Committee on Developing a Blueprint for a National Infrastructure to Prevent Behavioral Health Disorders: Meeting 3

Attendee Packet
April 4, 2024
NAS Room 120
2101 Constitution Ave NW
Washington, DC 20418

NATIONAL ACADEMIES Sciences Engineering Medicine

NATIONAL ACADEMIES *Sciences Engineering Medicine*

HEALTH AND MEDICINE DIVISION
BOARD ON POPULATION HEALTH AND PUBLIC HEALTH PRACTICE

Committee on Developing a Blueprint for a National Infrastructure to Prevent Behavioral Health Prevention Disorders: Meeting 3

Meeting 3
Thursday, April 4, 2024
9:00 am – 4:30 pm EST

National Academy of Sciences Building
Room 120
2101 Constitution Avenue, NW
Washington, DC 20418

Attendee Packet

1. Meeting Agenda
2. Committee Statement of Task
3. Committee Roster
4. Speaker biosketches
5. Suggested readings from speakers
6. Preventing Discrimination, Harassment, and Bullying: Policy for Participants in National Academies Activities

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View the livestream here

9:00 am	**Welcome and introduction**
	Marcella Alsan, Professor of Public Policy, Harvard Kennedy School, *committee co-chair*
	Marthe Gold, Senior Research Scholar, New York Academy of Medicine, Logan Professor Emerita at the CUNY School of Medicine, *committee co-chair*
9:10 am	**State-level infrastructure to support prevention**
9:10 am	**Chinazo Cunningham,** Commissioner, New York State Office of Addiction and Substance Abuse Services (*virtual*)
9:25 am	**Sarah Mariani,** Section Manager, Substance Use Prevention and Mental Health Promotion Section, Washington State Health Care Authority; Washington State Representative, National Prevention Network
9:40 am	**Q&A with committee**
9:55 am	**Local-level and community infrastructure to support prevention**
9:55 am	**Jonah C. Cunningham,** President/CEO, National Association of County Behavioral Health and Developmental Disability Directors; Executive Director, National Association for Rural Mental Health
10:10 am	**Rev. Que English**, Director, HHS Office of Faith-based and Neighborhood Partnerships
10:25 am	**Zeke Cohen,** City Councilmember, 1st District of Baltimore, MD
10:40 am	**Q&A with committee**
10:55 am	**Break**
11:00 am	**Infrastructure supporting prevention among older adults**
11:00 am	**Kari Benson,** Deputy Assistant Secretary for Aging, HHS Administration for Community Living
11:15 am	**Namkee G. Choi,** Professor and Louis and Ann Wolens Centennial Chair in Gerontology, University of Texas at Austin Steve Hicks School of Social Work (*virtual*)
11:30 am	**Q&A with committee**

11:45 am	**Infrastructure supporting prevention among children and adolescents**
11:45 am	**Kym Ahrens,** Medical Director, Washington State's Juvenile Justice System; Associate Professor, Center for Child Health, Behavior and Development, Seattle Children's (*virtual*)
12:00 pm	**Joe Neigel**, Director of Prevention Services for Monroe School District
12:15 pm	**Q&A with committee**
12:30 pm	**Break**
1:15 pm	**CDC policies and approaches to behavioral health prevention**
1:15 pm	**Greta Massetti,** Principal Deputy Director, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention
1:30 pm	**Q&A with committee**
1:45 pm	**International comparisons of public policies related to behavioral health prevention**
1:45 pm	**Jody Heymann,** Distinguished Professor of Public Health, Founding Director of the WORLD Policy Analysis Center, UCLA Fielding School of Public Health (*virtual*)
2:00 pm	**Reginald D. Williams II,** Vice President, International Health Policy and Practice Innovations, The Commonwealth Fund (*virtual*)
2:15 pm	**Q&A with committee**
2:30 pm	**Break**
2:40 pm	**Data resources, challenges, and opportunities**
2:40 pm	**Katie McLaughlin,** Executive Director and Knight Chair and Professor of Psychology, Ballmer Institute for Children's Behavioral Health, University of Oregon (*virtual*)
2:55 pm	**Kristine McCoy,** Senior Consultant, Two Oceans, LLC & Stewards of Change Institute
3:10 pm	**Q&A with committee**
3:25 pm	**Decision-making to support the prevention infrastructure**
3:25 pm	**Sara Whaley,** Senior Practice Associate, Johns Hopkins Bloomberg School of Public Health; Program Director, Bloomberg Overdose Prevention Initiative
3:40 pm	**Stephanie Lee,** Director, Washington State Institute for Public Policy
3:55 pm	**David Hughes,** President and CEO, Human Services Research Institute
4:10 pm	**Q&A with committee**
4:30 pm	**Adjourn**
	Marcella Alsan and Marthe Gold

