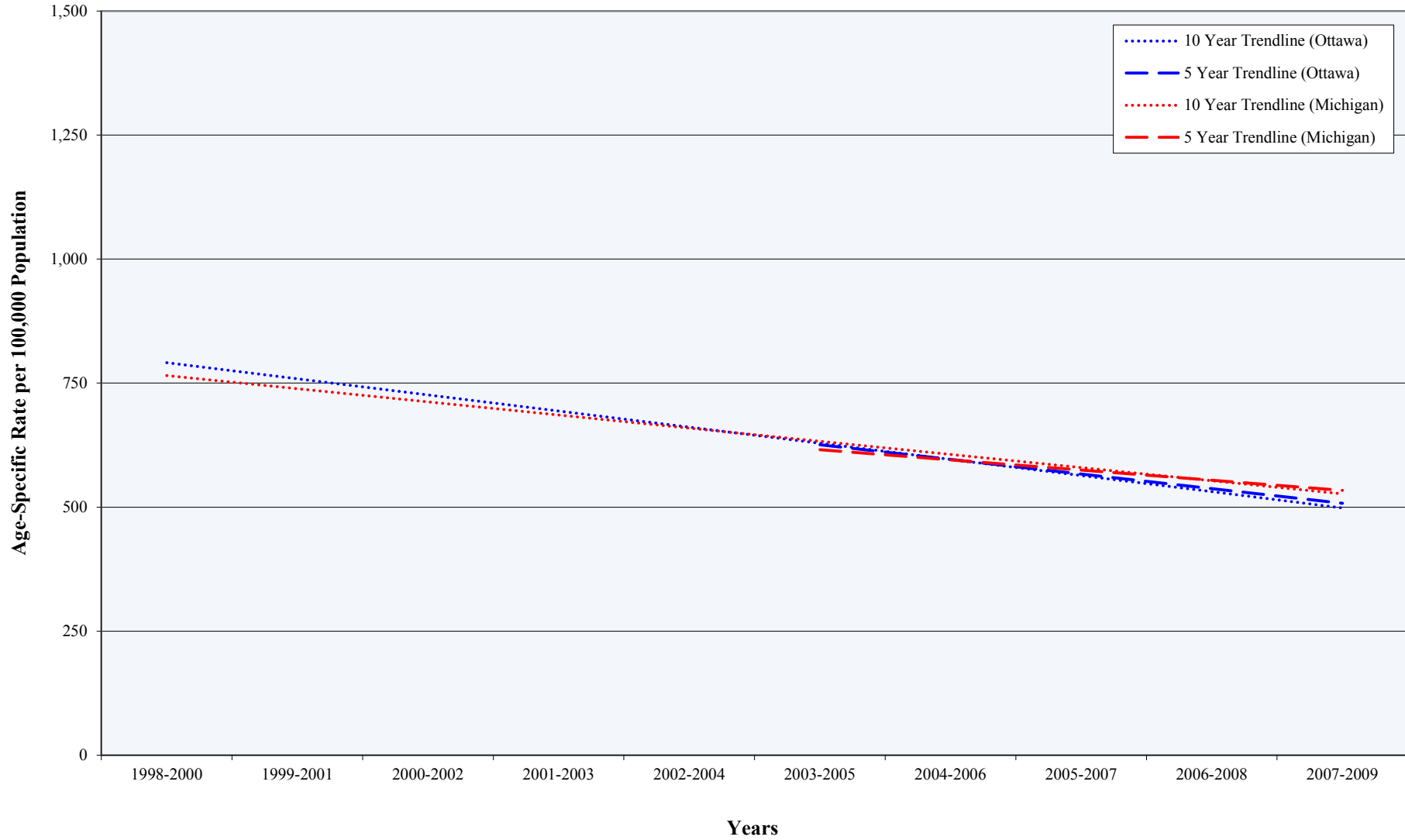
Stroke Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Stroke Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Stroke (1989, 1999, 2009)

Deaths by Gender (Ottawa County, Adjacent Counties, State)

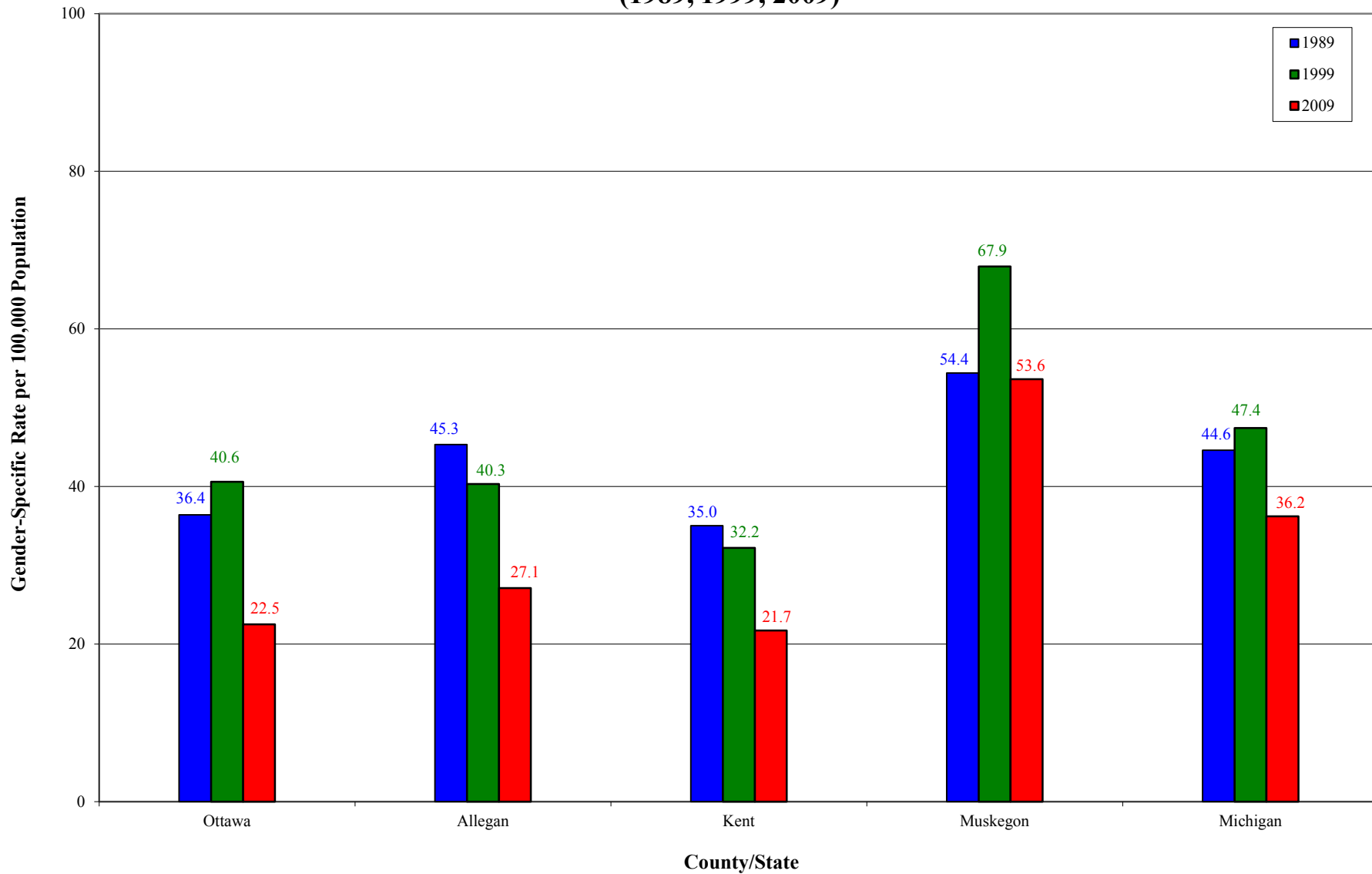
Year*	Deaths per 100,000 Population**									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	36.4	45.3	35.0	54.4	44.6	50.4	55.5	62.1	90.0	66.6
1999	40.6	40.3	32.2	67.9	47.4	60.4	64.9	60.2	89.0	73.7
2009	22.5	27.1	21.7	53.6	36.2	39.5	59.0	35.9	60.9	52.7

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* The coding and classification for Stroke deaths was revised in 1999 to reflect changing medical opinion and practice. As a result, caution should be taken when comparing Stroke mortality statistics over time. Nevertheless, Stroke mortality data is presented from 1980 to 2009 because there is a clear downward trend in the death rate

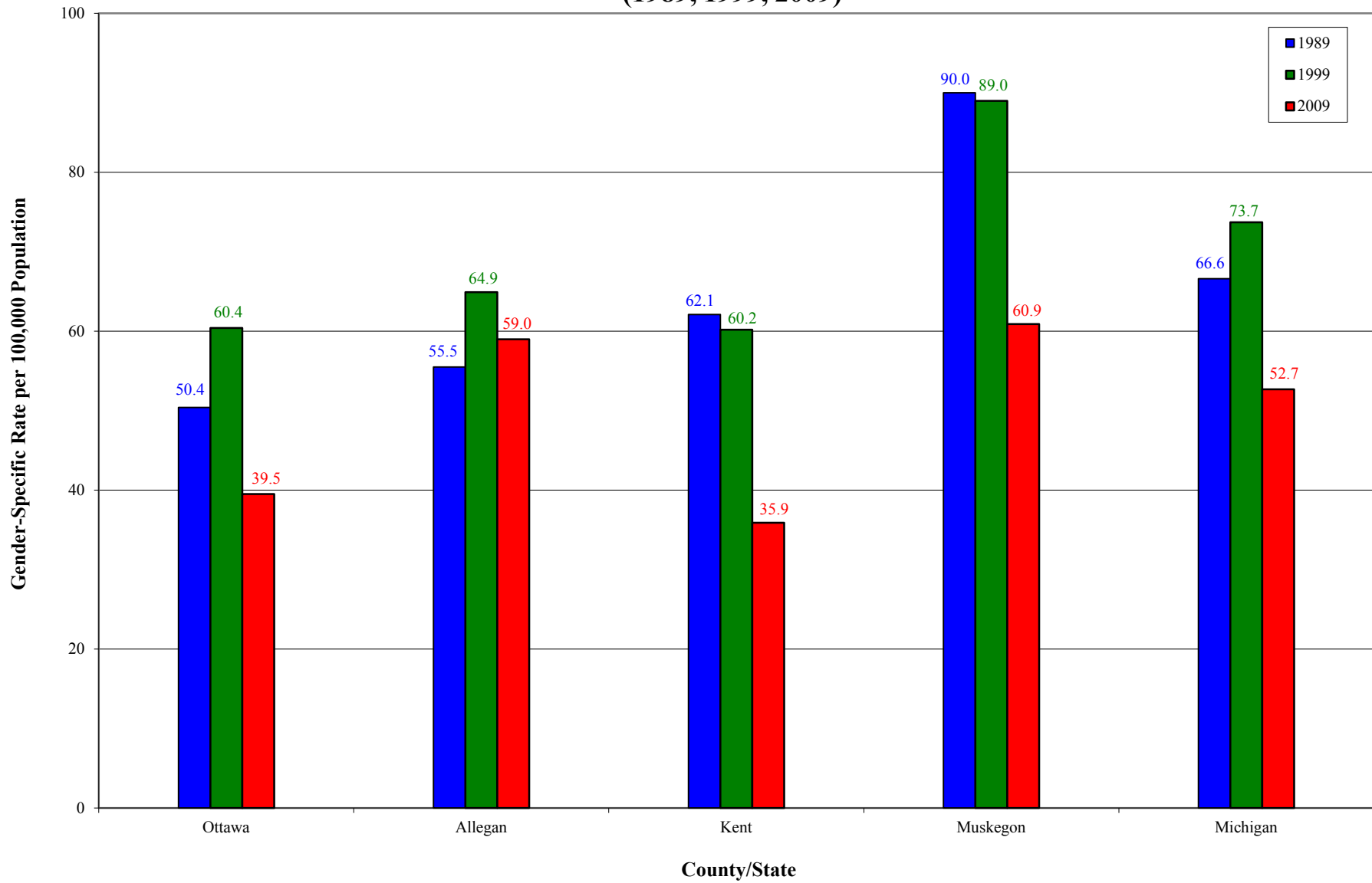
**Death rates are gender-specific and refer to the population of that gender

Stroke Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Stroke Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Stroke Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

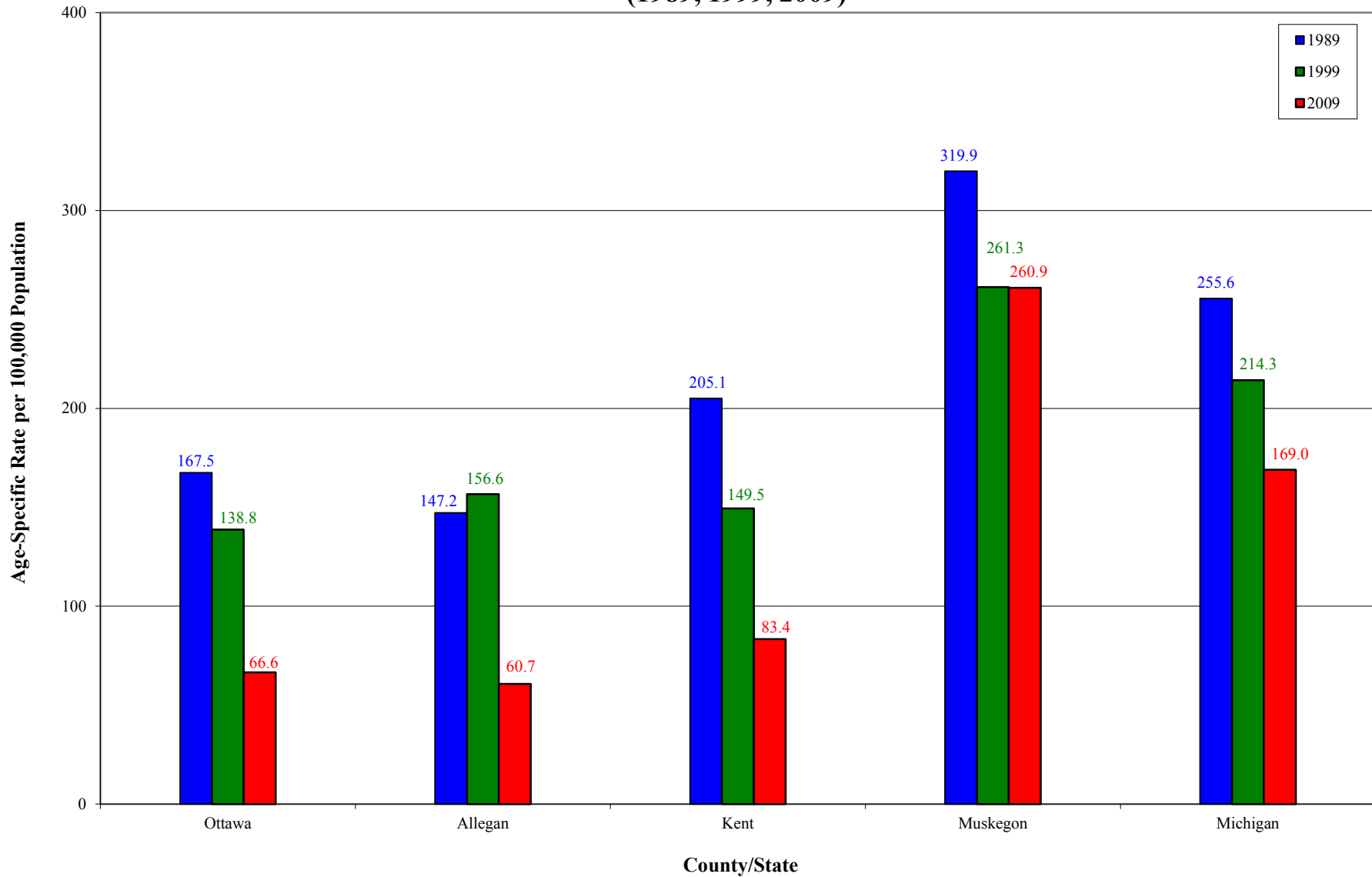
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	167.5	147.2	205.1	319.9	255.6
1999	138.8	156.6	149.5	261.3	214.3
2009	66.6	60.7	83.4	260.9	169.0

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Stroke Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Chronic Lower Respiratory Disease (1980-2009)

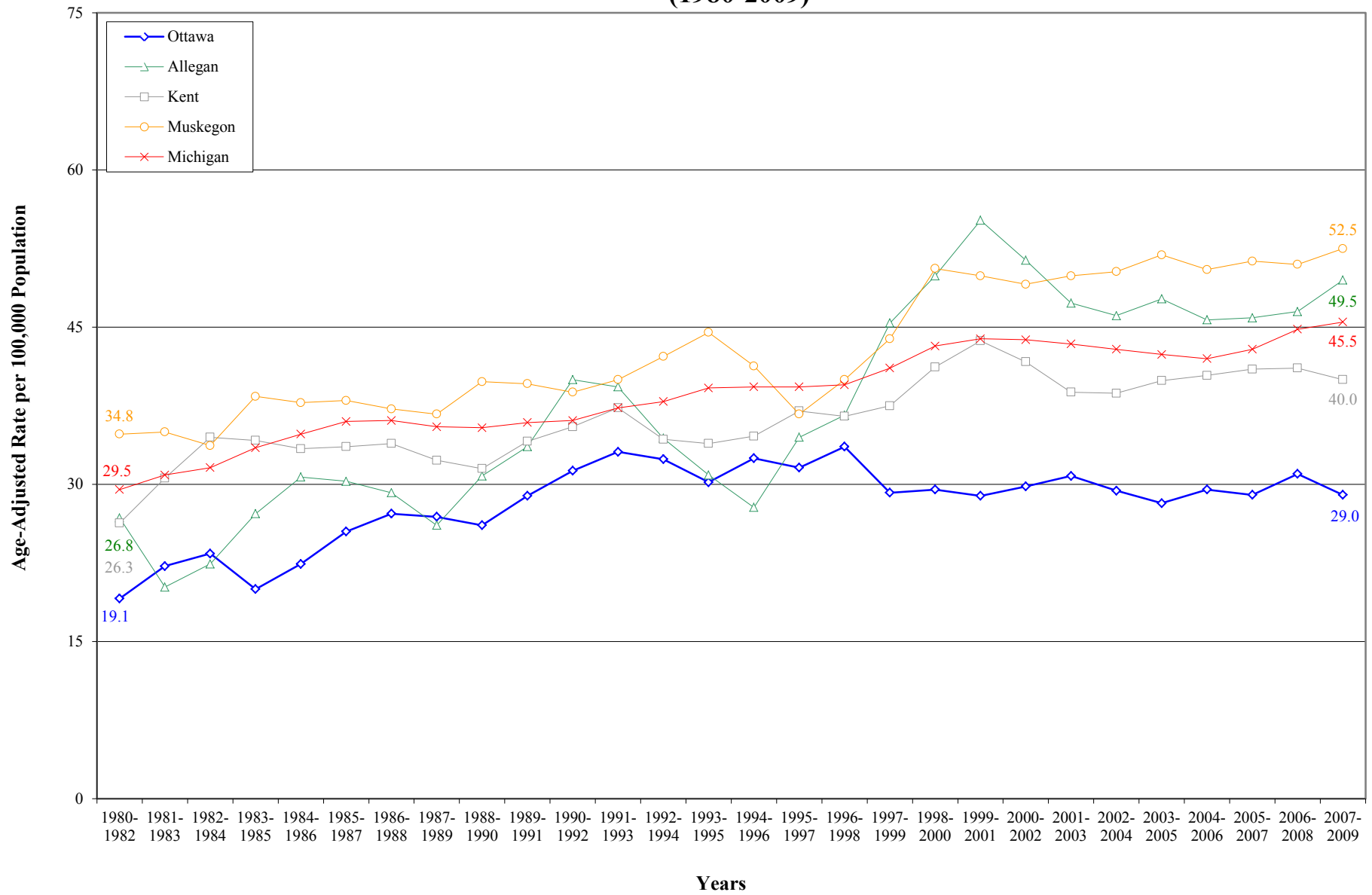
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	19.1	26.8	26.3	34.8	29.5
1981-1983	22.2	20.2	30.6	35.0	30.9
1982-1984	23.4	22.4	34.5	33.7	31.6
1983-1985	20.0	27.2	34.2	38.4	33.5
1984-1986	22.4	30.7	33.4	37.8	34.8
1985-1987	25.5	30.3	33.6	38.0	36.0
1986-1988	27.2	29.2	33.9	37.2	36.1
1987-1989	26.9	26.1	32.3	36.7	35.5
1988-1990	26.1	30.8	31.5	39.8	35.4
1989-1991	28.9	33.6	34.1	39.6	35.9
1990-1992	31.3	40.0	35.5	38.8	36.1
1991-1993	33.1	39.3	37.3	40.0	37.3
1992-1994	32.4	34.4	34.3	42.2	37.9
1993-1995	30.2	30.9	33.9	44.5	39.2
1994-1996	32.5	27.8	34.6	41.3	39.3
1995-1997	31.6	34.5	37.0	36.7	39.3
1996-1998	33.6	36.6	36.5	40.0	39.5
1997-1999	29.2	45.4	37.5	43.9	41.1
1998-2000	29.5	49.9	41.2	50.6	43.2
1999-2001	28.9	55.2	43.7	49.9	43.9
2000-2002	29.8	51.4	41.7	49.1	43.8
2001-2003	30.8	47.3	38.8	49.9	43.4
2002-2004	29.4	46.1	38.7	50.3	42.9
2003-2005	28.2	47.7	39.9	51.9	42.4
2004-2006	29.5	45.7	40.4	50.5	42.0
2005-2007	29.0	45.9	41.0	51.3	42.9
2006-2008	31.0	46.5	41.1	51.0	44.8
2007-2009	29.0	49.5	40.0	52.5	45.5

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

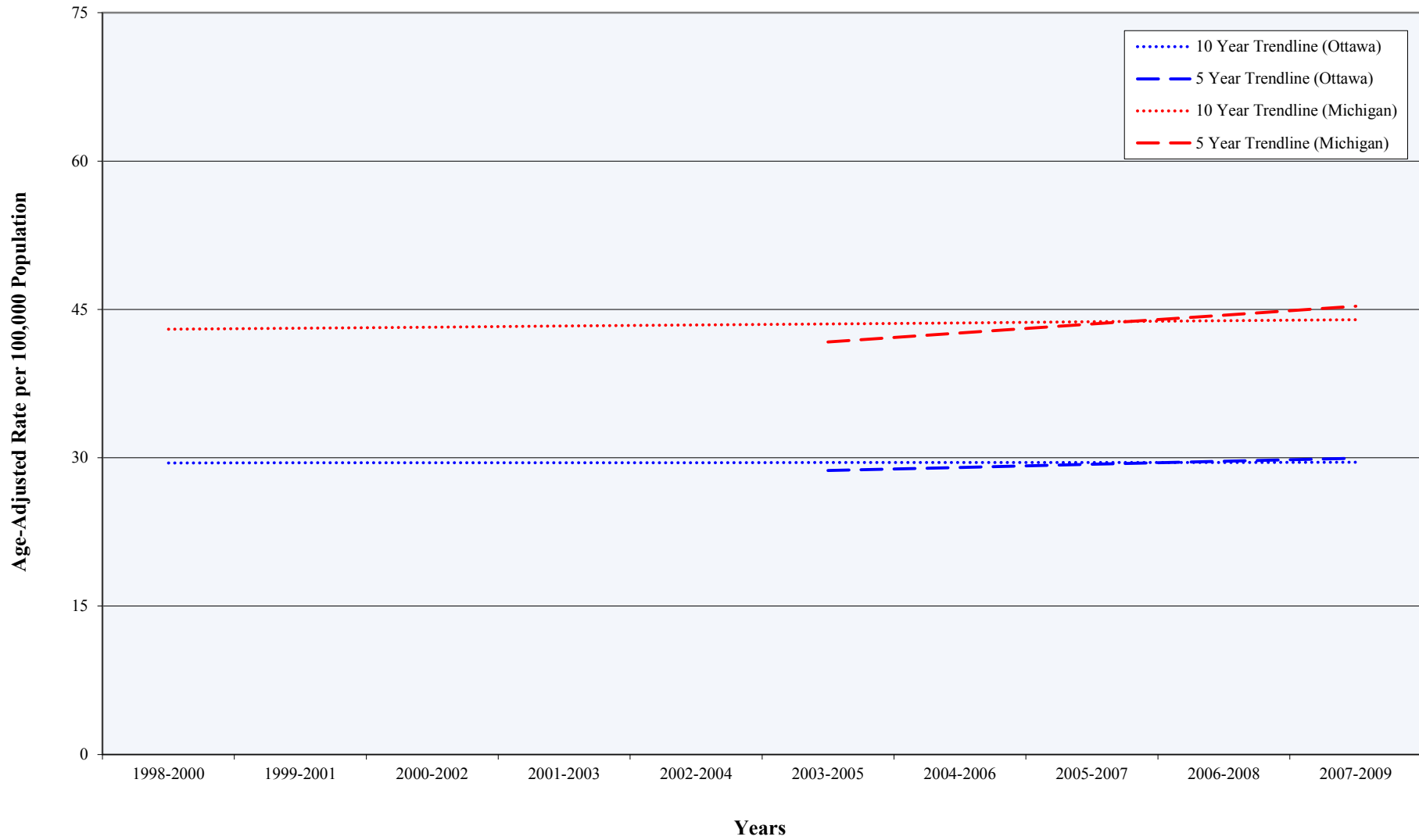
Chronic Lower Respiratory Disease Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Chronic Lower Respiratory Disease Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Chronic Lower Respiratory Disease (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

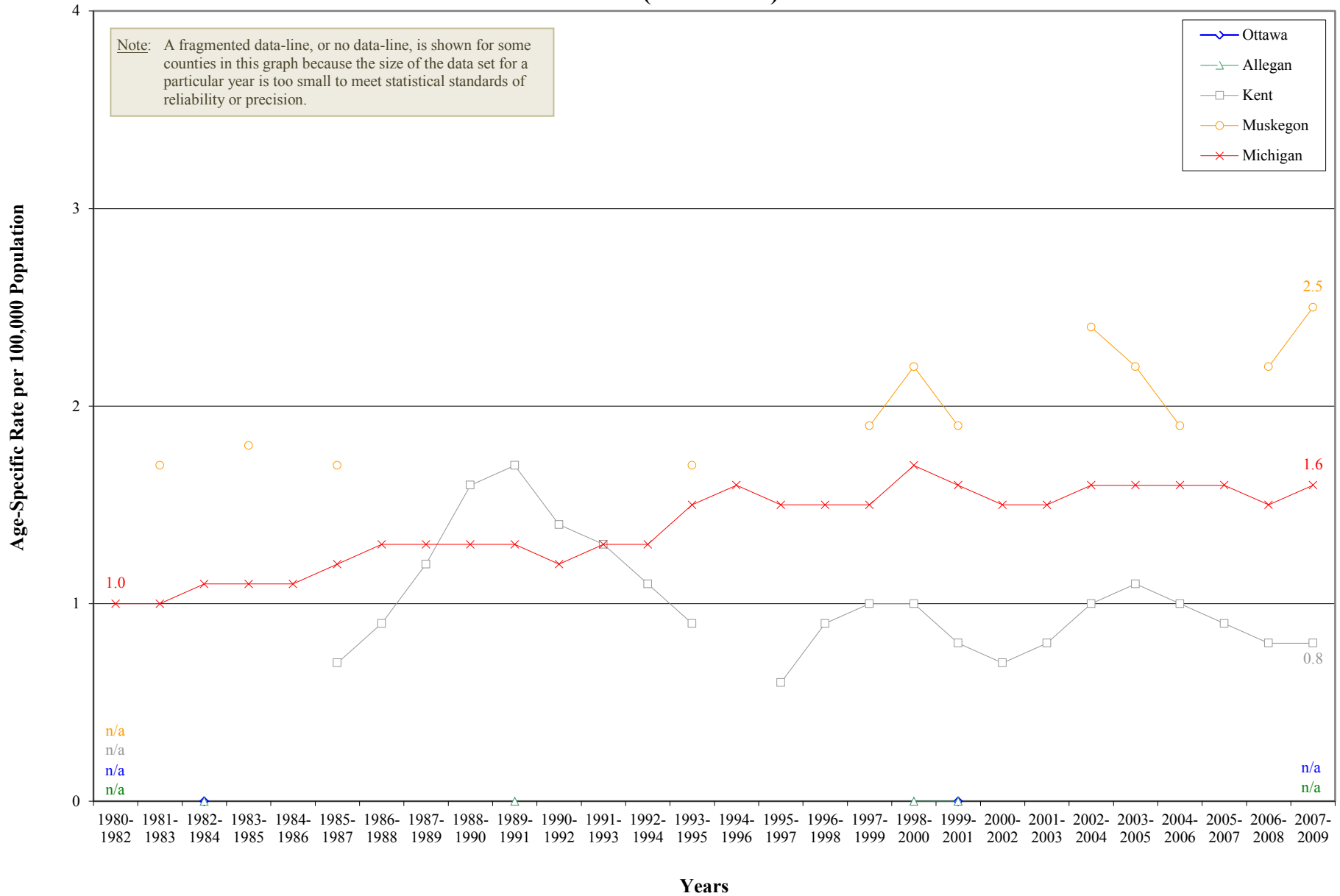
Year	Deaths per 100,000 Population*														
	Under Age 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	**	**	**	**	1.0	25.8	65.0	57.2	74.5	59.7	216.4	202.3	226.2	302.3	260.2
1981-1983	**	**	**	1.7	1.0	39.6	48.6	64.8	81.9	63.2	225.3	149.5	277.4	274.6	272.9
1982-1984	0.0	0.0	**	**	1.1	44.0	50.6	70.3	80.8	65.6	234.1	200.3	327.3	263.2	279.7
1983-1985	**	**	**	1.8	1.1	43.6	52.7	68.2	91.1	70.9	178.8	257.7	336.6	302.1	296.3
1984-1986	**	**	**	**	1.1	45.4	62.5	64.9	82.4	73.5	213.7	277.7	333.6	335.2	311.4
1985-1987	**	**	0.7	1.7	1.2	48.2	68.2	63.6	79.7	74.6	256.1	253.8	336.7	345.1	328.4
1986-1988	**	**	0.9	**	1.3	44.2	65.8	64.6	67.0	74.4	289.1	254.8	338.4	387.7	331.8
1987-1989	**	**	1.2	**	1.3	43.4	59.5	60.5	69.2	72.9	285.9	231.0	319.2	376.7	328.2
1988-1990	**	**	1.6	**	1.3	56.4	61.1	65.6	85.4	75.3	229.9	300.8	280.6	378.0	321.5
1989-1991	**	0.0	1.7	**	1.3	72.0	64.5	71.7	90.5	74.8	229.0	343.7	301.3	360.4	330.1
1990-1992	**	**	1.4	**	1.2	74.6	81.1	82.0	85.4	76.2	260.5	383.3	297.3	366.7	331.5
1991-1993	**	**	1.3	**	1.3	58.9	76.0	75.4	83.9	76.1	336.0	370.8	350.7	387.1	349.9
1992-1994	**	**	1.1	**	1.3	50.6	61.6	67.4	86.4	77.0	356.9	331.2	332.4	409.7	356.3
1993-1995	**	**	0.9	1.7	1.5	39.7	54.8	61.3	97.7	76.9	354.2	300.5	347.6	403.3	374.6
1994-1996	**	**	**	**	1.6	45.0	57.4	67.2	87.4	76.8	378.1	258.8	346.9	386.3	375.8
1995-1997	**	**	0.6	**	1.5	44.5	71.9	68.2	83.6	76.3	362.9	310.6	376.3	322.1	376.7
1996-1998	**	**	0.9	**	1.5	50.6	64.9	66.1	90.9	75.8	370.5	370.3	369.7	351.9	377.6
1997-1999	**	**	1.0	1.9	1.5	48.7	79.4	62.8	99.4	75.9	301.7	459.8	391.1	367.5	398.2
1998-2000	**	0.0	1.0	2.2	1.7	46.7	94.1	70.6	106.4	76.3	312.2	489.7	418.8	444.2	422.9
1999-2001	0.0	0.0	0.8	1.9	1.6	49.4	103.1	69.6	103.4	74.9	294.7	535.6	458.4	437.4	434.5
2000-2002	**	**	0.7	**	1.5	38.0	88.9	66.9	91.5	71.6	352.5	505.0	430.3	473.0	440.2
2001-2003	**	**	0.8	**	1.5	38.0	70.3	59.0	88.1	68.7	360.3	503.3	404.1	488.4	442.0
2002-2004	**	**	1.0	2.4	1.6	30.6	63.8	60.2	78.5	66.2	366.0	500.1	390.9	514.8	441.6
2003-2005	**	**	1.1	2.2	1.6	36.1	64.4	62.0	85.4	64.6	319.1	534.8	400.5	517.1	435.9
2004-2006	**	**	1.0	1.9	1.6	35.4	68.6	61.2	78.1	62.6	348.6	484.6	412.6	532.4	437.9
2005-2007	**	**	0.9	**	1.6	33.4	68.6	60.0	80.8	61.9	350.9	485.4	427.1	539.3	456.3
2006-2008	**	**	0.8	2.2	1.5	33.9	71.0	58.1	77.8	63.7	388.5	487.3	433.4	531.3	485.2
2007-2009	**	**	0.8	2.5	1.6	37.1	67.6	54.7	76.7	64.9	339.9	547.2	432.6	555.2	496.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

** A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

Chronic Lower Respiratory Disease Deaths Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

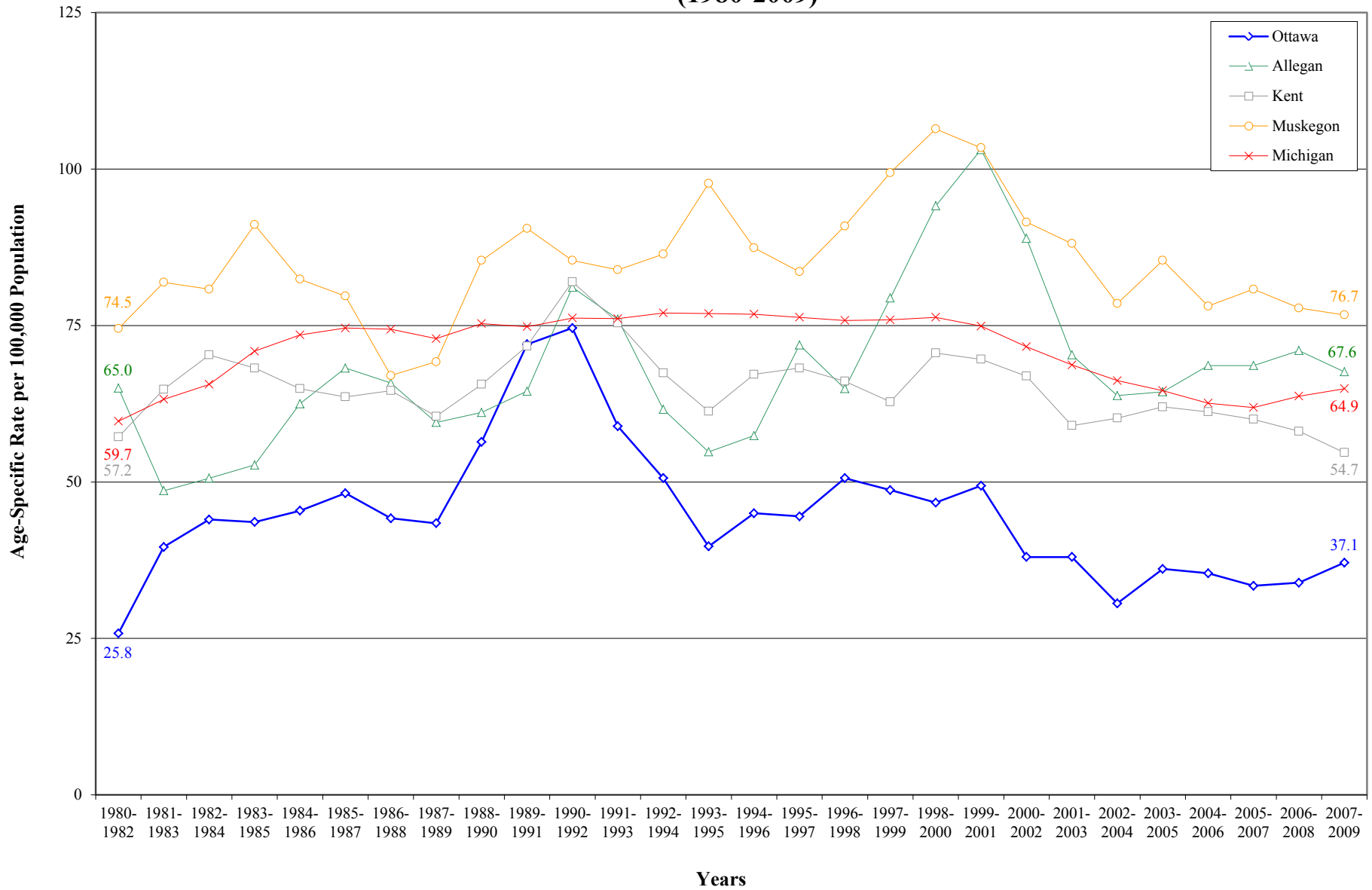
Chronic Lower Respiratory Disease Deaths Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

