PUBLIC HEALTH INTEGRATION INTO ACCOUNTABLE CARE ORGANIZATIONS

Addressing the Rising Mental Health Needs of an Aging Population, NASEM

Jie Chen, Ph.D.
Professor & Director
The Hospital And Public health interdisciPlinarY research (HAPPY) Lab
Department of Health Policy and Management
School of Public Health, University of Maryland

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Acknowledgment

Effect of Hospital and Community Care Coordination on Health Care Access, Quality and Equity among Individuals with Risk Factors or Diagnosis of ADRD, R01AG062315 (Chen, PI)

Effects of Hospital-Community-Public Health Integration on Racial and Ethnic Disparities in Mental Health, R01MD011523 (Chen, PI)

Hospital And Public health interdisciPlinarY research (HAPPY) Lab: The HAPPY Team

A comprehensive, population health approach

- That involves health systems, human service agencies, educational, environmental, and community organizations, in coordinated efforts to improve health.

THE AMERICAN JOURNAL OF GERIATRIC PSYCHIATRY

November 2016

Evaluating the Cost of Mental Illness: A Call for a Cost-Effective Care Coordination Model

Jie Chen, Ph.D.

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Public Health System (PHS)

Population Health Management

November 2018

Public Health System-Delivered Mental Health Preventive Care Links to Significant Reduction of Health Care Costs

Jie Chen, Priscilla Novak, and Howard Goldman

JHQ Journal for *Healthcare Quality*

May/June 2019

Local Health Department Activities to Reduce Emergency Department Visits for Substance Use Disorders

Novak P, Bloodworth R, Green K, Chen J.

ELSEVIER Preventive Medicine

December 2019

Integrating local health departments to reduce suicide-related emergency department visits among people with substance use disorders – Evidence from the state of Maryland

Deanna Barath MPH, Jie Chen, PhD

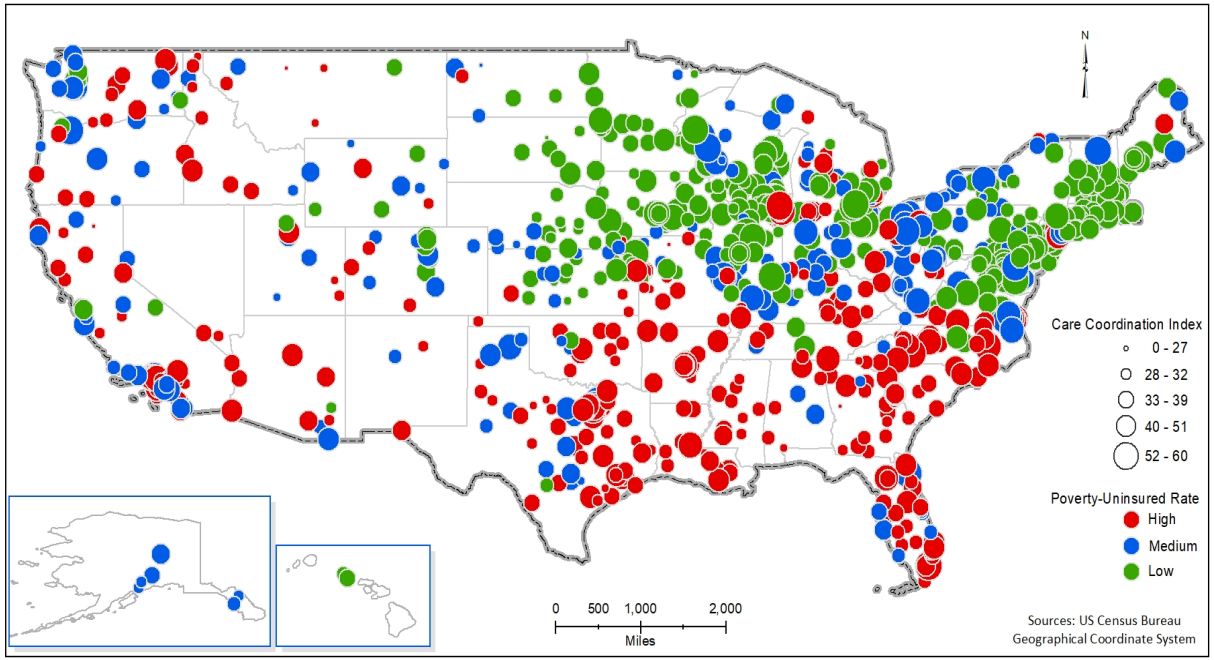
MEDICAL CARE

February 2018

Local Health Departments' Promotion of Mental Health Care and Reductions in 30-Day All-Cause Readmission Rates in Maryland

