



EARLY LEARNING INVESTMENTS

Pediatric Perspectives

KYLE YASUDA, MD, FAAP

05 OCTOBER 2017

DISCLOSURES

- ▶ I have no conflict of interests to disclose
- ▶ Dr Hirschfeld did not blackmail me into coming to Anchorage
- ▶ I openly copied one of his slides from 2015.
- ▶ Children need to be healthy in order to learn



Who is Kyle?

- ▶ Multiple perspectives
- ▶ Primary Care Pediatrician
- ▶ Private practice, Academics, Public Health
- ▶ Health Policy Fellow
- ▶ Served on WA Governor's Commission on Early Learning
- ▶ Passionate about advocating for children and families
- ▶ Based on the current research, I know I messed up my 22 yr old daughter when she was growing up

WHY ARE WE HERE?

- ▶ The video "Brain Hero" portrays how actions taken by parents, teachers, policymakers, and others can affect life outcomes for both the child and the surrounding community.
- ▶ "Brain Hero" <https://www.youtube.com/watch?v=s31HdBeBgg4>

GOALS FOR TODAY

- ▶ Great Speakers with important messages
- ▶ ACES and Epigenetics
- ▶ What's new 2015-2017
- ▶ Review 4 reports and articles:
 - ▶ ACES
 - ▶ Child Well-Being and Adverse Childhood Experiences in the US
 - ▶ Lifecycle Benefits
 - ▶ WSJ Sept 25, 2017



ADVERSE CHILDHOOD EXPERIENCES (ACES)

- ▶ Having more ACES is not good
- ▶ More ACES = Greater risk for more Health Problems
- ▶ Impacts future generations

ADVERSE CHILDHOOD EXPERIENCES Landmark Study

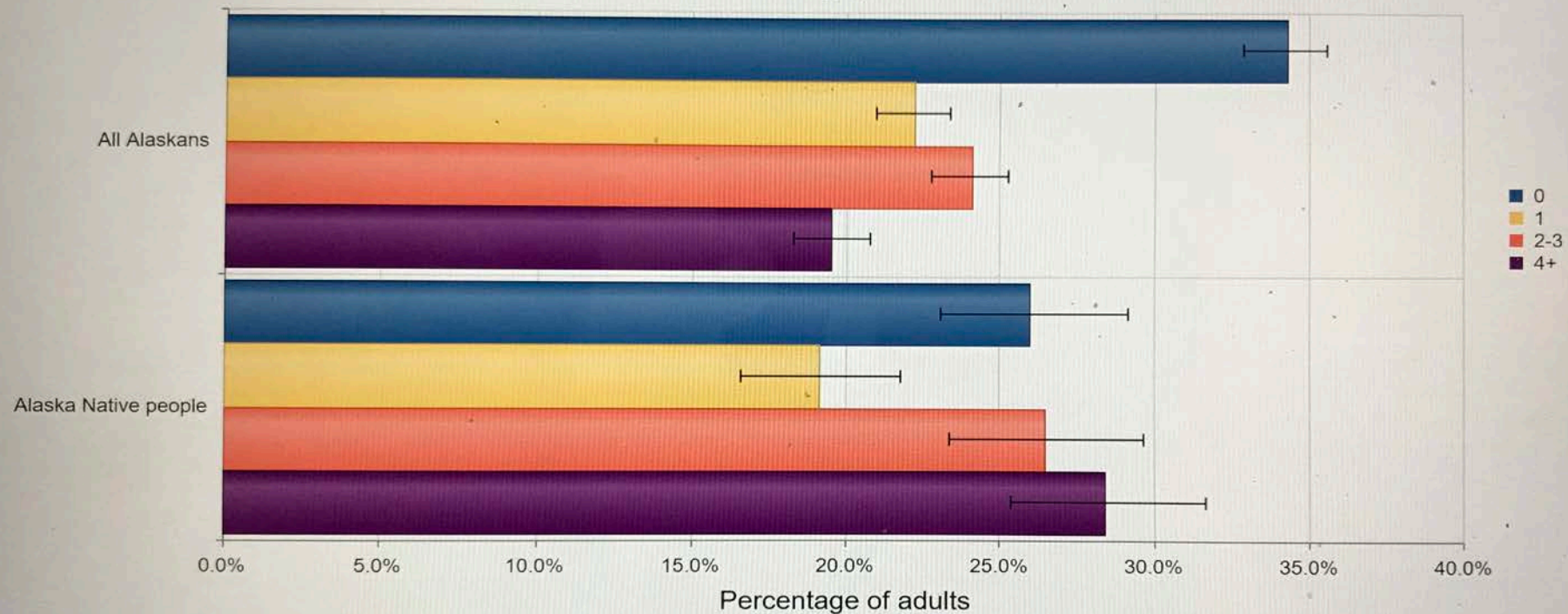
- ▶ Between 1995-1997, over 17,000 people receiving physical exams completed confidential survey
- ▶ Almost 2/3 of adults reported at least one ACE
- ▶ 3 categories of ACES:
 - ▶ Abuse: Emotional, Physical, and Sexual
 - ▶ Household challenges: mother treated violently, substance abuse, mental illness, separation/divorce, incarcerated household member
 - ▶ Neglect: emotional, physical

