

STROKE IN THE CITY OF CLEVELAND

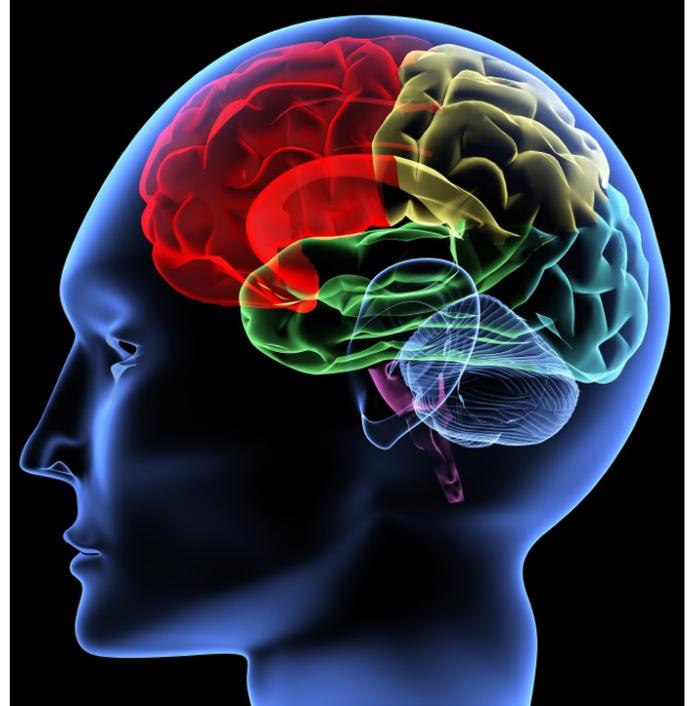
CLEVELAND DEPARTMENT OF PUBLIC HEALTH OFFICE OF MINORITY HEALTH

What is Stroke?

Stroke is the result of blood flow being blocked to the brain. When the blood flow is interrupted, the brain cells start to die very quickly. A stroke can also be caused by sudden bleeding in the brain. This can cause long-lasting damage to the brain. Stroke is the fifth leading cause of death in the United States. Annually, 800,000 individuals in the United States will have a stroke (CDC, 2016). A stroke is a serious medical condition that requires immediate medical care.

Types of Stroke

There are three main types of stroke: ischemic, hemorrhagic, and transient ischemic attack (TIA; or a “mini-stroke”). Most strokes that occur are ischemic (about 85%; CDC, 2013). In ischemic strokes, the artery that supplies blood to the brain is blocked. Often, these blockages are caused by blood clots. Hemorrhagic strokes occur when an artery in the brain leaks blood or ruptures. This leakage causes pressure and consequently damages brain cells. High blood pressure or aneurysms often lead to a hemorrhagic stroke. There are two types of hemorrhagic strokes: intracerebral hemorrhage (the most common type of hemorrhagic stroke; it occurs when an artery in the brain bursts) and subarachnoid hemorrhage (a less common type of hemorrhagic stroke; refers to bleeding in the area between the brain and the thin tissue surrounding it) (CDC, 2013). TIAs are often referred to as “mini-strokes” because the blood flow to the brain is only blocked for a short amount of time. However, a TIA is a warning sign of a future stroke; they still require the same medical care as a major stroke. Like ischemic strokes, TIAs are often caused by a blood clot. More than one-third of individuals who have a TIA will have a major stroke within a year if they do not receive treatment, and 10-15% will have a major stroke with three months of having a TIA (CDC, 2013).



Signs and Symptoms

- Sudden numbness or weakness in the face, arm, or leg; especially if it occurs on one side of the body
- Sudden confusion, trouble speaking, or difficulty understanding speech
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance, or lack of coordination
- Sudden severe headache with no known cause

Risk Factors

Those who have had a stroke are at a high risk to have another stroke; 1 in 4 stroke survivors will have another stroke within five years (CDC, 2014). In order to reduce the chances for a future stroke, it is important to treat the risk factors for stroke. Some of these risk factors include heart disease, high blood pressure, atrial fibrillation, high cholesterol, and diabetes. These risk factors can often be controlled through diet, exercise, and medication. Rehabilitation in the forms of speech, physical, and occupational therapy are often needed for stroke patients.

