

Epidemiology & Diseases of the Community

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McLaren Bay Heart & Vascular

Disclosures

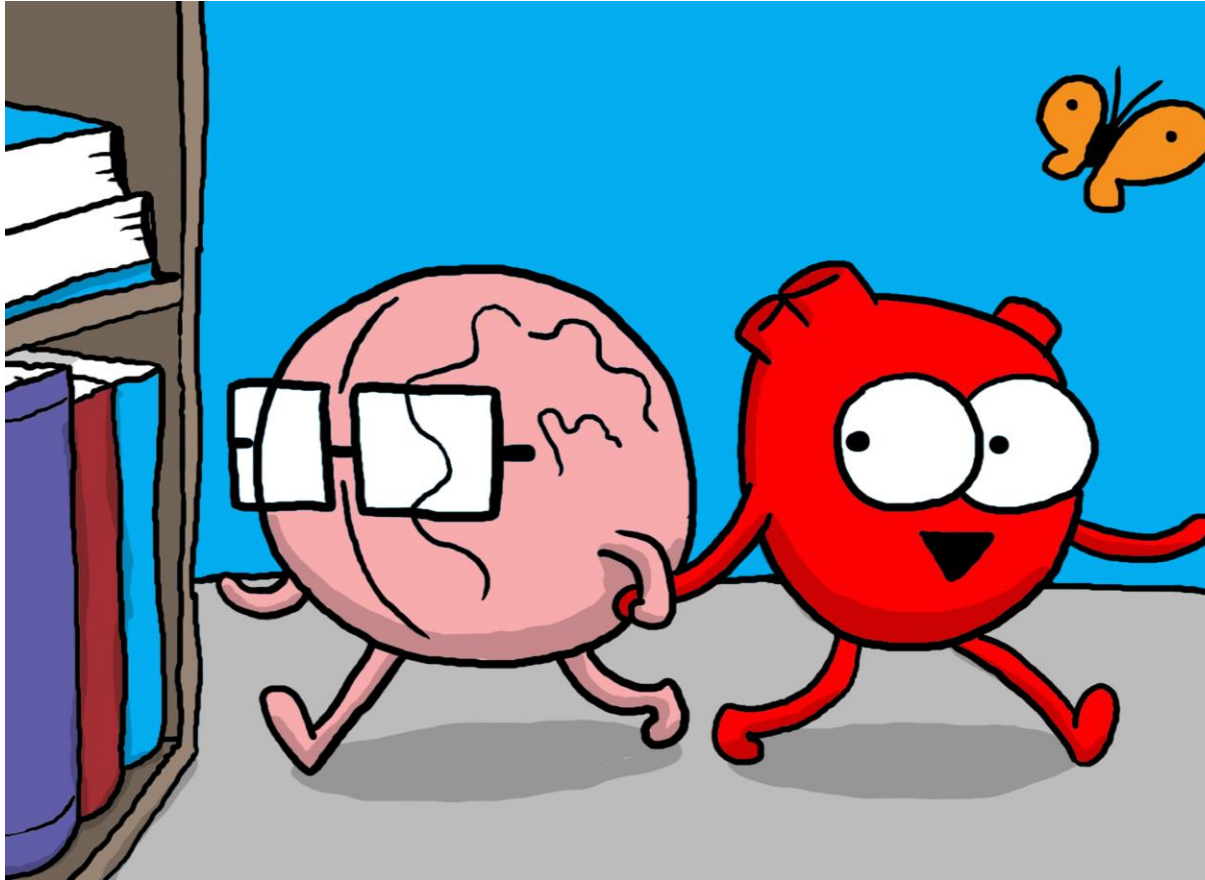
- No disclosures

Agenda

- Introduction
- Purpose
- Definitions
- Bay County Co
- MBR Provider
- MBR Patient S
- National Data
- My Experience



Agenda



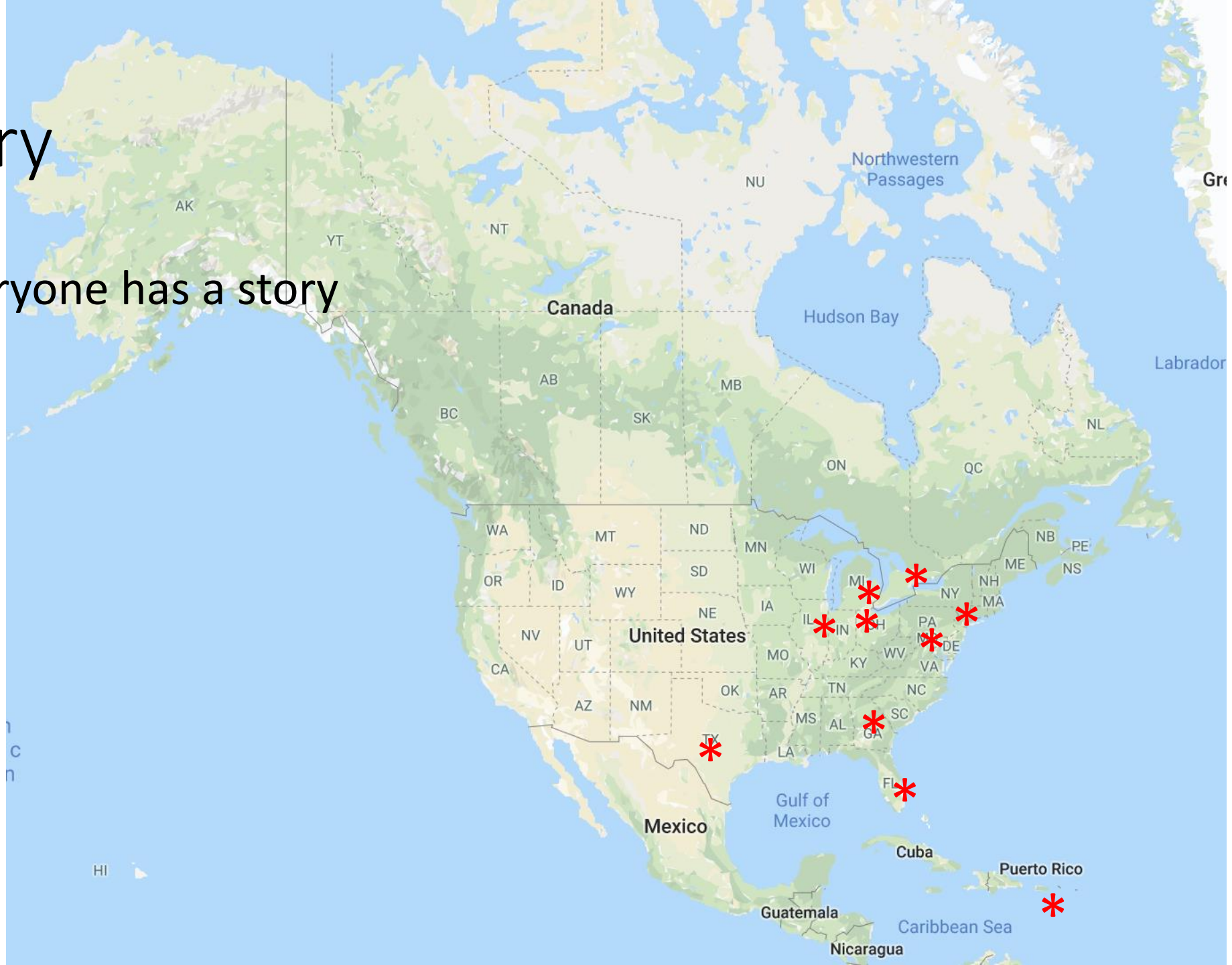
#FEEL

Introduction



Story

- Everyone has a story



Purpose

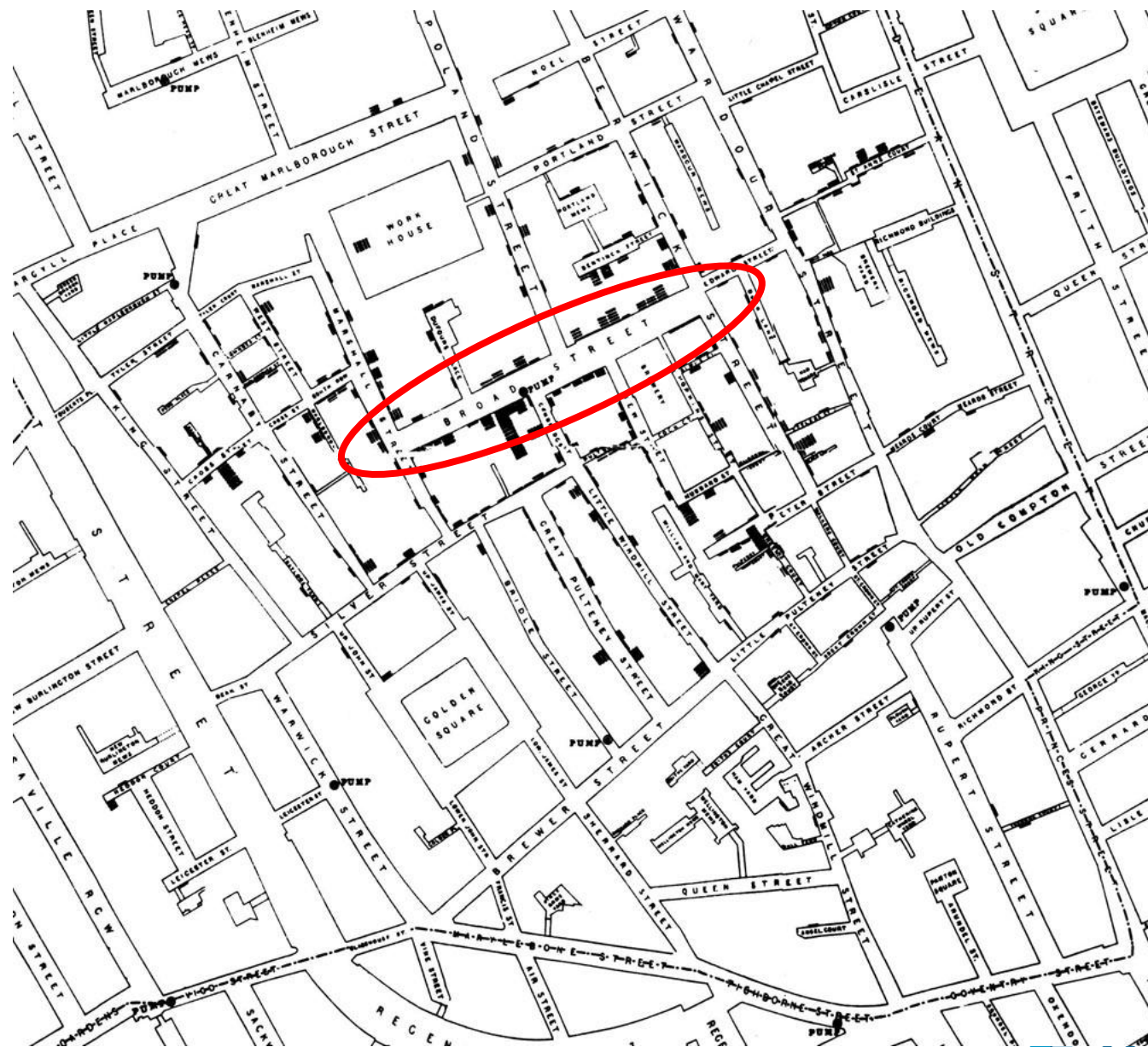
- “We got *a lot* of sick patients.”
- “You’re gonna be so *busy*, you’re not even gonna know what to do with yourself.”
- “Get ready to work... welcome to *the family*.”

To learn about Bay City, MI and understand the Patient Population we serve.



Definitions - Epidemiology

- The word *epidemiology* is derived from Greek terms meaning “upon” (*epi*), “the people” (*demos*), and “study” (*logos*) or “the study of what is upon the people.”
- Epidemiology is the study of the distribution and determinant of health and disease in populations.



Definitions – Community Health

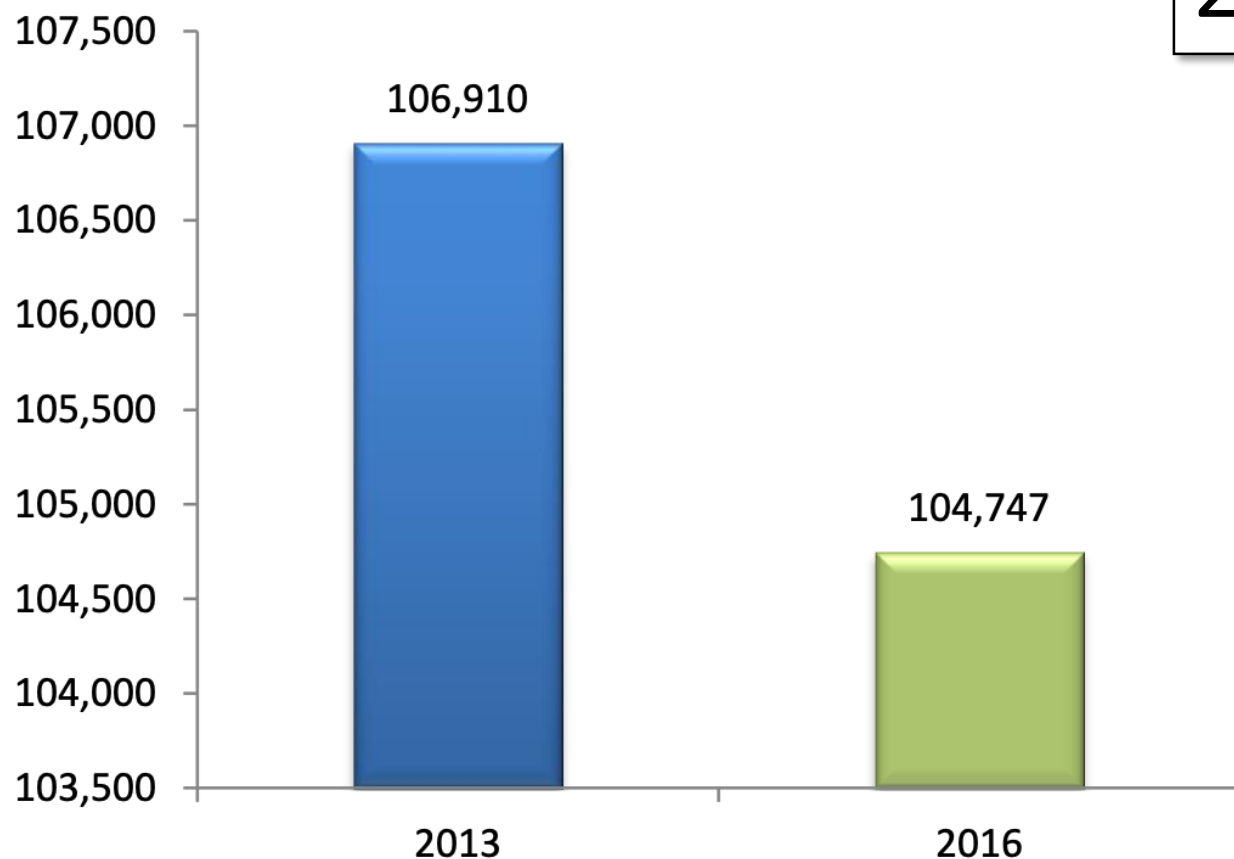
- Community health is a discipline of public health that is the study and improvement of the health-related characteristics of the relationships between people and their physical and social environments.

Community Health Needs Assessment

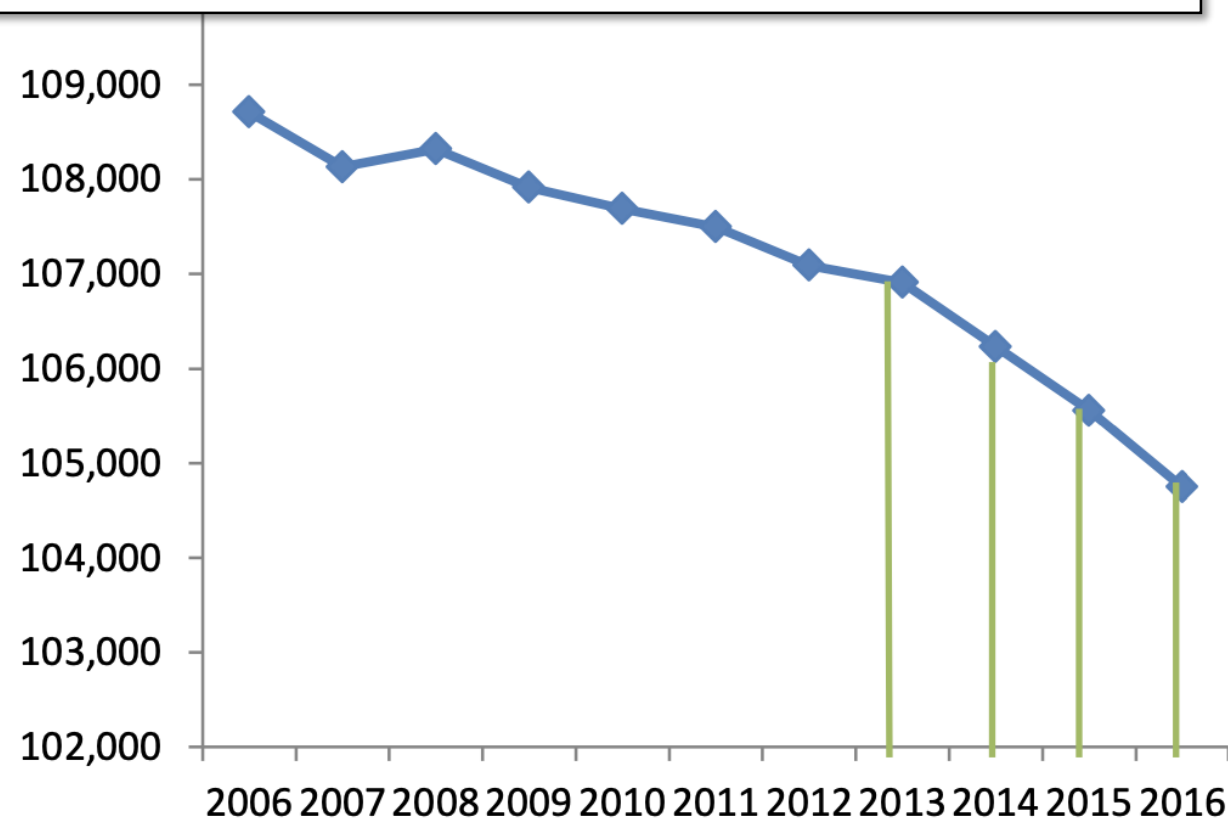


- Bay County Community Health Needs Assessment (CHNA) 2018
- Required by The Patient Protection and Affordable Care Act of 2010 for tax-exempt hospitals to create CHNA every 3 years

