

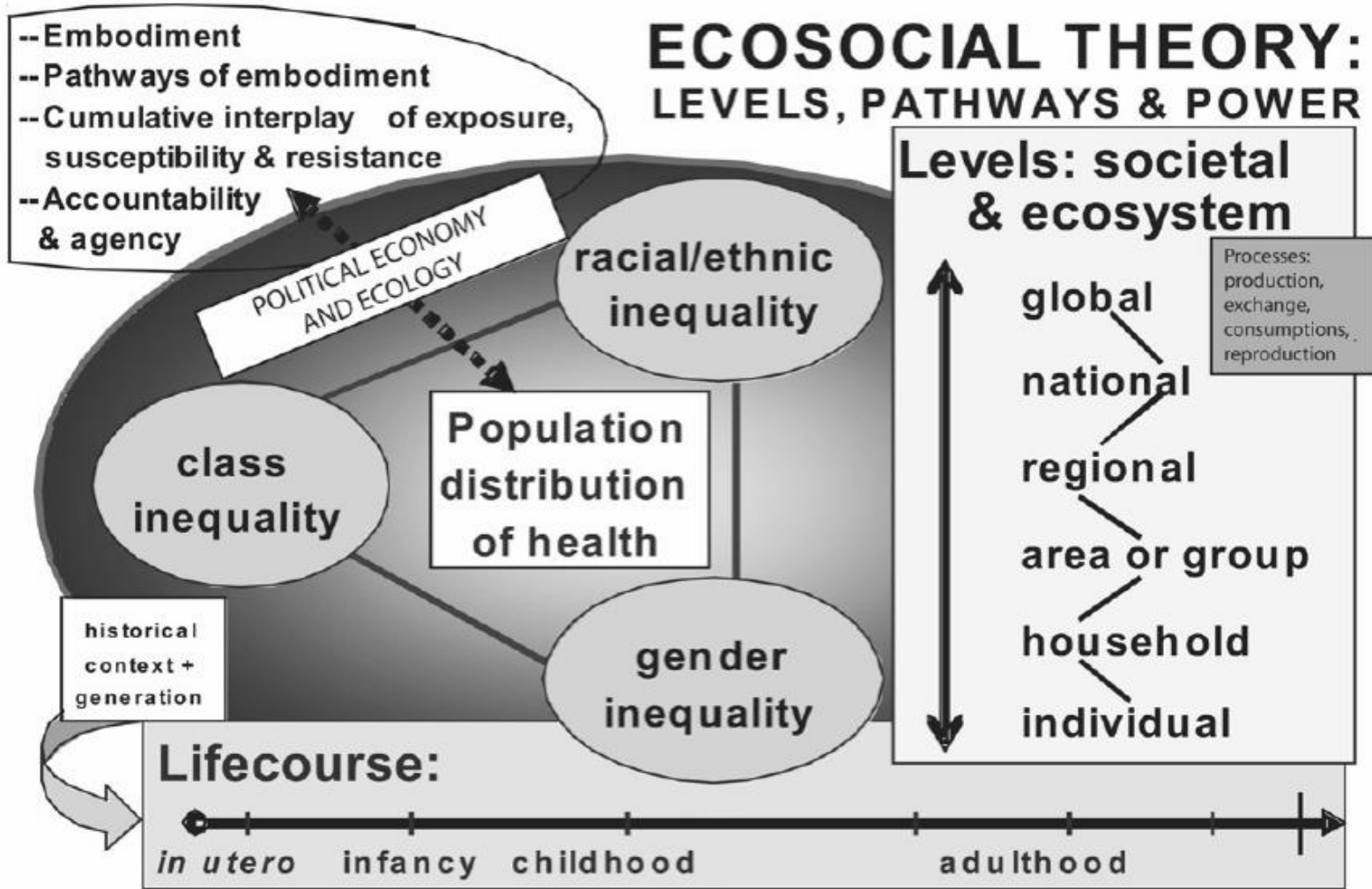


Addressing Social Determinants of Health

*Belinda Pettiford
Women's Health Branch
NC Division of Public Health*

September 23, 2019

Health is complicated...



Societal Level

Community & Policy Level

Individual & Family Level



Political structures & institutional practices that assure fairness & opportunity for all

Social, economic, & physical conditions that allow people to reach their full potential

Services for individuals and families to treat problems



Social Determinants of Health

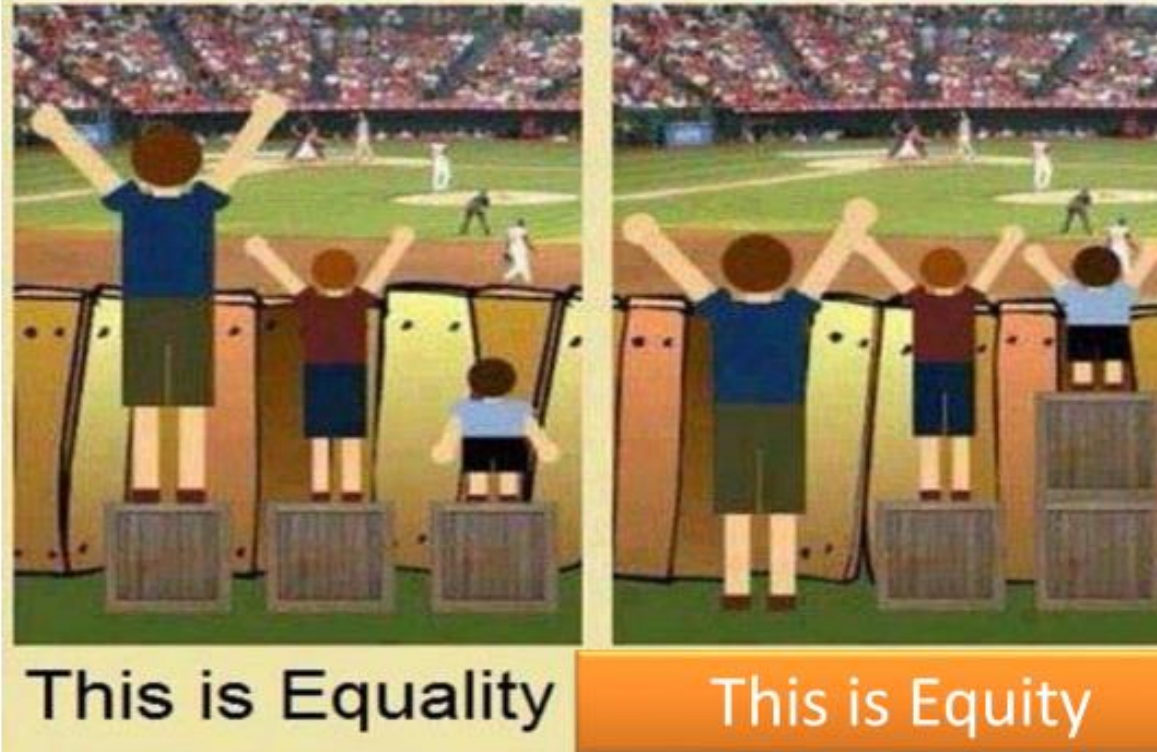
Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Conditions (e.g., social, economic, and physical) in these various environments and settings (e.g., school, church, workplace, and neighborhood) have been referred to as “place.”

Reference: [Healthy People 2020](#)

Health equity is more than the absence of health disparities

CREATING HEALTH EQUITY

Inputs may need to be different to achieve equal outcomes

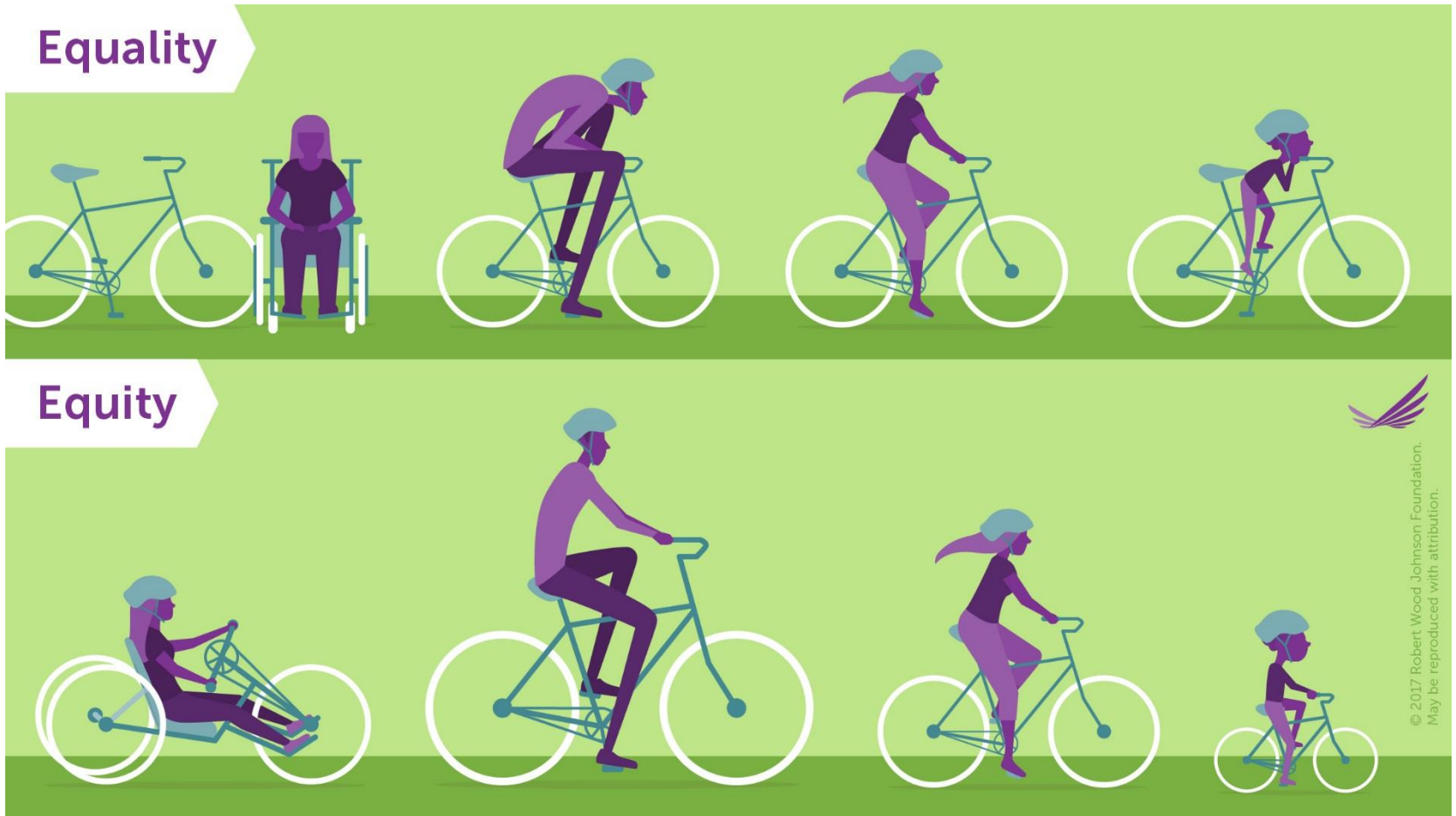


MDCH, Health Equity Learning Labs 2013, provided by Hogan, V., Rowley, D., Berthiaume, R. and Thompson, Y, University of North Carolina at Chapel Hill. Adapted from <http://indianfunnypicture.com/search/equality+doesn%27t+mean+justice>