Strokes have many risk factors. Some factors cannot be controlled, like heredity, age, gender, and ethnicity. However, medical conditions that are a risk factor for stroke can be modified. Some of these risk factors include high blood pressure, high cholesterol, heart disease, diabetes, being overweight or obese, smoking, or consuming too much alcohol. Eating a healthy diet, getting plenty of exercise, and avoiding smoking or consuming too much alcohol can greatly reduce the risk of stroke (CDC, 2016).

Age is the most important risk factor for strokes; the risk for stroke increases with age. In fact, the chance of having a stroke doubles every 10 years after 55 years old (CDC, 2014). Strokes are also more likely to occur in men than in women; however, women are more likely to have a fatal stroke (CDC, 2014). Women who are pregnant or take birth control pills are also at an increased risk for stroke. African Americans, Hispanics, American Indians, and Alaskan Natives also have a higher risk of stroke than non-Hispanic Caucasians or Asians. The risk of stroke is almost double in African Americans compared to Caucasians; African Americans are also more likely to have a fatal stroke (CDC, 2014).

Treatment

If an individual seeks treatment for an ischemic stroke within three hours of its occurrence, a doctor may prescribe a thrombolytic ("clot-busting" drug) in order to break up the blood clots. These types of drugs improve the chances of recovering from a stroke; many studies have shown that patients who received a thrombolytic drug are more likely to make a full recovery or have less disability than patients who do not receive these drugs (CDC, 2014). Other types of procedures may also be necessary to stop the bleeding in the brain.

F **FACE** Ask the person to smile. Does one side of the face droop?

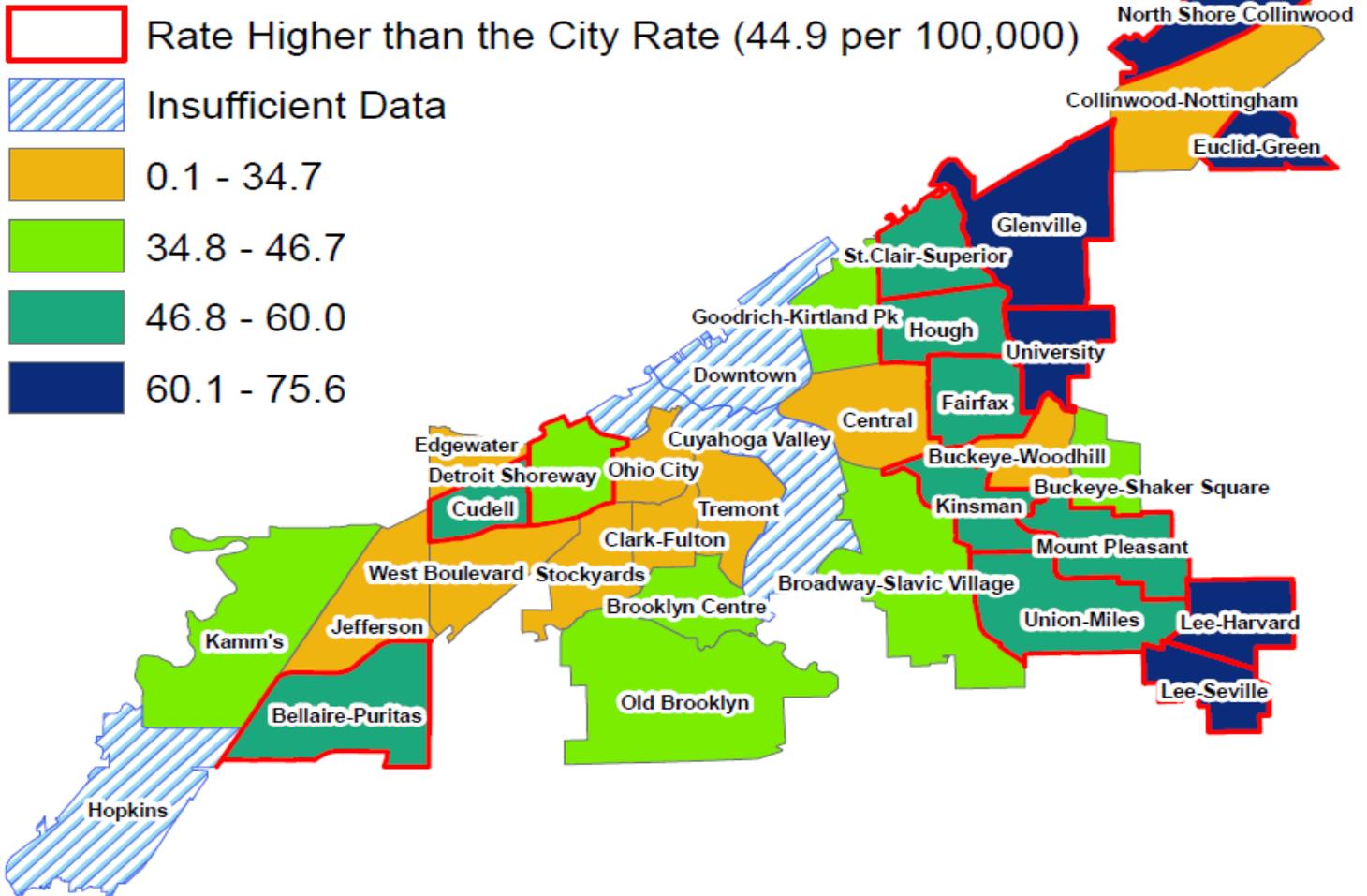
A **ARMS** Ask the person to raise both arms. Does one arm drift downward?