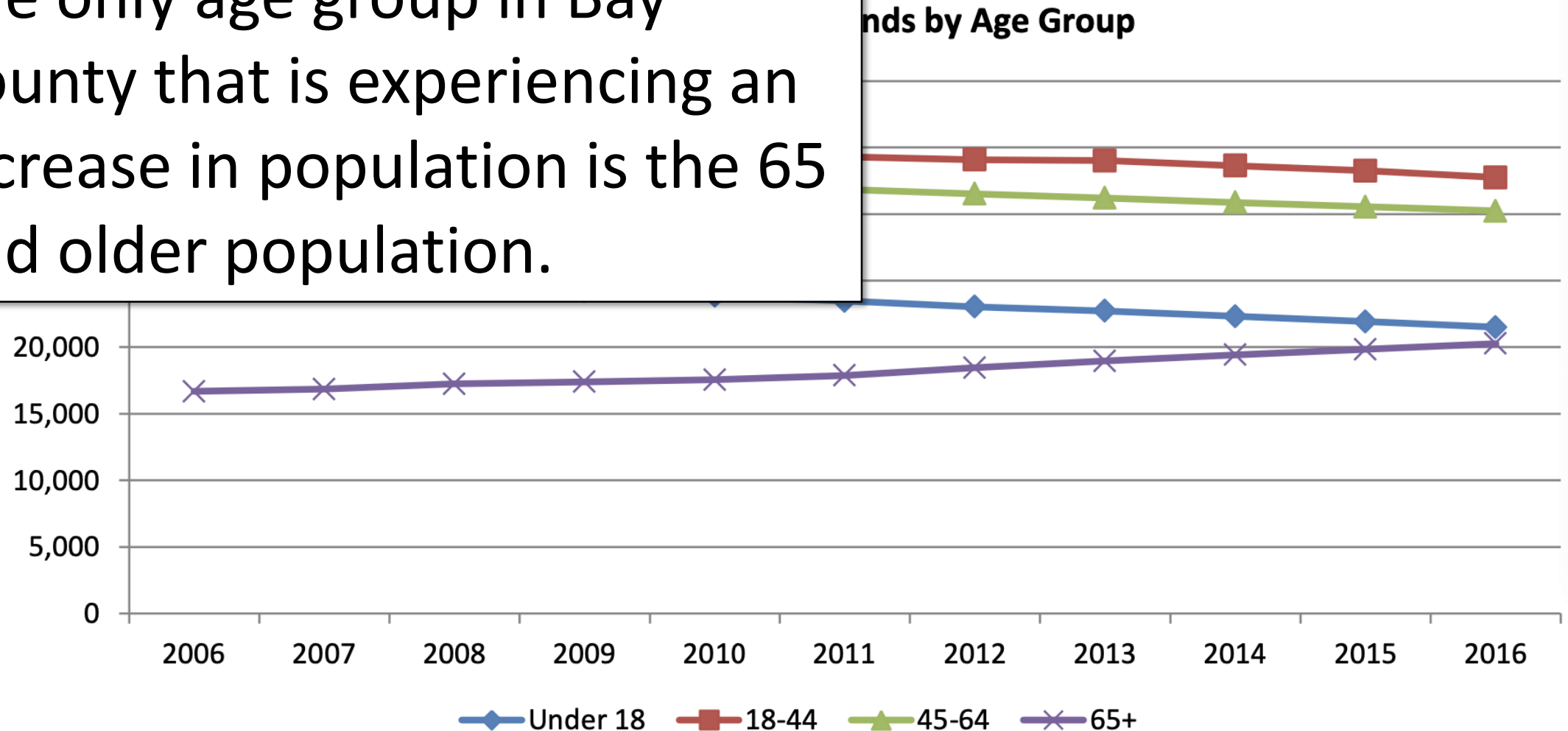
Bay County Total Population



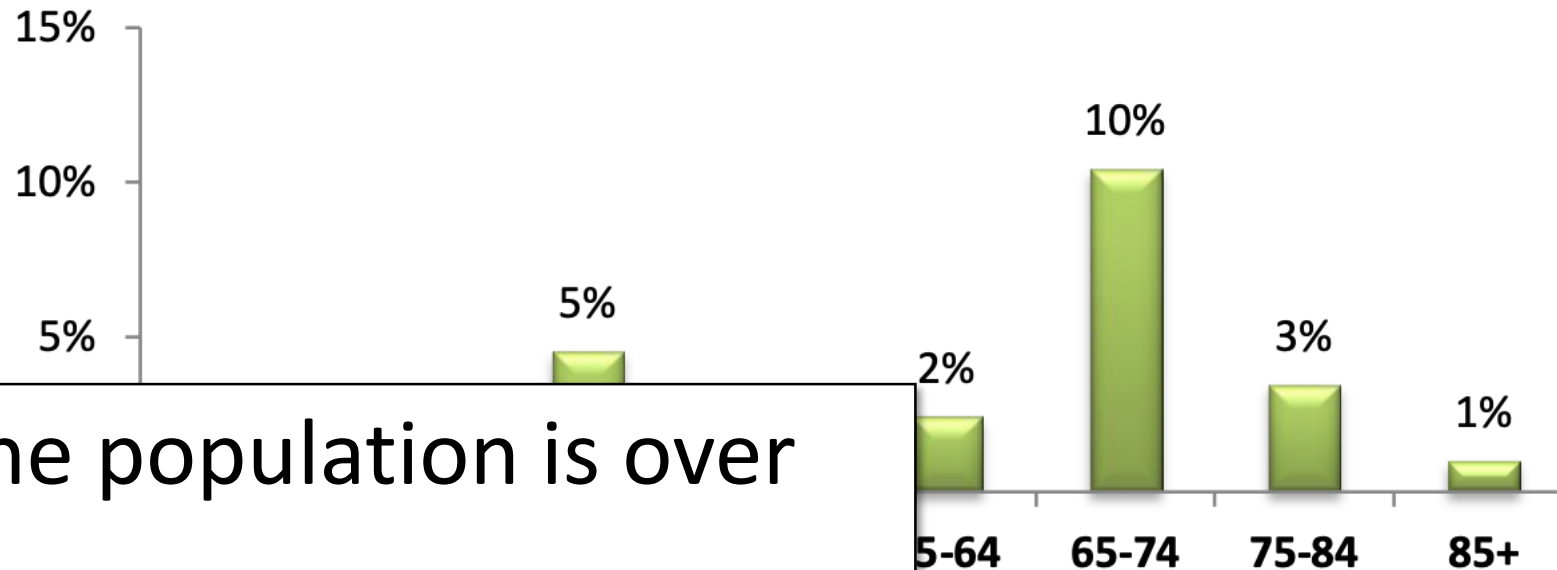
Steady decline in population:
2% in the last 3 years.



The only age group in Bay County that is experiencing an increase in population is the 65 and older population.



Percent Population Change Between 2013-2016 by Age Group



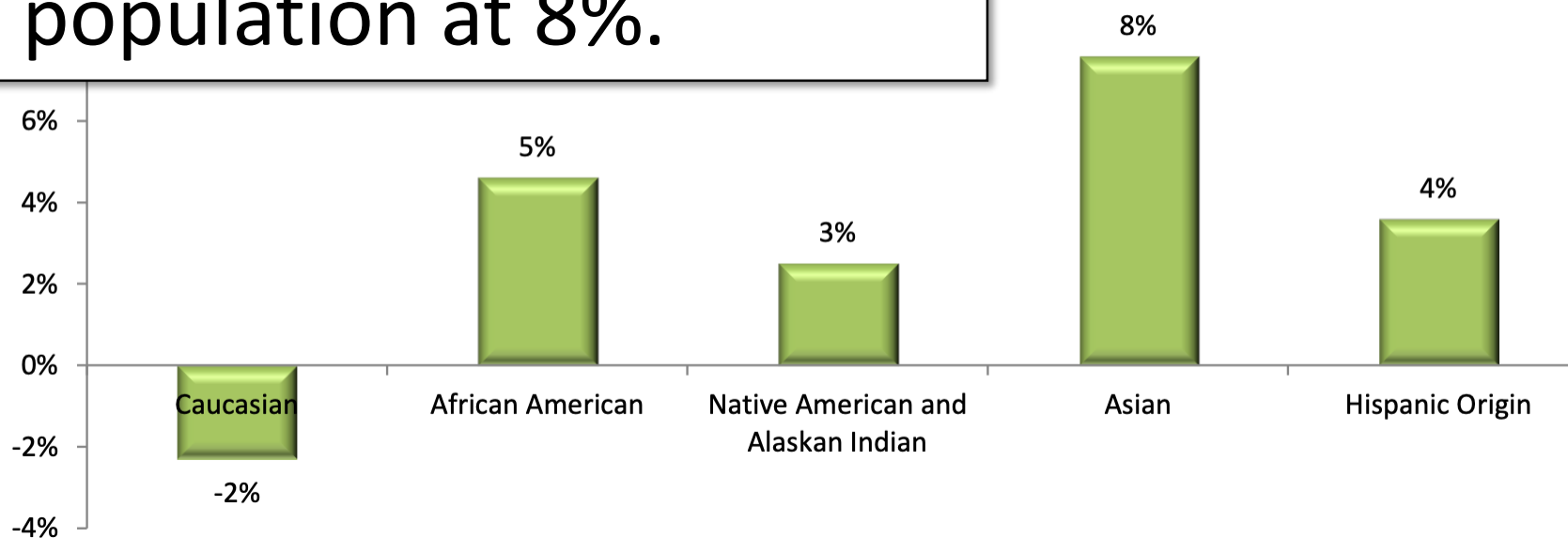
19% of the population is over age 65.

The greatest increase in population is amount 65-74 year olds at 10% over 3 years.

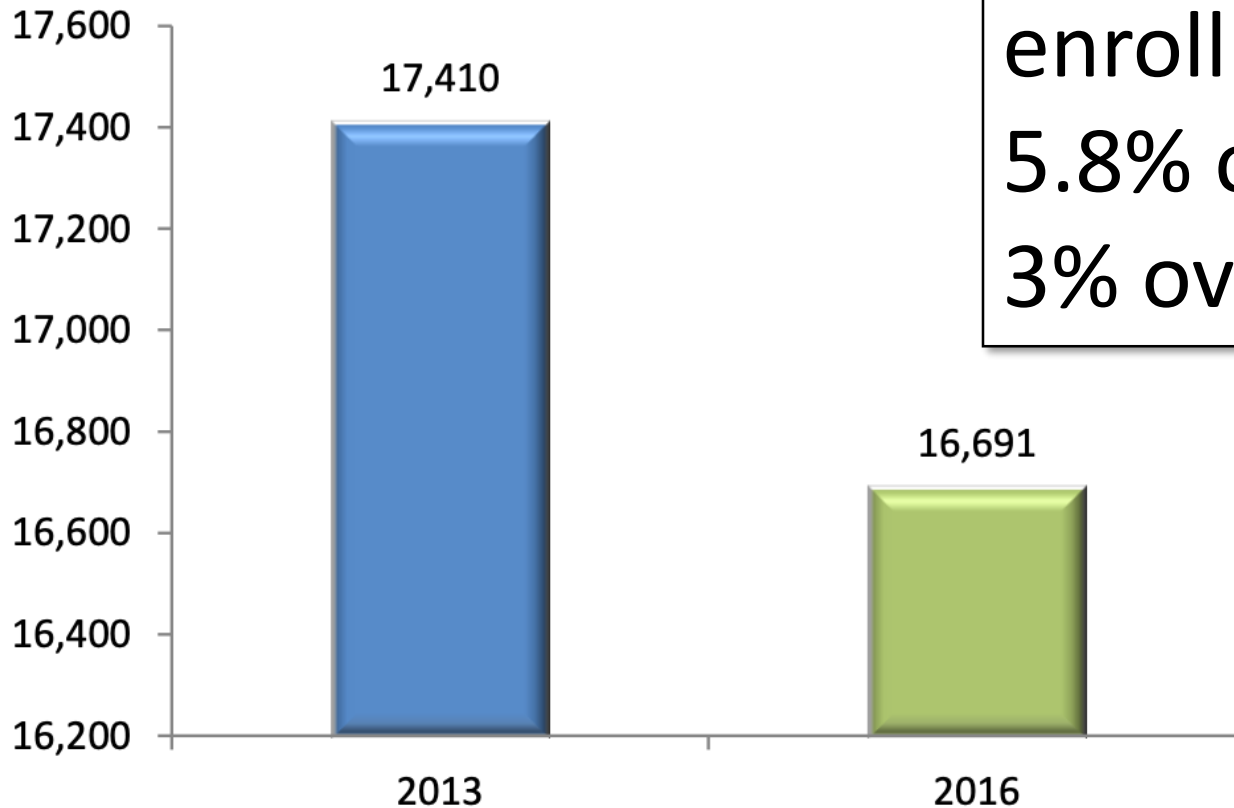
	Caucasian	African American	Hispanic Origin	Asian	American Indian and Alaskan Native
2012	96.3%	2.3%	4.9%	0.7%	0.7%
2013	96.2%	2.4%	4.9%	0.7%	0.7%
2014	96.0%	2.4%	5.1%	0.8%	0.8%
				0.8%	0.8%
				0.8%	0.8%

Steady increase of minority populations. Biggest increase – Asian population at 8%.

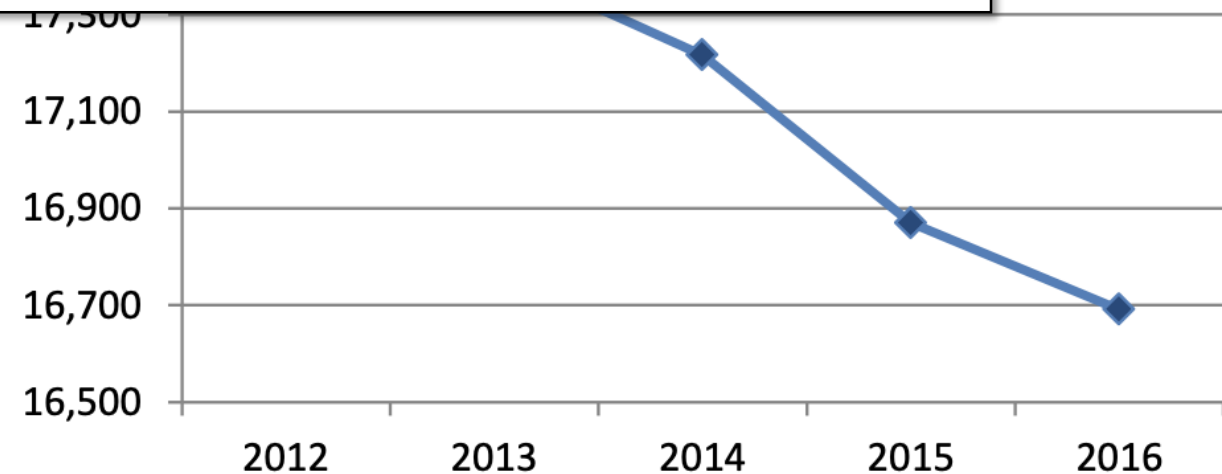
2013-2016 by Race



Bay County K-12 Enrollment

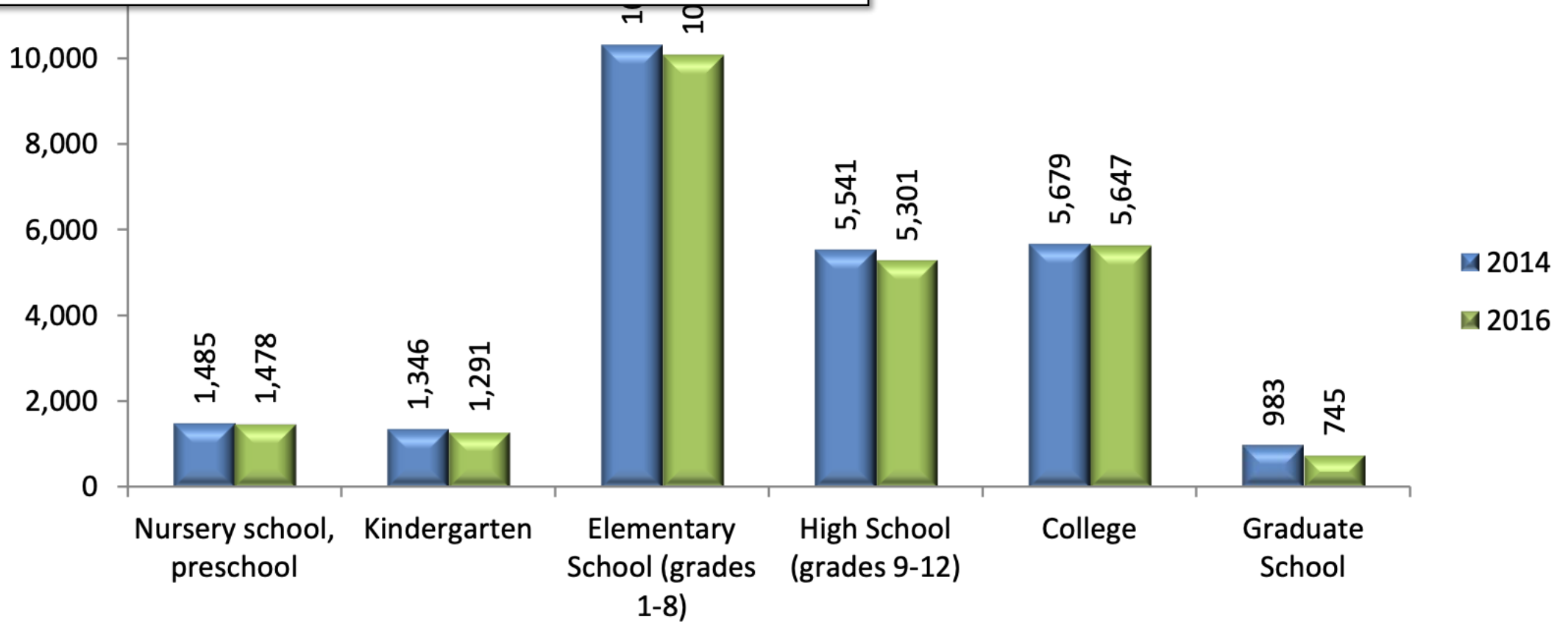


Steady decline in total K-12 enrollment.
5.8% over 4 years.
3% over 2 years.



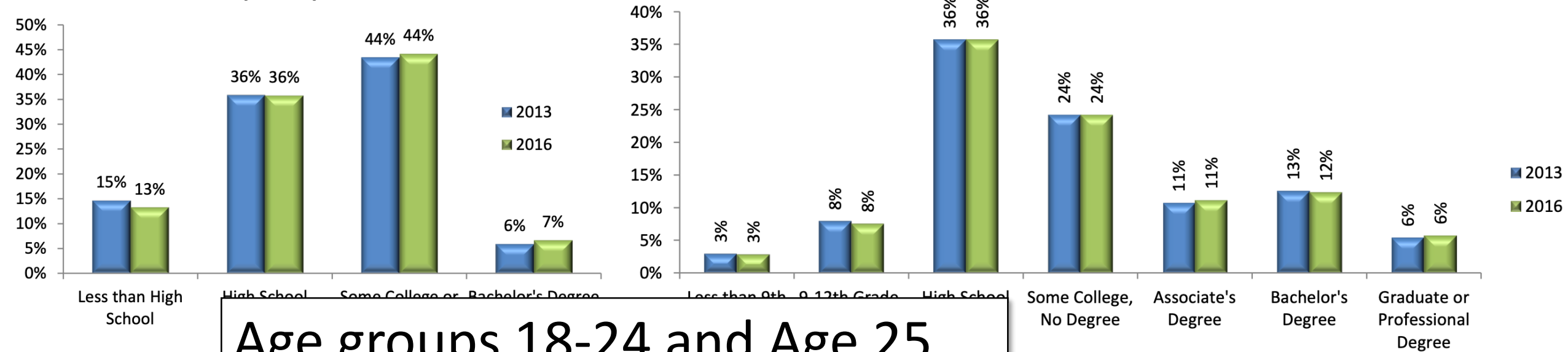
Decline enrollment in high school and graduate school.

Enrollment Numbers



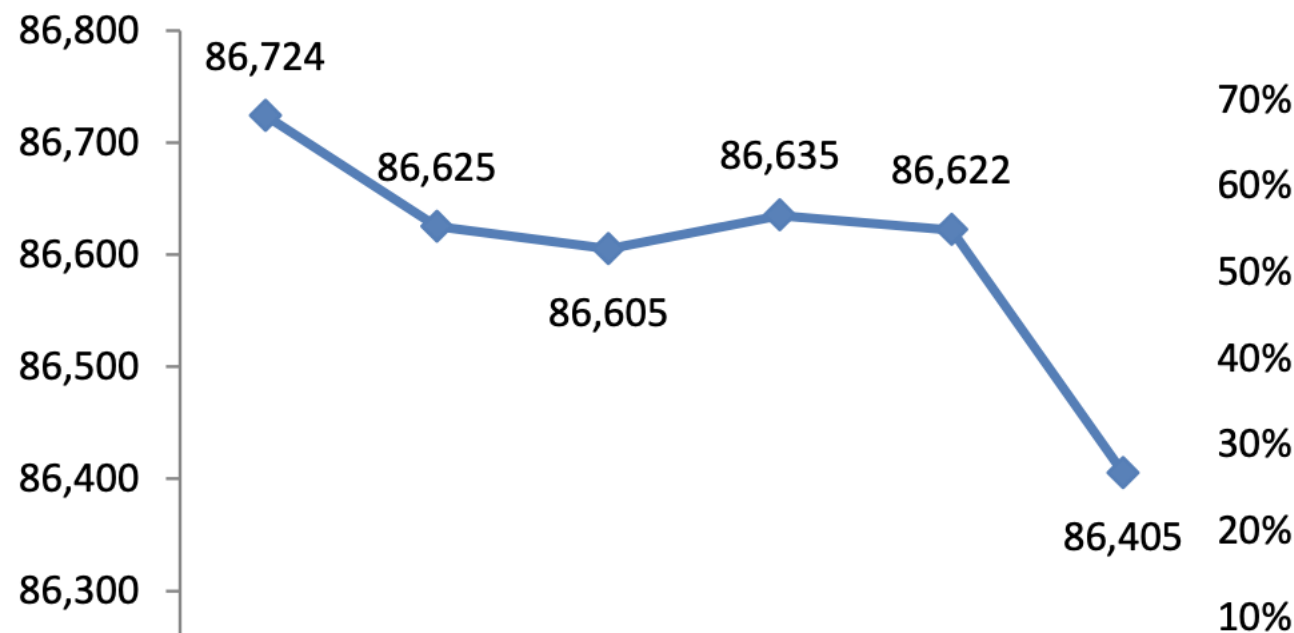
Educational Attainment - Percent Population Age 18-24 Bay County - 2013-2016

Educational Attainment - Percent Population Age 25 and Over - Bay County - 2013-2016

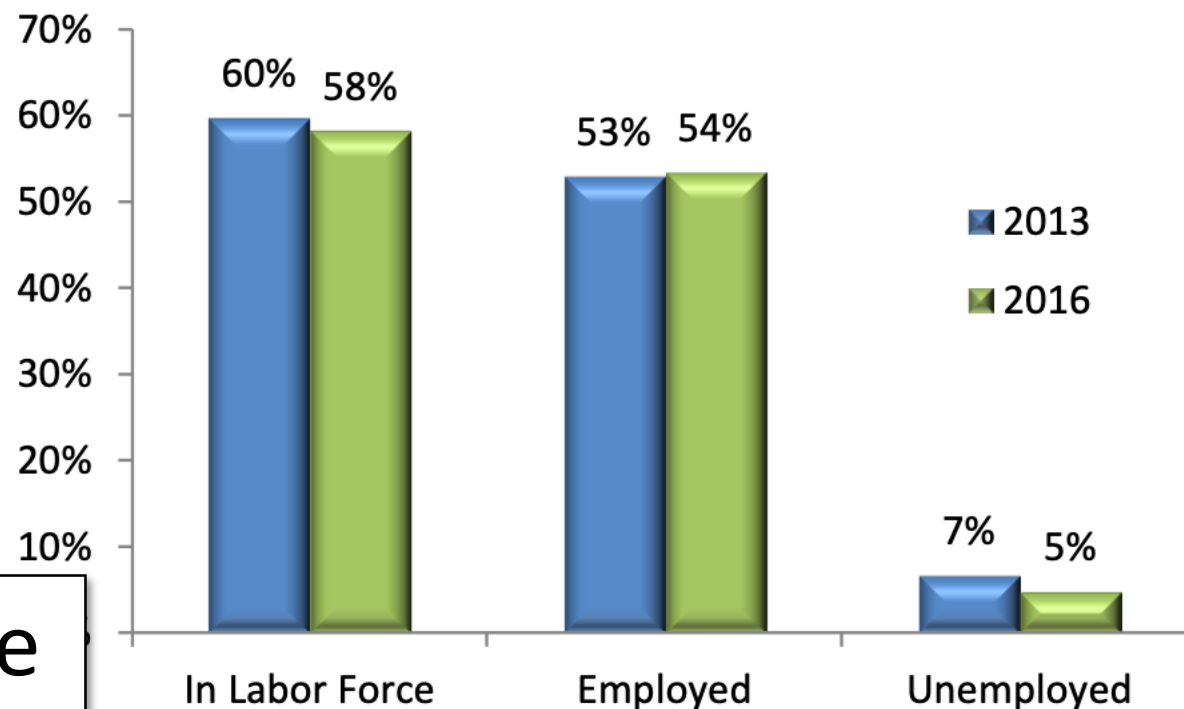


Age groups 18-24 and Age 25 and Over experienced consistent educational attainment.

