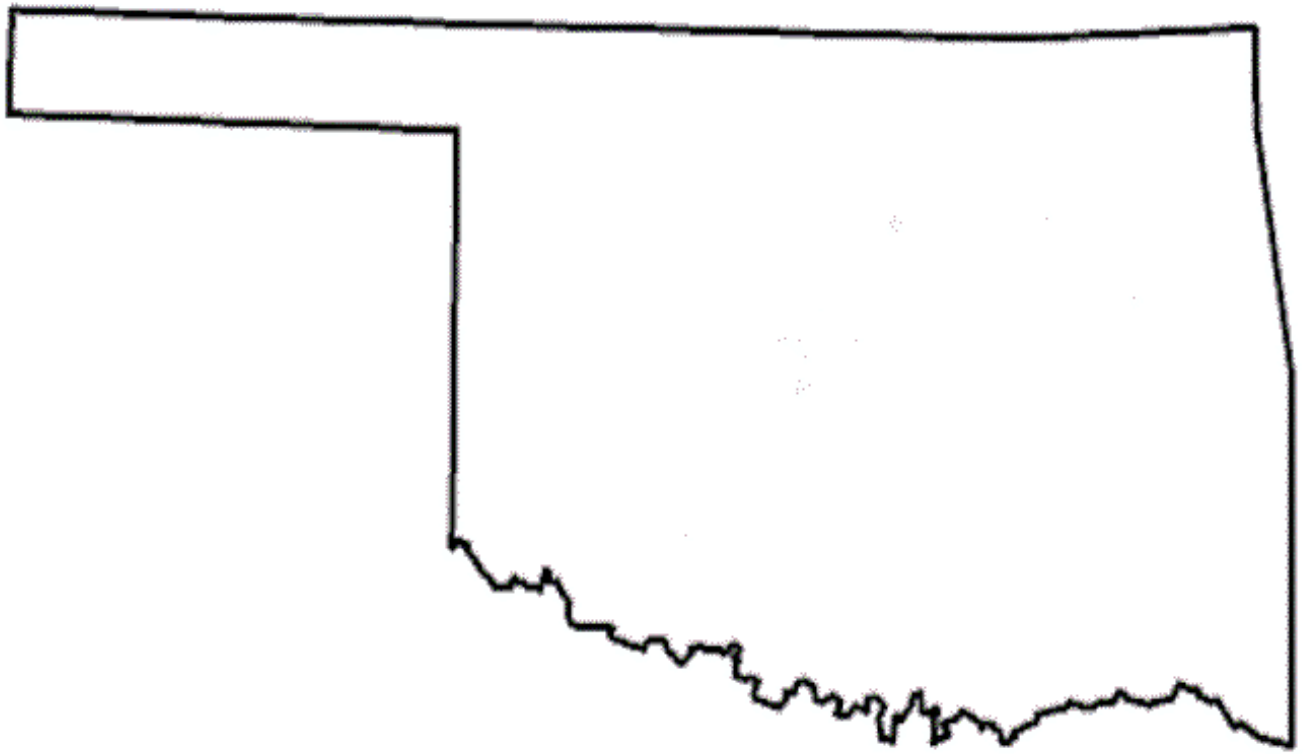
Impact of Obesity in Oklahoma



Sarah Yount, PharmD, CDCES
SWOSU College of Pharmacy
Rural Health Center
Assistant Professor
Diabetes Prevention Program Coordinator

Relevant Disclosures

Under the Oklahoma State Medical Association CME guidelines disclosure must be made regarding relevant financial relationships with commercial interests within the last 24 months.

Sarah Yount has no financial relationships or affiliations to disclose.

