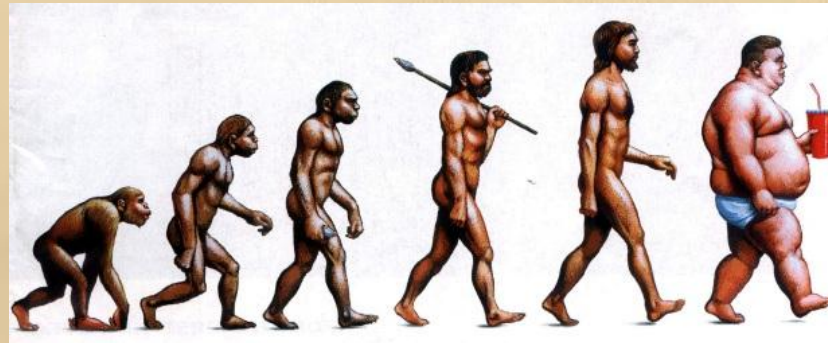# **Obesity**

Window on America Center
Kirovohrad Oblast Research Library Named After
Chizhevsky

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Introduction

- For thousands of years Obesity was rarely seen.

- It was not until the 20th century that it became common, so much so that in 1997 the World Health Organization (WHO) formally recognized Obesity as a global epidemic.

- The latest WHO projections indicate that at least one in three of the world's adult population is overweight and almost one in 10 is obese.
    - Additionally there are over 20 million children under age five who are overweight.

- Once considered a problem only of high-income countries, Obesity rates are rising worldwide. These increases have been felt most dramatically in urban settings.

- The only remaining region of the world where obesity is not common is sub-Saharan Africa.

What is Obesity?

- Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health.

  - In other words, when a person is carrying too much body fat for his or her height and gender.

- A person is considered obese if the person has a body mass index (BMI) of 30 or greater.
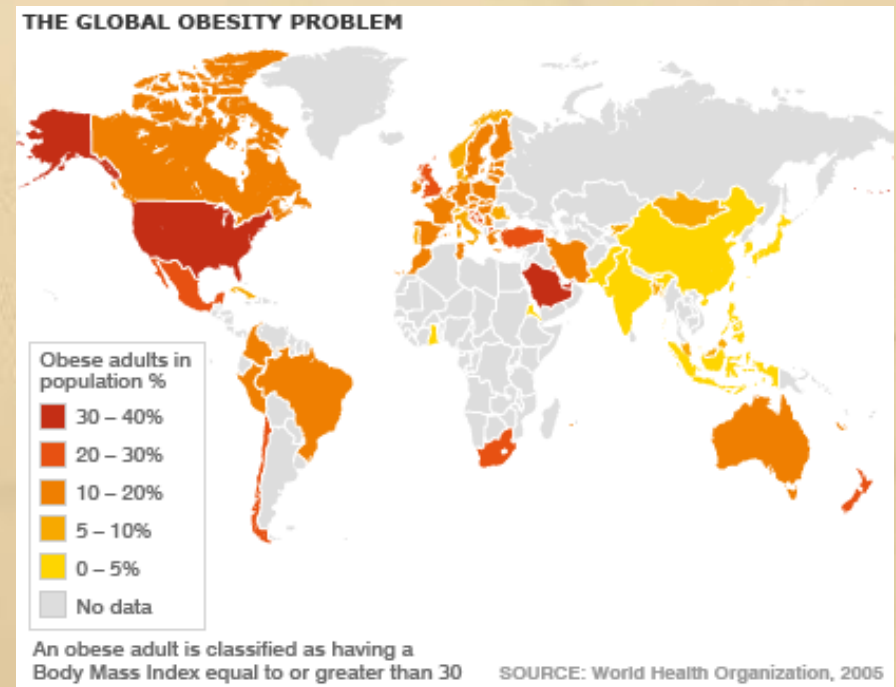
Body Mass Index

- Body Mass Index can be measured by dividing your weight in kilograms by your height in meters squared.

    - If your BMI is between 25 and 29.9, you are over the ideal weight for your height (overweight).

    - If your BMI is between 30 and 39.9, you are obese.

    - If your BMI is over 40, you are very obese (known as 'morbidly obese').

    - Although in general a good indicator of a person's weight relative to measured standards, the BMI calculation cannot take into account if you are particularly muscular or if you are going through puberty (when your body is still developing).


Categories of Weight

Normal BMI 18.5 – 24.9   Overweight BMI 25 – 29.9   Obese BMI 30 – 34.9   Severely Obese BMI 35 – 39.9   Morbidly Obese BMI ≥ 40

How Common is Obesity?