Health equity is every individual having access to the resources and opportunities that promote good health.

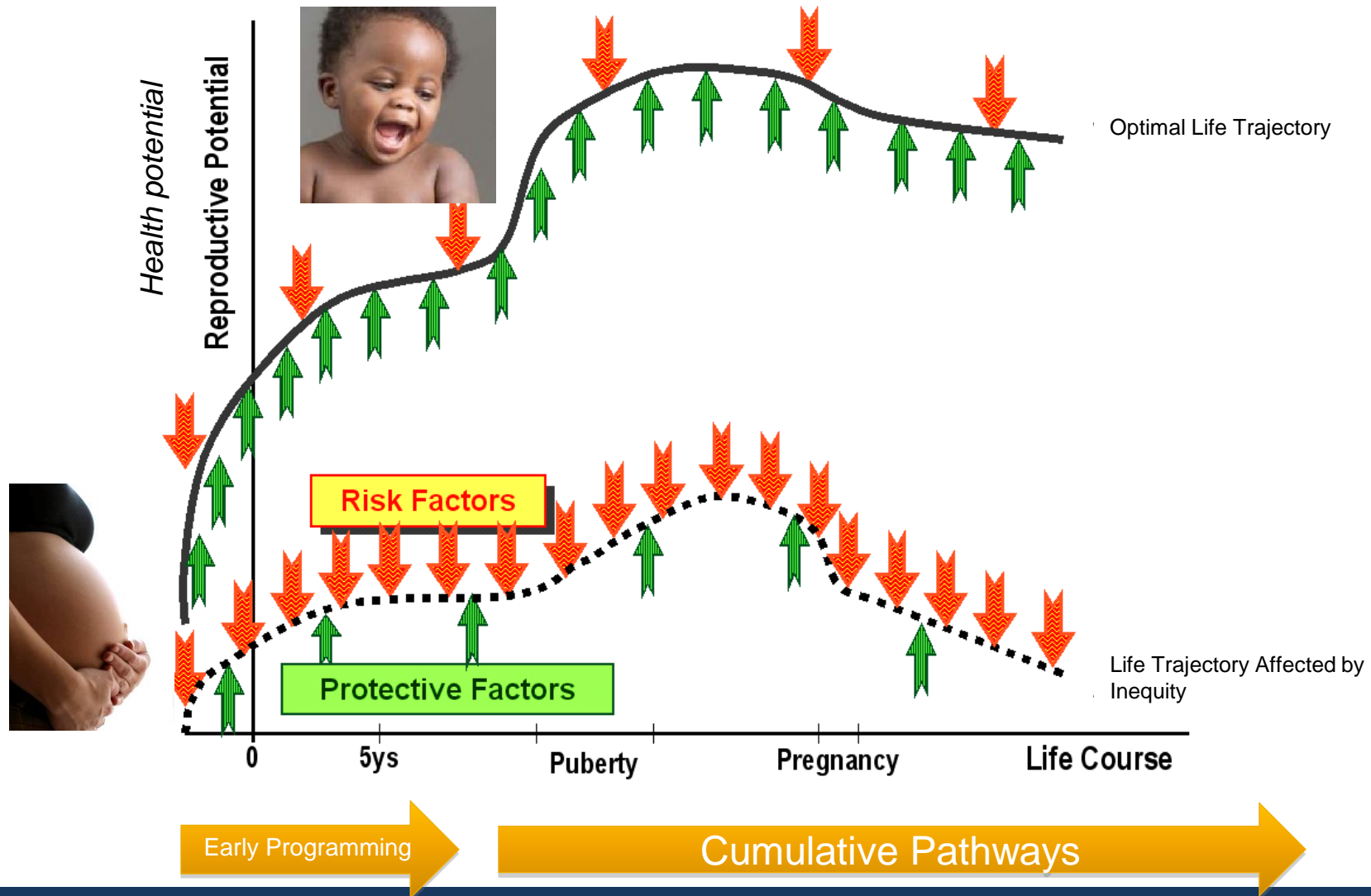
Health Equity

The opportunity for everyone to have good health.



Reference: [NC Office of Minority Health and Health Disparities North Carolina Equity Report 2018](#)