Objectives

1

Describe the burden of obesity in Oklahoma adults, youth, and children

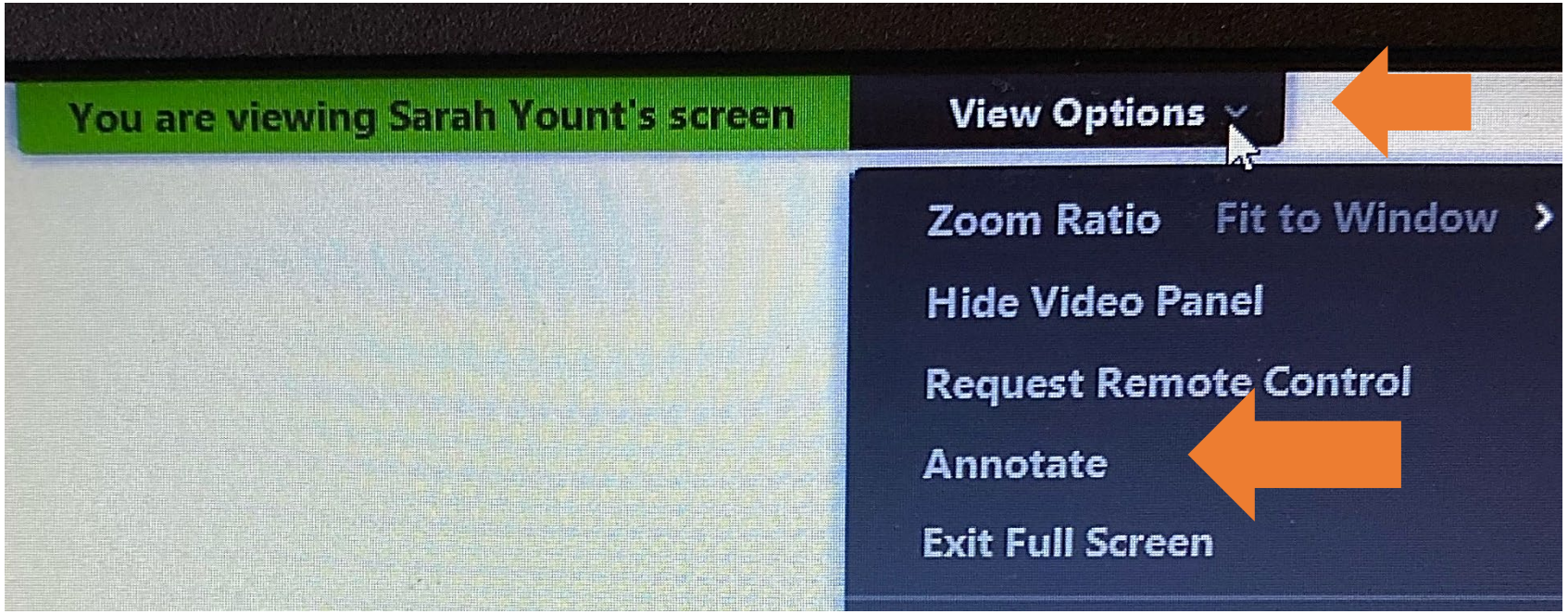
2

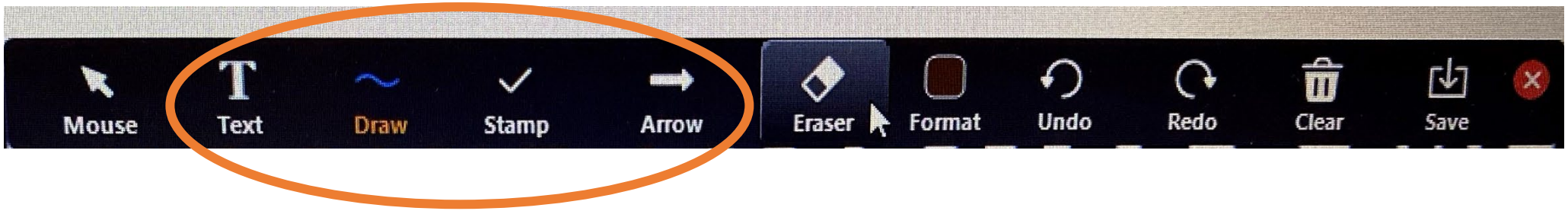
Discuss provider influence on obesity prevention and management