IMPACT OF ACES

- ▶ Can have lasting effects on behavior and health
 - Links between ACES and risky behavior, psychological issues, serious illness, and the leading causes of death
- ▶ People with 6 or more ACES died nearly 20 years earlier on average than those without ACES
- ▶ Estimated lifetime costs associated with child maltreatment at \$124 billion

Chart

Percentage of adults (18+) who experienced adverse childhood experiences prior to age 18, total counts, crude rates, by all Alaskans and Alaska Natives, 2013-2015 (3-year average)



Data Table

Data Notes

Data Source

Alaska Data: [Behavioral Risk Factor Surveillance System](#), Alaska Department of Health and Social Services, DPH, Section of

AK Adults with >4 ACES

- ▶ Alaskan adults who report four or more Adverse Childhood Experiences compared to Alaskan adults who report zero Adverse Childhood Experiences.
 - 49% more likely to be unemployed
 - 274% more likely to be unable to work
 - 92% more likely to earn less than \$20,000 annually
- ▶ Source: 2013 Alaska Behavioral Risk Factor Surveillance System, Analysis by Alaska Mental Health Board/Advisory Board on Alcoholism and Drug Abuse Staff



A LITTLE MORE WEIRD SCIENCE

Epigenetics

- ▶ Why Inheritance is weirder than we thought:
<https://www.youtube.com/watch?v=AvB0q3mg4sQ>

“The Benefits of Early Childhood Education and Health Programs May Last Longer Than a Lifetime”

- ▶ WSJ Sept 25, 2017
- ▶ “...programs aimed at helping low-income U.S. children, such as Head Start early childhood education and Medicaid health coverage, may have benefits not only for participating children but for their children as well.” Eg., reduced teen parenthood and criminal behavior, increase high-school graduation and college enrollment
- ▶ The 1980s expansion of Medicaid programs to cover more low-income pregnant women led, years later, to their children giving birth to healthier babies.
- ▶ Childhood access to Head Start led to better long-term outcomes in the next generation, including higher high-school graduation rates and reduced criminal behavior.
- ▶ Suggests “societal investments in early childhood programs can disrupt intergenerational transmission of the effects of poverty.”

PEDIATRIC LITERATURE



CHILD WELL-BEING AND ADVERSE CHILDHOOD EXPERIENCES IN THE US

Academic Pediatrics Sept-Oct 2017

- ▶ “It is our hope that our efforts inspire all who read it to redouble their individual and collective efforts to make this world a more welcoming, nurturing, and ultimately safe place for children to flourish for decades to come”
- ▶ **Imperative for pediatricians to engage more forcefully in the identification, prevention, and management of ACEs**
- ▶ Research now places relationship-centered health care and family and community engagement at the center of our work to prevent and mitigate the effects of ACEs-related stress and trauma, establish resilience, promote positive health skills and improve child health and well being

CHILD WELL-BEING AND ADVERSE CHILDHOOD EXPERIENCES IN THE US

Academic Pediatrics Sept-Oct 2017

- ▶ “Economic hardship has been linked to a myriad of adverse educational and developmental outcomes for children that might limit future opportunities”
- ▶ “Little is known about the quality, timing, and duration of effective interventions that alleviate cumulative risk and toxic stress. Much more is known about social and environmental risk and protective factors than genetic and epigenetic ones”

