



The Power of Nutrition & Epigenetics to End Chronic Disease: Latino Health Equity Conference

DATE: June 21, 2019

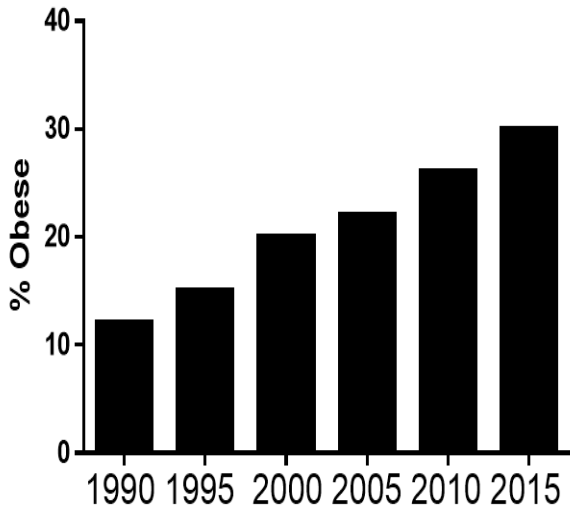
Objectives

- Identify opportunities and barriers to utilizing information about the Developmental Origins of Health and Disease and epigenetics in improving the health of Latinx communities.
- Articulate how nutrition can serve as a foundation for building healthy communities and addressing health inequities.
- Develop personal, organizational and community interest in interacting with the Nutrition Oregon Campaign.