3

Identify medication and lifestyle interventions for obesity risk reduction

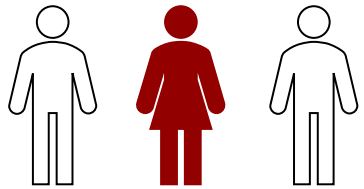
Zoom Interaction Tools



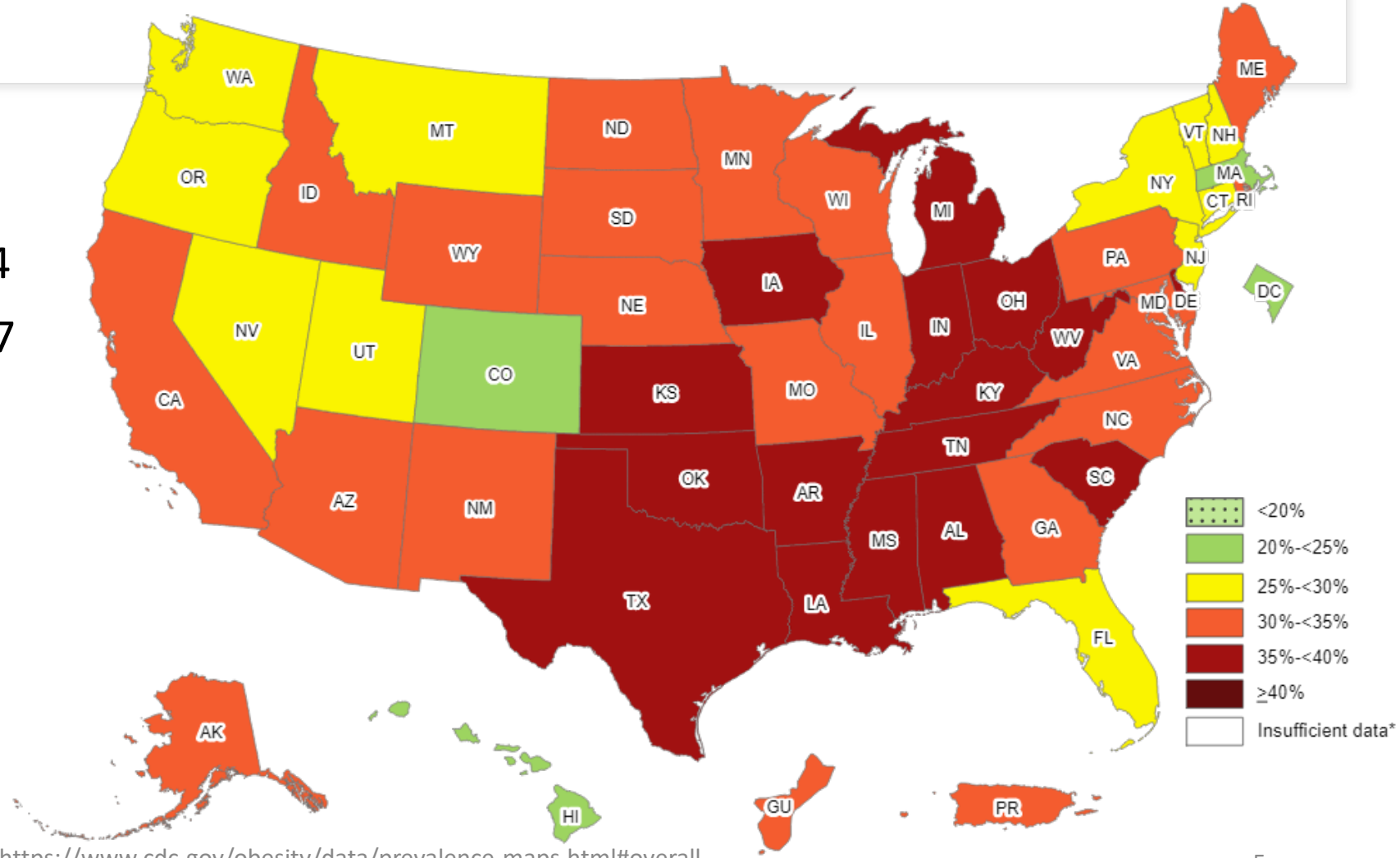


Oklahoma Obesity Prevalence

- 13.8% of children ages 2-4
- 18.7% of youth ages 10-17
- 36.4% of adults



1 in 3 Adults

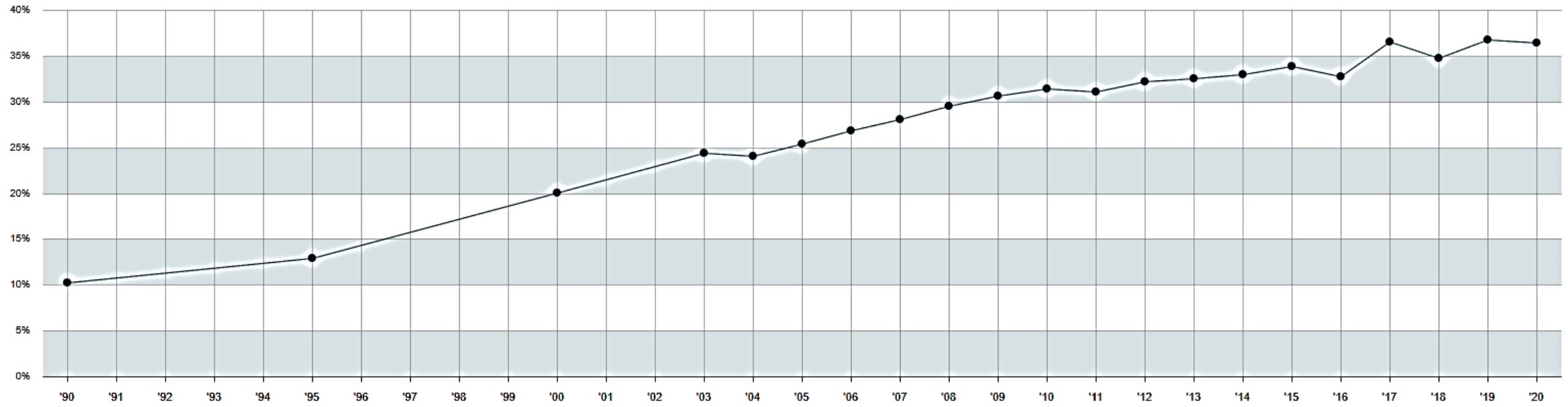


https://www.cdc.gov/obesity/data/prevalence-maps.html#overall
https://stateofchildhoodobesity.org/states/ok/

Rising Prevalence

More than a 3-fold increase over the last 30 years.