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BLUEPRINT FOR A NATIONAL PREVENTION INFRASTRUCTURE TO ADDRESS BEHAVIORAL HEALTH DISORDERS

Statement of Task

The National Academy of Sciences, Engineering, and Medicine will convene an ad hoc committee to develop a blueprint, including specific, actionable steps for building and sustaining an infrastructure for delivering prevention interventions targeting risk factors for behavioral health disorders. In conducting its work, the committee will:

1. Identify best practices for creating a sustainable behavioral health prevention infrastructure. Review the landscape of behavioral health prevention at different levels (e.g., national and state, including evidence-based prevention services); where different levels of these prevention services (e.g., universal, selected, and indicated services) could be delivered (e.g., within the community, health care settings, justice systems, schools, human services settings); the workforce needed (investment and their training); and the data systems necessary to track prevention needs, outcomes, and program delivery. Informed by this review, the committee will identify the optimal characteristics and components of a sustainable behavioral health prevention infrastructure. For this infrastructure, the committee should consider embedding prevention services within existing systems and settings, establishing an independent prevention delivery system to which existing systems and settings can refer individuals and families for the receipt of prevention services, and/or other possible approaches by which behavioral health prevention programs can be delivered and sustained.
2. Identify funding needs and strategies. Review current funding sources for prevention, identify ways those funding sources could be better deployed (including ways to facilitate the integration of funding streams at the state level to be more impactful), and identify new or emerging funding sources that could be redirected and deployed in a coordinated effort to support the prevention infrastructure (e.g., use of opioid settlement funds).
3. Identify specific research gaps germane to the widespread adoption of evidence-based behavioral health prevention interventions. Identify key policy and implementation knowledge gaps and the resulting research opportunities that could provide the information needed to support the adoption and sustainment of a national prevention infrastructure for behavioral health. Research gaps are expected to be identified in the realms of policy research and health services research (e.g., dissemination and implementation, economic analyses).
4. Make actionable recommendations. Recommend how federal and state policies could be expanded or implemented to develop and sustain the prevention infrastructure system, including those that improve financing for evidence-based prevention and support workforce development, data interoperability, and evidence-based policymaking. Recommendations for research necessary to fill the prevention services research gaps should also be identified.

NATIONAL ACADEMIES Sciences Engineering Medicine

Committee on Developing a Blueprint for a National Prevention Infrastructure for Behavioral Health Disorders

COMMITTEE ROSTER

Marcella Alsan, MD, PhD, MPH (Co-Chair)
Professor, Public Policy
Harvard Kennedy School

Marthe R. Gold, MD, MPH (Co-Chair)
Logan Professor Emerita
City University of New York Medical School
Department of Community Health and Social Medicine

Rinad Beidas, PhD
Ralph Seal Paffenbarger Professor
Chair of Medical Social Sciences
Northwestern University Feinberg School of Medicine

Camille C. Cioffi, PhD
Research Assistant Professor
Research Scientist
University of Oregon
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Joseph P. Gone, PhD, MA
Professor, Anthropology,
Global Health and Social Medicine
Faculty Director, Harvard University Native American Program
Harvard University