CHILD WELL-BEING AND ADVERSE CHILDHOOD EXPERIENCES IN THE US

Academic Pediatrics Sept-Oct 2017

- ▶ **High quality early childhood programs** such as head start, Early head start, child care partnerships and home visitings can be strategic interventions to improve the life prospects of children with parents who have limited education and resources
- ▶ **Early intervention is more efficient and produces higher returns on investment than later remediation with respect to human capacity**
- ▶ There should be greater investment in maternal and child health programs, mental health services, high quality early and education, and comprehensive, paid family leave policies
- ▶ **We cannot expect to eliminate life's stressor's. The real issue emerges when life events and stress surpass the coping ability of families**

WHAT CAN BE DONE ABOUT ACES

- ▶ “Safe, stable and nurturing relationships and environments can have a positive impact on a broad range of health problems and on the development of skills that will help children reach their full potential.”
- ▶ Home visiting programs
- ▶ Parenting training programs
- ▶ High quality childcare
- ▶ Social support for parents
- ▶ Parent support for teens and teen pregnancy prevention programs
- ▶ Mental illness and substance abuse treatment
- ▶ Sufficient Income support for lower income families

LIFECYCLE BENEFITS



LIFECYCLE BENEFITS OF AN INFLUENCIAL EARLY CHILDHOOD PROGRAM

- ▶ Analyzes the effects of two identical, randomized-controlled preschool experiments conducted in North Carolina in the 1970's
- ▶ The Carolina Abecedarians Project (ABC)
- ▶ The Carolina Approach to Responsive Education (CARE)
- ▶ Comprehensive developmental resources to disadvantaged African American children from birth to age 5
- ▶ Nutrition, access to healthcare and early learning
- ▶ Negative effects of a disadvantaged early childhood are similar across races

James J Heckman, 2016

LIFECYCLE BENEFITS

- ▶ Rich data provides insight into long-term benefits, a more relevant measure of value
- ▶ Analysis on a wide variety of life outcomes—health, quality of life, participation in crime, labor income, IQ, schooling, increases in mothers' labor income as a result of subsidized childcare
- ▶ ABC/CARE collected data throughout childhood and into adulthood
- ▶ At age 35, participants there was a full medical survey and detailed records of any criminal activity

LIFECYCLE BENEFITS

- ▶ The benefits of high quality starting at birth
- ▶ “Children who received treatment has significantly better life outcomes than those who did not receive center based care or those who received lower quality care”
- ▶ Results varied by gender
- ▶ Females: + effects on high school graduation, years of education, adult employment and the adult labor incomes of participants and their parents. Results higher as compared to results from exclusively staying at home
- ▶ Males: lower drug use and blood pressure, + effects on education and labor income
- ▶ Negative consequences for being placed in relatively low quality childcare center

LIFECYCLE BENEFITS

- ▶ **A two-generation effect on workforce**
- ▶ Improved economic prospects of children and their mothers
- ▶ Children gain the foundational skills to make them more productive in the future workforce
- ▶ **Quality Childcare generates + effects in maternal education, labor force participation, and parental income**
- ▶ **“Every dollar spent on high quality, birth to 5 programs for disadvantaged children delivers a 13% per annum ROI**

A CALL TO DO MORE

- ▶ “It makes dollar and sense to facilitate universal access to quality early childhood programs rather than subsidize low quality universal programs.”
- ▶ “Every child needs quality early childhood education. Those most in need should receive the most help from policy makers.”
- ▶ “Policy makers would be wise to coordinate these early childhood resources into a scaffolding of developmental support for disadvantaged children and provide access to all in need. The gains are significant because quality programs pay for themselves many times over. **The cost on inaction is a tragic loss of human and economic potential that we cannot afford.**”

James J Heckman

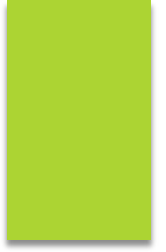
THE EVOLUTION OF PEDIATRICS

- ▶ Advancement of brain science in early childhood years
- ▶ Relational practice
- ▶ Trauma informed Pediatrician: Identifying Toxic stress and promoting resilience
- ▶ Impact of poverty, food insecurity, housing
- ▶ Quality child care www.aap.org/healthychildcare

WHAT DO I HOPE PEDIATRICIANS WILL KNOW ABOUT EARLY LEARNING?