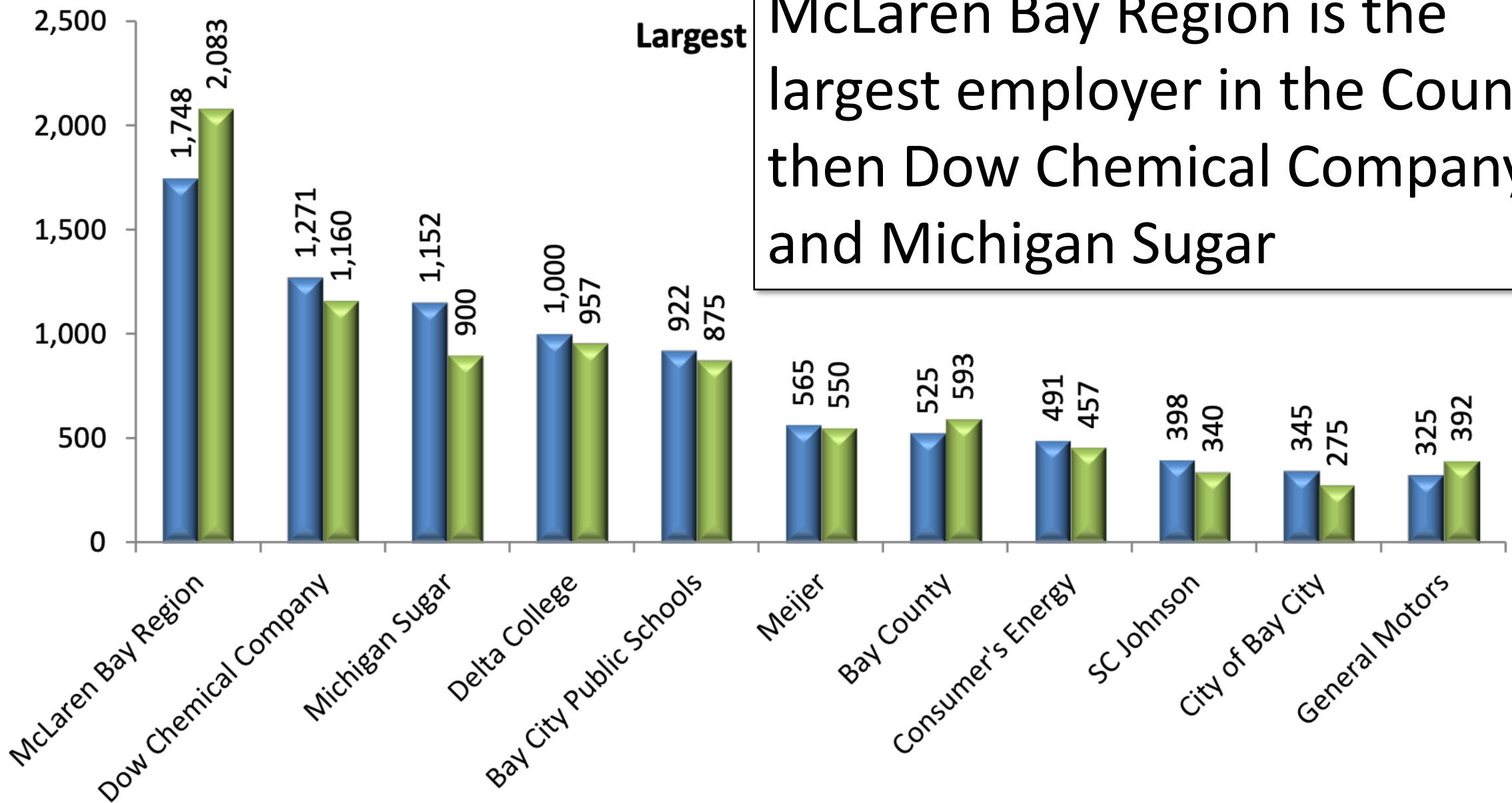
Total Population 16 and Over



Percent Population 16 and Over in Labor Force

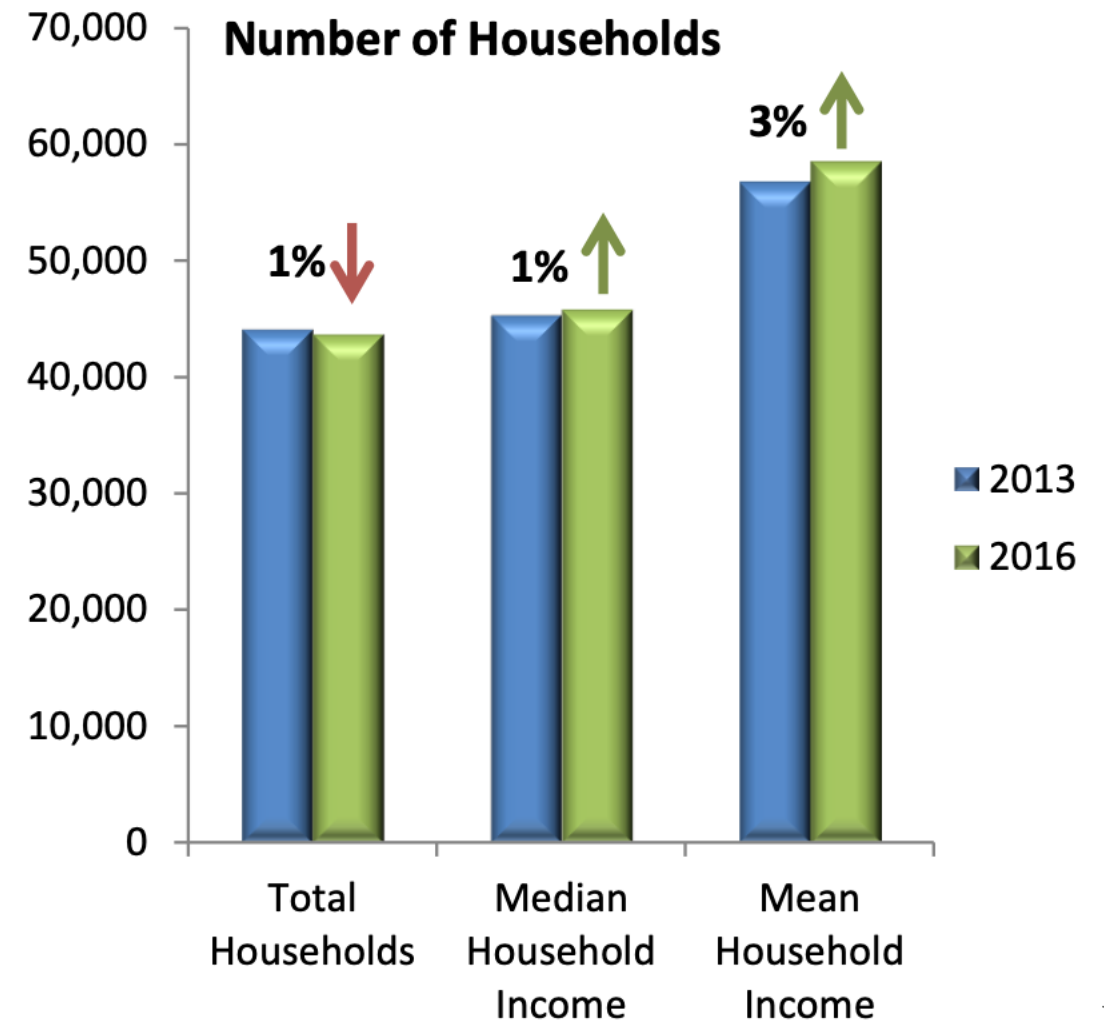
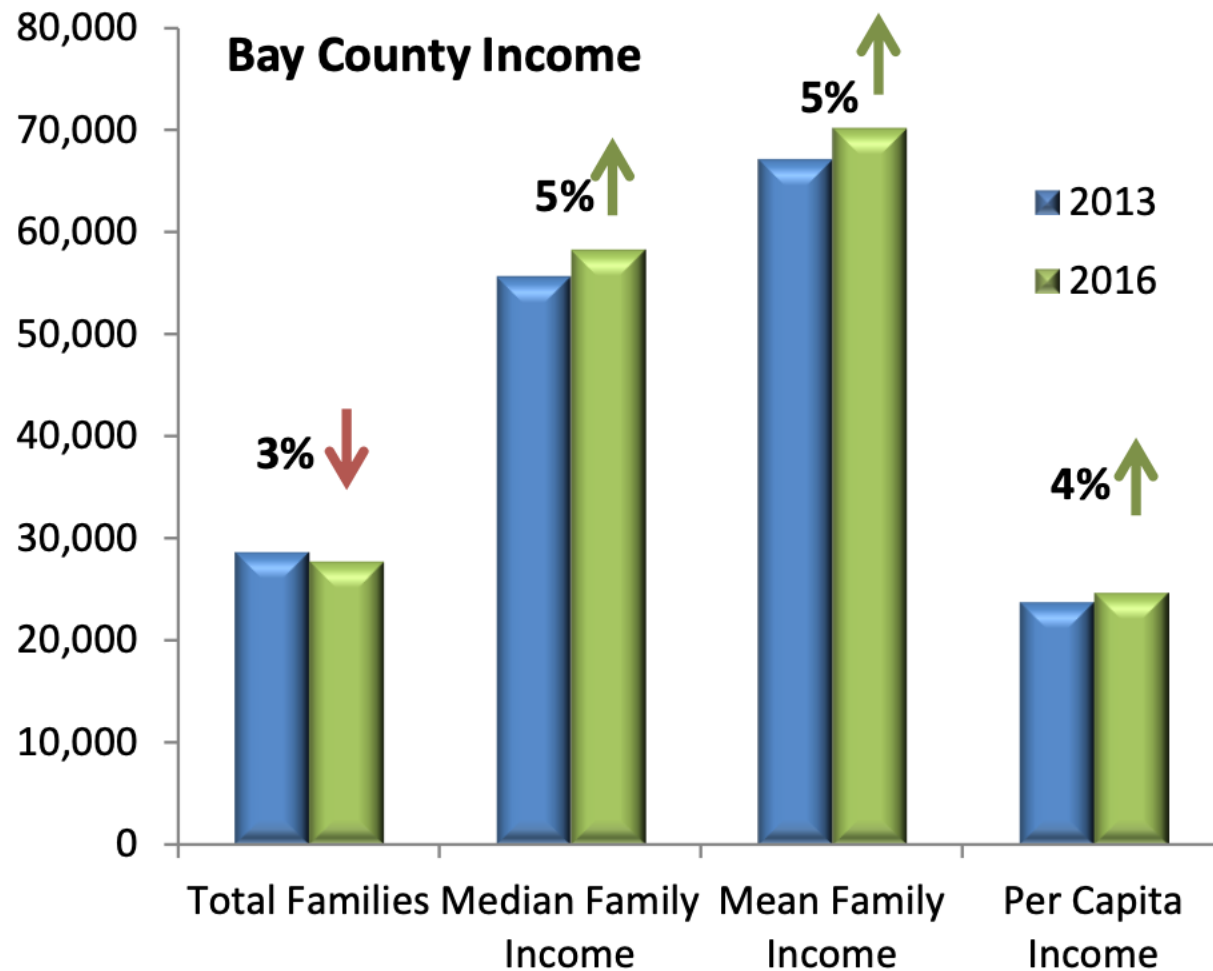


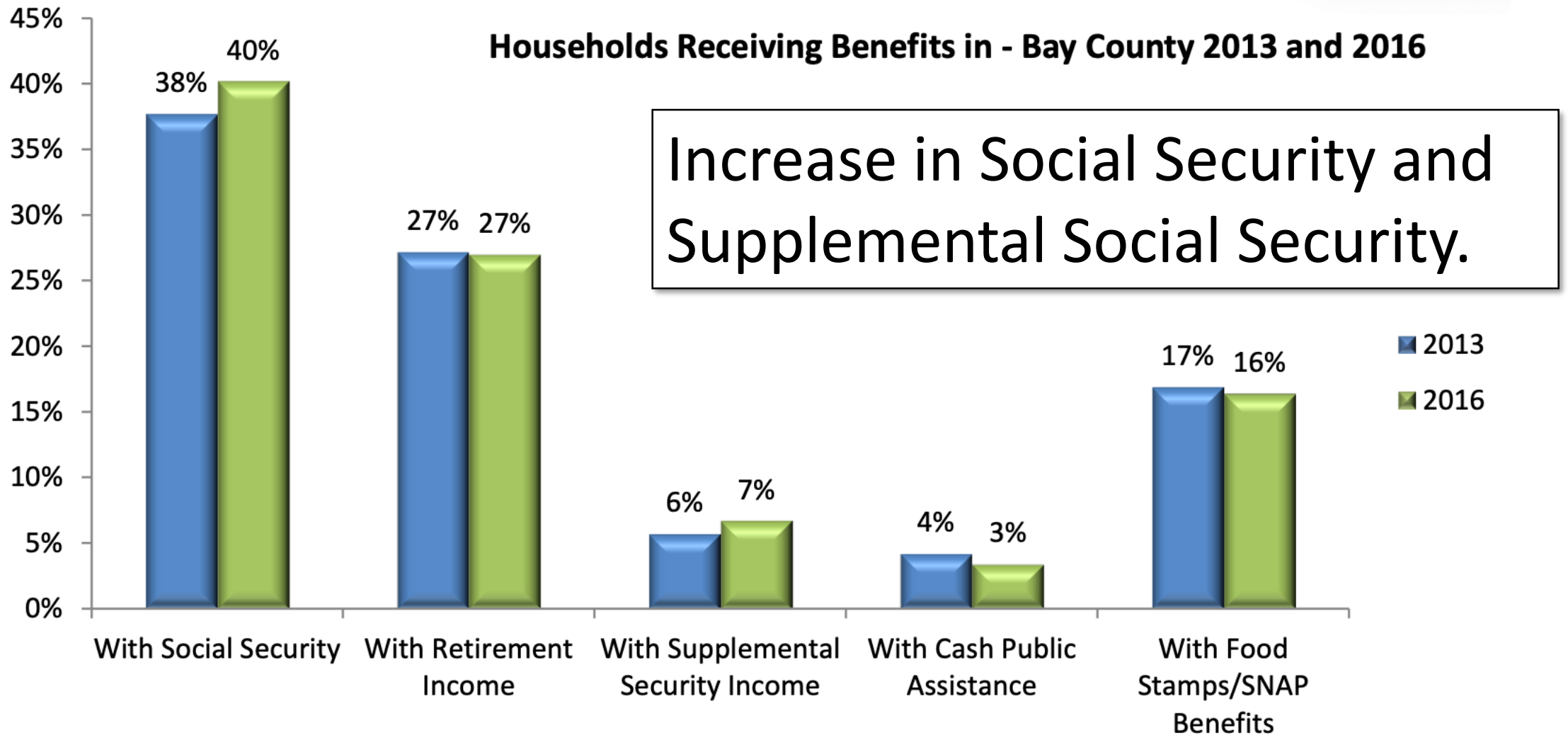
Slight decline in population age 16 and Over.
Higher employment – lower unemployment!



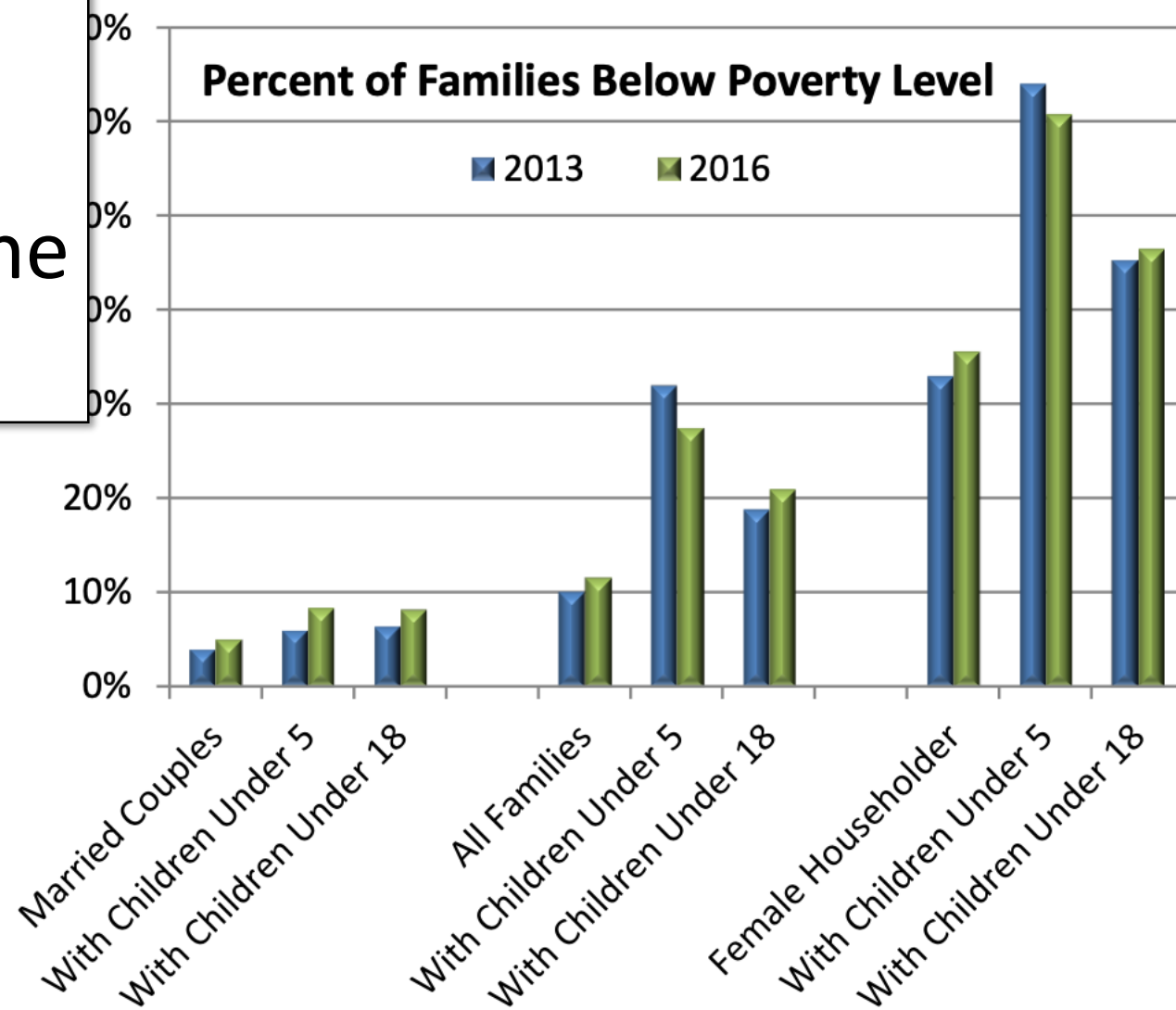
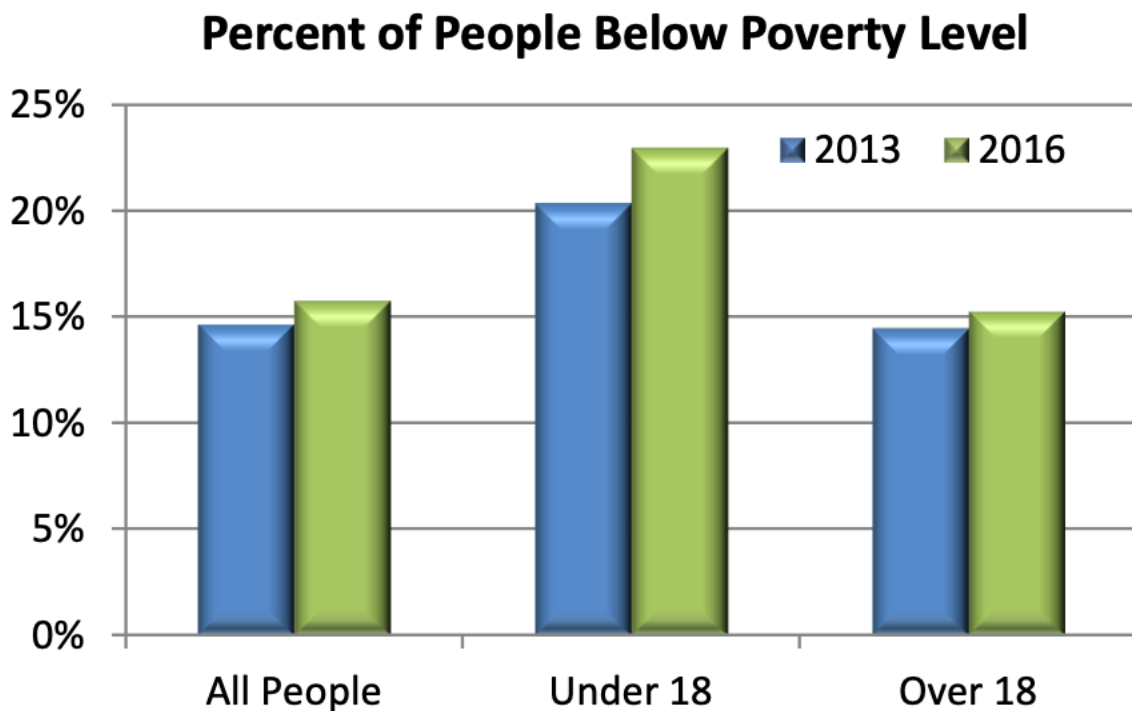
McLaren Bay Region is the largest employer in the County, then Dow Chemical Company and Michigan Sugar