Kyle Lynn Grazier, DrPH, MPH, MS
Richard Carl Jelinek Professor
Professor, Health Management and Policy
Professor, Psychiatry
University of Michigan School of Public Health

Jeffrey Hom, MD, MPH, MSPH
Director, Population Behavioral Health Section, Behavioral Health Services Division
San Francisco Department of Public Health

Margaret Kuklinski, PhD
Endowed Associate Professor, Prevention
Director, Social Development Research Group
University of Washington

David Mandell, ScD
Professor, Psychiatry
Director, Center for Mental Health
University of Pennsylvania School of Medicine

Velma McBride Murry, PhD
University Distinguished Professor, Human and Organizational Development
Department of Human and Organizational Development
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Director, SEICHE Center for Health and Justice
Yale University

Donald (Don) Warne, MD, MPH
Co-Director
Center for Indigenous Health
Bloomberg School of Public Health
Johns Hopkins University

NATIONAL ACADEMIES Sciences Engineering Medicine

Blueprint for a National Prevention Infrastructure for Behavioral Health Disorders: Meeting 3

Speaker Biosketches

Kym Ahrens, MD, MPH, is an Assistant Professor in the Division of Adolescent Medicine at Seattle Childrens Hospital and the University of Washington School of Medicine. She earned her MD from the University of Iowa College of Medicine. She completed residency, Adolescent Medicine training at Seattle Childrens and the University of Washington. Her clinical and research interests are in promoting positive physical and mental health outcomes in at-risk youth. Some of her past research has focused on the influence of adult mentors on the adult outcomes of youth in foster care and youth with learning disabilities. Dr. Ahrens is currently conducting a series of NIH-sponsored research studies focused on developing an intervention program to reduce risk of sexually transmitted infections including HIV among adolescents in the foster system.

Kari Benson, MPA, is the Deputy Assistant Secretary for Aging at the U.S. Administration for Community Living. In this role, Kari leads the Administration on Aging in advocating on behalf of older Americans. She guides and promotes the development of home and community-based services policy designed to afford older people and their caregivers the ability to age with dignity and independence and to have a broad array of options available for an enhanced quality of life. This includes the promotion and implementation of evidence-based prevention interventions proven effective in avoiding or delaying the onset of chronic disease and illness.

Namkee Choi, PhD, MSW, is a professor and Louis and Ann Wolens Centennial Chair in Gerontology in the University of Texas at Austin Steve Hicks School of Social Work. Dr. Choi's research goal is to improve low-income, especially racial/ethnic minority, older adults' access to mental health services by expanding geriatric mental health workforces. With funding support from NIMHD and the AARP Foundation, Dr. Choi has been implementing randomized clinical trials of real-world effectiveness of depression treatments and prevention intervention for homebound older adults that are tele-delivered by bachelor's-level lay counselors. Dr. Choi is also implementing a fall prevention program for homebound older adults by lay coaches, utilizing a tablet-based, gamified exercise program as part of her ongoing, NIMHD-funded clinical trial. Dr. Choi's other areas of research include late-life suicide and substance misuse. She has done extensive research on older suicide decedents with respect to physical and mental health problems that contributed to their death by suicide and suicide means and on the potential harms of substance misuse among older adults. Dr. Choi is the recipient of the 2021 Gerontological Society of America's Maxwell A. Pollack Award for Contribution to Health Aging.

Zeke Cohen, MPP, has represented Baltimore City's First District on the City Council since 2016. With a background in education and public policy, he founded The Intersection, a nonprofit aimed at fostering civic leadership among youth. Zeke's legislative efforts include the Elijah Cummings Healing City Act, promoting trauma-responsive care, and the Gender-Inclusive Single-User Restroom bill, ensuring inclusivity in public spaces. He champions transparency in governance, evidenced by the Transparency in Lobbying Act, and has resolved over 4,200 constituent requests, emphasizing community engagement through task forces on transportation and public safety.