S **SPEECH** Ask the person to repeat a simple phrase. Is their speech slurred or strange?

T **TIME** If you observe any of these signs, call 9-1-1 immediately.

Which Neighborhoods had the Highest Rates of Stroke?

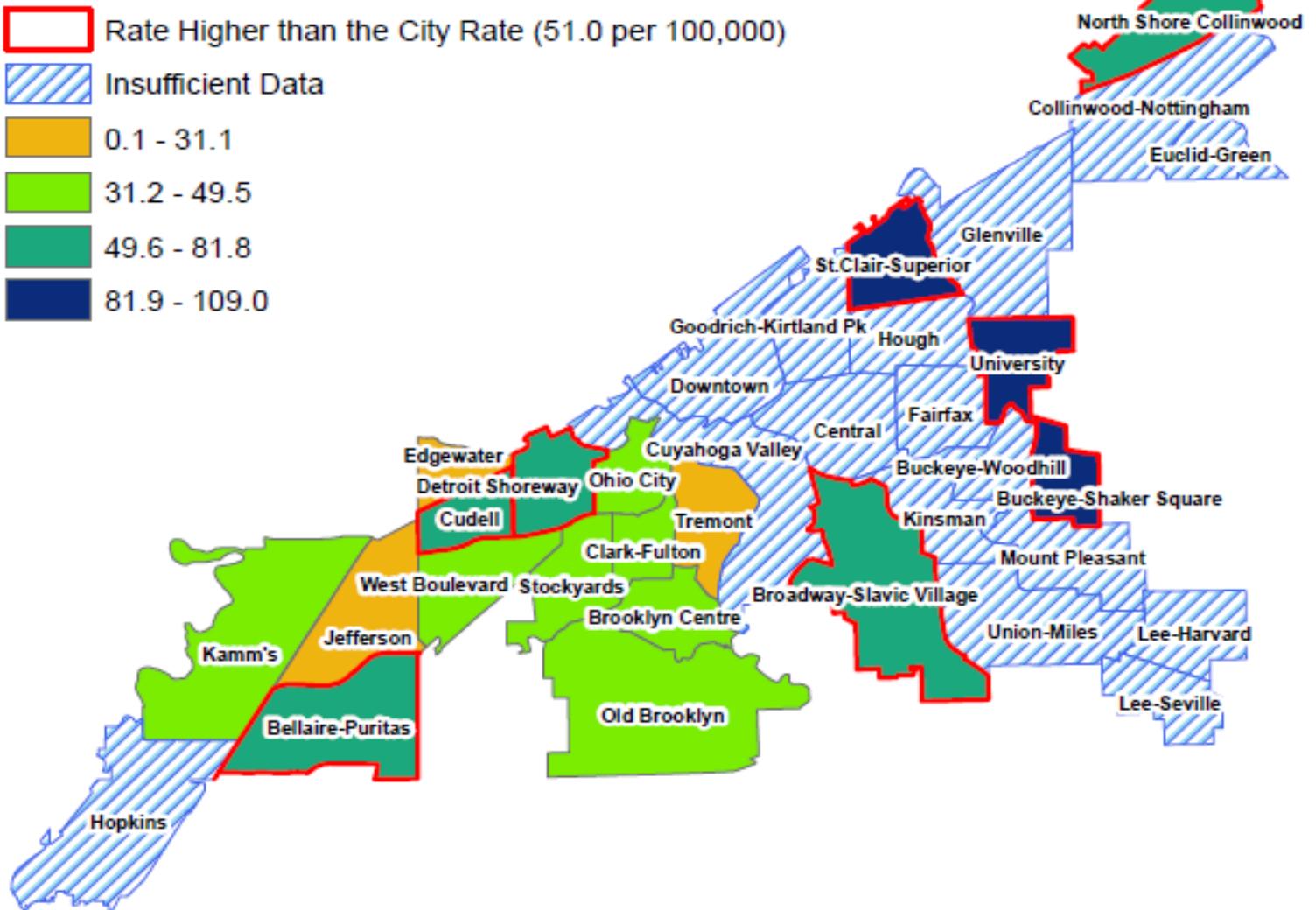
Crude Rate of Stroke Mortality, 2010-2014