Median and Mean Family Income has gone up by 5%.

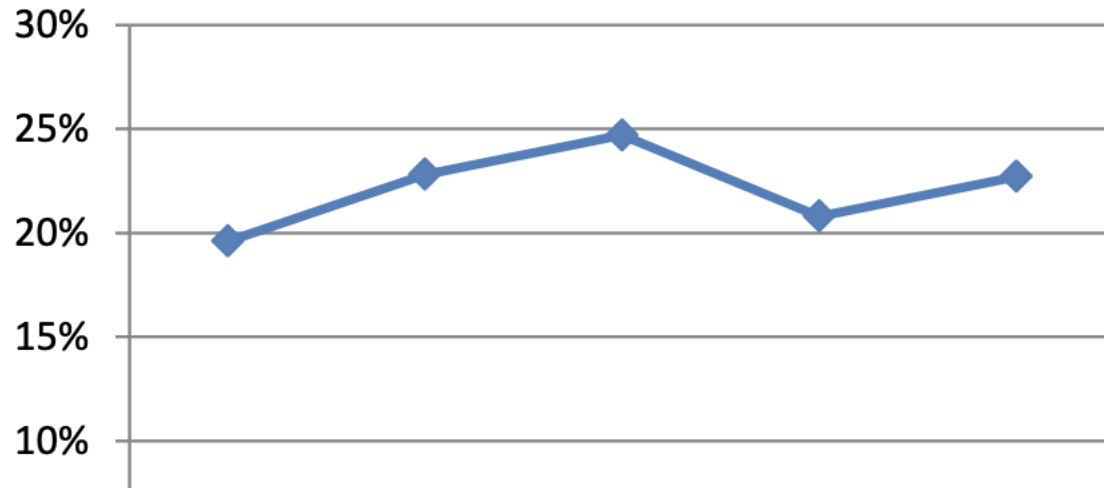




Increase in percentage of people below poverty level. Female Householders with children under 5 experience the highest incidence of poverty.

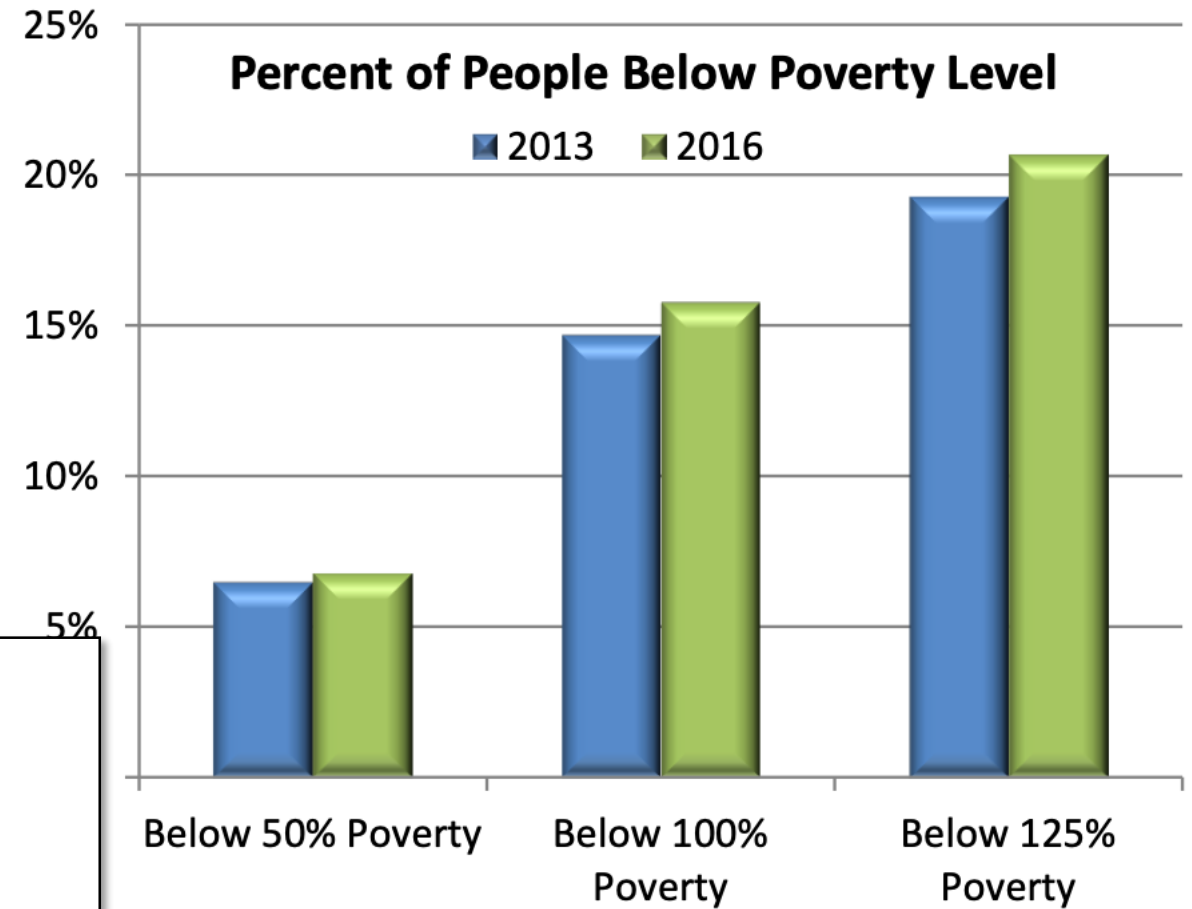


**Percent of Children (0-17) in Bay County
Living in Poverty - 2012-2016**



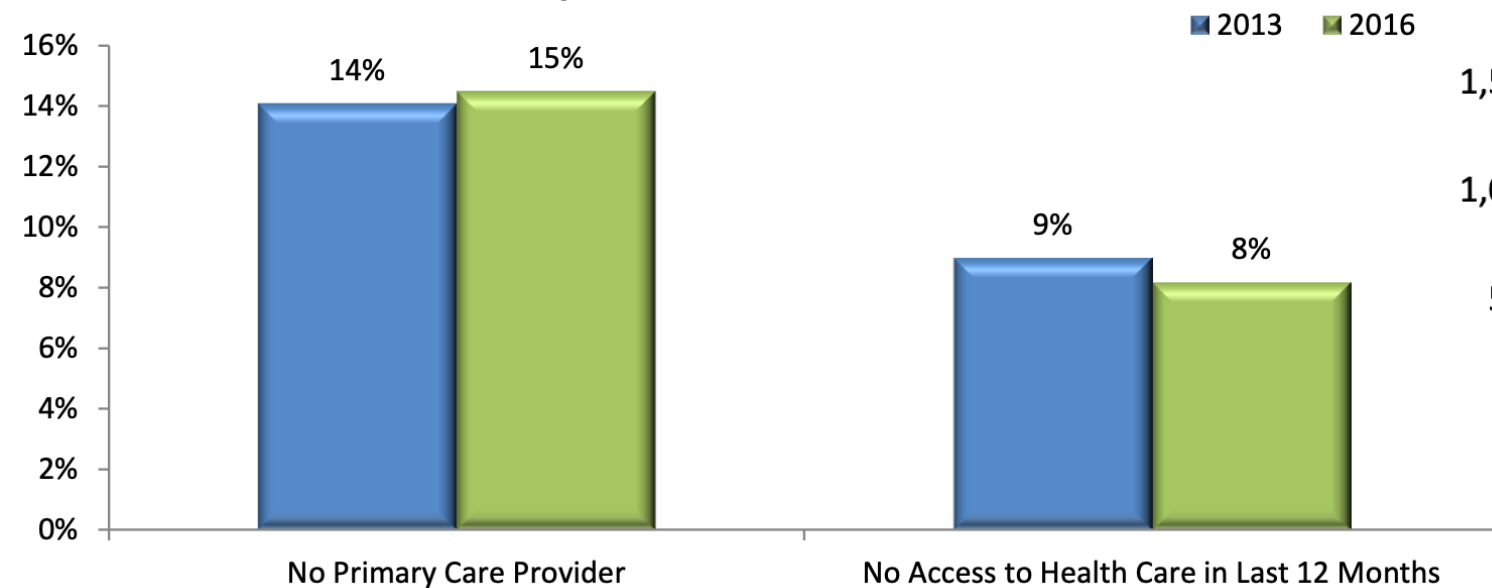
3% increase in percentage of children living in poverty, steady around 20-25%.
The majority of poverty falls 125% below the poverty line.

Percent of People Below Poverty Level

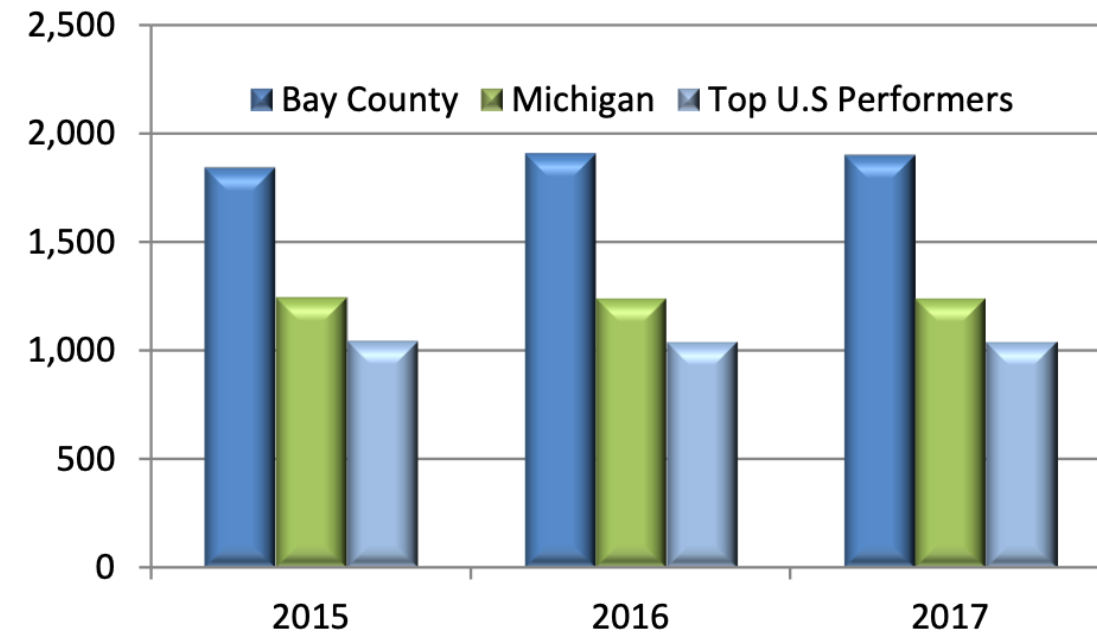


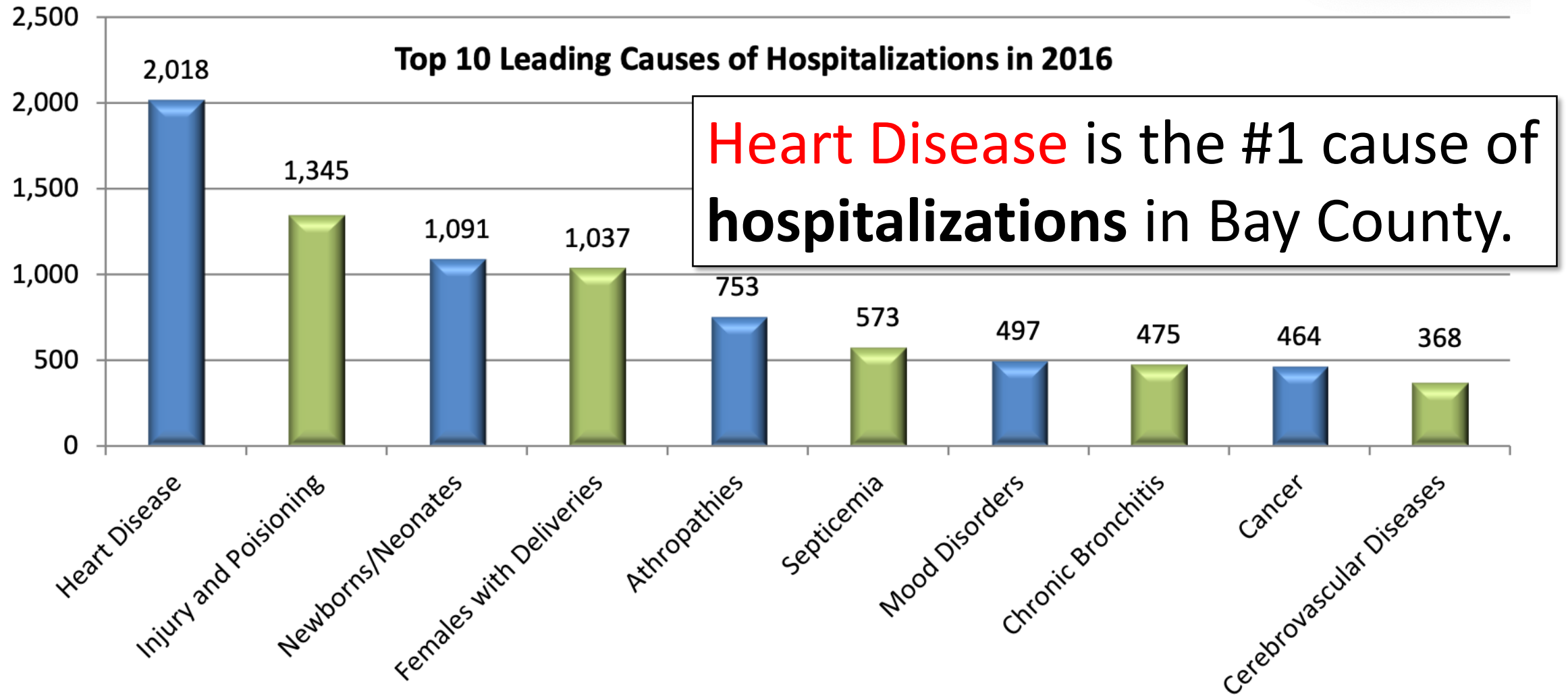
In 2017, Bay County had 1900 patients per Primary Care Physician.

Primary Care and Access to Health Care

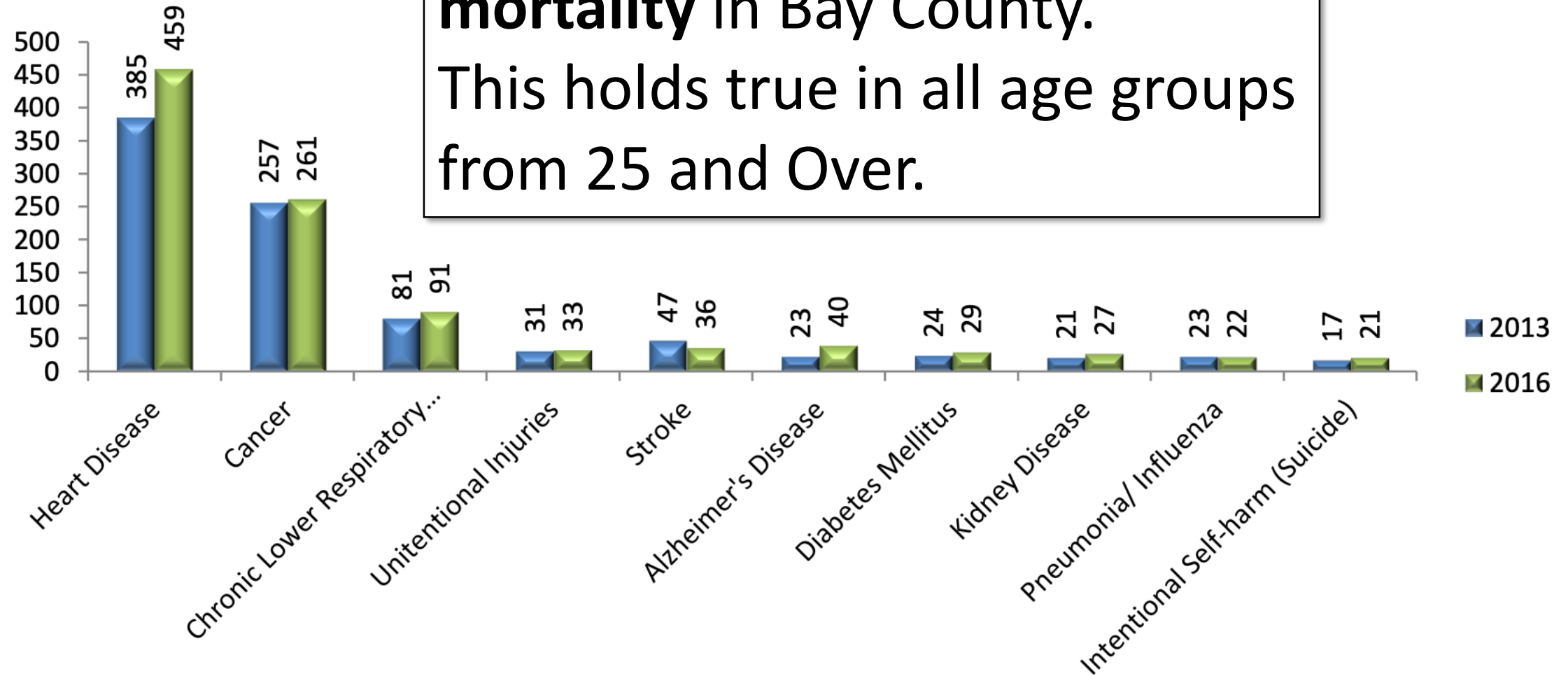


Patient to Primary Care Physician Ratios

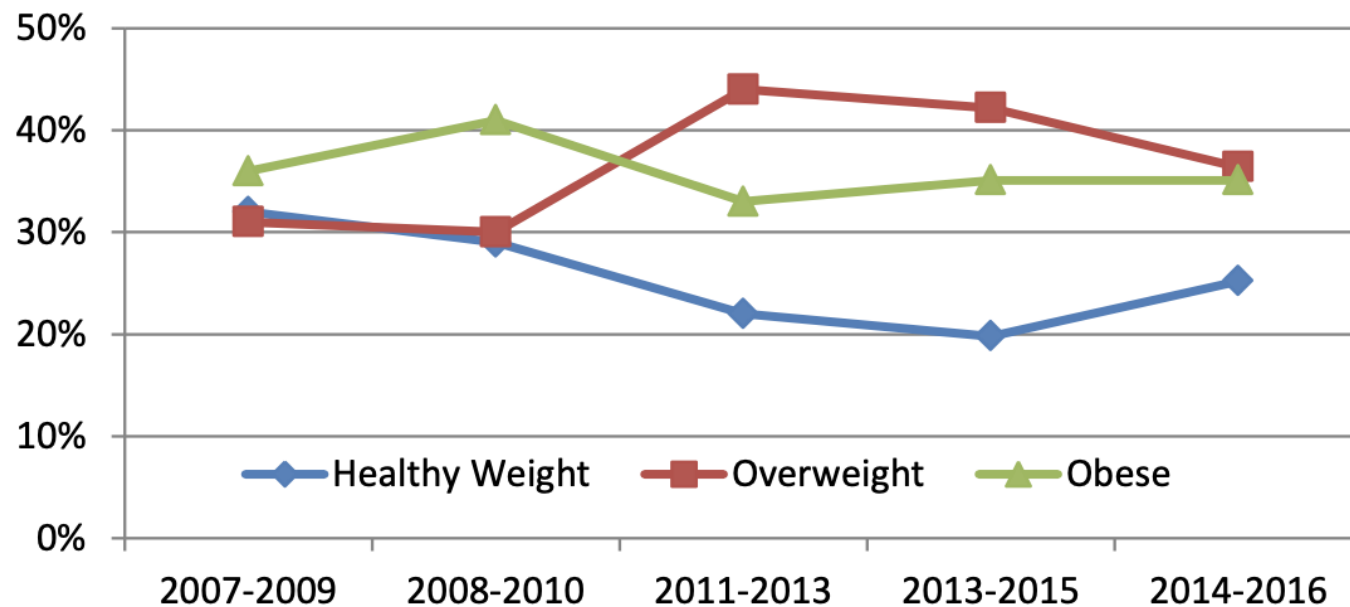




Heart Disease is the #1 cause of **mortality** in Bay County.
This holds true in all age groups from 25 and Over.