- According to the World Health Organization, in 2008:
  - 1.5 billion adults, 20 and older, were overweight.
  - Of these 1.5 billion overweight adults, over 200 million men and nearly 300 million women were obese.
  - Overall, more than one in ten of the world's adult population was obese.

- Close to 35 million overweight children are living in developing countries and 8 million in developed countries.

- Overweight and obesity are linked to more deaths worldwide than underweight.
  - For example, 65% of the world's population lives in countries where overweight and obesity kill more people than underweight (this includes all high-income and most middle-income countries).

THE GLOBAL OBESITY PROBLEM

Obese adults in population %
- 30 – 40%
- 20 – 30%
- 10 – 20%
- 5 – 10%
- 0 – 5%
- No data

An obese adult is classified as having a Body Mass Index equal to or greater than 30

SOURCE: World Health Organization, 2005

What causes Obesity?

- Obesity does not occur overnight.
  - It develops gradually from poor diet and lifestyle choices and, to some extent, from your genes (the units of genetic material inherited from your parents).

- The following factors contribute to a person becoming obese:
  - Lifestyle choices. These are an important factor in influencing your weight. For example, unhealthy food choices could be:
    - Eating processed or fast food that is high in fat.
    - Not eating fruit, vegetables and unrefined carbohydrates, such as whole-grain bread and brown rice.
    - Drinking too much alcohol (alcohol contains a lot of calories).
    - Eating out a lot - the food in restaurants is often higher in fat and sugar than food you prepare at home.
    - Eating larger portions than you need.
    - Comfort eating - if you feel depressed or have low self-esteem you may comfort eat to make yourself feel better.
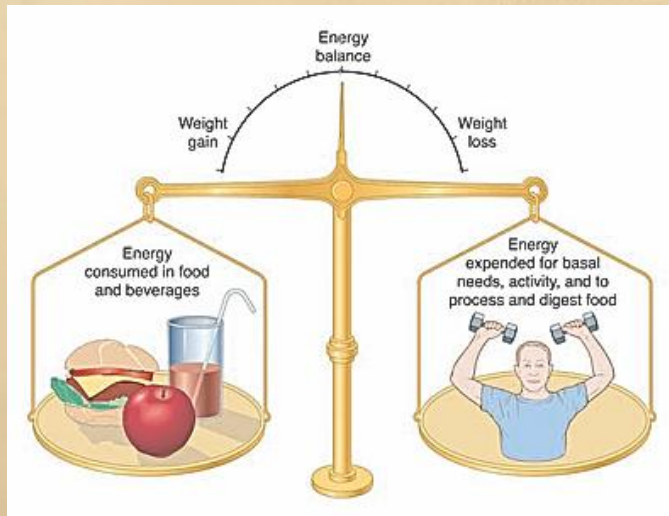
What causes Obesity?

- **Lack of physical activity**
  - This is another important factor that contributes to obesity. Many people have jobs that involve sitting at a desk for most of the day and use cars to get around. When it is time to relax, people watch TV or play computer games, and rarely exercise on a regular basis.
  - If you are not active enough, you do not use up the energy provided by the food you eat, and the extra calories are stored as fat instead.

- **Genetics**
  - Some people stay the same weight for years without much effort, whereas others find they put on weight quickly if they are not careful about what they eat. This could be due, in part, to your genes.
  - Some genetic conditions can increase your appetite, so you end up eating too much. There are also genes that determine how much fat your body stores. A particular genetic variation could mean that your body is more likely to store fat than somebody else.

What causes Obesity?

- **Medical Reasons**
  - Medical conditions that can cause weight gain include:
  - Cushing's Syndrome - a rare disorder that causes an over-production of steroid hormones (chemicals produced by the body),
  - an under-active thyroid gland (Hypothyroidism) - when your thyroid gland does not produce enough thyroid hormone, and
  - Polycystic Ovary Syndrome (PCOS) - when women have a large number of cysts in their ovaries.