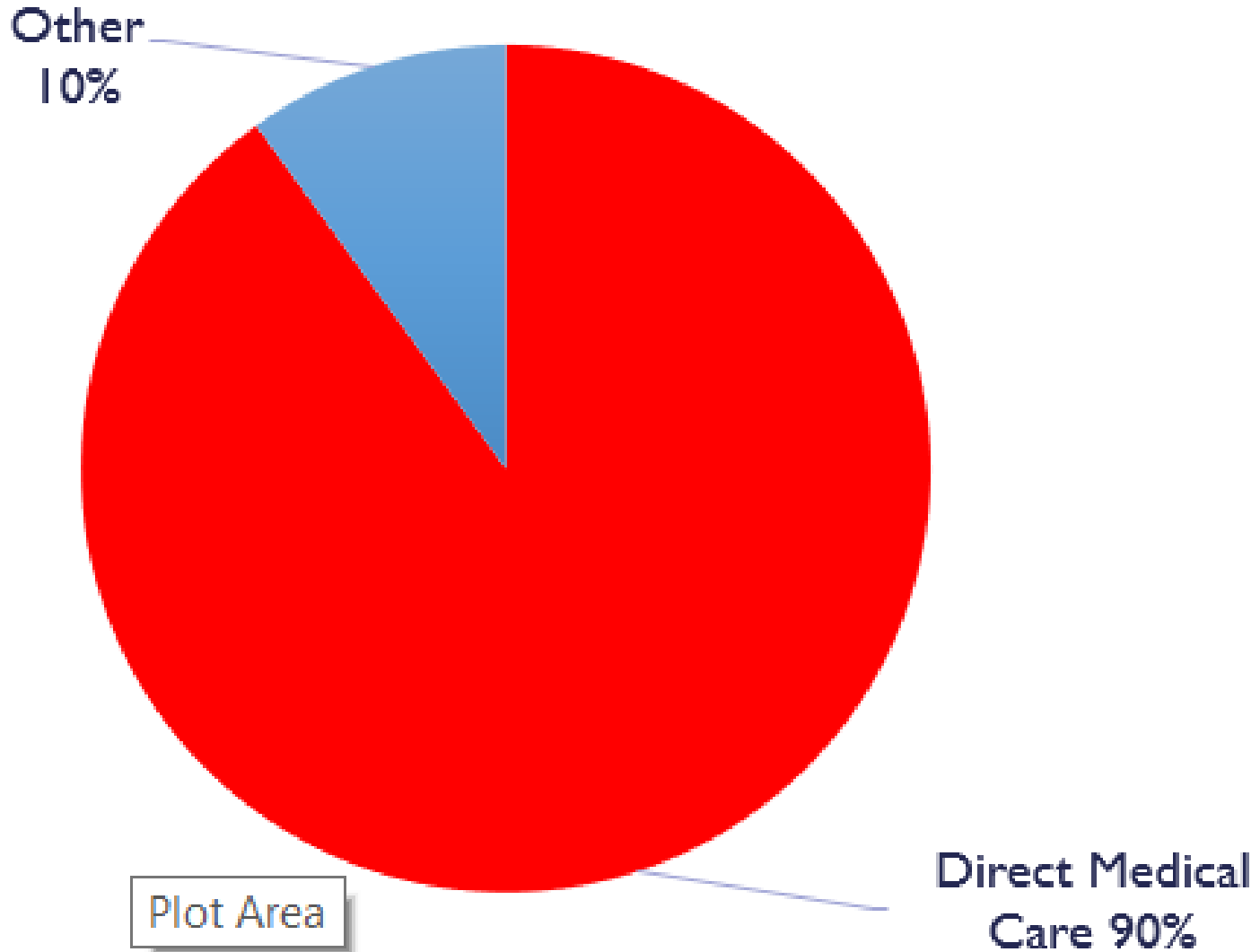
Life Course Approach



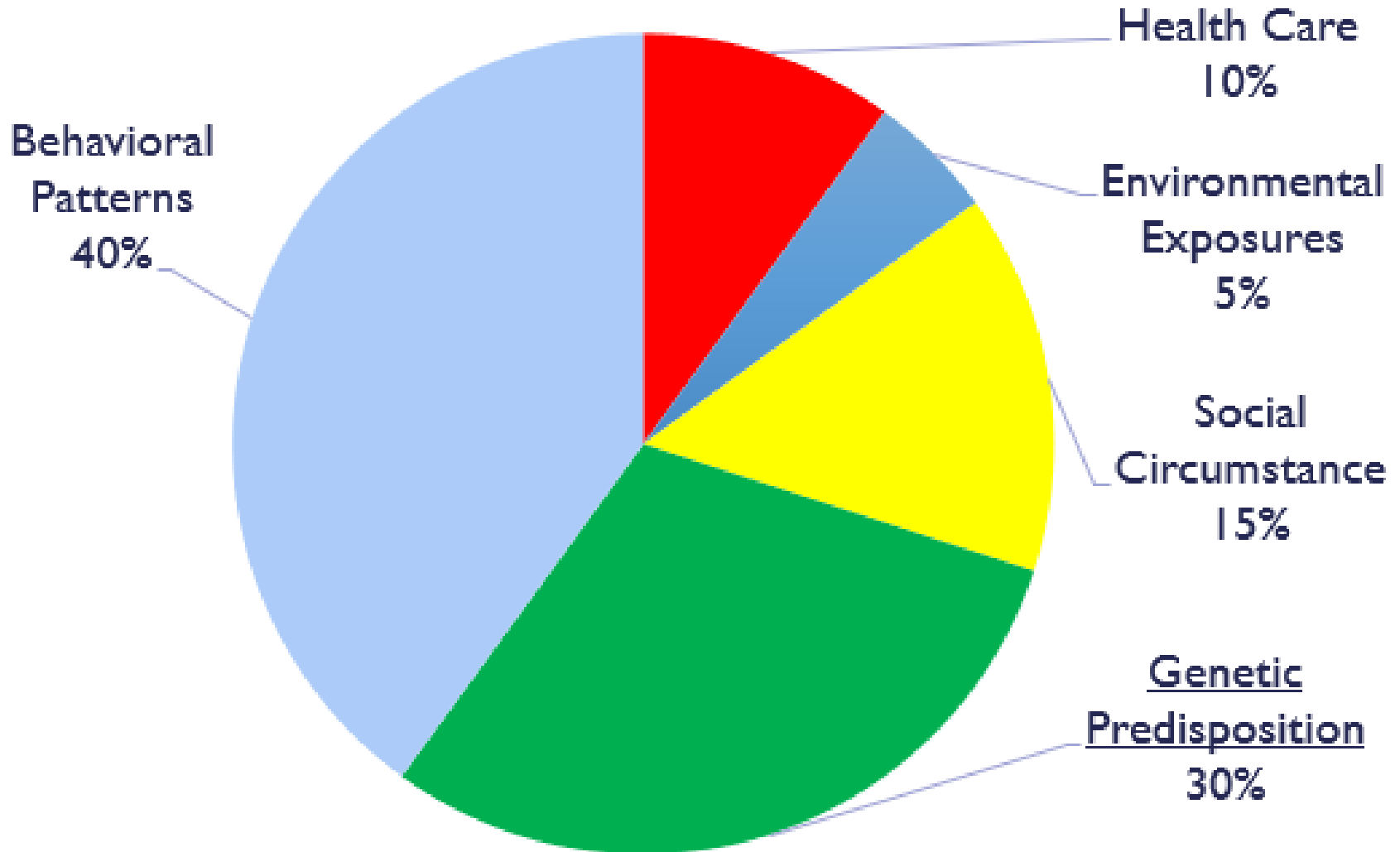
Socio-Ecological Model



Health Care Spending



Drivers of Health



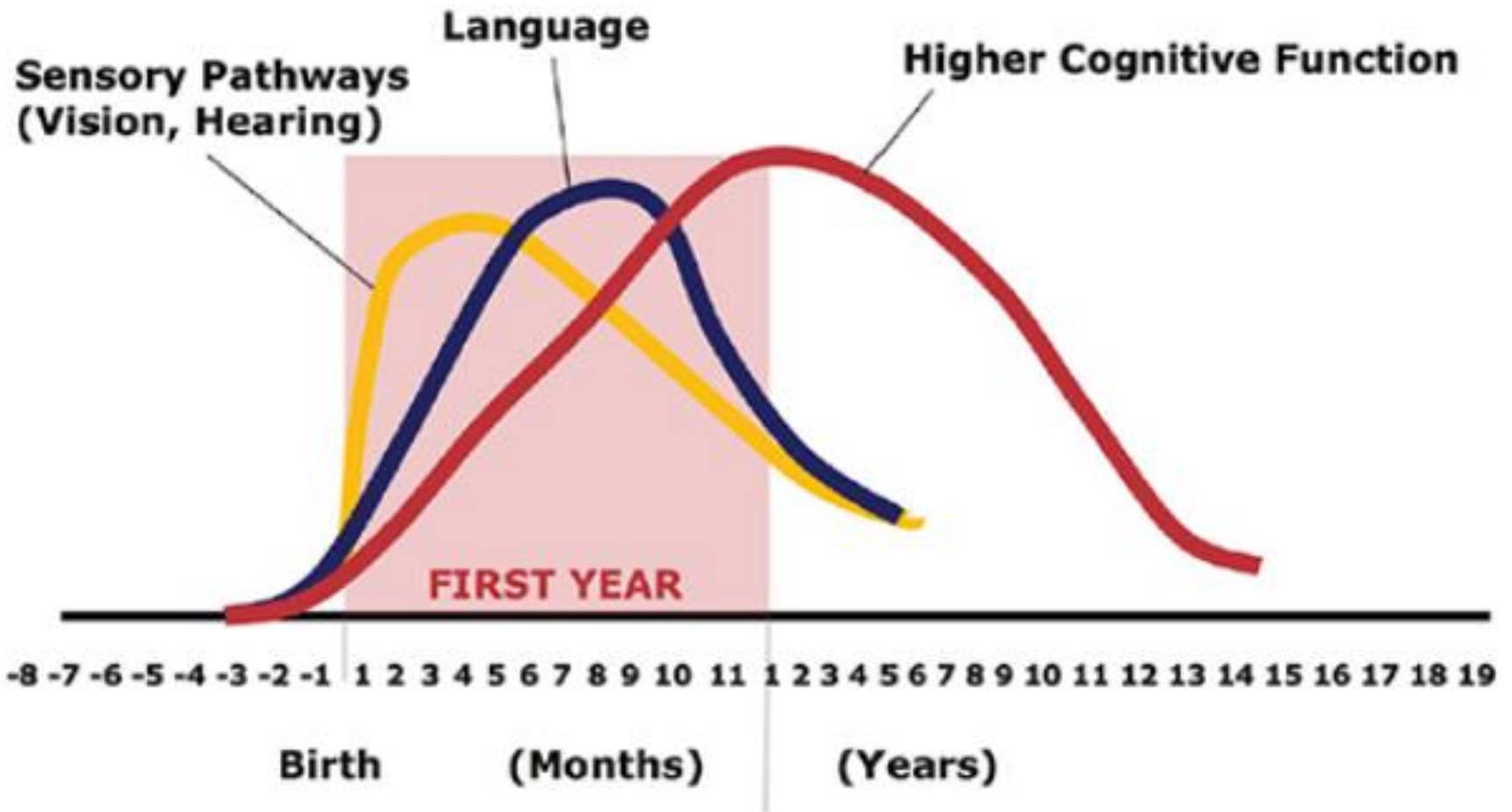


Early Brain and Child Development



Human Brain Development

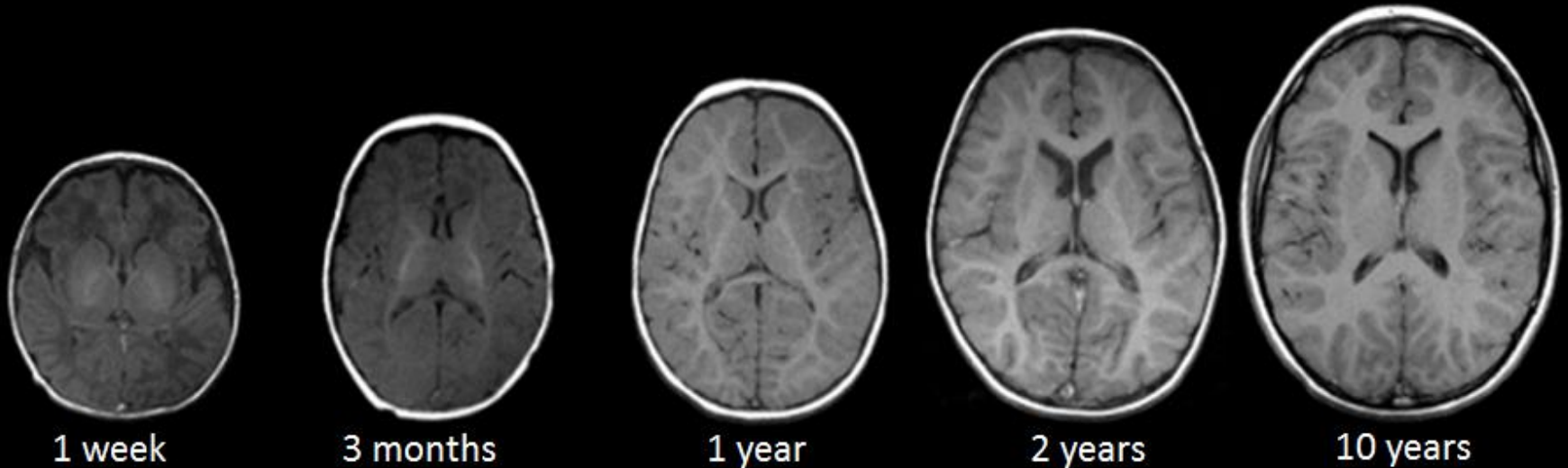
Neural Connections for Different Functions Develop Sequentially



