Collection and Use of Race/Ethnic Data through Cross-sector Networks: Implications for COVID-19 Response

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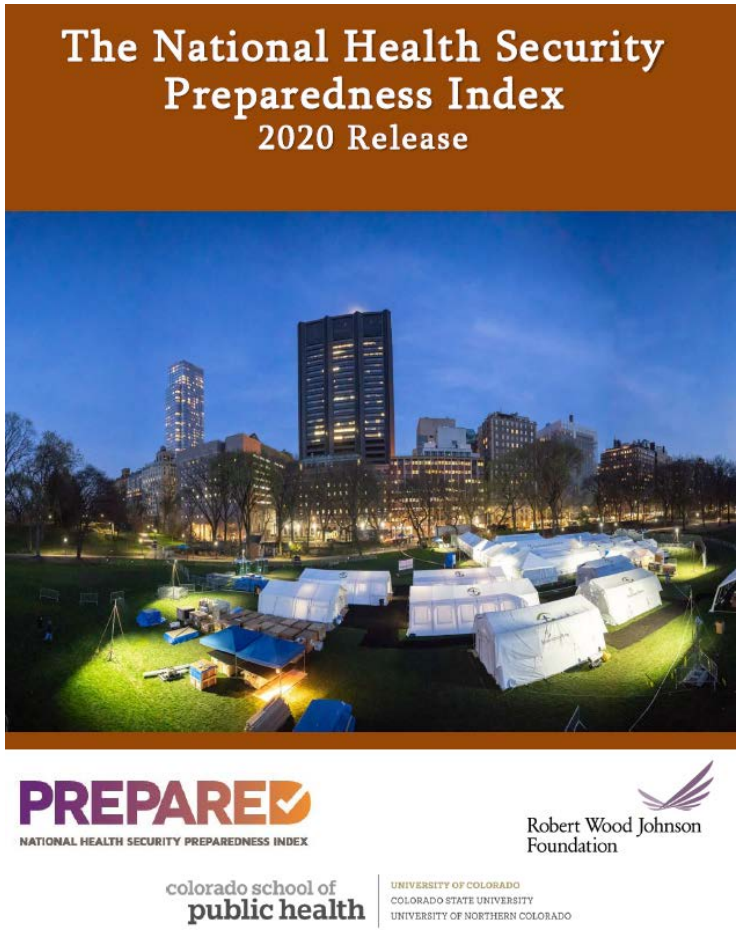
Questions of Interest

- How do health security levels vary across the U.S. and change over time?
- How do multi-sector networks & coalitions contribute to variation and change in health security?
- How can we use metrics & data to improve equity in preparedness networks and systems?



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Health security requires collective actions across many activities and sectors

- Surveillance
- Environmental monitoring
- Laboratory testing
- Communication systems
- Response planning
- Incident management
- Emergency response
- Surge capacity
- Management & distribution of countermeasures
- Continuity of healthcare delivery
- Community engagement
- Workforce protection
- Volunteer management
- Education & training
- Drills & exercises
- Information exchange
- Evacuation & relocation
- Infrastructure resiliency
- Protections for vulnerable populations

Health Security Index: Developmental History

2012
- **Collaborative Development**: CDC, ASTHO and >25 collaborating organizations

12/2013
- **1st Release:** Initial model structure and results
  - 5 domains and 14 subdomains
  - 128 measures

12/2014
- **2nd Release**: Revised model and results
  - 6 domains and 18 active subdomains
  - Measures: 119 retained + 75 new = 194 measures

1/2015
- **Transition to Robert Wood Johnson Foundation**
  - Validation studies and revision to methodology & measures

4/2016
- **3rd Release:** Revised model and results
  - 6 domains & 19 active subdomains
  - Measures: 65% retained, 12% respecified, 8 new = 135 total
  - Valid comparisons over time + confidence intervals

4/2017
- **4th Release:** Refined model and results
  - Added District of Columbia
  - Measures: 4 retired, 7 respecified, 8 new =139 total