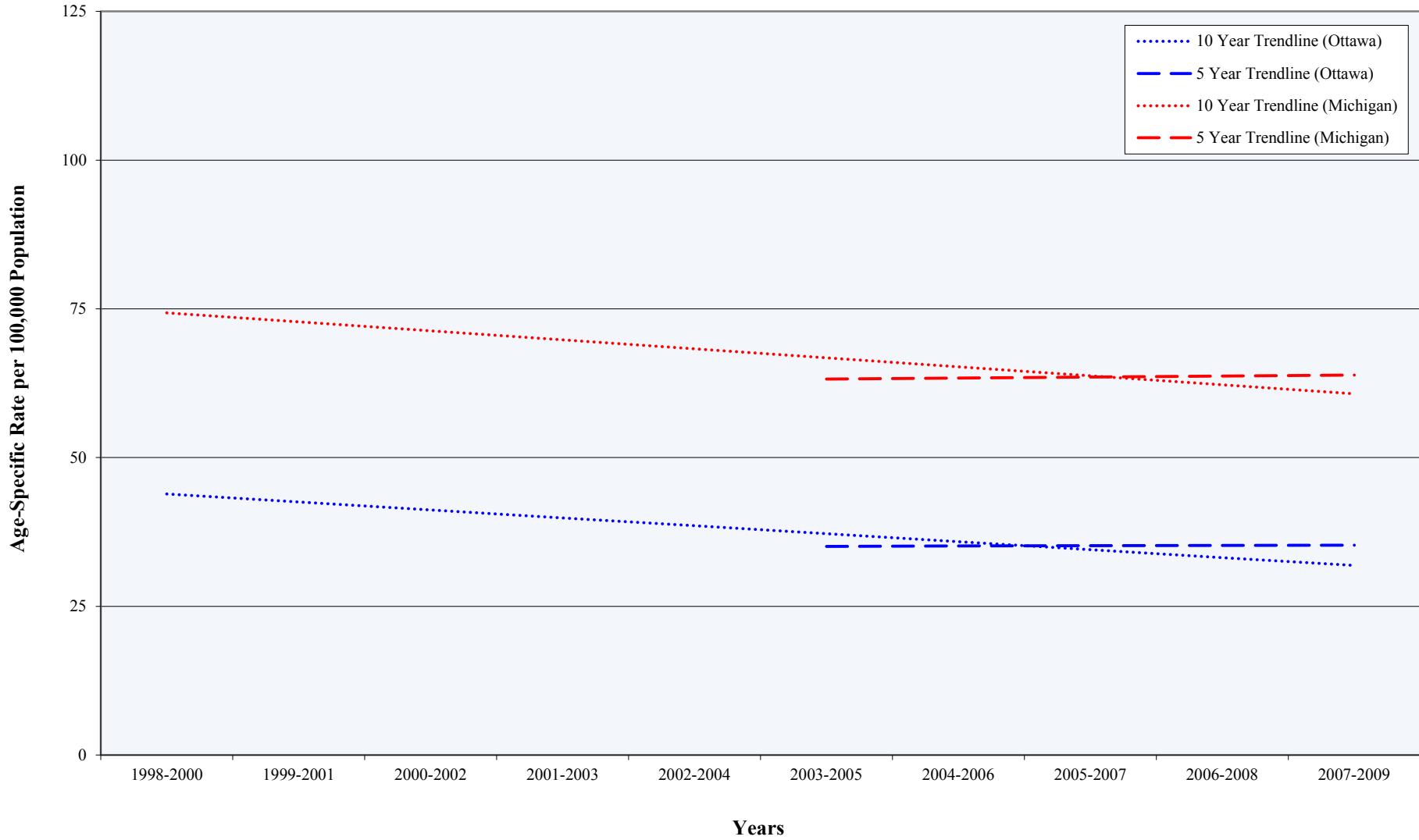
Chronic Lower Respiratory Disease Deaths Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

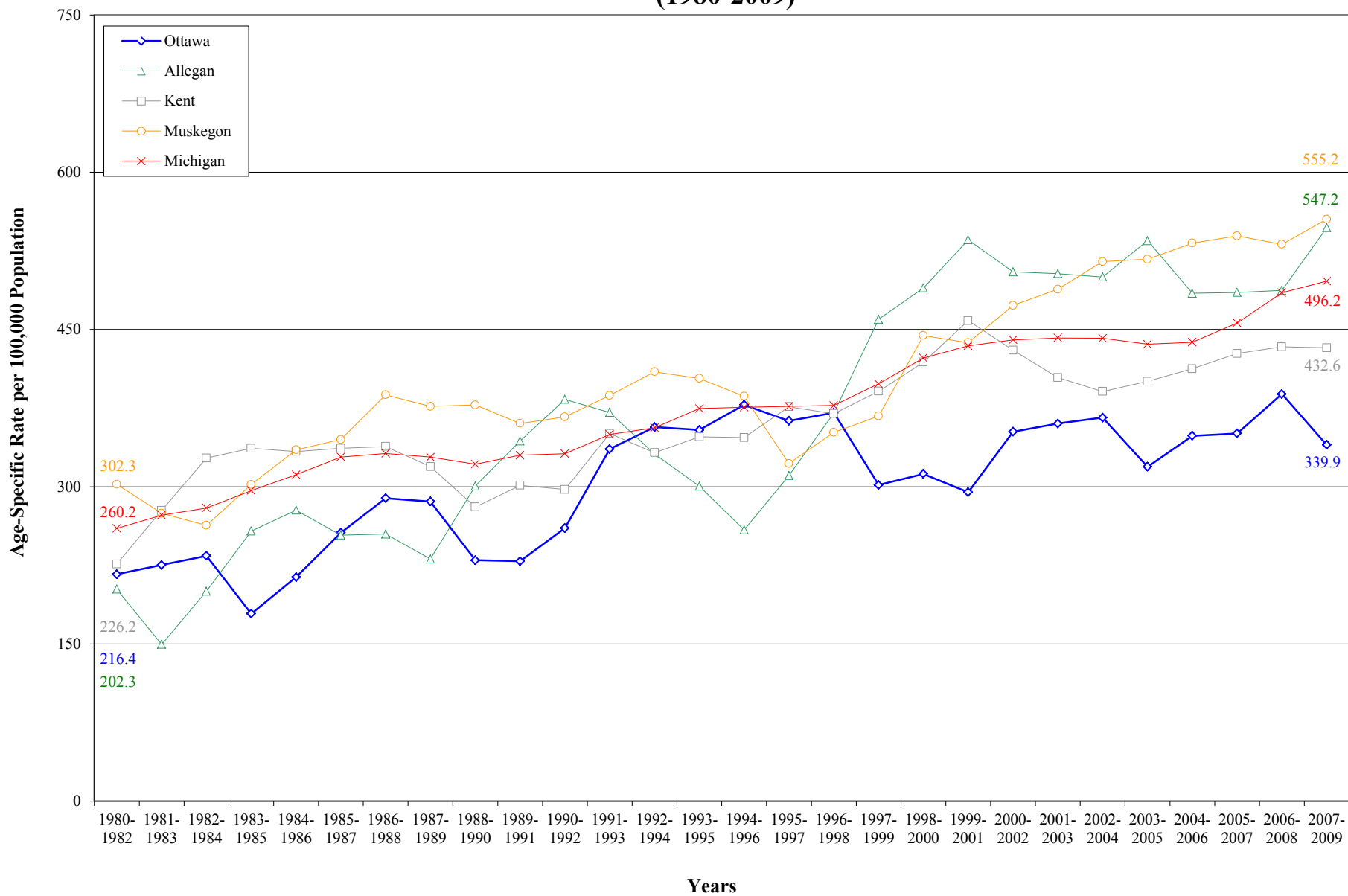
Chronic Lower Respiratory Disease Deaths Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

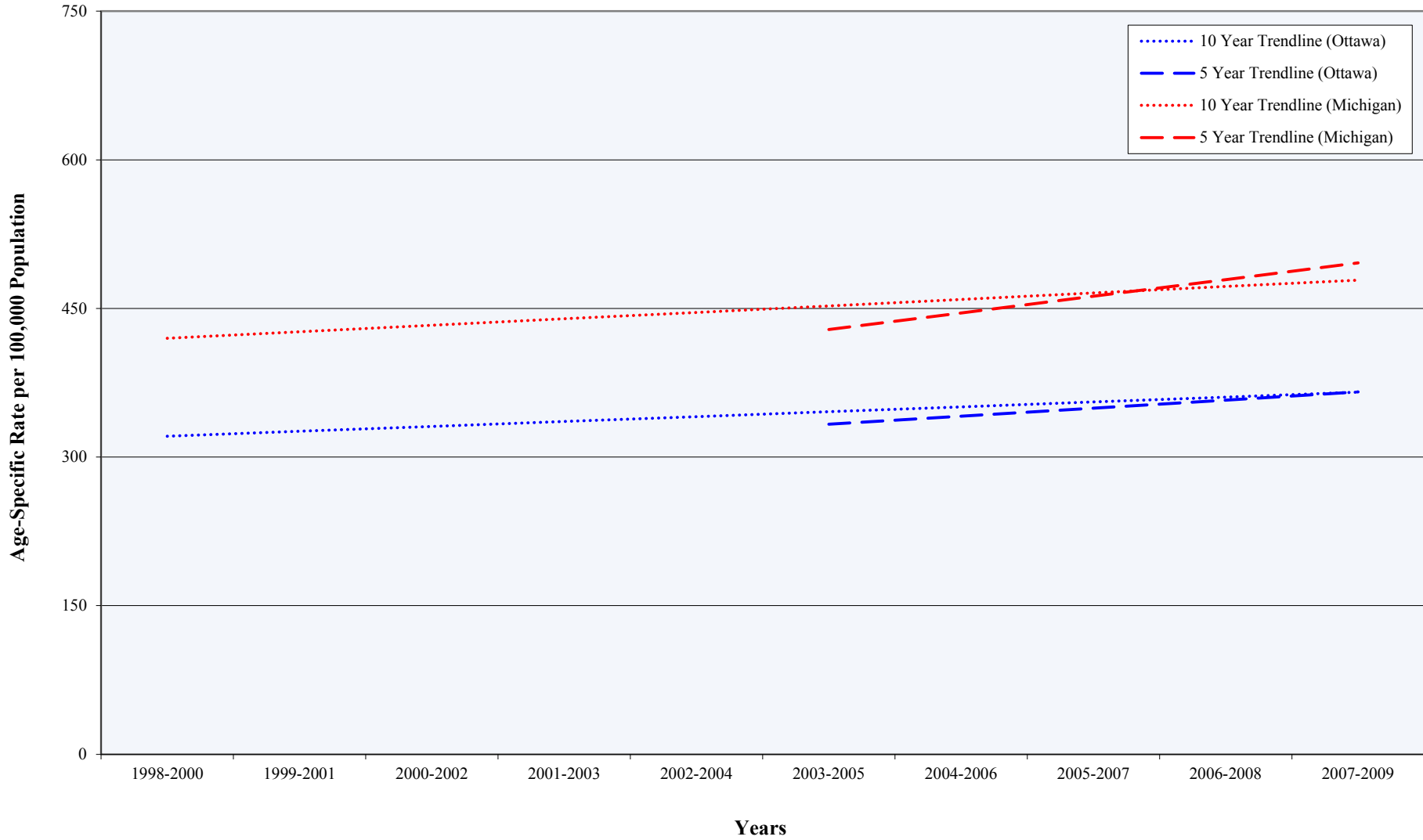
Chronic Lower Respiratory Disease Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Chronic Lower Respiratory Disease Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Chronic Lower Respiratory Disease (1989, 1999, 2009)

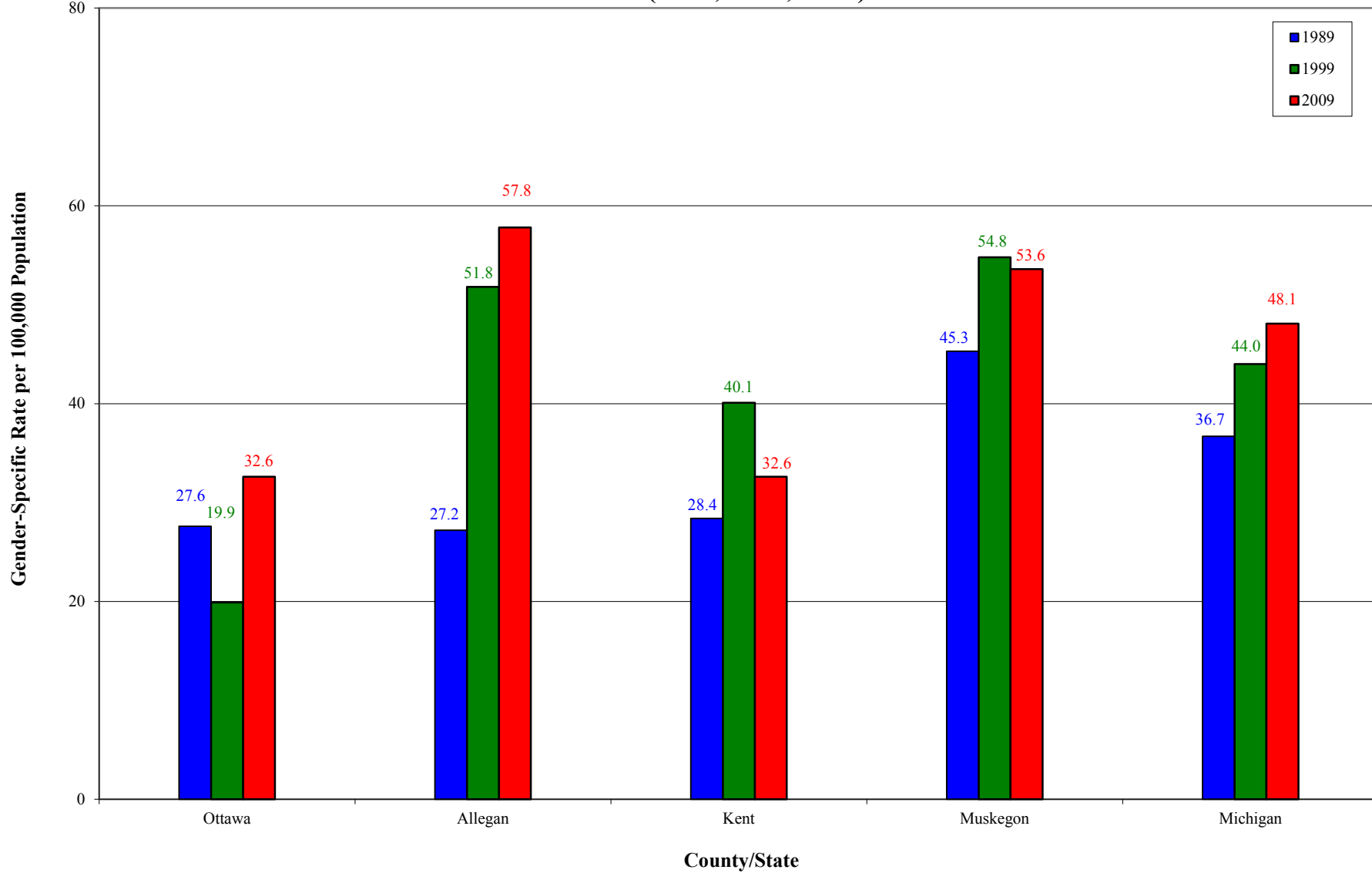
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	27.6	27.2	28.4	45.3	36.7	12.9	6.7	19.5	19.7	25.3
1999	19.9	51.8	40.1	54.8	44.0	21.0	49.7	37.7	51.5	42.6
2009	32.6	57.8	32.6	53.6	48.1	23.1	48.3	38.1	70.1	51.6

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

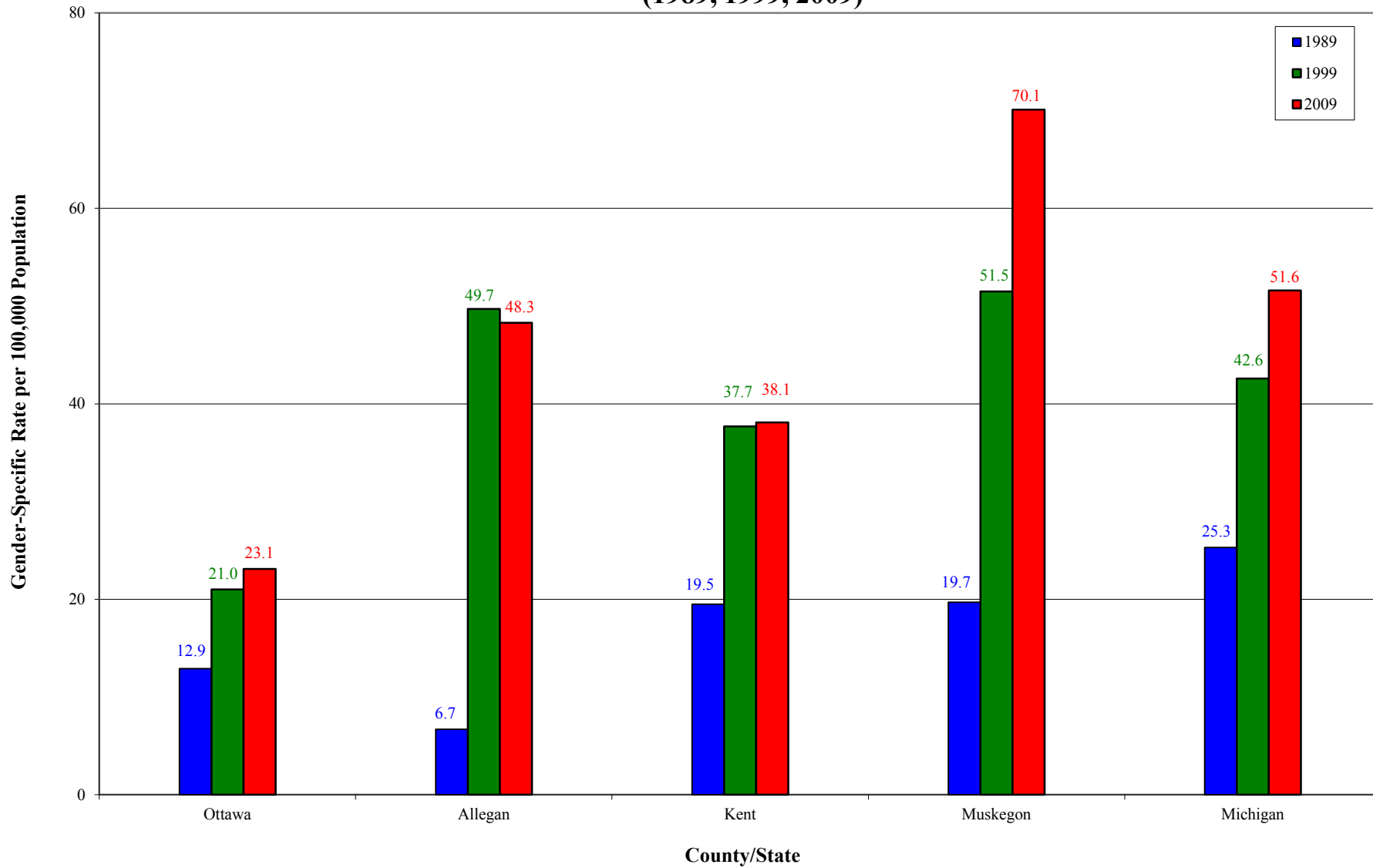
* Death rates are gender-specific and refer to the population of that gender

Chronic Lower Respiratory Disease Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Chronic Lower Respiratory Disease Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Chronic Lower Respiratory Disease Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

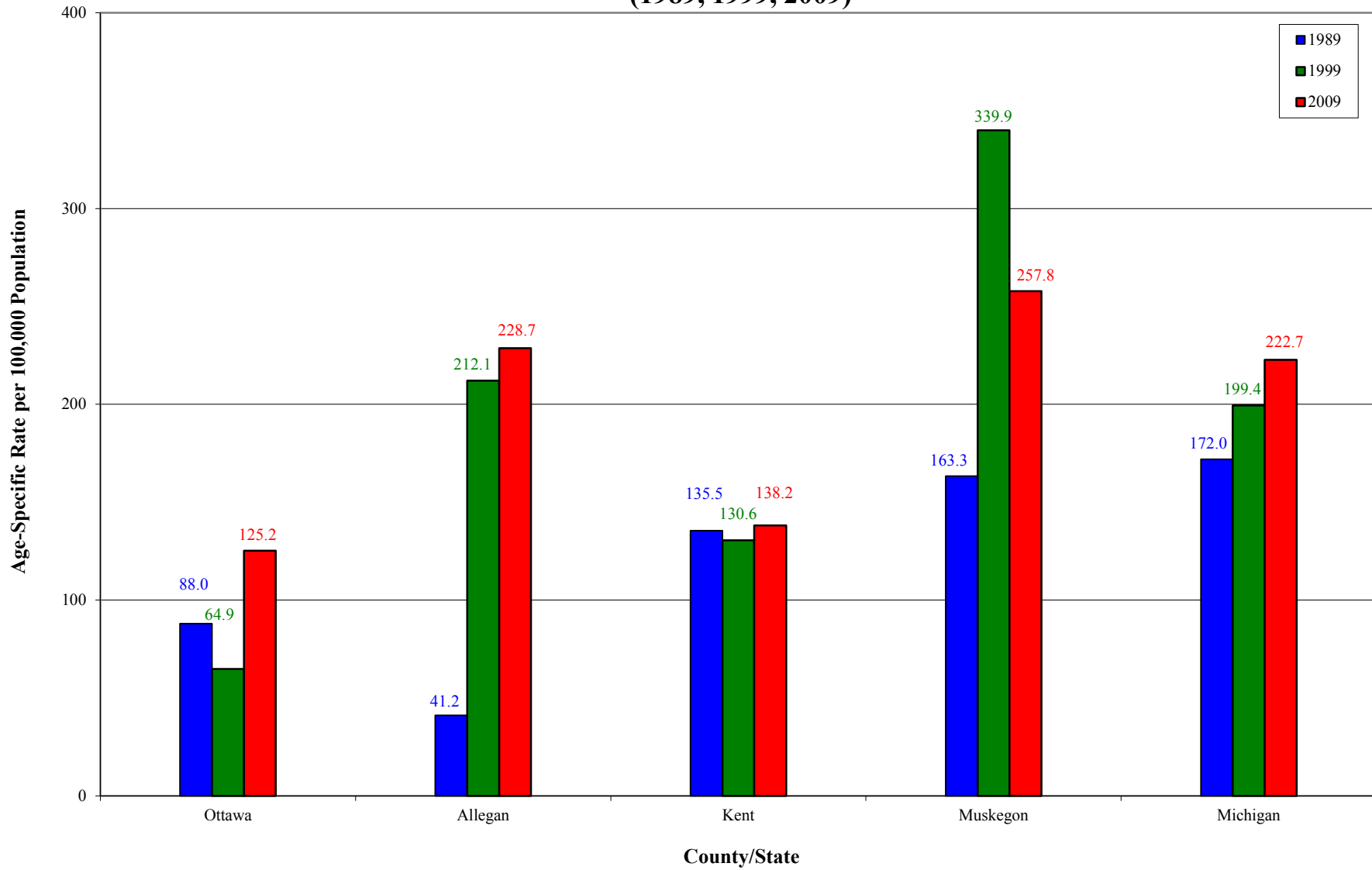
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	88.0	41.2	135.5	163.3	172.0
1999	64.9	212.1	130.6	339.9	199.4
2009	125.2	228.7	138.2	257.8	222.7

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Chronic Lower Respiratory Disease Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Unintentional/Accidental (1980-2009) Deaths by Year (Ottawa County, Adjacent Counties, State)

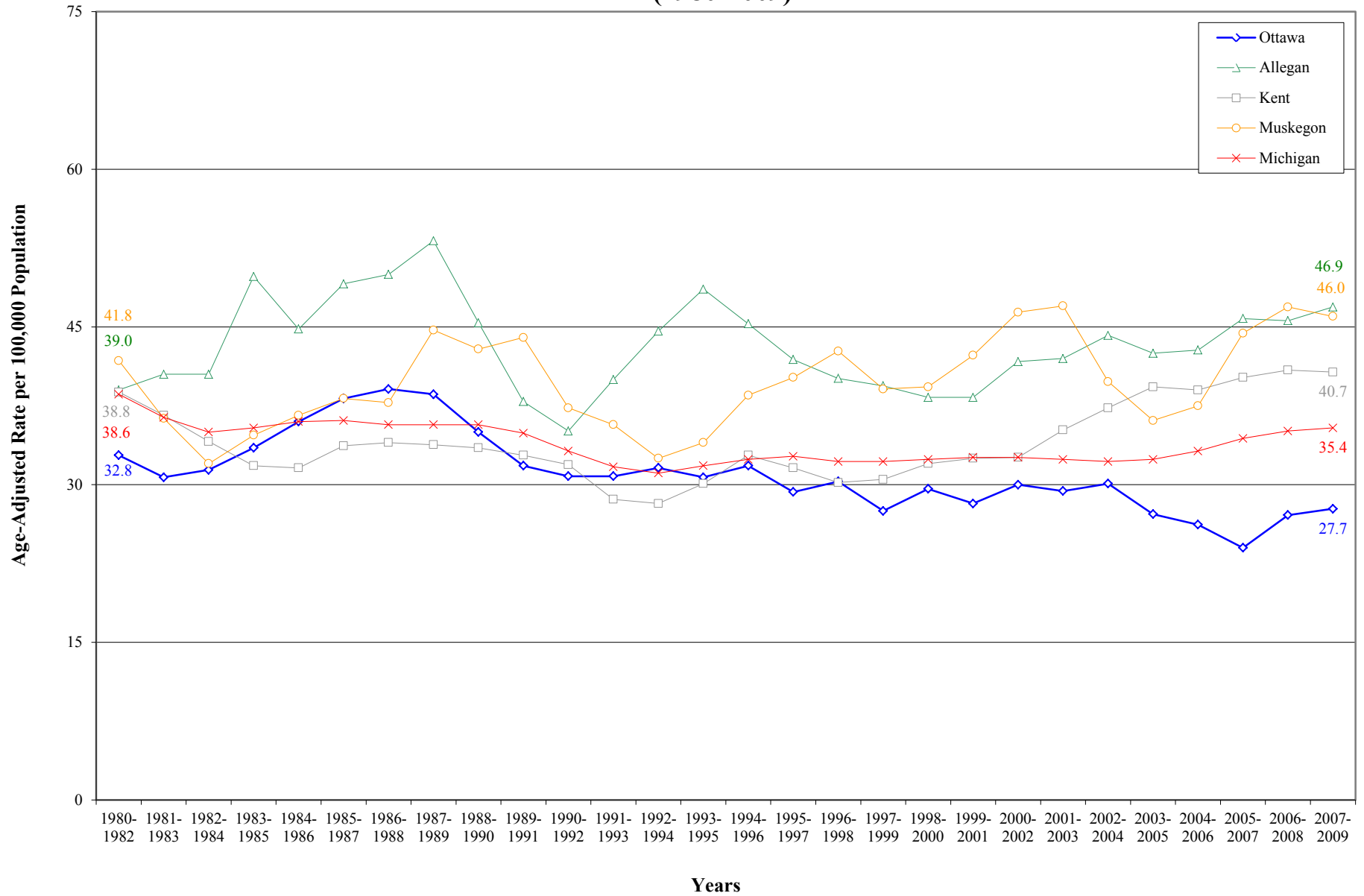
Deaths per 100,000 Population*

Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	32.8	39.0	38.8	41.8	38.6
1981-1983	30.7	40.5	36.6	36.3	36.4
1982-1984	31.4	40.5	34.1	32.0	35.0
1983-1985	33.5	49.8	31.8	34.7	35.4
1984-1986	36.0	44.8	31.6	36.6	36.0
1985-1987	38.2	49.1	33.7	38.2	36.1
1986-1988	39.1	50.0	34.0	37.8	35.7
1987-1989	38.6	53.2	33.8	44.7	35.7
1988-1990	35.0	45.4	33.5	42.9	35.7
1989-1991	31.8	37.9	32.8	44.0	34.9
1990-1992	30.8	35.1	31.9	37.3	33.2
1991-1993	30.8	40.0	28.6	35.7	31.7
1992-1994	31.6	44.6	28.2	32.5	31.1
1993-1995	30.7	48.6	30.1	34.0	31.8
1994-1996	31.8	45.3	32.8	38.5	32.4
1995-1997	29.3	41.9	31.6	40.2	32.7
1996-1998	30.3	40.1	30.2	42.7	32.2
1997-1999	27.5	39.4	30.5	39.1	32.2
1998-2000	29.6	38.3	32.0	39.3	32.4
1999-2001	28.2	38.3	32.5	42.3	32.6
2000-2002	30.0	41.7	32.6	46.4	32.6
2001-2003	29.4	42.0	35.2	47.0	32.4
2002-2004	30.1	44.2	37.3	39.8	32.2
2003-2005	27.2	42.5	39.3	36.1	32.4
2004-2006	26.2	42.8	39.0	37.5	33.2
2005-2007	24.0	45.8	40.2	44.4	34.4
2006-2008	27.1	45.6	40.9	46.9	35.1
2007-2009	27.7	46.9	40.7	46.0	35.4

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

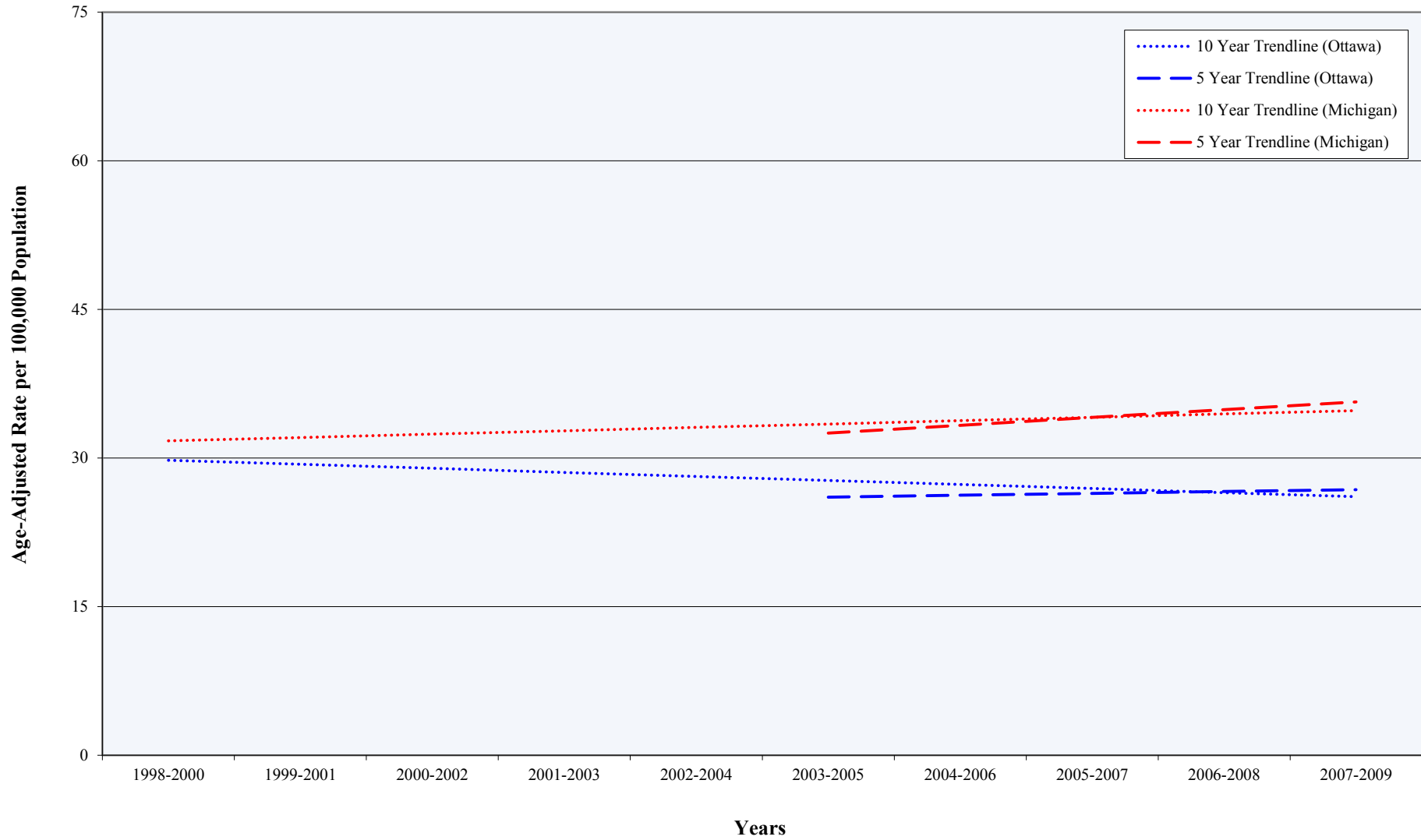
Unintentional/Accidental Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Unintentional/Accidental Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Unintentional/Accidental (1980-2009) Deaths by Age (Ottawa County, Adjacent Counties, State)

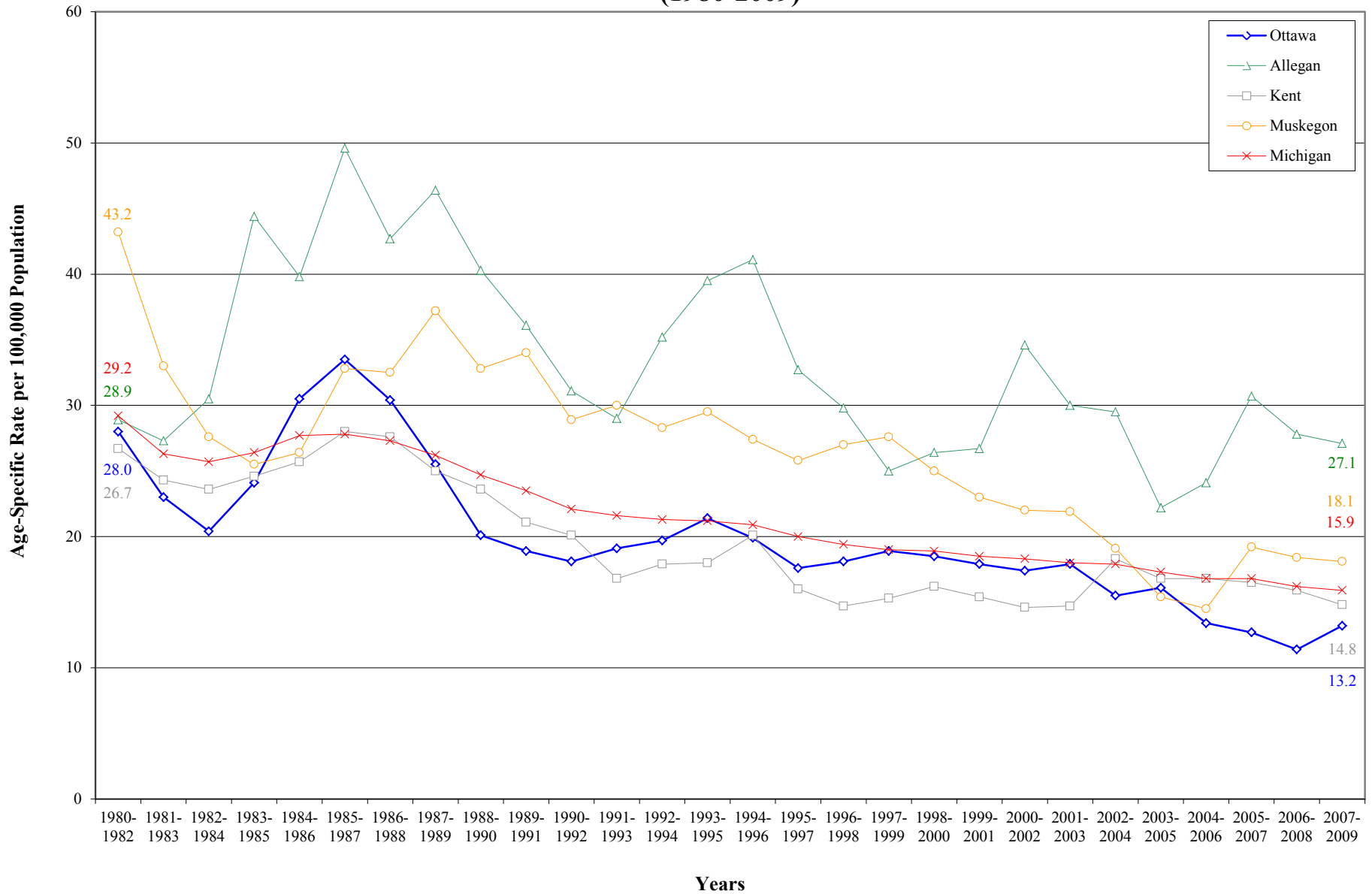
Deaths per 100,000 Population*

Year	Under Age 25					Age 25-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	28.0	28.9	26.7	43.2	29.2	30.1	31.5	35.1	31.5	35.5	99.4	183.1	162.8	138.8	133.8
1981-1983	23.0	27.3	24.3	33.0	26.3	25.6	36.3	33.7	30.6	33.3	129.6	168.2	156.3	110.8	133.7
1982-1984	20.4	30.5	23.6	27.6	25.7	25.9	36.6	30.3	25.8	31.7	157.8	163.9	157.9	122.2	132.1
1983-1985	24.1	44.4	24.6	25.5	26.4	26.9	44.1	26.5	30.2	31.4	157.7	159.9	151.4	137.3	135.9
1984-1986	30.5	39.8	25.7	26.4	27.7	27.3	40.3	26.0	29.8	31.9	162.8	130.2	137.5	165.3	135.1
1985-1987	33.5	49.6	28.0	32.8	27.8	30.2	42.2	27.9	32.1	32.2	152.6	110.0	135.0	144.2	131.0
1986-1988	30.4	42.7	27.6	32.5	27.3	33.9	49.5	29.9	32.8	32.6	151.7	90.4	122.9	123.6	124.7
1987-1989	25.5	46.4	25.0	37.2	26.2	36.3	51.9	29.6	39.9	32.9	149.8	103.6	131.5	132.5	127.1
1988-1990	20.1	40.3	23.6	32.8	24.7	31.6	42.3	27.8	37.3	32.7	160.5	100.3	146.8	144.8	135.1
1989-1991	18.9	36.1	21.1	34.0	23.5	25.9	29.3	24.7	39.2	30.5	166.6	119.6	173.8	144.9	146.7
1990-1992	18.1	31.1	20.1	28.9	22.1	23.3	27.6	23.1	32.6	28.5	176.3	122.9	180.0	133.7	145.6
1991-1993	19.1	29.0	16.8	30.0	21.6	22.2	36.7	21.1	30.6	26.8	181.5	132.9	162.8	126.5	139.1
1992-1994	19.7	35.2	17.9	28.3	21.3	22.6	36.7	22.1	23.9	26.2	182.2	162.2	141.2	141.4	135.5
1993-1995	21.4	39.5	18.0	29.5	21.2	20.6	40.9	23.9	25.2	27.3	175.3	163.3	155.7	141.5	137.9
1994-1996	19.9	41.1	20.1	27.4	20.9	24.0	32.3	26.2	31.0	27.7	168.4	176.7	169.2	172.5	143.8
1995-1997	17.6	32.7	16.0	25.8	20.0	24.1	33.5	27.0	33.9	28.8	141.9	170.5	168.8	181.2	142.2
1996-1998	18.1	29.8	14.7	27.0	19.4	25.9	28.3	27.3	38.0	28.9	136.2	199.9	144.5	175.9	136.2
1997-1999	18.9	25.0	15.3	27.6	19.0	22.7	30.1	27.0	35.0	29.6	118.8	193.0	144.7	139.4	132.6
1998-2000	18.5	26.4	16.2	25.0	18.9	24.4	30.0	27.8	37.8	30.1	143.0	170.8	158.7	128.2	131.3
1999-2001	17.9	26.7	15.4	23.0	18.5	22.4	29.9	26.6	42.1	30.0	148.7	172.8	188.4	152.0	138.0
2000-2002	17.4	34.6	14.6	22.0	18.3	26.3	28.8	25.7	46.4	30.0	151.8	193.8	205.7	185.5	141.5
2001-2003	17.9	30.0	14.7	21.9	18.0	26.2	30.0	27.8	48.0	29.6	139.4	219.8	226.5	185.0	144.3
2002-2004	15.5	29.5	18.3	19.1	17.9	27.2	31.2	29.0	37.4	29.6	152.5	258.5	229.0	186.4	143.4
2003-2005	16.1	22.2	16.8	15.4	17.3	23.7	34.2	31.6	34.6	30.7	135.0	245.6	247.2	176.2	142.1
2004-2006	13.4	24.1	16.8	14.5	16.8	20.9	34.0	31.3	33.8	32.4	164.6	242.3	250.9	219.9	142.6
2005-2007	12.7	30.7	16.5	19.2	16.8	19.9	35.8	33.4	41.2	34.2	149.0	237.3	259.0	240.3	148.2
2006-2008	11.4	27.8	15.9	18.4	16.2	22.4	37.9	33.6	42.1	35.4	189.5	238.2	277.0	283.6	155.2
2007-2009	13.2	27.1	14.8	18.1	15.9	22.7	43.2	34.0	42.9	35.9	181.7	209.2	281.5	261.1	158.7