Humans do not develop in isolation



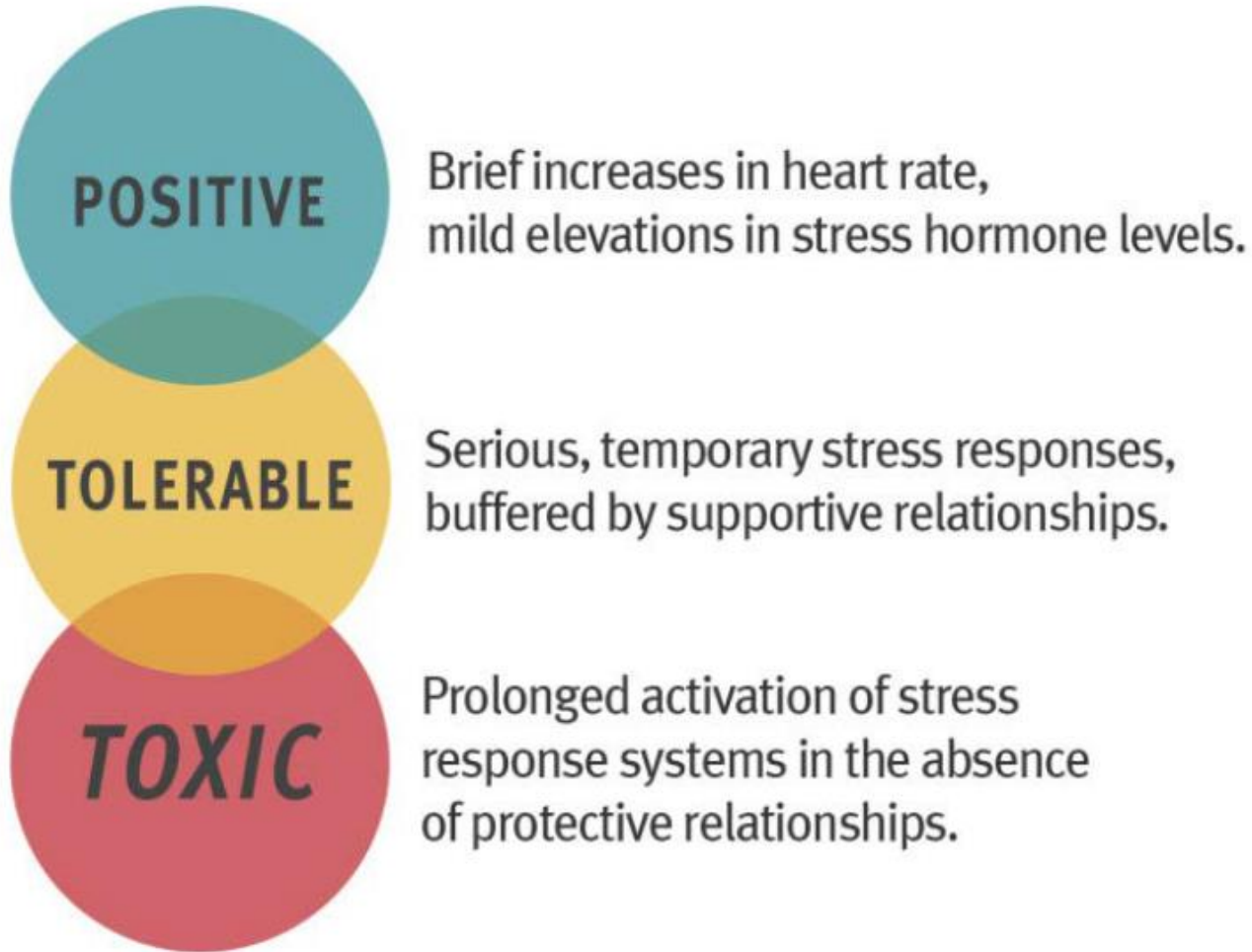
Early Childhood is a Time of Rapid Brain Growth