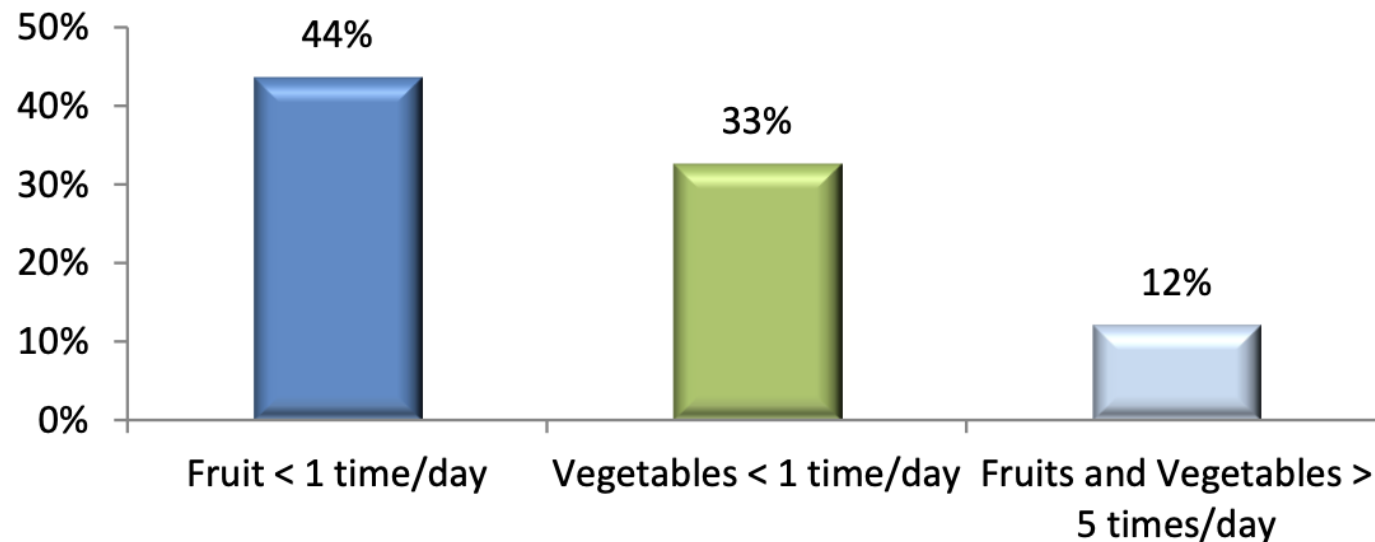


Weight Trends Among Adults - Bay County

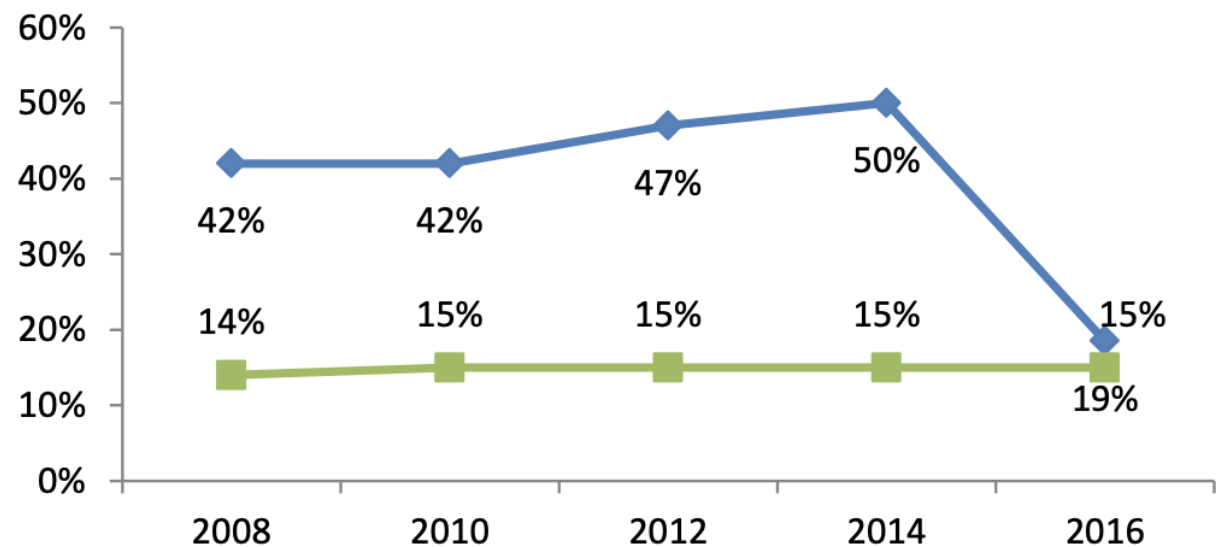


Healthy weight
increasing, while
overweight decreasing,
obese stable

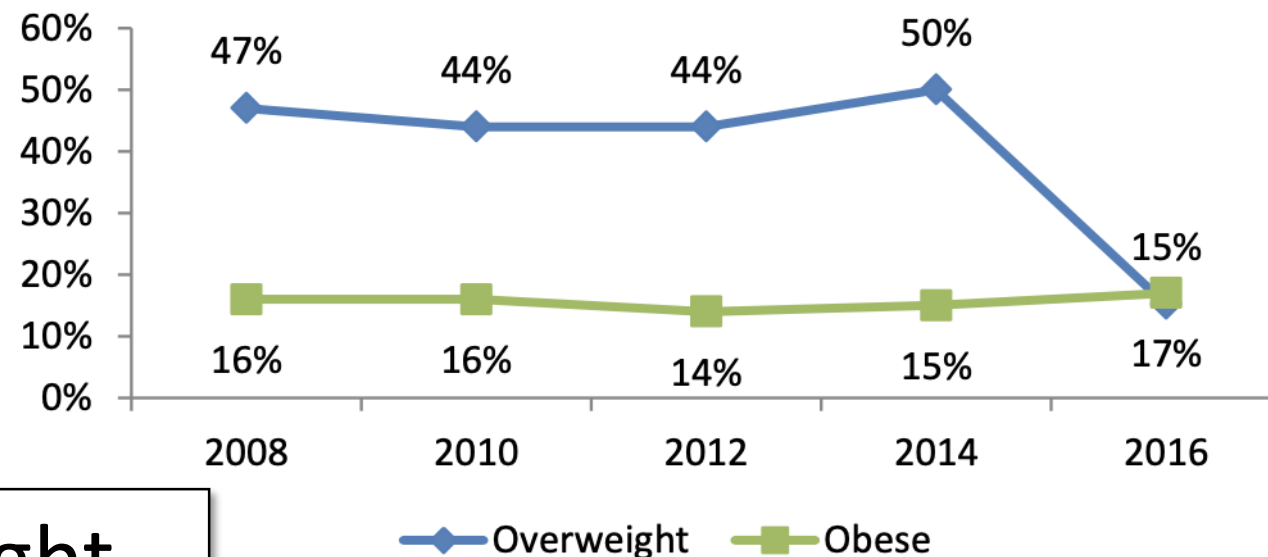
**Adult Fruit and Vegetable Consumption - Bay County
2015**



Middle School Students Obese or Overweight



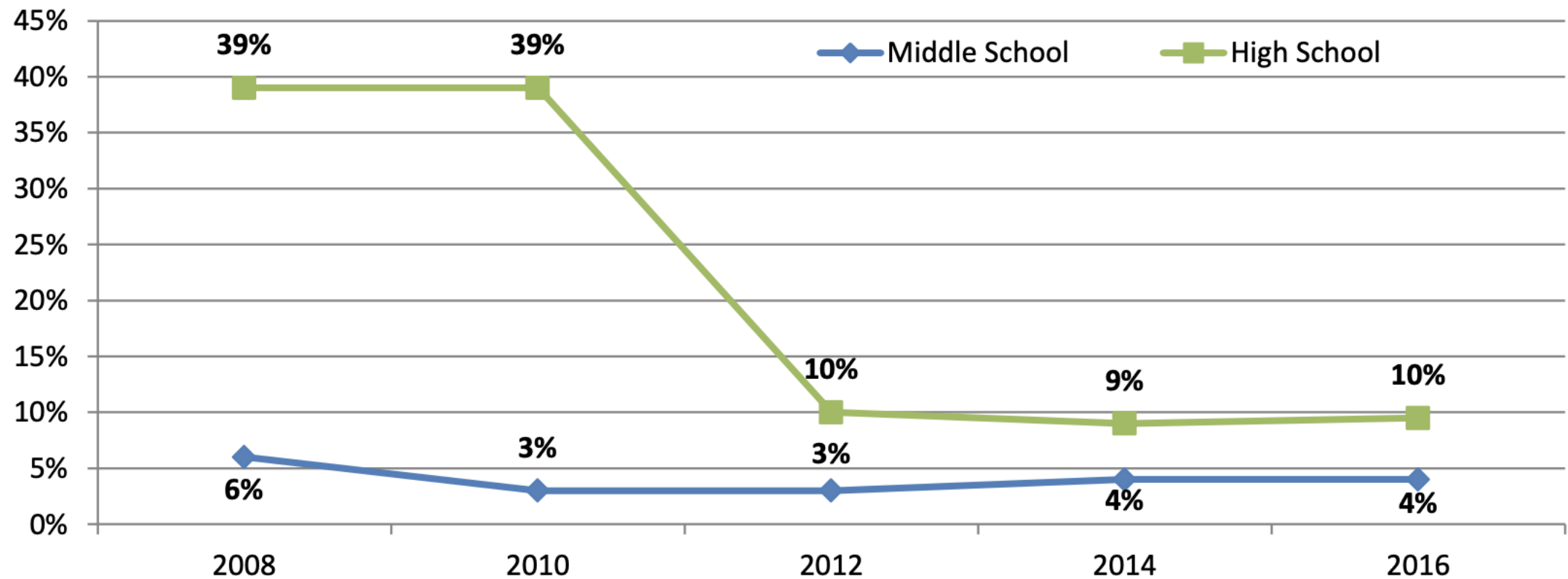
High School Students Obese or Overweight



Decreasing overweight population amongst middle school and high school students!

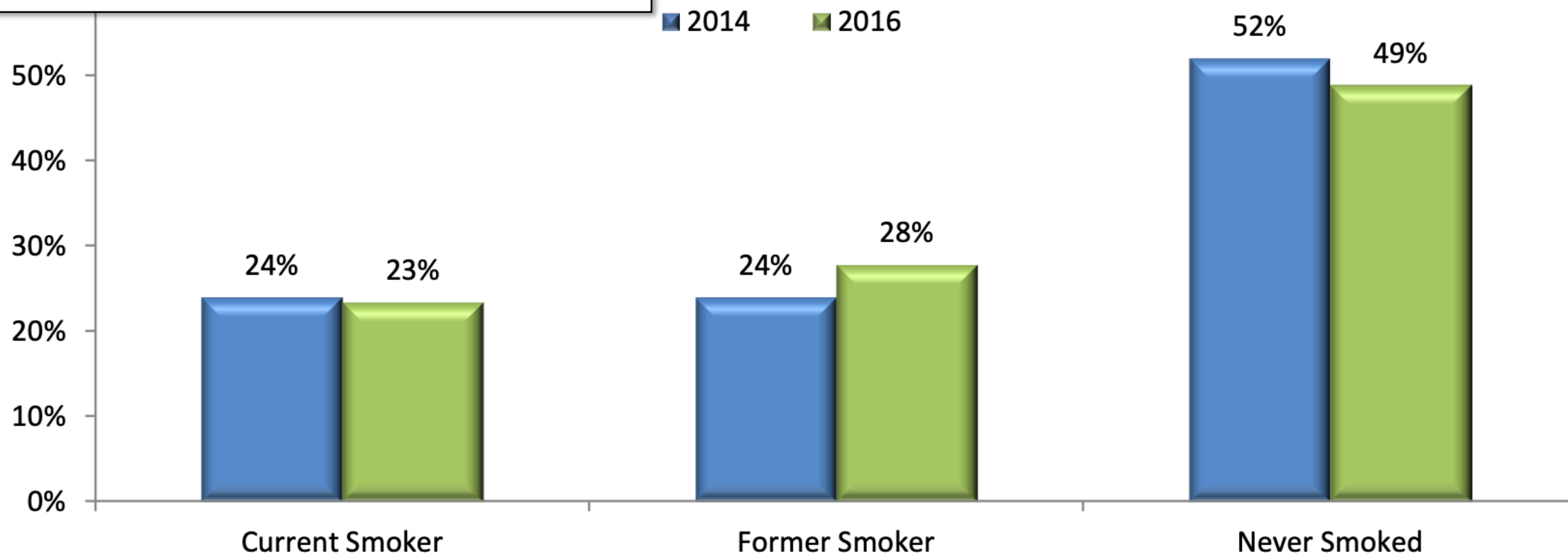
Decreasing cigarette use in high school students!

Percent of Youth Who Have Smoked Cigarettes in the Past 30 Days



Increasing percentage of adults who are now former smokers!

Smoking Behavior Among Adults



23 Key Points

- Bay County continues to see a decline in overall population with an ever growing aging population.
- Bay County continues to see an increase in the minority populations with the largest increase among the Asian population
- The population with the highest percentage of poverty is female householders (35%) most specifically women with children under 5 years of age (61%)

23 Key Points

- More than half of pregnant moms are either overweight or obese, just under half of women who gave birth are not married, and nearly a third of pregnant moms smoked while pregnant.
- Infant mortality jumped from 1 death to 6 deaths in ONE year.
- Significant increase in confirmed victims of child abuse and neglect
- We still have children without health or dental insurance
- We still have children not getting annual well child checkups – even those that have insurance

23 Key Points

- Adults reporting poor mental health is continuing to increase, even with adequate provider to patient ratio
- We have a HUGE need for primary care physicians in Bay County
- Chronic Disease continue to be the leading causes of death in Bay County - Heart Disease still holds the number 1 spot.
- Youth reported obesity has dropped significantly

23 Key Points

- Bullying is an issue especially among middle school students both at school and on line.
- There was a significant drop in youth tobacco use
- Alcohol use among youth increased slightly
- Adult reported being overweight has decreased while obesity has slightly increase
- Adults are not getting adequate amounts of fruit and vegetables
- Only 12% reported getting more than 5 cups in during the day.

23 Key Points

- Adults driving under the influence of alcohol and marijuana continues to increase
- Marijuana and alcohol related traffic fatalities increased by 47% in ONE year.
- The number of car crashes in bay county continues to increase
- Most crashes are the result of distracted driving and alcohol
- We have a high rate of domestic violence in Bay County

McLaren Bay Region Provider Survey

Survey to Address
Epidemiology/Community Needs of
our Region

* Required

Your practice is conducted in an: *

☐ Ambulatory Setting

☐ Inpatient Setting

Your primary specialty is: *

☐ Family Medicine

☐ Internal Medicine

☐ Cardiology

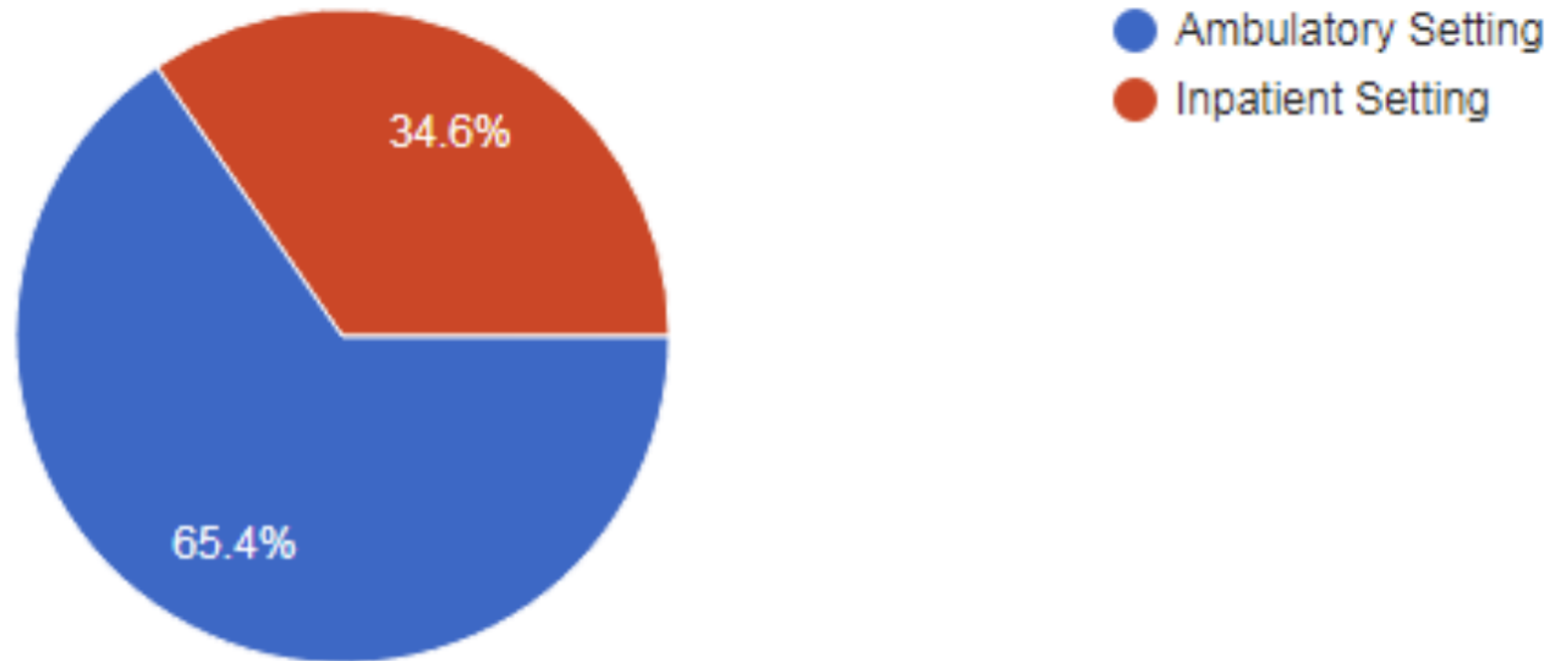
☐ Cardiothoracic Surgery

☐ Vascular Surgery

- Hospital wide provider survey
- 11 questions total
- 8 questions regarding cardiovascular disease and risk factors
- 26 responses