- ACES study
- Heckman analysis
- Epigenetics
- Quality Pays Off
- Quality Child Care Matters
- No fade out
- Birth to 5 ROI







BEST STARTS FOR KIDS

EVERYTHING YOU WANT TO KNOW AND MORE
ABOUT BEST STARTS FOR KIDS

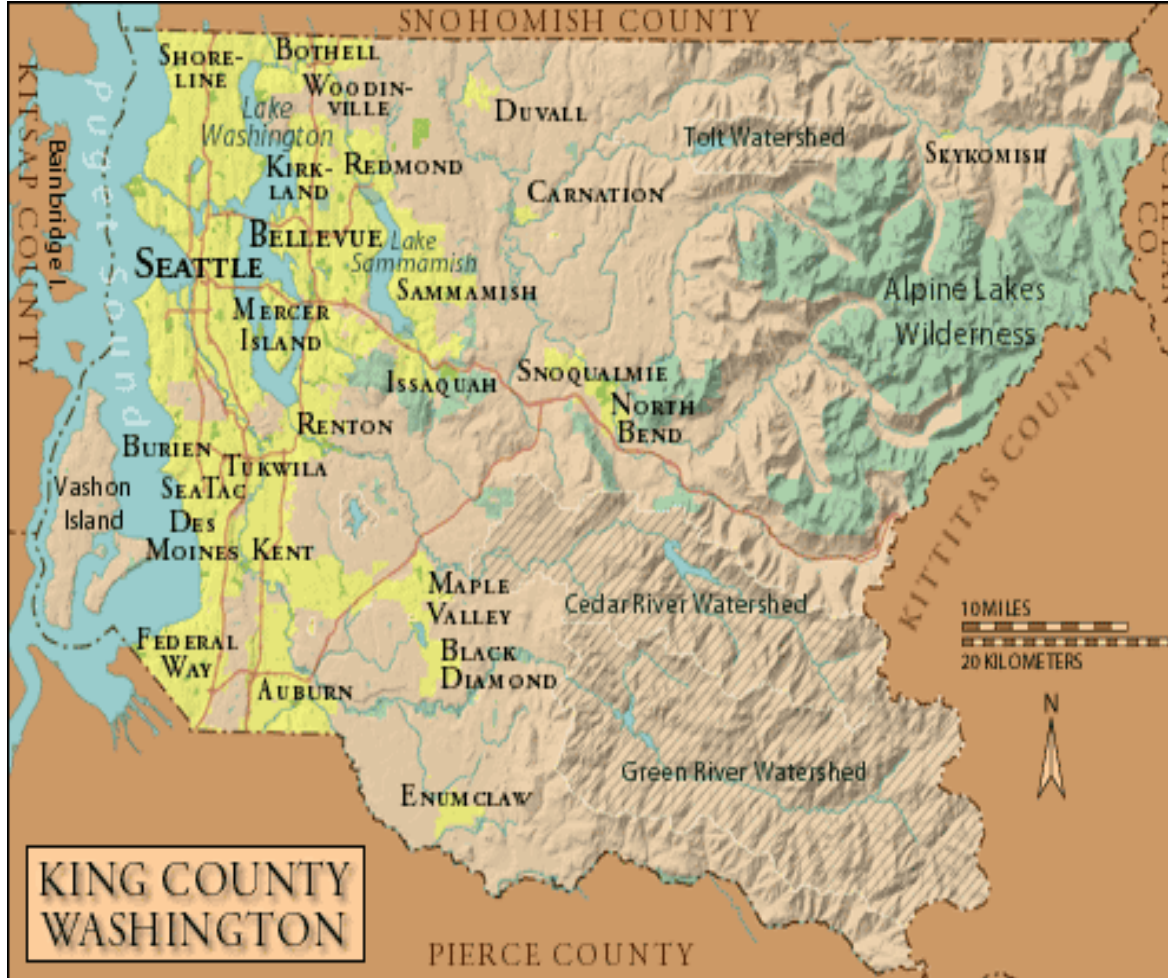
Best Starts for Kids is an initiative to improve the health and well-being of King County by investing in **promotion, prevention and early intervention** for children, youth, families, and communities.

VISION

We want to see more babies born healthy, more kids thrive, and more young people grow up to be happy, healthy, successful adults.



Where is King County, WA?