Chen, Jie, PhD; Novak, Priscilla, MPH; Barath, Deanna; Goldman, Howard, MD, PhD; Mortensen, Karoline, PhD

Geographic Distribution of Hospital Care Coordination and Poverty-Uninsured Rates Across the United States



Care coordination services could be allocated in a more cost-effective and equitable fashion

American Journal of
Preventive Medicine

January 2018

Reducing Preventable Hospitalization and Disparity: Association With Local Health Department Mental Health Promotion Activities

Chen J, Bloodworth R, Novak P, Cook BL, Goldman HH, Rendall MS, Thomas SB, Reynolds CF

Health Care Management Review

November 2018

Variation of hospital-based adoption of care coordination services by community-level social determinants of health

Chen, Jie; DuGoff, Eva Hisako; Novak, Priscilla; Wang, Min Qi

Accountable Care Organizations (ACO)

- ACOs are virtual networks of physicians and hospitals that are financially incentivized to work together to lower healthcare expenditures and improve quality

- Evidence has found that ACOs have generated significant cost savings among high-need, high-cost segments of the Medicare population.

- Mixed evidence of the impact of ACOs on health disparities.

Benjenk, I., Chen, J. Managed Care and Aging. In: Gu, D., Dupre, M.E. (eds) Encyclopedia of Gerontology and Population Aging. Springer, Cham. 2021.

ACO and Depression

MEDICAL CARE

April 2019

ACO Affiliated Hospitals Increase Implementation of Care Coordination Strategies

Anderson AC, Chen J

American Journal of Preventive Medicine

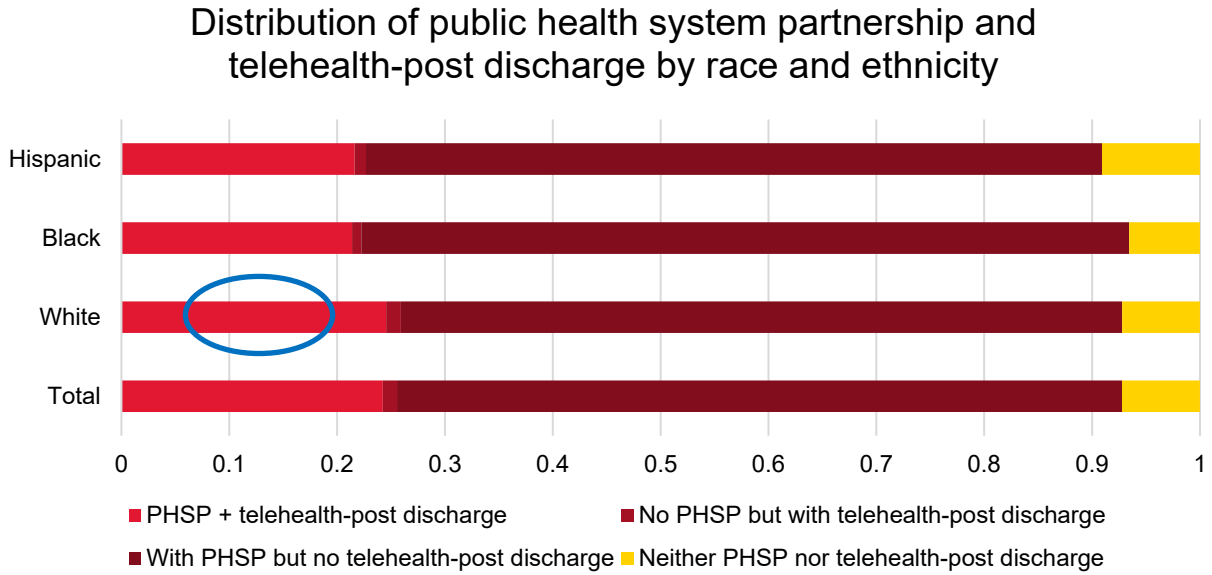
July 2020

Accountable Care Organizations and Preventable Hospitalizations Among Patients With Depression