The health of the U.S.
population is worsening

Adult Chronic Disease Rates in Oregon

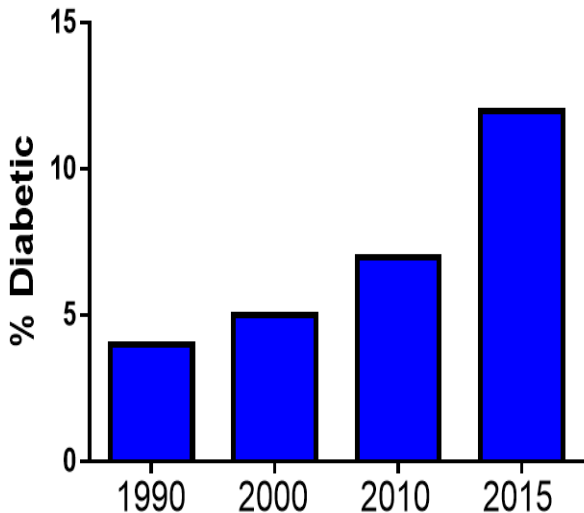
Obesity in Oregon



More than doubled



Diabetes in Oregon



Tripled



Heart Disease

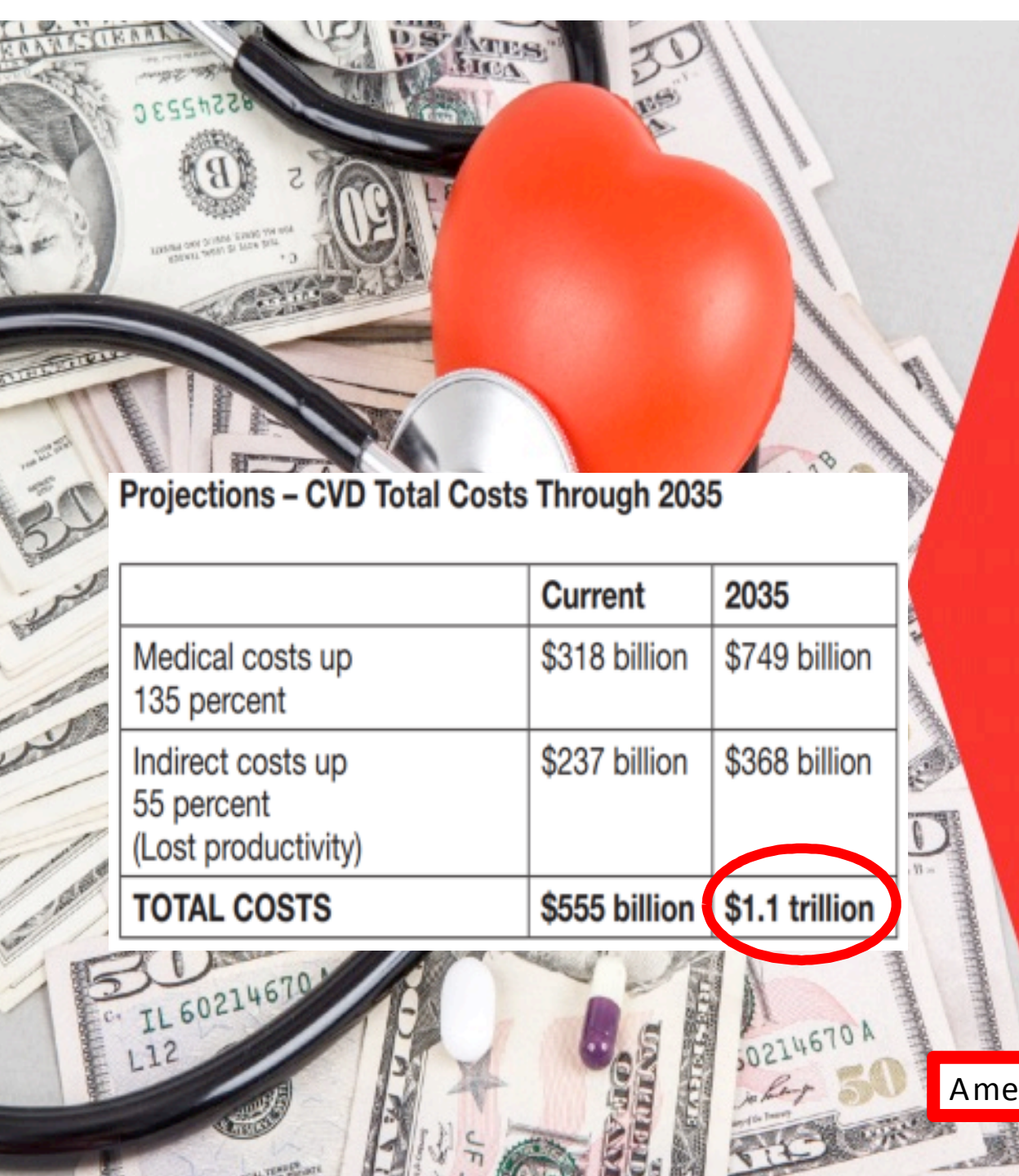
Heart disease cases in 2010

225,575

Projected cases of heart disease in 2030

1,054,888

*Oregon Health Authority website



CARDIOVASCULAR DISEASE: A COSTLY BURDEN FOR AMERICA

PROJECTIONS THROUGH 2035

Projections – CVD Total Costs Through 2035

	Current	2035
Medical costs up 135 percent	\$318 billion	\$749 billion
Indirect costs up 55 percent (Lost productivity)	\$237 billion	\$368 billion
TOTAL COSTS	\$555 billion	\$1.1 trillion

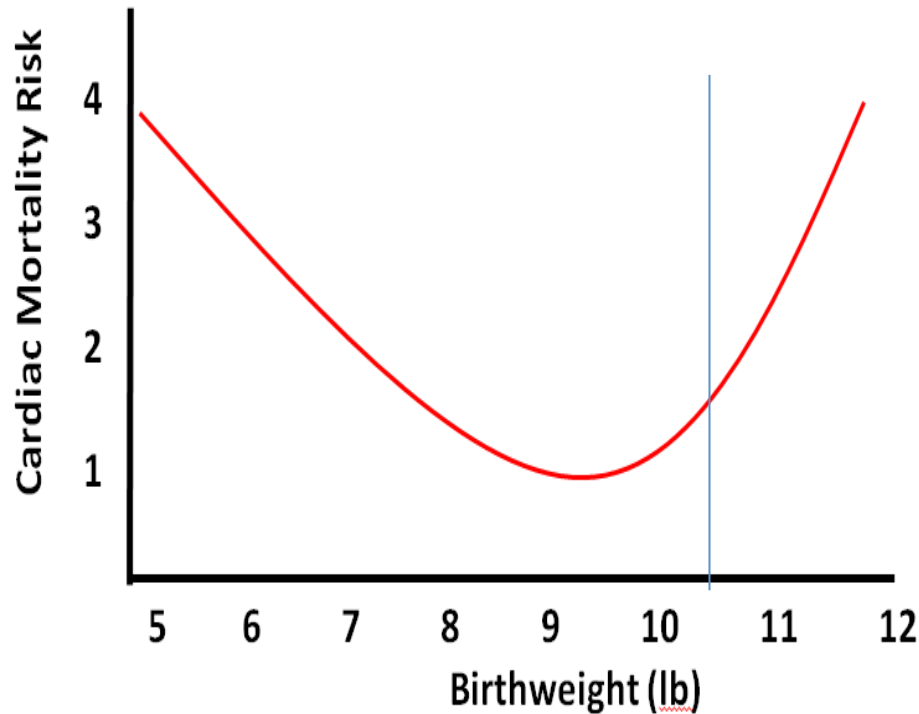
American Heart Association 2017

The environment during
the first 1,000 days –
from conception to age 2
is the largest predictor of
chronic disease risk



Early Life “Programming” of Heart Disease

David JP Barker
1938-2013



Birthweight Also Predicts:

- ✓ Type 2 Diabetes
- ✓ Obesity
- ✓ Hypertension
- ✓ COPD
- ✓ Breast Cancer
- ✓ Cognitive Function

Data from Hertfordshire, UK birth/death records
Lancet. 1989; 2(8663):577-80

U.K. Barker BMJ, 298:564, 1989
India: Stein. Lancet 348:1269, 1996
USA: Rich-Edwards BMJ 315: 396, 1997
Finland: Barker Int J Epidemiol 31: 1235, 2002
China: Fan Ann of Med 42: 596, 2010



Beyond Birthweight

1. Maternal body type

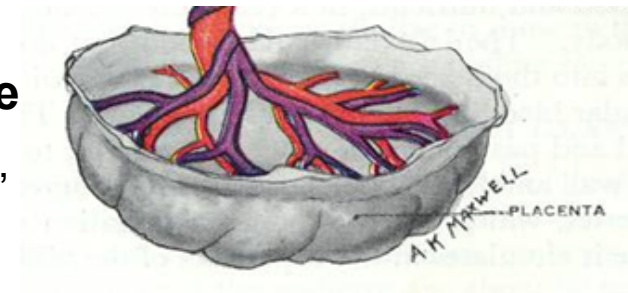
Height, weight, muscle mass,
fat mass, skeletal dimensions
hormone profile, blood lipids.

