Introduction to Life Expectancy and the SCALE project
Why use Life Expectancy at Birth?

- Average number of years a newborn can be expected to live given prevailing mortality rates
- Reliable indicator of overall population health; frequently used
- Not affected by the population age distribution
- Believed to be easily interpretable by the general public
- Because of the relationship between LE and health, inequities in LE usually signal inequities in social determinants of health (wealth, economic opportunity, healthcare, environment, and/or education) or in mortality patterns.
The US spends more on healthcare but has worse LE
Mortality
Life Expectancy at Birth, by Country

Figure 1. Life expectancy at birth, by sex and country: Organisation for Economic Co-operation and Development (OECD) countries, 2013

Excel and PowerPoint: http://www.cdc.gov/nchs/hus/contents2015.htm#fig01
Life expectancy in the news

**Black Americans See Gains in Life Expectancy**

By SABRINA TAVERNISE  MAY 8, 2016

**Life Expectancy In U.S. Drops For First Time In Decades, Report Finds**

December 8, 2016 - 12:02 AM ET

Heard on Morning Edition
Life expectancy, by county, compared to the world’s 10 best countries
Changing Demographics Across the US
2020 Percent People of Color by County

- Less than 40% People of Color
- "Tipping Point" Counties: 40% to 50% People of Color
- Greater than 50% People of Color

Sources: Woods & Poole Economics projections data (adjusted using the 2010 Census), Census TIGER/Line, NHGIS, and ESRI.

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County level data hides disparities:
Virginia Commonwealth University
Los Angeles
King County
Just over the border in VA, LE is 6-7 years longer than in Washington, D.C., just a few subway stops away.
New Orleans Life Expectancy by Metropolitan Area

LE varies by 25 years, just a few miles apart

King County average LE at birth: 81.6 – one of the longest LEs in the US

At the census tract level, there is a difference of 26 years! (Low of 69; High of 95)

Tracts with the lowest life expectancy are more than 40 years behind the longest lived countries; this is similar to the shortest lived county

This level of disparity galvanized discussion
Assessment, Policy Development, & Evaluation

Lack of Physical Activity | Tobacco Use | Frequent Mental Distress | Adverse Childhood Experiences

Life Expectancy | Obesity | Diabetes | Preventable Hospitalization

Seattle & King County
The SCALE Project: Helping States and LHDs create sub-county life expectancy
SCALE: A collaborative LE project

- Three Year Project, beginning in 2014
  - CDC, Council for State and Tribal Epidemiologists, 8 Health Departments
- Goals:
  - *Guide for Calculating and Visualizing Life Expectancy Estimates at the Census Tract Level* for any LHJ to be able to calculate LE
  - Enhance: Public Health Practice and Research Applications
    - Examine the degree to which LE and associated contributing factors vary across populations and geographies.
    - Identify and monitor community hot spots of health disparities
    - Once hot spots are identified: investigate behavioral, social and environmental factors
    - Raise public awareness on the importance of multi-sector place based factors (i.e., education, transportation, community development, and business) in improving health and reducing health disparities.
Who has participated in SCALE?

**SCALE Phase I Participants**
- Florida
- Los Angeles County
- Massachusetts
- Maine
- New York
- Seattle & King County
- Washington
- Wisconsin

**SCALE Phase II Participants**
- Alabama
- Alamance Co., NC
- Alameda Co., CA
- Caswell Co., NC
- Chatham Co., NC
- Cleveland, OH
- Cook Co., IL
- DC
- Durham Co., NC
- Erie Co., PA
- Houston, TX
- Johnson Co., KS
- Maricopa Co., AZ
- Metro Area Planning Council, MA
- New Hampshire
- Orange Co., NC
- Salt Lake Co., UT
- Shelby Co., TN
- Virginia
- Washington Co., MN
- Minnesota
- Montana
SCALE PHASE II Accomplishments

- Phase II began in July 2015
  - 17 more states/locals to pilot tested the tool
  - Small area estimation for areas without sufficient populations
  - Panel discussion, poster sessions
- 2015, 2016 CSTE Pre-conference Workshop Training
- SCALE Guide v1.0 released (6/17)
- CSTE SCALE Website Launched (8/16)
- SCALE Phase I Evaluation & Lessons Learned Manuscript (under peer review)
- Joint SCALE and Environmental Public Health Tracking Workshop (10/16)
- Launch of EPHTN Content Workgroup (on-going)
SCALE PHASE III objectives

- Expand Health Department SCALE Participants
  - Support Health Department LE Estimate Calculation

- Identify Visualization and Messaging Best Practices*

- Identify Related Indicators for Concurrent Release
  - Key Social Determinants of Health
  - Key Mortality Indicators (e.g., Leading Causes of Death, Infant Deaths)
  - Health-adjusted Life Expectancy (or other measure representing mortality, morbidity, and quality of life)

- Evaluate the public health utility and impact of community health improvement initiatives supported with LE
  
  *EPHTN LE Content Workgroup may lead this objective.
Interested in joining SCALE?

- **Necessary data items**
  - Death data with address
  - Population at the census tract level or ability to use death data from 2008-2012 (around the 2010 Census)
  - Ability to participate in monthly phone calls to discuss progress and roadblocks
- **Contact Jessica Wurster, Vickie Boothe, or Amy Laurent for more information**