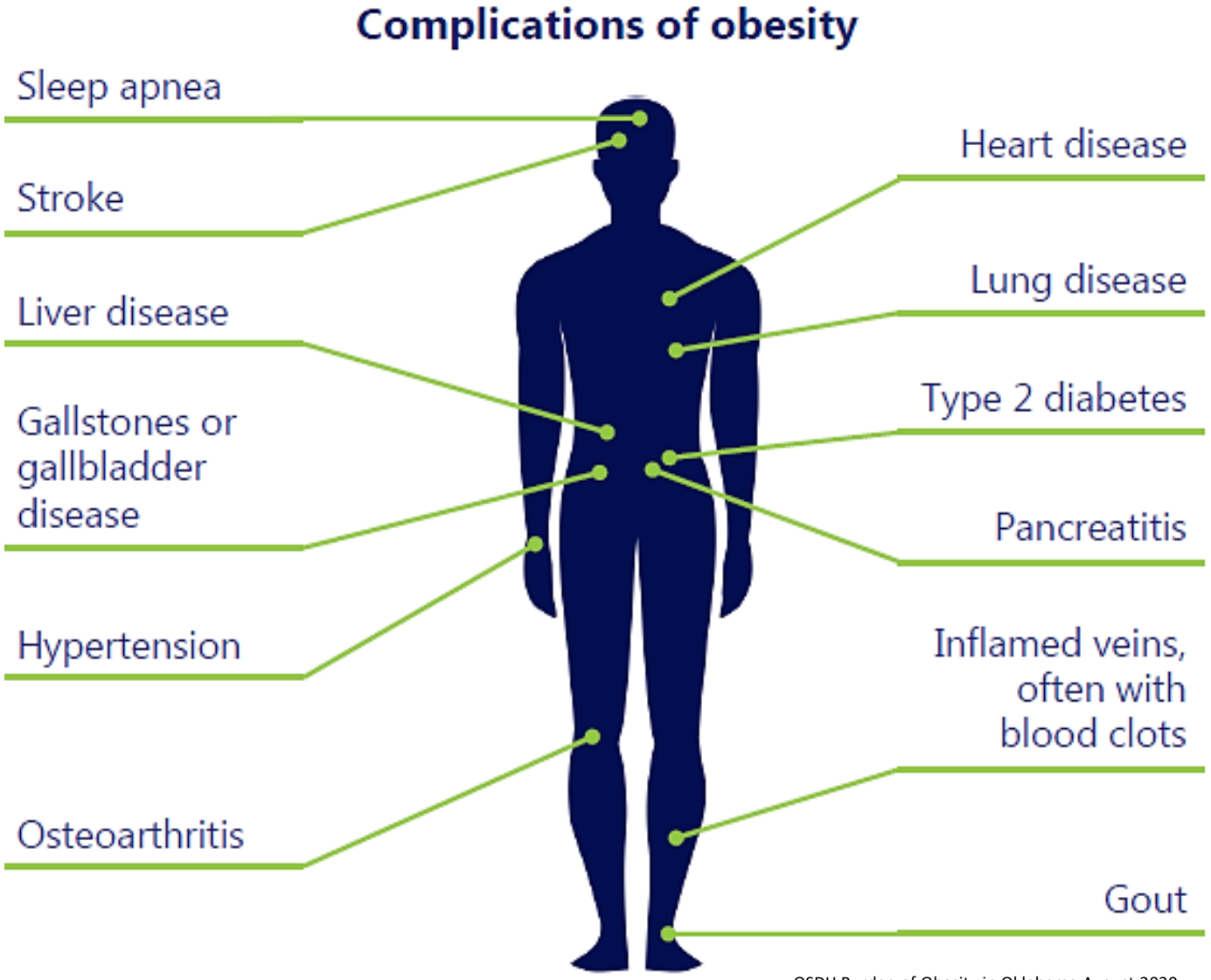
Adults



https://stateofchildhoodobesity.org/states/ok/

Why is obesity a problem?

- $1.7 billion in healthcare costs in Oklahoma
- Certain types of cancer [Obesity and Cancer Fact Sheet - National Cancer Institute]
- Pregnancy problems
- Depression



OSDH Burden of Obesity in Oklahoma August 2020

What is the #1 cause of death in Oklahoma?

1. Heart disease
2. Cancer
3. Stroke
4. Diabetes

Oklahoma Obesity Impact

Heart Disease	Cancer	Stroke	Diabetes	Liver Disease/Cirrhosis
• #1 cause of death in OK • OK is ranked first in the nation	• #2 cause of death • 4th in the nation	• #5 cause of death • 9th in the nation	• #7 cause of death • 4th in the nation	• #9 cause of death • 5th in the nation

https://www.cdc.gov/nchs/pressroom/states/oklahoma/ok.htm. Accessed December 4, 2021.

COVID-19 and Obesity

- The risk of severe COVID-19 illness increases sharply with elevated BMI
  - Tripled risk of hospitalization due to COVID-19 infection
- Over 30% of the 900,000 adult hospitalizations due to COVID-19 were attributed to obesity
- Higher risk of adverse outcomes in children with obesity
  - 3 times higher risk of hospitalization
  - 1.4 times higher risk of severe illness

Obesity, Race/Ethnicity, and COVID-19 | Overweight & Obesity | CDC. Accessed December 4, 2021.

How do we impact the progression?

Pediatric Patients

Counsel all patients and their families to:

Measure patients' BMI percentile for age at every well-child visit for children ages 2 and older.

Establish procedures for follow-up assessment (including laboratory tests), counseling, and treatment plans for children who are overweight or obese

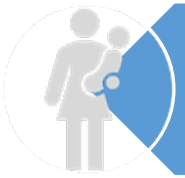
Healthcare Obesity Prevention Recommendations: Complete List | Obesity Prevention Source | Harvard T.H. Chan School of Public Health. Accessed December 2, 2021.

Gestational Patients - Early Life Influences on Obesity

Counsel patients on the importance of being at a healthy weight before pregnancy and gaining weight at a healthy rate during pregnancy

Counsel patients on the importance of avoiding smoking during pregnancy

Screen pregnant women for gestational diabetes



Recommend that mothers breastfeed and provide training and support for breastfeeding

Healthcare Obesity Prevention Recommendations: Complete List | Obesity Prevention Source | Harvard T.H. Chan School of Public Health. Accessed December 2, 2021.

Adult Patients

- Routinely measure BMI in all adult patients
- Order appropriate follow-up laboratory tests for patients who are overweight and obese and prescribe a long-term treatment strategy, which may include:
  - ✓ Counseling/coaching/behavioral interventions on diet/lifestyle change
  - ✓ Weight loss medication for appropriate individuals who have been unable to lose weight through conventional therapy and who have no contraindications
  - ✓ Bariatric surgery for patients with severe obesity unable to lose weight through conventional therapy and who have no contraindications
- Private weighing areas and ensure scales that can measure weights greater than 300 pounds

Healthcare Obesity Prevention Recommendations: Complete List | Obesity Prevention Source | Harvard T.H. Chan School of Public Health. Accessed December 2, 2021.

Behavioral Intervention

Obesity Counseling

- Diabetes Self-Management Education and Support (DSMES)
- Intensive Behavioral Therapy (IBT) for Obesity
- Medical Nutrition Therapy (MNT)
- National Diabetes Prevention Program (NDPP)

