

# Social, behavioral, and medical risk factors and health outcomes among Oregon counties

VA



U.S. Department  
of Veterans Affairs  
Veterans Health  
Administration  
VA Portland  
Health Care System

Emma DeLoughery, MD<sup>1</sup>, Katherine Iossi, MD, MPH, FACP<sup>2</sup>  
<sup>1</sup>Department of Medicine, Oregon Health & Science University, Portland OR  
<sup>2</sup>Department of Hospital and Specialty Medicine,  
 Portland VA Medical Center, Portland OR



## Introduction

- Social environment influence individual health
- Most healthcare interventions focus on the individual
- Study's goal was to identify associations between subjective and objective outcomes and potential social, behavioral and medical risk factors

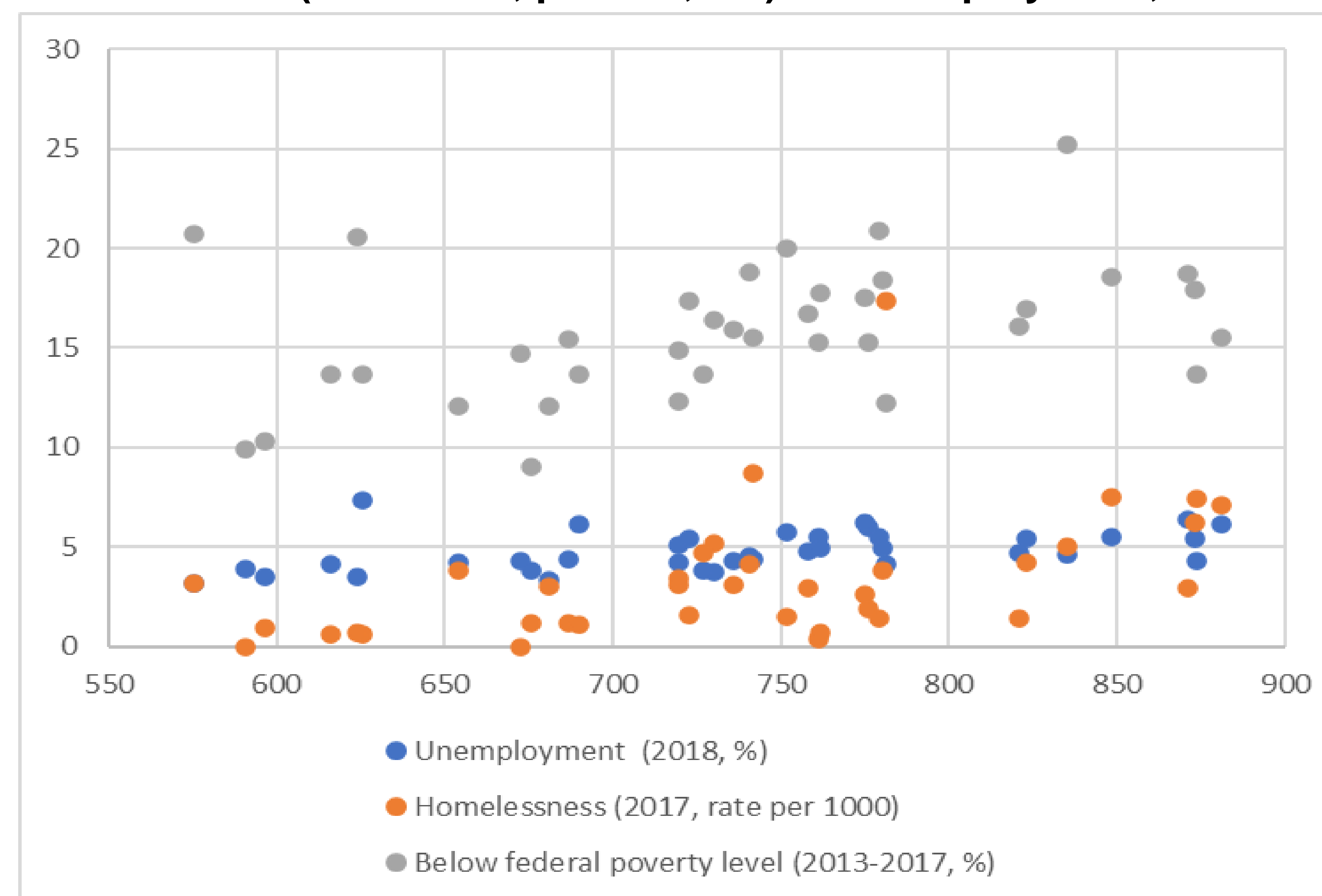
## Methods

- Data obtained from the Oregon Health Authority
- Some data was not available for all counties
- Same-year data was not available for all variables
- Outcome data:
  - % of adults with self-reported fair or poor health
  - % of adults with self-reported 1+ days of poor mental health in the last 30 days
  - % of adults aged 50-75 up-to-date on colorectal cancer screening (used as surrogate for access to healthcare)
  - Death rate
  - Suicide rate
- Risk factor data:
- Data analyzed using Spearman's rank correlation coefficient