Chinazo Cunningham, MD, MS, is Commissioner of the New York State Office of Addiction Services and Supports, where she oversees one of the nation's largest system of substance use and addiction services. She is a physician, trained in internal medicine and addiction medicine, and has spent over 25 years providing care, developing programs, and conducting research with people who use drugs. For decades, she has collaborated with community-based harm reduction organizations and led one of the first programs in the US to integrate addiction treatment into primary care. Her work has focused on improving access to care, utilization of health care services, and health outcomes. Dr. Cunningham has authored over 150 peer-reviewed manuscripts and has been the principal investigator on numerous federally-funded grants. In addition to serving on and chairing several national advisory committees and guideline committees, she has trained hundreds of physicians and has been recognized by local and national awards.

Jonah C. Cunningham, MPP, currently serves as President and CEO of the National Association of County Behavioral Health and Developmental Disability Directors (NACBHDD). In this role he proactively advocates for national policies that recognize and support the critical role counties play in caring for people affected by mental illness, addiction, and developmental disabilities. In this capacity he also serves as Executive Director of the National Association for Rural Mental Health. Prior to joining NACBHDD, Jonah worked at Trust for America's Health, a public health think tank, where he focused extensively on ways to reduce mortality from substance misuse and suicide. Additionally, he worked as a congressional staffer for several years in the office of Congresswoman Grace F. Napolitano (CA) where he helped to reestablish the Congressional Mental Health Caucus and created a Suicide Prevention Task Force within the Caucus. Jonah C. Cunningham has received numerous awards and recognition for his commitment to the field of behavioral health and those served by the nation's behavioral health system. Jonah has a Bachelor of Science in Political Science from the University of Utah and a Master of Public Policy from The George Washington University.

Rev. Que English, PhD, serves as the Director of the Center for Faith-Based and Neighborhood Partnerships (Partnership Center) at the U.S. Department of Health and Human Services (HHS), which serves as liaison to the faith community and community organizations. The Partnership Center works closely with the White House Office of Faith-based and Neighborhood Partnerships. The Partnership Center's core focus areas include addressing COVID-19, maternal health, mental health in youth, suicide prevention, and substance use disorder inclusive of overdose prevention. As a coalition builder and network strategist, Dr. English joins HHS from New York where she served as the Deputy Director of Faith-Based Initiatives for the Governor's Office of Faith and Community Development Services. In this role, she identified opportunities to elevate strengths and build relationships with the faith-based community. She was awarded both the Sojourner Truth Award and the Bethune-Height Legacy Award by the National Council of Negro Women. Dr. English has done advocacy work for various causes such as the criminal justice system, substance abuse, health and mental health, human trafficking, domestic violence, HIV/AIDS, and civil rights. Dr. English received both her Master and Doctorate degrees from New York Theological Seminary. She was also the recipient of the Excellence in Ministry Award, the highest award given to a graduating doctoral student.

Jody Heymann, MD, PhD, is founding director of the WORLD Policy Analysis Center and served as dean of the UCLA Fielding School of Public Health from 2013–2018. As director of the WORLD Policy Analysis Center (WORLD), Heymann leads an unprecedented effort to improve the level and quality of comparative policy data available to policymakers, researchers, and the public. WORLD examines health

and social policies and outcomes in all 193 UN countries. WORLD's mission is to strengthen equal opportunities worldwide by identifying the most effective public sector approaches, improving the quantity and quality of globally comparative data available, and working in partnerships to support evidence-based improvements in countries worldwide. In 2023, WORLD will be launching new policy data on accelerating progress toward achieving gender equality in the economy, with data from 193 countries on topics including girls' access to education, sexual harassment and discrimination at work, and policies that support gender equality in work and in caregiving across the life course. WORLD's analyses of constitutions in all 193 UN member countries and their role in strengthening social and economic rights contributed to creating a Partnership for Advancing Constitutional Equal Rights. Heymann previously held a Canada Research Chair in Global Health and Social Policy at McGill University where she was the founding director of the Institute for Health and Social Policy. While on the faculty at Harvard Medical School and the Harvard School of Public Health, she founded the Project on Global Working Families. Heymann has received numerous honors, including election to the U. S. National Academy of Medicine in 2013 and the Canadian Academy of Health Sciences in 2012.