- 2 million people – one-third of state's population
- 19 school districts
- 39 incorporated cities
- 250,000 live in unincorporated areas
- 2,134 square miles of land - size of Delaware

HOW DO WE DO IT?



PROMOTION



PREVENTION

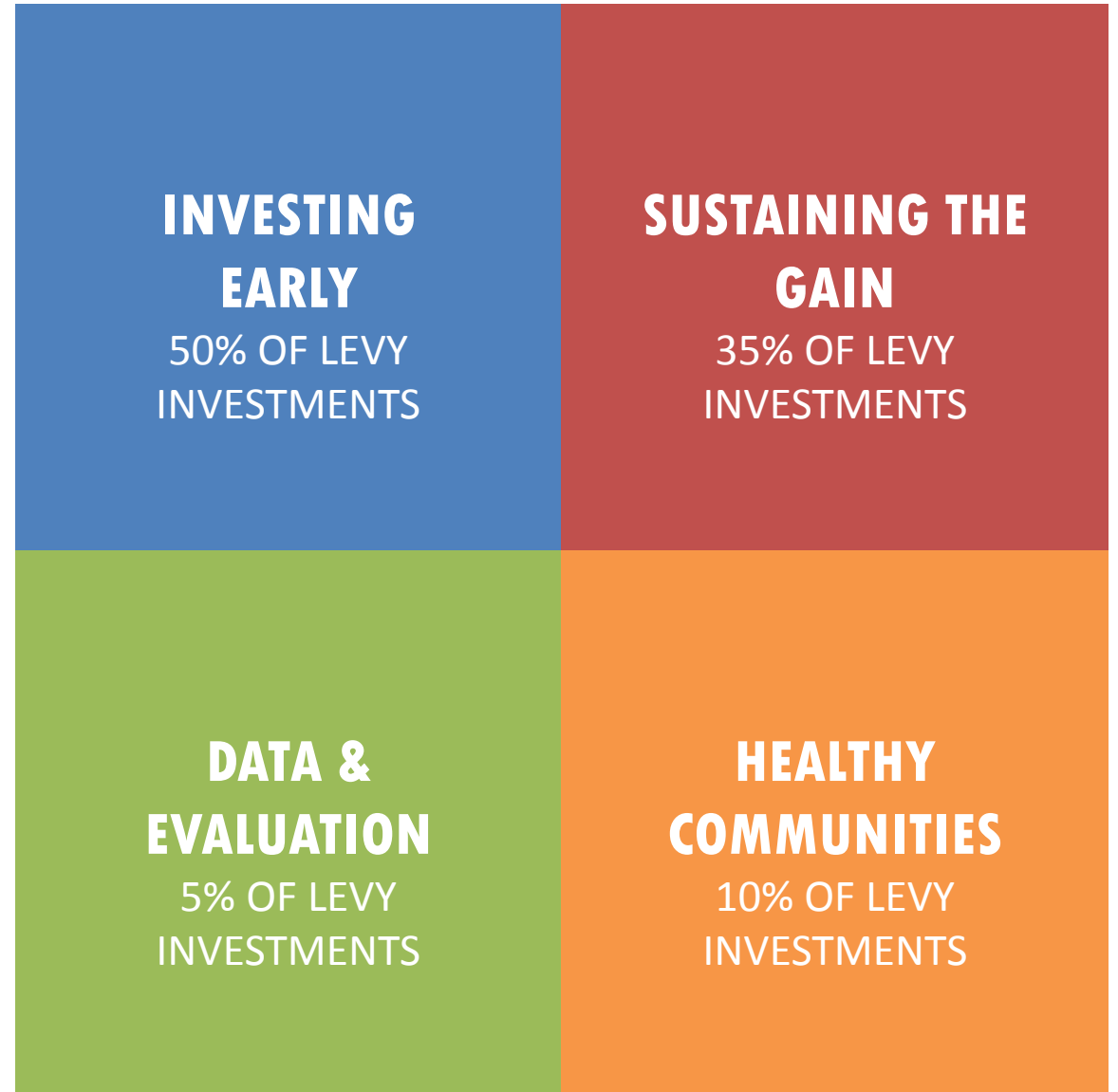


**EARLY
INTERVENTION**



**POLICY & SYSTEMS
CHANGE**

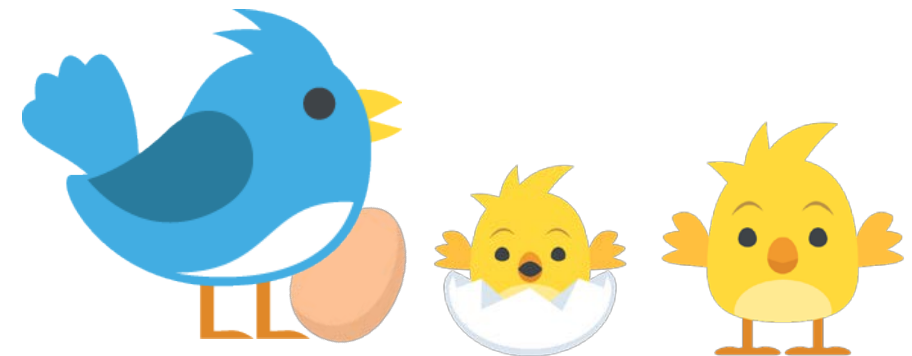
BEST STARTS' STRUCTURE



INVESTING EARLY

PRENATAL - 5 STRATEGIES

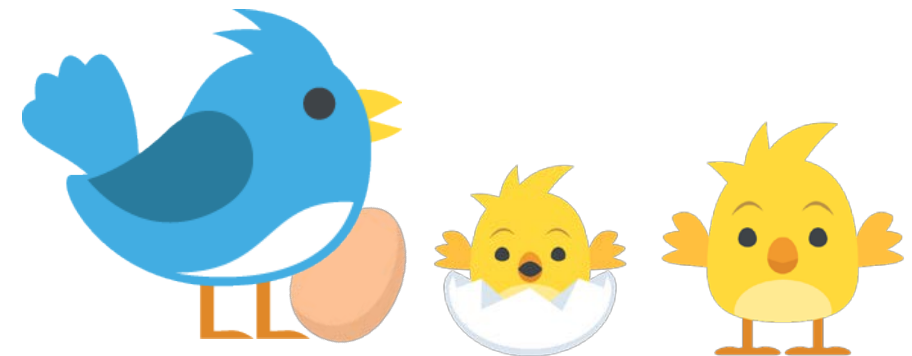
- Home-based services
- Support services for healthy child development
- Community-based supports for parents
- Early intervention services, including infant mental health
- Child care health consultations



INVESTING EARLY