Deanna Barath, MPH, Aitalohi Amaize, MPH, BSN, RN, Jie Chen, PhD

PHS Partnership and ACO

Health Information Technology (HIT) and PHS by Race and Ethnicity



This study focused on community-dwelling Medicare fee-for-service (FFS) beneficiaries aged 65 and older, and who had at least one hospital visit in 2017. Older adults with Medicare Advantage or Medicare and Medicaid dual eligibility were not included. Our study focused on community-dwelling FFS beneficiaries aged 65 and above, and who had at least one hospital visit in 2017. Elderly patients with Medicare Advantage or Medicare and Medicaid dual-eligible patients were not included. After applying the exclusion criteria mentioned above, we had a study population of 3,029,983 beneficiaries. After merging the AHA and obtaining the PHS partnership and telehealth measures, our final sample size was 2,142,486, including 1,990,781 White, 151,705 Black, and 74,998 Hispanic Medicare FFS beneficiaries.

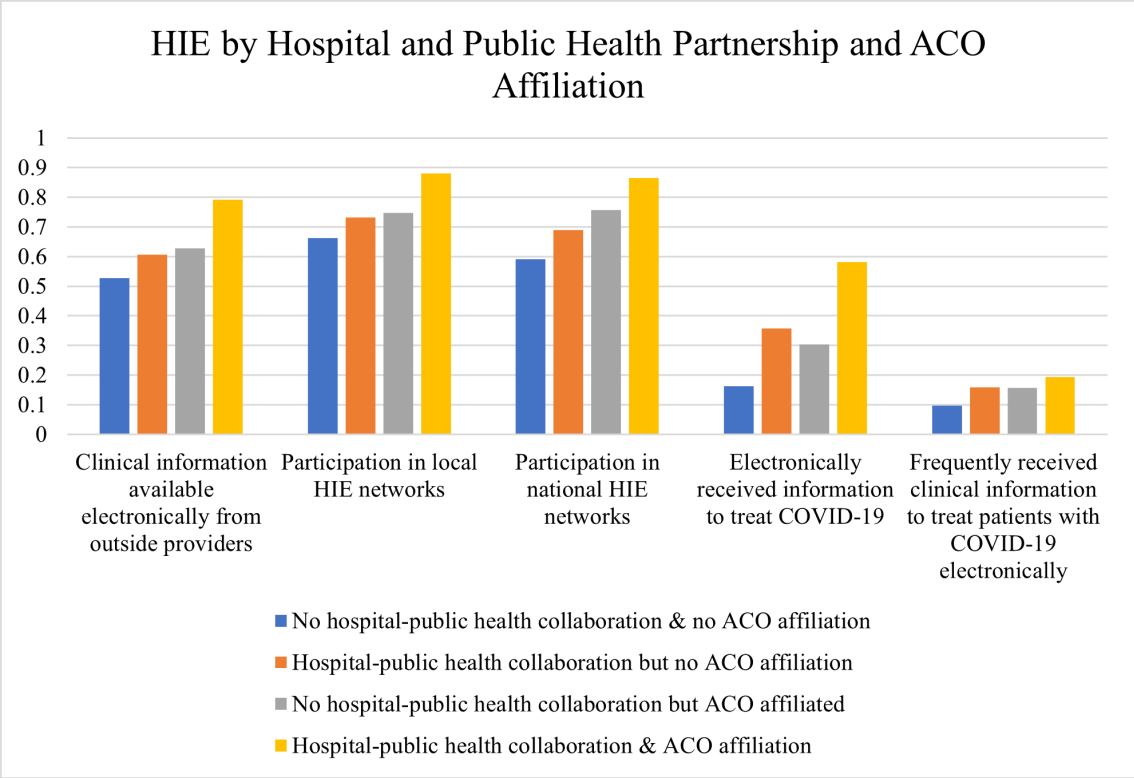
Medicare Payment, Inpatient Visits, Readmission, and Racial Disparities

- Beneficiaries treated in hospitals with PHS partnership encountered significantly ***lower Medicare payment, inpatient visits, and readmission rates*.**

- African American patients experienced significantly lower cost, inpatient visits, and readmission rates when treated hospitals with PHS partnership and telehealth-post discharge services.