4/2018
- **5th Release:** 4 retired, 5 new = 140 total

4/2019
- **6th Release:** 14 retired, 3 new = 129 total

5/2020
- **7th Release:** 1 new = 130 total

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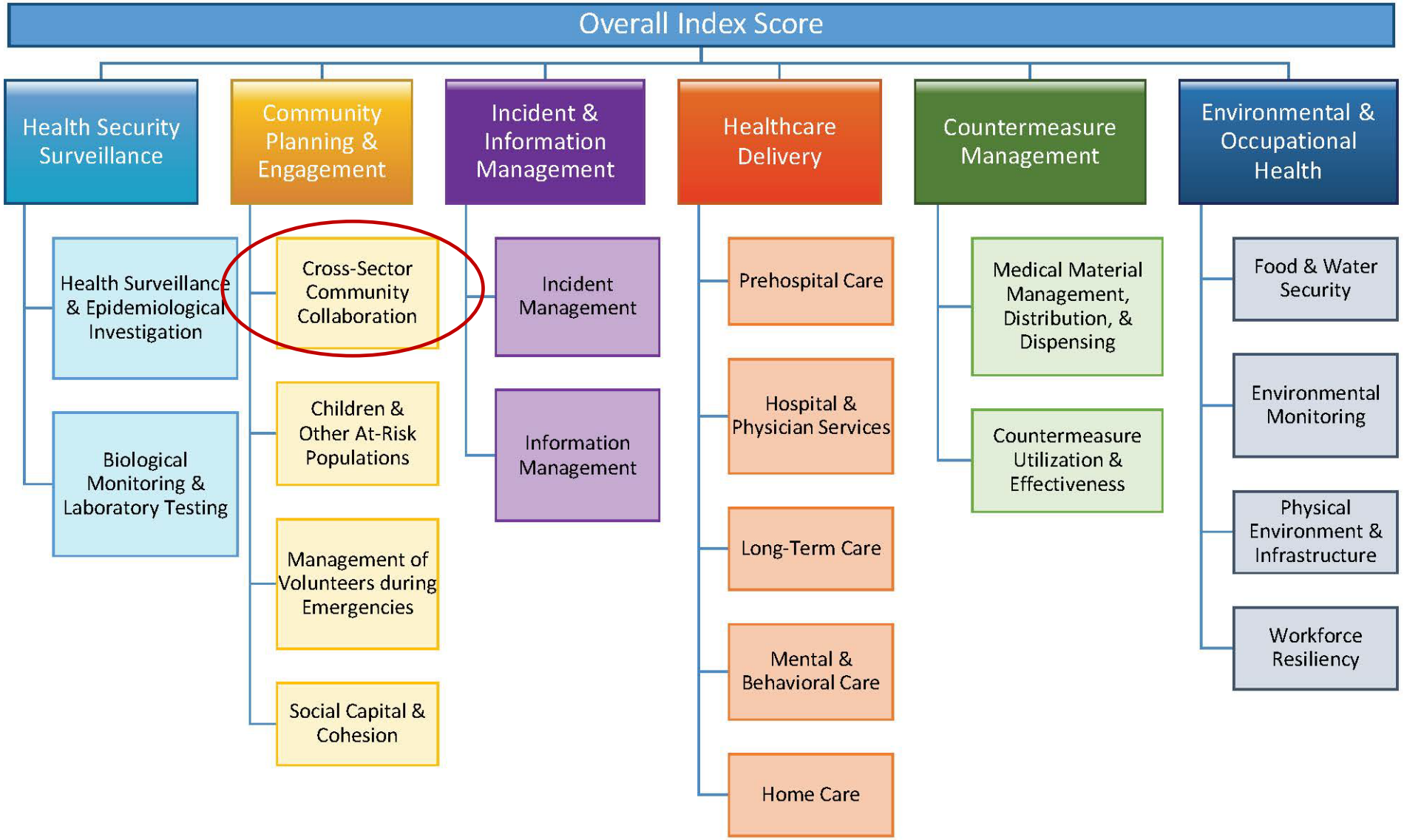
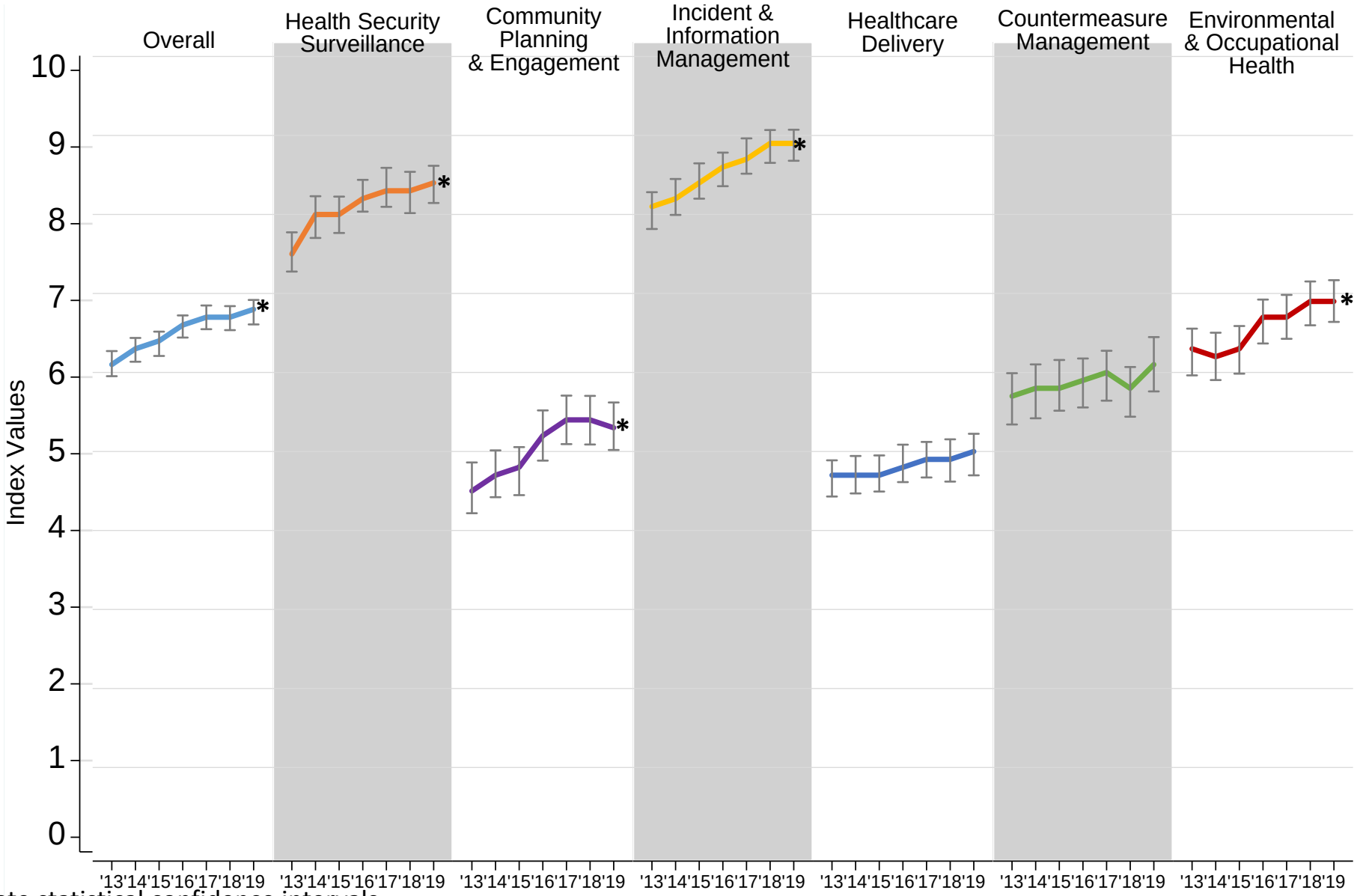
Measuring capacities & capabilities
Index domains & subdomains



