

SOCIAL DETERMINANTS, CHRONIC DISEASE AND THE WILL TO IMPROVE

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SOCIAL DETERMINANTS OF HEALTH

Conditions in the places where people live, learn, work, and play that affect a wide range of **health** risks and outcomes.

Social Determinants of Health

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	
Medical bills	Playgrounds	Higher education		Stress	Quality of care
Support	Walkability				
	Zip code / geography				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

PREVALENCE OF CHILD OBESITY

Nationwide the prevalence of **obesity in youth (2 to 19 years old)** was **18.5% affecting 13.7 million children and adolescents**

Age	Obesity Rate
2 -5 yr olds	13.9
6 - 11 yr olds	18.4
12 – 19 yr olds	20.6

32% of youth are overweight or obese.

- **WIC Population Overall,**
- **Ages 2 - 4: 13.9% obesity**
(over the 95% weight for age and sex)

Race/Ethnicity	Obesity Rate
American Indian/Alaska Native	18.5
Hispanic	16.4
Non-Hispanic white	12.1
Non-Hispanic black	11.4
Asians / Pacific Islander	10.0

29.1% of the WIC population is overweight or obese.

SOCIAL DETERMINANTS

Among children and adolescents aged 2-19 years old

Education: the prevalence of obesity increased with decreasing level of education of the head of household

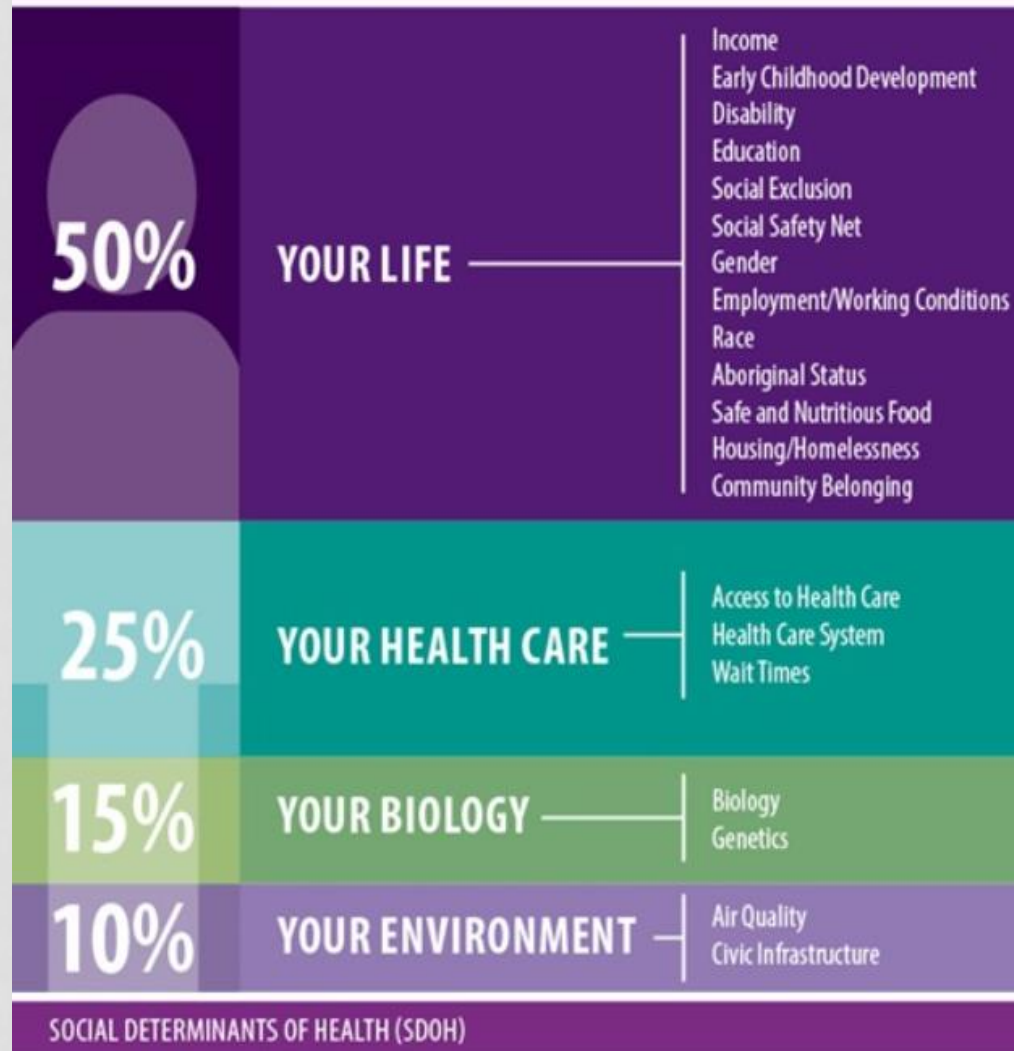
Income: Obesity prevalence increases with decreasing levels of income:
10.9% among those in the highest income group
18.9% in the lowest income group

Boys: Obesity prevalence was lower in the highest income group among non-Hispanic Asian and Hispanic boys.