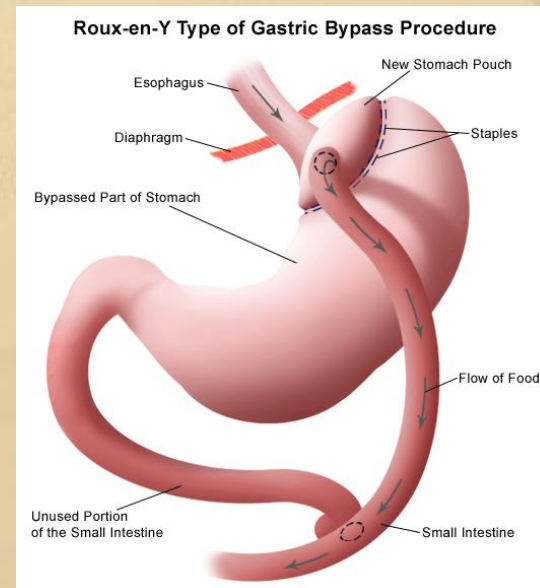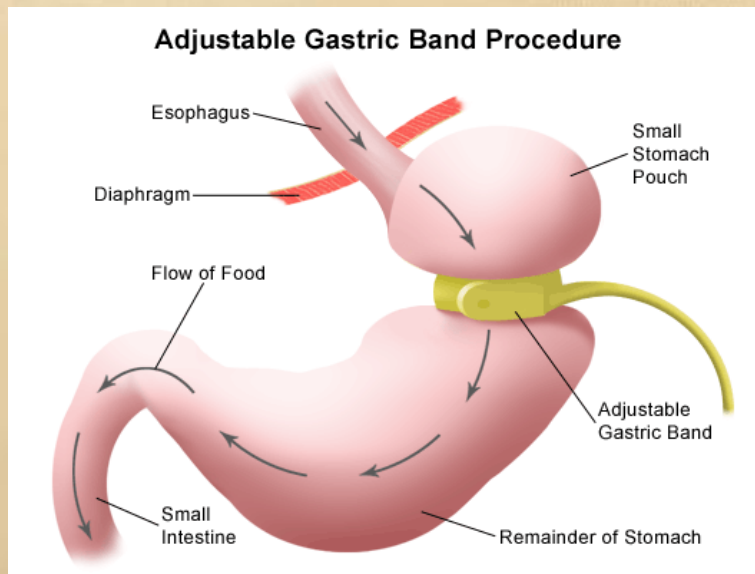- Certain medicines can also contribute to weight gain.

Surgery for Obesity

The two most common weight-loss surgeries in the United States are:

- *Laparoscopic gastric banding* -- a surgeon places a band around the upper part of a person's stomach, creating a small pouch to hold food.
  - The band helps the person limit how much food he eats by making him feel full after eating small amounts.

- *Gastric bypass surgery* -- helps a person lose weight by changing how the person's stomach and small intestine handle the food she eats.
  - After the surgery, a person will not be able to eat as much as before, and the person's body will not absorb all the calories and other nutrients from the food the person eats.

Adjustable Gastric Band Procedure

Esophagus

Diaphragm

Flow of Food

Small Intestine

Small Stomach Pouch

Adjustable Gastric Band

Remainder of Stomach

Roux-en-Y Type of Gastric Bypass Procedure

Esophagus

Diaphragm

Bypassed Part of Stomach

New Stomach Pouch

Staples

Flow of Food

Unused Portion of the Small Intestine

Small Intestine

How Obesity Impacts Health

- Being overweight or obese can have a serious impact on health.

- Carrying extra fat leads to serious health consequences such as cardiovascular disease (mainly heart disease and stroke), type 2 diabetes, musculoskeletal disorders like osteoarthritis, and some cancers (endometrial, breast and colon).
  - These conditions cause premature death and disability.

- What is not well-known is that the risk of health problems starts when someone is only very slightly overweight, and that the likelihood of problems increases as someone becomes more and more overweight.

- Many of these conditions cause long-term suffering for individuals and families. In addition, the costs for the health care system can be extremely high.

How Obesity Impacts Health

- Overweight and obesity are the fifth leading risk for global deaths.

- At least 2.8 million adults die each year as a result of being overweight or obese.