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

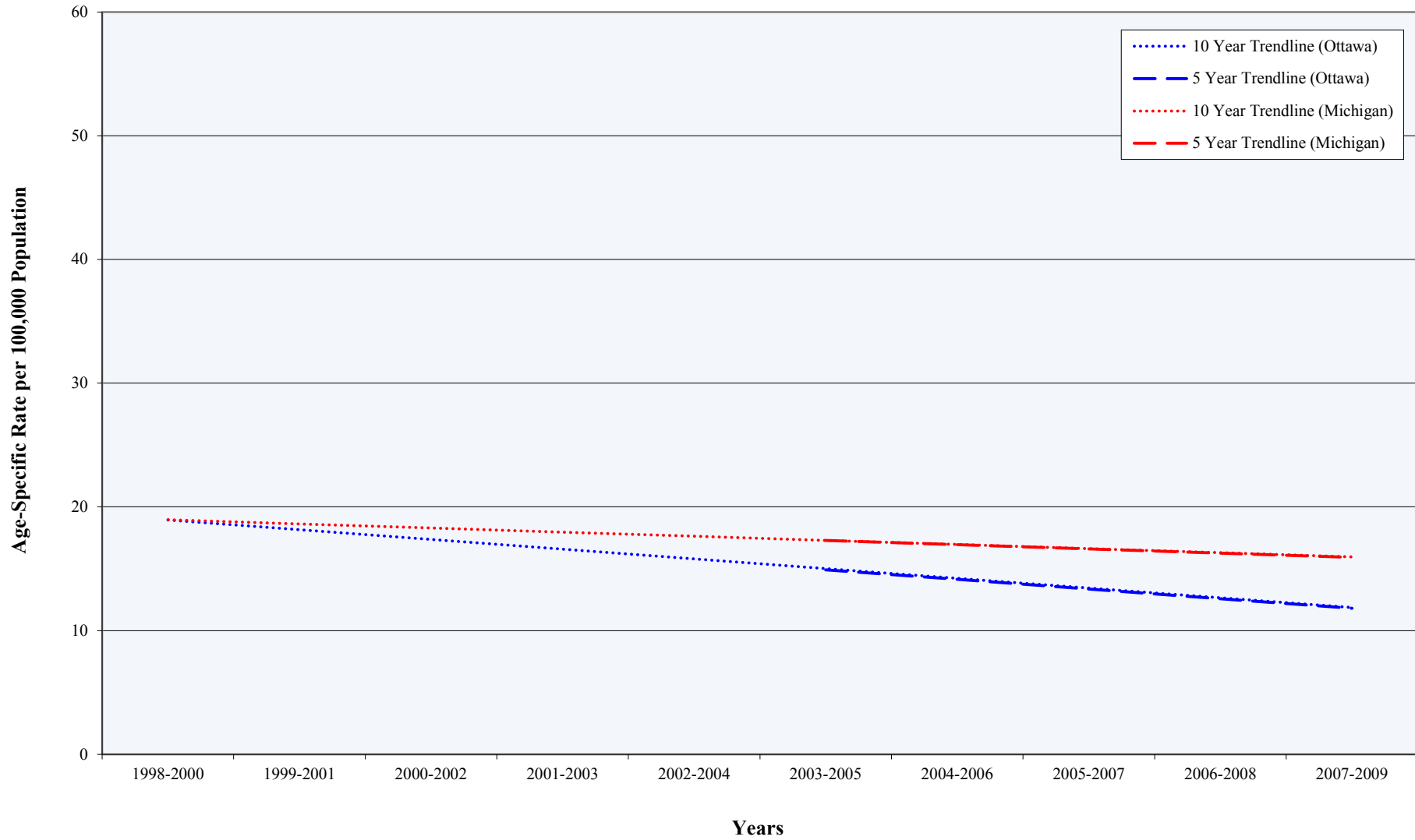
Unintentional/Accidental Deaths Among Persons Under Age 25 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

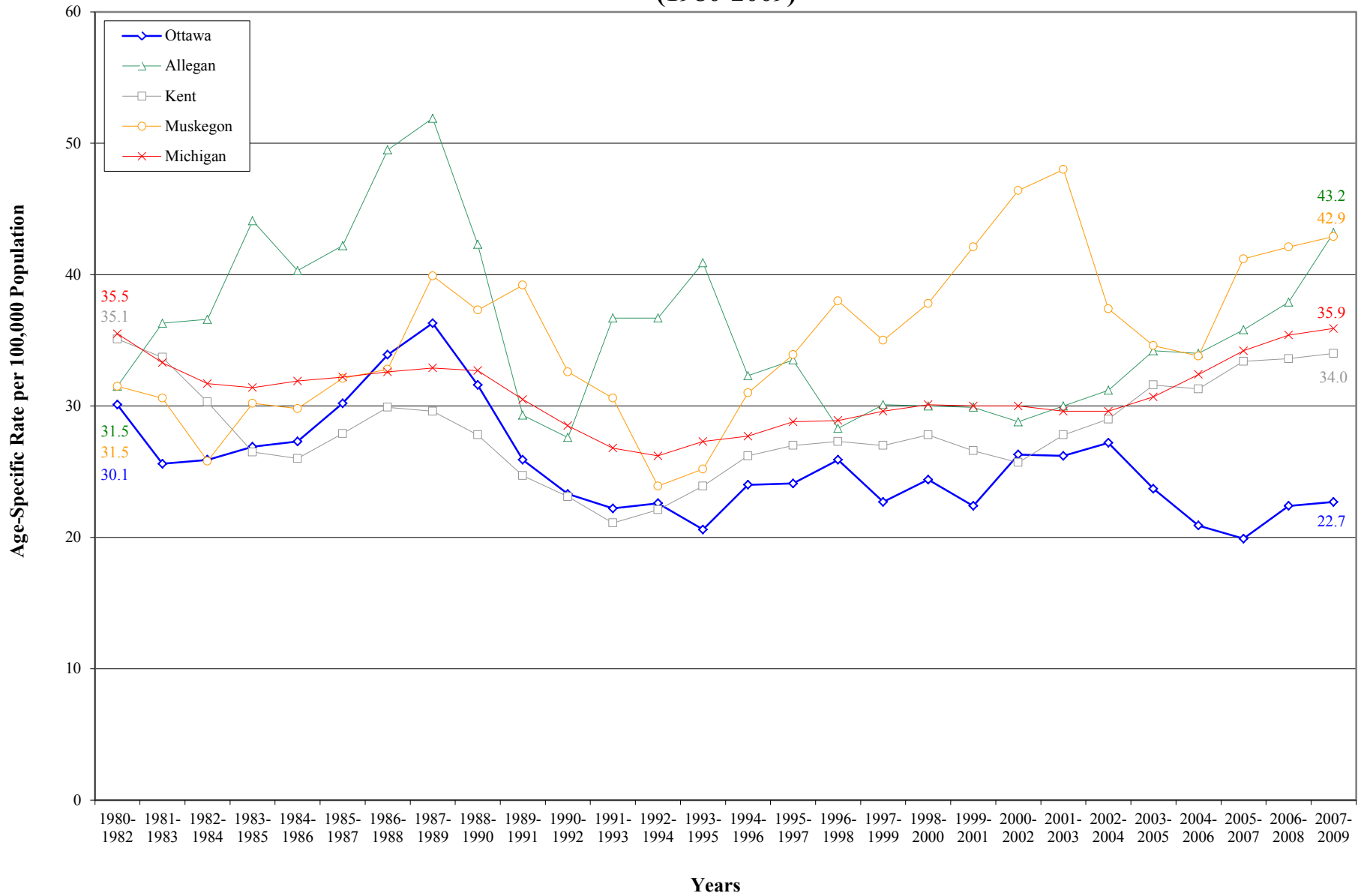
Unintentional/Accidental Deaths Among Persons Under Age 25

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

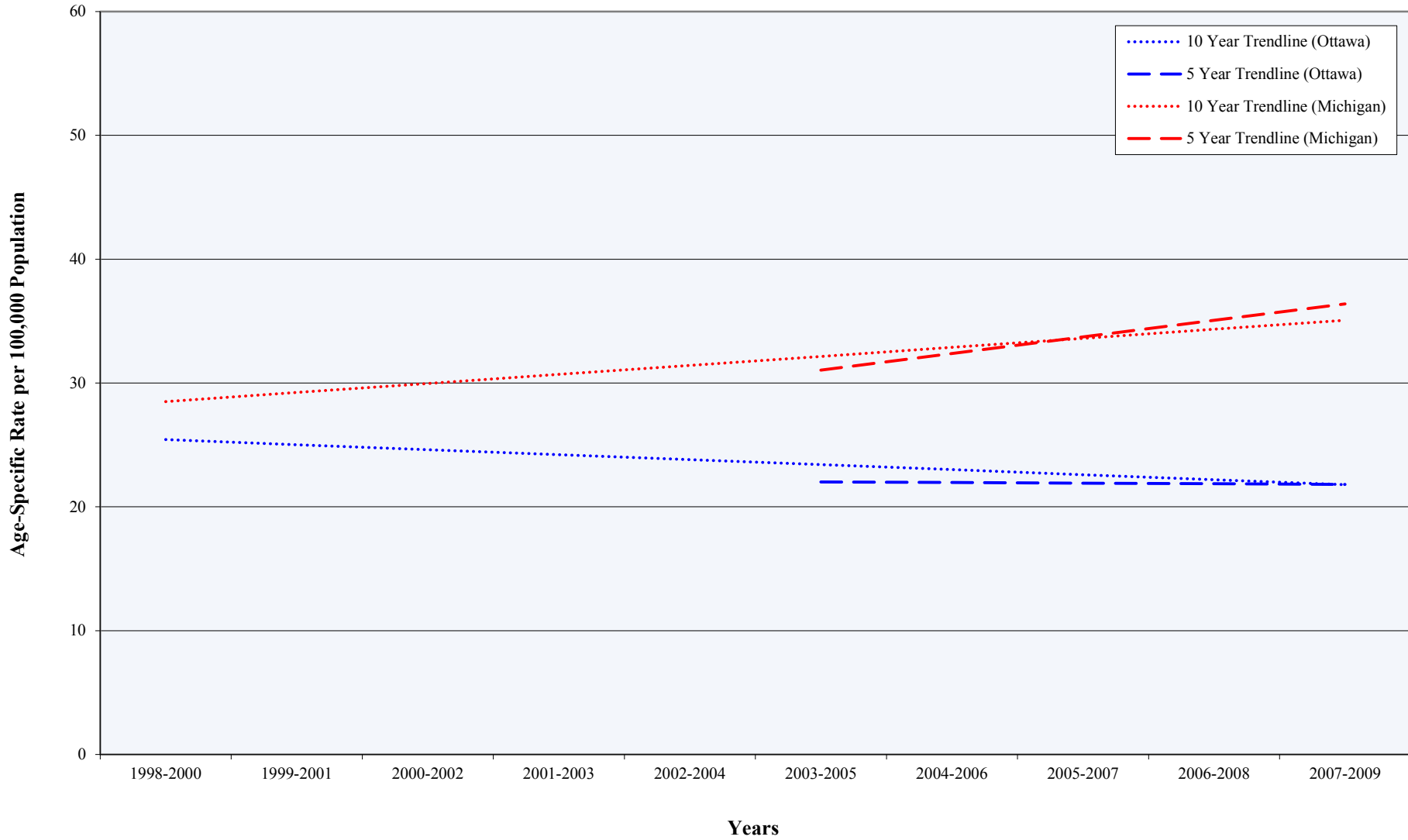
Unintentional/Accidental Deaths Among Persons Age 25-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

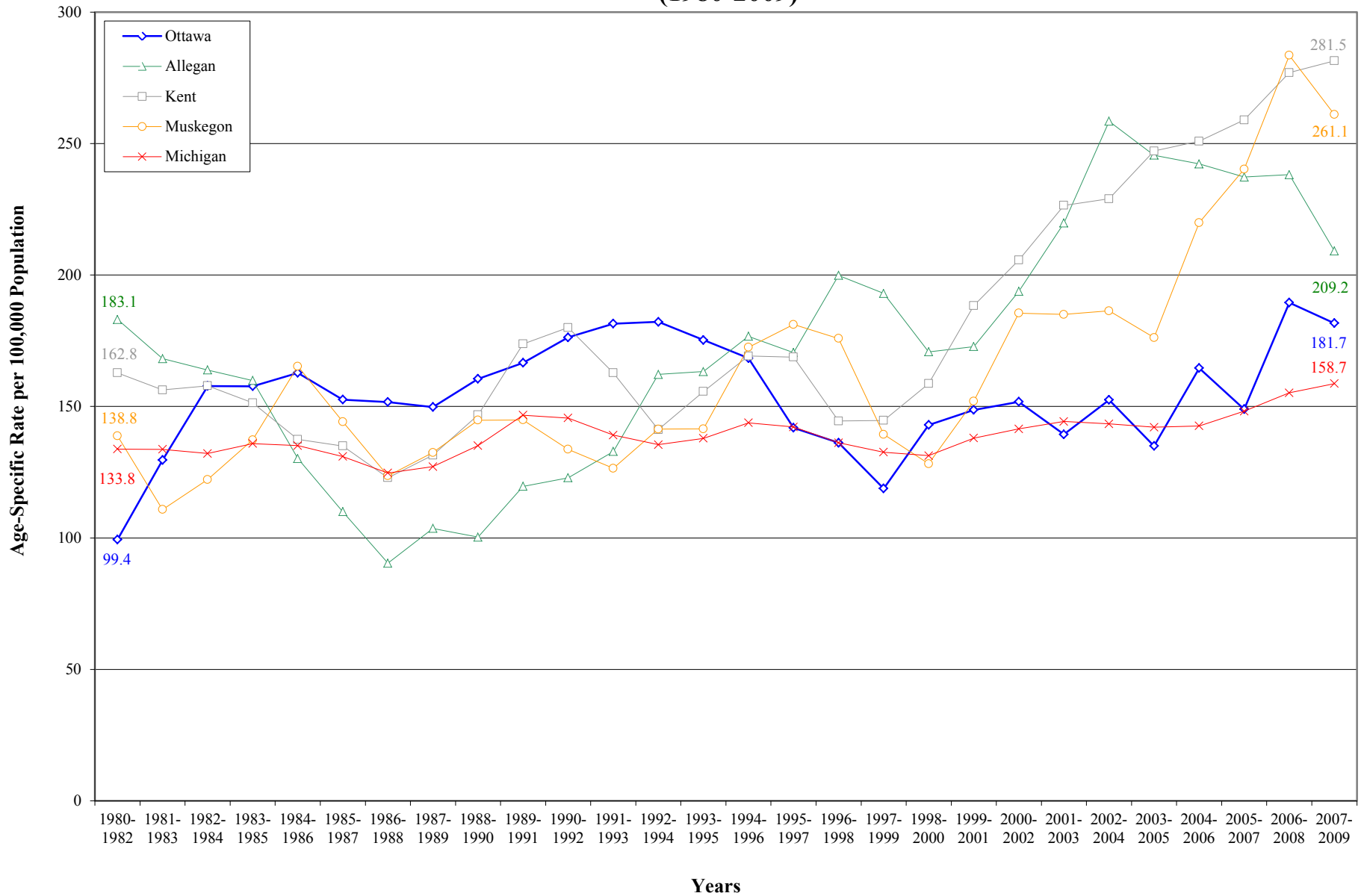
Unintentional/Accidental Deaths Among Persons Age 25-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

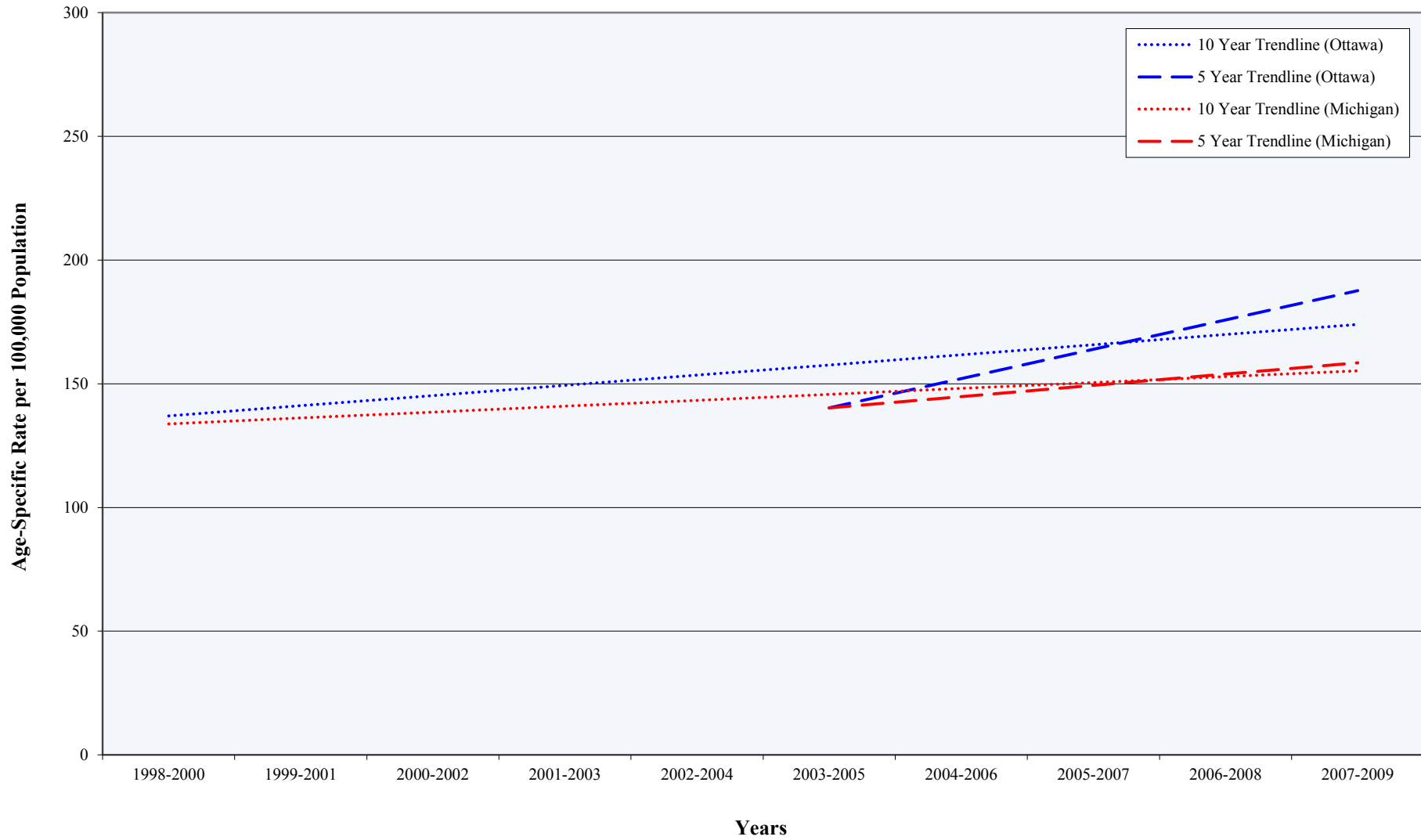
Unintentional/Accidental Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Unintentional/Accidental Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Unintentional/Accidental (1989, 1999, 2009)

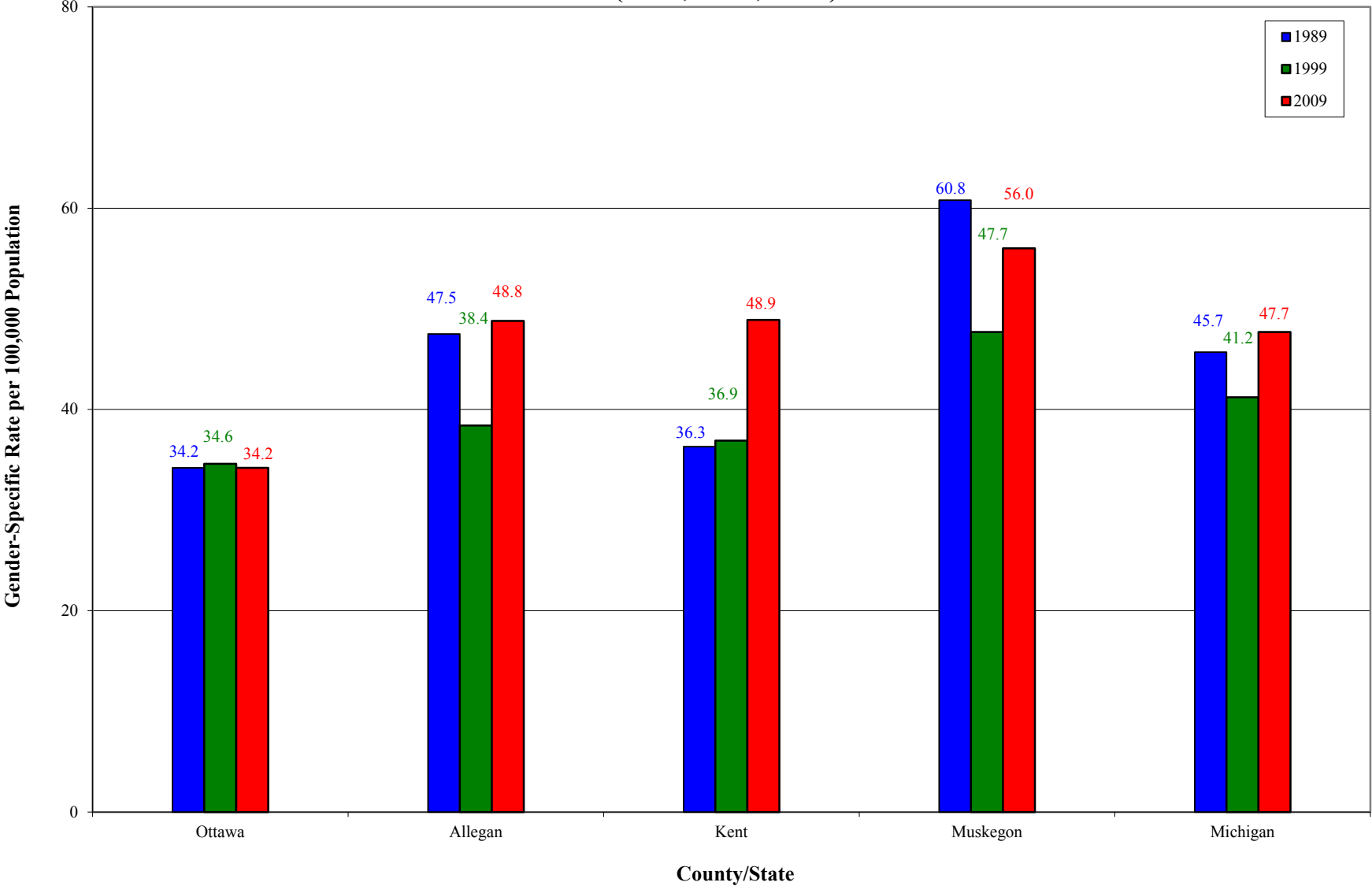
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	34.2	47.5	36.3	60.8	45.7	31.1	33.3	22.7	44.4	24.6
1999	34.6	38.4	36.9	47.7	41.2	11.7	34.4	25.2	17.6	22.8
2009	34.2	48.8	48.9	56.0	47.7	21.6	37.6	31.6	33.3	26.8

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

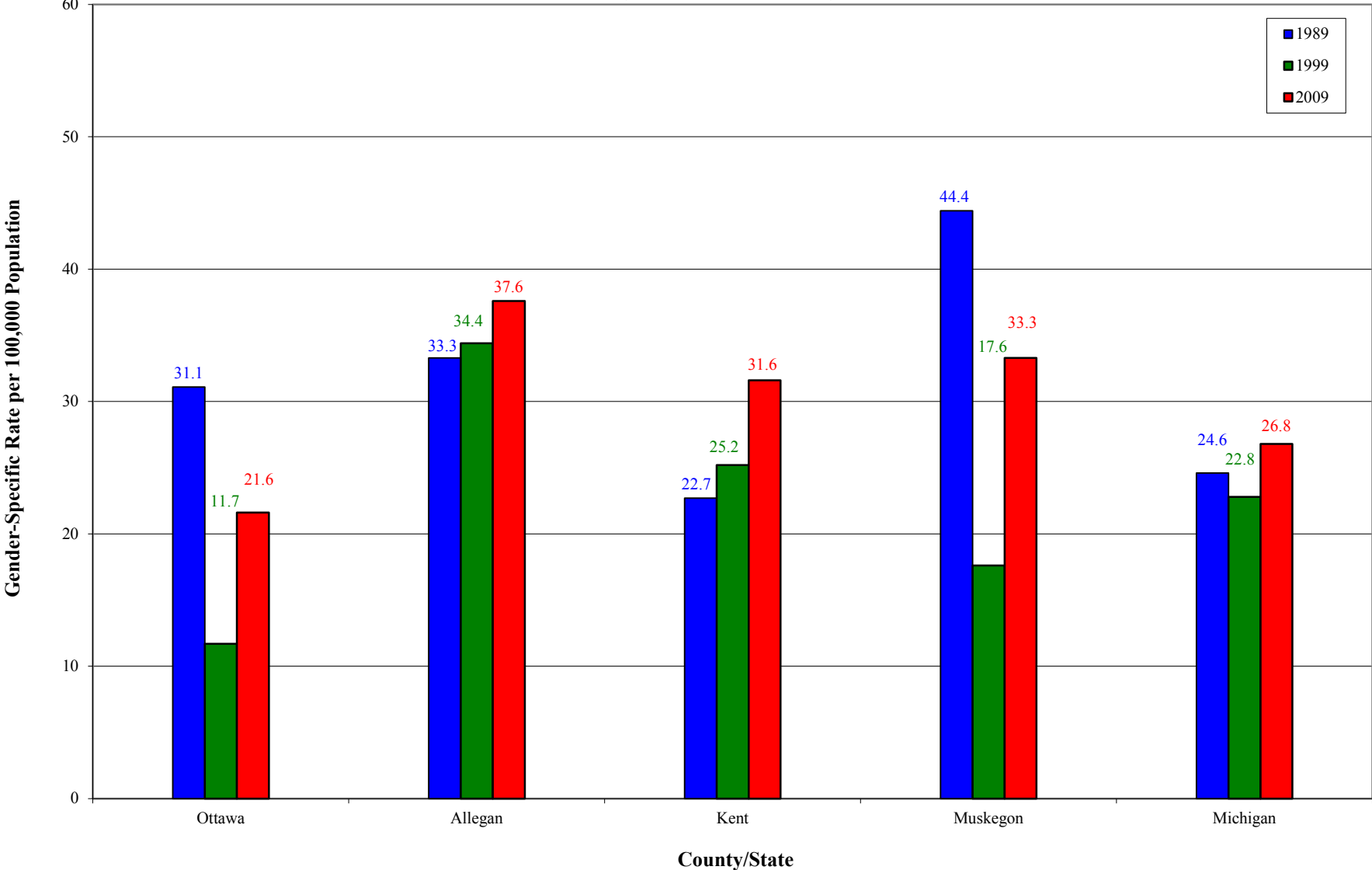
* Death rates are gender-specific and refer to the population of that gender

Unintentional/Accidental Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Unintentional/Accidental Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Unintentional/Accidental Deaths (1989, 1999, 2009)
Years of Potential Life Lost * (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population**

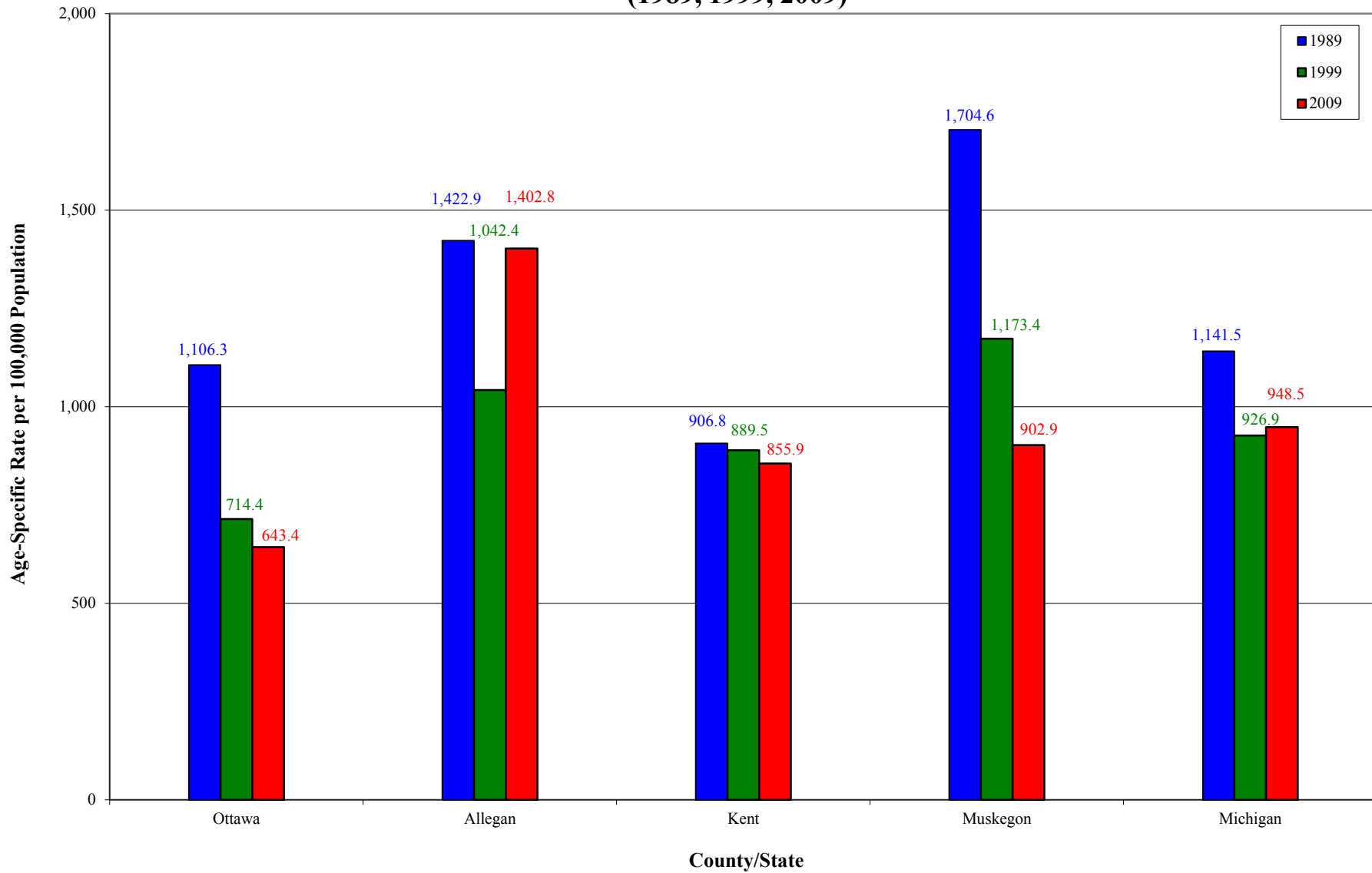
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	1,106.3	1,422.9	906.8	1,704.6	1,141.5
1999	714.4	1,042.4	889.5	1,173.4	926.9
2009	643.4	1,402.8	855.9	902.9	948.5

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

**YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Unintentional/Accidental Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Kidney Disease (1999-2009)

Deaths by Year (Ottawa County, Adjacent Counties, State)