Girls: Obesity prevalence was lower in the highest income group among non-Hispanic white, non-Hispanic Asian, and Hispanic girls

Obesity prevalence did not differ by income among non-Hispanic black girls.

WHAT MAKES PEOPLE SICK?



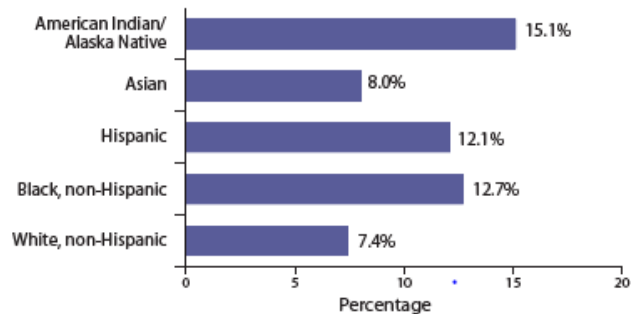
DIABETES IN ADULTS

- **30 million have diabetes**
 - **23 million diagnosed**
 - **7 million not yet diagnosed**
- **9.4% of the adult population of Maryland has diabetes**
- **Prediabetes**
 - 84.1 million Adults aged 18 and older have prediabetes
 - 33.9% of US adults have pre-diabetes, but only 11.6% were aware of it
 - 8.4% of the adult population in Maryland have been told they have prediabetes

DIABETES RATES BY RACE

Diabetes Rates in Adults

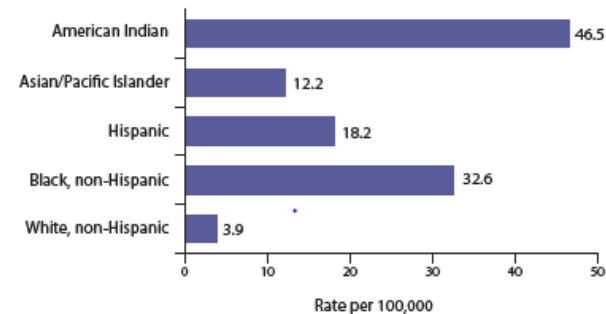
Figure 2. Percentage of US Adults Aged 18 or Older With Diagnosed Diabetes, by Racial and Ethnic Group, 2013–2015



Notes: Percentages are age-adjusted to the 2000 US standard population. Figure adapted from the *National Diabetes Statistics Report, 2017*. Data sources: 2013–2015 National Health Interview Survey and 2015 Indian Health Service National Data Warehouse (American Indian/Alaska Native data).

Diabetes Rates in Children

Figure 6. Incidence of Type 2 Diabetes Among US Children and Adolescents Aged 10 to 19 Years, by Race/Ethnicity, 2011–2012



Note: American Indian youth who participated in the SEARCH study are not representative of all American Indian youth in the United States. Thus, these rates cannot be generalized to all American Indian youth nationwide. Data source: SEARCH for Diabetes in Youth Study.

DIABETES IN YOUTH

Americans under age 20

193,000 are diagnosed with Type 1 or Type 2 diabetes
(approximately 0.24% of that population)

In 2011—2012, the annual incidence of newly diagnosed diabetes in youth was estimated at
17,900 with type 1 diabetes,
5,300 with type 2 diabetes.

DIABETES IN YOUTH

Prevalence of overweight and obesity in youth with diabetes in USA: the SEARCH for Diabetes in Youth study.

RESULTS:

Prevalence of	Among youth with T2DM	Among youth with T1DM
overweight	10.4%	22.1% (higher than those without diabetes (16.1%))
obesity	79.4%	12.6% Range: Non-Hispanic White 10.7% to African-American 20.1%.

Pediatr Diabetes. 2010 Feb;11(1):4-11. doi: 10.1111/j.1399-5448.2009.00519.x. Epub 2009 May 15. Liu LL¹, Lawrence JM, Davis C, Liese AD, Pettitt DJ, Pihoker C, Dabelea D, Hamman R, Waitzfelder B, Kahn HS; SEARCH for Diabetes in Youth Study Group. <https://www.ncbi.nlm.nih.gov/pubmed/19473302>

RISK FACTORS FOR OBESITY

Education

Literacy

Language

Early childhood
education

Vocational
training

Higher
education

What is the level of health and nutrition literacy?