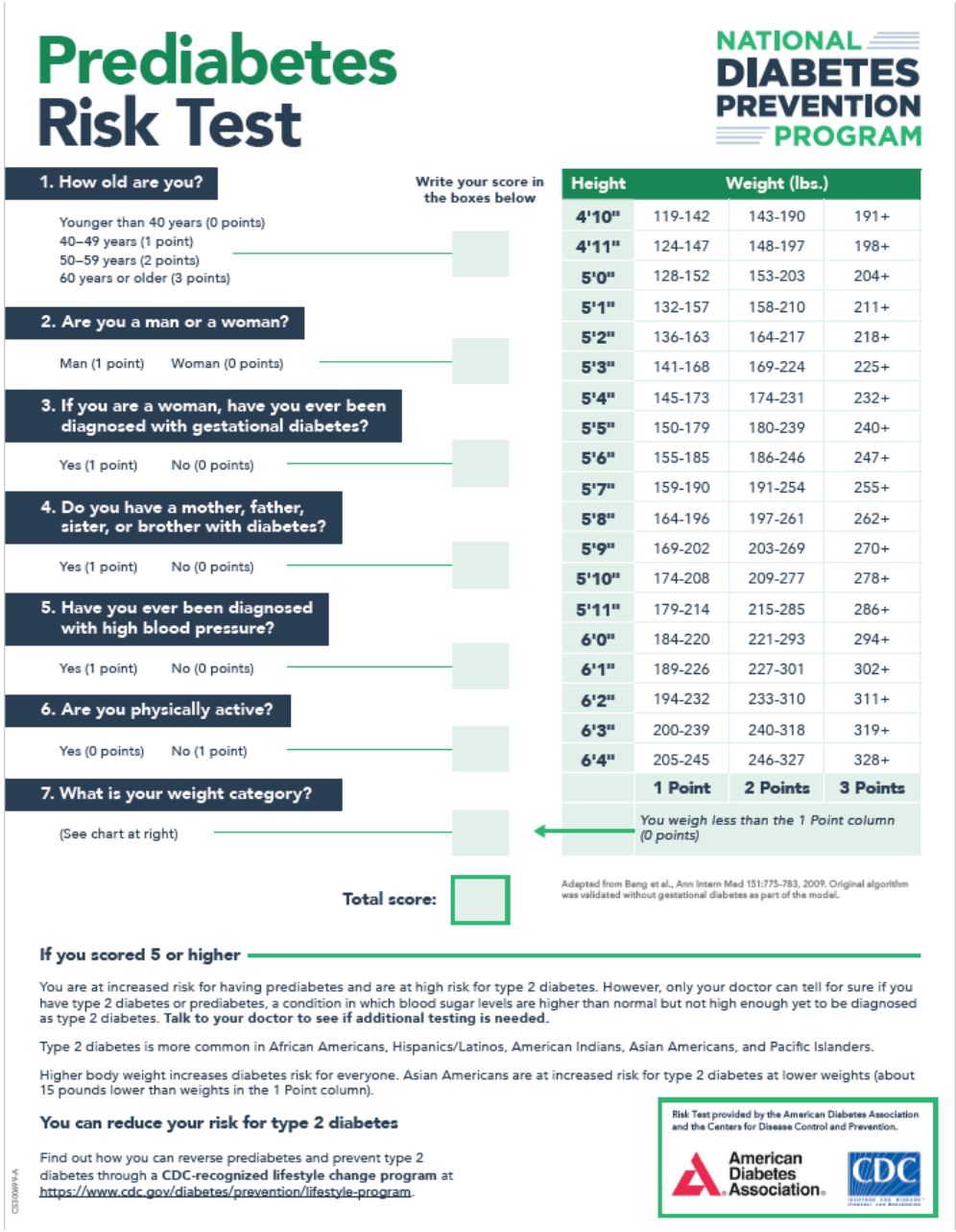
National Diabetes Prevention Program

Qualifying Criteria

- Blood Test
- Gestational Diabetes
- Prediabetes Risk Test

PLUS

- BMI ≥ 25 kg/m^2
- Age ≥ 18 years



Prediabetes Risk Test

NATIONAL DIABETES PREVENTION PROGRAM

1. How old are you? — Write your score in the boxes below

Younger than 40 years (0 points)
40–49 years (1 point)
50–59 years (2 points)
60 years or older (3 points)

2. Are you a man or a woman?

Man (1 point) Woman (0 points)

3. If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (1 point) No (0 points)

4. Do you have a mother, father, sister, or brother with diabetes?

Yes (1 point) No (0 points)

5. Have you ever been diagnosed with high blood pressure?

Yes (1 point) No (0 points)

6. Are you physically active?

Yes (0 points) No (1 point)

7. What is your weight category?

(See chart at right)

Height	Weight (lbs.)		
4'10"	119-142	143-190	191+
4'11"	124-147	148-197	198+
5'0"	128-152	153-203	204+
5'1"	132-157	158-210	211+
5'2"	136-163	164-217	218+
5'3"	141-168	169-224	225+
5'4"	145-173	174-231	232+
5'5"	150-179	180-239	240+
5'6"	155-185	186-246	247+
5'7"	159-190	191-254	255+
5'8"	164-196	197-261	262+
5'9"	169-202	203-269	270+
5'10"	174-208	209-277	278+
5'11"	179-214	215-285	286+
6'0"	184-220	221-293	294+
6'1"	189-226	227-301	302+
6'2"	194-232	233-310	311+
6'3"	200-239	240-318	319+
6'4"	205-245	246-327	328+
	1 Point	2 Points	3 Points

You weigh less than the 1 Point column (0 points)

Total score:

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher

You are at increased risk for having prediabetes and are at high risk for type 2 diabetes. However, only your doctor can tell for sure if you have type 2 diabetes or prediabetes, a condition in which blood sugar levels are higher than normal but not high enough yet to be diagnosed as type 2 diabetes. **Talk to your doctor to see if additional testing is needed.**

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, American Indians, Asian Americans, and Pacific Islanders.

Higher body weight increases diabetes risk for everyone. Asian Americans are at increased risk for type 2 diabetes at lower weights (about 15 pounds lower than weights in the 1 Point column).