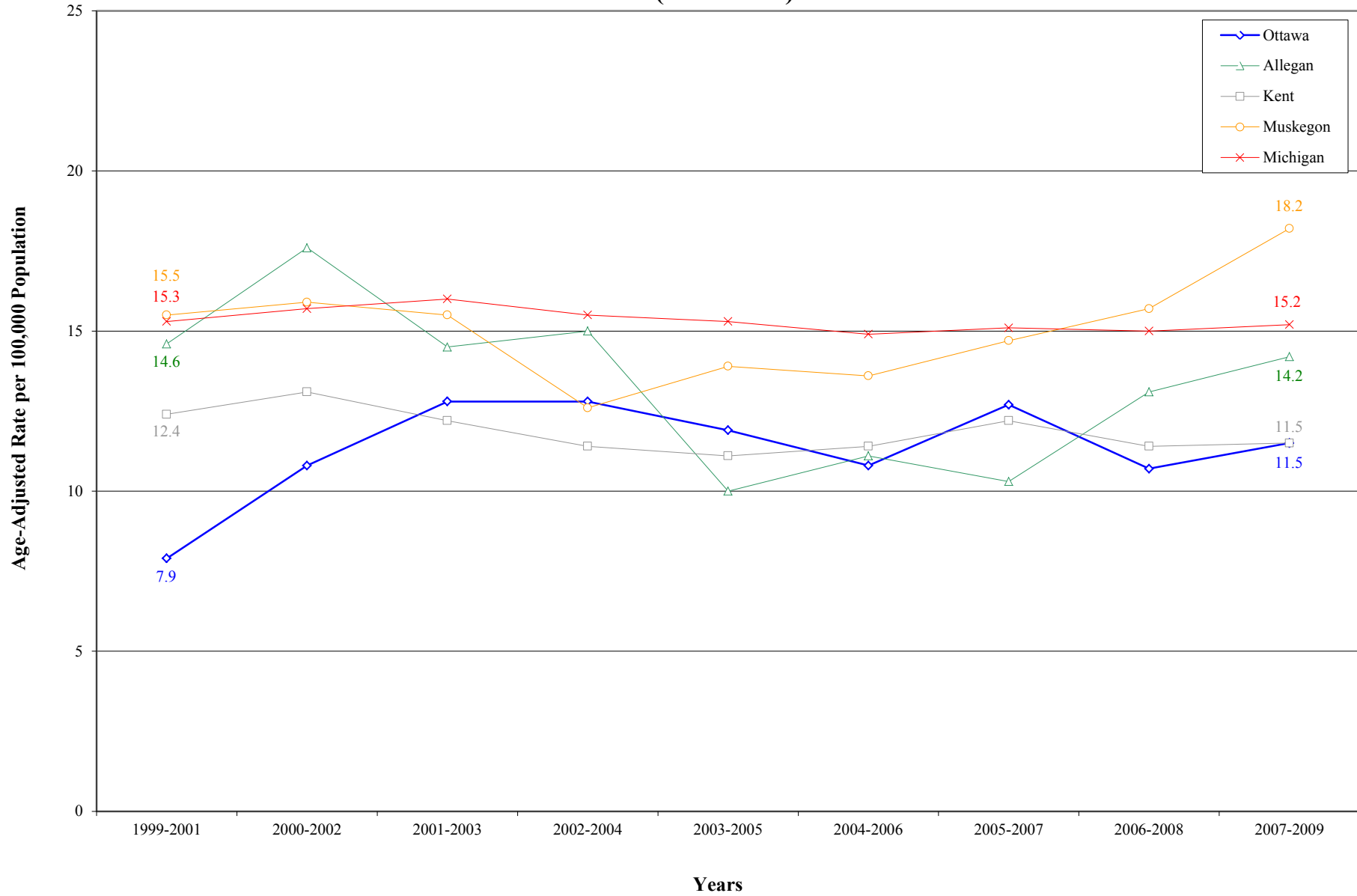
Year*	Deaths per 100,000 Population**				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	7.9	14.6	12.4	15.5	15.3
2000-2002	10.8	17.6	13.1	15.9	15.7
2001-2003	12.8	14.5	12.2	15.5	16.0
2002-2004	12.8	15.0	11.4	12.6	15.5
2003-2005	11.9	10.0	11.1	13.9	15.3
2004-2006	10.8	11.1	11.4	13.6	14.9
2005-2007	12.7	10.3	12.2	14.7	15.1
2006-2008	10.7	13.1	11.4	15.7	15.0
2007-2009	11.5	14.2	11.5	18.2	15.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Kidney Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

**Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

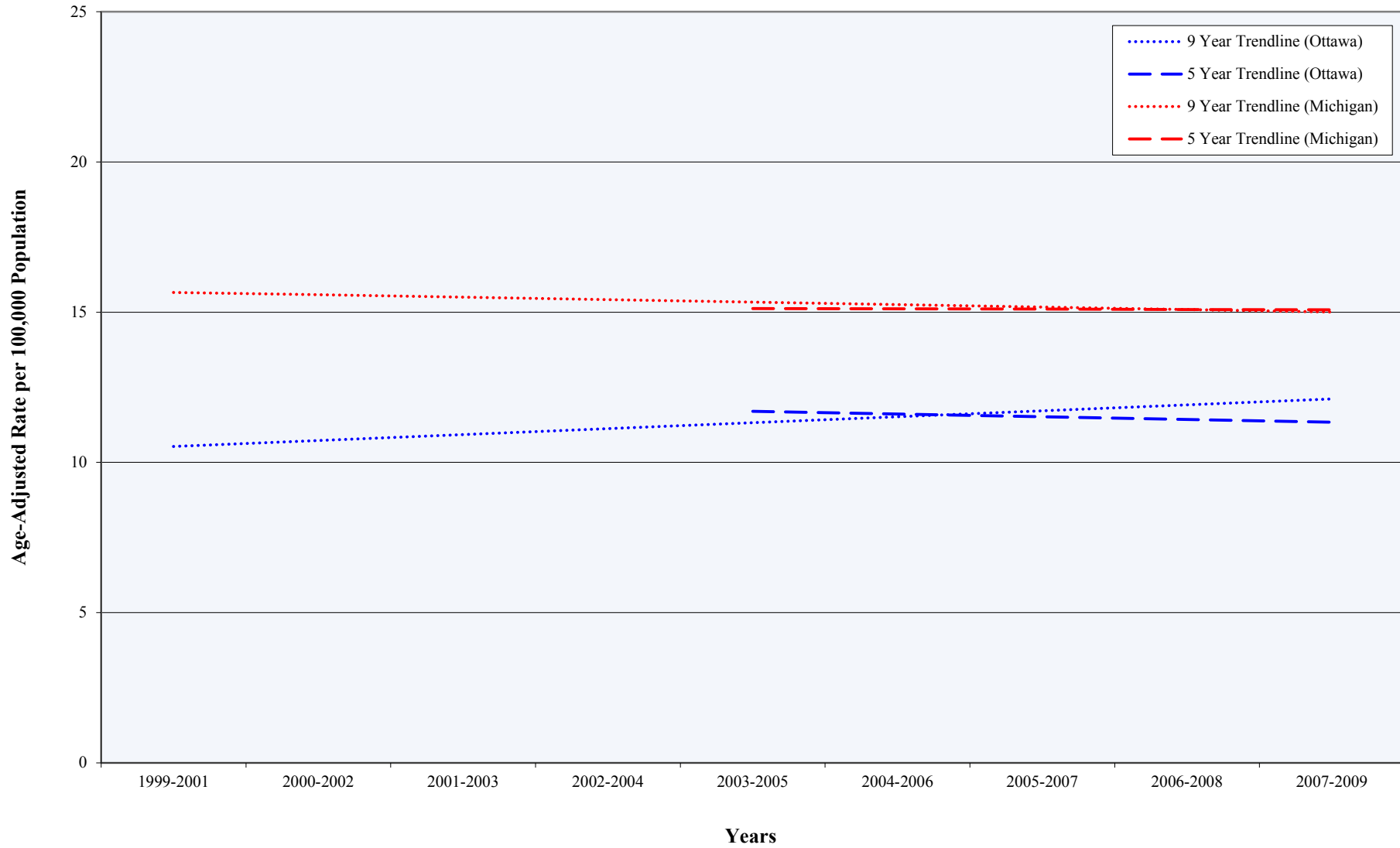
Kidney Disease Deaths (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Kidney Disease Deaths

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Kidney Disease (1999-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

Deaths per 100,000 Population**

Year*	Age Under 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	***	***	***	***	1.0	5.3	16.0	11.9	23.6	19.1	115.1	182.7	162.6	179.3	170.2
2000-2002	***	***	***	***	1.0	8.0	17.9	11.6	23.5	19.0	151.8	212.7	173.3	174.2	177.3
2001-2003	***	***	***	***	1.1	12.7	14.3	10.0	18.5	19.0	165.7	175.1	165.7	187.3	181.9
2002-2004	***	***	***	***	0.9	12.2	17.9	8.2	15.5	18.4	165.2	179.1	161.4	155.1	178.5
2003-2005	***	***	***	***	1.0	9.8	10.6	10.5	14.2	18.4	164.5	131.2	145.7	175.4	175.5
2004-2006	***	***	***	***	0.9	7.6	12.8	11.6	17.8	17.5	159.8	135.0	141.1	157.0	173.8
2005-2007	***	***	***	***	1.0	13.4	9.8	13.3	18.1	17.3	168.2	133.3	142.6	171.9	177.9
2006-2008	***	***	***	***	0.9	11.7	10.6	11.8	24.4	16.8	136.7	169.6	135.9	159.6	181.3
2007-2009	***	***	***	***	1.0	12.2	11.3	10.2	25.9	16.9	145.6	189.5	147.0	193.1	183.2

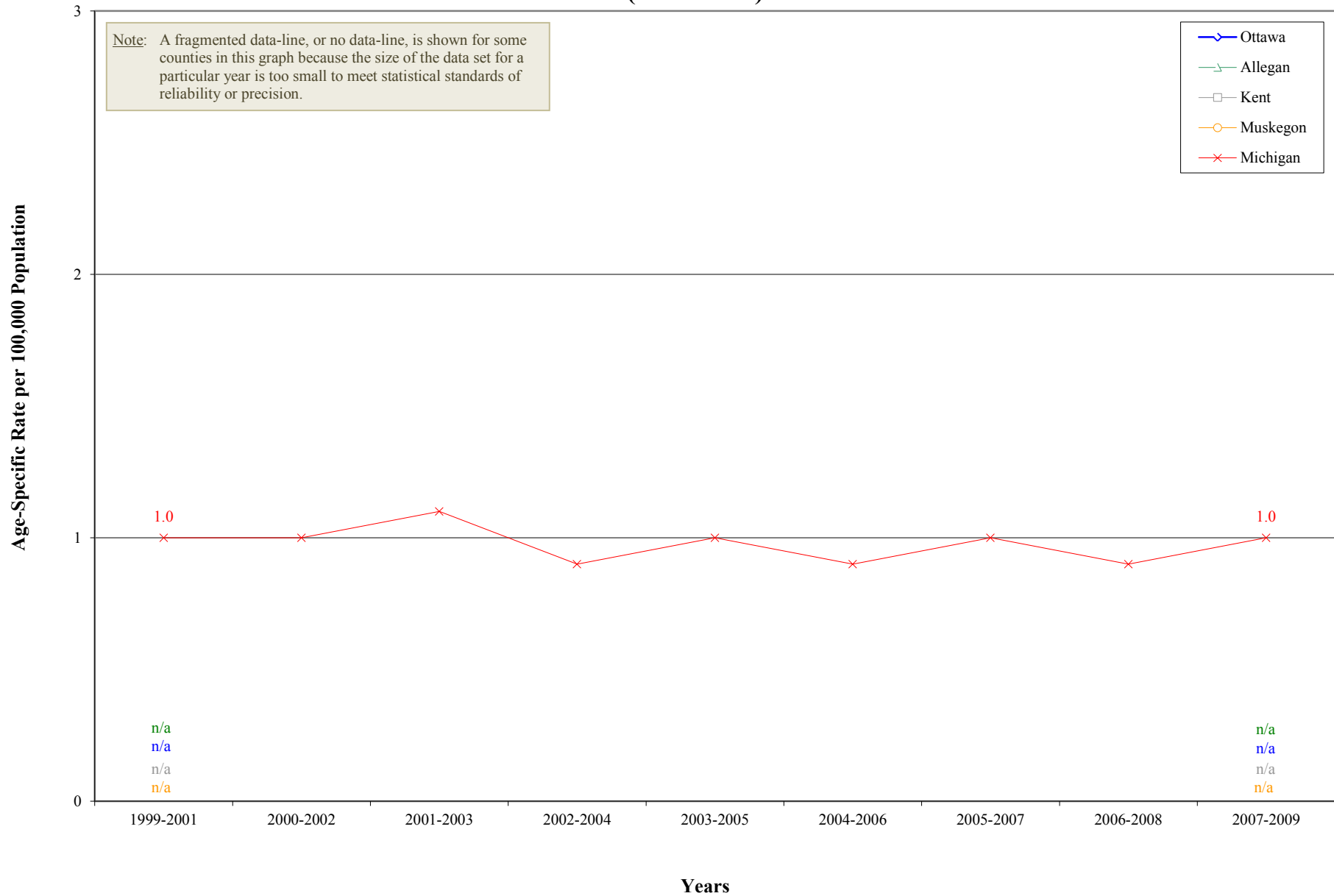
Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Kidney Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

** Death rates are age-specific and refer to the population in a specific age group

***A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

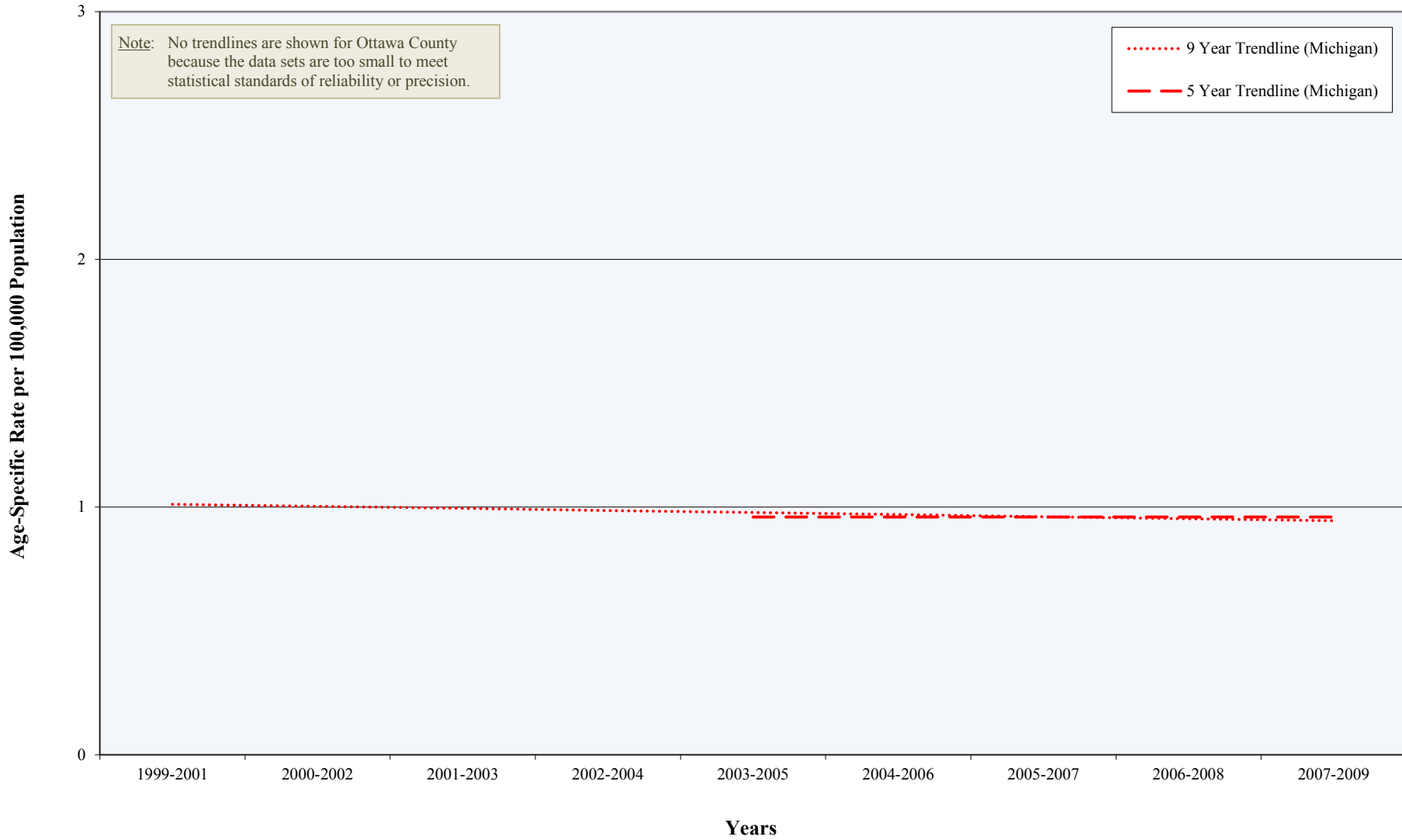
Kidney Disease Deaths Among Persons Under Age 50 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

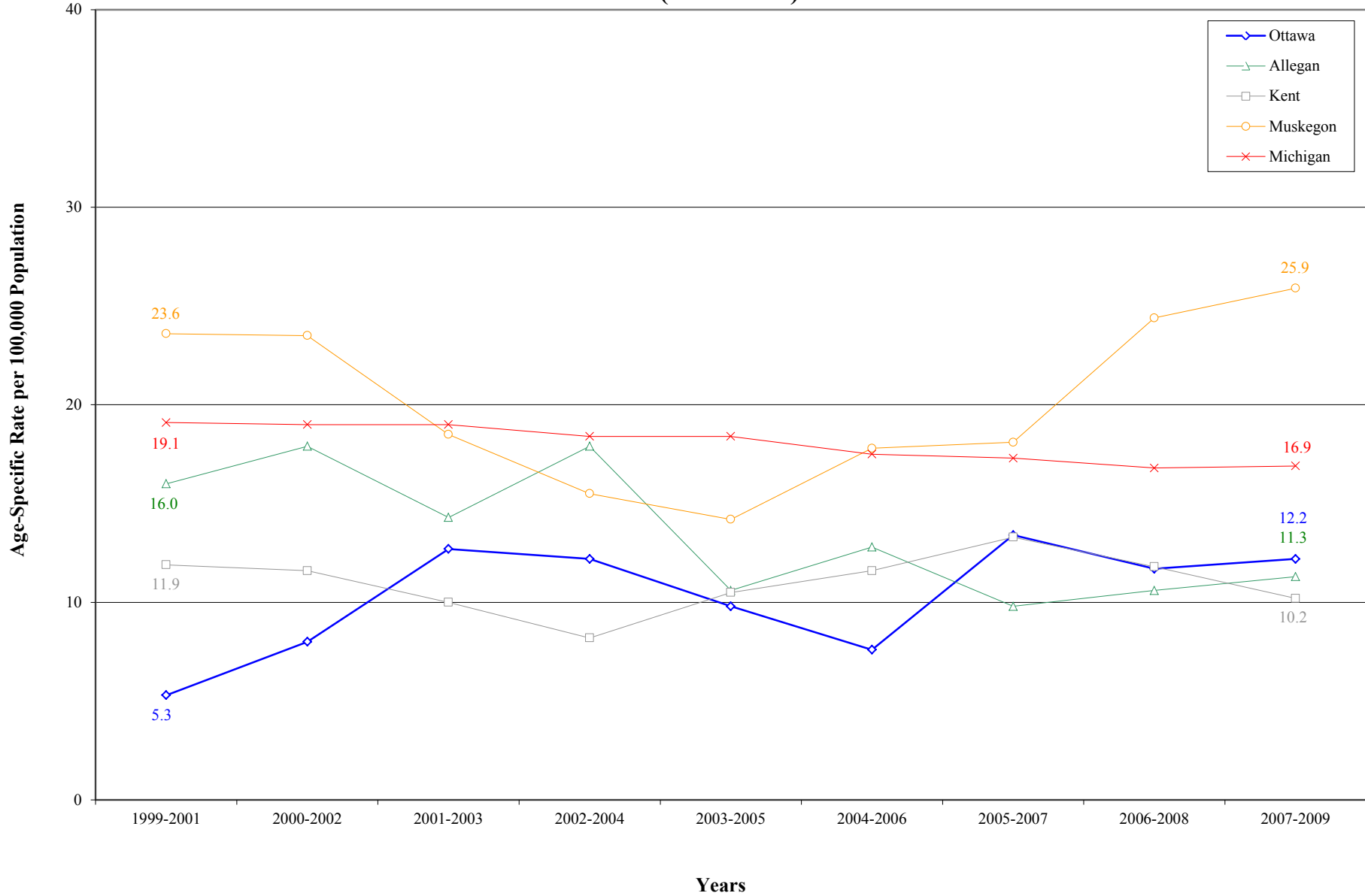
Kidney Disease Deaths Among Persons Under Age 50

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

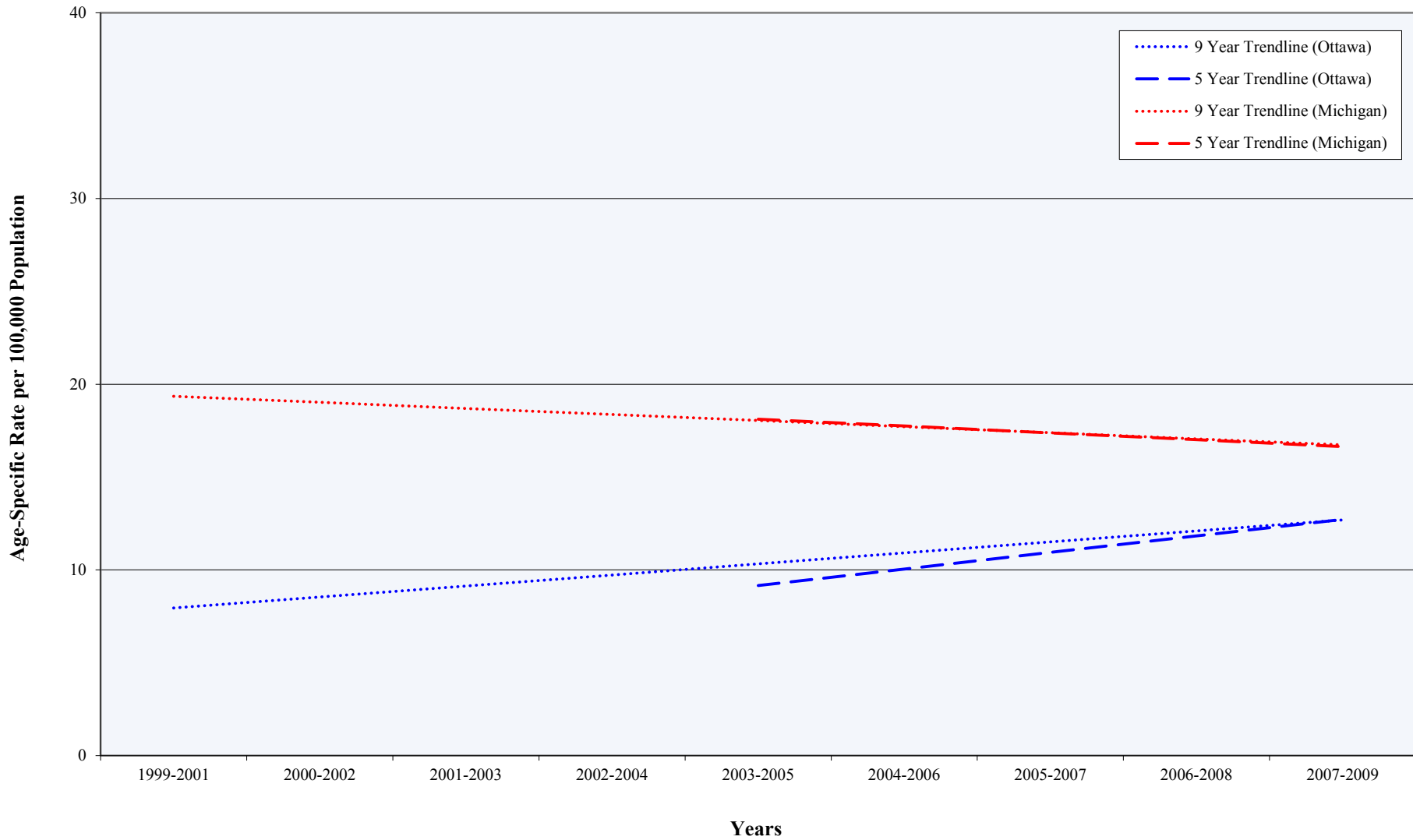
Kidney Disease Deaths Among Persons Age 50-74 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

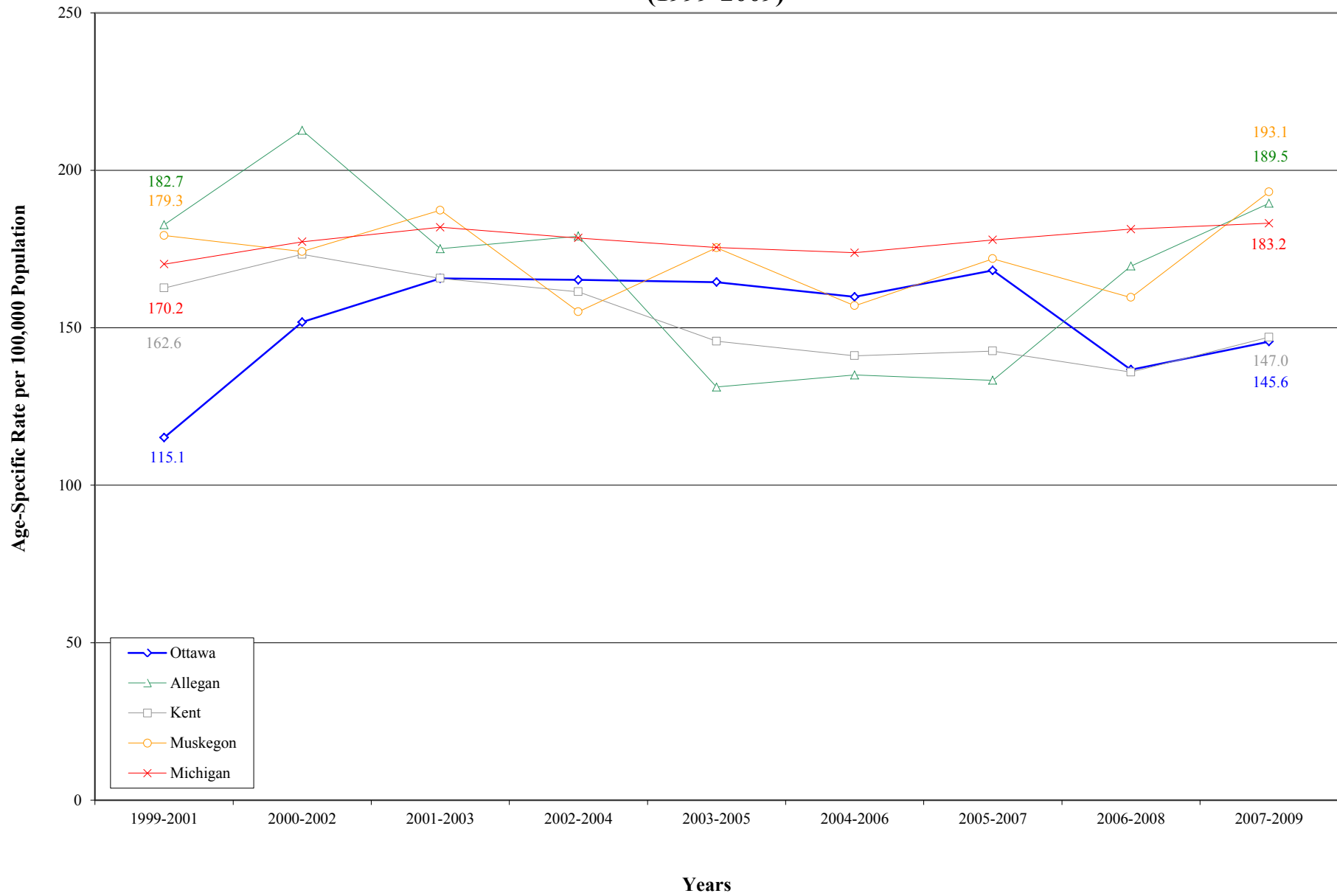
Kidney Disease Deaths Among Persons Age 50-74

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

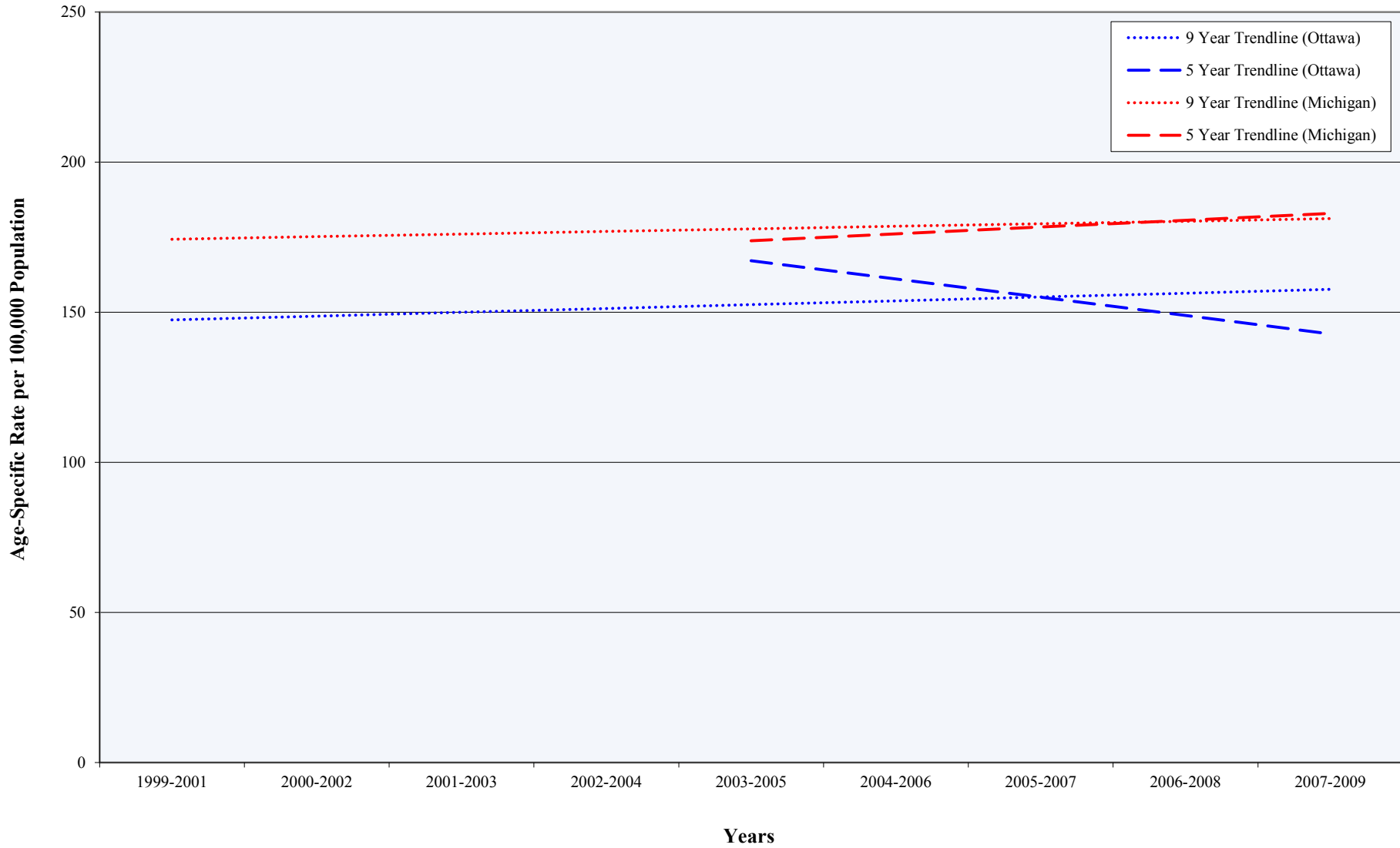
Kidney Disease Deaths Among Persons Age 75 and Older (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Kidney Disease Deaths Among Persons Age 75 and Older

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Kidney Disease (1999, 2009)

Deaths by Gender (Ottawa County, Adjacent Counties, State)

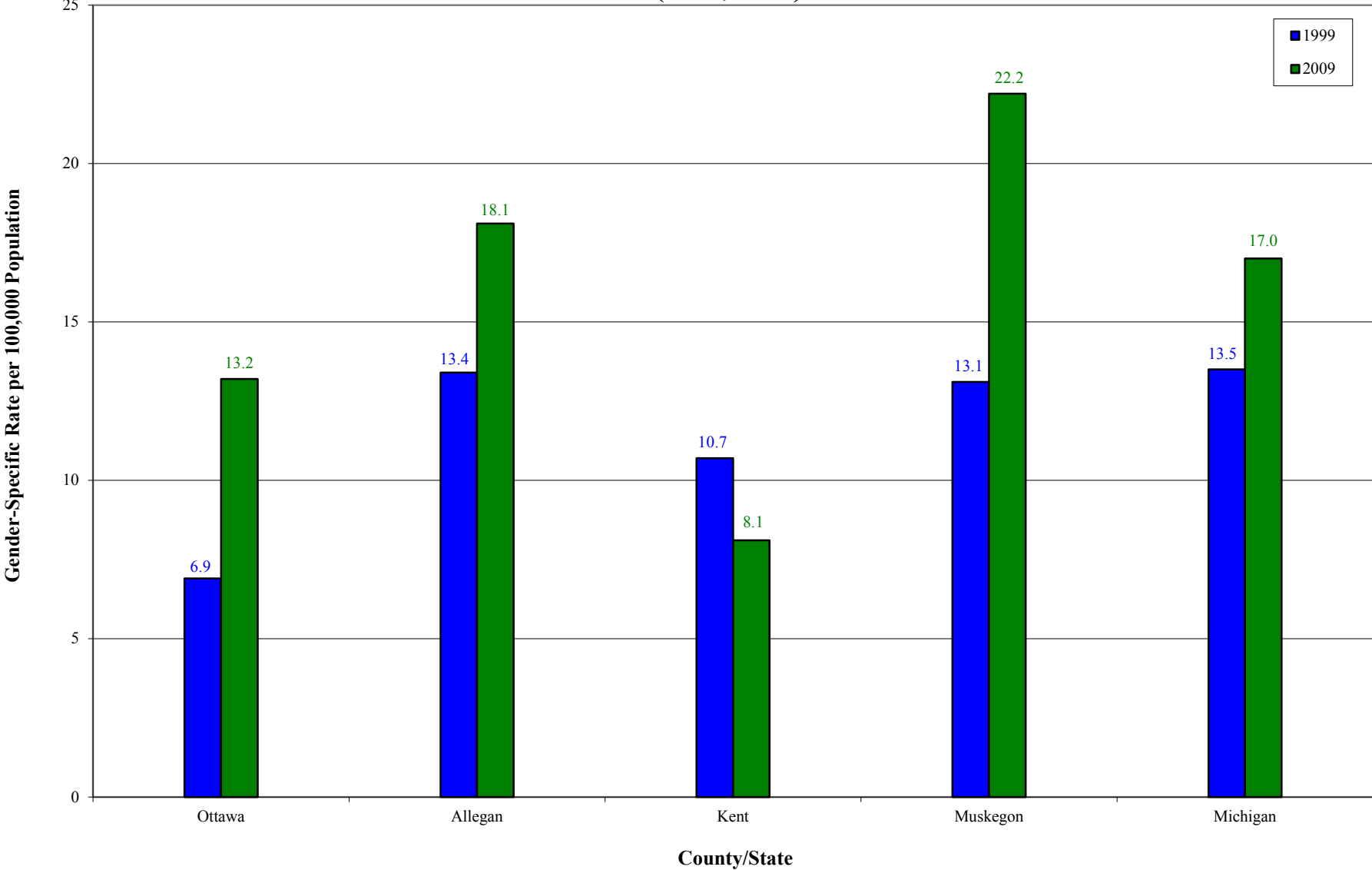
Year*	Deaths per 100,000 Population**									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999	6.9	13.4	10.7	13.1	13.5	6.7	13.4	9.0	15.2	15.0
2009	13.2	18.1	8.1	22.2	17.0	13.4	16.1	14.0	24.1	17.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* The coding and classification for Kidney Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

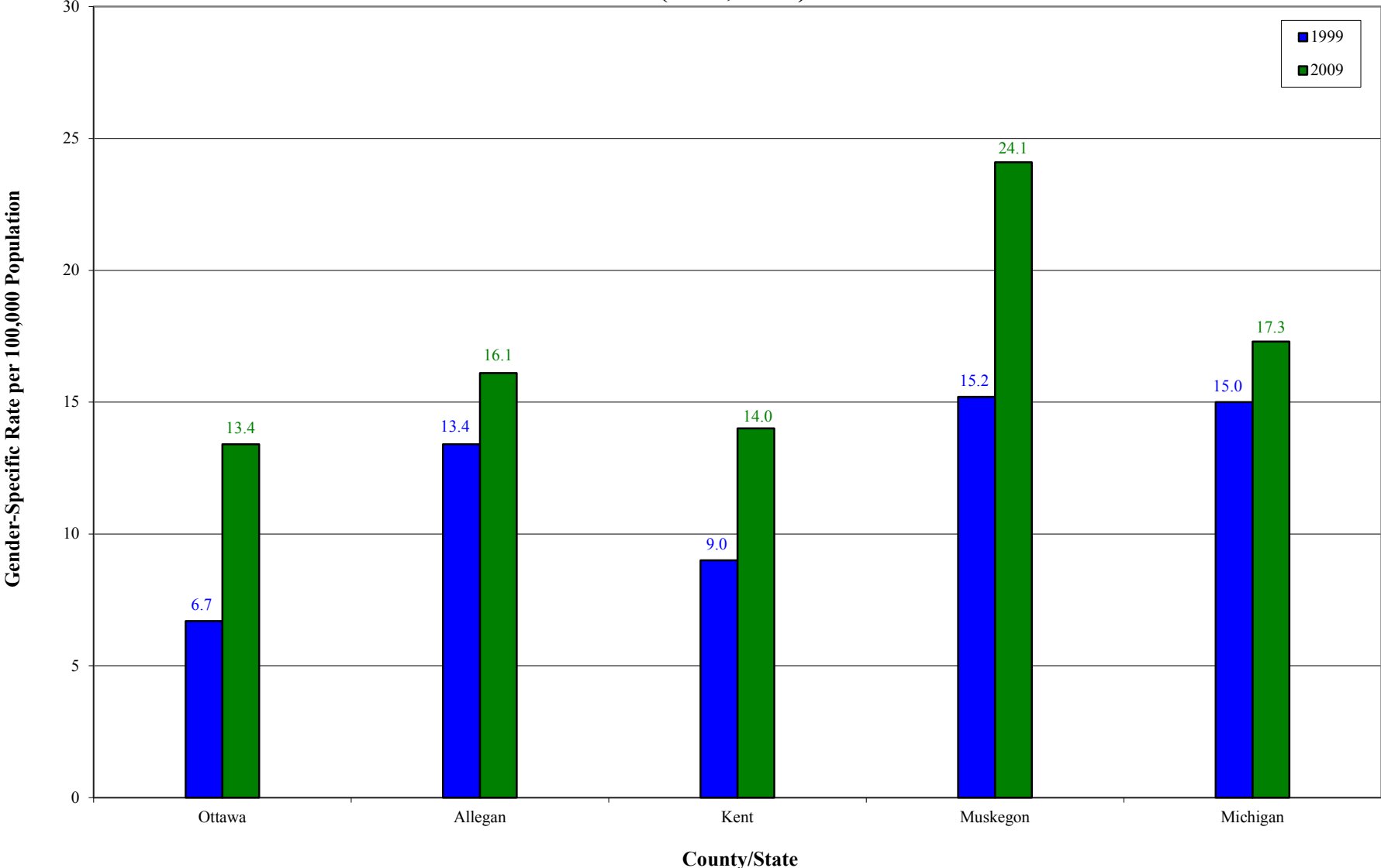
** Death rates are gender-specific and refer to the population of that gender