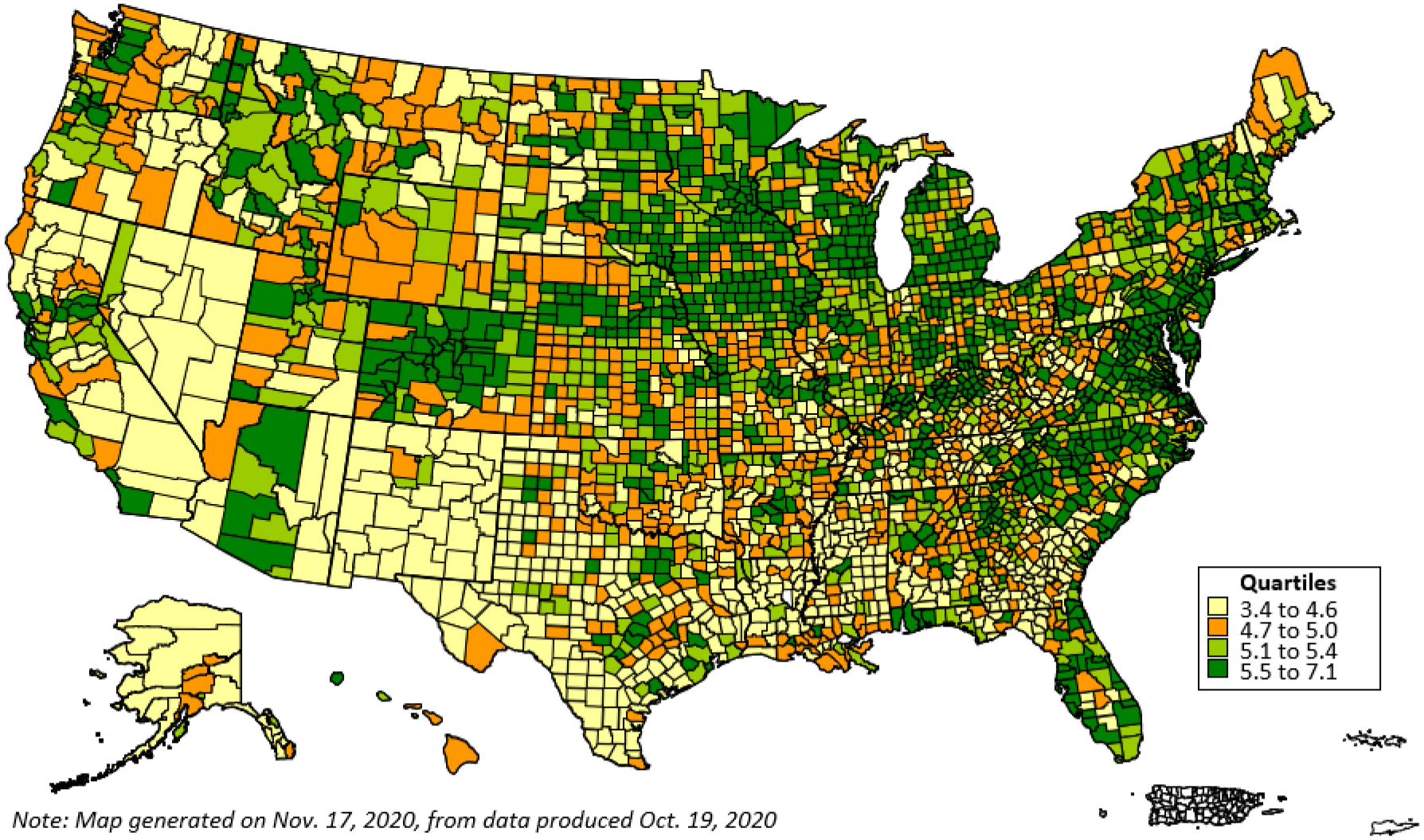
Health security trended upward in most domains during 2013-2020, particularly in surveillance and incident management.