The 15 neighborhoods outlined in red have higher rates than the city average of 44.9 per 100,000. Lee-Harvard and Lee-Seville have the highest stroke mortality rates of 75.5 and 75.6 persons per 100,000.

Neighborhood	Rate	Neighborhood	Rate	Neighborhood	Rate
Bellaire-Puritas	49.4	Euclid-Green	65.1	North Shore Collinwood	63.4
Broadway-Slavic Village	40.1	Fairfax	57.7	Ohio City	29.8
Brooklyn Centre	38	Glenville	64.5	Old Brooklyn	42.5
Buckeye-Shaker Square	44.9	Goodrich-Kirtland Pk	42.5	St.Clair-Superior	52.4
Buckeye-Woodhill	33	Hough	54	Stockyards	34.7
Central	21.1	Jefferson	26.6	Tremont	22.6
Clark-Fulton	23.4	Kamm's	38.9	Union-Miles	60
Collinwood-Nottingham	27.7	Kinsman	51.5	University	70.7
Cudell	51.7	Lee-Harvard	75.5	West Boulevard	32.8
Detroit Shoreway	46.7	Lee-Seville	75.6	Total	45.5
Edgewater	34.2	Mount Pleasant	50.8		

Crude Rate of Stroke Mortality in Caucasians, 2010-2014

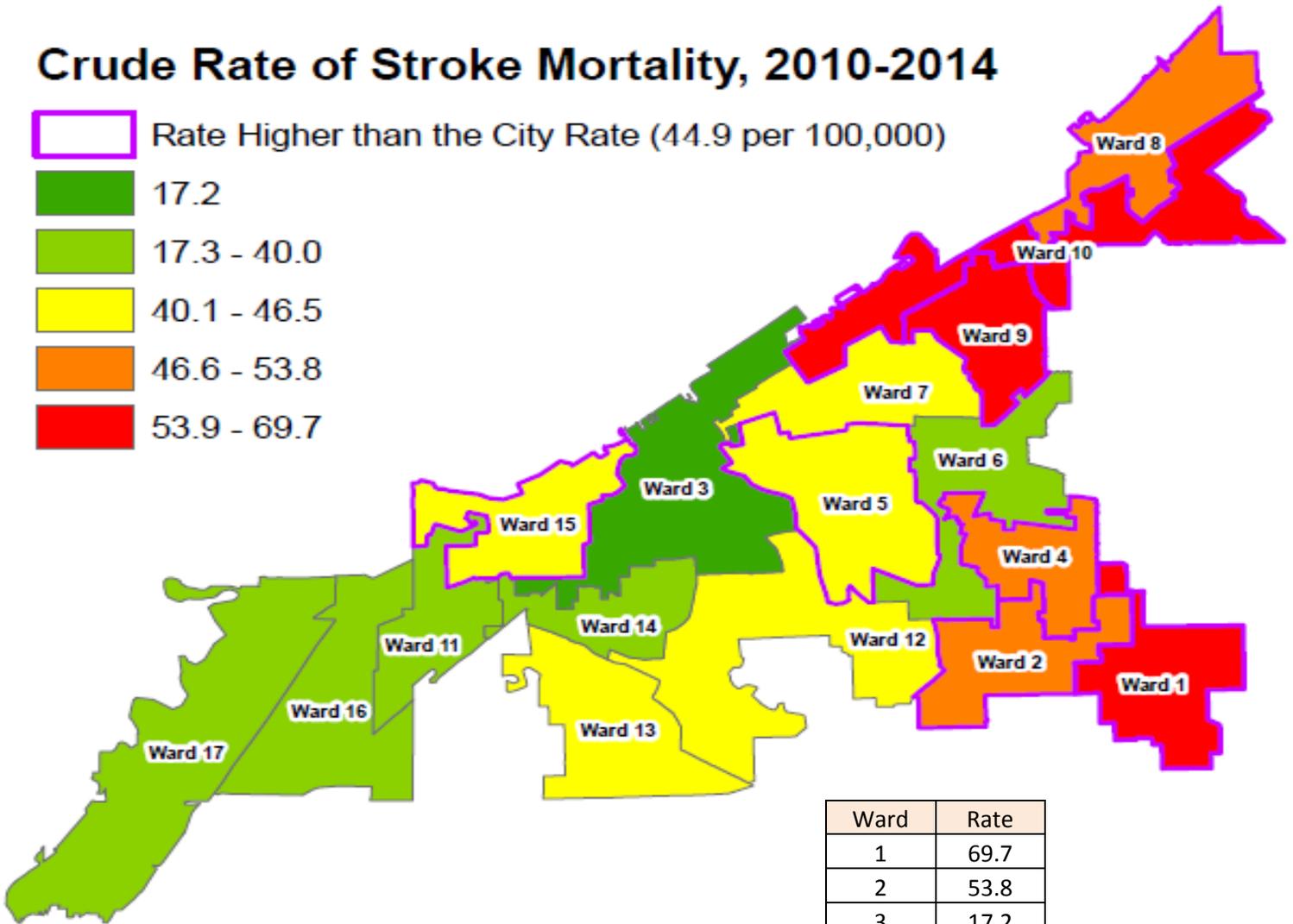
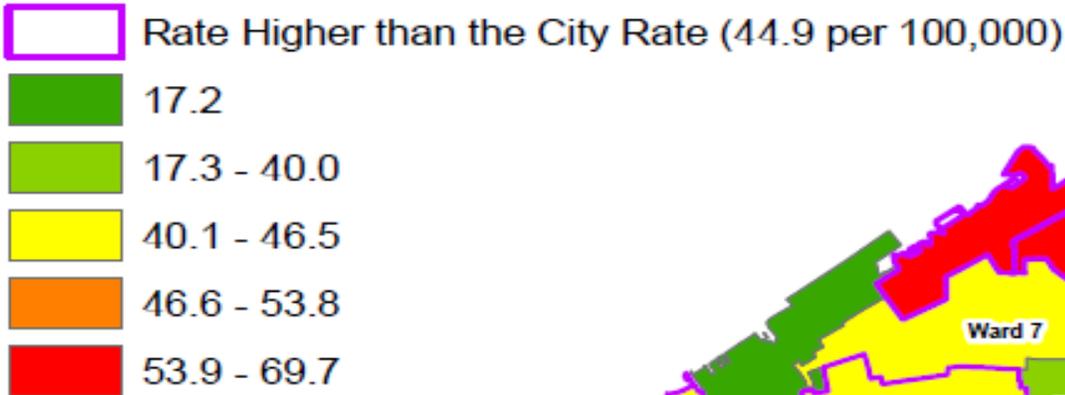


The 8 neighborhoods outlined in red have a higher stroke mortality rate among Caucasians than the city average among Caucasians of 52.4 per 100,000. St. Clair-Superior had the highest stroke mortality rate of 109 persons per 100,000.

Neighborhood	Rate	Neighborhood	Rate	Neighborhood	Rate
Bellaire-Puritas	61.3	Edgewater	24.4	St.Clair-Superior	109
Broadway-Slavic Village	65.2	Jefferson	31.1	Stockyards	48.2
Brooklyn Centre	47	Kamm's	45.1	Tremont	29.4
Buckeye-Shaker Square	98.6	North Shore Collinwood	81.8	University	96.4
Clark-Fulton	41.3	Ohio City	40.4	West Boulevard	47.5
Cudell	80.7	Old Brooklyn	49.5	Total	52.4
Detroit Shoreway	69.8				

Which Wards had the Highest Rates of Stroke?