PRENATAL - 5 STRATEGIES

- Home-based services
- Support services for healthy child development
- Community-based supports for parents
- Early intervention services, including infant mental health
- Child care health consultations



PRENATAL TO FIVE FUNDING AREAS

research and strategy development

- Developmental Screenings
- Infant, Family, Early Childhood Mental Health

focused opportunities

- Early Intervention Services
- Public Health Maternal & Child Programs

foundational opportunity

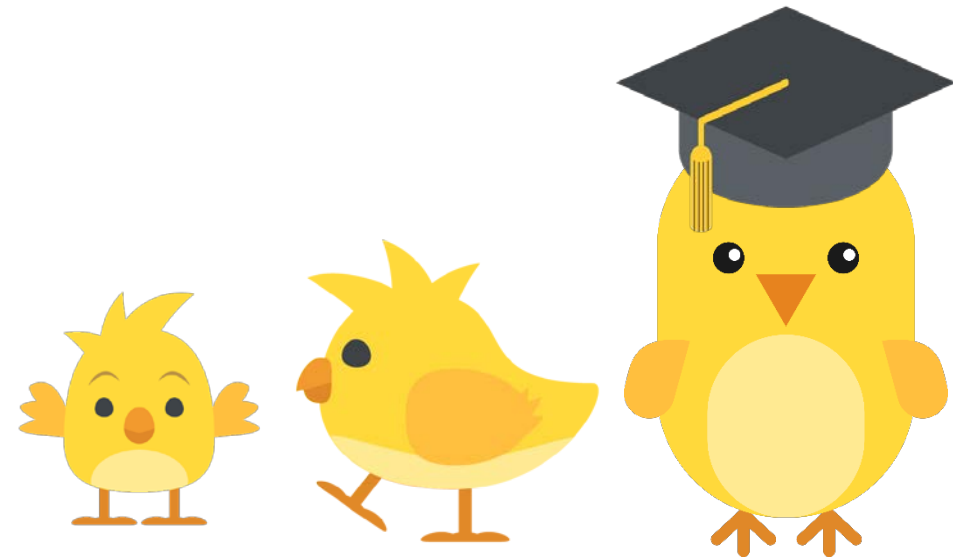
- Help Me Grow



SUSTAINING THE GAIN

5 - 24 YEARS STRATEGIES

- Partnerships with schools
- Youth development
- Parent and community connections
- Pipeline to success