How do parents learn about healthy eating?

- Their own parents incorporating the generational family influences?
- Health education classes that may exist for a short duration during their lives?
- Repeated exposure to food company marketing practices promoting high intakes of processed foods with high levels of fat and sugar throughout their lifetimes?

RISK FACTORS FOR OBESITY

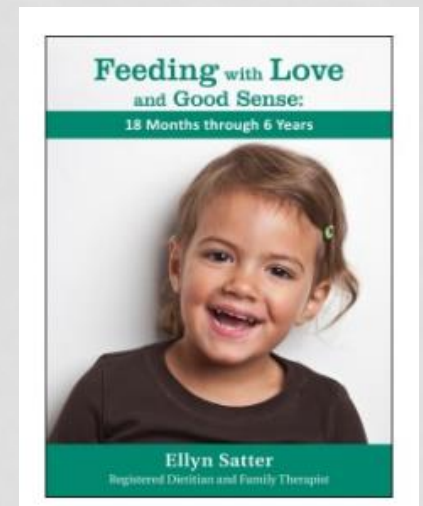
Are parents aware of the Division of Responsibility in feeding young children?

Parents are responsible for:

- Serving appropriate food (healthy and developmentally appropriate)
- At a set schedule

Infants and Children are responsible for:

- Whether to eat or not
- Choose the foods to eat from among those served
- HOW MUCH to eat



RISK FACTORS FOR OBESITY

Low intake of whole plant-based foods, especially fruits and veg



What we eat,

what we should eat.



RISK FACTORS FOR OBESITY

Watch these **6** documentaries to change the way you think about food!
-Make it Easier to Eat Healthy!!!

Fed Up	What the Health	Food, INC.	Super Size Me	Forks Over Knives
 <p>FROM LAURENCE BARRER, PRODUCER OF AN INCREDIBLE YEAR AND KATE COULICK</p> <p>It's time to get real about food.</p> <p>FED UP</p> <p>INCLUDES EatingWell!</p> <p>"A wakeup call for everyone who eats."</p>	 <p>WHAT THE HEALTH</p> <p>THE TRUTH ABOUT YOUR FOOD</p>	 <p>FROM THE COMPANY THAT BROUGHT YOU AN INCREDIBLE YEAR</p> <p>FOOD, INC.</p> <p>More than a terrific movie—it's an important movie.</p> <p>YOU'LL NEVER LOOK AT DINNERS THE SAME WAY AGAIN.</p> <p>FOOD, INC.</p> <p>★★★★ One of the year's most important films!</p>	 <p>"I'm Lovin' it!"</p> <p>FROM THE DIRECTOR OF SUPER SIZE ME</p> <p>SUPER SIZE ME</p> <p>THE FILM OF EPIC PROPORTIONS</p>	 <p>"A FILM THAT CAN SAVE YOUR LIFE."</p> <p>"I LOVED IT AND I'M GOING TO LIVE BETTER."</p> <p>FORKS OVER KNIVES</p> <p>CONVINCING, RADICAL AND POLITICALLY INCORRECT</p>

Ways to watch these films:

<p>This film follows families as they struggle with childhood obesity. It explains the harmful effect of sugar on the body and how the food industry has manipulated the truth and pressured the government so that public health policy is unable to protect the consumer.</p>	<p>Describes collusion and corruption in government and big business that is costing us trillions of healthcare dollars and keeping us sick.</p>	<p>Explores the horrific farm practices of the meat, poultry, pork and grain industries and explore how a handful of huge <u>corporations</u> place profits before consumer health, worker safety and the environment.</p>	<p>Director Morgan Spurlock's social experiment in fast-food gastronomy sees him attempting to subsist uniquely on food from the McDonald's menu for an entire month. In the process his weight balloons, his energy level plummets and he experiences all sorts of unexpected -- and terrifying -- side effects.</p>	<p>Tells the story of the 2 doctors who, over the last 3 decades, explored the link between animal foods in the diet and cancer and heart disease. They concluded eating a whole foods plant-based diet can actually reverse many health problems!</p>
<p>\$2.99</p>	<p>FREE!</p>	<p>FREE!</p>	<p>FREE!</p>	<p>\$2.99 or FREE if you have a Netflix Subscription</p>
<p>-Amazon Instant Video (\$2.99) -<u>Youtube</u> (\$2.99) -Google Play Store (\$2.99) -iTunes (\$3.99) - MCPL (library)</p>	<p>You can watch this film for free on <u>youtube.com</u></p> <p>Available in Spanish</p>	<p>You can watch this film for free on <u>dailymotion.com</u> - MCPL (library)</p> <p>Spanish subtitles available</p>	<p>You can watch this film for free on <u>vimeo.com</u> or <u>youtube.com</u> - MCPL (library)</p> <p>Available in Spanish</p>	<p>-Amazon Instant Video (\$2.99) -<u>Youtube</u> (\$2.99) -Google Play Store (\$2.99) -Netflix (Subscription) -iTunes (\$3.99) - MCPL (library)</p> <p>Spanish subtitles available</p>