2. Fetoplacental Sex

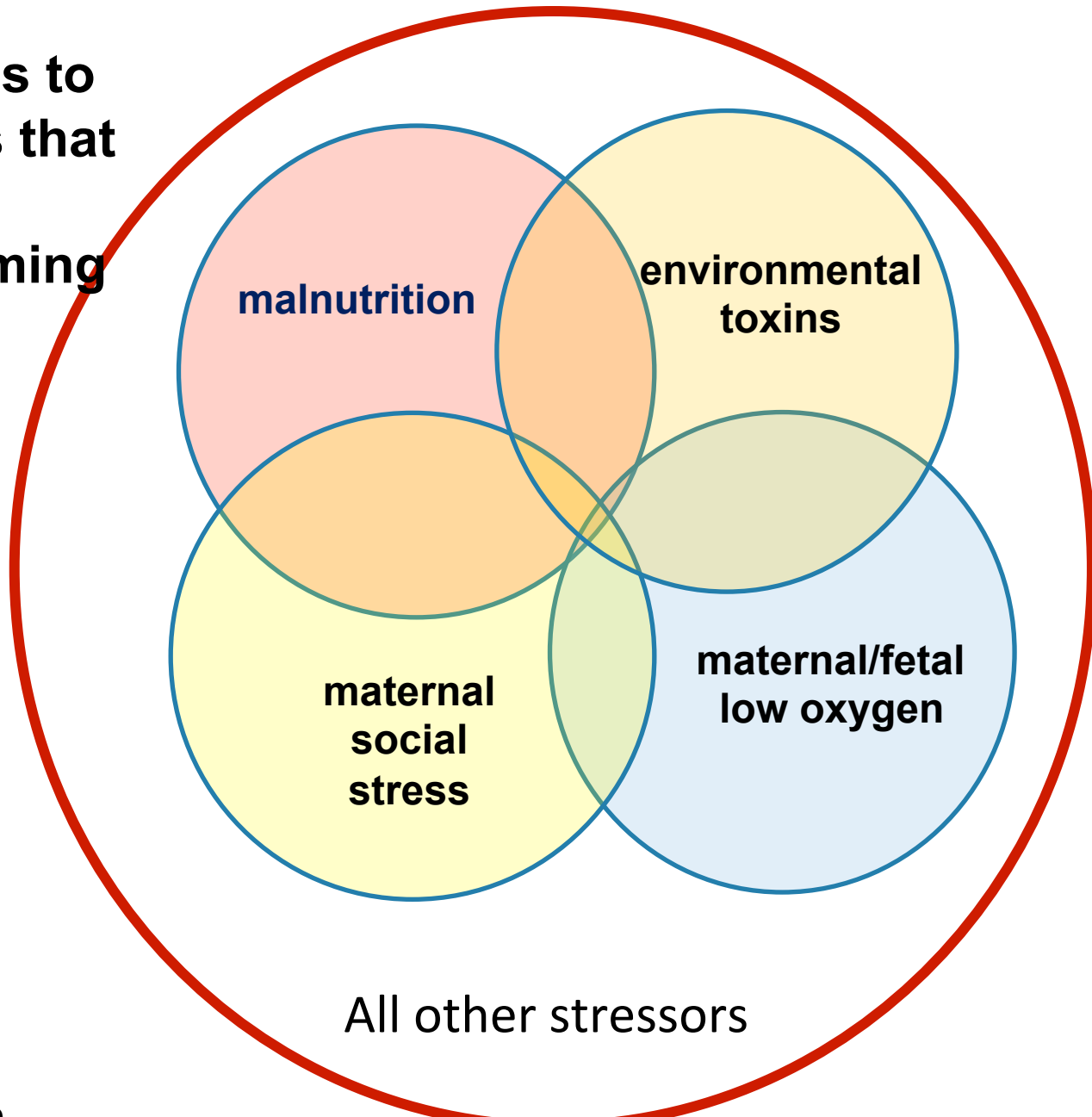
3. Paternal effects

4. Placental size and shape

Weight, width, length, thickness,
number of cotyledons, cord
insertion and length, efficiency