Kidney Disease Deaths Among Males (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Kidney Disease Deaths Among Females (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Kidney Disease Deaths (1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population***

Year**	Ottawa	Allegan	Kent	Muskegon	Michigan
1999	22.4	181.8	24.1	72.4	73.1
2009	40.2	33.3	35.1	89.7	78.1

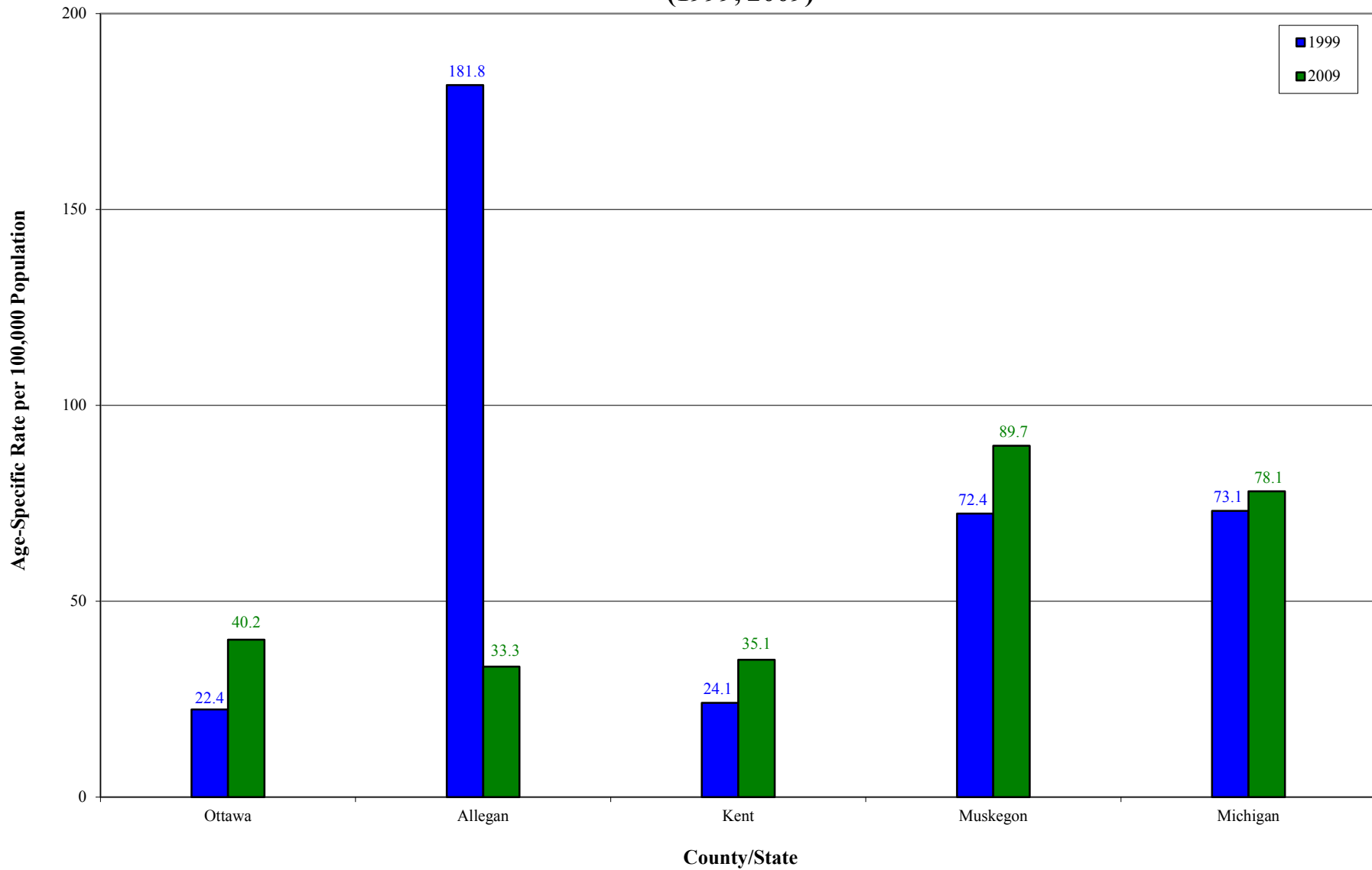
Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

** The coding and classification for Kidney Disease deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

*** YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Kidney Disease Deaths (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Pneumonia/Influenza (1999-2009)

Deaths by Year (Ottawa County, Adjacent Counties, State)

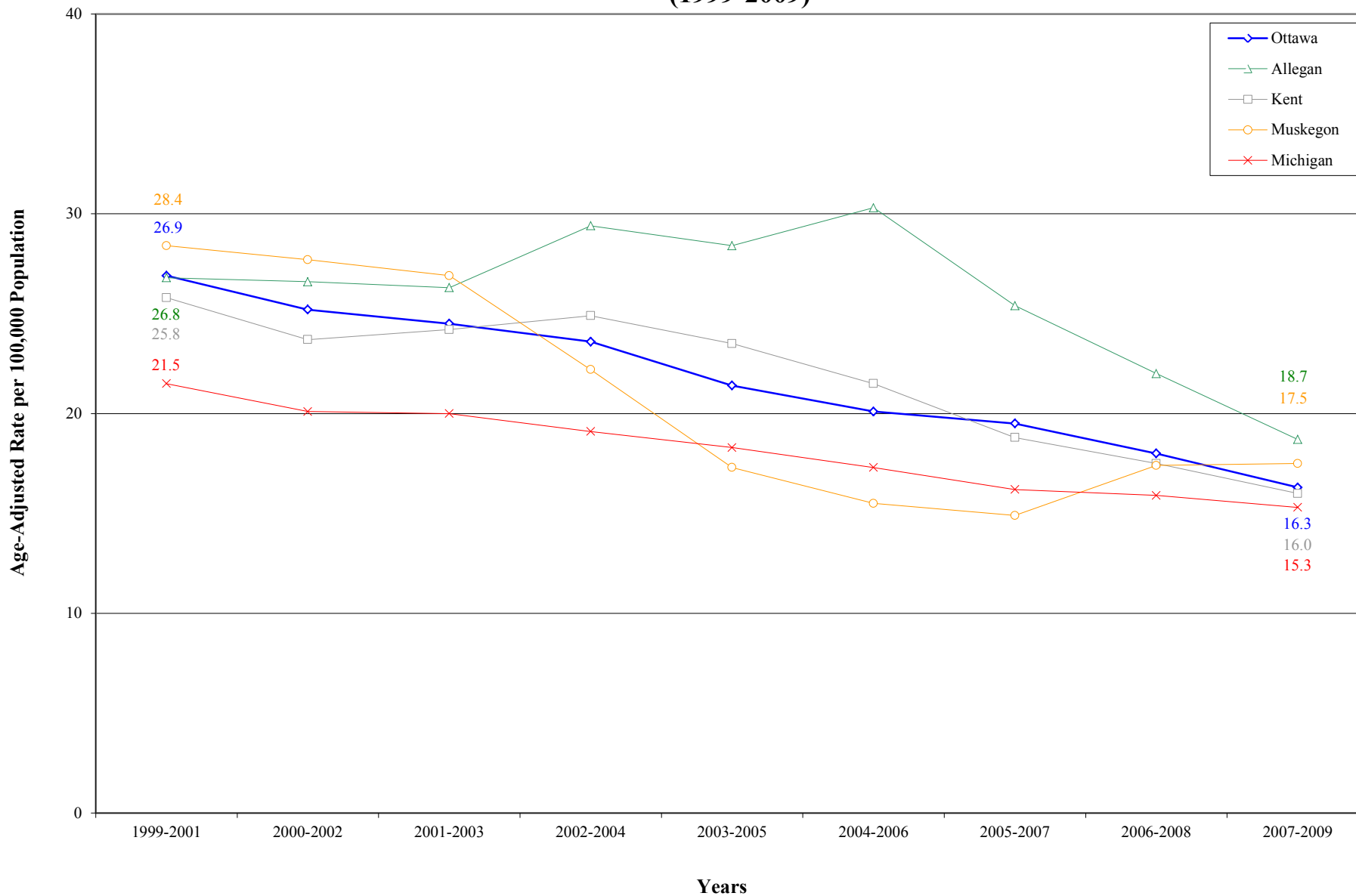
Year*	Deaths per 100,000 Population**				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	26.9	26.8	25.8	28.4	21.5
2000-2002	25.2	26.6	23.7	27.7	20.1
2001-2003	24.5	26.3	24.2	26.9	20.0
2002-2004	23.6	29.4	24.9	22.2	19.1
2003-2005	21.4	28.4	23.5	17.3	18.3
2004-2006	20.1	30.3	21.5	15.5	17.3
2005-2007	19.5	25.4	18.8	14.9	16.2
2006-2008	18.0	22.0	17.5	17.4	15.9
2007-2009	16.3	18.7	16.0	17.5	15.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Pneumonia/Influenza deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

**Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

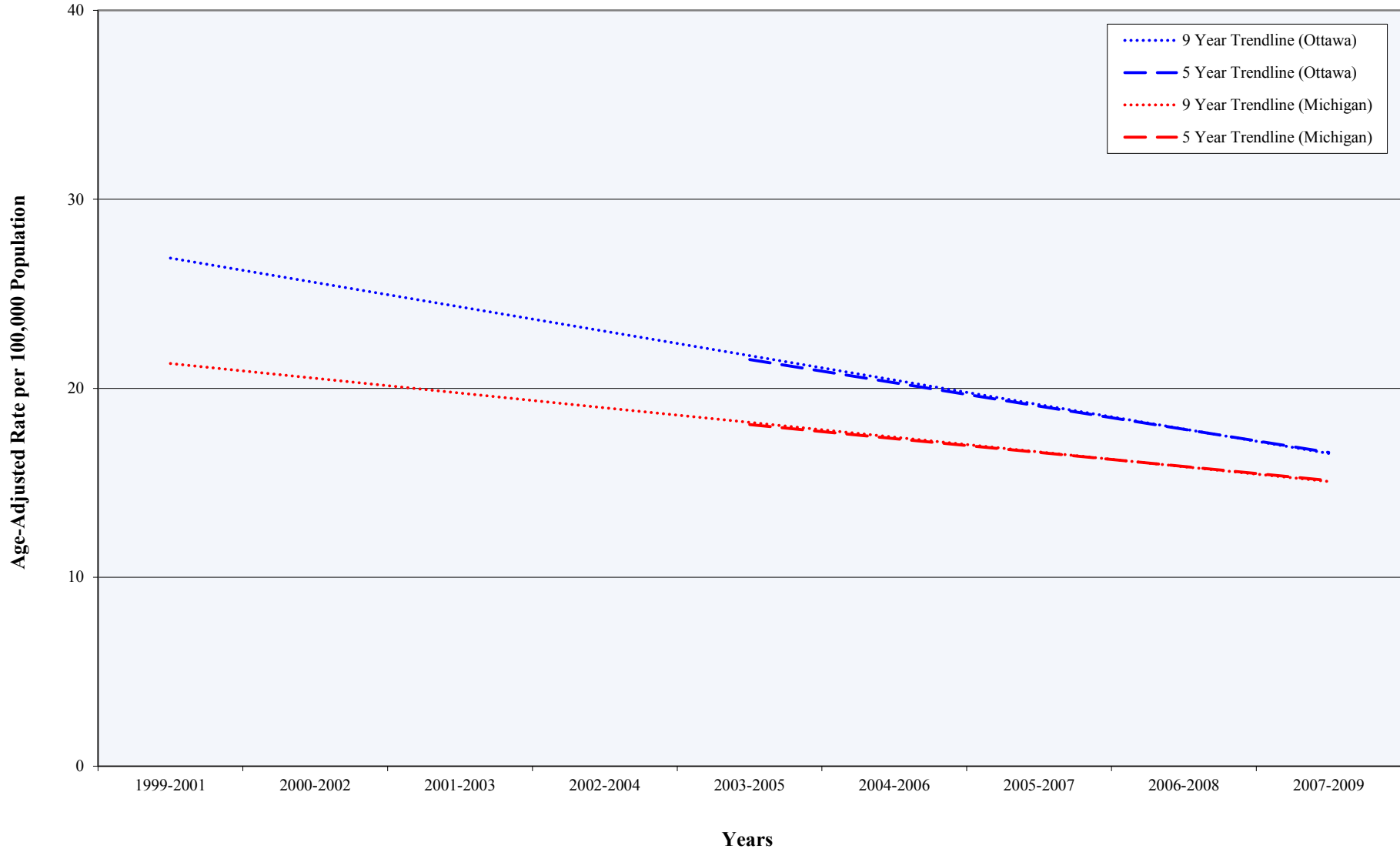
Pneumonia/Influenza Deaths (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Pneumonia/Influenza Deaths

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Pneumonia/Influenza (1999-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

Deaths per 100,000 Population**

Year*	Age Under 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999-2001	1.1	***	1.9	***	1.9	12.9	13.8	19.8	22.0	17.0	395.7	368.6	337.2	369.2	268.5
2000-2002	1.3	***	1.3	1.6	1.8	11.7	14.8	23.0	29.0	16.7	379.6	364.1	295.4	330.8	249.7
2001-2003	***	***	1.2	2.2	1.8	12.0	21.5	23.2	29.4	16.8	378.8	347.1	303.9	312.5	248.5
2002-2004	***	***	1.3	1.9	1.5	12.9	22.2	21.3	23.5	15.9	361.0	399.0	324.8	263.3	241.9
2003-2005	***	0.0	1.3	***	1.5	13.1	18.8	18.5	14.5	14.9	321.6	403.9	313.9	231.1	236.2
2004-2006	***	***	1.1	0.0	1.3	13.3	20.7	15.4	13.3	14.1	300.2	425.3	298.6	217.0	226.2
2005-2007	***	***	0.8	***	1.2	11.5	17.5	12.4	9.7	12.9	300.4	356.0	268.4	219.8	214.0
2006-2008	***	***	0.9	***	1.2	9.4	12.0	9.6	10.2	13.4	283.0	319.4	262.2	250.7	209.0
2007-2009	***	***	1.1	2.0	1.4	10.1	***	10.1	10.6	13.5	252.5	295.1	233.5	240.1	198.0

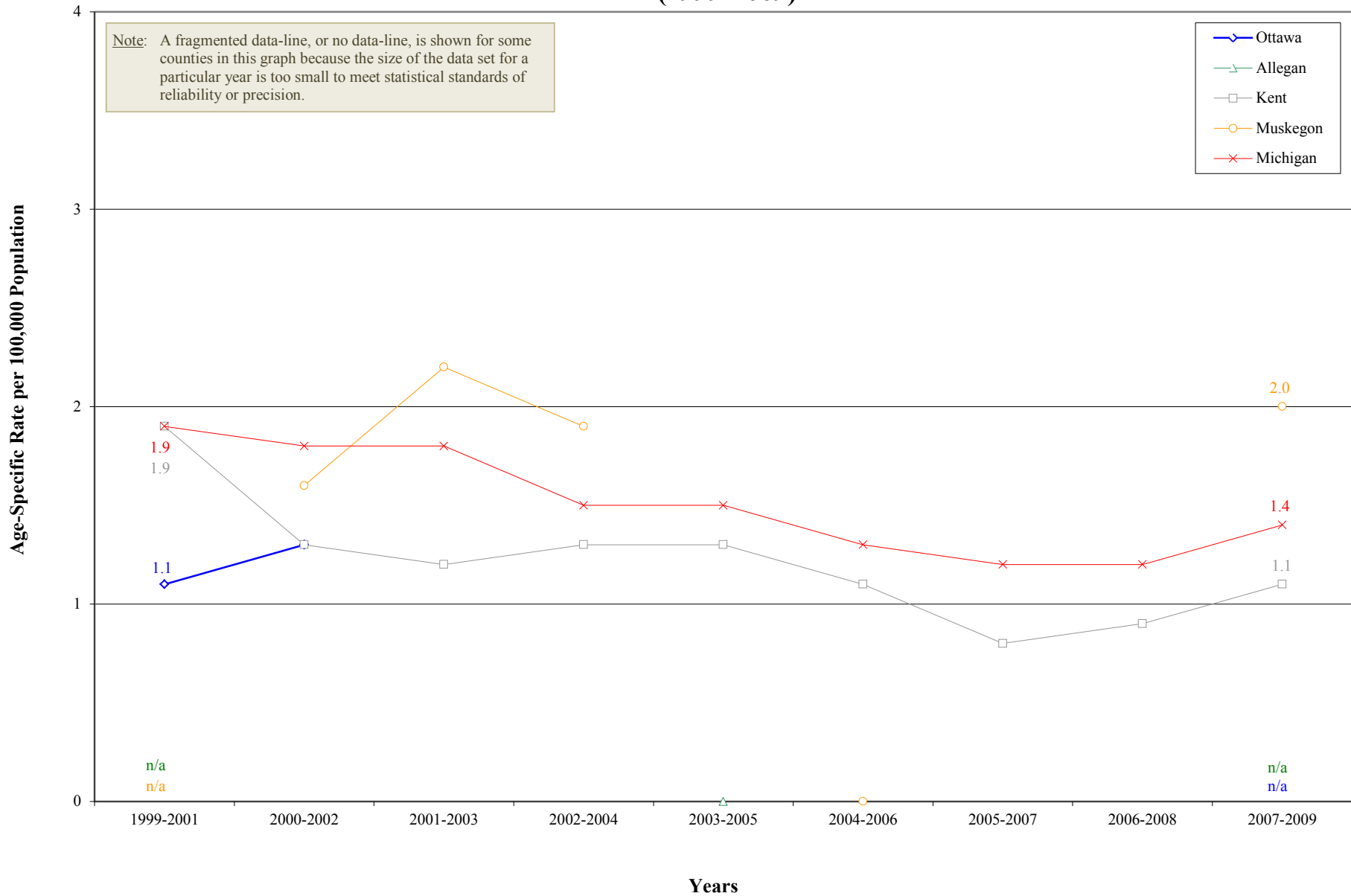
Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* The coding and classification for Pneumonia/Influenza deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

** Death rates are age-specific and refer to the population in a specific age group

***A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

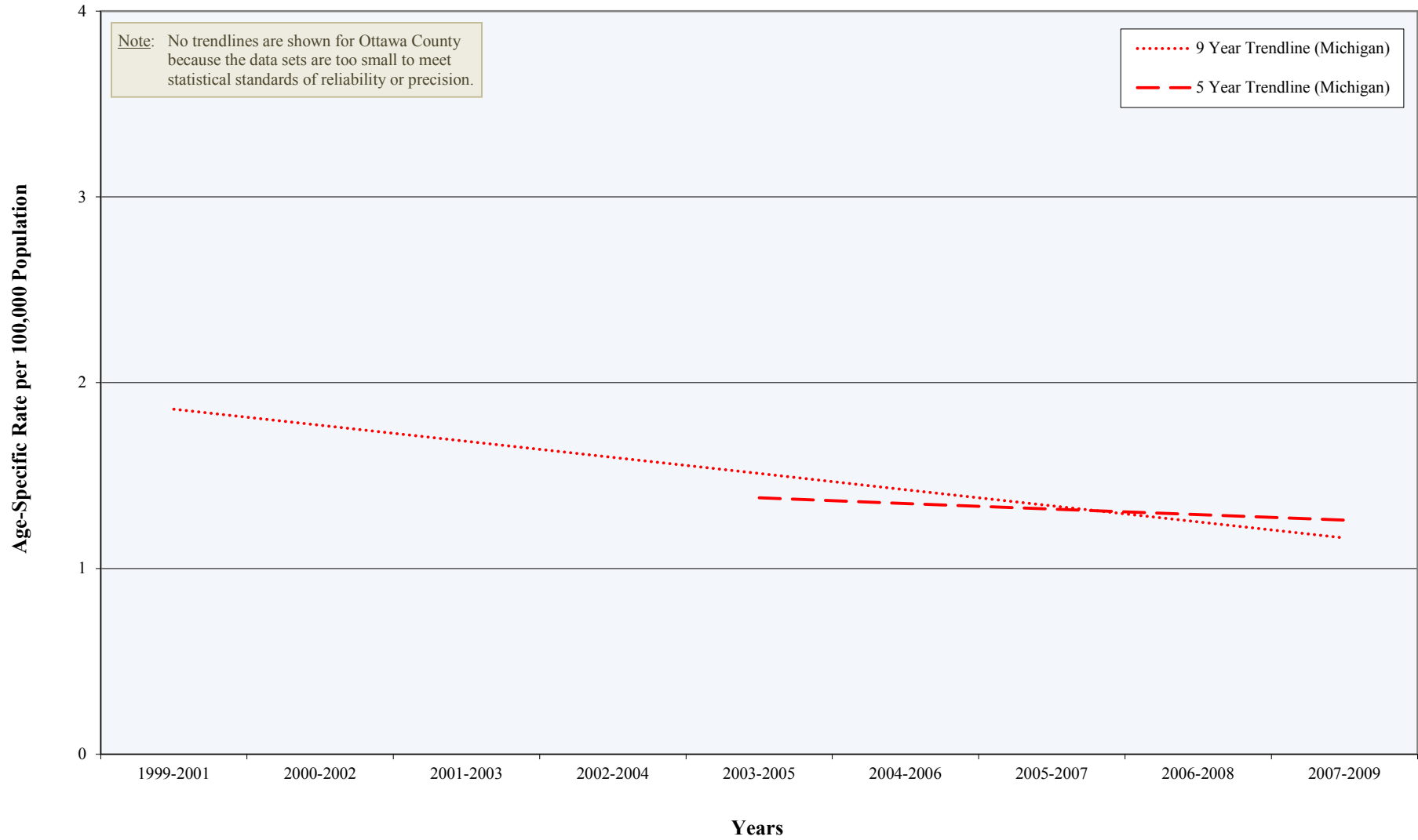
Pneumonia/Influenza Deaths Among Persons Under Age 50 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

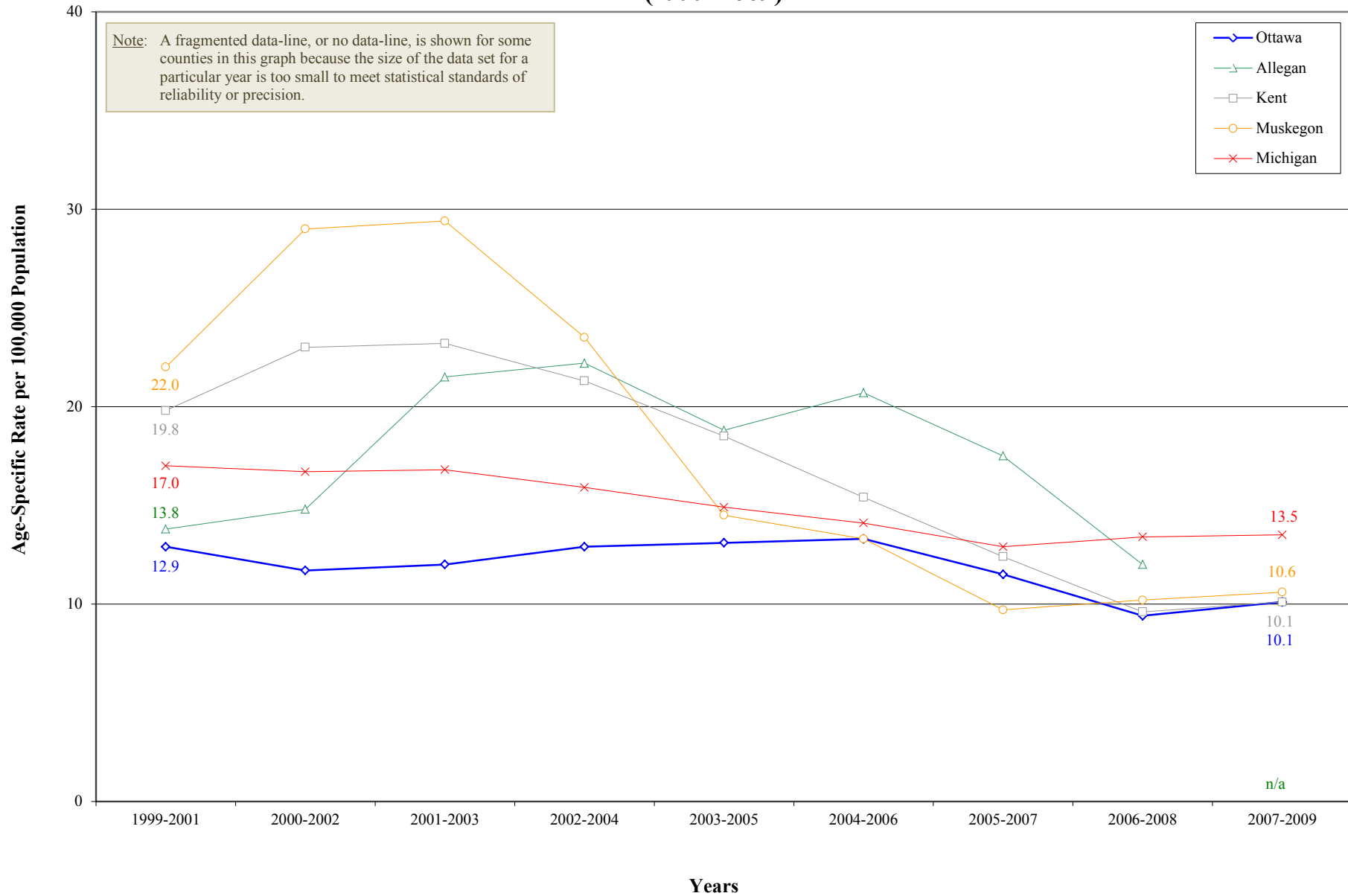
Pneumonia/Influenza Deaths Among Persons Under Age 50

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

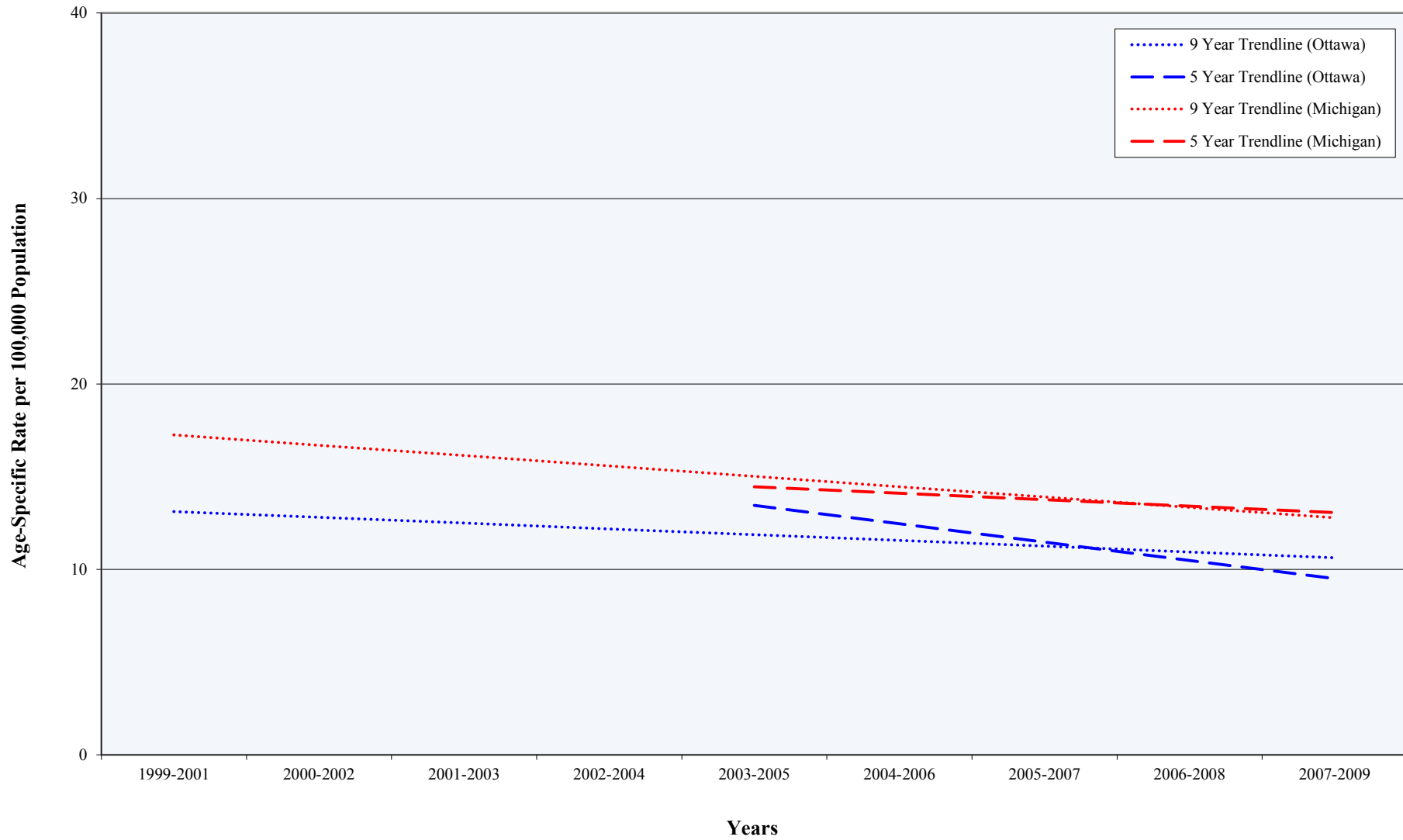
Pneumonia/Influenza Deaths Among Persons Age 50-74 (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

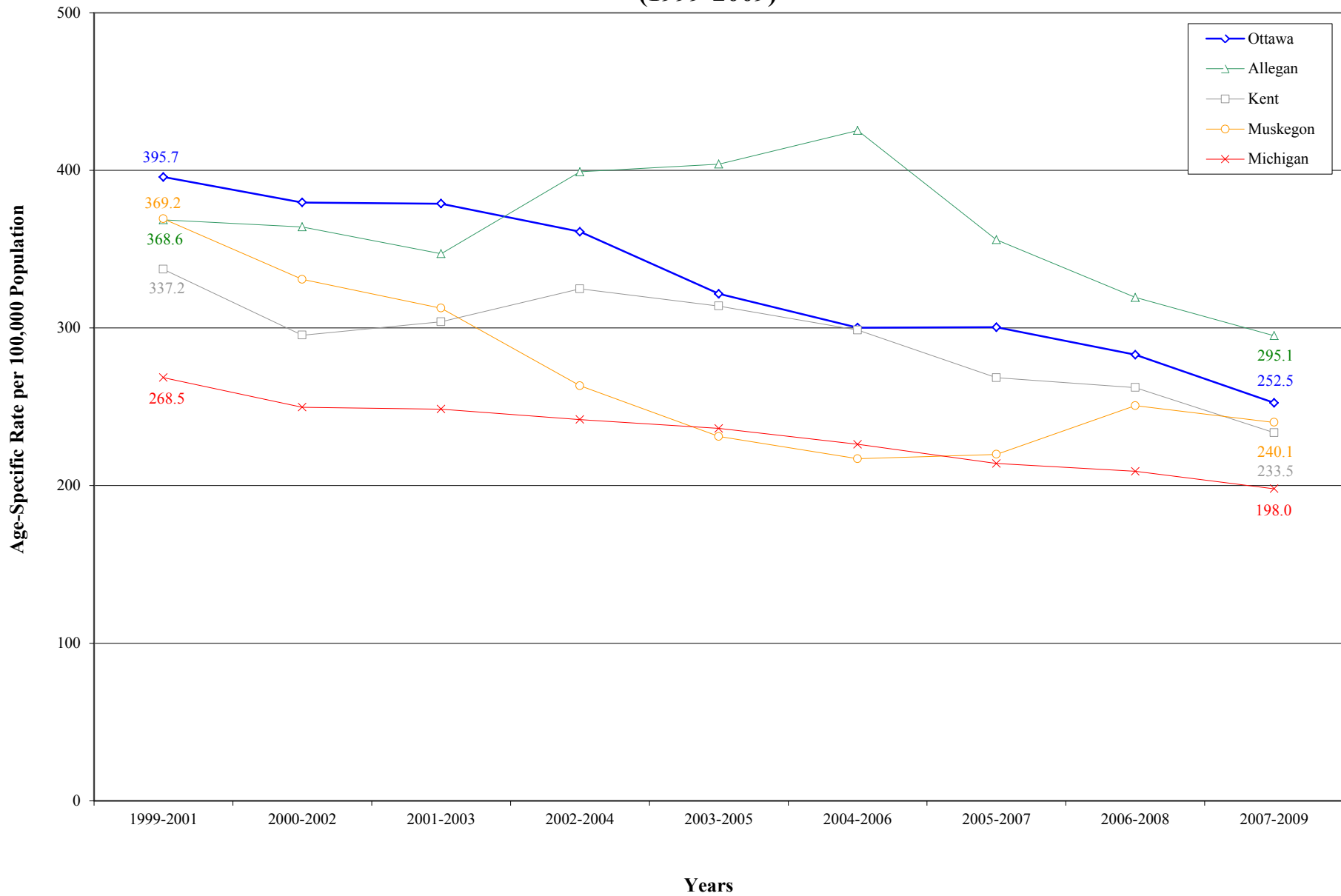
Pneumonia/Influenza Deaths Among Persons Age 50-74

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

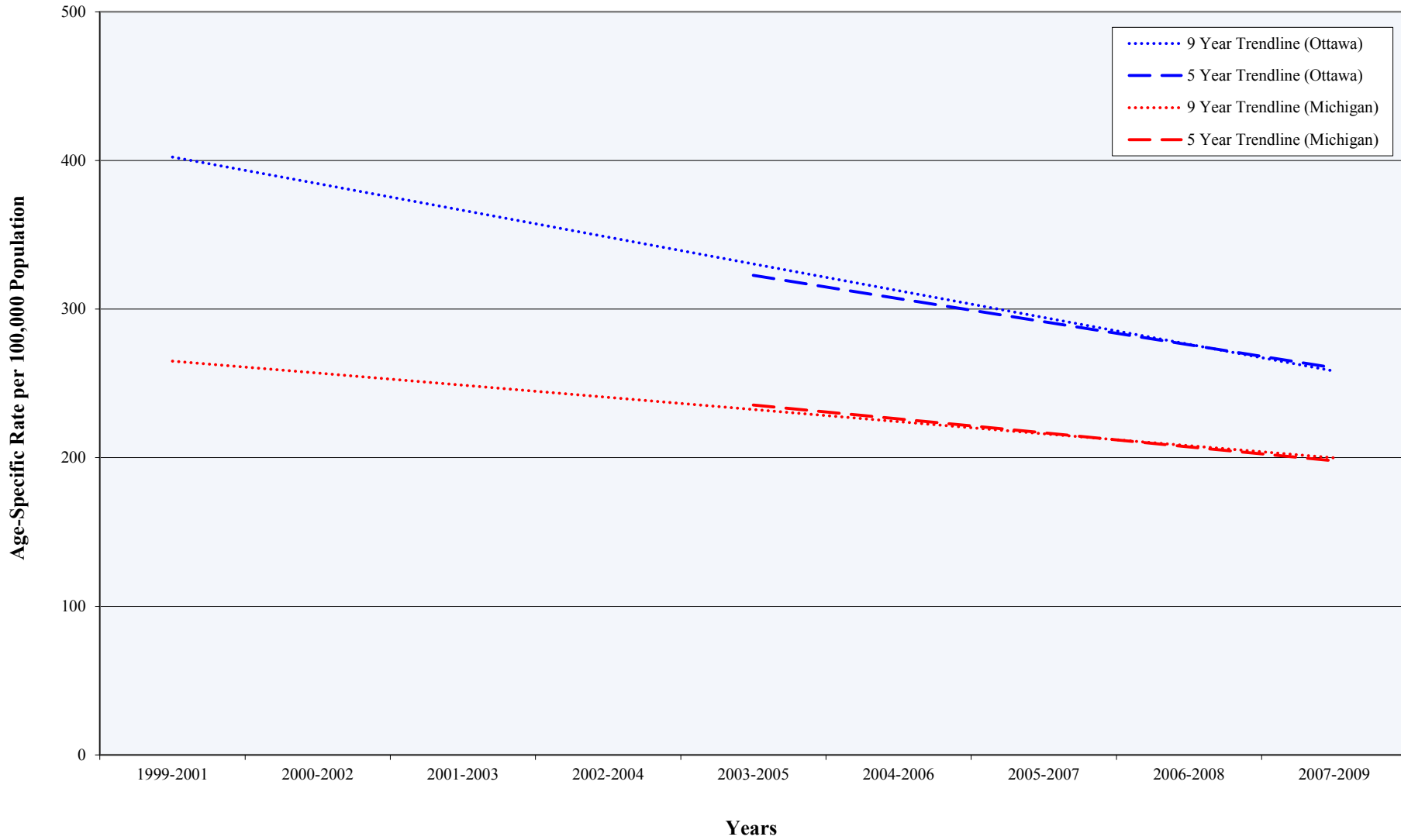
Pneumonia/Influenza Deaths Among Persons Age 75 and Older (1999-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Pneumonia/Influenza Deaths Among Persons Age 75 and Older

