



November 1, 2018

# RIQI Activities: Social Determinants in the Field

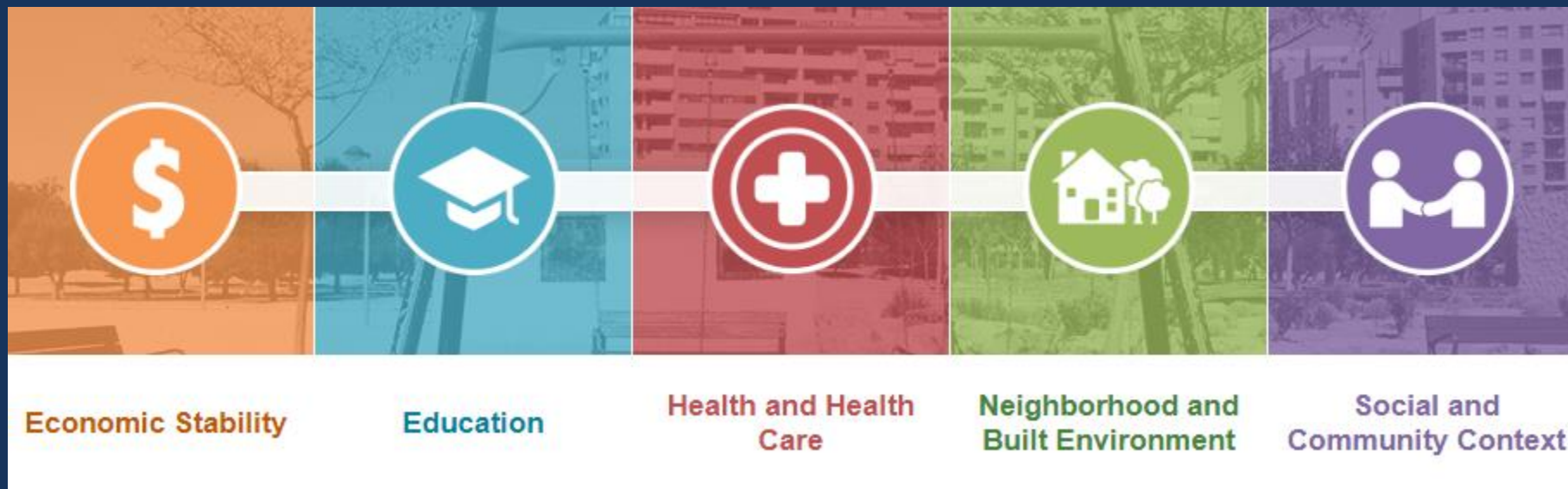
CTC Learning Collaborative

# Learning Objectives

1. Identify the data sources which can be used to support SDOH risk scoring
2. Identify the data challenges with implementing risk scores based on patient locale.
3. Identify the benefits and risks of the use of neighborhood risk scores in care coordination



# Healthy People 2020 Social Determinants Domains\*



## Economic Stability

## Education

## Health and Health Care

- Access to Health Care
- Access to Primary Care
- Health Literacy

## Neighborhood and Built Environment

## Social and Community Context

- Social Cohesion
- Civic Participation
- Discrimination
- Incarceration



# Brown Collaboration on Neighborhood Risk

## Goals

- Incorporate SDOH index into RIQI's Care Management Dashboards to support NCMs in identifying need for their patients.\*
- Use HIE data to compare performance of SDOH Indices on predicting use of inpatient and ED services

\* Gjelsvik A, Rogers ML, Garro A, Smego R, Koinis-Mitchell D, McQuaid EL, Vivier PM. Neighborhood risks and pediatric asthma hospital use. Poster presented at Pediatric Academic Society Annual Meeting. San Francisco CA, May 2017.

Funding Agency: Advance-CTR Pilot Funding PI: Annie Gjelsvik and Adam Sullivan (Co-PIs) Title: Translating an area-based socio-economic risk index into clinical practice Date submitted: December 2017



# Data Sources

- Geocoded E911 State Data Set
- Census Tract Data
- CurrentCare Data



# Data Elements of Interest

| Candidate variables for Hassenfeld Index  | Messer et al  | Diez-Roux et al  | Knighton et al   |
|---|---|--|--|
| % adults ≥25 with no high school degree   | X   | X  | X  |
| % children living in single-parent households   | % female-headed households with dependents  |  | % single-parent households with children aged <18 years  |
| % vacant housing units, excluding vacation properties   |   |  |  |
| % housing units built before 1950   |   |  |  |
| % housing units that are renter-occupied  |   |  | % owner-occupied housing units   |
| % households with ≥1 person per room  | X   |  | X  |
| % population that is non-white  |   |  |  |
| % families with income below FPL  | % households in poverty   |  | % families living below the FPL  |
| % population age ≥16 unemployed   | X   |  | X  |
| % adults age ≥25 with a high school degree but no college degree  |   |  |  |
| % adults ≥25 with a college degree  |   | X  |  |
| % population age ≥15 that is never married  |   |  |  |
| % population age ≥15 that is divorced or separated  |   |  |  |
| % population with income <200% FPL  |   |  | % population living below 150% FPL   |
| % households with public assistance in the past 12 months   | X   |  |  |
| % households without motor vehicle  |   |  | X  |
| Median rent   |   |  | median gross rent  |
| Variables not considered for proposed index<br>(Either not available at the block-group level, no longer in the Census or ACS, or no longer relevant) | % males in management and professional occupations; % households earning <\$30,000 per year | log median household income; log median value of housing units; % households receiving interest, dividend, or net rental income; % persons in executive, managerial, or professional occupations | % employed persons age ≥16 in white-collar occupations; median family income; income disparity*; log % occupied housing units without complete plumbing; % households without a telephone; median monthly mortgage; median home value; % population age ≥25 with <9 years of education |



# Incorporating Risk Scores into Dashboards

| Six Month<br>ED Visits ▼ | Six Month<br>Inpatient Visits ▼ | Charlson<br>Comorbidity<br>Index ▼ | LACE ▼       |
|--------------------------|---------------------------------|------------------------------------|--------------|
| <u>1</u>                 | <u>1</u>                        | 1 (Low)                            | 2 (Low)      |
| <u>90</u>                | <u>2</u>                        | 3 (Moderate)                       | N/A          |
| <u>2</u>                 | <u>3</u>                        | 1 (Low)                            | 2 (Low)      |
| <u>26</u>                | <u>8</u>                        | 7 (High)                           | 8 (Moderate) |
| <u>1</u>                 | 0                               | 1 (Low)                            | N/A          |
| <u>1</u>                 | 0                               | 1 (Low)                            | N/A          |
| <u>2</u>                 | <u>2</u>                        | 3 (Moderate)                       | N/A          |
| <u>1</u>                 | <u>3</u>                        | 5 (High)                           | 6 (Moderate) |
| 3                        | 1                               | 12 (High)                          | 10 (High)    |



# Data Challenges

- Data Cleaning and Matching
- Address Changes





# Benefits and Risks

- Meaningful Information Available to Care Team
  - At Point of Care or Immediately After Discharge
  - Proactively Identifying Risks to Care Plans
- Access to Services to Support Patients
  - Statewide efforts to coordinate through United Way



# What's Next

- Neighborhood Risk in Dashboards
- SDOH in Consumer Engagement Platform