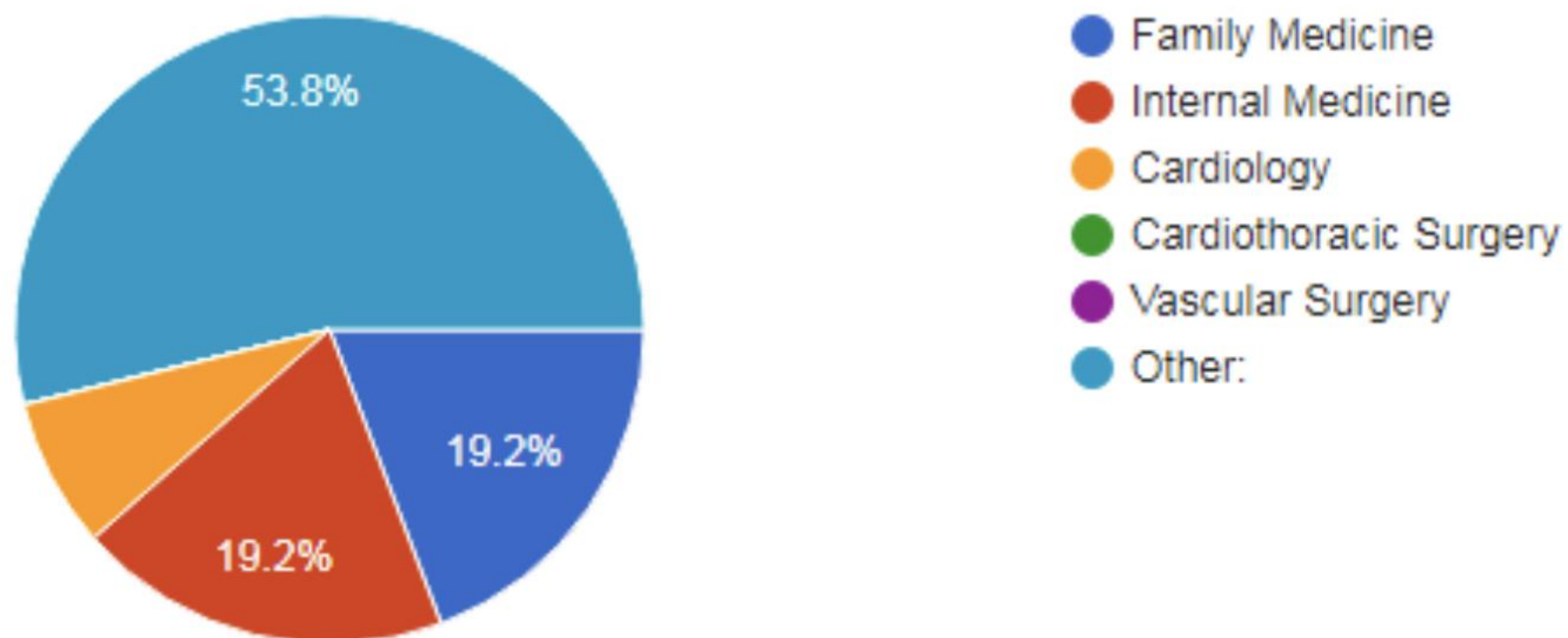
Your practice is conducted in an:

26 responses



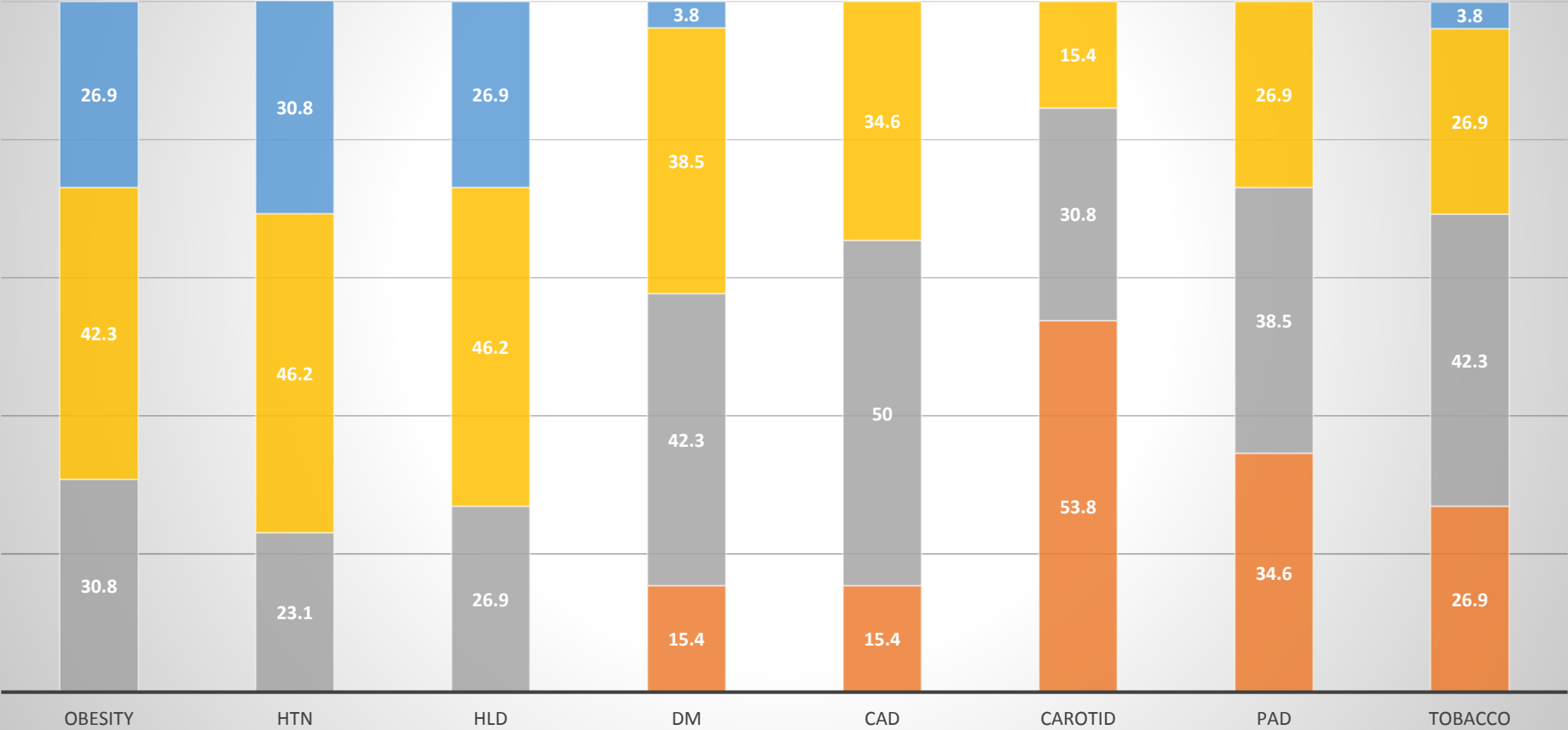
Your primary specialty is:

26 responses



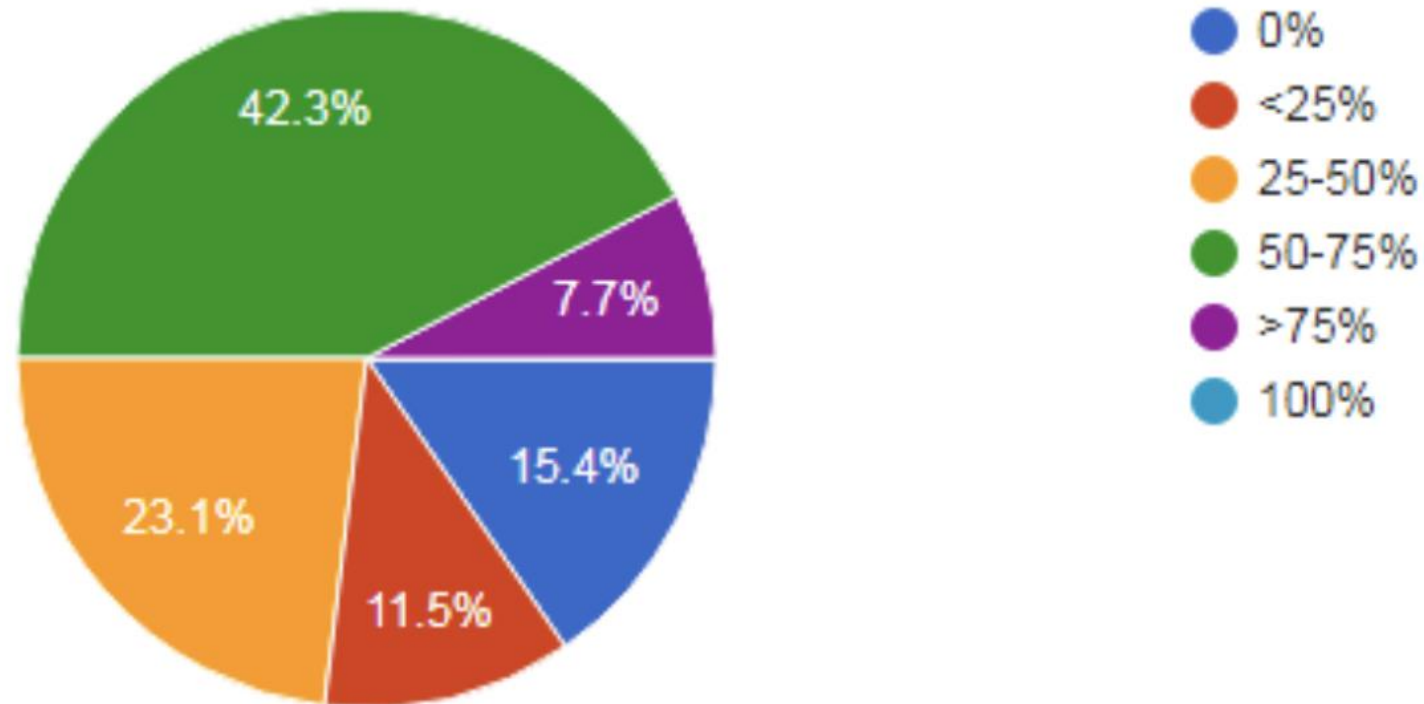
Physician Estimates of Percentage of Patients with Cardiovascular Disease and Risk Factors

0% <25% 25-50% 50-75% >75% 100%



What percentage of your practice do you spend treating CV disease?

26 responses

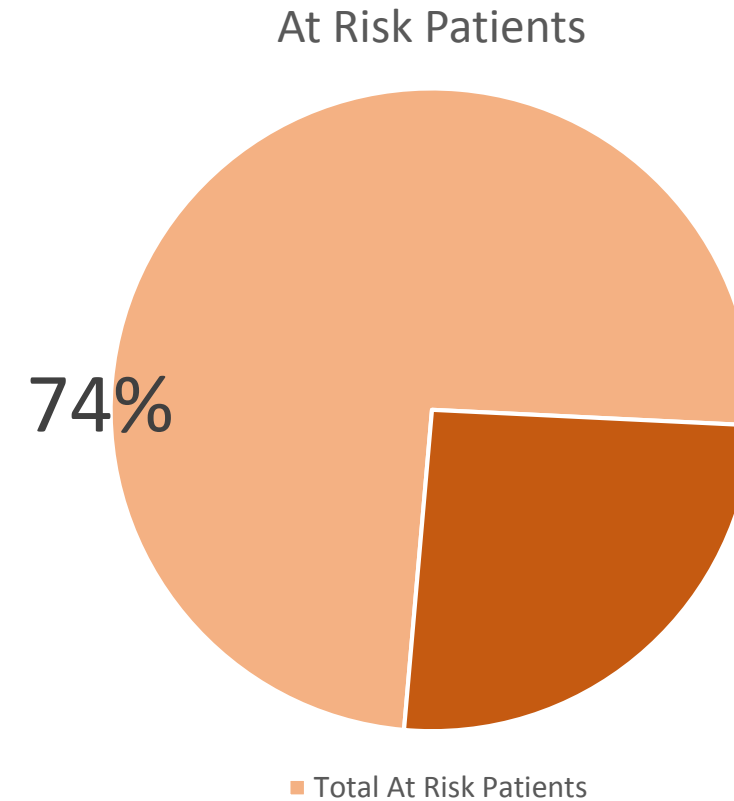


McLaren Bay Region Hospital Data

- 2 year period
- November 2017 – October 2019
- Identified all patients with one or more CV risk factor
- Identified all hospitalizations with one or more CV risk factor

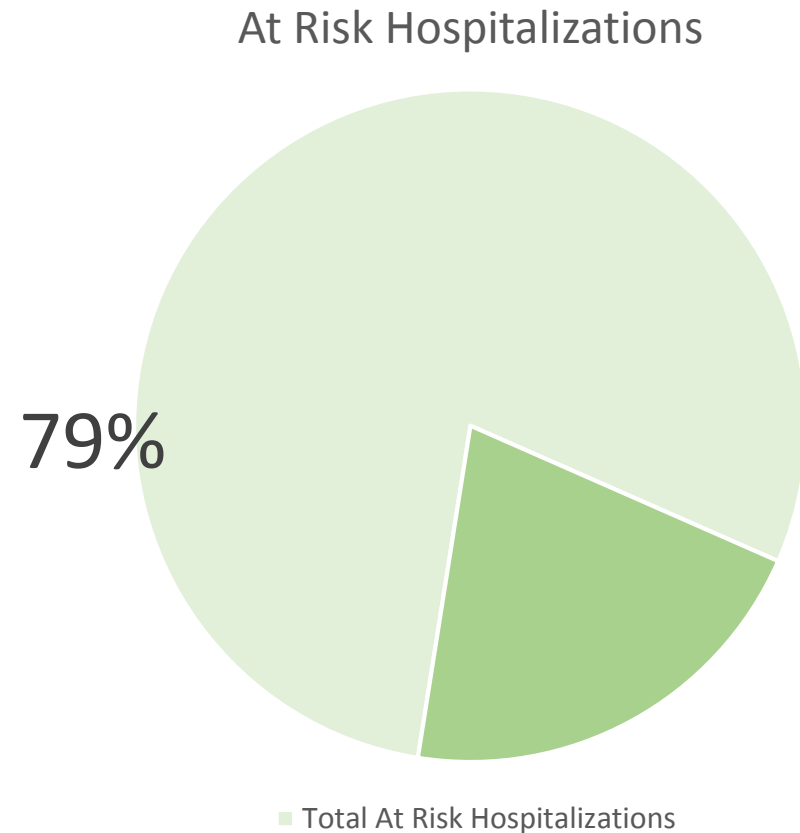
At Risk Patients

Risk Factor	Patients	%
Obesity	5,360	27.03
Hypertension	8,998	45.38
Hyperlipidemia	9,914	49.99
Diabetes Mellitus	5,729	28.89
Coronary Artery Disease	7,443	37.53
Carotid Disease	796	4.01
Peripheral Arterial Disease	852	4.30
Tobacco Use Nicotine Dependence	428	2.16
Total At Risk Patients	14,750	
Total Patients	19,830	



At Risk Hospitalizations

Risk Factor	Hospital Encounter	%
Obesity	8,183	25.67
Hypertension	12,901	40.47
Hyperlipidemia	16,481	51.70
Diabetes Mellitus	10,534	33.04
Coronary Artery Disease	12,999	40.77
Carotid Disease	955	3.00
Peripheral Arterial Disease	1,255	3.94
Tobacco Use Nicotine Dependence	503	1.58
Total At Risk Hospital Encounters	25,217	
Total Hospital Encounters	31,881	

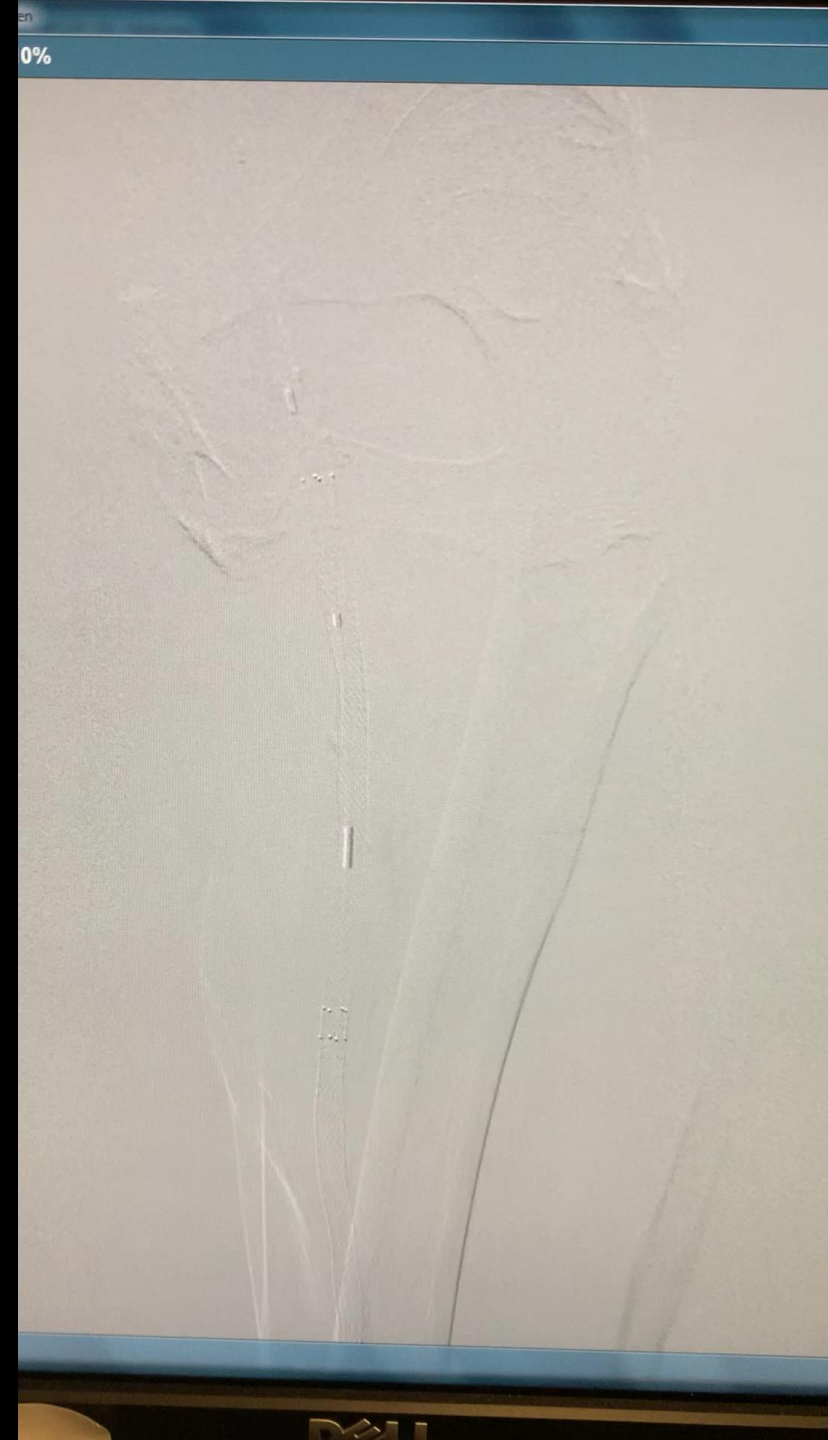
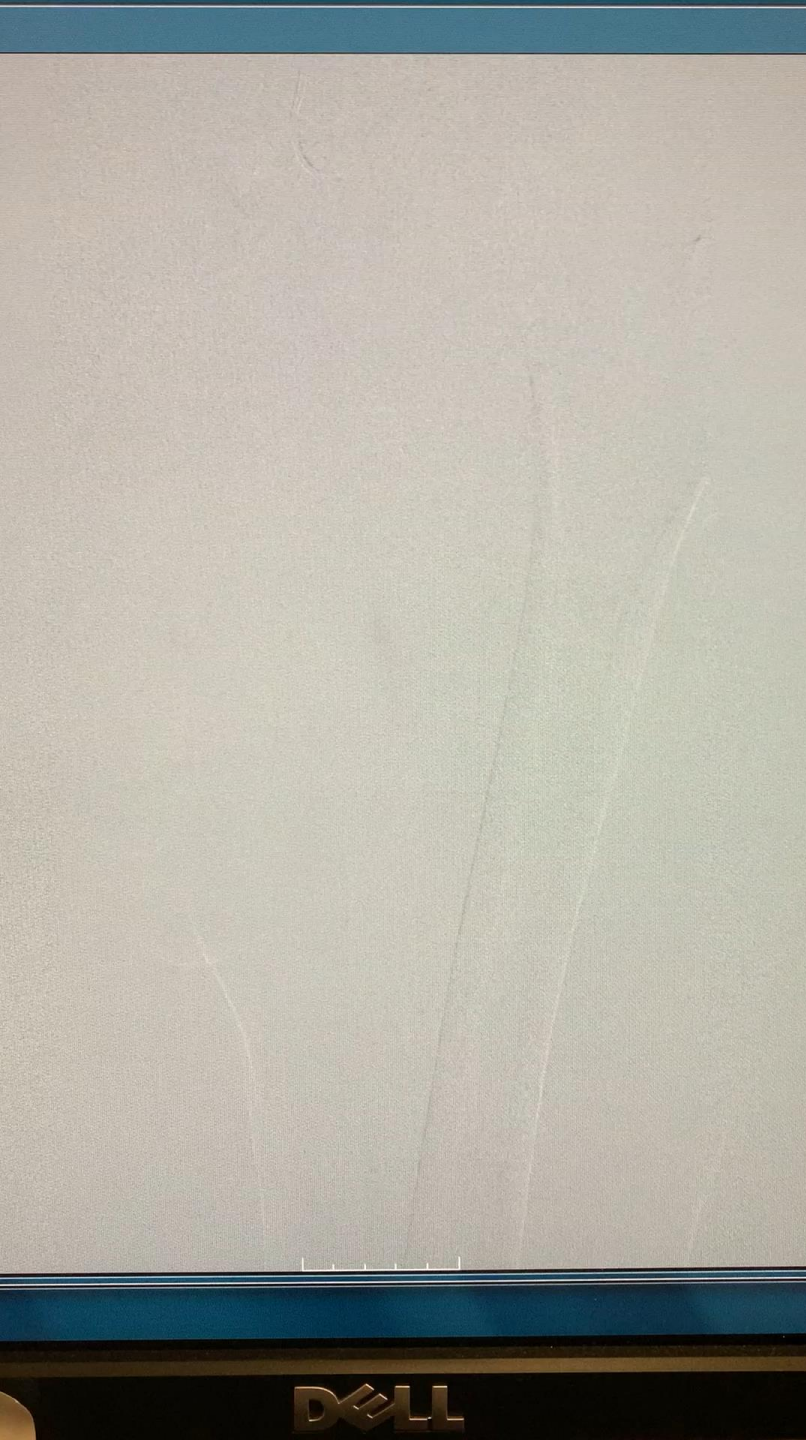