5- 24 Investments

Partnerships with Schools

Trauma Informed and Restorative Practices
Out of School Time
School-based Health Centers
Restorative Practices
SBIRT

Pipeline to Life Success

Stopping the School to Prison Pipeline
Supporting YYA to Re-Engage
Supporting Youth to Stay in School

Youth Development

Healthy and Safe Relationships
Youth Leadership and
Engagement Opportunities
Positive Identity Development
Mentoring

Parent and Community Connections

Parent Support and Family
Engagement
Healthy and Safe Environments
Adolescent Immunizations

HEALTHY COMMUNITIES

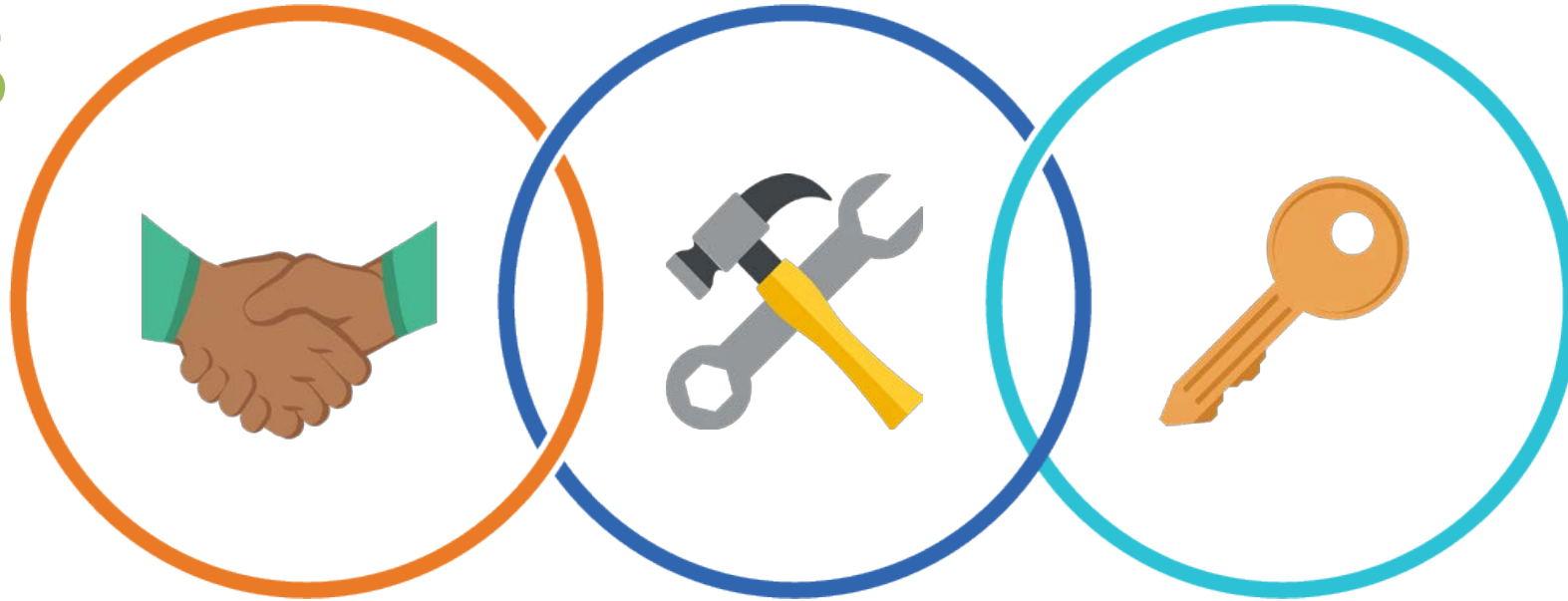
COMMUNITIES OF OPPORTUNITY & HOMELESSNESS PREVENTION

- Building healthy, thriving communities
- Preventing youth & family homelessness