- There are also other health risks that come with obesity:
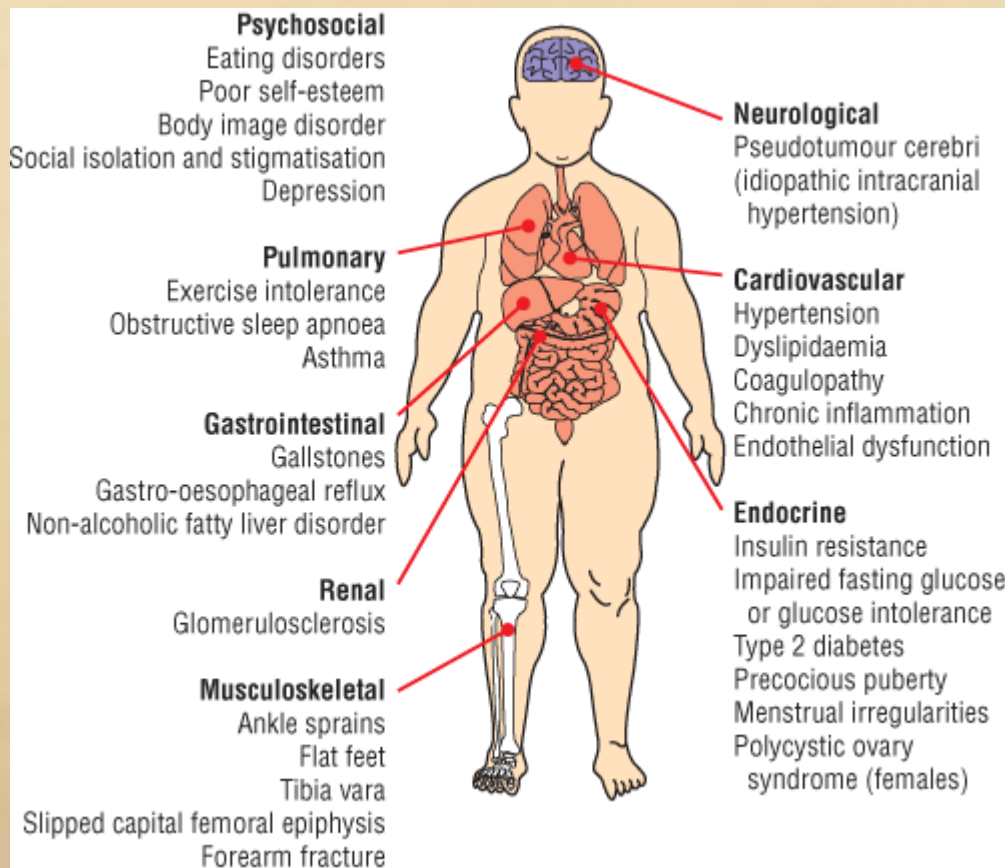
Worldwide Obesity

- According to the World Health Organization:
  - Worldwide obesity has more than doubled since 1980.
  - In 2008, 1.5 billion adults, 20 and older, were overweight. Of these over 200 million men and nearly 300 million women were obese.
  - Sixty-five percent of the world's population live in countries where overweight and obesity kills more people than underweight.
  - Nearly 43 million children under the age of five were overweight in 2010.
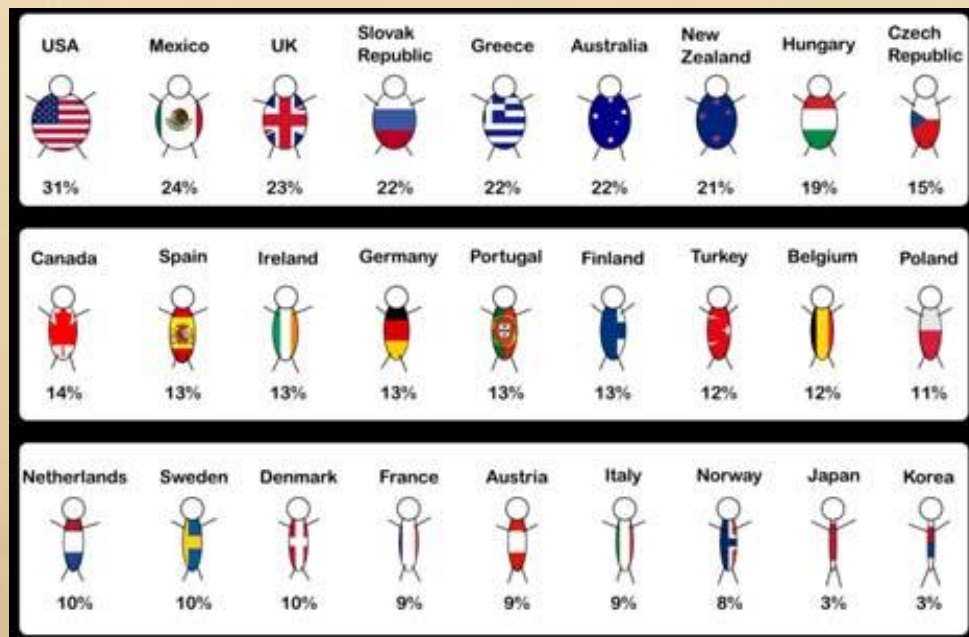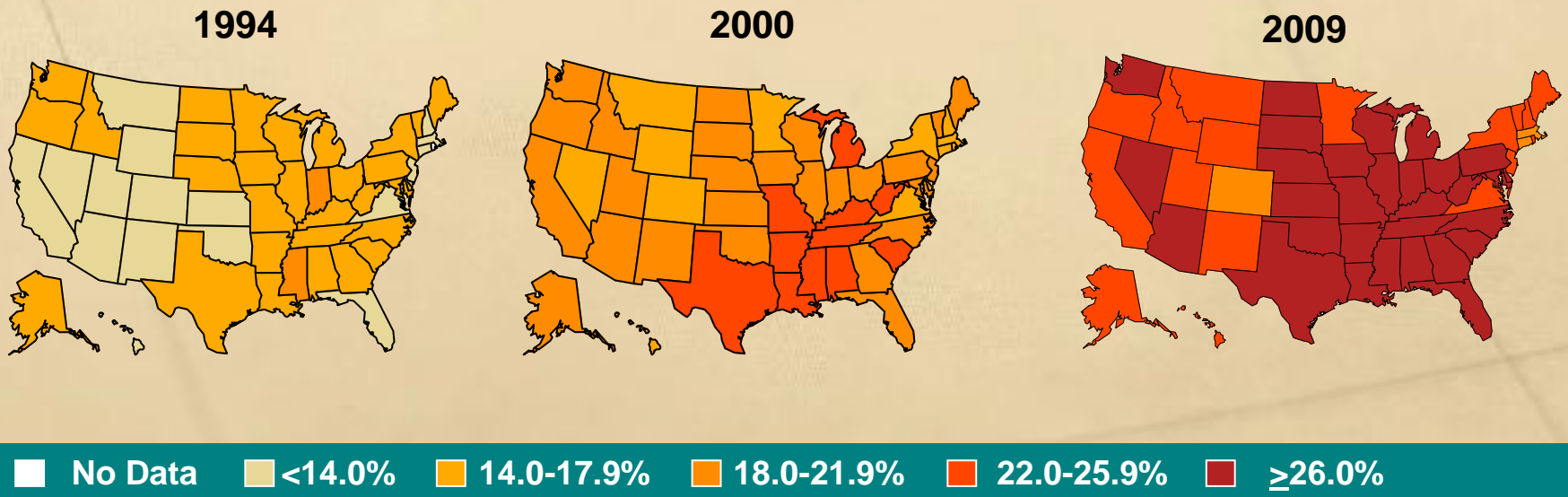
Obesity in the United States