Chen J, Spencer MRT, Buchongo P. Strengthening the Public Health Partnership and Telehealth Infrastructure to Reduce Health Care Disparities. Popul Health Manag. 2022 Dec;25(6):814-821.

Health Information Exchange (HIE), PHS, and ACO



HIE, Collaboration, and ACO

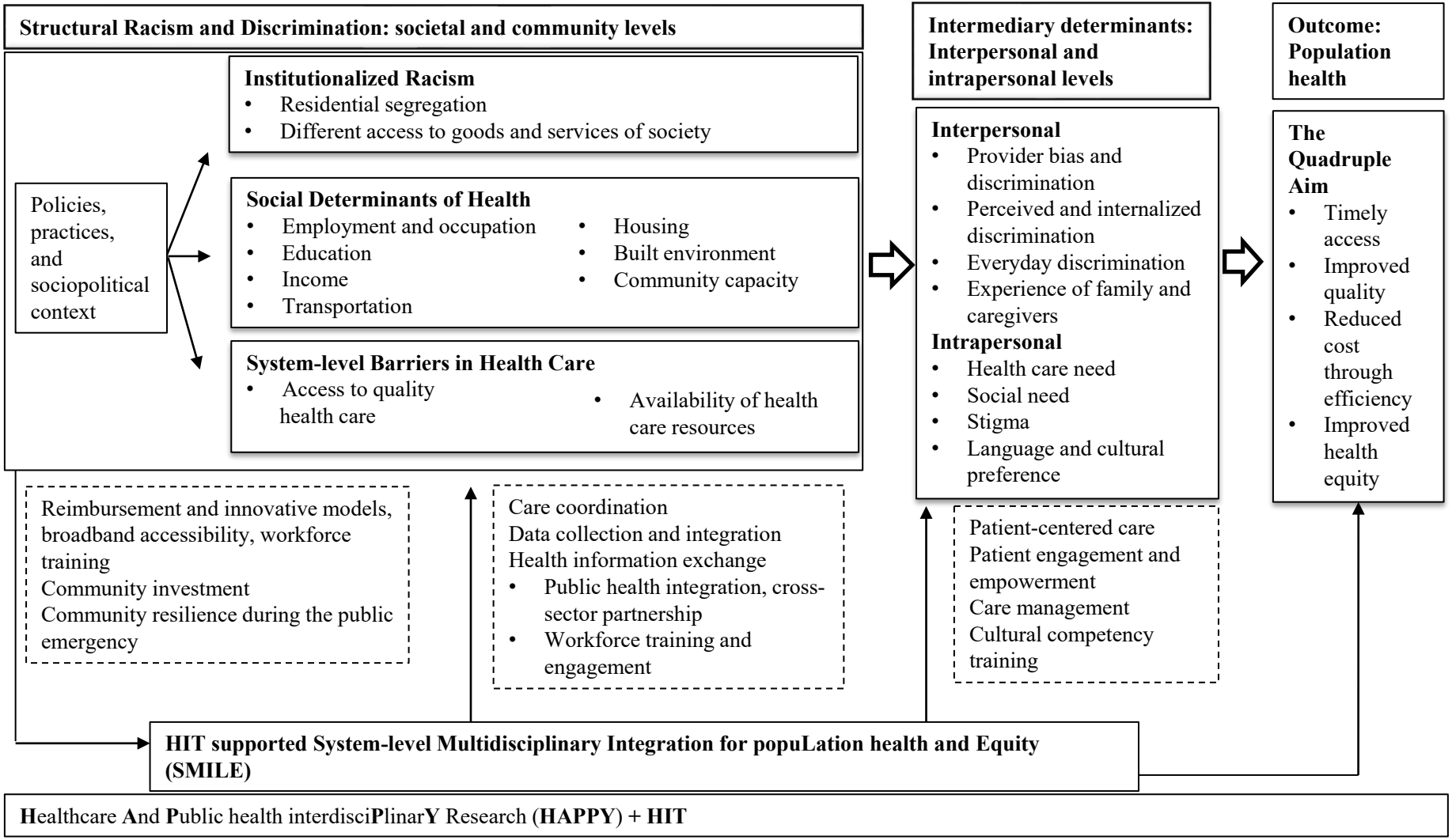
	Clinical information available electronically from outside providers		Participation in local HIE networks		Participation in national HIE networks		Electronically received information to treat COVID-19		Frequently received clinical information to treat patients with COVID-19 electronically	
	ME	p-val	ME	p-val	ME	p-val	ME	p-val	ME	p-val
No hospital-public health collaboration & no ACO affiliation	reference		reference		reference		reference		reference	
Hospital-public health collaboration but no ACO affiliation	-0.02	0.62	0.02	0.54	0.01	0.77	0.18	0.01	0.09	0.09
No hospital-public health collaboration but ACO affiliated	0.01	0.89	0.04	0.30	0.02	0.64	0.12	0.14	0.08	0.20
Hospital-public health collaboration & ACO affiliation	0.09	0.04	0.09	<0.001	0.09	0.02	0.30	<0.001	0.12	0.02