DATA & EVALUATION

EVALUATION VALUES



Partnership

Collaboration

Accessibility

FIND
DATA!

kingcounty.gov/BSKIndicators

HOW BRAINS ARE BUILT

- ▶ How brains are built? <https://www.youtube.com/watch?v=LmVWOe1ky8s>

FINAL WORDS

- ▶ “In the brain, as in the economy, getting it right the first time is ultimately more effective and less costly than trying to fix it later. ”

James Heckman

Nobel Laureate Economist

References

- ▶ ACES
https://vetoviolence.cdc.gov/apps/phl/images/ACE_Accessible.pdf
- ▶ LIFECYCLE BENEFITS
www.Heckmanequation.org
García, Jorge Luis, James J. Heckman, Duncan Ermini Leaf, and María José Prados. "The Life-cycle Benefits of an Influential Early Childhood Program." (2016): n. pag. Web.
- ▶ Child Well-Being and Adverse Childhood Experiences in the US
Academic Pediatrics, Sept-Oct 2017, vol 17, Issue7, Suppl S1-S158

Time for Fish Stories



Headline Indicators

Prenatal to Age 5

- **Healthy Birth Outcomes**
Source: Birth Certificates, Death Certificates
 - *Infant mortality*
 - *Pre-term birth*
- **Lowering the rate of Child Abuse and Neglect**
Source: Children's Administration, Department of Social and Health Services
- **Flourishing & Resilient**
Source: NEW Child Health Survey question based on HRSA Maternal and Child Health Bureau's National Survey of Children's Health
- **Kindergarten Ready**
Source: WA KIDS, Office of Superintendent of Public Instruction

5 to 24 Years

- **Reading at 3rd grade level**
Source: Roadmap Project, Office of Superintendent of Public Instruction
- **Math at 4th grade level**
Source: Office of Superintendent of Public Instruction
- **On-time high school graduation**
Source: Roadmap Project, Office of Superintendent of Public Instruction, Eastside Pathways
- **Youth & young adults in school or working**
Source: American Community Survey (Census)
- **Excellent/very good health**
Source: Behavior Risk Factor Surveillance Survey
- **Youth who are not using illegal substances**
Source: Healthy Youth Survey
- **Flourishing & Resilient**
Source: NEW Child Health Survey question based on HRSA Maternal and Child Health Bureau's National Survey of Children's Health
- **Career or College Credential**
Source: Roadmap Project/CCER

What Results Do We Want to See?

1. Babies are born healthy and establish a strong foundation for lifelong health and well-being.
2. King County is a place where everyone has equitable opportunities to progress through childhood safe and healthy, building academic and life skills to be thriving members of their community.
3. Communities offer safe, welcoming, and healthy environments that help improve outcomes for all of King County's children and families, regardless of where they live.

Evaluation and Measurement

The Implementation plan contains the framework for evaluation. A more specific evaluation plan will be written and submitted for Council review in July 2017. The elements of this framework are:

- **Headline indicator:** BSK will *contribute* to improving headline (population) indicators (for example, on-time high school graduation), not be solely responsible for them
- **Population-Level Evaluation:** Compare population-level indicators over time, and by demographic characteristics such as age, gender, race, place and income
- **Strategy Area and Program-Level Evaluation:** Strategy areas may also include evaluations to learn what impact was experienced by individuals
- **Performance measures:** How individuals are directly served by the program.
- **Measuring Policy, Systems and Environmental Change:** Details policy and system impacts, and lessons learned, about implementation of overall strategies
- **More Extensive Evaluation:** Continuum of evaluation strategies that range from verifying that something happened, to comparing intervention results with a statistically valid control group

Background Science

- ▶ “Brain Hero” <https://www.youtube.com/watch?v=s31HdBeBgg4>
- ▶ How brains are built? <https://www.youtube.com/watch?v=LmVWOe1ky8s>
- ▶ Why Inheritance is weirder than we thought:
<https://www.youtube.com/watch?v=AvB0q3mg4sQ>

10 Adverse childhood experiences (ACEs)

1. Physical abuse
2. Sexual abuse
3. Emotional abuse
4. Emotional neglect
5. Physical neglect
6. Witness domestic violence
7. Mental illness in home
8. Family member incarcerated
9. Alcohol/drug problems
10. Parental separation or divorce