- During the past 20 years there has been a dramatic increase in obesity in the United States.

- In 2009, only Colorado and the District of Columbia had a rate of obesity less than 20%.

- Thirty-three states had a rate equal to or greater than 25%.
    - Nine of these states (Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and West Virginia) had a rate of obesity equal to or greater than 30%.
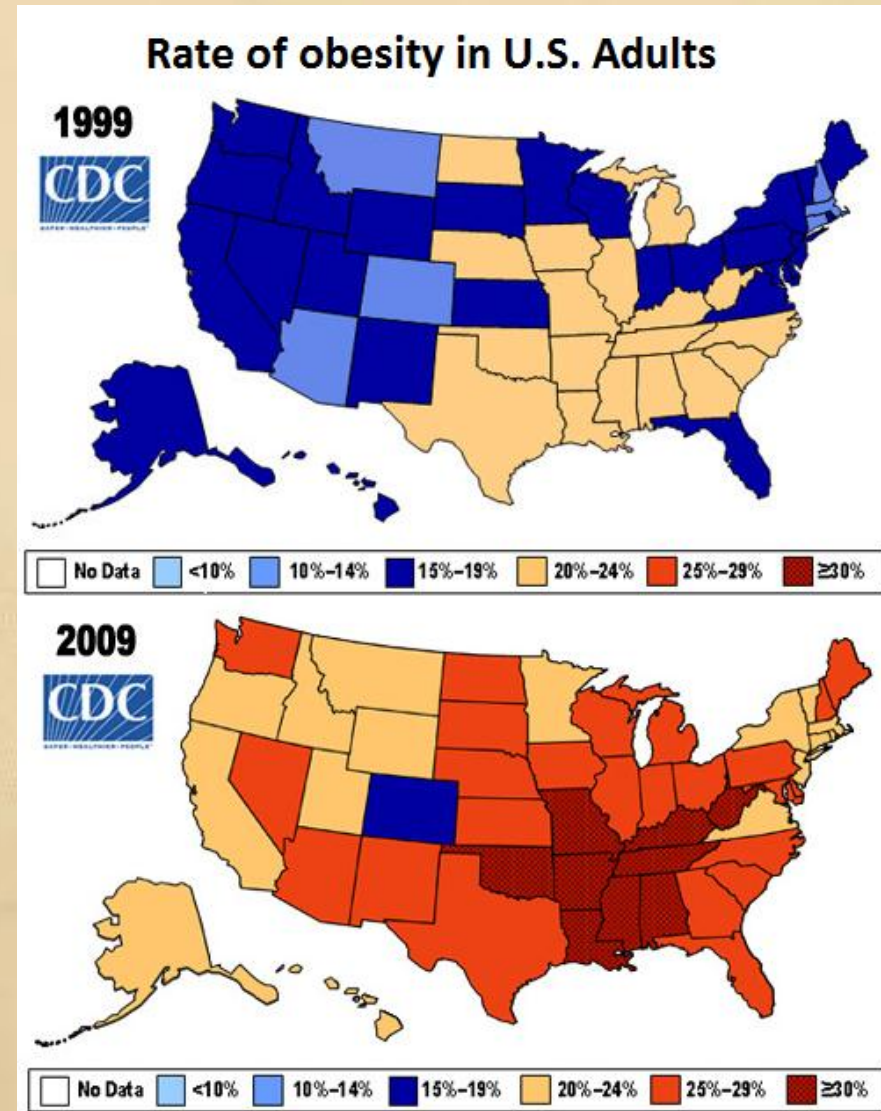
Growth of Obesity in the United States