5 and 9 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Pneumonia/Influenza (1999, 2009)

Deaths by Gender (Ottawa County, Adjacent Counties, State)

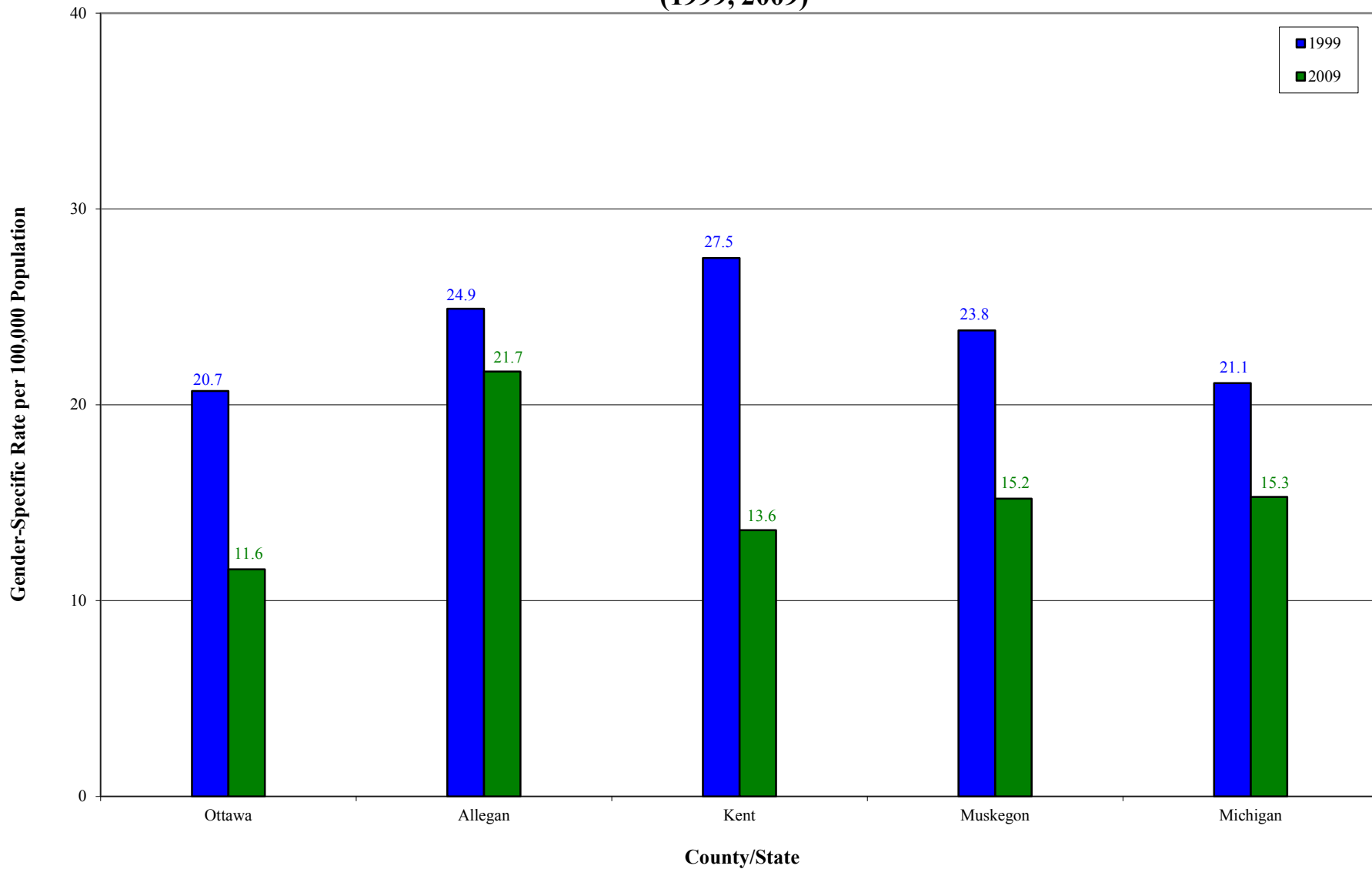
Year*	Deaths per 100,000 Population**									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1999	20.7	24.9	27.5	23.8	21.1	31.9	36.3	33.2	33.9	25.1
2009	11.6	21.7	13.6	15.2	15.3	12.7	23.3	12.4	17.2	15.8

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* The coding and classification for Pneumonia/Influenza deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

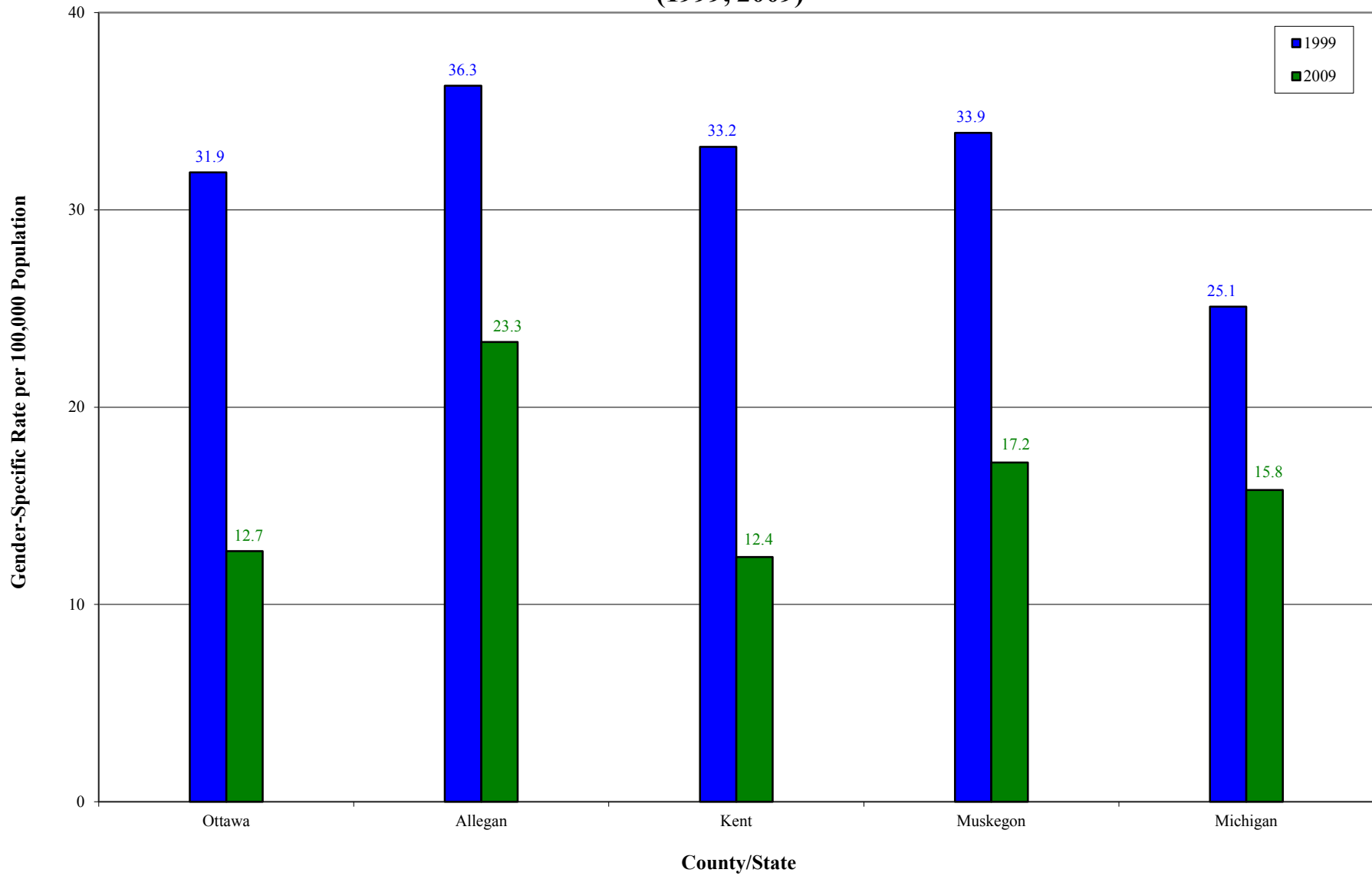
** Death rates are gender-specific and refer to the population of that gender

Pneumonia/Influenza Deaths Among Males (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Pneumonia/Influenza Deaths Among Females (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Pneumonia/Influenza Deaths (1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

Years of Potential Life Lost per 100,000 Population***

Year**	Ottawa	Allegan	Kent	Muskegon	Michigan
1999	22.4	70.7	127.1	110.2	95.7
2009	40.4	70.0	67.8	100.7	82.0

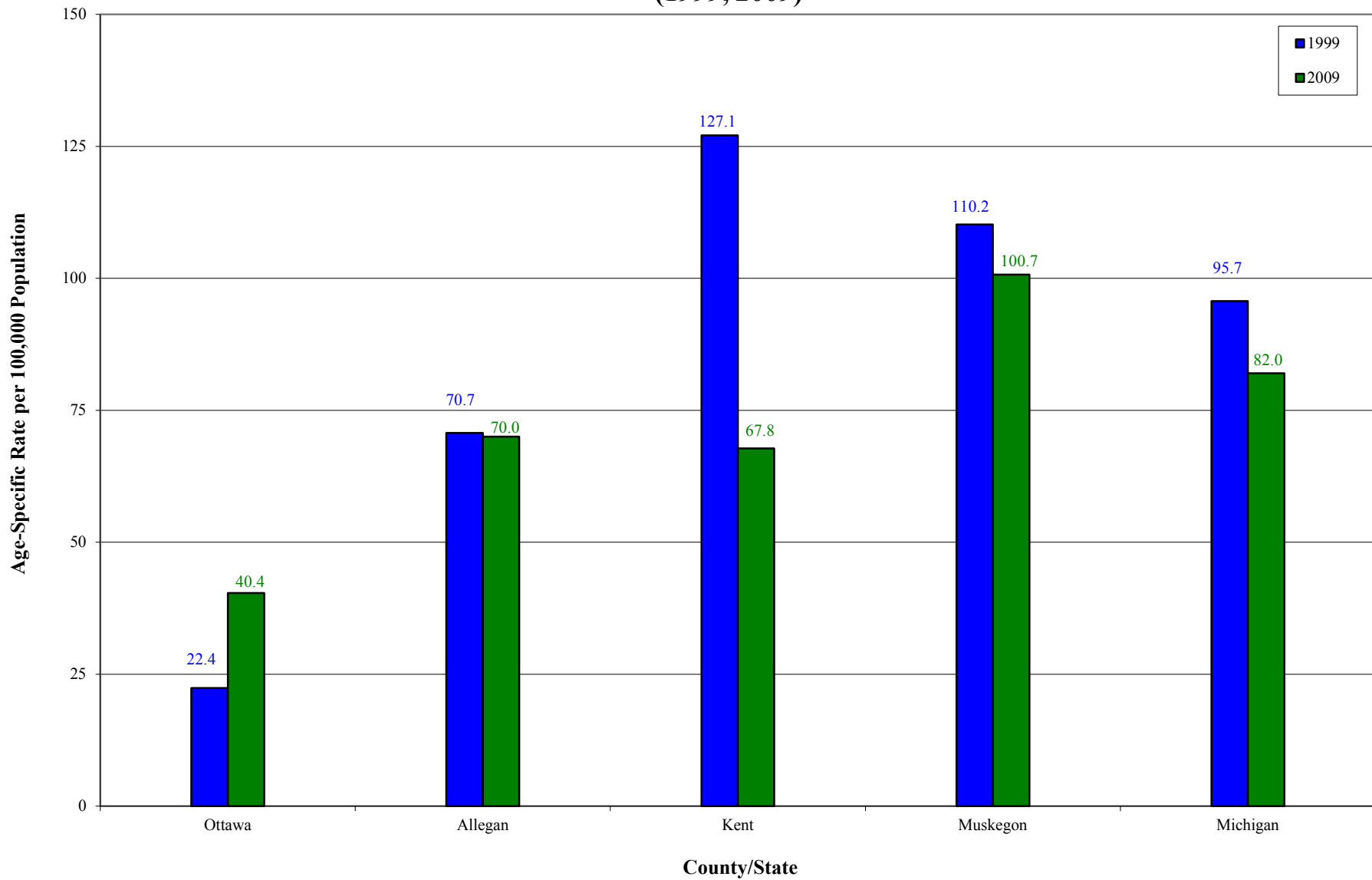
Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

** The coding and classification for Pneumonia/Influenza deaths was revised in 1999 to reflect changing medical opinion and practice. Data prior to 1999 is excluded because it is not comparable

*** YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Pneumonia/Influenza (1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Diabetes (1980-2009)

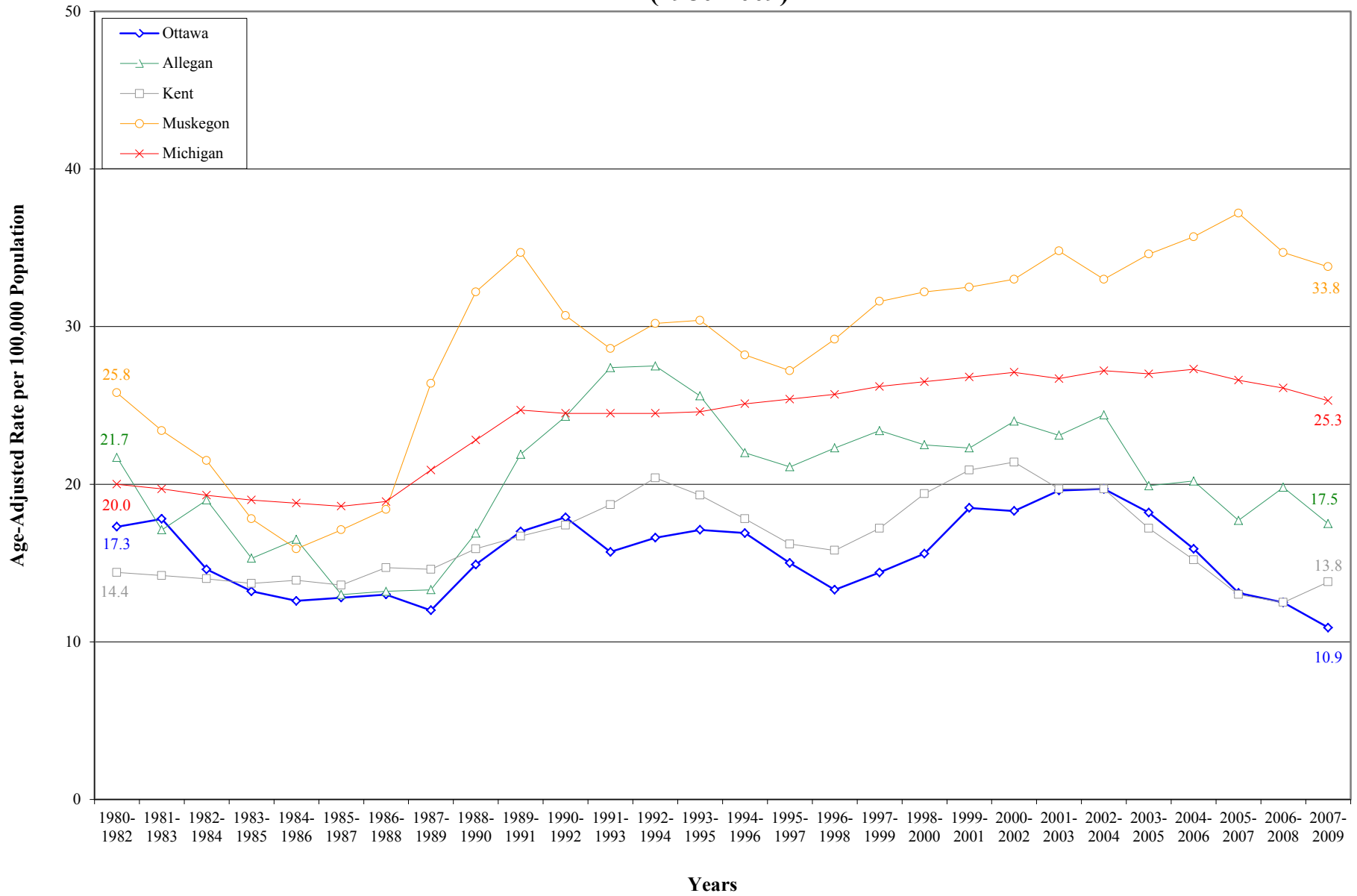
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	17.3	21.7	14.4	25.8	20.0
1981-1983	17.8	17.1	14.2	23.4	19.7
1982-1984	14.6	19.0	14.0	21.5	19.3
1983-1985	13.2	15.3	13.7	17.8	19.0
1984-1986	12.6	16.5	13.9	15.9	18.8
1985-1987	12.8	13.0	13.6	17.1	18.6
1986-1988	13.0	13.2	14.7	18.4	18.9
1987-1989	12.0	13.3	14.6	26.4	20.9
1988-1990	14.9	16.9	15.9	32.2	22.8
1989-1991	17.0	21.9	16.7	34.7	24.7
1990-1992	17.9	24.3	17.4	30.7	24.5
1991-1993	15.7	27.4	18.7	28.6	24.5
1992-1994	16.6	27.5	20.4	30.2	24.5
1993-1995	17.1	25.6	19.3	30.4	24.6
1994-1996	16.9	22.0	17.8	28.2	25.1
1995-1997	15.0	21.1	16.2	27.2	25.4
1996-1998	13.3	22.3	15.8	29.2	25.7
1997-1999	14.4	23.4	17.2	31.6	26.2
1998-2000	15.6	22.5	19.4	32.2	26.5
1999-2001	18.5	22.3	20.9	32.5	26.8
2000-2002	18.3	24.0	21.4	33.0	27.1
2001-2003	19.6	23.1	19.7	34.8	26.7
2002-2004	19.7	24.4	19.7	33.0	27.2
2003-2005	18.2	19.9	17.2	34.6	27.0
2004-2006	15.9	20.2	15.2	35.7	27.3
2005-2007	13.1	17.7	13.0	37.2	26.6
2006-2008	12.5	19.8	12.5	34.7	26.1
2007-2009	10.9	17.5	13.8	33.8	25.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

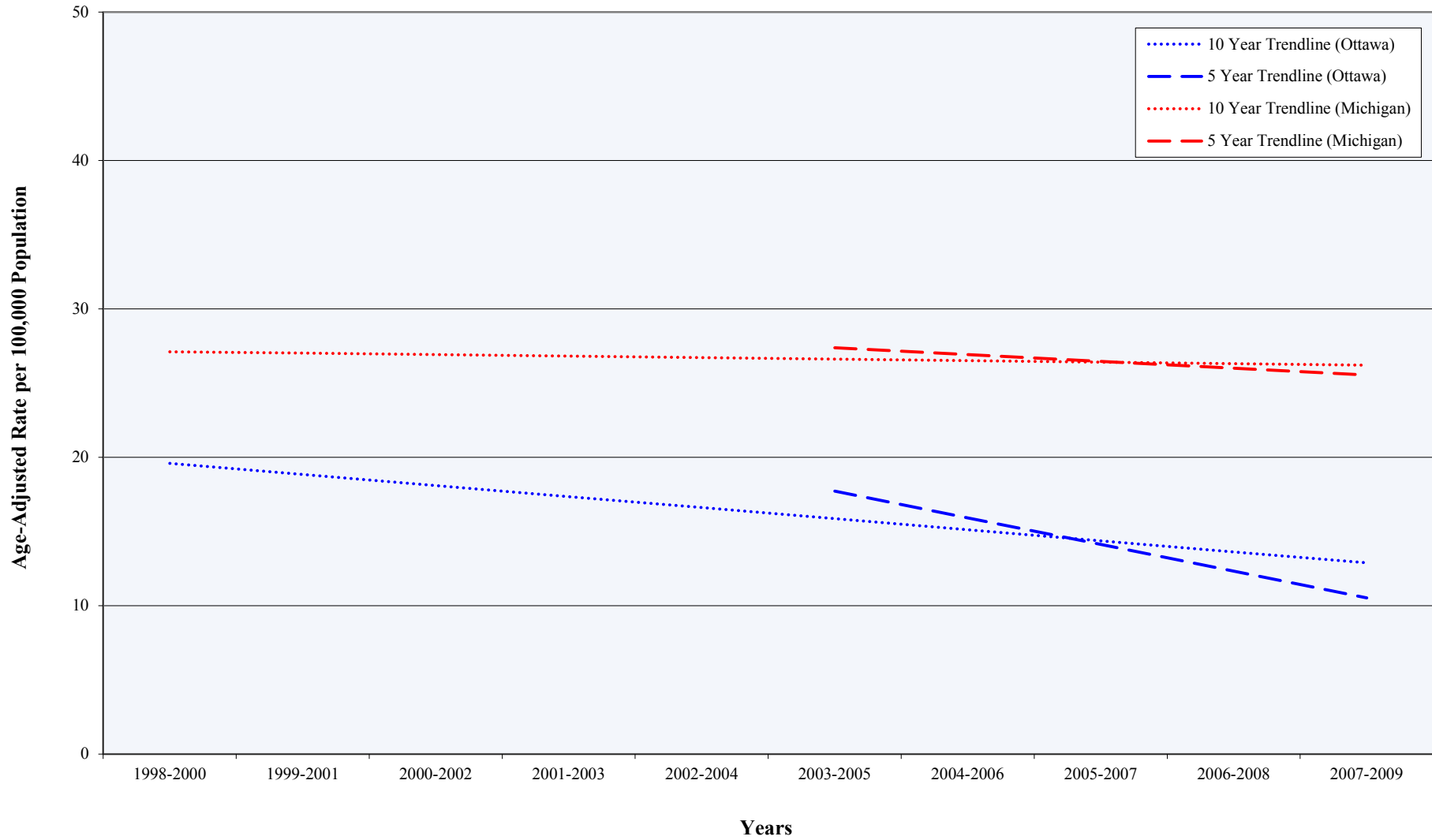
Diabetes Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Diabetes Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Diabetes (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

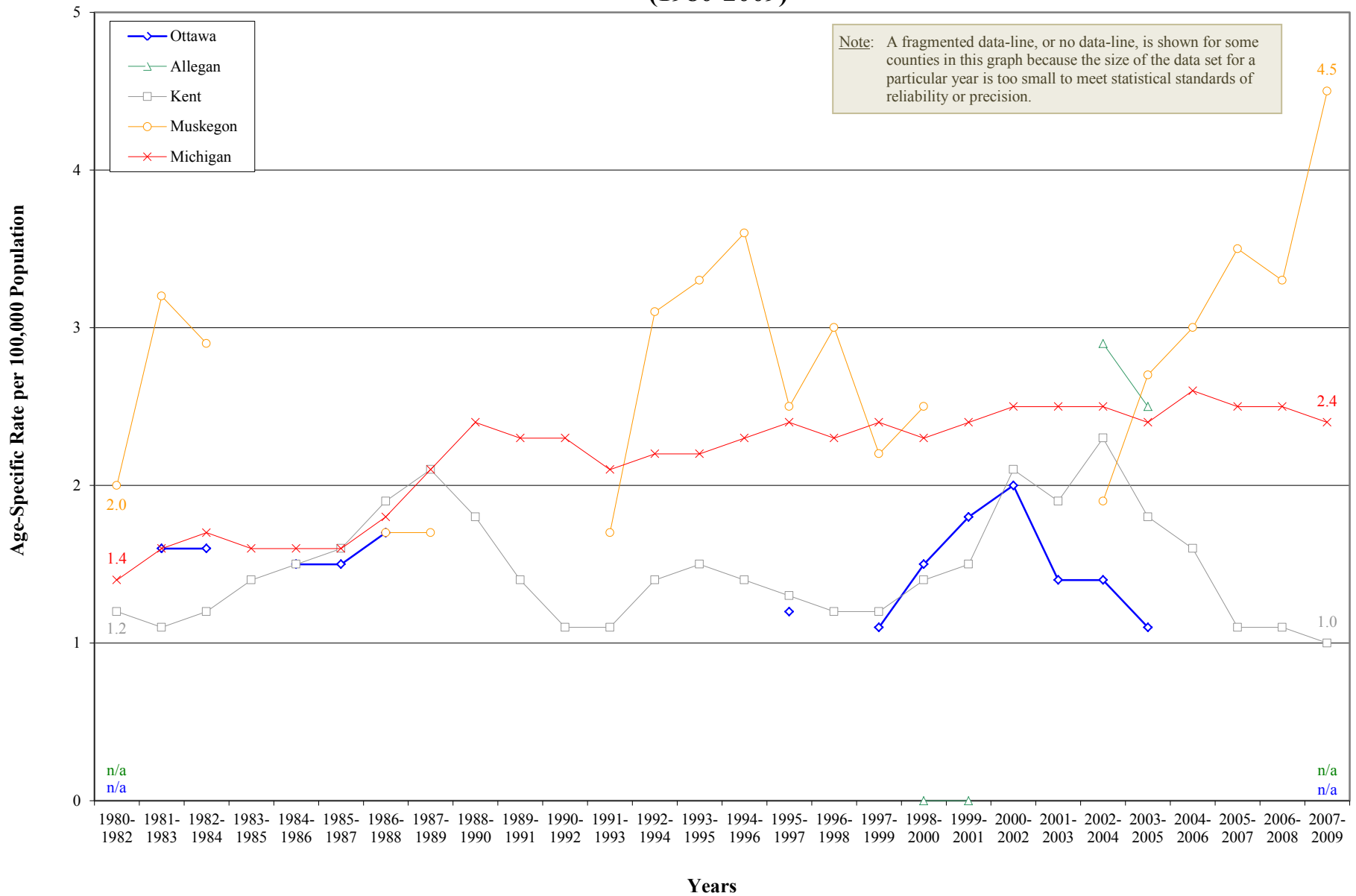
Year	Deaths per 100,000 Population*														
	Under Age 50					Age 50-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1982	**	**	1.2	2.0	1.4	23.5	32.5	24.4	53.2	35.7	187.2	212.0	130.2	198.2	179.3
1981-1983	1.6	**	1.1	3.2	1.6	26.8	32.4	24.4	43.9	35.3	180.3	149.5	129.4	178.3	174.5
1982-1984	1.6	**	1.2	2.9	1.7	24.3	36.5	21.3	41.4	35.5	136.1	163.9	134.9	164.5	168.7
1983-1985	**	**	1.4	**	1.6	24.1	26.3	20.9	40.6	36.7	120.9	142.2	128.8	137.3	163.6
1984-1986	1.5	**	1.5	**	1.6	21.6	20.2	24.4	35.7	37.4	111.9	164.9	121.7	138.5	160.2
1985-1987	1.5	**	1.6	**	1.6	20.2	**	25.1	39.9	37.3	118.2	160.7	116.4	135.4	156.6
1986-1988	1.7	**	1.9	1.7	1.8	18.8	12.0	28.0	38.0	37.4	123.2	148.0	121.4	153.4	159.4
1987-1989	**	**	2.1	1.7	2.1	17.4	25.8	24.5	60.2	41.8	122.5	119.5	128.6	219.4	175.0
1988-1990	**	**	1.8	**	2.4	33.0	33.5	28.2	79.4	45.3	121.5	146.5	142.5	265.4	190.8
1989-1991	**	**	1.4	**	2.3	32.3	52.7	33.8	82.5	50.6	154.1	171.9	144.4	301.6	207.0
1990-1992	**	**	1.1	**	2.3	35.8	52.1	38.0	66.3	51.0	156.3	209.7	144.6	271.2	204.7
1991-1993	**	**	1.1	1.7	2.1	22.9	53.2	40.1	47.0	52.0	166.1	258.8	158.8	286.6	202.5
1992-1994	**	**	1.4	3.1	2.2	24.3	57.8	37.0	57.6	51.3	178.5	250.1	192.5	264.7	204.7
1993-1995	**	**	1.5	3.3	2.2	24.6	56.6	33.5	63.2	51.2	186.1	222.1	185.6	247.7	205.9
1994-1996	**	**	1.4	3.6	2.3	23.0	48.4	32.0	61.9	51.4	182.2	189.4	168.0	213.9	212.4
1995-1997	1.2	**	1.3	2.5	2.4	20.5	35.1	32.5	56.4	52.4	158.4	207.1	140.7	224.8	212.3
1996-1998	**	**	1.2	3.0	2.3	18.9	37.6	31.5	56.5	51.9	139.3	223.4	138.8	247.6	218.0
1997-1999	1.1	**	1.2	2.2	2.4	22.3	44.7	32.0	53.4	51.5	143.2	221.4	158.0	307.3	222.9
1998-2000	1.5	0.0	1.4	2.5	2.3	26.9	33.5	36.6	45.3	49.6	140.1	250.5	174.1	340.9	232.6
1999-2001	1.8	0.0	1.5	**	2.4	27.4	26.2	36.7	44.9	48.1	182.4	270.7	192.8	363.0	240.2
2000-2002	2.0	**	2.1	**	2.5	26.3	22.2	35.5	48.9	47.4	181.7	293.6	196.9	352.4	244.4
2001-2003	1.4	**	1.9	**	2.5	28.2	28.7	30.7	51.6	47.1	205.2	248.8	187.3	370.1	238.2
2002-2004	1.4	2.9	2.3	1.9	2.5	30.6	29.1	31.6	48.8	48.0	195.7	258.5	177.9	343.2	243.1
2003-2005	1.1	2.5	1.8	2.7	2.4	29.5	22.8	27.9	46.1	47.2	179.2	212.8	156.4	372.6	242.6
2004-2006	**	**	1.6	3.0	2.6	27.8	15.5	22.2	48.2	47.3	152.5	253.1	147.2	379.1	245.6
2005-2007	**	**	1.1	3.5	2.5	21.3	17.5	19.3	45.3	45.7	129.8	210.3	130.5	410.3	241.8
2006-2008	**	**	1.1	3.3	2.5	19.3	27.7	19.3	43.2	44.4	131.9	222.0	122.6	382.1	240.5
2007-2009	**	**	1.0	4.5	2.4	15.2	30.9	21.7	44.0	42.7	122.7	166.3	135.5	351.1	236.2

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

** A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

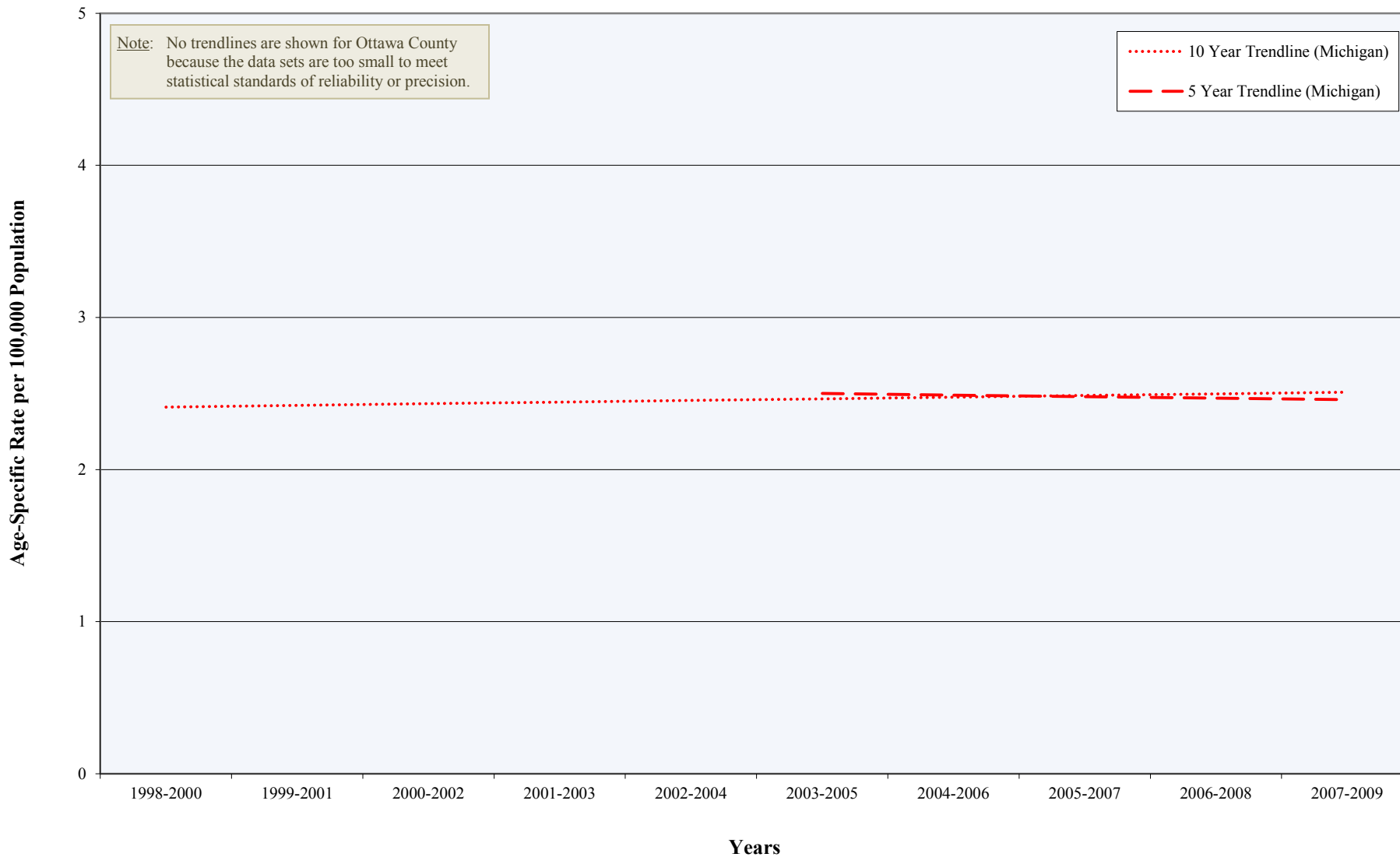
Diabetes Deaths Among Persons Under Age 50 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

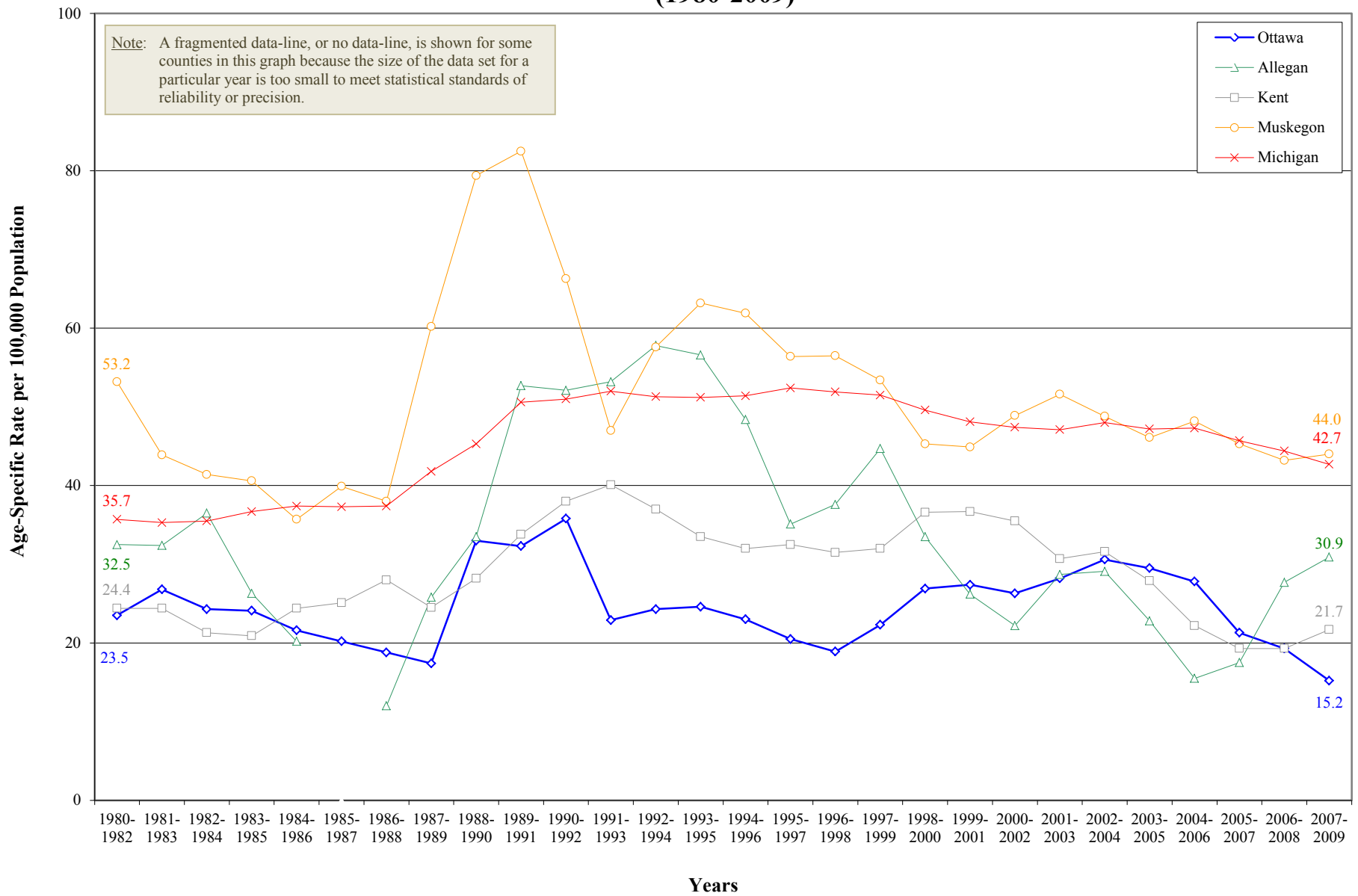
Diabetes Deaths Among Persons Under Age 50