Data source: the linked data source of 2020 AHA annual survey and the IT supplement.
Other covariates controlled: Our covariates included urban/rural hospital status, teaching hospital status, hospital ownership (for-profit, not-for-profit, or government), hospital number of beds (small: <100, medium: 100-499, large: ≥500). We also examined HIE variation by quartiles of the Social Vulnerability Index.

Maguire T, Yoon S, Chen, J. Collaborating for COVID-19: Hospital Health Information Exchange and Public Health Partnership. In Press.

HIT supported System-level *M*ultidisciplinary *I*ntegration for popu*L*ation health and *E*quity (*SMILE*)

e-SMILE framework


Structural Racism and Discrimination: societal and community levels
Institutionalized Racism
• Residential segregation
• Different access to goods and services of society
Policies, practices, and sociopolitical context
Social Determinants of Health
• Employment and occupation
• Education
• Income
• Transportation
• Housing
• Built environment
• Community capacity
System-level Barriers in Health Care
• Access to quality health care
• Availability of health care resources
Intermediary determinants: Interpersonal and intrapersonal levels
Interpersonal
• Provider bias and discrimination
• Perceived and internalized discrimination
• Everyday discrimination
• Experience of family and caregivers
Intrapersonal
• Health care need
• Social need
• Stigma
• Language and cultural preference
Outcome: Population health
The Quadruple Aim
• Timely access
• Improved quality
• Reduced cost through efficiency
• Improved health equity
Reimbursement and innovative models, broadband accessibility, workforce training
Community investment
Community resilience during the public emergency
Care coordination
Data collection and integration
Health information exchange
• Public health integration, cross-sector partnership
• Workforce training and engagement
Patient-centered care
Patient engagement and empowerment
Care management
Cultural competency training
HIT supported System-level Multidisciplinary Integration for popuLation health and Equity (SMILE)
Healthcare And Public health interdisciPlinarY Research (HAPPY) + HIT

Age-friendly healthcare-community integrated systems that deliver personalized patient-centered care to promote population health for all

- Care coordination and community integration: prevention, treatment, management, and resilience
- Incentives on value-based care and patient engagement
- Data interoperability on health disparities and inequities
- HIT infrastructure
- Sustainability

Policies

- The CDC funding to state, local, and territorial health departments to help strengthen the public health workforce and infrastructure
- Healthy People 2030
- Requirement of hospital exchange of U.S. Core Data for Interoperability
- The Office of the National Coordinator for Health Information Technology

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