Percentage of U.S. adults who were obese or who had diagnosed Diabetes:

Obesity (BMI ≥30 kg/m^2)

| 1994 | 2000 | 2009 |

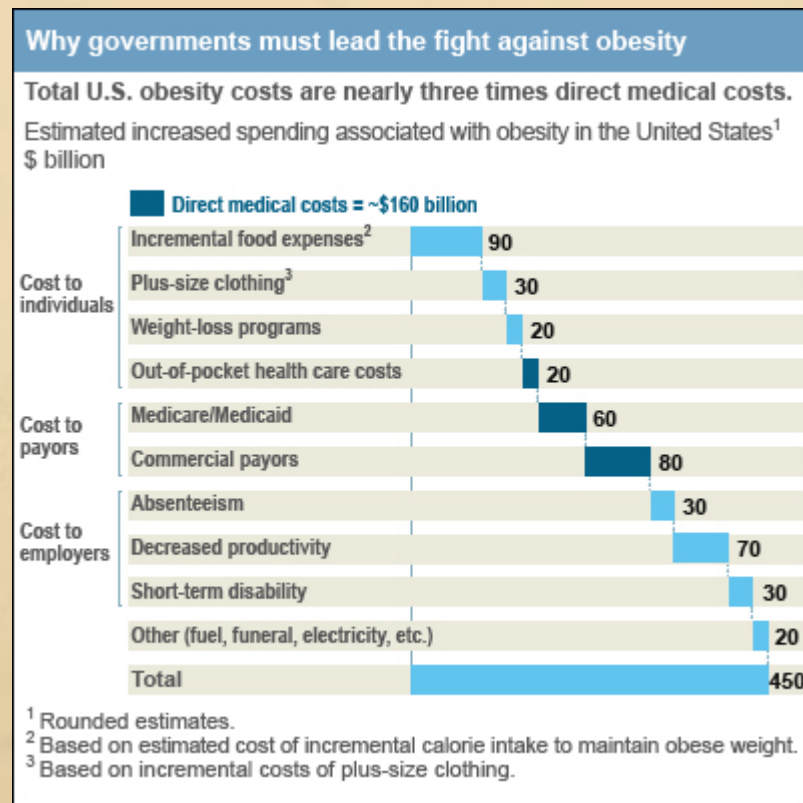| No Data | <14.0% | 14.0-17.9% | 18.0-21.9% | 22.0-25.9% | ≥26.0% |

Obesity in the United States, by State

- In 2009, the state with the highest rate of Obesity was Mississippi, where 34.4% of the population is obese.