## Results

- Self-reported fair or poor health:
  - Positively associated with:
    - Cigarette smoking (Rho 0.61,  $P < 0.001$ )
    - Consumption of  $\geq 7$  sodas per week (0.42,  $P = 0.02$ )
    - Diabetes (0.55,  $P < 0.001$ )
    - Teen pregnancy rate (0.43,  $P = 0.01$ )
  - Negatively associated with:
    - High school graduation rate (-0.38,  $P = 0.02$ )
- Death rate:
  - Positively associated with:
    - Poverty rate (0.42,  $P = 0.01$ )
    - Unemployment (0.55,  $P < 0.001$ )
    - Homelessness (0.57,  $P < 0.001$ )
    - Self-reported fair or poor health (0.44,  $P = 0.008$ )
    - Teen pregnancy (0.55,  $P = 0.001$ )
    - Cigarette use (0.60,  $P < 0.001$ )
- Suicide rate:
  - Positively associated with:
    - Unemployment (0.77,  $P < 0.001$ )
    - Food insecurity (0.60,  $P < 0.001$ )
    - Cigarette use (0.49,  $P = 0.004$ )
    - Binge drinking (0.36,  $P = 0.04$ )
  - Negatively associated with:
    - Limited English proficiency (-0.67,  $P < 0.001$ )
- No association between self-reported poor mental health or colorectal cancer screening and any risk factor data

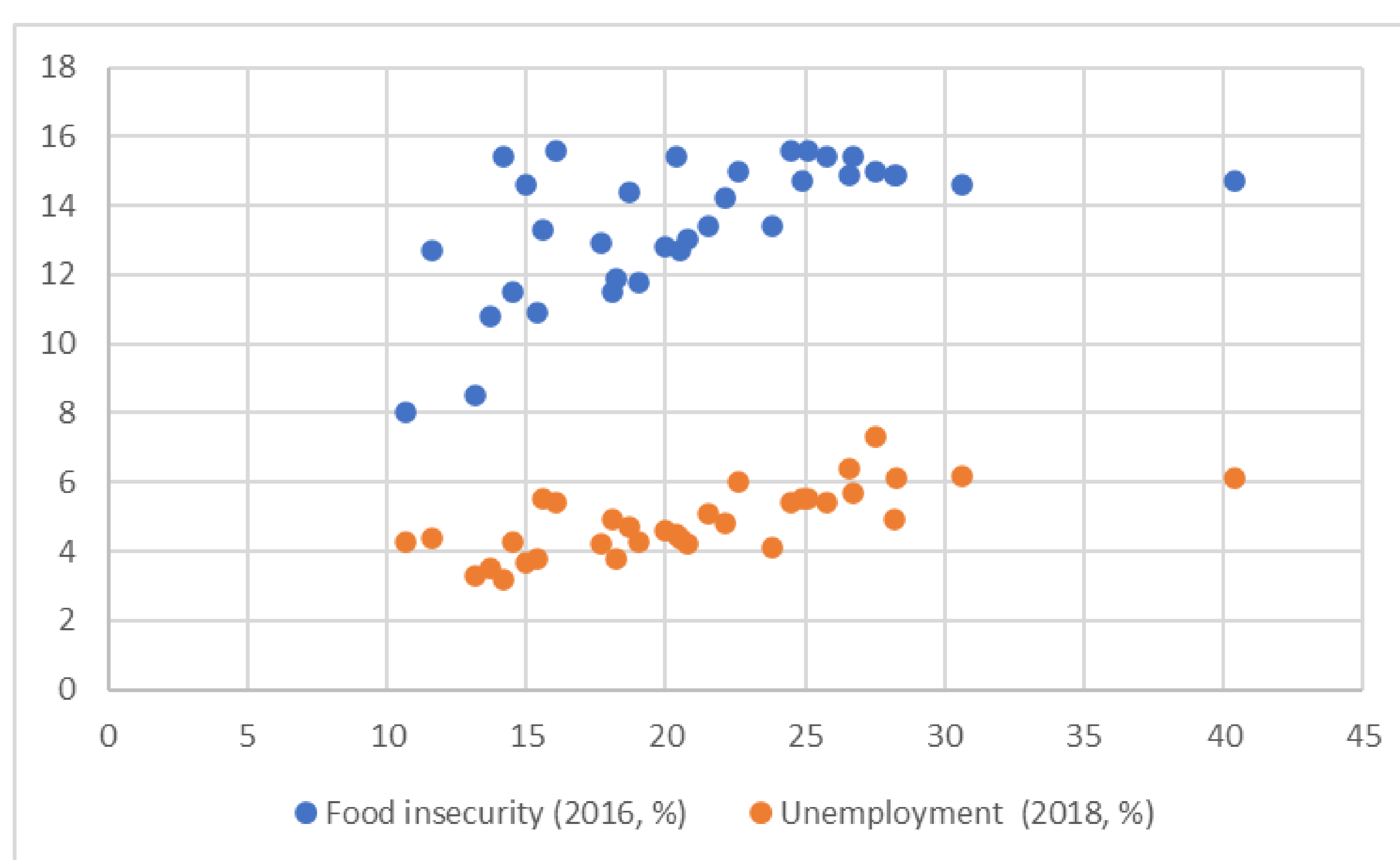
Figure 1. Death rate (2013-2017, per 100,000) vs unemployment, homelessness and poverty



## Discussion

- Both individual behaviors and community factors are associated with health outcomes, including death (from all causes) and suicide
- The surrogate marker for access to healthcare was not associated with any risk factor data
- Limitations include use of data from different years, lack of data from some counties, and use of subjective survey data for some factors

Figure 2. Suicide rate (2011-2017, per 100,000) vs food insecurity and unemployment



## Take Home Points

- Health of a community appears to affect health of individuals
- More resources are needed to study and address social concerns in order to promote health