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

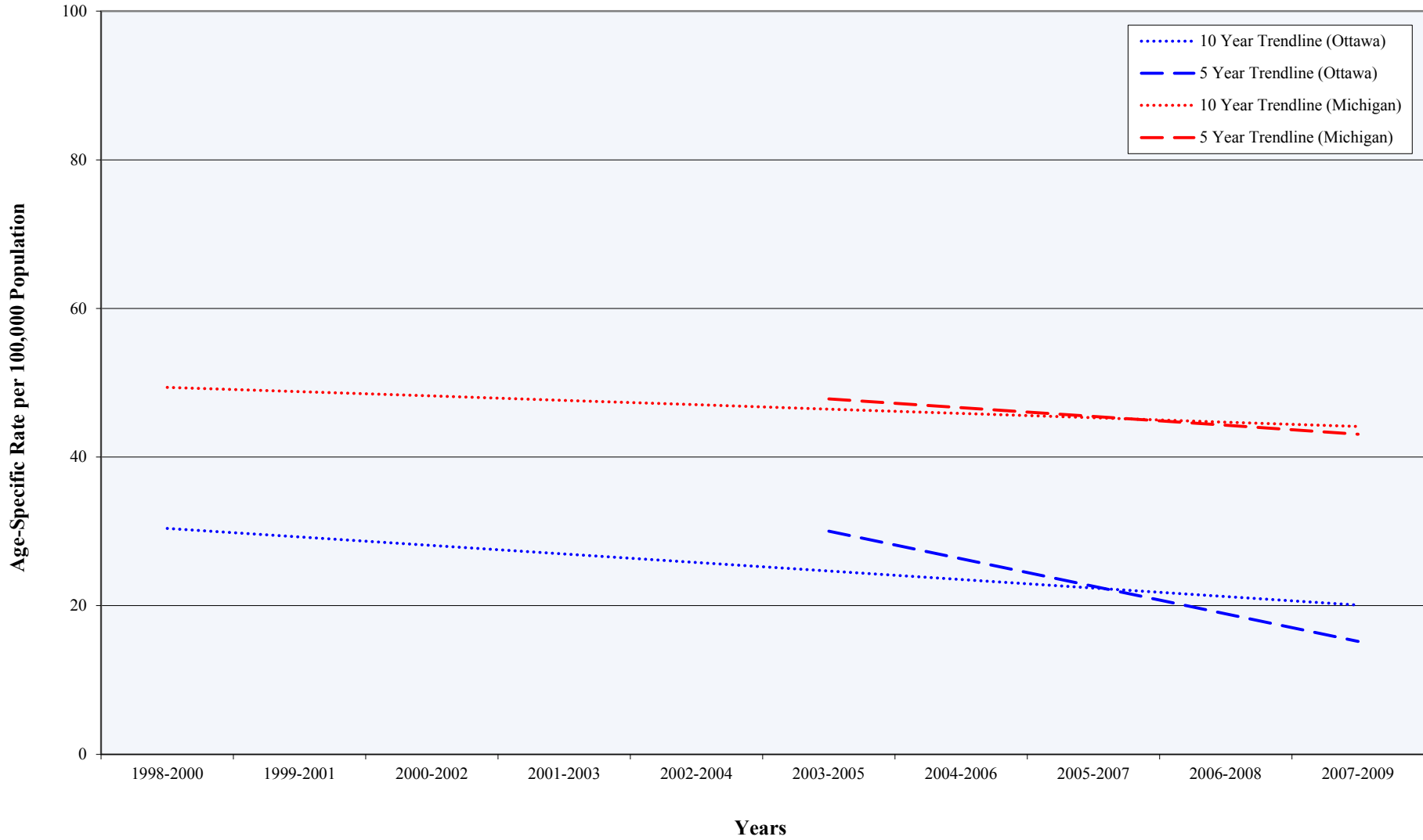
Diabetes Deaths Among Persons Age 50-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

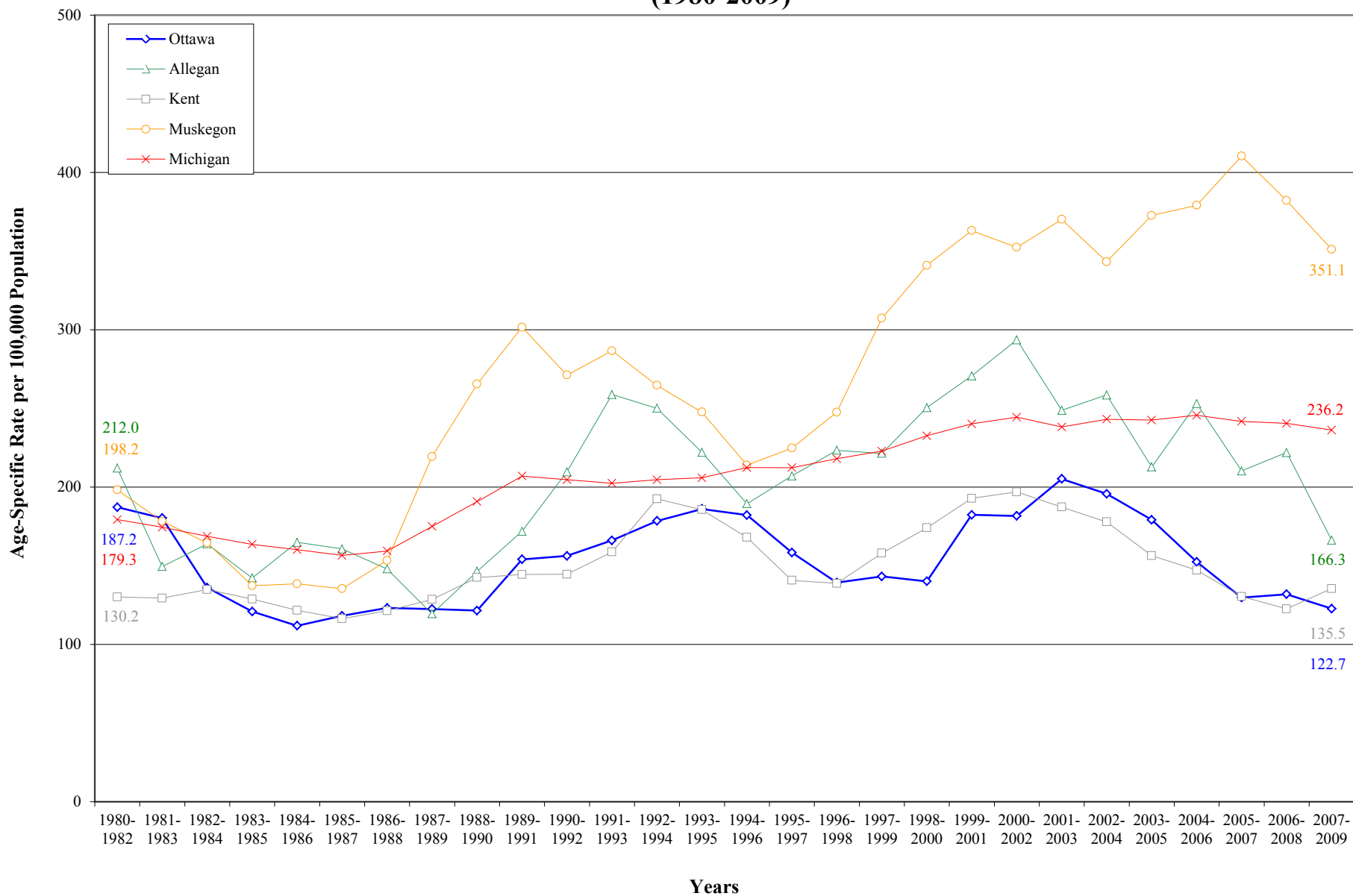
Diabetes Deaths Among Persons Age 50-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

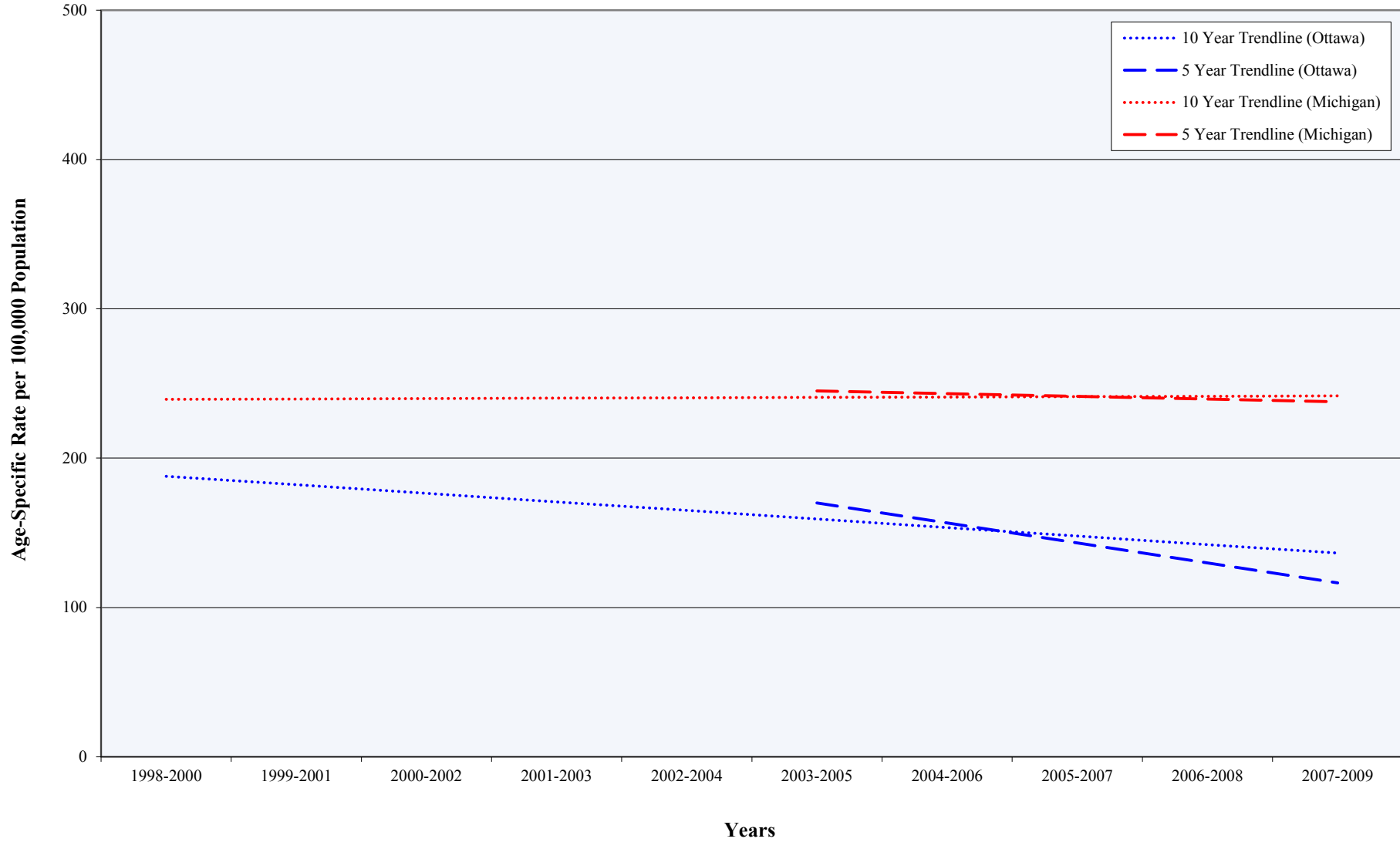
Diabetes Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Diabetes Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Diabetes (1989, 1999, 2009)

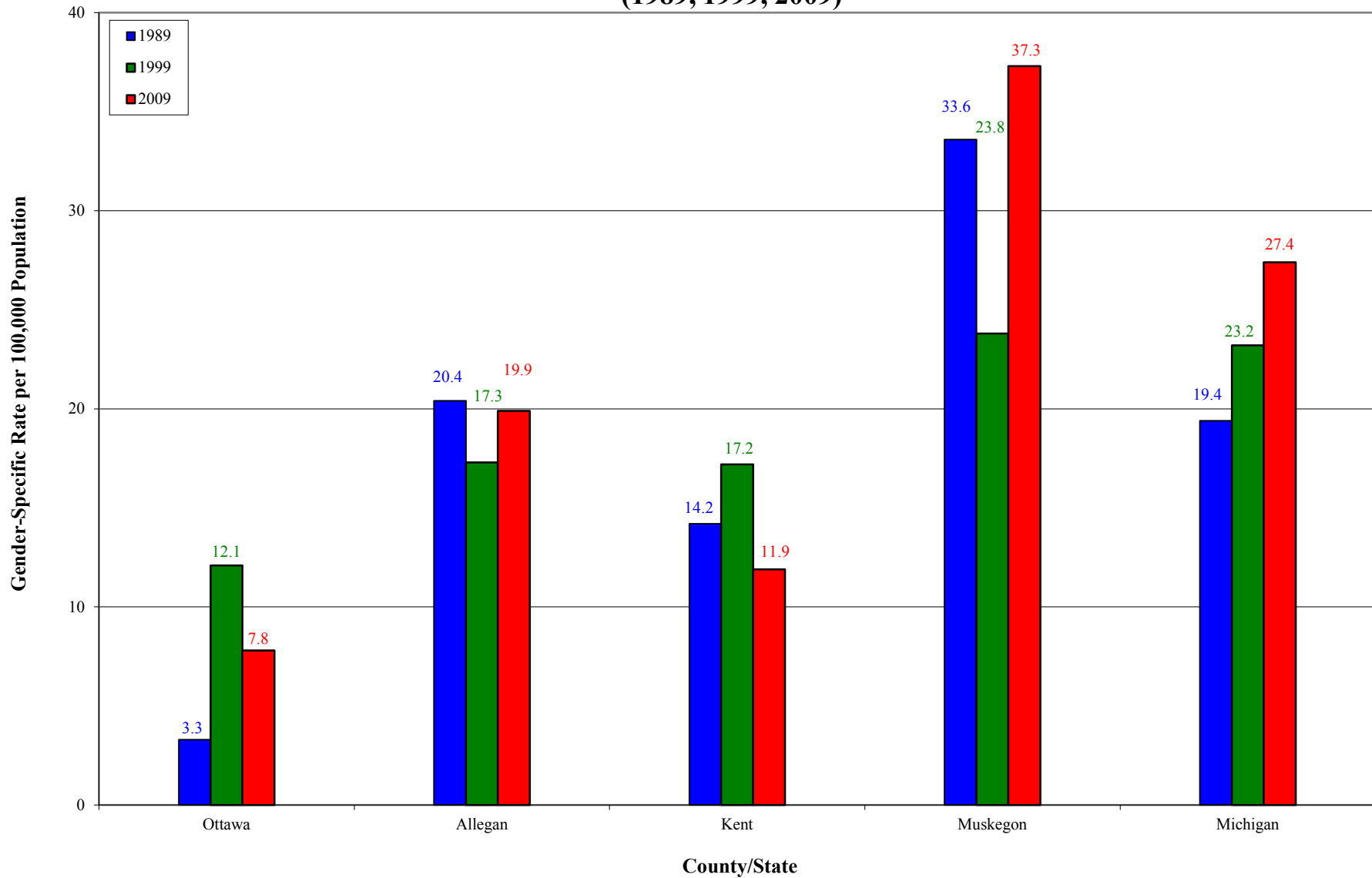
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	3.3	20.4	14.2	33.6	19.4	15.0	8.9	12.9	40.7	24.8
1999	12.1	17.3	17.2	23.8	23.2	16.8	24.8	19.7	43.3	28.6
2009	7.8	19.9	11.9	37.3	27.4	10.4	10.7	17.3	44.8	26.9

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

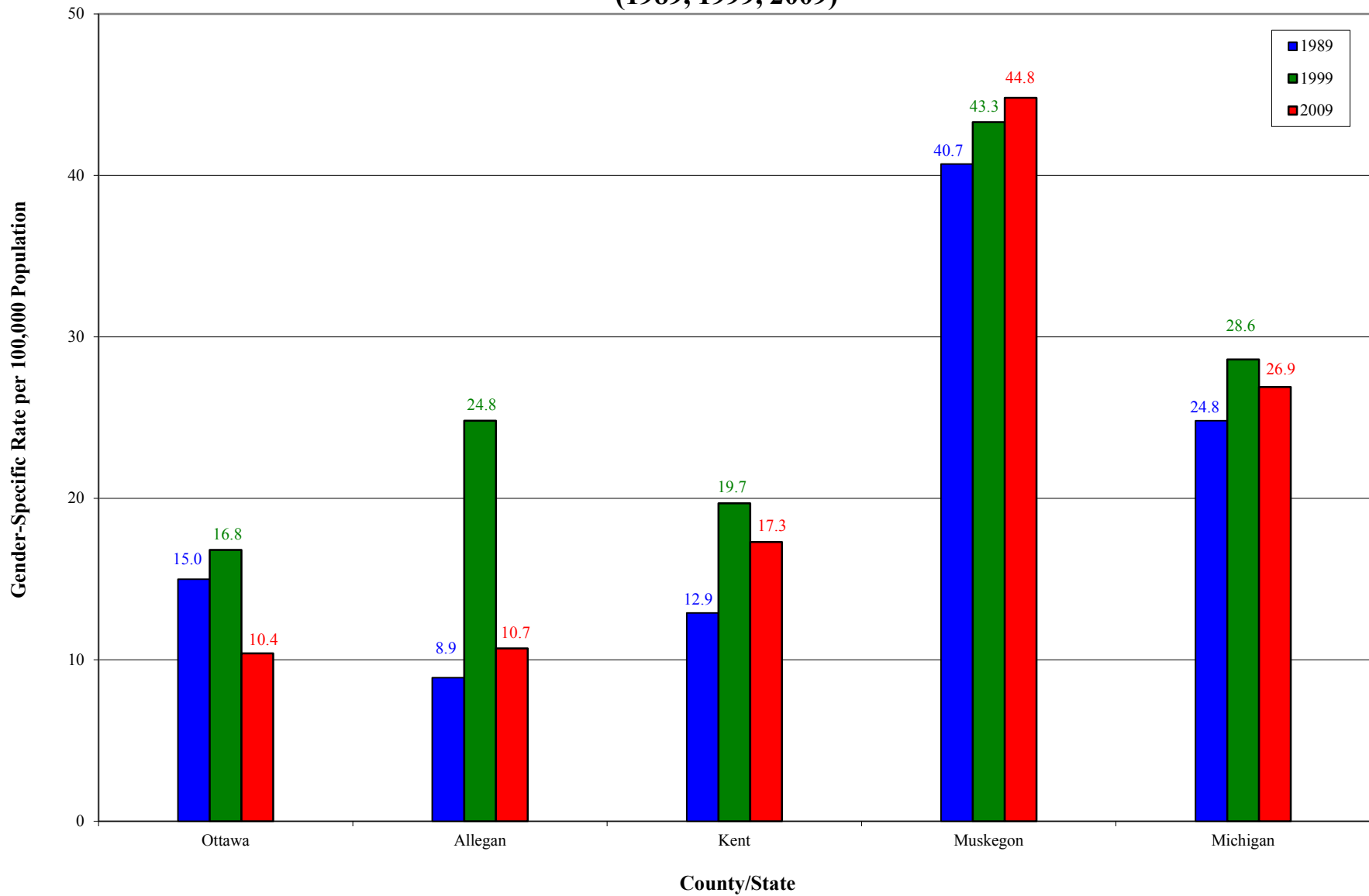
* Death rates are gender-specific and refer to the population of that gender

Diabetes Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Diabetes Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Diabetes Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

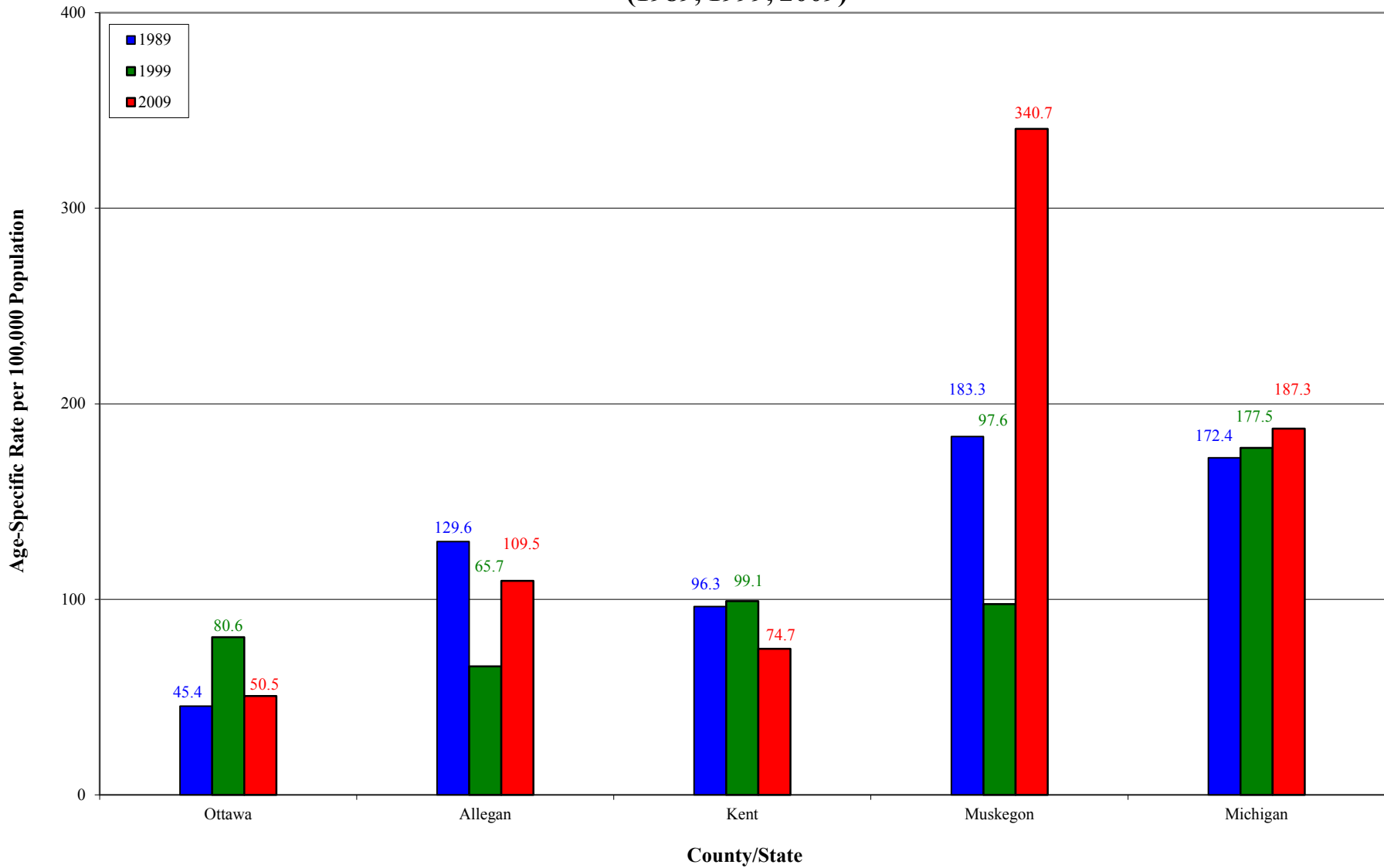
Years of Potential Life Lost per 100,000 Population**					
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	45.4	129.6	96.3	183.3	172.4
1999	80.6	65.7	99.1	97.6	177.5
2009	50.5	109.5	74.7	340.7	187.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

** YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Diabetes Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Intentional Self-Harm/Suicide (1980-2009)

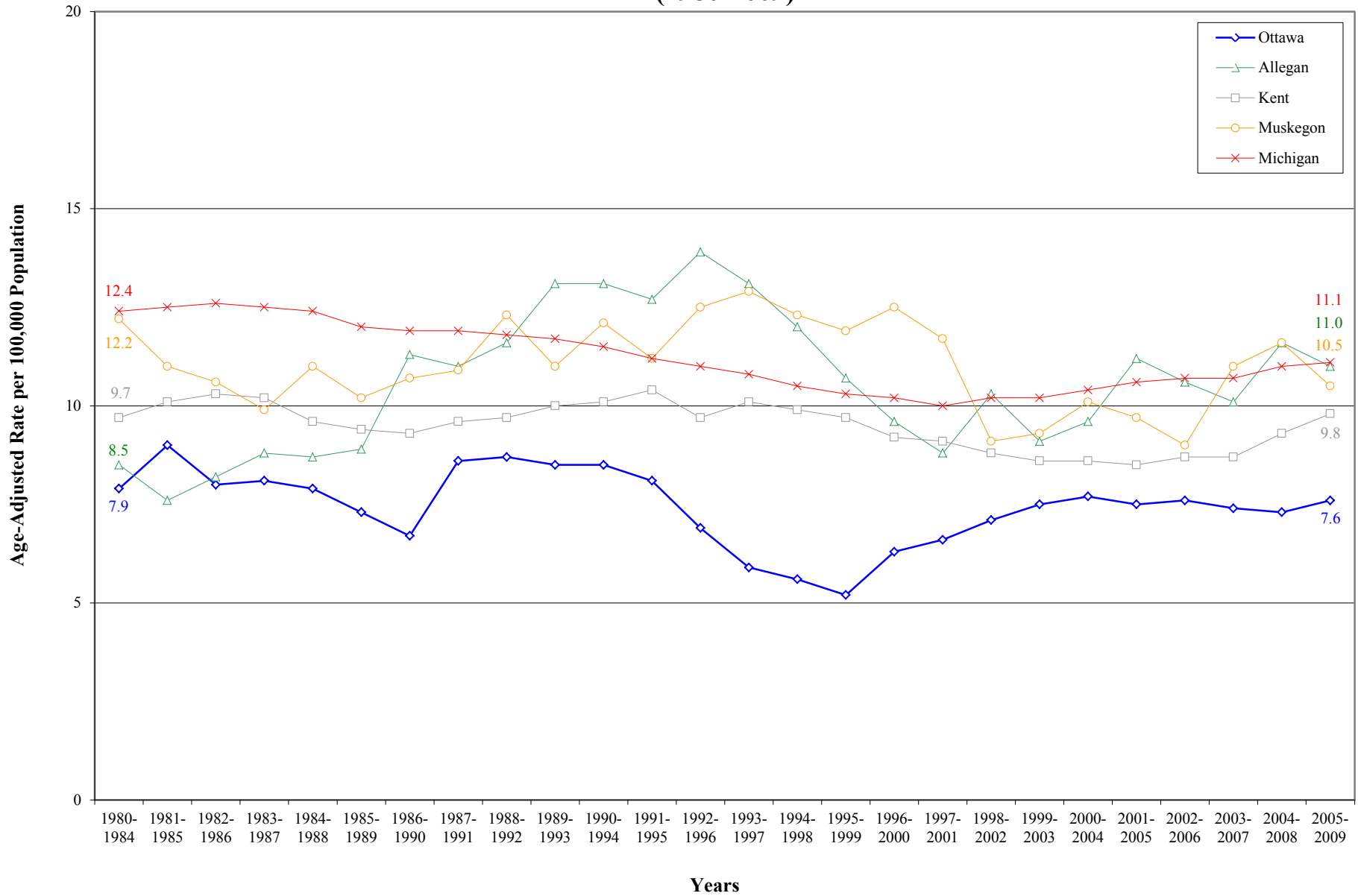
Deaths by Year (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*				
	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1984	7.9	8.5	9.7	12.2	12.4
1981-1985	9.0	7.6	10.1	11.0	12.5
1982-1986	8.0	8.2	10.3	10.6	12.6
1983-1987	8.1	8.8	10.2	9.9	12.5
1984-1988	7.9	8.7	9.6	11.0	12.4
1985-1989	7.3	8.9	9.4	10.2	12.0
1986-1990	6.7	11.3	9.3	10.7	11.9
1987-1991	8.6	11.0	9.6	10.9	11.9
1988-1992	8.7	11.6	9.7	12.3	11.8
1989-1993	8.5	13.1	10.0	11.0	11.7
1990-1994	8.5	13.1	10.1	12.1	11.5
1991-1995	8.1	12.7	10.4	11.2	11.2
1992-1996	6.9	13.9	9.7	12.5	11.0
1993-1997	5.9	13.1	10.1	12.9	10.8
1994-1998	5.6	12.0	9.9	12.3	10.5
1995-1999	5.2	10.7	9.7	11.9	10.3
1996-2000	6.3	9.6	9.2	12.5	10.2
1997-2001	6.6	8.8	9.1	11.7	10.0
1998-2002	7.1	10.3	8.8	9.1	10.2
1999-2003	7.5	9.1	8.6	9.3	10.2
2000-2004	7.7	9.6	8.6	10.1	10.4
2001-2005	7.5	11.2	8.5	9.7	10.6
2002-2006	7.6	10.6	8.7	9.0	10.7
2003-2007	7.4	10.1	8.7	11.0	10.7
2004-2008	7.3	11.6	9.3	11.6	11.0
2005-2009	7.6	11.0	9.8	10.5	11.1

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-adjusted (i.e. weighted average) to allow for accurate comparisons to be made among different geographic areas. Age-adjusted rates standardize differences that may exist when one geographic area has a higher proportion of people in younger age groups compared to a different geographic area that has a higher proportion in older age groups

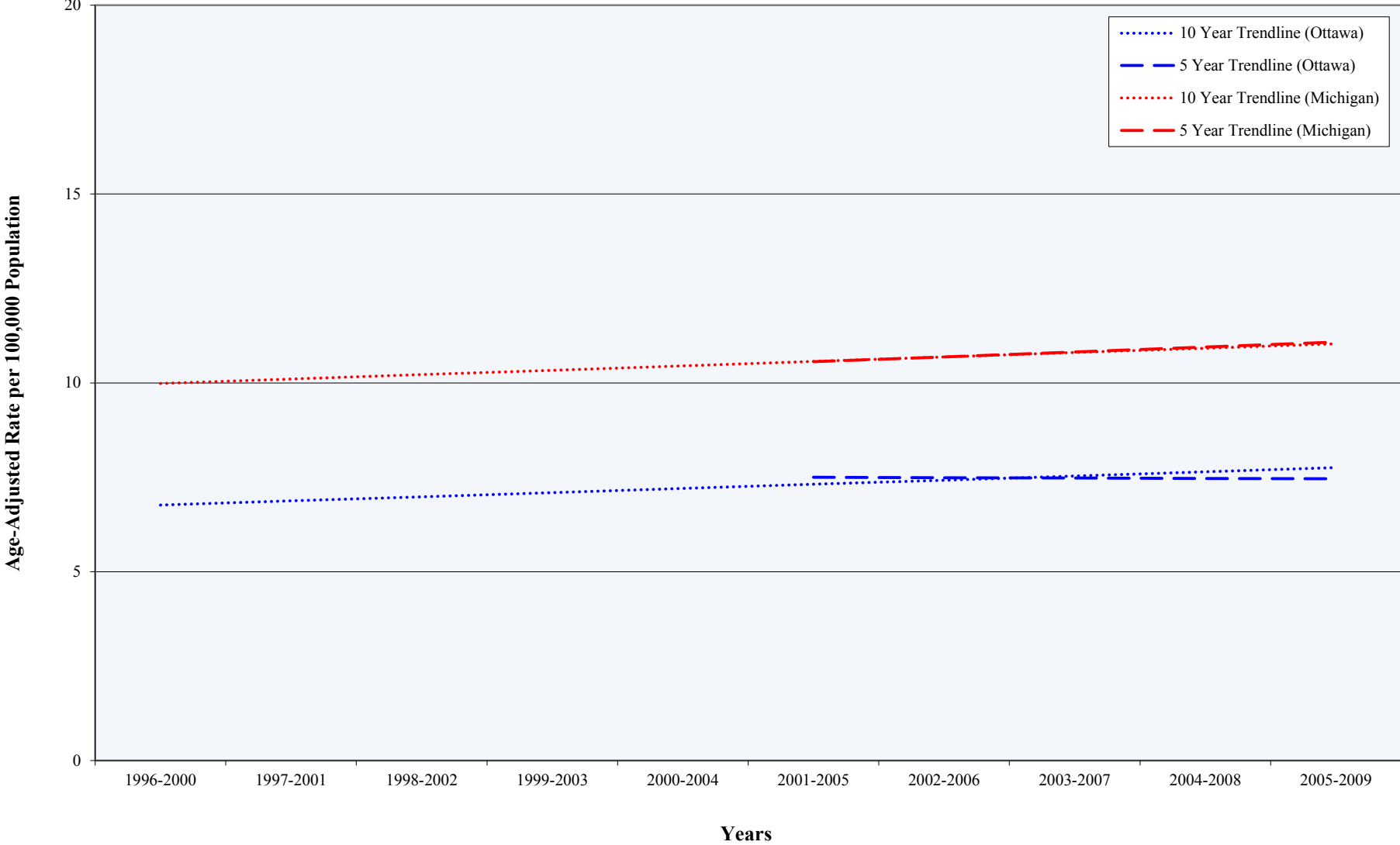
Intentional Self-Harm/Suicide Deaths (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Intentional Self-Harm/Suicide Deaths

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Intentional Self-Harm/Suicides (1980-2009)

Deaths by Age (Ottawa County, Adjacent Counties, State)