- The state with the lowest rate of Obesity was Colorado, where 18.6% of the population is obese.
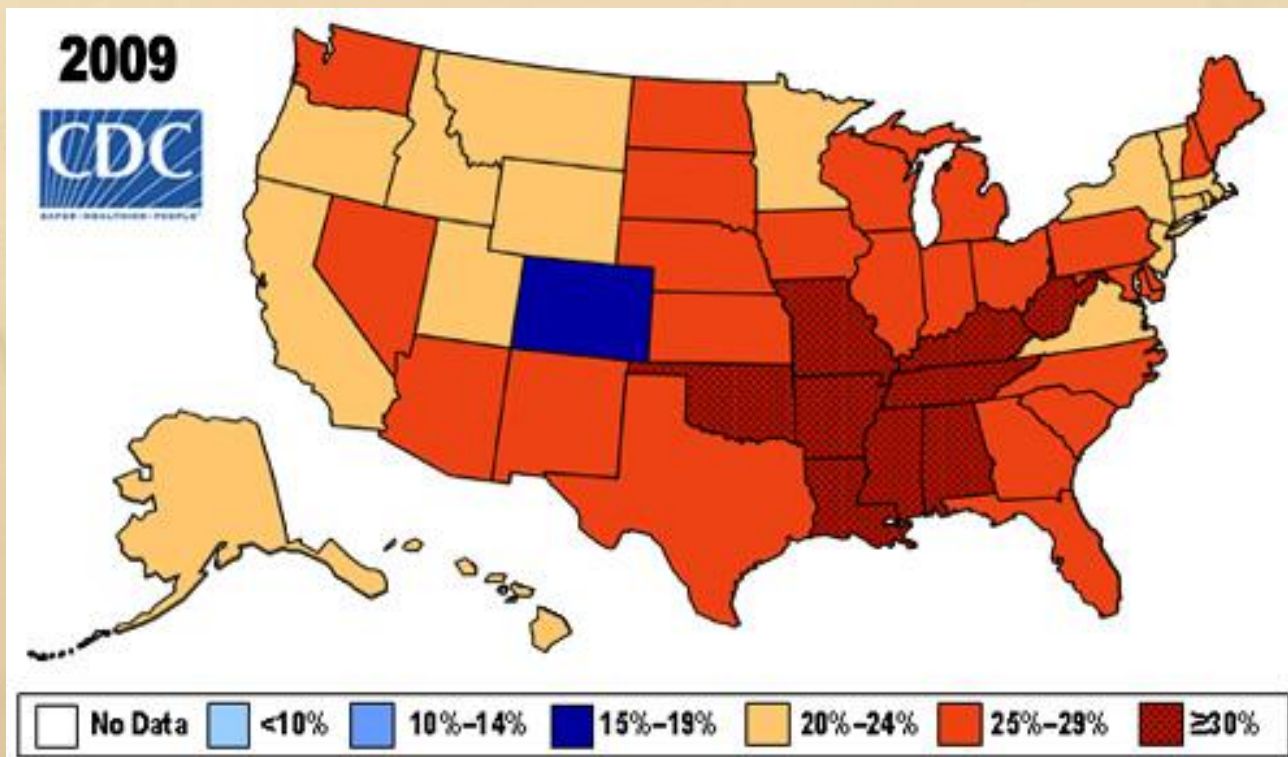
Costs of Obesity

- Obesity and its associated health problems have a significant economic impact on the U.S. health care system.

- Medical costs associated with people being overweight and obese may involve direct and indirect costs.
  - Direct medical costs may include preventive, diagnostic, and treatment services related to obesity.
  - Indirect costs relate to morbidity and mortality costs.
    - Morbidity costs are defined as the value of income lost from decreased productivity, restricted activity, absenteeism, and bed days.
    - Mortality costs are the value of future income lost by premature death.

Why governments must lead the fight against obesity

Total U.S. obesity costs are nearly three times direct medical costs.

Estimated increased spending associated with obesity in the United States[1]
$ billion

Direct medical costs = ~$160 billion

Category	Item	Value
Cost to individuals	Incremental food expenses[2]	90
	Plus-size clothing[3]	30
	Weight-loss programs	20
	Out-of-pocket health care costs	20
Cost to payors	Medicare/Medicaid	60
	Commercial payors	80
Cost to employers	Absenteeism	30
	Decreased productivity	70
	Short-term disability	30
	Other (fuel, funeral, electricity, etc.)	20
	Total	450