Prenatal exposures to stressors that lead to programming



All of these stressors are associated with fetal growth restriction

**Intrauterine Stressors:
Poor nutrition, high cortisol, low
oxygen, toxic chemicals**

Structural

Poorly made organs

Epigenetic

modifications of
gene regulation

Genetic Background



**Vulnerability for adult-onset
chronic disease**

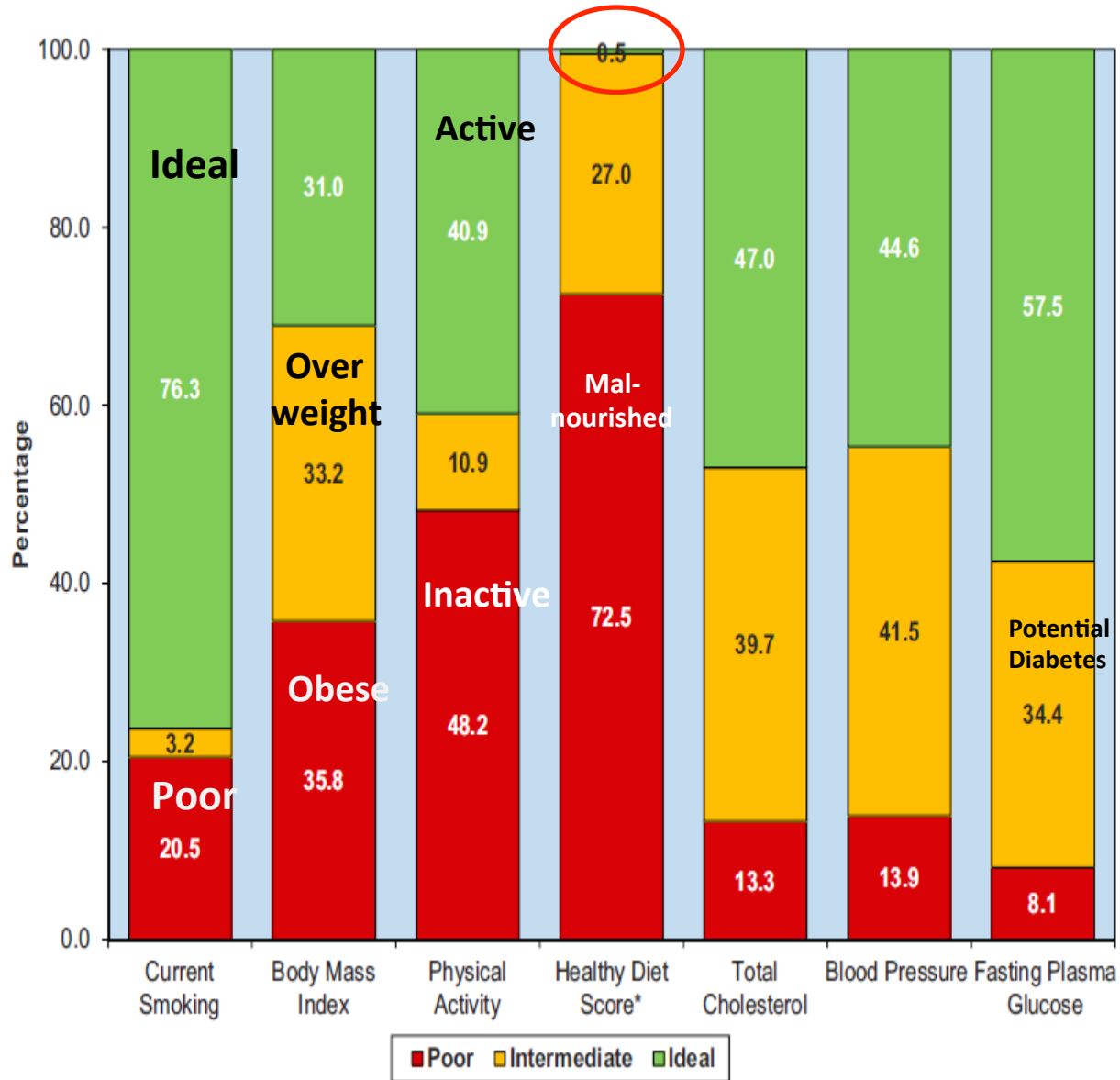


Passed to future generations

**Future Health
of Mother**

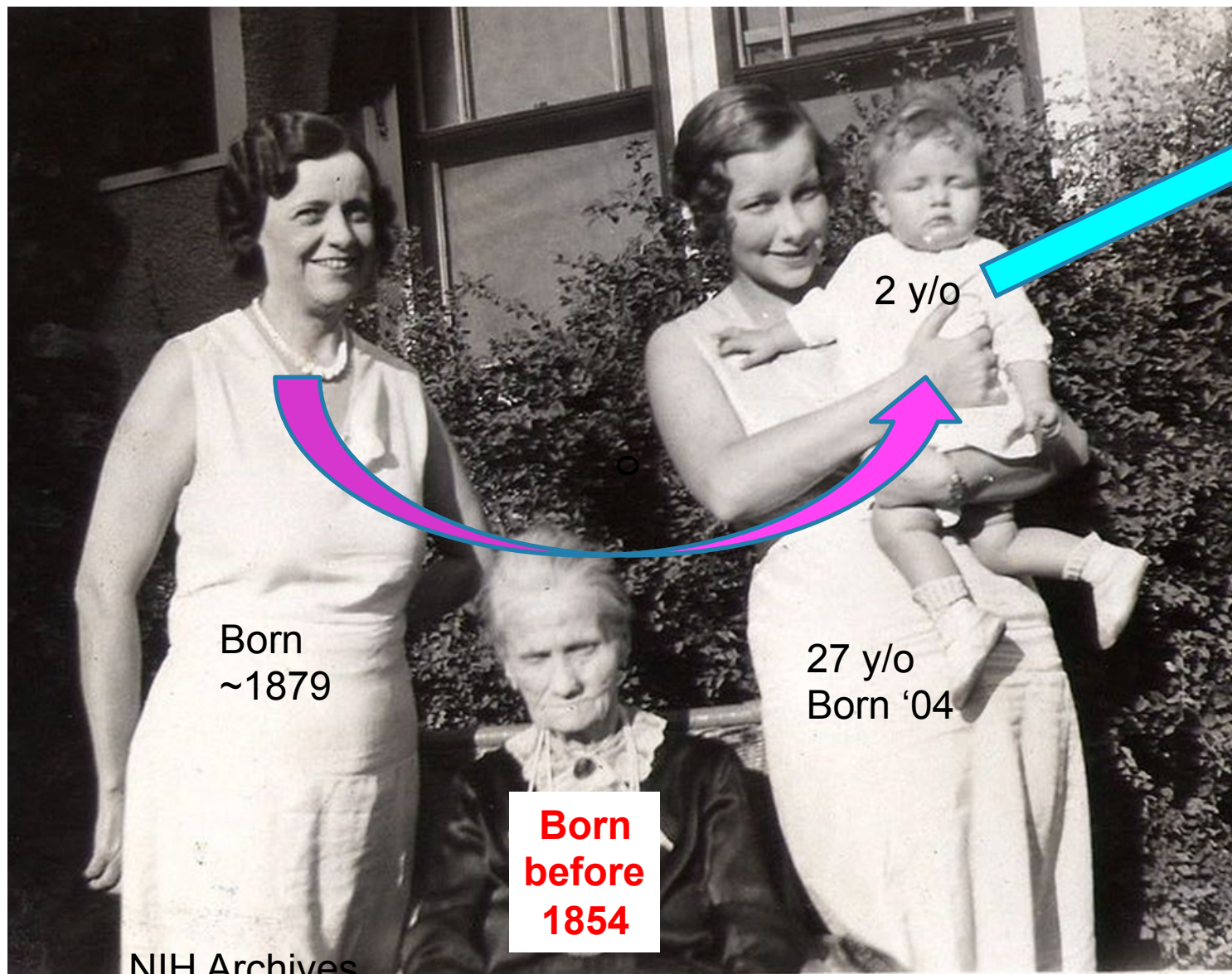
We are part of the third
generation eating diets
high in processed and
fast foods

Age-standardized estimates for each of the simple-7 metrics of AHA 2020 Goals among adults over 20 years old



The health of one
generation impacts the
health of the next two
generations

Nutritional Flow Across Generations



Born
~1879

2 y/o

27 y/o
Born '04

**Born
before
1854**

NIH Archives



CDC

86 y/o
in 2015

Her "egg age"
~110 years old

Her mother
was born in
1904



The mother provides the environment for the developing baby, but society provides the environment for the mother.

Environment
Nutritional Stress
Social Stress
Toxic Chemicals
micro-organisms





We will not change the health of our communities without prioritizing the nutrition of adolescents, women before and during pregnancy, and young children.



Nutrition Oregon Campaign

DATE: April 24, 2019 PRESENTED BY: Monica Cuneo, MPH

“Very real crises mark our time. And as much as we might like it otherwise, it appears that doing what we have always done, only harder, will not solve them.”

—Charles Johnston



Vision

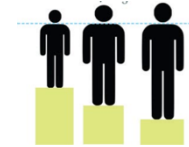
Fully utilize the power of nutrition to end chronic disease in Oregon for all with a specific focus on closing the gap for those most at risk.

What will it take to end chronic disease in Oregon?

What are we willing to do differently?