Weight of the Nation - a food documentary to raise public awareness of the complexity of the obesity epidemic. Free. Search on Youtube, "Weight of the Nation", Part 1. Subtitles available in Spanish and most languages.

RISK FACTORS FOR OBESITY

Low intake of fiber

Fiber keeps the gut healthy by helping waste move quickly through the GI tract and it keeps a healthy diversity of good bacteria in the gut. Researchers have identified a lower diversity of bacteria in individuals who are obese.

Benefits of a high fiber diet:

- improved gut microbiome - the body's first line of defense against allergens, antibodies, and inflammation.
- weight loss
- lower cholesterol levels – fiber keeps the waste moving faster so less cholesterol is absorbed back into the blood stream
- lower risk of diabetes
- better blood sugars

Fiber is found in unprocessed plant foods. There is absolutely no fiber in animal foods!

RISK FACTORS FOR OBESITY

Neighborhood and Physical Environment

Housing

Transportation

Safety

Parks

Playgrounds

Walkability

Zip code /
geography

Inadequate physical activity

Income will affect where one lives – are there playgrounds?

Is it safe to be outside?

Are parents working 2 jobs so there is little time for organized or supervised play?

Is there money for a gym membership?

Is there transportation to get there?

RISK FACTORS FOR CHRONIC DISEASE

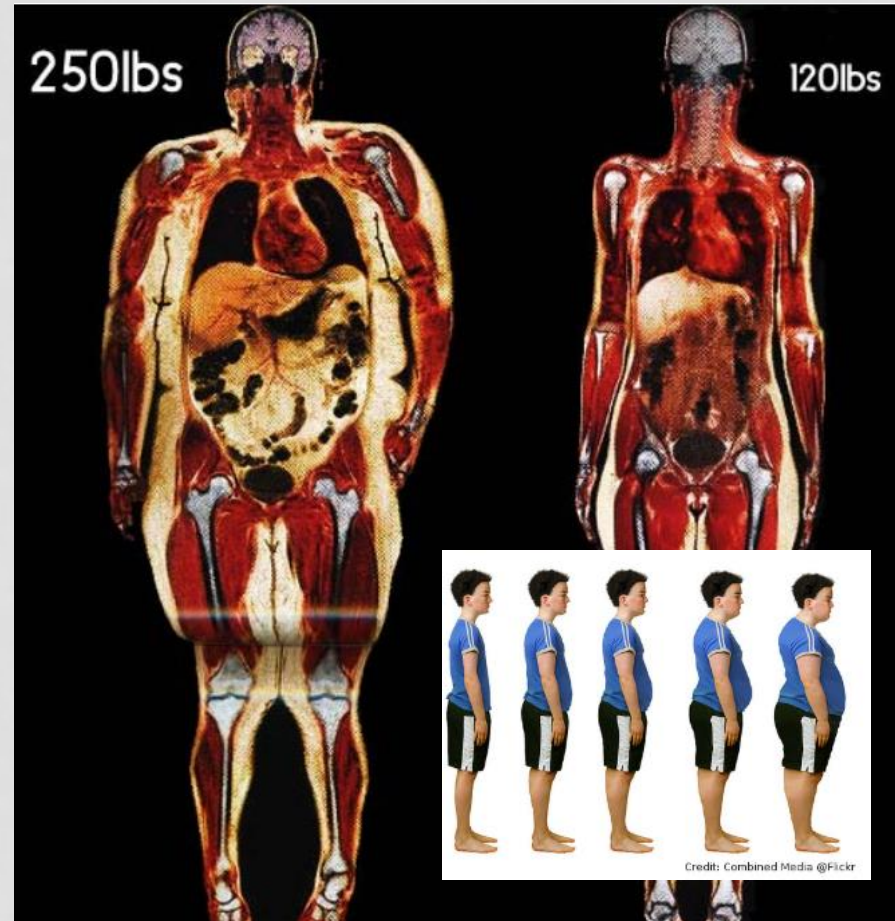
Obesity and all of its risk factors!