[1] Rounded estimates.
[2] Based on estimated cost of incremental calorie intake to maintain obese weight.
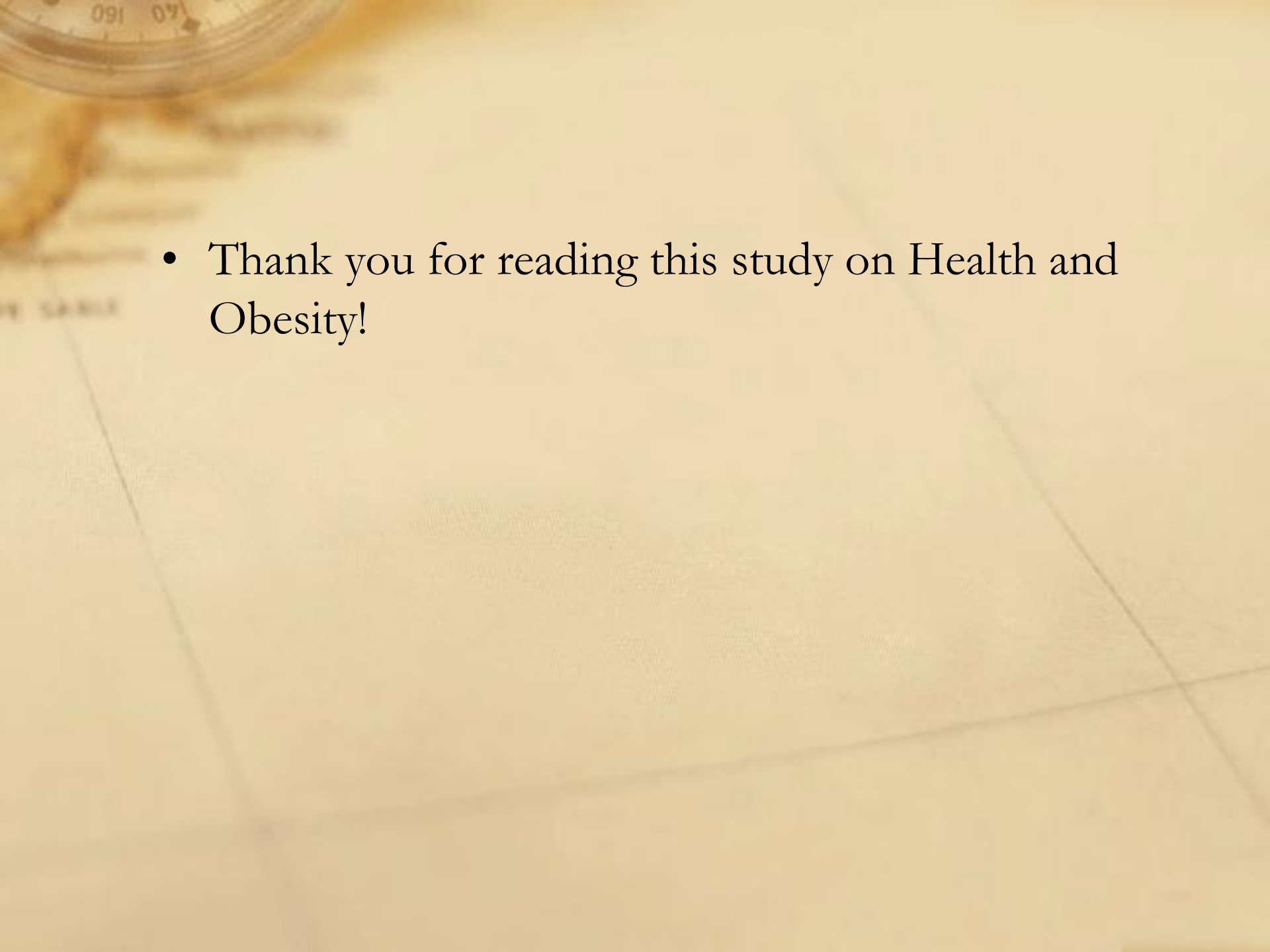[3] Based on incremental costs of plus-size clothing.

Preventing Obesity

- Regular exercise and a healthy diet are crucial when it comes to controlling your weight.

- Although there are many programs advertised to help you lose weight, the only method proven safe over the long-term is to burn more calories than you eat.

- *Diet*
  - Most people can lose weight by eating a healthier diet.

- *Exercise*
  - To lose weight, you must burn more calories than you eat. Exercise is a key way to do this.

- *Medications and Herbal Remedies*
  - There are many over-the-counter diet products, which are very popular in the United States. These include herbal remedies. Most of these products do not work and some can be dangerous.
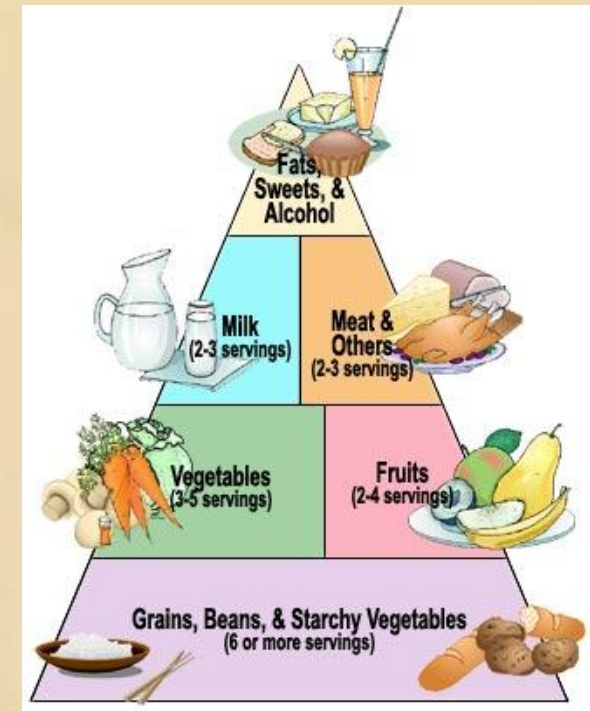
- Thank you for reading this study on Health and Obesity!