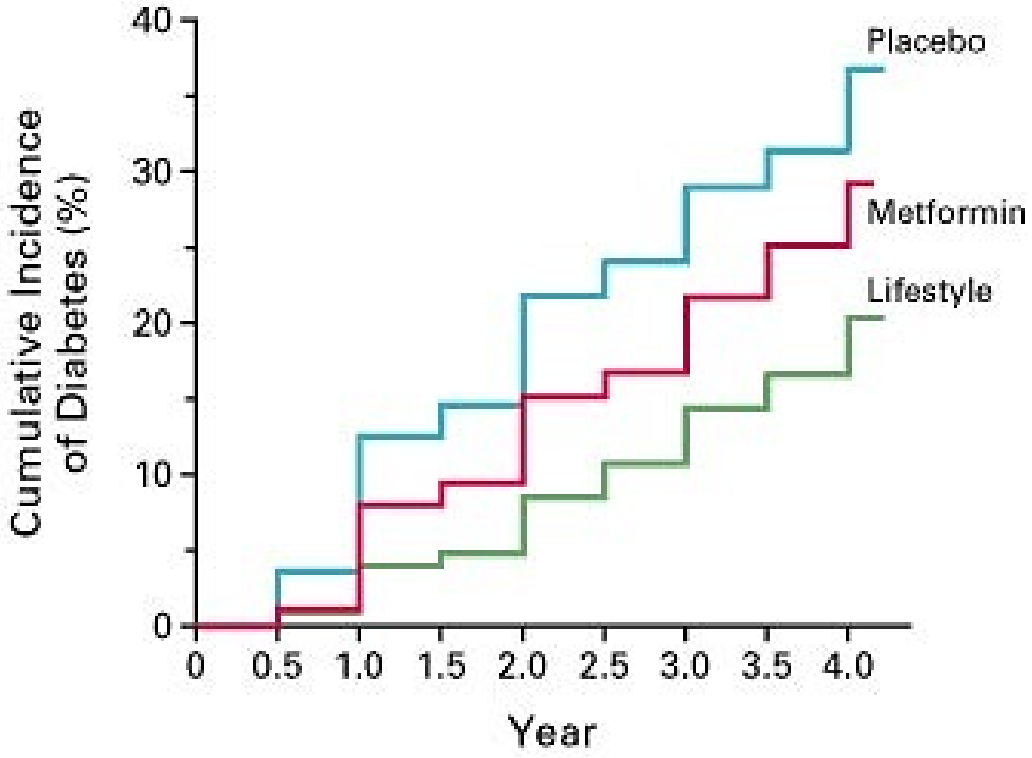
You can reduce your risk for type 2 diabetes

Find out how you can reverse prediabetes and prevent type 2 diabetes through a **CDC-recognized lifestyle change program** at https://www.cdc.gov/diabetes/prevention/lifestyle-program.

Risk Test provided by the American Diabetes Association and the Centers for Disease Control and Prevention.

American Diabetes Association. CDC

NDPP Efficacy

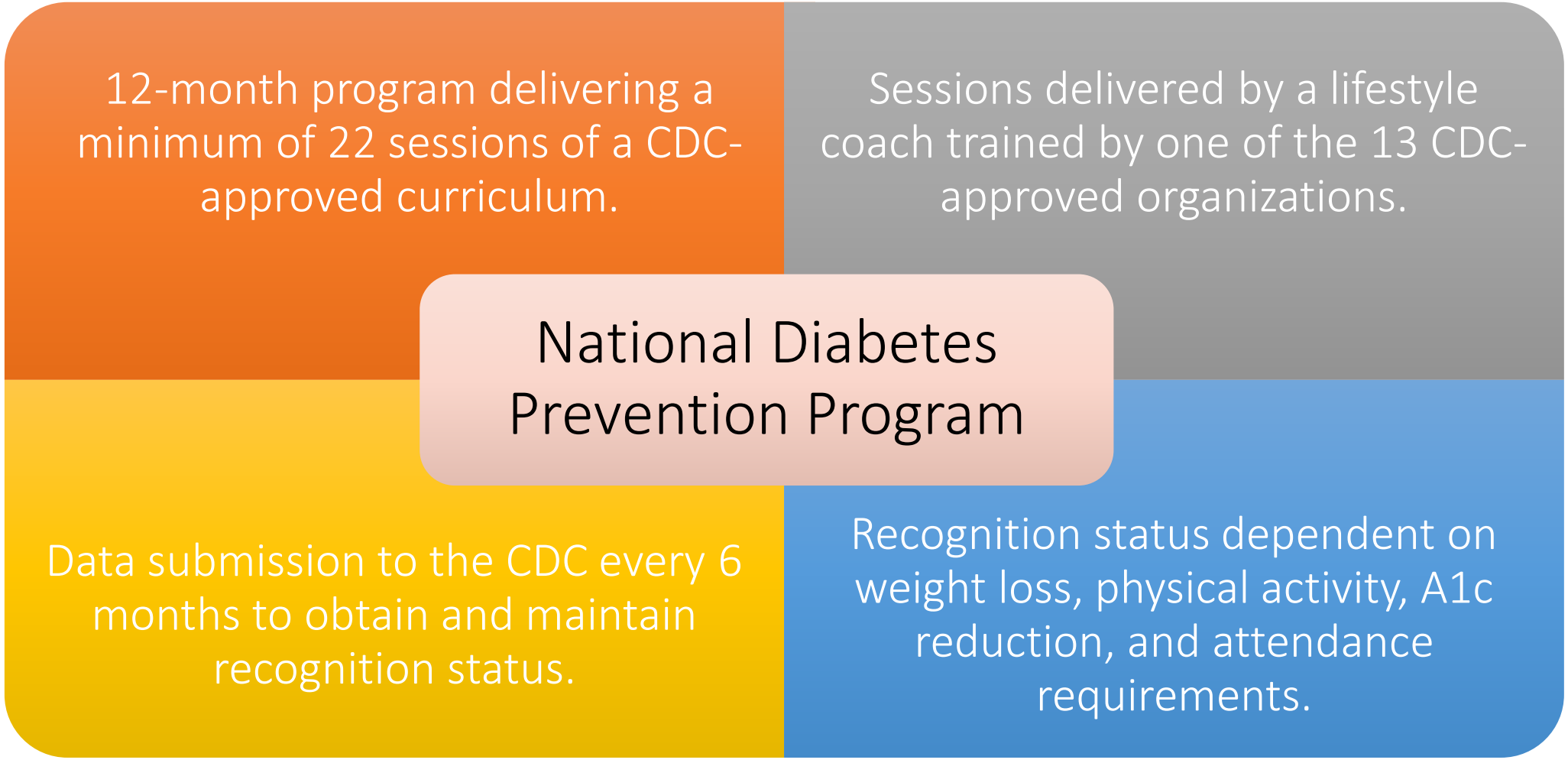


The initial NDPP cohorts have been followed for over 15 years making it one of the longest research efforts on lifestyle change programs to ever take place.