NOTE: vertical lines indicate statistical confidence intervals.

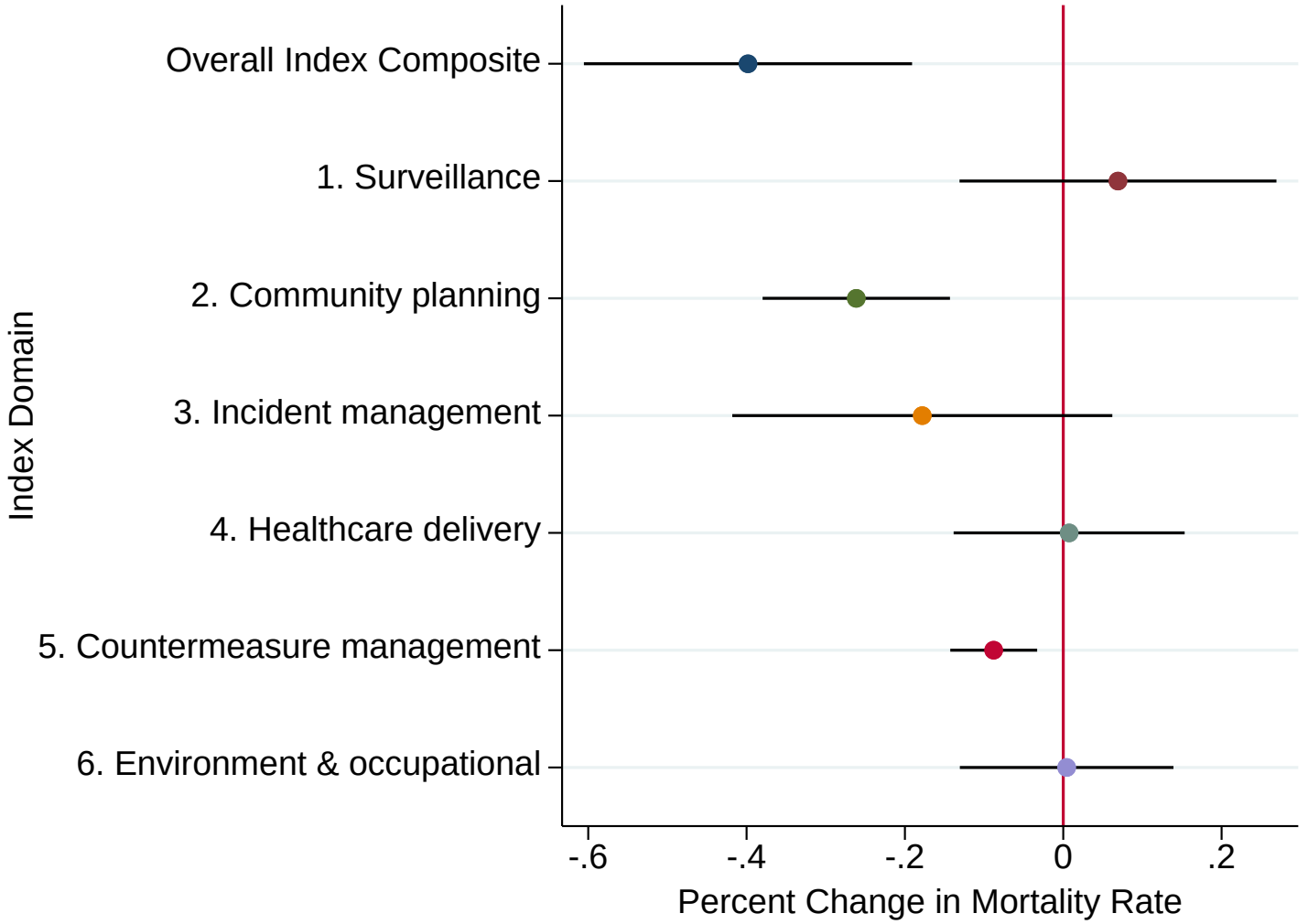
* = statistically significant trend from baseline