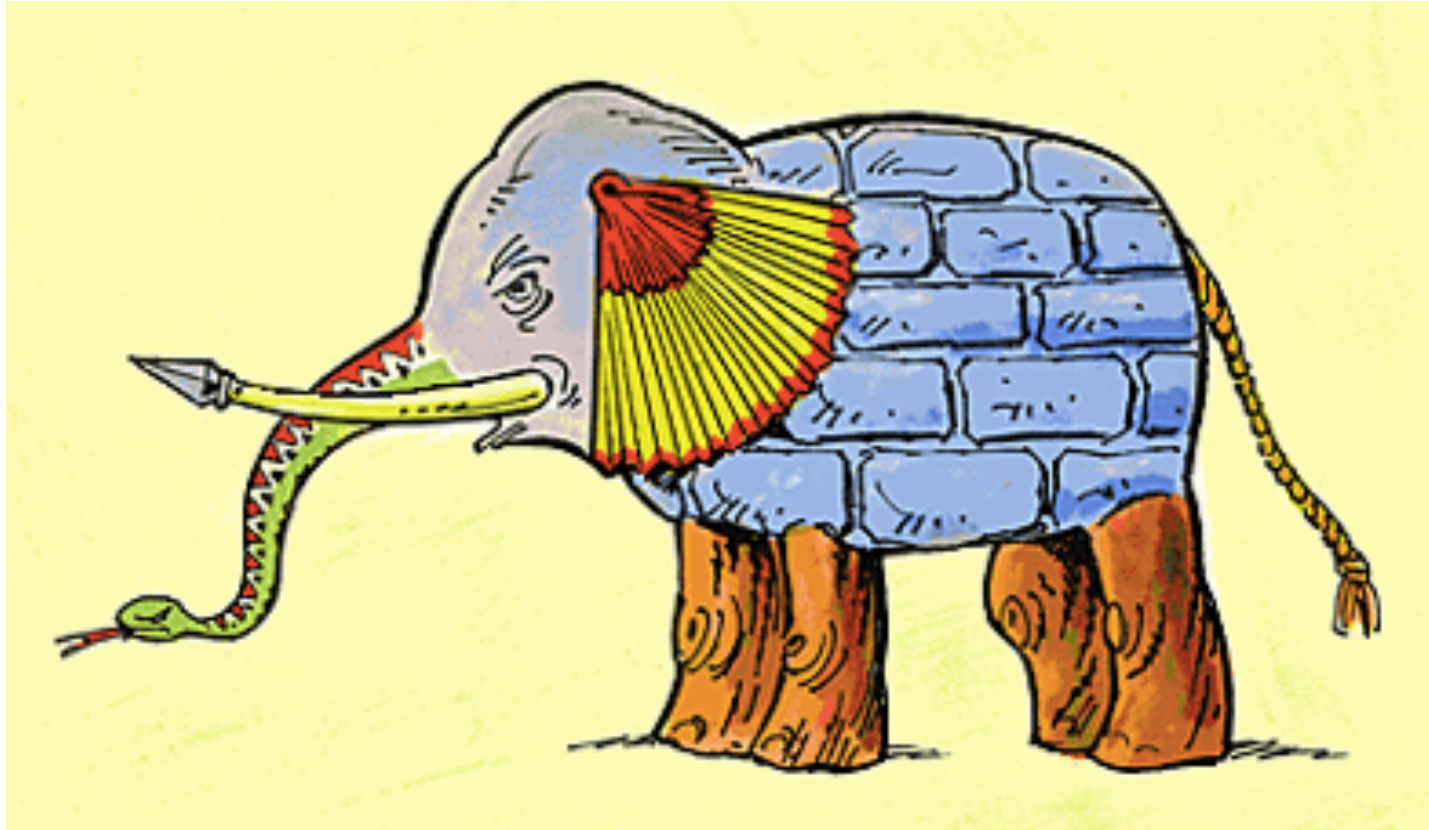
How can we work in new ways to create a better future?

Racial Equity Commitment



Racial Equity Commitment: Race is prioritized to determine the distribution of power and resources as a commitment to close the gap experienced by different racial groups. Cultural identity will determine the approach and compounding inequities will determine the strategies.