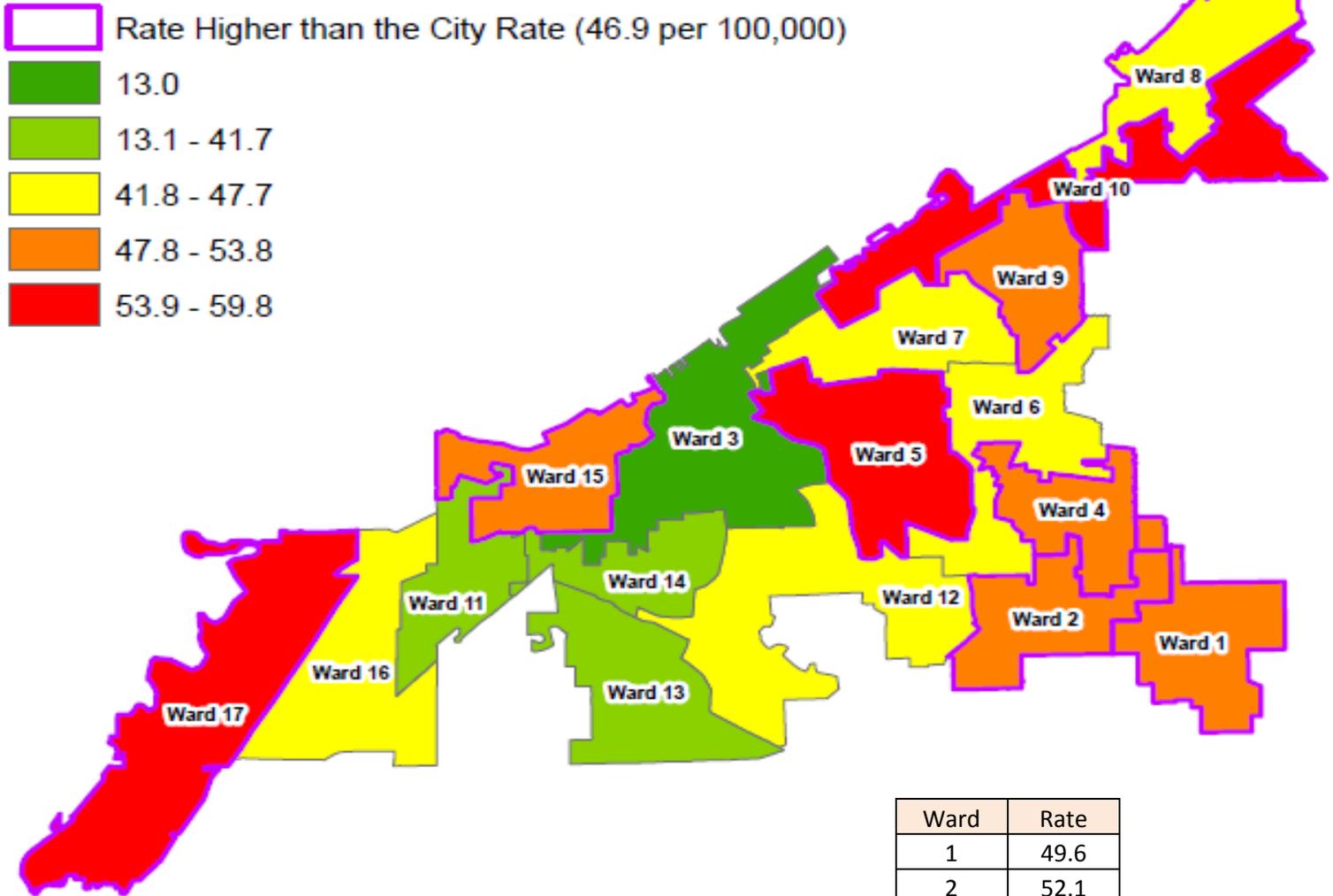
Crude Rate of Stroke Mortality, 2010-2014



Ward	Rate
1	69.7
2	53.8
3	17.2
4	51.3
5	46.5
6	33.7
7	44.8
8	52.6
9	58.5
10	58.4
11	40
12	42.1
13	43.2
14	32
15	45
16	38.7
17	39.5
Total	44.9

The 8 Wards outlined in purple have higher heart disease mortality rates than the city average of 44.9 per 100,000. Ward 1 had the highest stroke mortality rate of 69.7 persons per 100,000.