Cuts the risk for type 2 diabetes **in half.**

Twice as effective as Metformin in preventing type 2 diabetes.

Structure


12-month program delivering a minimum of 22 sessions of a CDC-approved curriculum.
Sessions delivered by a lifestyle coach trained by one of the 13 CDC-approved organizations.
National Diabetes Prevention Program
Data submission to the CDC every 6 months to obtain and maintain recognition status.
Recognition status dependent on weight loss, physical activity, A1c reduction, and attendance requirements.

Pharmacotherapy

Endocrine Society Guidelines

BMI >/= 25

- Nutrition, Physical Activity, Behavioral Modifications

BMI ≥27 kg/m2 *with comorbidities (DM)* or **BMI** ≥30 kg/m2

- ***ADD other tools as pharmacotherapy***

Pharmacotherapy for Weight Loss

- Orlistat
- Semaglutide
- Liraglutide
- Phentermine/ Topiramate
- Naltrexone/ Bupropion
- Weight Centric Prescribing

Orlistat

- Rx: Xenical 120 mg by mouth TID with each meal containing fat
  - Approved for those 12 years of age and older
- OTC: Alli 60 mg TID with each meal containing fat
- Inhibits absorption of dietary fats by 30%
  - Separate administration of fat-soluble vitamin by 2 hours
  - Do not take if a meal is skipped or without fat content
- Most common side effects are GI in nature

Liraglutide
Semaglutide

- Wegovy (semaglutide) 2.4 mg **weekly**

  Saxenda (liraglutide) 3 mg **daily**
  - *Subcutaneous injections titrated over several weeks*

- GLP-1 receptor agonists increase glucose-dependent insulin secretion, decreases inappropriate glucagon secretion, *slow gastric emptying*; *and act in the areas of the brain involved in regulation of appetite and caloric intake*

- Evaluate at 12 to 16 weeks and discontinue if 4% to 5% weight loss not achieved

- Most common side effects include increased heart rate, hypoglycemia, GI, local injection site reactions, and headache

Phentermine/ Topiramate

- Qsymia: maintenance dose of 7.5 mg/46 mg - 15 mg/92 mg
  - Phentermine: Lomaira (8 mg), Adipex-P (15 mg, 37.5 mg)
  - **C-IV**

- **Mechanisms: Phentermine** reduces appetite secondary to CNS effects, including stimulation of norepinephrine release**; Topiramate suppresses** appetite and enhances satiety by multiple potential mechanisms

- Evaluate for 3% weight loss at 12 weeks on 7.5 mg/46 mg; if not achieved, discontinue or increase to maximal dose over 14 days; if 5% weight loss not achieved after 12 weeks on maximal dose, slowly discontinue therapy

- Most common side effect includes increased heart rate

Naltrexone/ Bupropion

- Contrave: maintenance dose naltrexone 16 mg/bupropion 180 mg (two tablets) twice daily
- Mechanism not fully understood but effects may result from action on areas of the brain involved in the regulation of food intake: the hypothalamus and mesolimbic dopamine circuit
- Evaluate at 16 weeks and consider discontinuing if desire weight loss (5%) not achieved
- Most common side effects include headache, sleep disorder, nausea, constipation, and vomiting