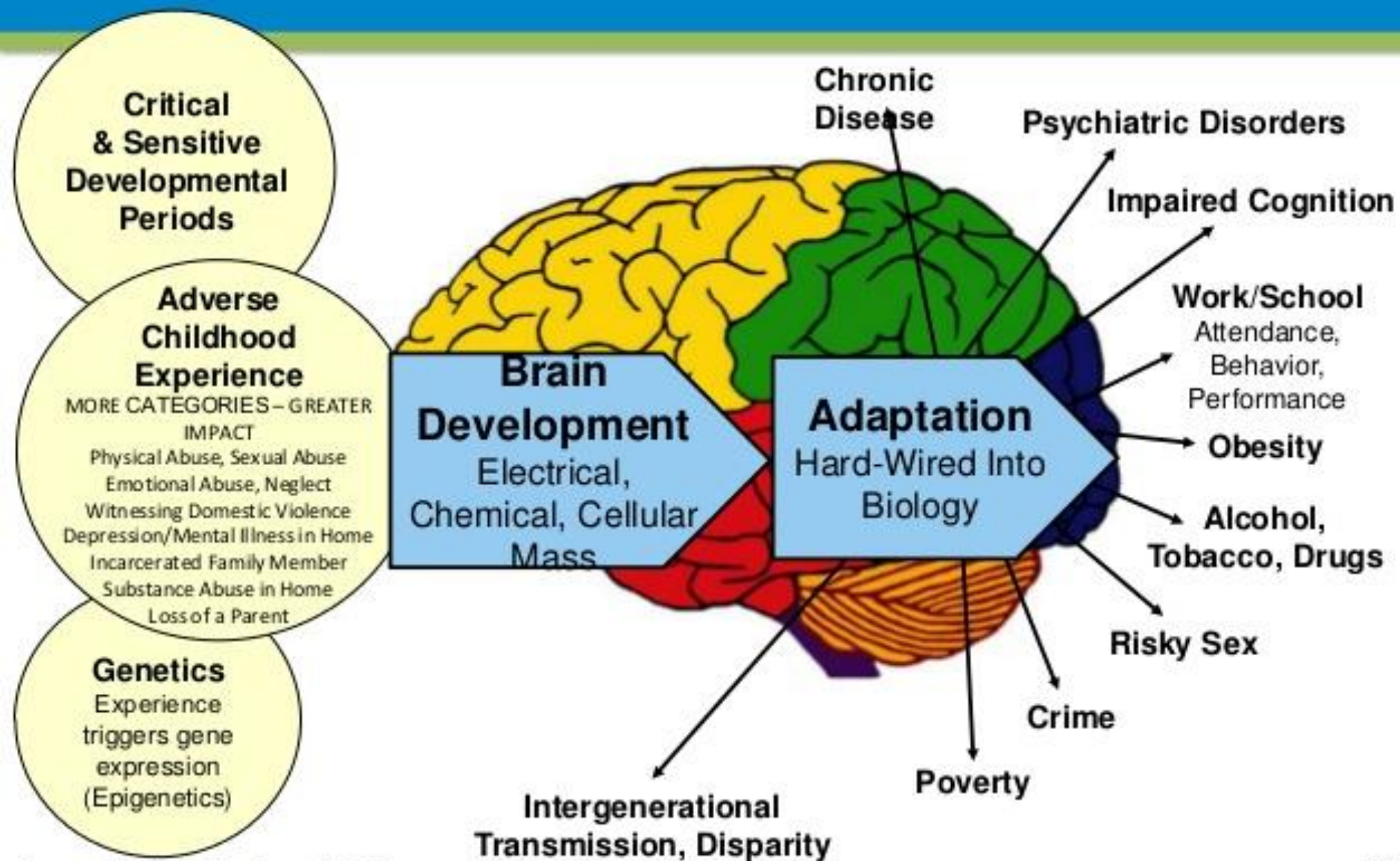
MRI scans of human brain development

T1W

Levels of Stress

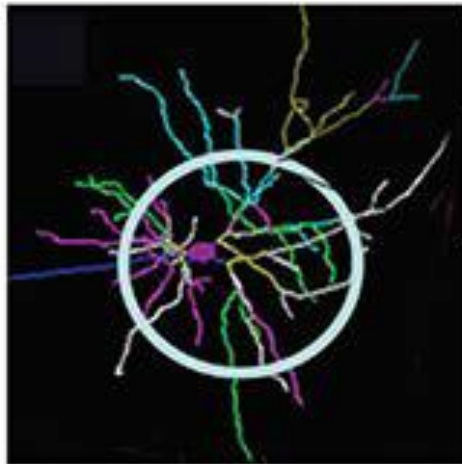


Lifespan Impacts of ACEs



Persistent Stress Changes Brain Architecture

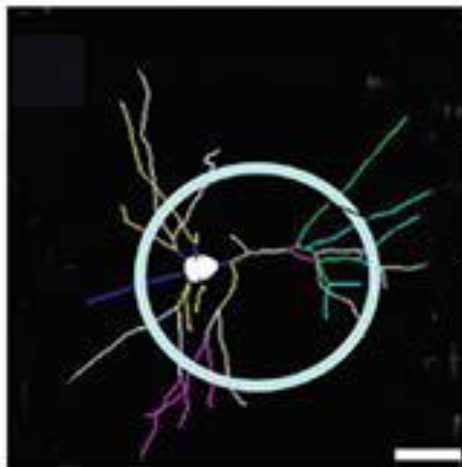
Normal



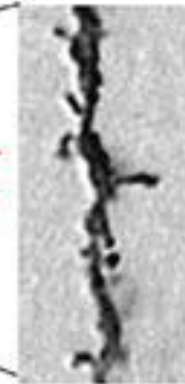
Typical neuron—
many connections



Toxic
stress

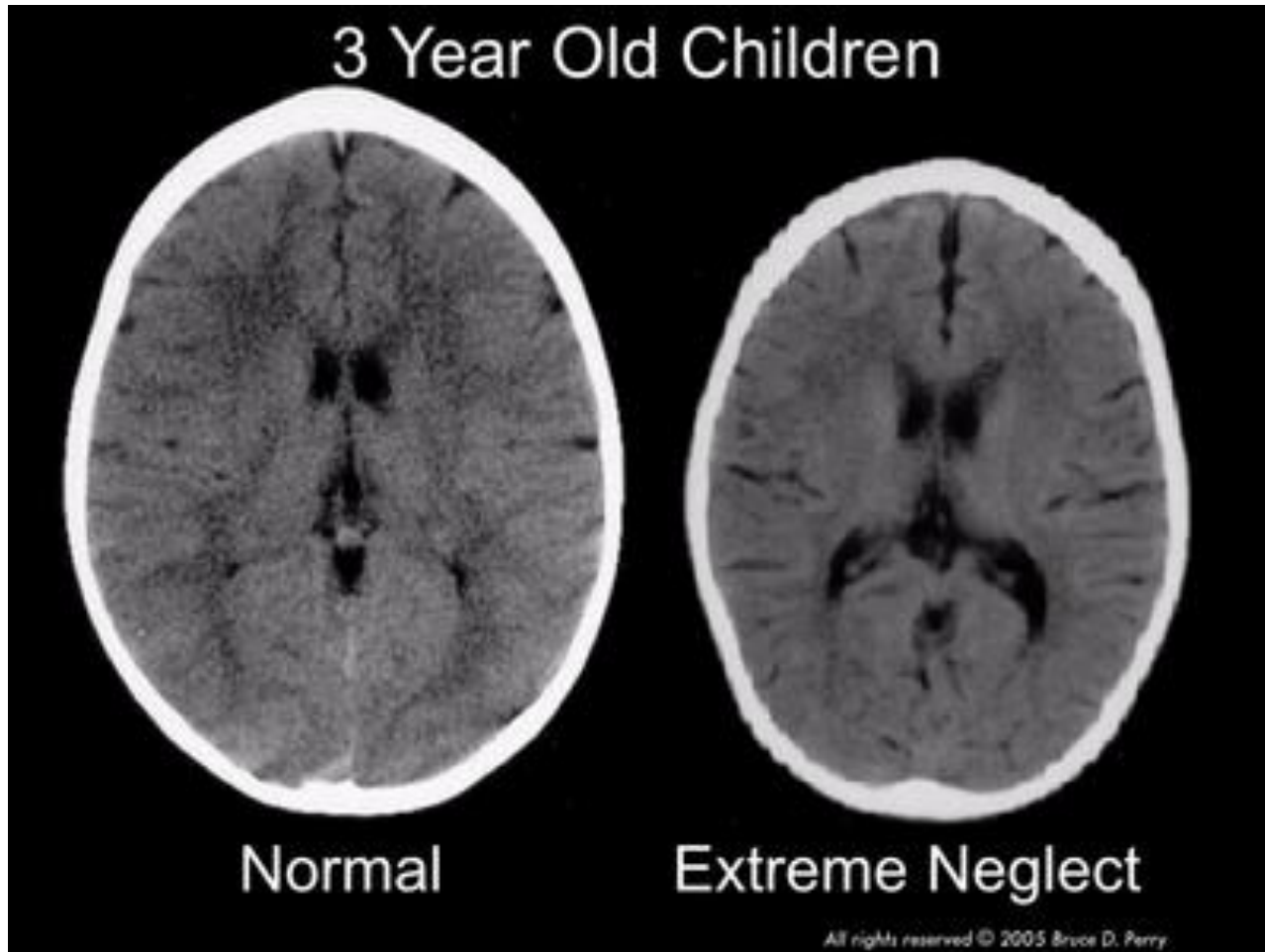


Damaged neuron—
fewer connections



Prefrontal Cortex and
Hippocampus

Toxic Stress in Early Childhood



Threats to Healthy Brain Development

- **Lack of Stimulation/Neglect**
- **Poverty**
- **Poor nutrition (e.g. iron deficiency anemia)**
- **Unstable Housing**
- **Environmental Toxins (e.g Lead)**
- **Adverse Childhood Experiences/Toxic Stress**

Interpersonal Trauma/Adverse Childhood Events - ACEs

Research Article

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults

The Adverse Childhood Experiences (ACE) Study

Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH

Am J Prev Med 1998;14(4)

© 1998 American Journal of Preventive Medicine

Collaborative effort between Kaiser Permanente and Centers for Disease Control and Prevention

Adverse Childhood Experiences (ACEs)

Traumatic or stressful life events experienced before age 18

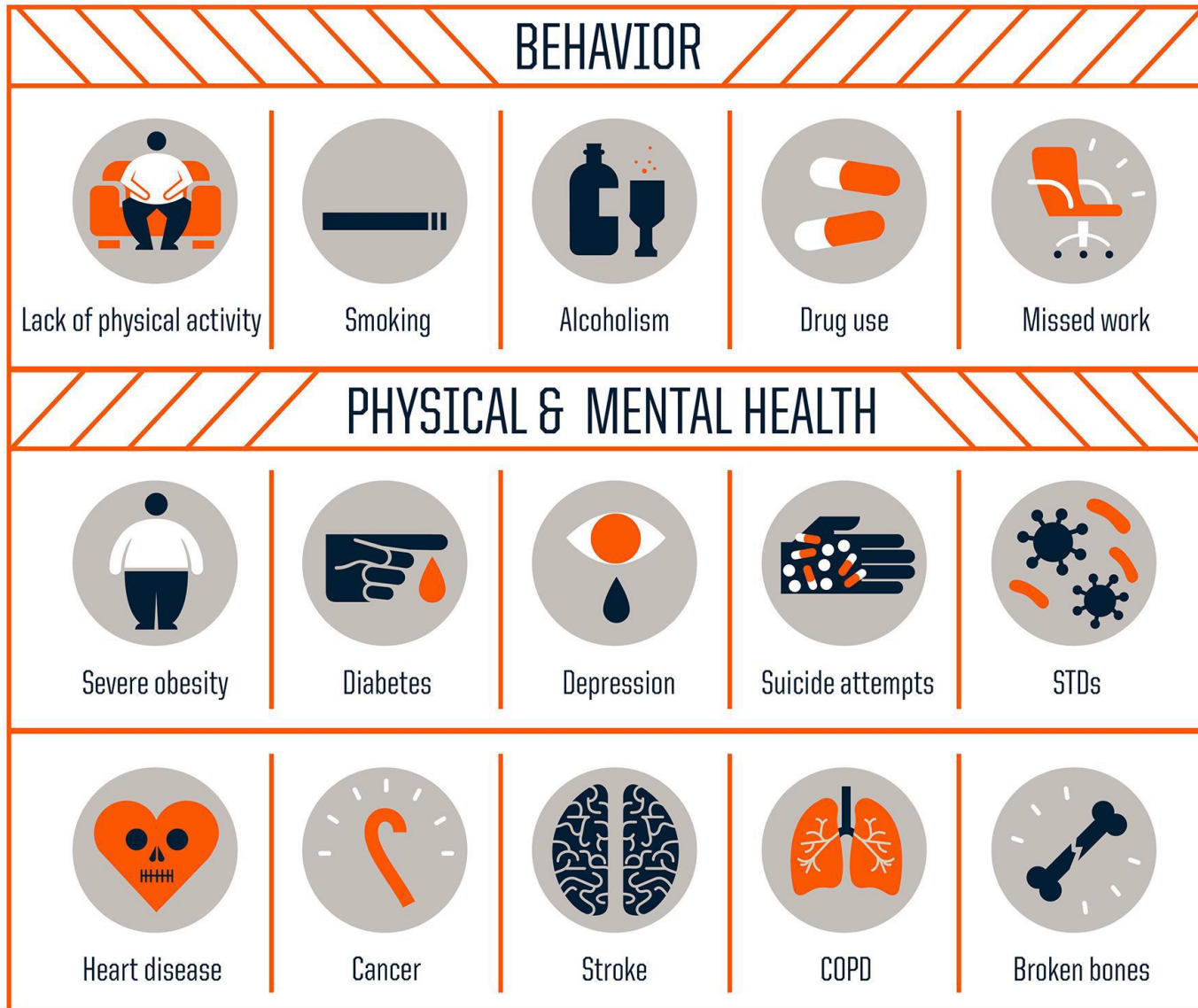
Childhood abuse

- **Physical abuse**
- **Sexual abuse**
- **Emotional abuse**

Household dysfunction

- **Household member who was depressed, mentally ill, or suicidal**
- **Alcohol or drug abuse in household**
- **Incarcerated household member**
- **Violence between adults in the household**
- **Parental divorce or separation**

Trauma/ ACEs increase risk of behavioral, physical and mental health issues



ACES can have lasting effects on...



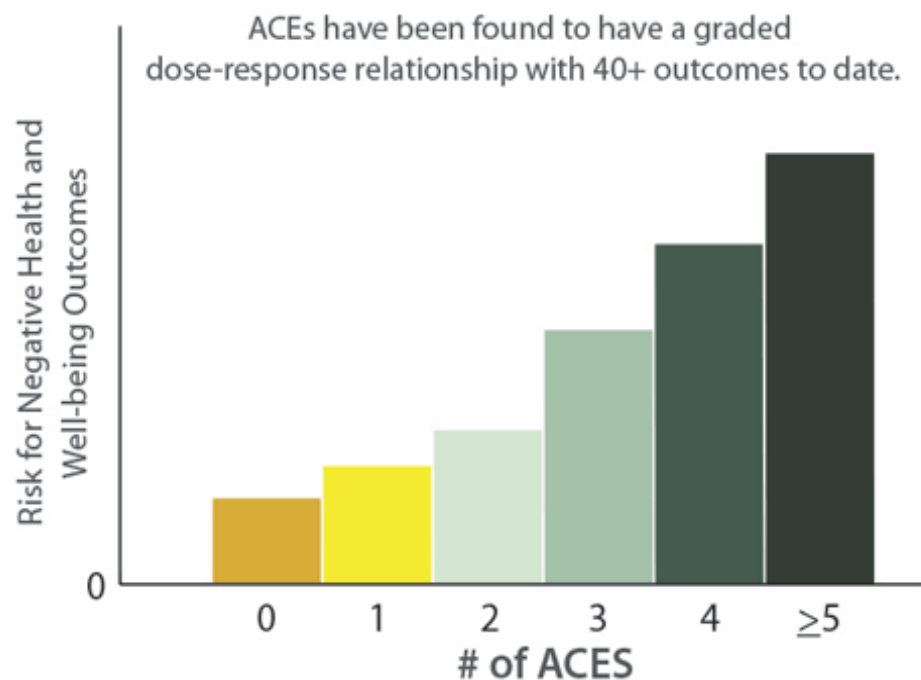
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