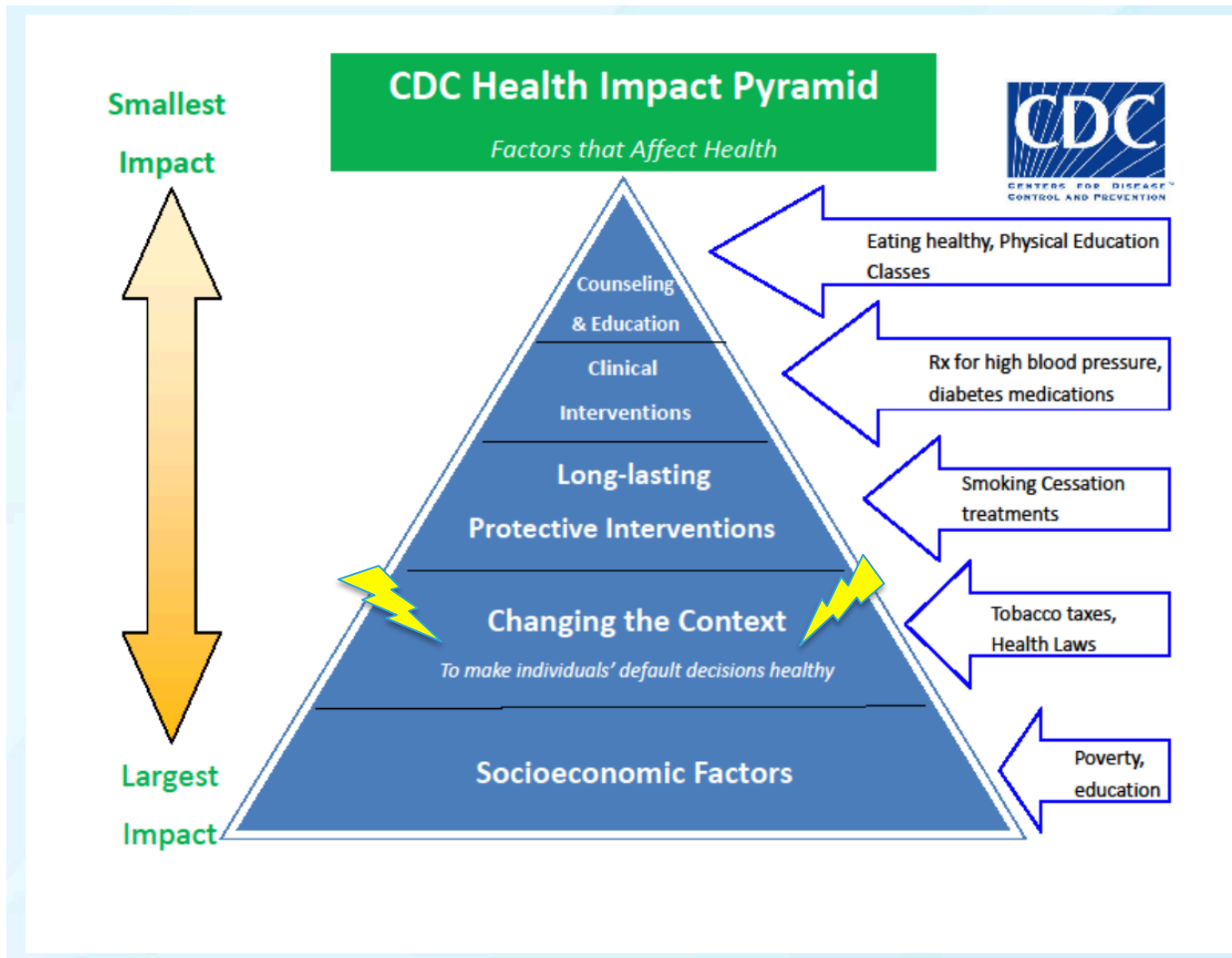
Systems Approach



Environment
Nutritional Stress
Social Stress
Toxic Chemicals



Health Impact Pyramid



“The need to urge behavioral change is symptomatic of failure to establish contexts in which healthy choices are default actions.”