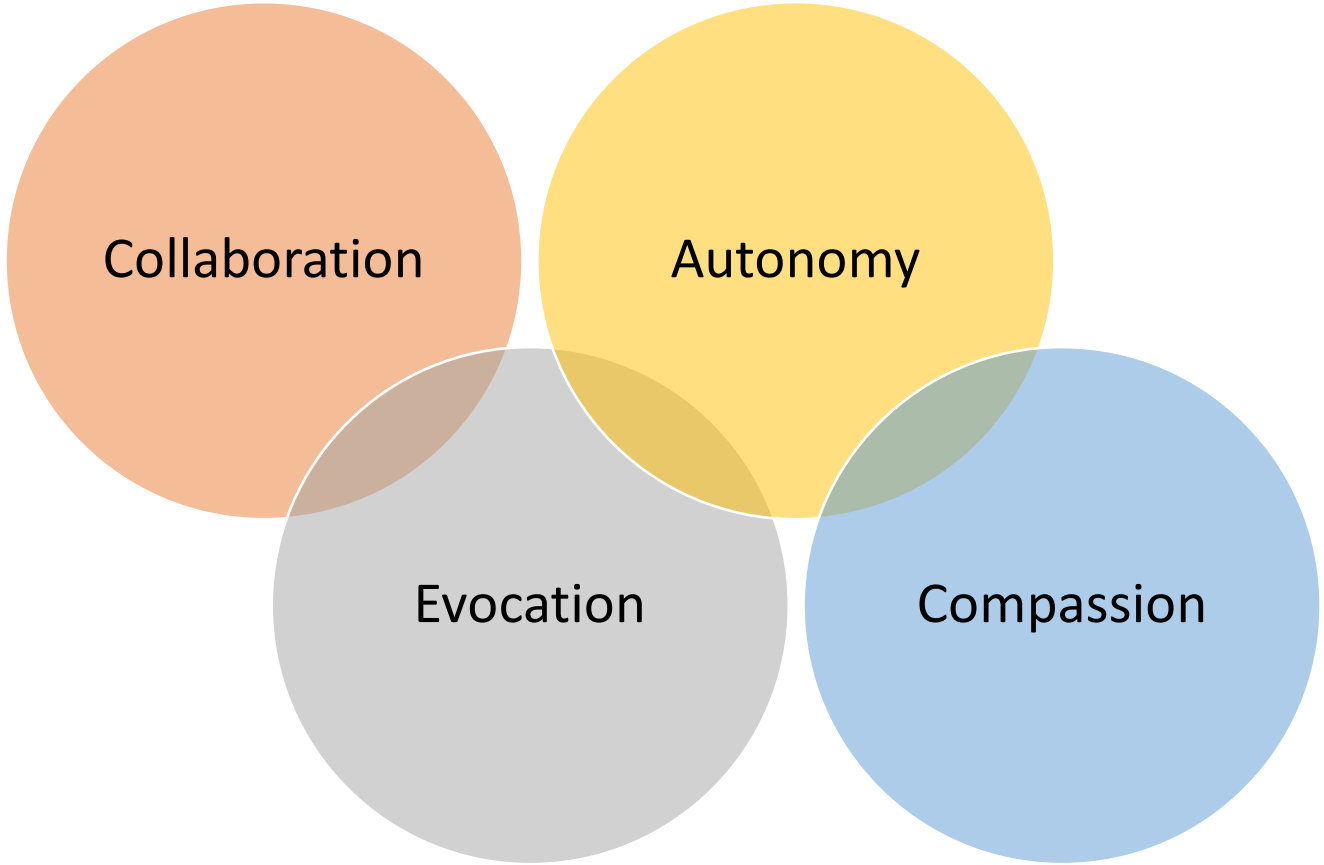
Weight Centric Considerations

- Anticonvulsants (lithium, gabapentin, valproic acid)
- Antidepressants (amitriptyline, paroxetine)
- Antipsychotics (olanzapine, quetiapine)
- Contraceptive injectables > oral, IUD
- Hypoglycemic agents (insulin, sulfonylureas)

Healthcare Professionals as Advocates

- Serve as leaders and role models, within one's practice and community, to encourage healthy changes in physical activity, nutrition, and the built environment
- Advocate at the practice, professional organization, local, state, and federal levels for policy and built environment changes that promote healthy eating and physical activity in childcare settings, schools, after-school programs, and communities
- Encourage parents to advocate for environmental changes that promote physical activity in their children's schools and communities

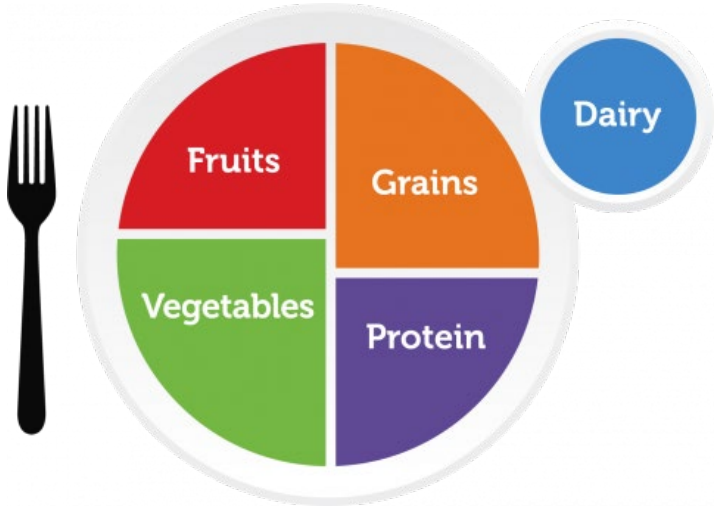
Motivational Interviewing



https://ytp.uoregon.edu/content/spirit-motivational-interviewing. Accessed November 29, 2021.

Patient Resources

- [MyPlate Resources | Nutrition.gov]
- [Physical Activity, Tools & Resources, NHLBI, NIH]



parent tips

we can!

Be Active and Have Fun

Be active with your family each day. Here are some tips to fit physical activity into a busy week—and make it fun!

Find the best times to be active.

First, I will:

- ☐ Keep track of how my family spends our time for one week.
- ☐ Find two 30-minute time slots when my family could fit in physical activity.
  - Choose times when my family is usually together to try an activity.
  - Choose times when we usually have a lot of energy.

Start small.

Which of these activities will work for your family?

- ☐ Taking a walk or play tag with the children.
- ☐ Walking to work, school, or a friend's house.
- ☐ Using chores to move more; I can burn calories while I vacuum, rake leaves, or scrub floors.
- ☐ Asking my family to start (add your own ideas here!):

Start with what you know.

What will you start to do?

- ☐ Do things I know how to do—riding a bike or dancing.
- ☐ Pick activities that don't need any costly sports gear—like jogging, doing pushups, or tossing a ball.
- ☐ Get active at home, in my neighborhood, or in the park.
  - I don't need to go to a gym.
  - I can try active video games, where my kids and I dance or run in place.
- ☐ Make a pledge to:

SMART Goal Setting

Behavior Goal:

<u>Action - What I will do:</u>

- Where I will do it:
- When I will do it:
- How long I will do it:
- Challenges I might face:
- Ways to cope with these challenges:

Quiz Time

Let's have some fun!

Pharmacotherapy interventions for weight loss should be reassessed at:

- 6 to 10 weeks
- 12 to 16 weeks
- 6 to 12 months
- 12 to 24 months

If weight loss goals are not met by 12 to 16 weeks on maximal recommended doses, pharmacotherapy should be

- Continued
- Discontinued
- Combined with another weight loss medication

T/F: Lifestyle changes have a significant impact on obesity and overall disease prevention/management

Evidenced-based program designed by the CDC for those with multiple risk factors for type 2 diabetes, including obesity, with a goal of 5-7% weight loss:

a. Diabetes Self-Management Education and Support Services
b. National Diabetes Prevention Program
c. Medical Nutrition Therapy

T/F: Motivational interviewing is when the healthcare provider tells the patient what changes to make to help them be healthier

Questions