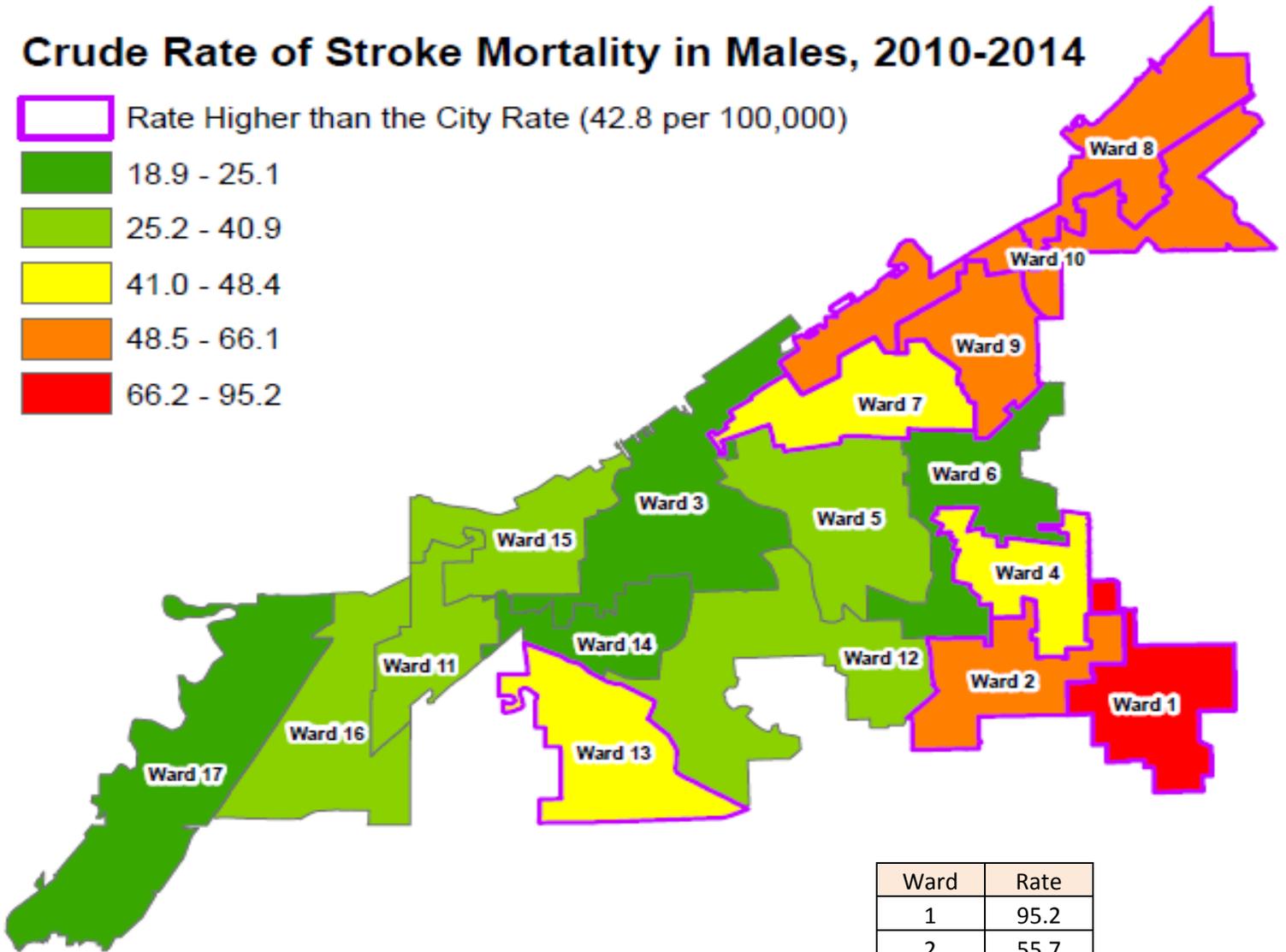
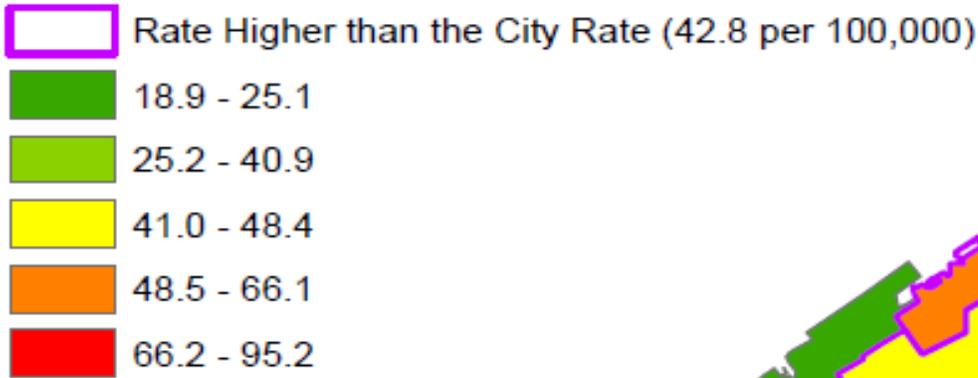
Crude Rate of Stroke Mortality in Females, 2010-2014