Geographic disparities in health security have become more pronounced over time. Areas in the South Central, Upper Mountain West, Midwest, and Pacific regions lag behind other regions.



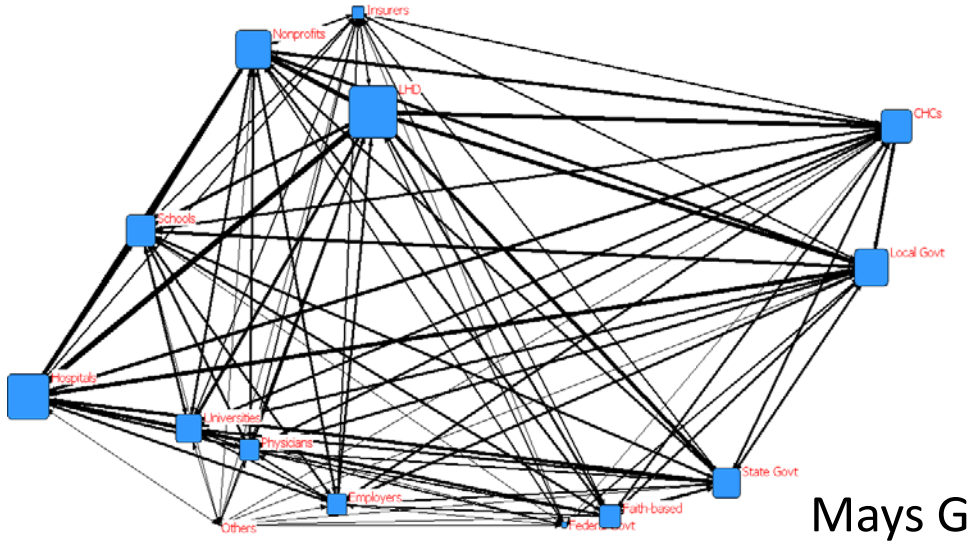
Note: Map generated on Nov. 17, 2020, from data produced Oct. 19, 2020

Counties with higher health security levels experience lower numbers of COVID deaths per capita. A 10% increase in the Index score is associated with a 4% reduction in the mortality rate.



NOTE: Horizontal lines indicate 95% confidence intervals. Estimates were produced using two—part GLM models with a log link function and exchangeable error correlation. Models controlled for county population size, population density, percent aged 65 years or older, percent black, percent Hispanic, percent below poverty level, percent under age 65 without health insurance, and number of nursing home residents per capita. Models were adjusted for clustering of counties within states.

- Community Planning & Engagement domain as strongest predictor of improved COVID-19 outcomes
- Community Network Strength as strongest individual predictor
  - Implement a broad scope of recommended public health activities
  - Through dense multi-sector partnerships: hospitals, physicians, long-term care, social services, faith-based, corrections, etc
  - Measured with National Longitudinal Survey of Public Health Systems



Mays GP et al. Understanding the organization of public health delivery systems: an empirical typology. *Milbank Q.* 2010;88(1):81–111.

Use of race & ethnicity data by community networks

- Planning: heavy reliance on small area estimates from ACS, SVI, CRI
- Response: some use of linked administrative data sources: all-payer claims, Medicaid, SNAP, WIC, UI. Imperfect and missing race/ethnicity data
- Limited access to regional **health information exchanges**
- Emerging use of local **social health information exchanges**
- Most organizations collect race/ethnicity information independently from their clients, with little or no coordination or standardization

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