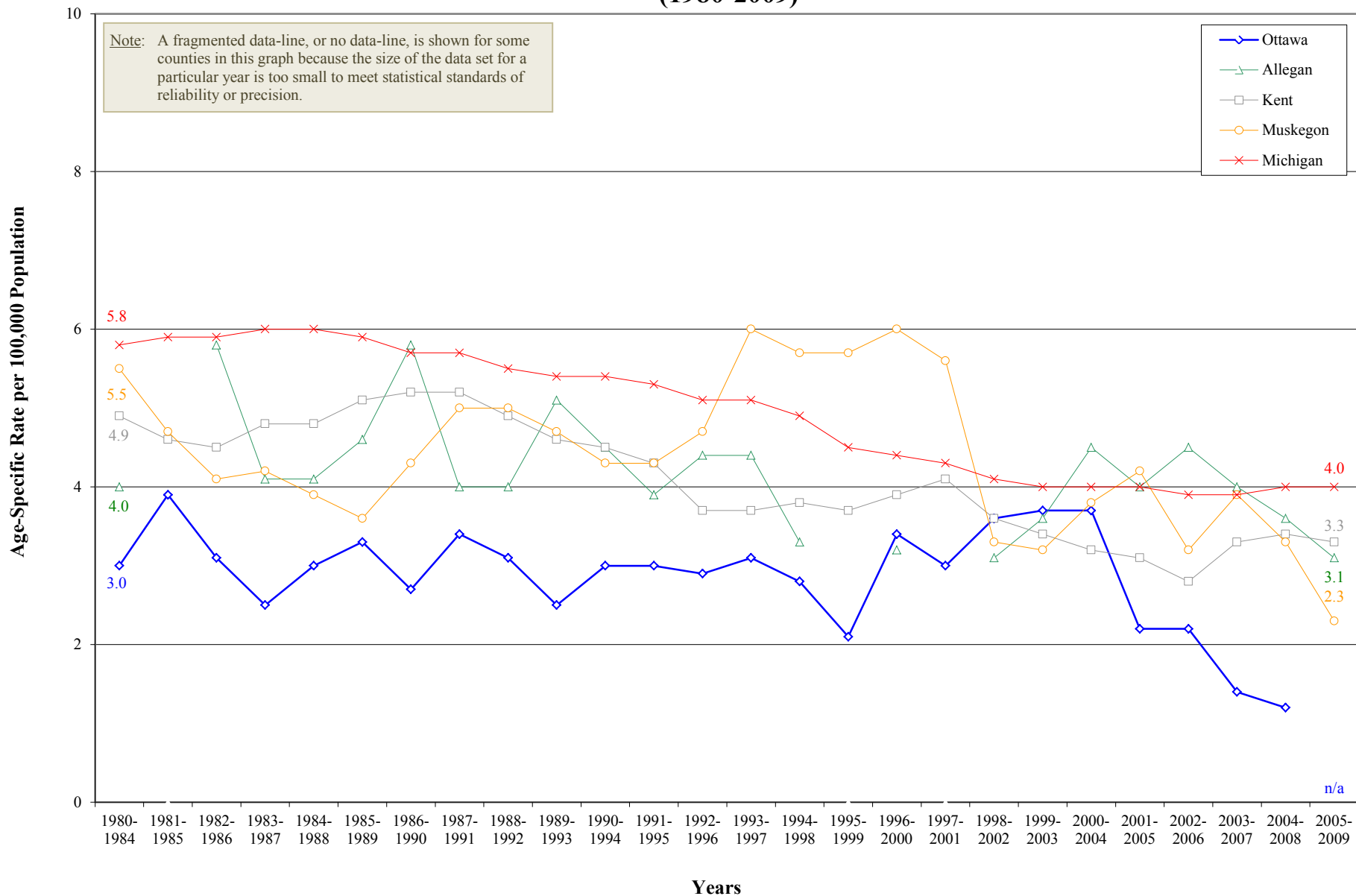
Year	Deaths per 100,000 Population*														
	Under Age 25					Age 25-74					Age 75 and Older				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1980-1984	3.0	4.0	4.9	5.5	5.8	9.8	9.5	12.2	15.5	16.2	**	**	17.1	23.2	18.5
1981-1985	3.9	**	4.6	4.7	5.9	10.3	9.4	12.7	14.4	16.1	26.1	**	16.8	16.9	19.7
1982-1986	3.1	5.8	4.5	4.1	5.9	9.9	9.2	12.7	14.8	16.0	22.1	**	20.3	**	21.5
1983-1987	2.5	4.1	4.8	4.2	6.0	10.5	10.3	12.5	13.7	15.7	21.4	**	19.9	**	21.4
1984-1988	3.0	4.1	4.8	3.9	6.0	9.4	10.1	11.7	14.4	15.5	23.5	**	18.6	15.7	22.4
1985-1989	3.3	4.6	5.1	3.6	5.9	8.7	10.3	11.2	13.1	15.0	19.8	**	18.1	17.8	22.1
1986-1990	2.7	5.8	5.2	4.3	5.7	9.0	13.4	11.3	13.0	14.8	**	**	16.0	22.3	22.8
1987-1991	3.4	4.0	5.2	5.0	5.7	10.2	13.5	11.7	12.4	14.7	20.9	27.7	13.8	21.7	22.9
1988-1992	3.1	4.0	4.9	5.0	5.5	10.7	15.6	11.7	14.1	14.5	17.5	**	18.5	28.2	23.1
1989-1993	2.5	5.1	4.6	4.7	5.4	11.0	17.7	12.2	12.2	14.5	14.4	**	20.4	29.8	22.2
1990-1994	3.0	4.5	4.5	4.3	5.4	10.7	18.6	12.6	14.3	14.2	16.2	**	18.2	29.0	22.0
1991-1995	3.0	3.9	4.3	4.3	5.3	10.1	18.6	13.0	13.5	13.9	15.6	**	20.0	23.9	19.9
1992-1996	2.9	4.4	3.7	4.7	5.1	9.3	19.8	12.5	15.5	13.8	**	**	18.7	23.3	18.9
1993-1997	3.1	4.4	3.7	6.0	5.1	7.7	18.0	13.0	16.1	13.5	**	**	18.1	18.6	18.5
1994-1998	2.8	3.3	3.8	5.7	4.9	7.5	16.6	13.2	16.1	13.1	**	**	13.4	12.1	18.3
1995-1999	2.1	**	3.7	5.7	4.5	7.3	14.6	12.8	15.2	13.0	**	**	13.7	13.7	17.2
1996-2000	3.4	3.2	3.9	6.0	4.4	7.9	12.6	12.1	15.7	13.0	**	**	11.4	17.3	17.4
1997-2001	3.0	**	4.1	5.6	4.3	8.4	12.3	11.9	13.7	12.9	**	**	10.6	26.4	16.2
1998-2002	3.6	3.1	3.6	3.3	4.1	9.2	14.1	11.9	11.0	13.2	**	**	7.9	24.2	15.9
1999-2003	3.7	3.6	3.4	3.2	4.0	9.9	12.2	11.9	11.2	13.5	**	**	7.2	25.7	14.1
2000-2004	3.7	4.5	3.2	3.8	4.0	10.7	12.6	12.2	12.8	13.9	**	**	5.9	19.9	13.7
2001-2005	2.2	4.0	3.1	4.2	4.0	11.5	15.2	12.1	12.5	14.3	**	**	5.7	16.0	13.2
2002-2006	2.2	4.5	2.8	3.2	3.9	11.9	14.3	12.5	12.5	14.6	0.0	**	6.3	10.6	13.2
2003-2007	1.4	4.0	3.3	3.9	3.9	11.8	14.4	12.3	15.4	14.7	0.0	**	5.7	14.0	12.8
2004-2008	1.2	3.6	3.4	3.3	4.0	11.8	17.2	13.0	16.4	15.1	**	**	7.5	17.6	13.4
2005-2009	**	3.1	3.3	2.3	4.0	12.0	16.7	13.8	14.9	15.2	**	**	9.4	19.6	14.0

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

* Death rates are age-specific and refer to the population in a specific age group

** A rate was not calculated because the size of the data set (i.e. number of deaths) was too small to meet statistical standards of reliability or precision

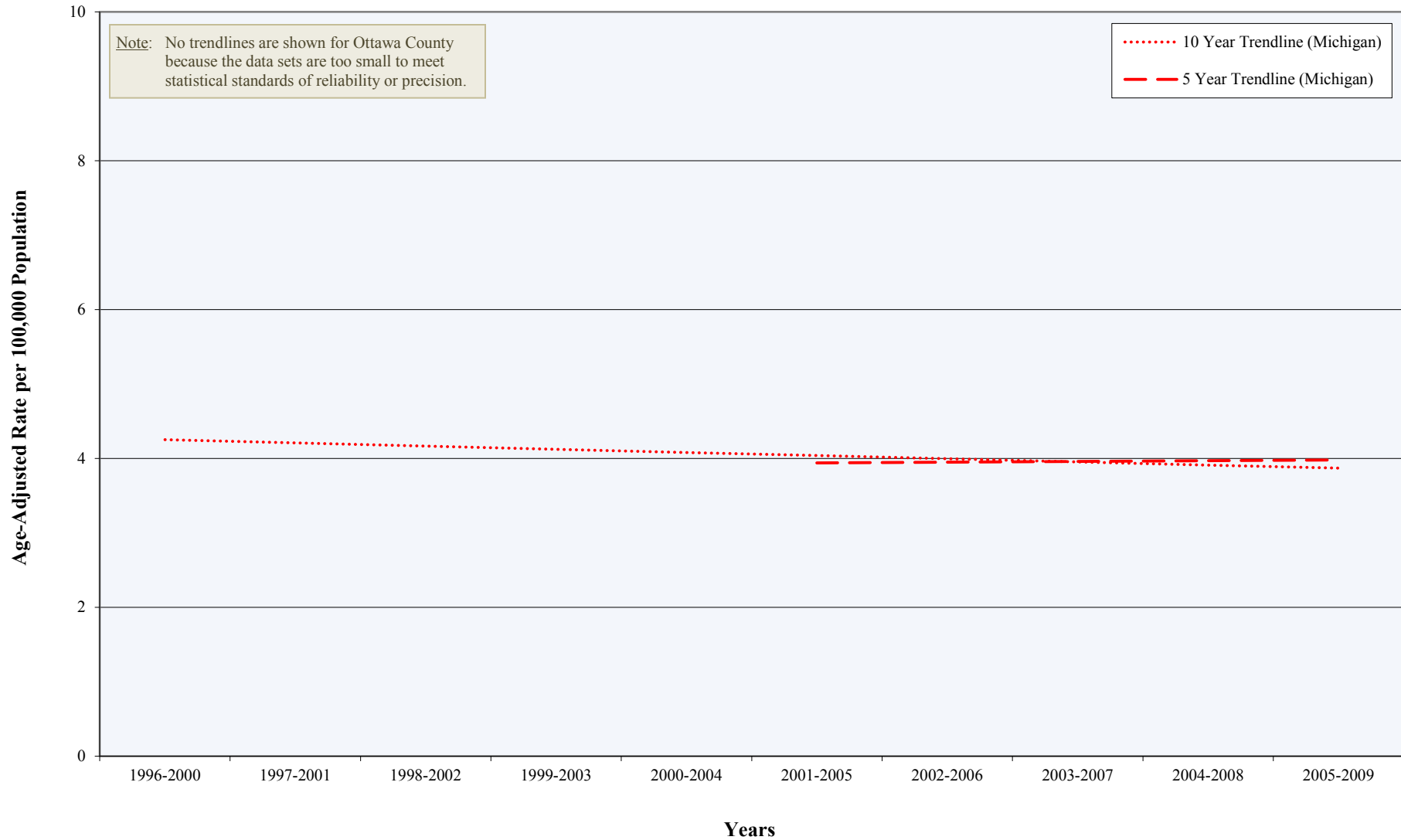
Intentional Self-Harm/Suicide Deaths Among Persons Under Age 25 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

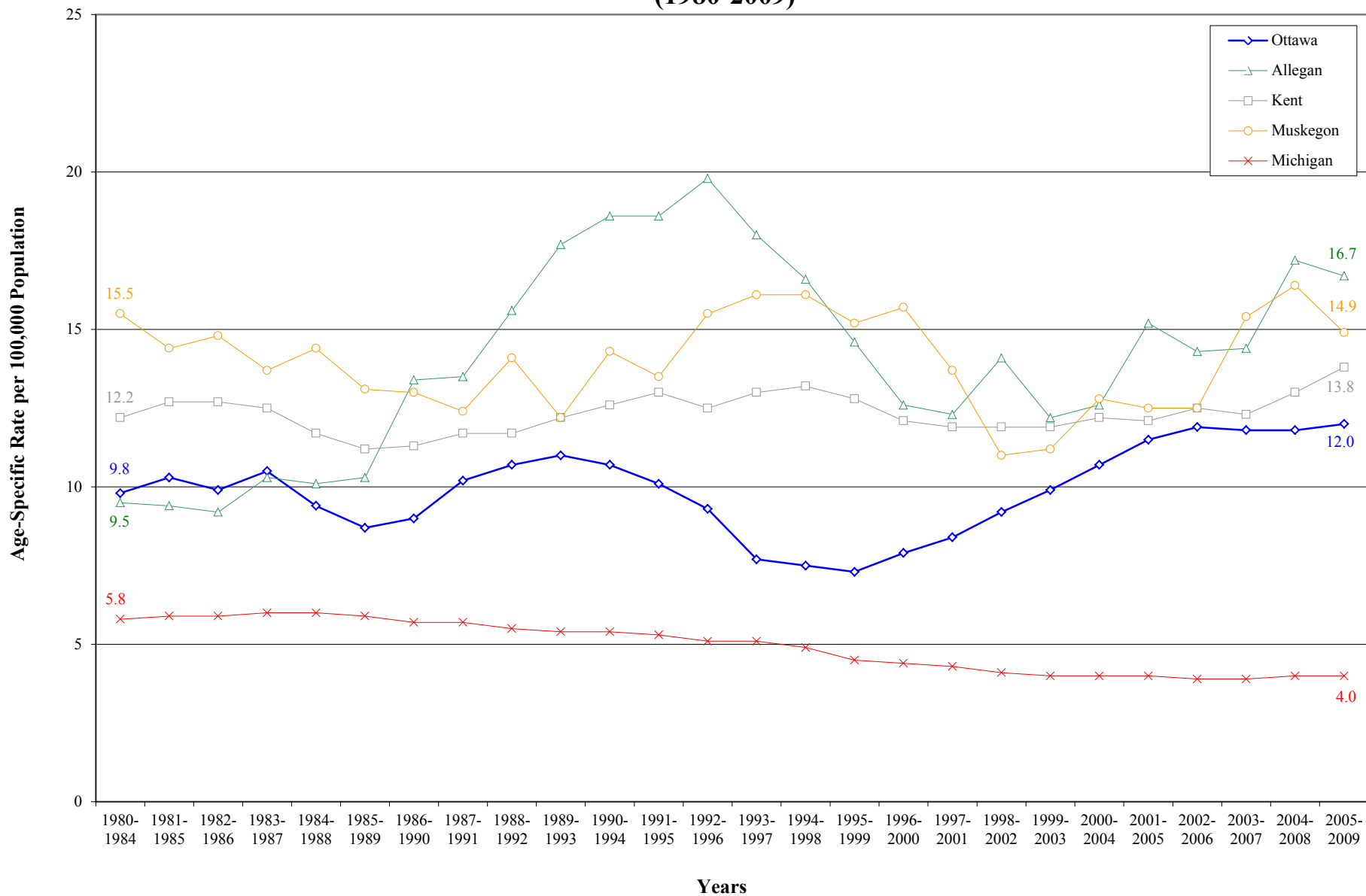
Intentional Self-Harm/Suicide Deaths Among Persons Under Age 25

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

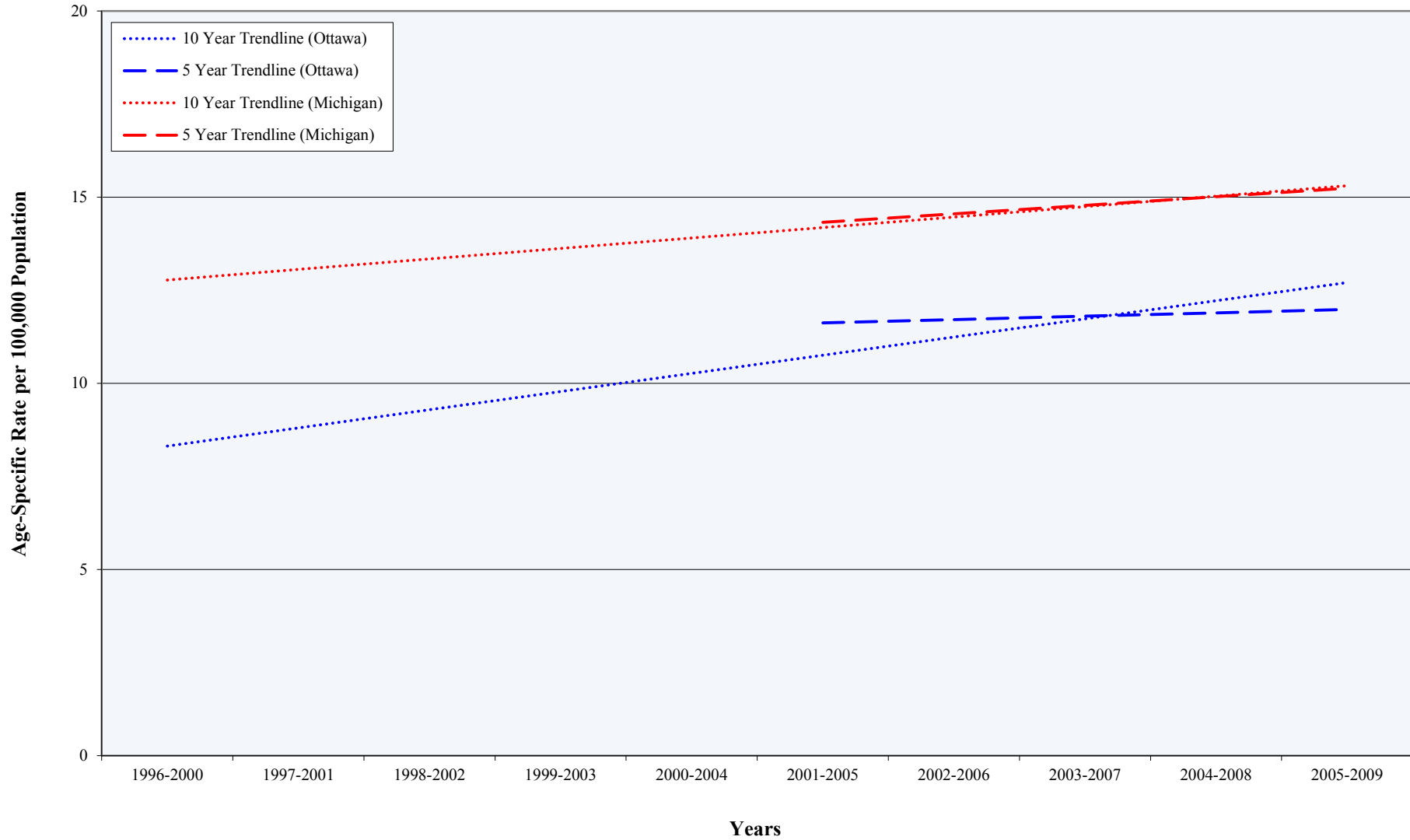
Intentional Self-Harm/Suicide Deaths Among Persons Age 25-74 (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

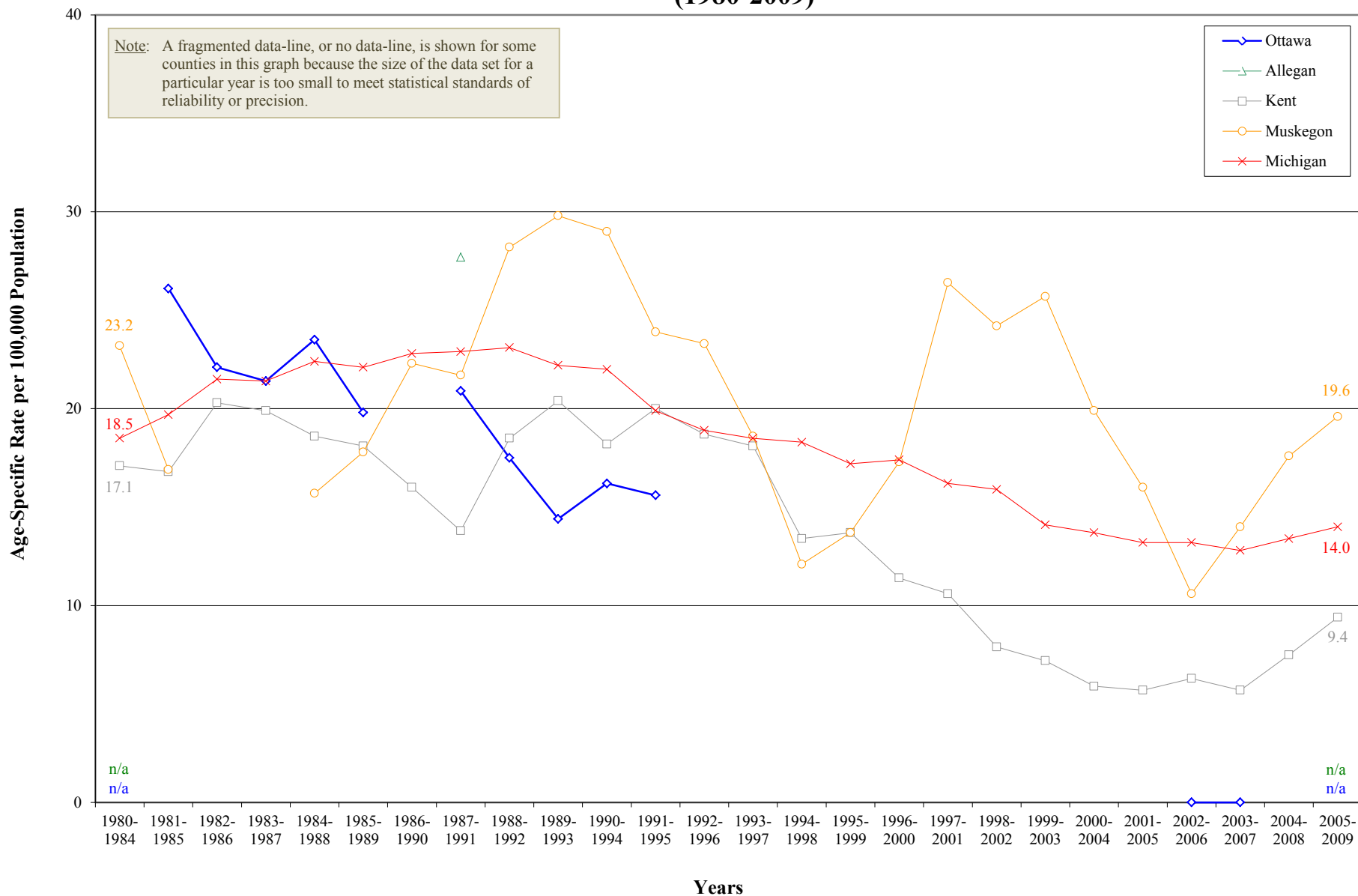
Intentional Self-Harm/Suicide Deaths Among Persons Age 25-74

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

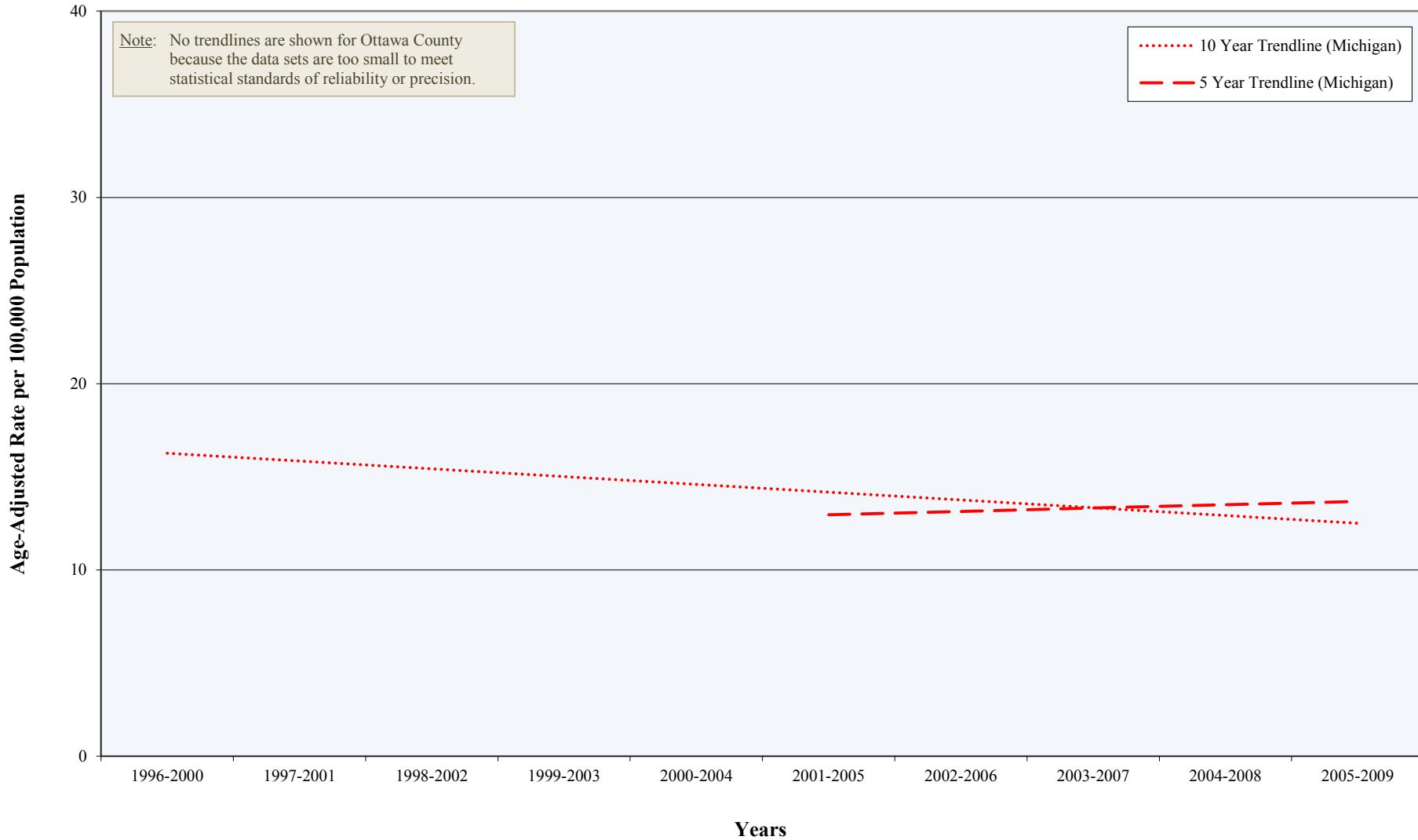
Intentional Self-Harm/Suicide Deaths Among Persons Age 75 and Older (1980-2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Intentional Self-Harm/Suicide Deaths Among Persons Age 75 and Older

5 and 10 Year Trends



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics

Intentional Self-Harm/Suicide (1989, 1999, 2009)

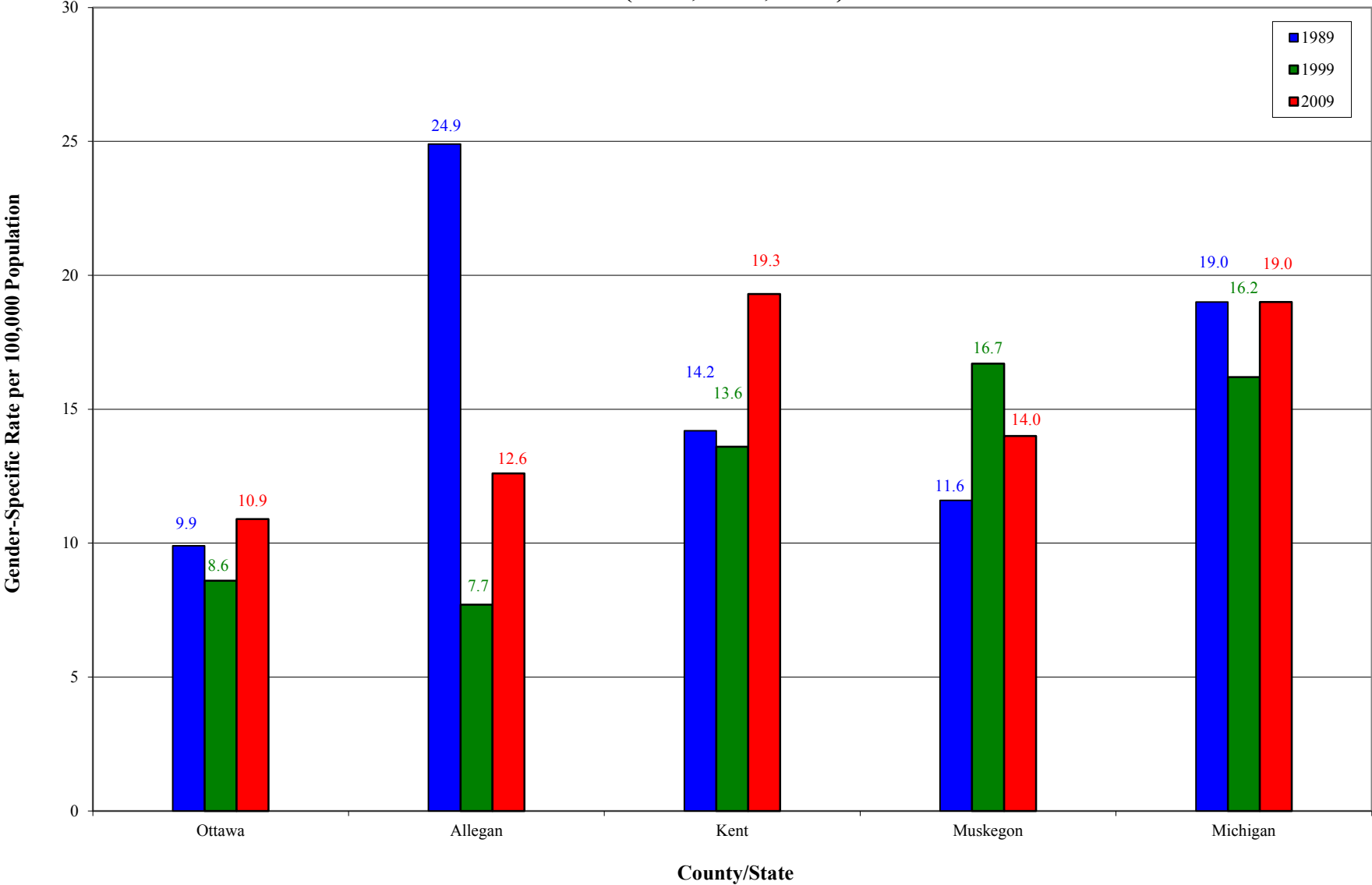
Deaths by Gender (Ottawa County, Adjacent Counties, State)

Year	Deaths per 100,000 Population*									
	Male					Female				
	Ottawa	Allegan	Kent	Muskegon	Michigan	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	9.9	24.9	14.2	11.6	19.0	2.1	0.0	5.1	3.7	4.0
1999	8.6	7.7	13.6	16.7	16.2	0.8	3.8	4.1	4.7	3.6
2009	10.9	12.6	19.3	14.0	19.0	3.7	1.8	5.2	4.6	4.8

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

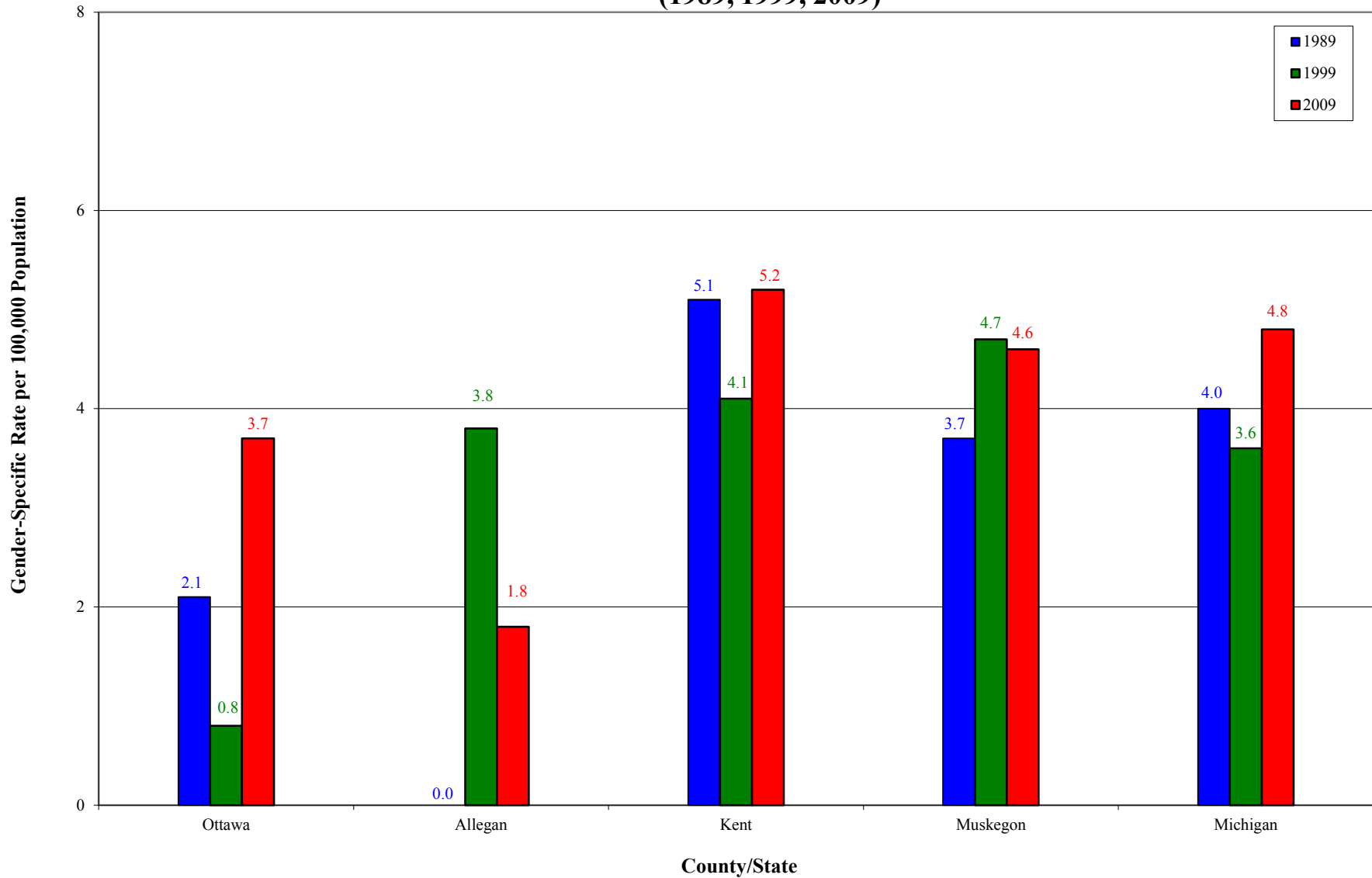
* Death rates are gender-specific and refer to the population of that gender

Intentional Self-Harm/Suicide Deaths Among Males (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Intentional Self-Harm/Suicide Deaths Among Females (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

Intentional Self-Harm/Suicide Deaths (1989, 1999, 2009)

Years of Potential Life Lost* (Ottawa County, Adjacent Counties, State)

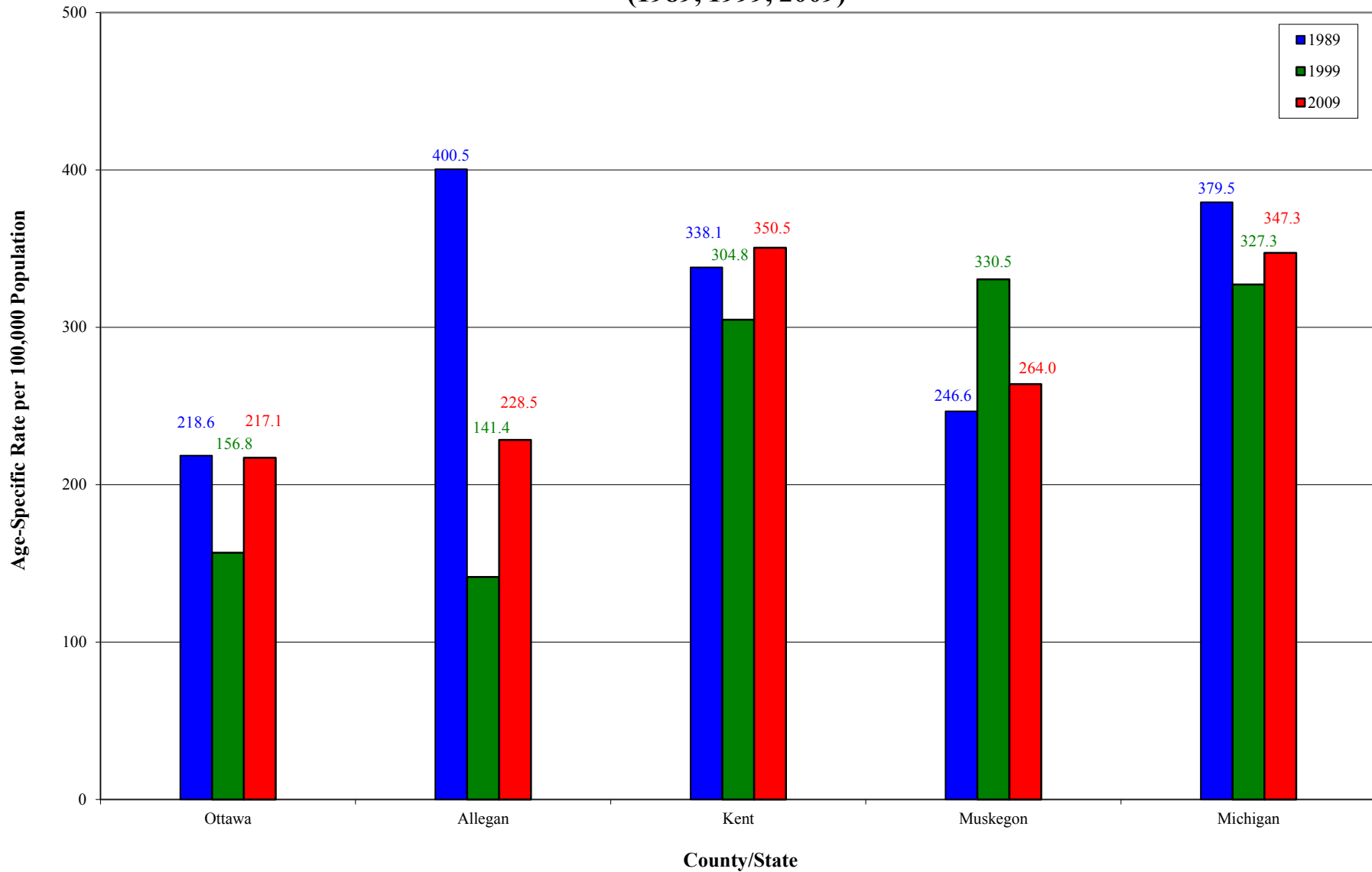
Years of Potential Life Lost per 100,000 Population**					
Year	Ottawa	Allegan	Kent	Muskegon	Michigan
1989	218.6	400.5	338.1	246.6	379.5
1999	156.8	141.4	304.8	330.5	327.3
2009	217.1	228.5	350.5	264.0	347.3

Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau

* Years of Potential Life Lost (YPLL) is a measure of premature mortality, or mortality among the population younger than 75

** YPLL is calculated as the number of years between the age at death and 75 years of age for all persons who died before their 75th birthday. The YPLL rate is age-specific and refers to the population who is under 75 years of age

Years of Potential Life Lost from Intentional Self-Harm/Suicide Deaths (1989, 1999, 2009)



Source: Michigan Department of Community Health, Michigan Resident Death Files, Division for Vital Records & Health Statistics; U.S. Census Bureau