Behaviors (smoking, alcoholism, drug use)



Life Potential (graduation rates, academic achievement, lost time from work)



*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

The Pair of ACEs

Adverse Childhood Experiences

Maternal
Depression

Physical &
Emotional Neglect

Emotional &
Sexual Abuse

Divorce

Substance
Abuse

Mental Illness

Domestic Violence

Homelessness

Incarceration

Adverse Community Environments

Poverty

Violence

Discrimination

Poor Housing
Quality &
Affordability

Community
Disruption

Lack of Opportunity, Economic
Mobility & Social Capital

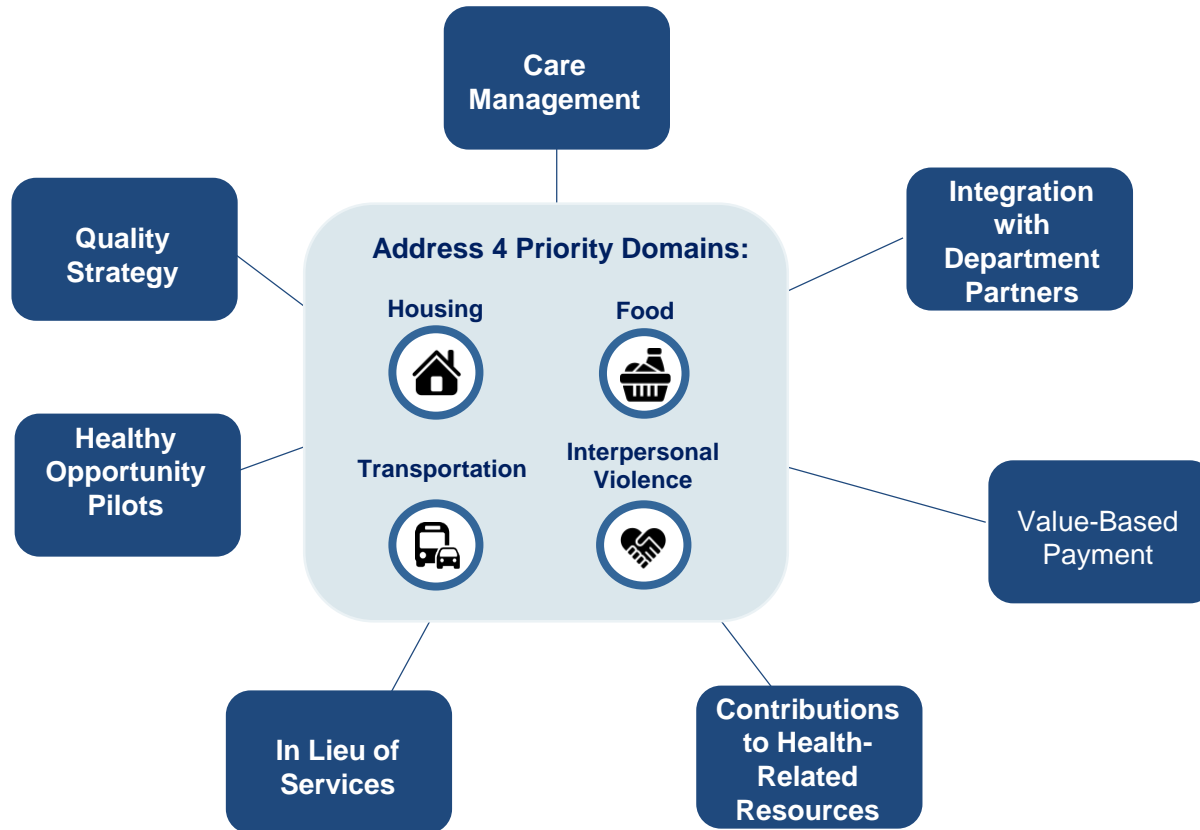
Ellis, W., Dietz, W. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. *Academic Pediatrics*. 17 (2017) pp. S86-S93. DOI information: 10.1016/j.acap.2016.12.011



North Carolina's Vision for Medicaid Managed Care

**“To improve the health of
North Carolinians through an
innovative, whole-person
centered, and well-
coordinated system of care
that addresses both the
medical and non-medical
drivers of health.”**

Requirements



Screening Questions

- Developed by Technical Advisory Group
- Drew from validated and commonly used tools (e.g PRAPARE, Accountable Health Community)
- Routine identification of unmet health-related resource needs
- Statewide collection of data
- Implementation
 - Public Review
 - Fall 2018 Pilot testing in 18 clinical sites and telephonically (n=804)
 - Ready Providers/Systems adopting
 - Encouraging everyone to use for all populations
 - Launch of Managed Care
 - PHPs Required to Include in initial Care Needs Screening

Health Screening

We believe everyone should have the opportunity for health. Some things like not having enough food or reliable transportation or a safe place to live can make it hard to be healthy. Please answer the following questions to help us better understand you and your current situation. We may not be able to find resources for all of your needs, but we will try and help as much as we can.

	Yes	No
Food		
1. Within the past 12 months, did you worry that your food would run out before you got money to buy more?		
2. Within the past 12 months, did the food you bought just not last and you didn't have money to get more?		
Housing/ Utilities		
3. Within the past 12 months, have you ever stayed: outside, in a car, in a tent, in an overnight shelter, or temporarily in someone else's home (i.e. couch-surfing)?		
4. Are you worried about losing your housing?		
5. Within the past 12 months, have you been unable to get utilities (heat, electricity) when it was really needed?		
Transportation		
6. Within the past 12 months, has a lack of transportation kept you from medical appointments or from doing things needed for daily living?		
Interpersonal Safety		
7. Do you feel physically or emotionally unsafe where you currently live?		
8. Within the past 12 months, have you been hit, slapped, kicked or otherwise physically hurt by anyone?		
9. Within the past 12 months, have you been humiliated or emotionally abused by anyone?		
Optional: Immediate Need		
10. Are any of your needs urgent? For example, you don't have food for tonight, you don't have a place to sleep tonight, you are afraid you will get hurt if you go home today.		
11. Would you like help with any of the needs that you have identified?		

What is NCCARE360?

NCCARE360 is the first statewide coordinated network that includes a robust repository of shared resources and a shared technology platform to connect healthcare and human services providers together to collectively provide the opportunity for health to North Carolinians.

NCCARE360 Partners:



NCDHHS



United Way
of North Carolina



Expound



UNITE US

Infrastructure and Elements across all populations

Hot Spot Map

- GIS map of social determinants of health indicators at census tract level

Screening

- Statewide Standardized Screening Questions

NCCARE360

- Statewide coordinated network with shared technology platform

Workforce Development

- Community Health Workers, Permanent Supportive Housing

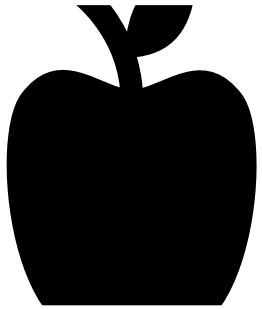
Aligning Enrollment

- Coordinating enrollment across programs e.g., Medicaid, WIC, SNAP

Healthy Opportunities

- **All North Carolinians should have the opportunity for health**
- **Access to high-quality medical care is critical to a person's health, but up to 80% of a person's health is determined through social and environmental factors and the behaviors that are influenced by them**
- **NC DHHS is focusing on improving the health and well-being for all North Carolinians by tackling the foundational drivers of health**