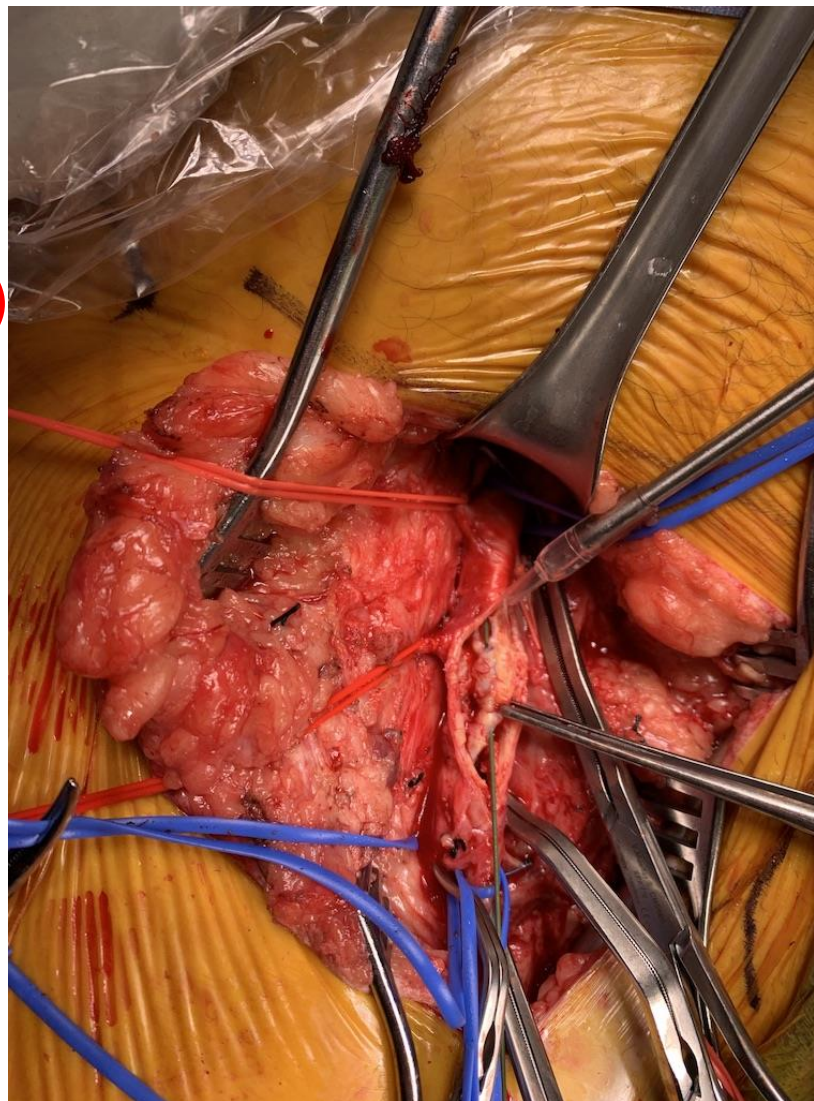
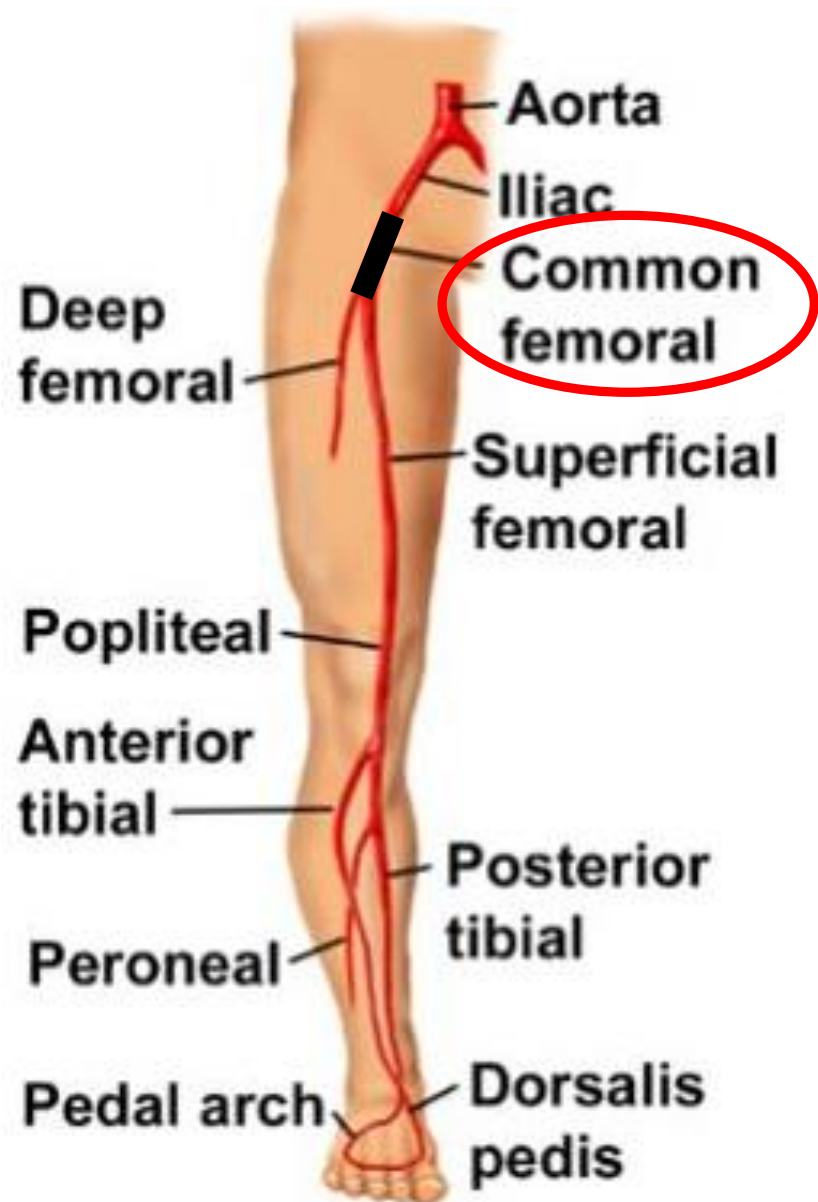
Nationally Reported Statistics

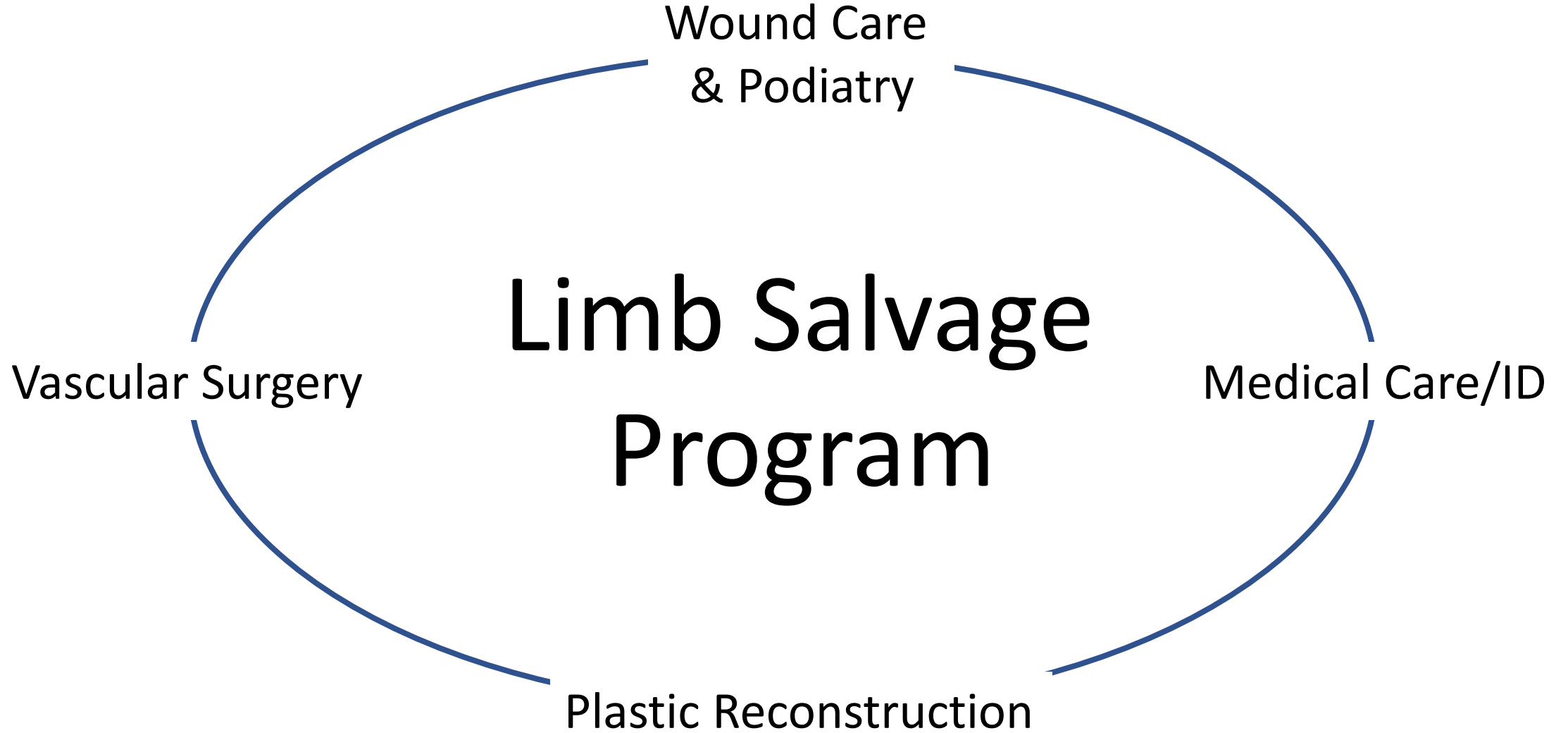
- Smoking: 16.8% regularly smoke, 5.4% in those with graduate degrees, 10% higher for those below poverty line (National Health Interview Survey)
- HTN: 29.1% prevalence in US age 18 and over (NHANES, 2011–2012), 65% of adults age 60 and over
- HLD: 33.5% of adults have elevated LDL, <50% are treated, 1 of 3 adults treated achieve adequate control (CDC)
- Diabetes: 9.3% of US population, 25.9% of US age 65 and over (CDC)
- Obesity: 39.8% prevalence amongst US adults (CDC)
- Carotid Disease: 3.8% men, 2.7% women (Tromso Study)
- PAD: 10.69% prevalence, 2.35% incidence from claims data

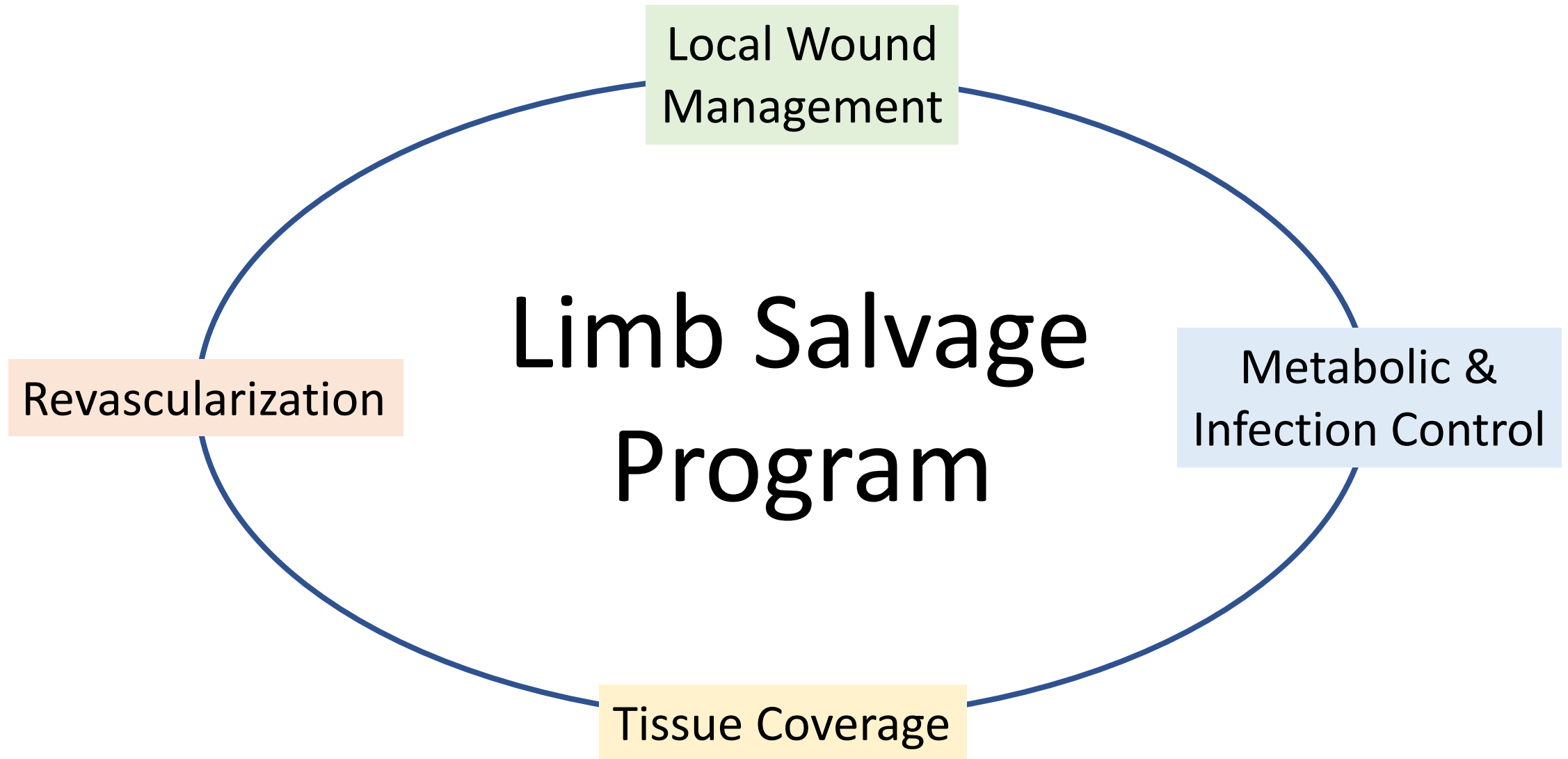
What have I seen?







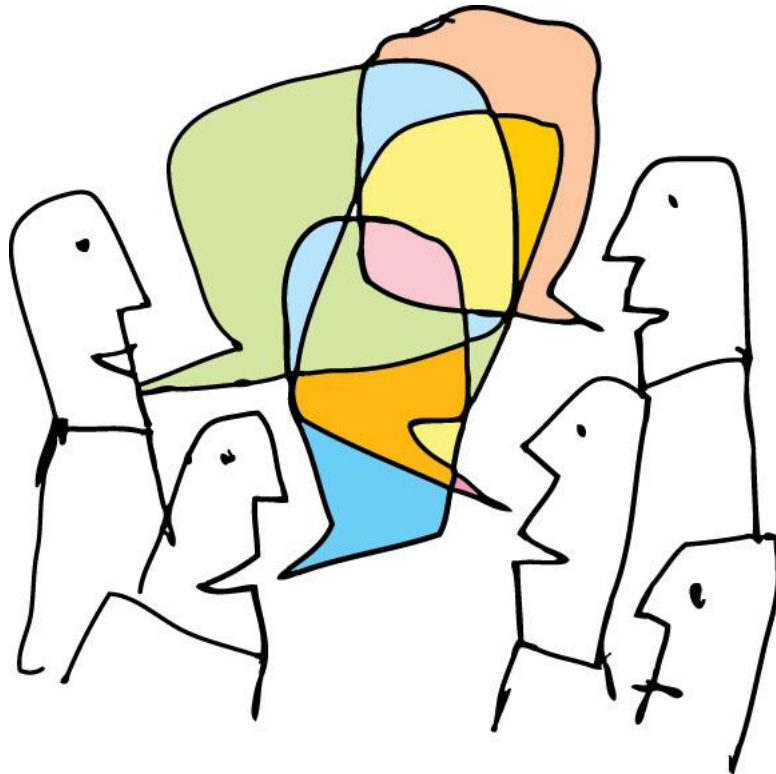




Some data...

- 72% reduction in amputation over 2 year period by implementing team concept between podiatry and vascular surgery
- 51% reduction in ulceration in high risk population over 2 year period with multidisciplinary team consisting of physicians, podiatrists and nurses

Conclusion



#QUESTIONS

- What do I do with this information?
- How can I help **YOU**?
- How can you help **ME**?
- How can **WE** help the patients of Bay City?



YES.

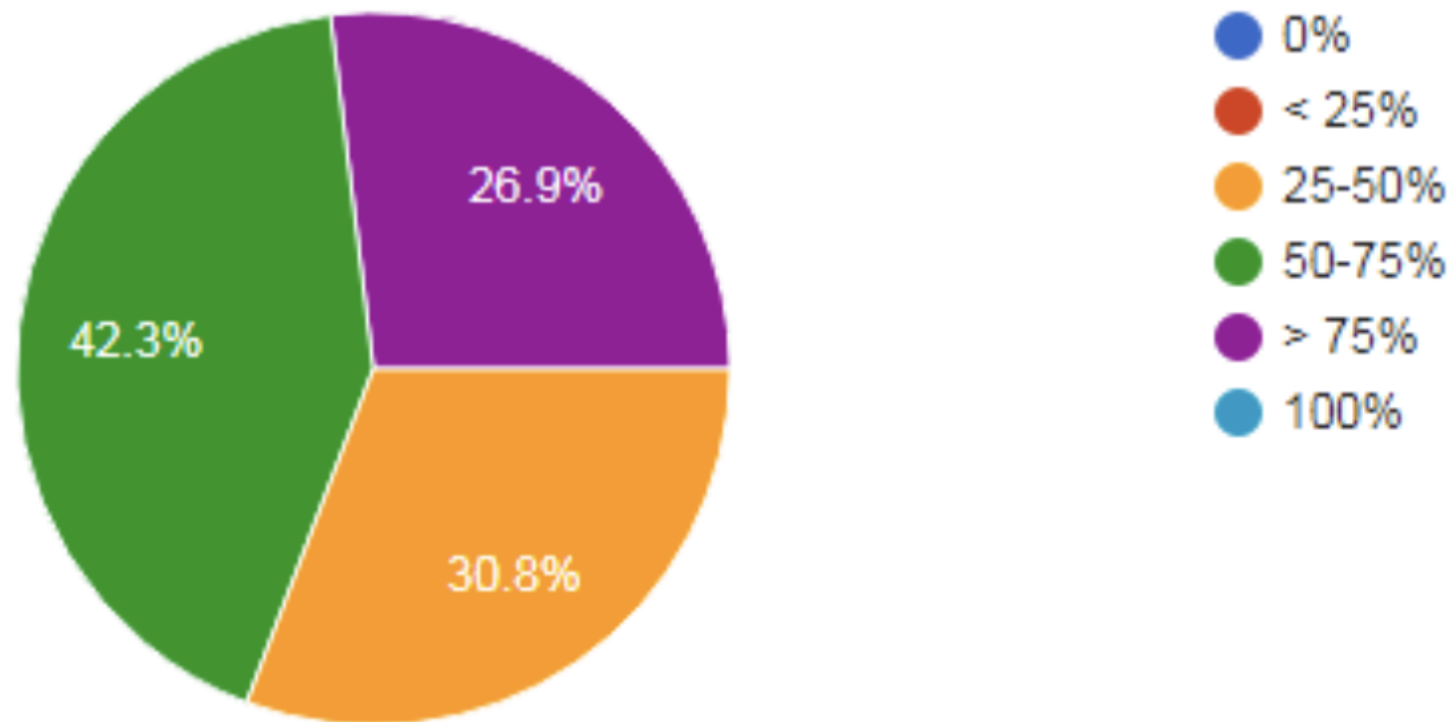
Thank you!