Obesity causes:

- Enlargement of heart, clogging of the arteries
- Deformity of the joints
- Increased incidence of cancer
- Insulin resistance leading to diabetes

Harmful effects of visceral body fat

- Production of hormones that affect the balance of other hormones



PREVENTION SAVES MONEY

The Cost of Diabetes

The Staggering Costs of Diabetes



More than
30 MILLION AMERICANS
have diabetes



Health care costs for
Americans with diabetes
are **2.3x GREATER** than
those without diabetes



84 MILLION
Americans have prediabetes



\$1 IN \$7

Health care dollars is spent treating
diabetes and its complications



Today, **4,310** Americans will
be diagnosed with diabetes.
Additionally, diabetes will
cause **298** Americans to
undergo an amputation and
137 will enter end-stage
kidney disease treatment.

Learn how to fight this costly disease at
diabetes.org/congress



THE WILL TO IMPROVE SYSTEMS APPROACH TO ELIMINATE CHILDHOOD OBESITY - POLICIES

Reducing Childhood Obesity through U.S. Federal Policy A Microsimulation Analysis, Alyson H. Kristensen, MPH, et al...

Compared 3 policies for effectiveness by the year 2032

- afterschool physical activity programs
- an advertising ban on junk foods
- excise tax on sugar sweetened beverages (SSB)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4762259/>
Am J Prev Med.

THE WILL TO IMPROVE SYSTEMS APPROACH TO ELIMINATE CHILDHOOD OBESITY - POLICIES

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Predicted Outcomes for 2032 and Conclusions:

- the afterschool physical activity programs would reduce obesity the most among children aged 6–12 years (1.8 percentage points)
- the advertising ban would reduce obesity the least (0.9 percentage points).
- the SSB excise tax would reduce obesity the most among adolescents aged 13–18 years (2.4 percentage points).
- All three policies would reduce obesity more among blacks and Hispanics than whites, with the SSB excise tax reducing obesity disparities the most and providing funding for additional prevention.

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THE WILL TO IMPROVE SYSTEMS APPROACH TO ELIMINATE CHILDHOOD OBESITY - POLICIES

Economic
Stability

Neighborhood
and Physical
Environment

Education

Food

Community
and Social
Context

Health Care
System

Policies

- Eliminate industry influence and use only science-based evidence in making USDA Dietary Guidelines
- Place more limitations on advertising of unhealthy foods including fast foods to adults
- Incentivize innovative food companies providing healthy options and/or “show me how”

Health Care Systems

- Require insurance companies to pay for more nutrition education services
- Build infant/child feeding instructions in obstetrician offices and maternity wards

Education

- Provide more physical activity and health education in schools

THE WILL TO IMPROVE SYSTEMS APPROACH TO ELIMINATE CHILDHOOD OBESITY - HCP

The American Academy Pediatrics suggests encouraging parents to:

- Purchase the smallest amount possible of sugar-sweetened beverages, high-calorie snacks and sweets and more healthy foods and beverages.
- Make the healthy foods and beverages as visible as possible; conversely, place high-calorie foods in the back of pantries and refrigerators.
- Promote the idea that children eat five or more servings of fruits and vegetables daily.
- Limit the amount of screen time.

REFERENCES

Australian Prevention Partnership

<https://preventioncentre.org.au/resources/in-a-nutshell/understanding-the-determinants-of-inequities-in-healthy-eating/> **Using Systems science to understand the determinants of inequities in healthy eating**; Sharon Friel, Melanie Pescud, Eleanor Malbon, Amanda Lee, Robert Carter, Joanne Greenfield, Megan Cobcroft, Jane Potter, Lucie Rychetnik, Beth Meertens

Published: November 30, 2017

the Waterloo Wellington Local Health Integration Network

(LHIN) <http://www.waterloowellingtonlhin.on.ca/forhsp/s/equity/socialdeterminants.aspx>

Ellyn Satter, Division of Responsibility Theory: <https://www.ellynsatterinstitute.org/wp-content/uploads/2016/11/handout-dor-tasks-cap-2016.pdf>

CDC Diabetes Report Card, 2017

to get more data - https://care.diabetesjournals.org/content/34/Supplement_2/S161

<https://care.diabetesjournals.org/content/39/9/1635>

<https://www.nih.gov/news-events/news-releases/rates-new-diagnosed-cases-type-1-type-2-diabetes-rise-among-children-teens>

<https://www.nih.gov/news-events/nih-research-matters/diabetes-increasing-youths>

Reducing Childhood Obesity through U.S. Federal Policy: A Microsimulation Analysis

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4762259/>

Am J Prev Med. Am J Prev Med. 2014 Nov; 47(5): 604–612.

Alyson H. Kristensen, MPH,