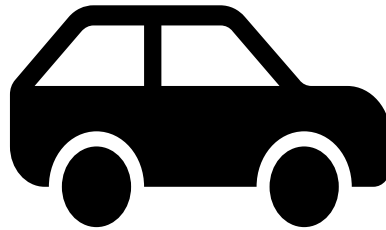
Priority Domains



Food
Security



Housing
Stability

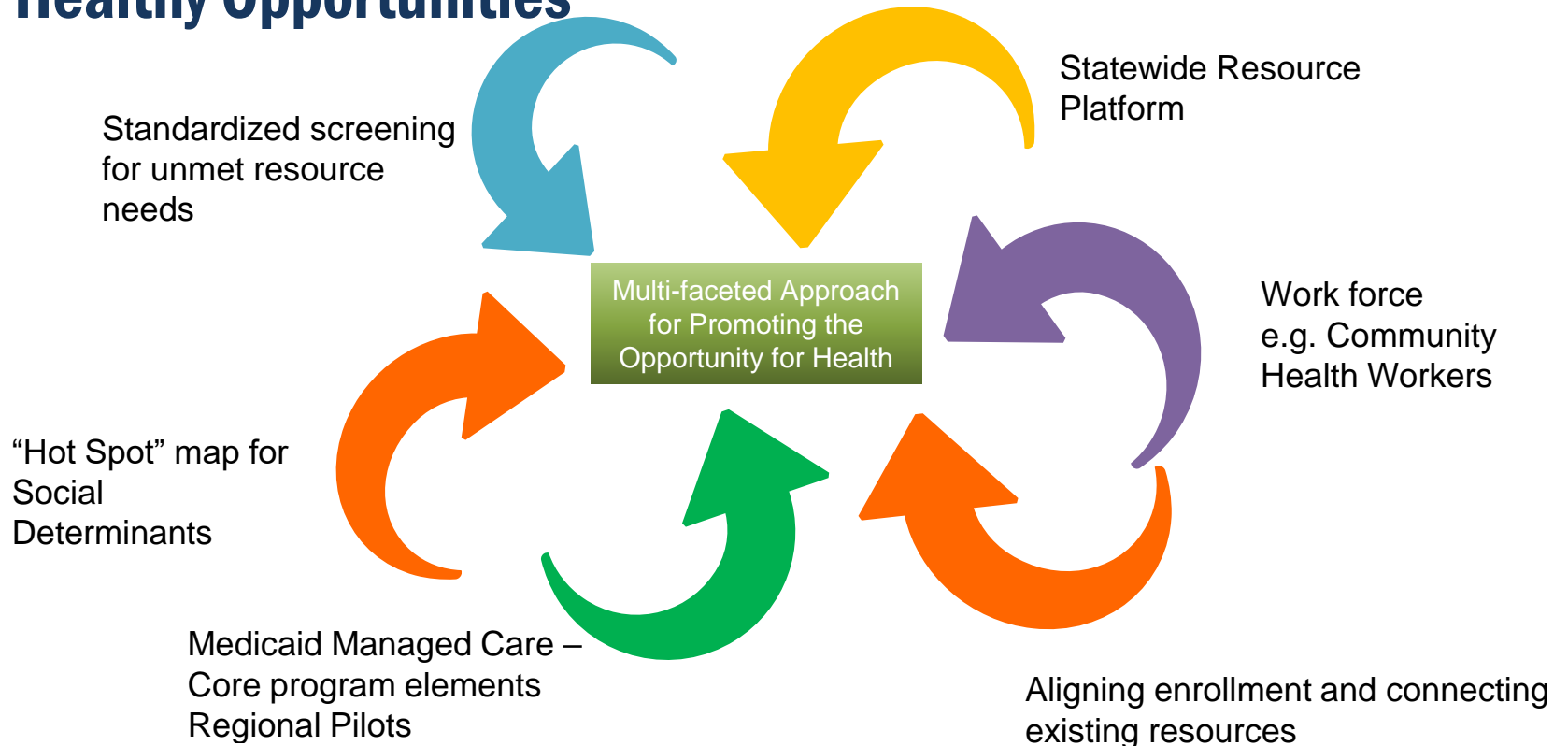


Trans-
portation



Inter-
personal
Violence

Creating the Statewide Framework and Infrastructure for Healthy Opportunities



<https://www.ncdhhs.gov/about/departments-initiatives/healthy-opportunities>



“Hot Spot” Map

- Statewide map now live: <http://www.schs.state.nc.us/data/hsa/>
- GIS/ESRI Story mapping of 14 SDOH indicators with a summary statistic
- Displays geographical health & economic disparities

Social and Neighborhood	Economic	Housing and Transportation
% < HS Diploma	Household Income	% Living in Rental Housing
% Households with Limited English	% Poverty	% Paying >30% of Income on Rent
% Single Parent Households	Concentrated Poverty	% Crowded Household
Low Access to Healthy Foods	% Unemployed	% Households without a Vehicle
Food Deserts	% Uninsured	



Early Childhood Action Plan



GUIDING PRINCIPLES

- **Brain and developmental science** serve as the foundation for the Action Plan
- **Children and families** are at the center of our work
- Builds upon and expands **existing strengths and partnerships**
- Goals are **ambitious and achievable**
- Focus is on **all** of North Carolina's children reaching their full potential, intentional about **eliminating disparities**
- Reflects the values of **transparency, good stewardship, and accountability**

North Carolina Early Childhood Action Plan - Vision

All North Carolina children get a healthy start and develop to their full potential in safe and nurturing families, schools and communities.

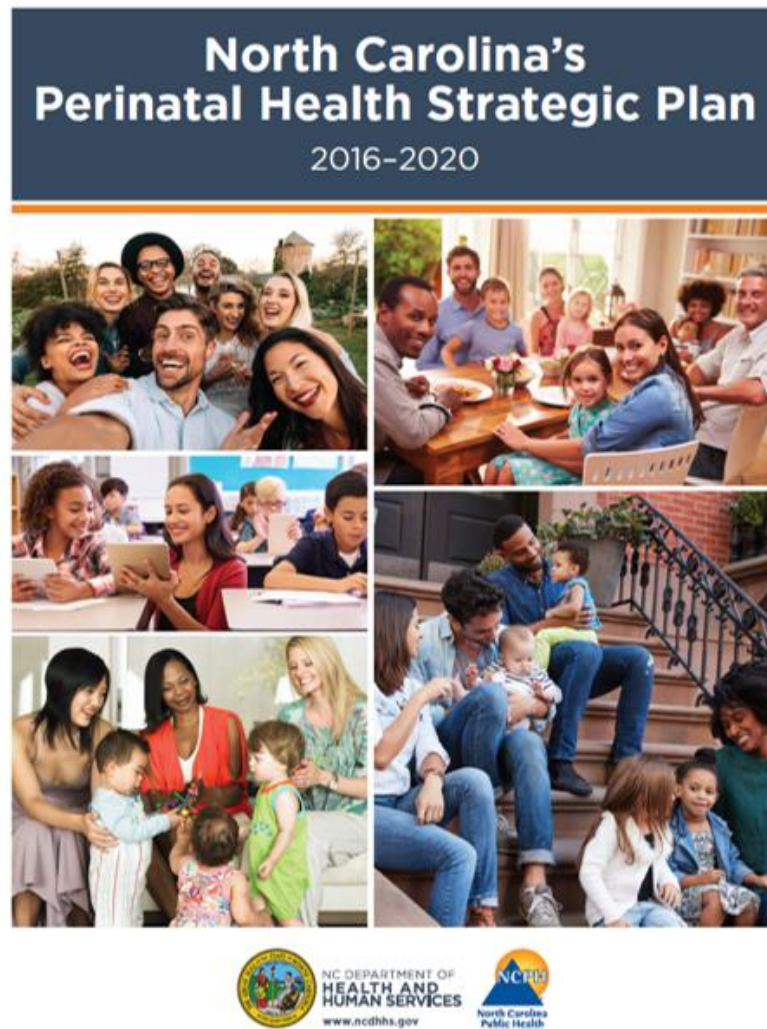
- 1) Healthy and Safe:** Children are healthy at birth and thrive in safe environments that support their optimal health and well-being
- 2) Nurtured:** Children grow confident, resilient and independent in stable and nurturing families, schools and communities
- 3) Learning and Ready to Succeed:** Children experience the conditions they need to build strong brain architecture and school readiness skills that support their success in school and life

Early Childhood Action Plan



The Perinatal Health Strategic Plan

- Framework is based on the “12-Point Plan to Close the Black-White Gap in Birth Outcomes: A Life-Course Approach” developed by Lu, Kotelchuck, Hogan, Jones, Wright, and Haflon
- Broader focus encompassing infant mortality, maternal morbidity and mortality; and the health of women and men of childbearing age
- Data driven and focused on the best evidence available
- Infused throughout with issues of health equity and social determinants of health



North Carolina's Perinatal Health Strategic Plan

2016-2020

The North Carolina Perinatal Health Strategic Plan (PHSP) addresses infant mortality, maternal health, maternal morbidity, and the health of men and women of childbearing age.

The PHSP framework was adapted from the "Closing the Black-White Gap in Birth Outcomes: A Life-Course Approach" (2010) by Drs. Michael Lu, Milton Kotelchuck, Vijaya Hogan et al to "reduce Black-White disparities in birth outcomes using a life-course approach" (Lu, et al 2010) which "conceptualizes birth outcomes as the end product of not only the nine months of pregnancy but the entire life course of the mother before the pregnancy" (2010). The PHSP supports the Healthy People 2020 Approach to Social Determinants of Health (SDOH), reflecting five key areas of SDOH (Figure 1).

The 12-point plan is divided into three goals, comprised of four points per goal. In 2017, the PHSP Team voted on priority strategies noted by an asterisk (*).



Figure 1 Healthy People 2020 Approach to Social Determinants of Health

Goal I. Improving Health Care for Women and Men	Goal II. Strengthening Families and Communities	Goal III. Addressing Social and Economic Inequities
<ul style="list-style-type: none"> Provide interconception care to women with prior adverse pregnancy outcomes* Increase access to preconception care* Improve the quality of prenatal care* Expand healthcare access over the life course 	<ul style="list-style-type: none"> Strengthen father involvement in families Enhance coordination and integration of family support services Support coordination and cooperation to promote reproductive health within communities* Invest in community building and urban renewal 	<ul style="list-style-type: none"> Close the education gap* Reduce poverty among families Support working mothers and families Undo racism*

The PHSP team meets every two months. The four PHSP work groups (Community and Consumer Engagement, Data and Evaluation, Communications, and Policy) meet more often. The PHSP strives to find alignment and collaboration opportunities with other initiatives occurring in the state. This includes connecting with consumer, community, and organizational partners to share and evaluate the plan. By eliminating inequities, we will improve the overall well-being of our state's individuals and communities.

For more information on the Perinatal Health Strategic Plan or to join the planning team, contact: [jasmine.getrouw-moore, MPA](mailto:jasmine.getrouw-moore@dhhs.nc.gov), Perinatal Health Strategic Plan Program Consultant • 919-707-5682 • PHSPquestions@dhhs.nc.gov

A Call to Action: Data Demonstrating Inequities in North Carolina

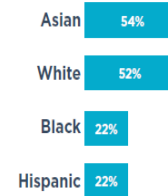
1 in 5 children live in households that lack consistent access to adequate food (2015)

45% of renters are cost burdened by spending more than 30% of their income on rent (2016)

Source: Feeding America. 2018 Child Food Insecurity Module (2016 data).

Source: Joint Center for Housing Studies of Harvard University tabulations of US Census Bureau, 2016 American Community Survey 1-Year Estimates.

4th grade Black and Hispanic public school students are **less likely** to score proficient in reading (2017)

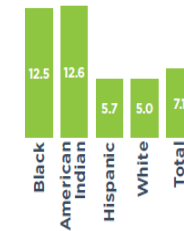


Source: 2017 Reading State Snapshot Report. North Carolina. Grade 4. Public Schools.



Black infants are **2.5 times** as likely to die than white infants (2017)

NC Infant Mortality Rates per 1,000 live births



Youth of color are **more than 2.5 times** as likely as white youth to have complaints filed against them by law enforcement or other citizens (FY 2015-16)

Source: NC Department of Public Safety Juvenile Justice 2016 Annual Report.

Source: NC State Center for Health Statistics, 2017 Infant Mortality Report, Table 3.