Appendix

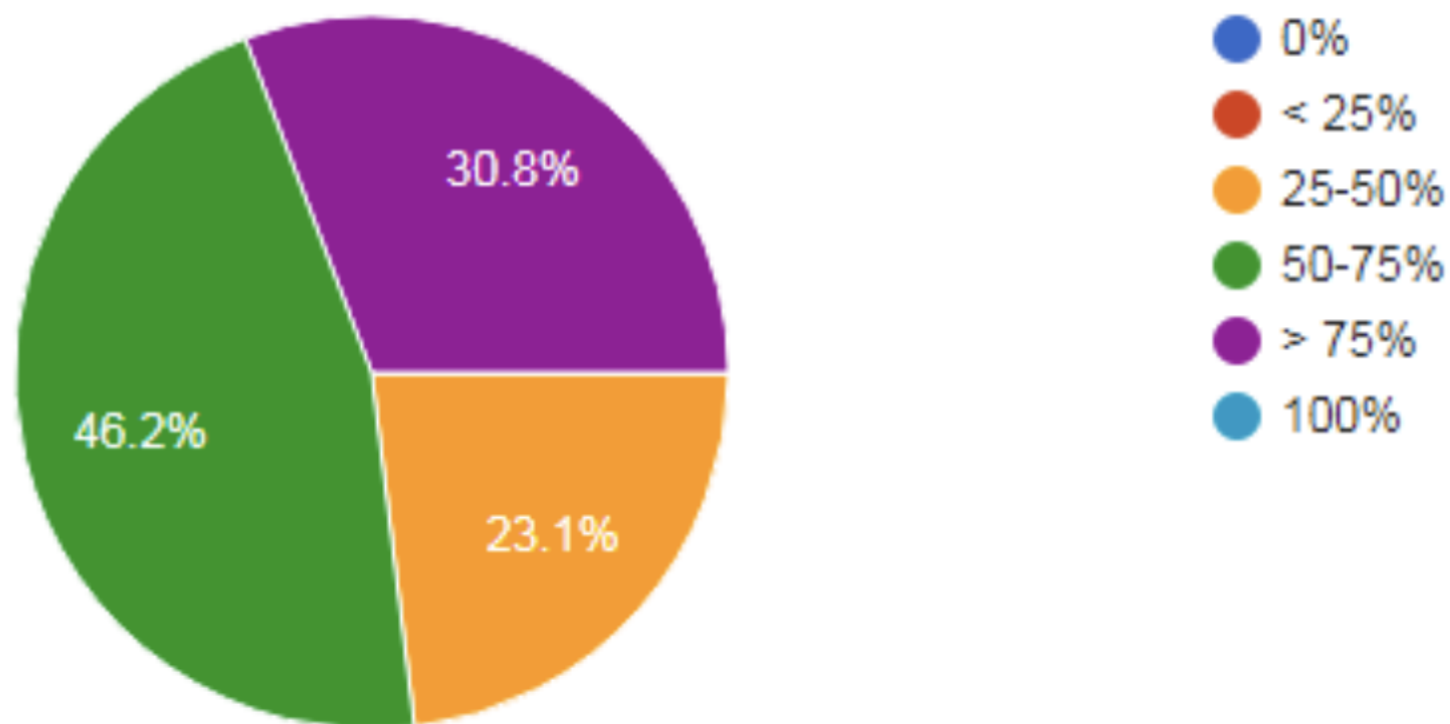
What percentage of your patients are overweight/obese?

26 responses



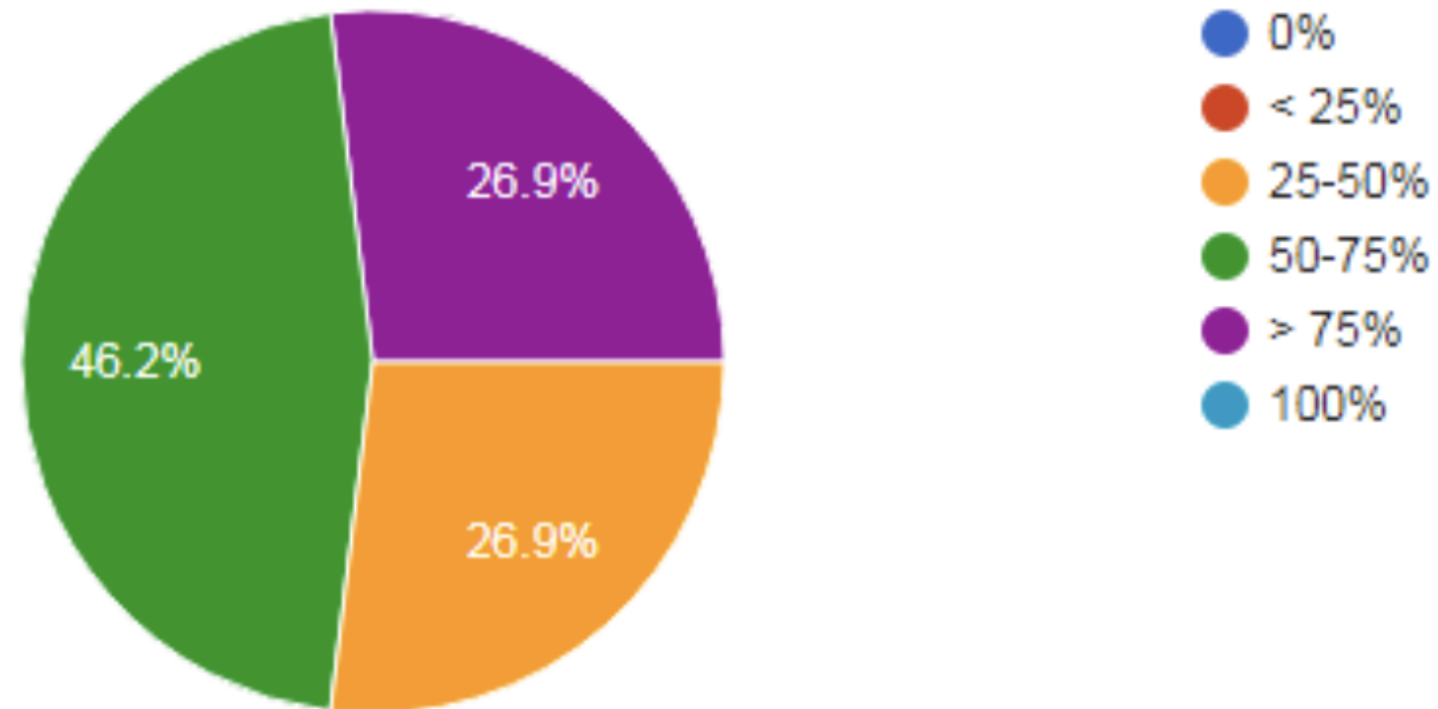
What percentage of your patients have hypertension?

26 responses



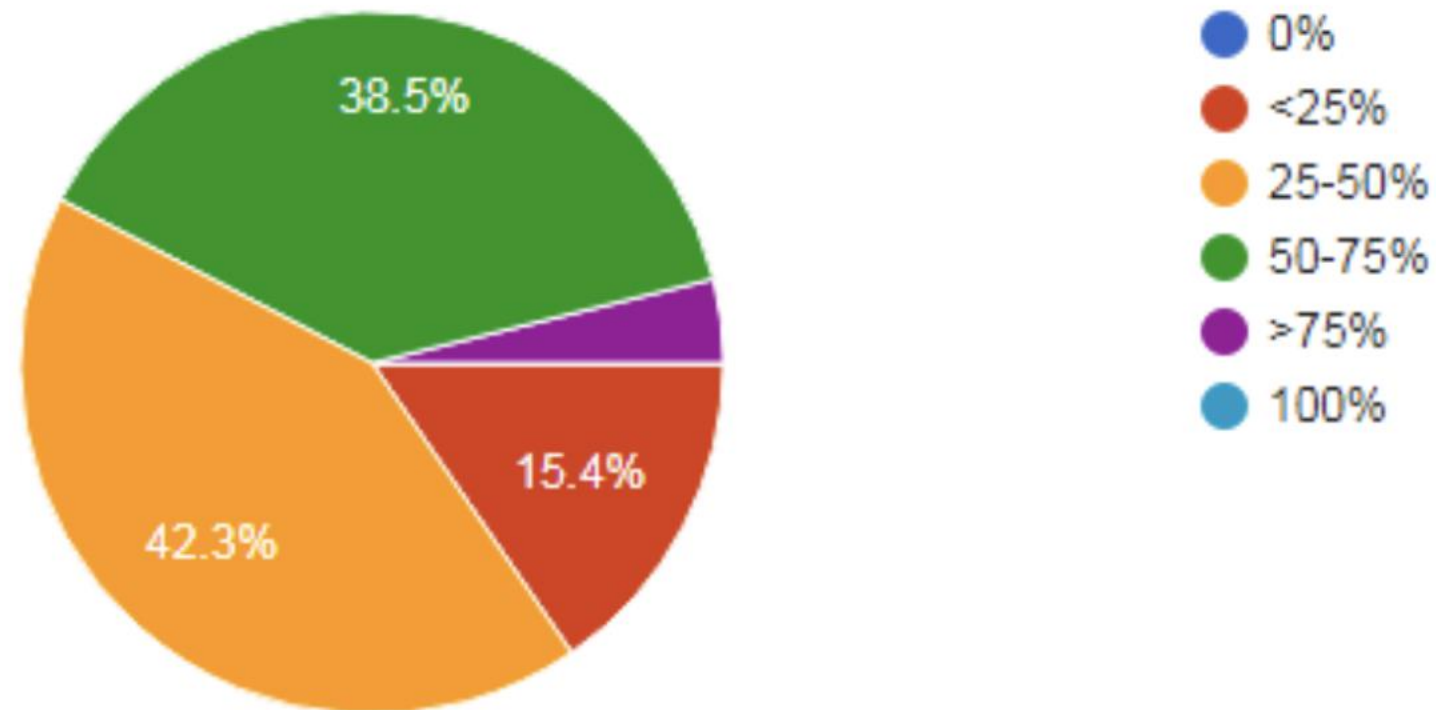
What percentage of your patients have hyperlipidemia?

26 responses



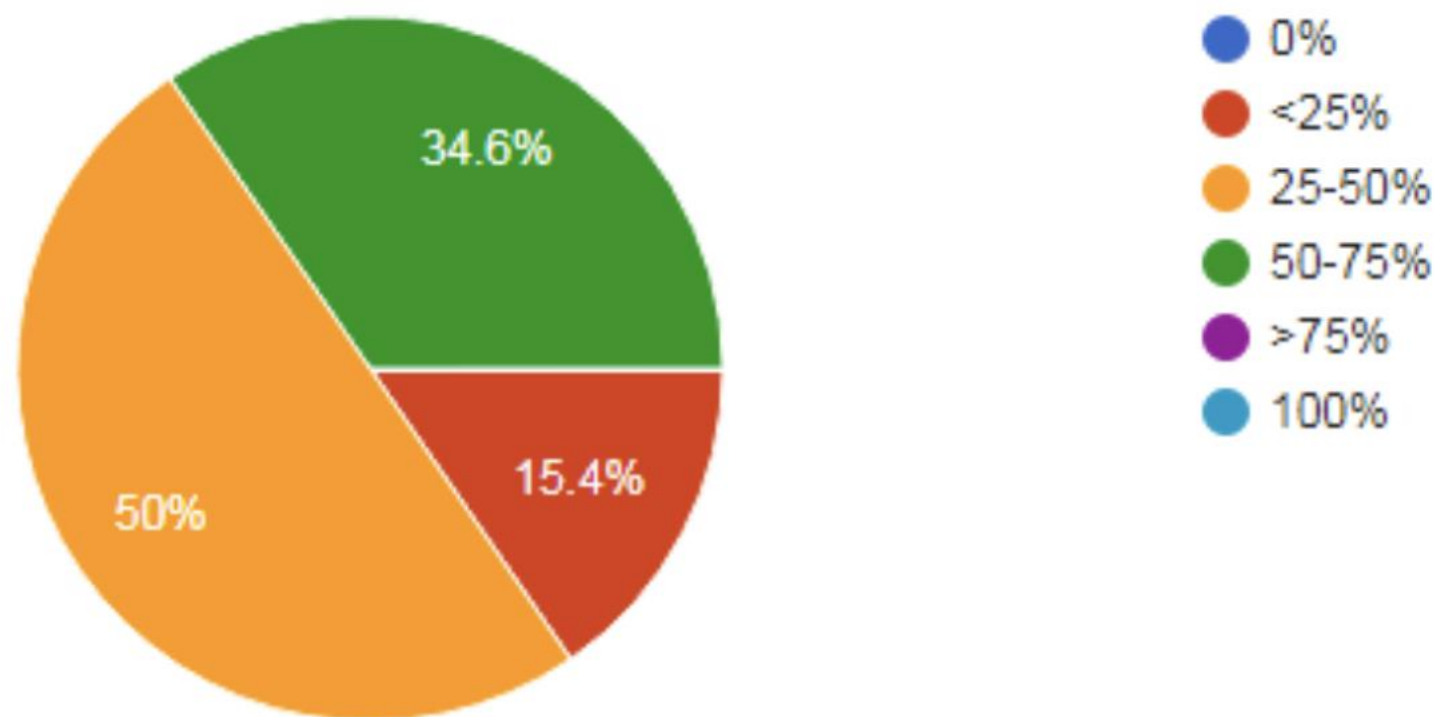
What percentage of your patients have diabetes mellitus?

26 responses



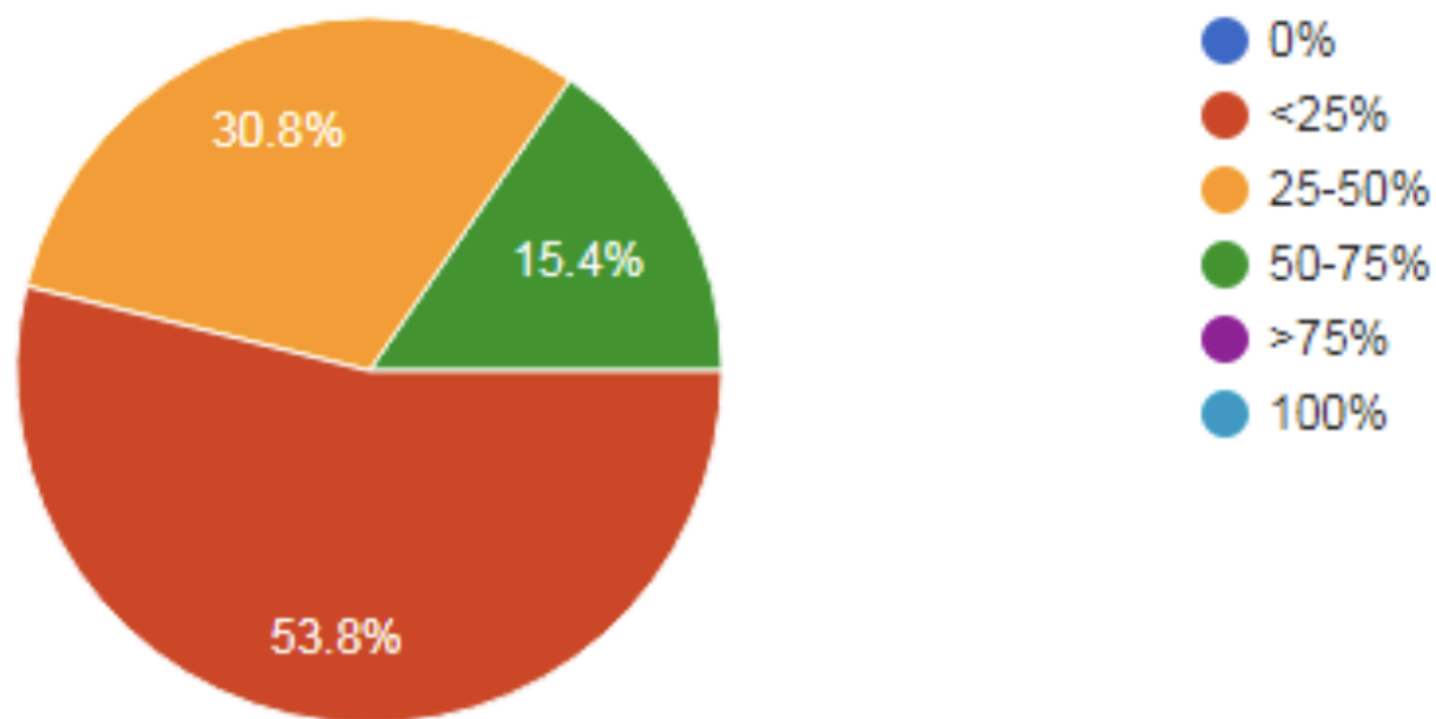
What percentage of your patients have coronary artery disease?

26 responses



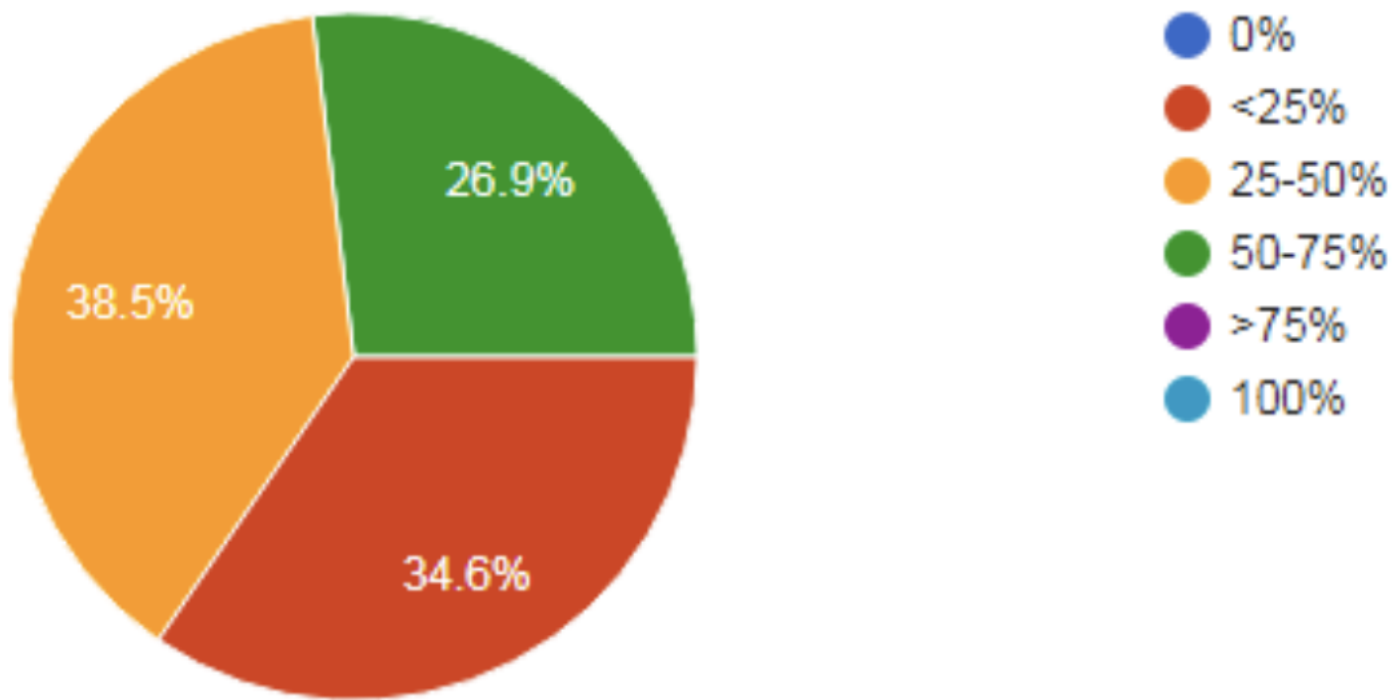
What percentage of your patients have carotid disease?

26 responses



What percentage of your patients have peripheral arterial disease?

26 responses



What percentage of your patients currently use tobacco products?

26 responses