Key Sectors



**Health care
providers**



**Community health
workers**

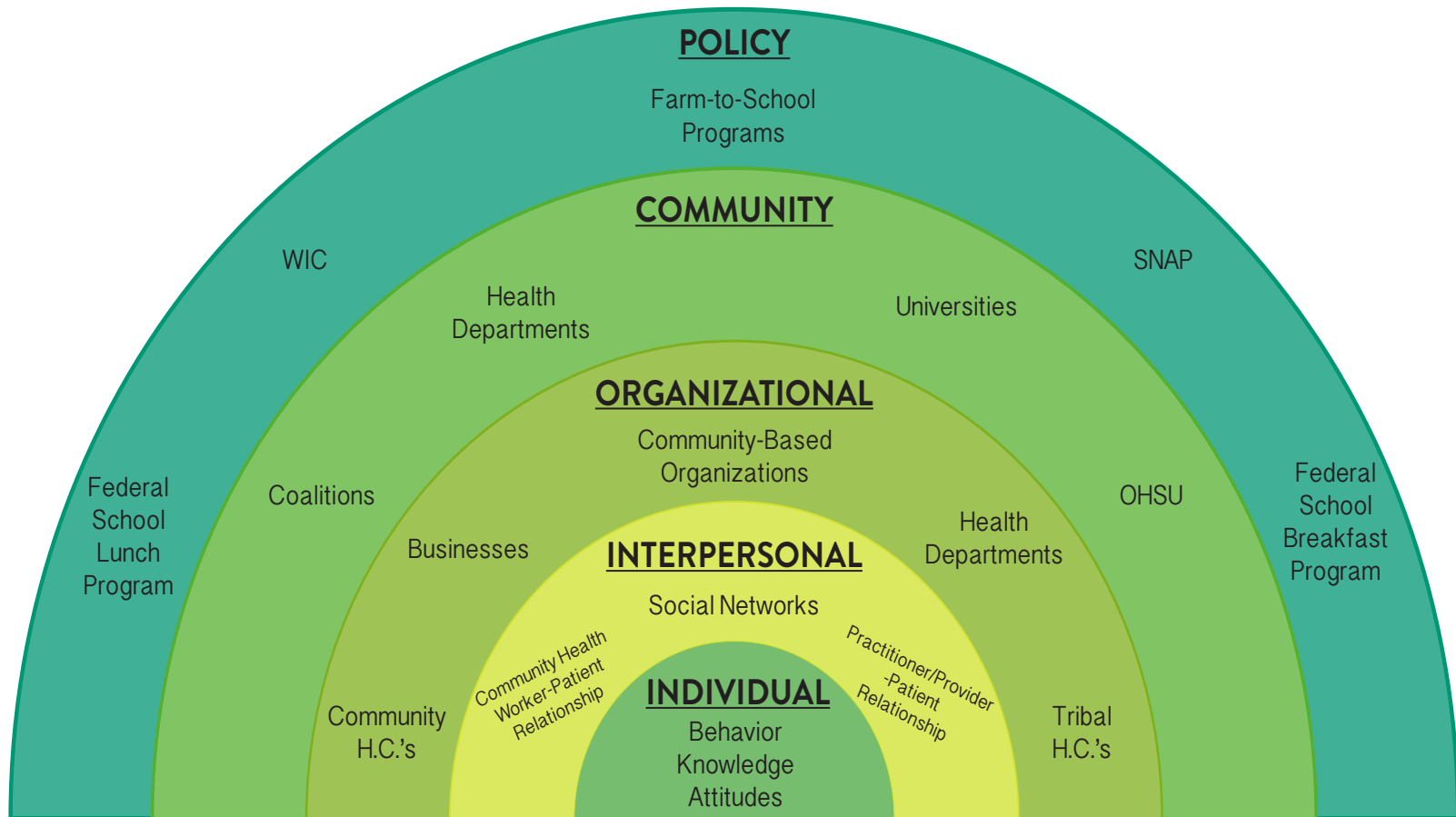


**Pre-K - 12 education
and food and
nutrition service
leaders**



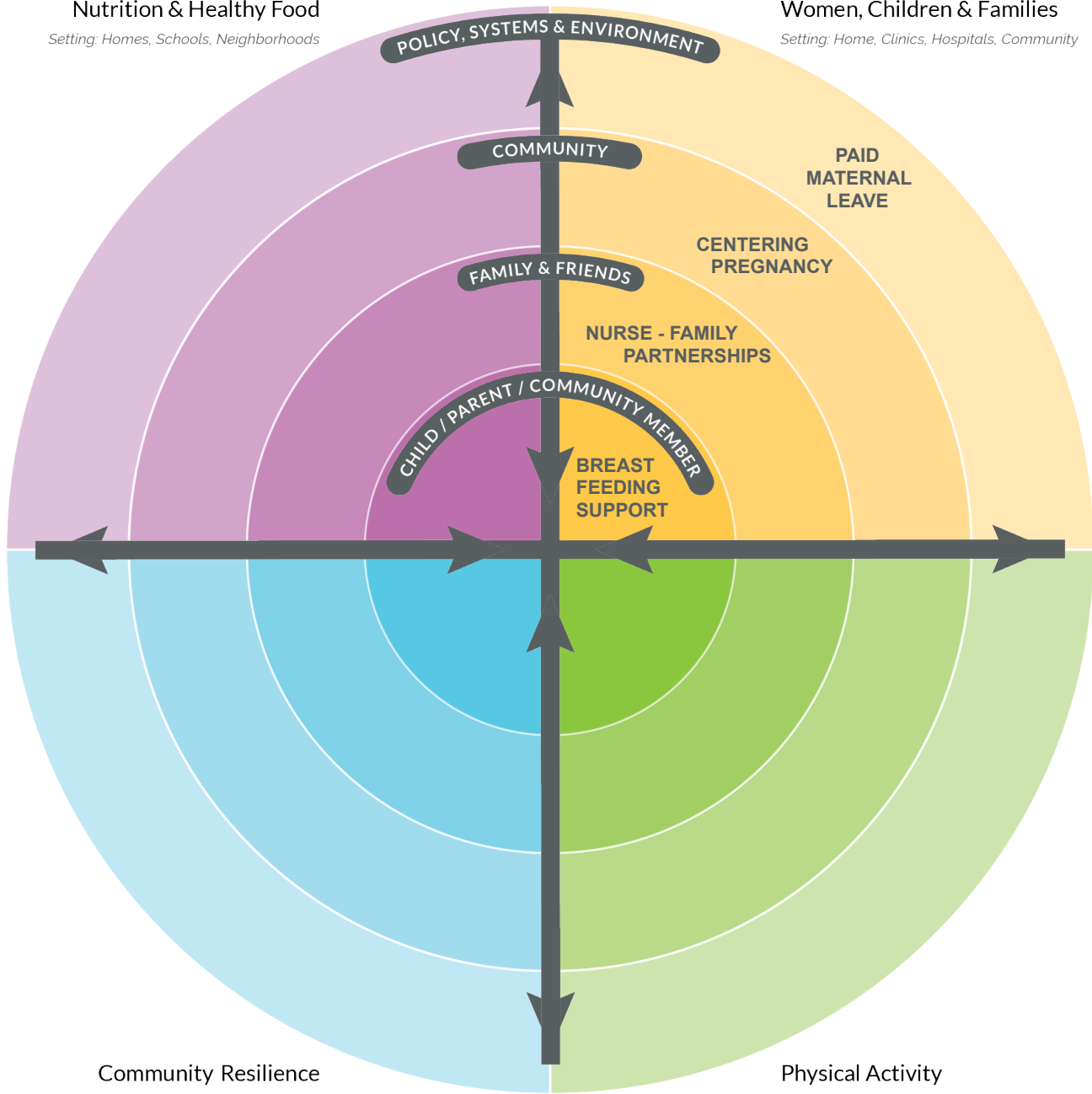
**Community, business
and government
leaders**