NC Department of Health and Human Services • Division of Public Health • Women's Health Branch
www.ncpublichealth.com • NCDHHS is an equal opportunity employer and provider.
 200 copies were printed at a cost of \$103.31 or \$0.516564 each. • 3/2019

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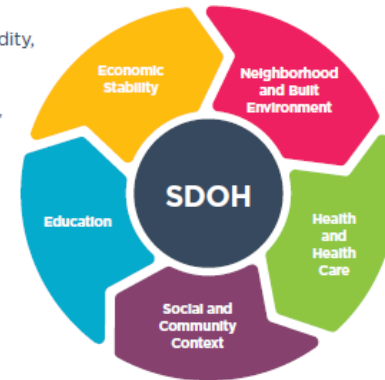


Figure 1 Healthy People 2020 Approach to Social Determinants of Health

Goals and Points

Goal I. Improving Health Care for Women and Men	Goal II. Strengthening Families and Communities	Goal III. Addressing Social and Economic Inequities
<ul style="list-style-type: none"> • Provide interconception care to women with prior adverse pregnancy outcomes* • Increase access to preconception care* • Improve the quality of prenatal care* • Expand healthcare access over the life course 	<ul style="list-style-type: none"> • Strengthen father involvement in families • Enhance coordination and integration of family support services • Support coordination and cooperation to promote reproductive health within communities* • Invest in community building and urban renewal 	<ul style="list-style-type: none"> • Close the education gap* • Reduce poverty among families • Support working mothers and families • Undo racism*

The PHSP team meets every two months. The four PHSP work groups (Community and Consumer Engagement, Data and Evaluation, Communications, and Policy) meet more often. The PHSP strives to find alignment and collaboration opportunities with other initiatives occurring in the state. This includes connecting with consumer, community, and organizational partners to share and evaluate the plan. By eliminating inequities, we will improve the overall well-being of our state's individuals and communities.

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Perinatal Health Strategic Plan Program Consultant • 919-707-5682 • PHSPquestions@dhhs.nc.gov

Goal 1 – Improve Health Care for Women and Men

Point 1. Provide interconception care to women with prior adverse pregnancy outcomes

1A. Support healthy pregnancy intervals through access to **effective methods of contraception**, including increased access to **Long-Acting Reversible Contraception (LARC)**.

1B. Provide **care coordination/case management/home visiting services** that includes promotion of resiliency, mental health screening, substance use intervention, tobacco cessation and prevention, reproductive life planning, chronic disease management and access to health care.

1C. Assure women are **transitioned from different points of care** and have access to postpartum/primary/well woman care including access to ongoing health insurance coverage and a medical home.

1D. Provide **outreach to all providers who care for children** (pediatric and family practice clinics, community settings, etc.) to ensure women are receiving interconception care services.

1E. Increase **quality and frequency of risk assessment** at the postpartum clinic visit.

Goal 1 – Improve Health Care for Women and Men

Point 2. Increase access to preconception health and health care to women and men

2A. Expand the college-based **Preconception Peer Education (PPE) Program** to reach additional women and men in colleges, universities, graduate schools, community colleges and adult learning programs.

2B. Integrate **preconception health care and messages** into primary care for women of reproductive age.

2C. Integrate the use of **evidence-based curriculum with adolescent and young adult population** in educational and community settings.

2D. Implement the **North Carolina Preconception Health Strategic Plan and Supplement**.

Goal 1 – Improve Health Care for Women and Men

Point 3. Improve the quality of maternal care (includes prenatal, labor, delivery and postpartum care)

3A. Expand the use of **evidence-based models of prenatal care**.

3B. Provide **evidence-based clinical standards in prenatal care** (e.g., early elective deliveries, cesarean rate, 17P, tobacco cessation, hypertensive disorders, gestational diabetes, mental health, substance abuse, intimate partner violence, perinatal mood disorders, etc.)

3C. Improve access to and utilization of **first trimester prenatal care**.

3D. Provide **care coordination/case management/home visiting services** that includes promotion of resiliency, mental health screening, substance use intervention, tobacco cessation and prevention, reproductive life planning, chronic disease management, perinatal mood disorders, and access to health care.

Goal 1 – Improve Health Care for Women and Men

Point 3. continued - Improve the quality of maternal care (includes prenatal, labor, delivery and postpartum care)

3E. Ensure that all pregnant women and high-risk infants have access to the appropriate level of care through a **well-established regional perinatal system**.

3F. Promote access to **comprehensive breastfeeding support services** including medical lactation services.

3G. Provide **evidence-based culturally competent patient education** and anticipatory guidance.

Goal 1 – Improve Health Care for Women and Men

Point 4. Expand healthcare access over the life course for all

4A. Promote access to and utilization of the **adolescent well visit**.

4B. Promote access to and utilization of **evidence-based preventive health services**.

4C. Increase access to and utilization of **medical homes**.

4D. Provide **affordable, comprehensive insurance coverage**.

4E. Promote access to and utilization of **immunizations** according to the American Committee on Immunization Practice guidelines.

4F. Provide **evidence-based culturally competent patient education** and anticipatory guidance.

Goal 2 – Strengthen Families and Communities

Point 5. Strengthen father involvement in families

5A. Promote **parenting and co-parenting skills** and responsible strategies

5B. Improve/develop guidelines for the **inclusion of men in preconception, prenatal, and interconception health services**

5C. Use **evidence-based strategies to promote healthy family relationships.**

5D. Promote the **role of fathers to change the culture.**

Goal 2 – Strengthen Families and Communities

Point 6. Enhance coordination and integration of family support services

6A. Promote **agency and community coordination** in providing services

6B. Decrease fragmentation in the service delivery system to **reduce burden on families.**

6C. Improve **family and community driven service provision.**

Goal 2 – Strengthen Families and Communities

Point 7. Support coordination and cooperation to promote reproductive health within communities

7A. Promote **reproductive life planning**.

7B. Expand **community stakeholder involvement and community engagement** in service design and implementation.

7C. Promote utilization of **breastfeeding friendly policies and services** in local communities.

7D. Promote utilization of **evidence-based strategies to prevent all forms of violence and promote coordinated community response**.

Goal 2 – Strengthen Families and Communities

Point 8. Invest in community building

8A. Create and improve **transportation systems** and **infrastructure**.

8B. Support **capacity building** in areas of **concentrated disadvantage**.

8C. Improve environments to **support healthy living**.

8D. Create and promote local employment opportunities that provide at least a **livable wage**.

8E. Improve **civic participation** through building community networks

Goal 3 - Address Social and Economic Inequities

Point 9 – Close the education gap

9A. Promote and increase access to **higher education**.

9B. Increase high school and post high school **graduation rates**.

9C. Expand **race/ethnic/gender diversity representation** in schools (administrators, faculty, and staff) .

9D. Promote and increase access to **early childhood education**.

9E. **Disrupt the school to prison pipeline**, beginning with pre-school.

Goal 3 - Address Social and Economic Inequities

Point 10 – Reduce poverty among families

10A. **Learn, collaborate, and partner** with organizations, agencies, and institutes that **focus on poverty reduction**.

10B. Formulate and/or enhance ways that **data can be collected to comprehensively track on how living in poor or near poor homes and communities affects health outcomes** over the life course.

10C. Recommend and support legislation of a **livable wage and equity in compensation**.

10D. Standardize **poverty reduction strategies** into systems, services, and programs.

Goal 3 - Address Social and Economic Inequities

Point 11 – Support working mothers and families

11A. Create and expand **paid parental and sick leave policies**.

11B. Increase affordable, available, and accessible **high quality child care**.

11C. Increase **support for breastfeeding**.

11D. Create **safe work place and incarceration environments** for women.

Goal 3 - Address Social and Economic Inequities

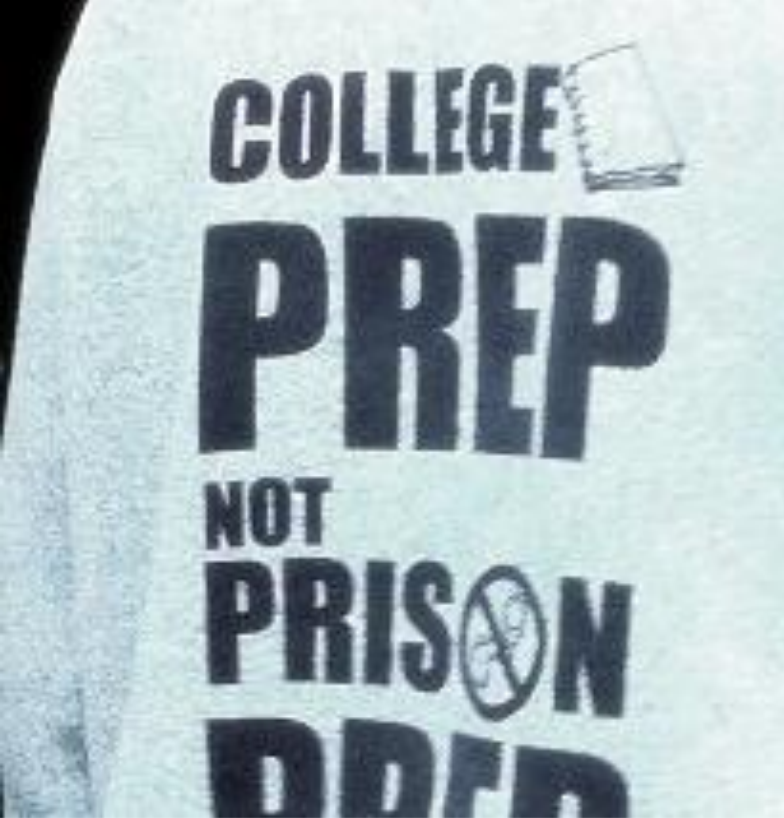
Point 12 – Undo racism

12A. Infuse and incorporate **equity in the delivery of health services**.

12B. Promote **high quality training about institutional and structural racism** and its impact on poor communities and communities of color.

12C. Modify and **change policies and practices to address institutional and structural racism**.

12D. Promote community and systems **dialog and discussion on racism**.





Protective Interventions: Building Resilience