The 9 Wards outlined in purple have higher stroke mortality rate among Females than the city average among Females of 46.9 per 100,000. Ward 10 had the highest rate of 59.8 persons per 100,000.

Ward	Rate
1	49.6
2	52.1
3	13
4	53.8
5	56.6
6	46.8
7	45.2
8	47.7
9	51.9
10	59.8
11	41.7
12	45.3
13	40.2
14	38.5
15	49
16	44.6
17	54.9
Total	46.9

Crude Rate of Stroke Mortality in Males, 2010-2014



Ward	Rate
1	95.2
2	55.7
3	20.4
4	48.4
5	33.2
6	18.9
7	44.5
8	58.3
9	66.1
10	56.7
11	38.3
12	38.9
13	46.4
14	25.1
15	40.9
16	32.5
17	22.5
Total	42.8

The Wards outlined in purple have higher stroke mortality rate among Males than the city average among Males of 42.8 per 100,000. Ward 1 had the highest rate of 95.2 persons per 100,000.

About the Minority Health Office

The goal of the Cleveland Office of Minority Health (COMH) is to identify local health disparity needs with an emphasis on informing, educating and empowering minority populations. The office is responsible for activating efforts to educate citizens and professionals on imperative health care issues and seeks to provide minority health data and technical assistance to local agencies working to improve the health status of minority populations. COMH diligently advocates and promotes equity. The Cleveland Local Office works with private and public partners to improve the effectiveness and efficiency of our collective efforts.

Health Resources

Stroke is a leading cause of disability; it reduces mobility in more than 50% of stroke survivors who are 65 or older. Strokes also cost the United States \$33 billion annually from cost of healthcare, medications, and loss of productivity (CDC, 2016). The Healthy People 2020 goals are: to improve cardiovascular health and quality of life through prevention, detection, and treatment of risk factors for heart attack and stroke; early identification and treatment of heart attacks and strokes; prevention of repeat cardiovascular events; and reduction in deaths from cardiovascular disease.

Sources:

About Stroke. (2014, October 09). Retrieved June 20, 2016, from <http://www.cdc.gov/stroke/about.htm>

Types of Stroke. (2013, December 06). Retrieved June 20, 2016, from http://www.cdc.gov/stroke/types_of_stroke.htm

Stroke Signs and Symptoms. (2015, April 30). Retrieved June 20, 2016, from http://www.cdc.gov/stroke/signs_symptoms.htm

Stroke Treatments. (2014, March 17). Retrieved June 20, 2016, from <http://www.cdc.gov/stroke/treatments.htm>

Heart Disease and Stroke. (n.d.). Retrieved November 1, 2016, from <https://www.healthypeople.gov/2020/topics-objectives/topic/heart-disease-and-stroke>

*Neighborhood and Ward Level Population Data were provided by Cleveland City Planning Commission. Data is from United States Census Bureau 2010 Decennial Census



CITY OF CLEVELAND
Mayor Frank G. Jackson

Cleveland Department of Public Health
Office of Minority Health (216) 664-3052
Office of Communicable Disease Surveillance
and Epidemiology (216) 664-3747

Version Date: November 2016