Integrated Action



Nutrition & Healthy Food
Setting: Homes, Schools, Neighborhoods

Women, Children & Families
Setting: Home, Clinics, Hospitals, Community



Community Resilience
Setting: Home, Neighborhood, Community, Statewide

Physical Activity
Setting: Homes, Schools, Neighborhoods, Built Environment

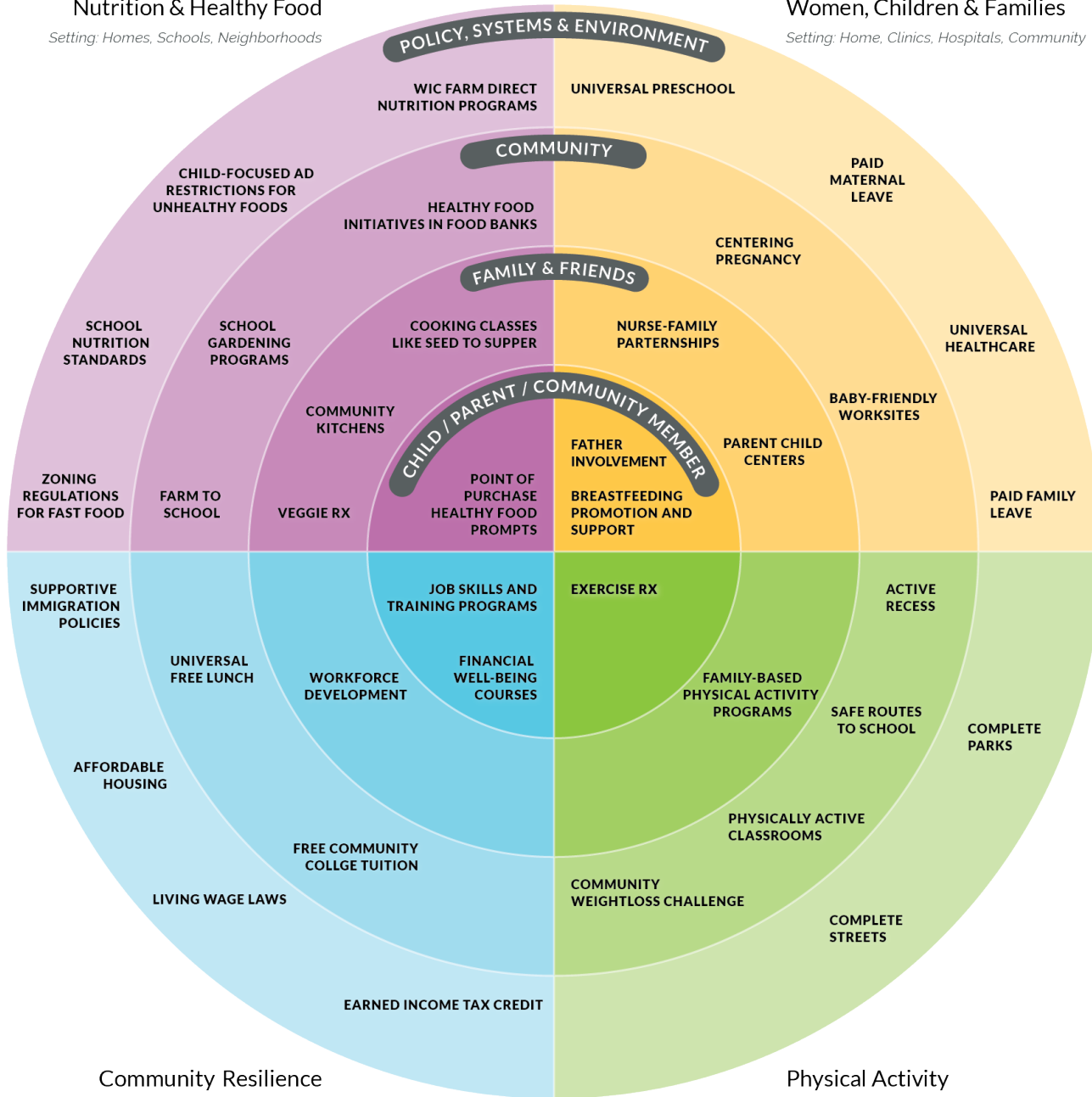


Nutrition & Healthy Food

Setting: Homes, Schools, Neighborhoods

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**Moore Institute:
Backbone Function**

- Research translation
- Campaign coordination
- Campaign fundraising
- Broad Communications

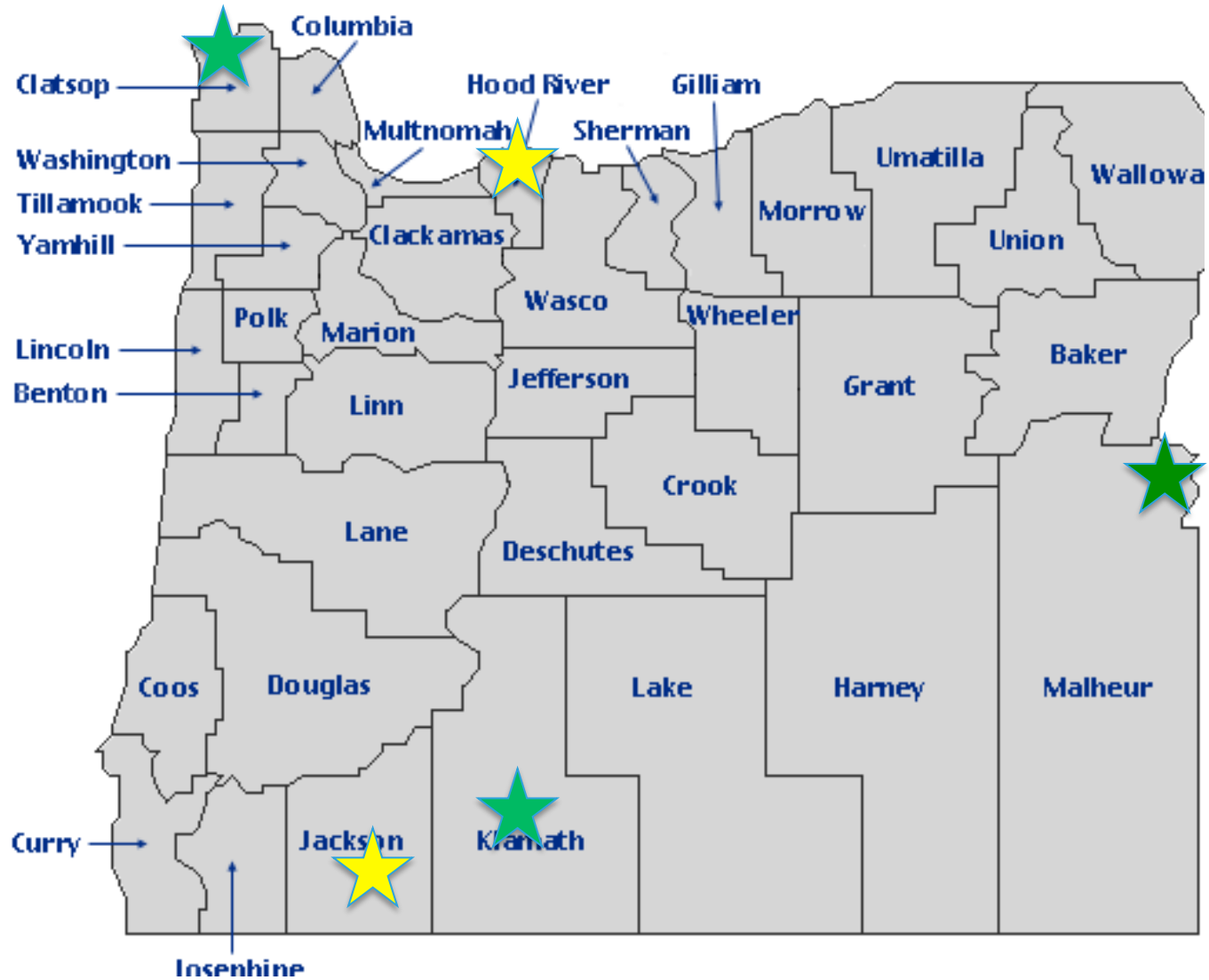
**Core Collaborators: Steering
Committee**

- Vision
- Action plan
- Shared measures for statewide alignment
- Racial equity commitment

Hubs : Community Application

- Cross sector systems coordination
- Dissemination of science
- Education and Engagement
 - Project creation
- Local leadership development

Pilot Hubs





Thank You