David Hughes, PhD, MA, is the President at HSRI. He has worked for more than 30 years on projects related to behavioral health services research, evidence-based practices, cost simulation models for planning behavioral health systems and the intersection of the health and criminal justice systems. He has directed several SAMHSA multi-site studies, and was the Technical Assistance Provider to CMS Real Choice Systems Change Mental Health Transformation grantees. He also served as the Project Director and Developer for the Mental Health/Jail Diversion Resource Allocation and Planning Model Project, a project funded by SAMHSA to develop a computerized budget simulation and resource allocation model for projecting the costs and potential cost offsets of implementing jail or prison diversion programs for offenders with mental illness and substance use disorders. He also co-directed the SAMHSA-funded Block Grant Evidence-based Practices Cost-Efficiency Study (including Assertive Community Treatment, Supported Employment and other EBPs) in which HSRI conducted studies for the SAMHSA-CMHS Block Grant program in response to OMB inquiries about the cost-efficiency of implementing evidence-based services. More recently, he directed the Milwaukee County Mental Health Redesign project and the Evaluation of the Permanent Supported Housing Program in Louisiana and led HSRI's work for SAMHSA to develop materials to help the staff at Aging and Disability Resource Centers (ADRCs) funded by the Administration for Community Living (ACL) to promote mental and behavioral health and prevent suicide among older adults. Currently, Dr. Hughes serves as a senior research specialist for the SAMHSA-funded National Evaluation of SAMHSA's Homeless Programs.

Stephanie Lee, MA, serves as the Director of the Washington State Institute for Public Policy (WSIPP), an applied, nonpartisan research institute working at the direction of the Washington State legislature. Prior to joining WSIPP in 2007, Stephanie conducted research at a community-based charity in the United Kingdom, which sparked her interest in evidence-based prevention strategies. At WSIPP, her research has focused on investigating the societal benefits and costs of programs and policies across a wide variety of public policy areas, including child welfare, education, criminal justice, and public health. Stephanie holds a B.A. in psychology from Trinity University and an M.A. in experimental psychology from Washington University in St. Louis.

Sarah Mariani, CPP, is the Section Manager of the Substance Use Disorder Prevention and Mental Health Promotion Section within the Washington State Health Care Authority. She focuses on policy development and strategic planning to ensure effective service delivery and outcomes. Sarah obtained a

bachelor's degree in Sociology from Seattle University, followed by a year in AmeriCorps. She has worked in prevention for over twenty years including coalition-building, strategic planning, and training. Sarah joined the state of Washington in 2006, contributing to the development of multiple Substance Use Disorder Prevention and Mental Health promotion initiatives, including development of the Community Prevention and Wellness Initiative model. She is the co-chair for Washington's State Prevention Enhancement Policy Consortium, serves as the National Prevention Network Past President, Washington's National Prevention Network representative, and is on Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Prevention National Advisory Council. Sarah works each day to serve the families and communities of Washington.

Greta Massetti, PhD, MA, is the principal deputy director of CDC's National Center for Injury Prevention and Control (NCIPC). In this role, Dr. Massetti oversees the center's surveillance, epidemiology, data science, and public health programmatic efforts to expand and refine CDC's capacity to prevent all forms of injury and violence. Dr. Massetti provides leadership for NCIPC's center priorities, including drug overdose, suicide prevention, and adverse childhood experiences. Dr. Massetti is a leader in public health prevention science and the intersection of science, practice, and policy. She has conducted extensive research on the prevention and health consequences of youth, sexual, and intimate partner violence, and violence against children, leading efforts to advance violence prevention through evidence-based initiatives that promote the safety and health of communities.

Kristine I. McCoy, MD, MPH, is a practicing family physician and consultant on the intersection between medical care and social services. Continuing her focus on whole person care for children, she is currently supporting the federal Administration for Children and Families' Interoperability Initiative and the Connecticut Integrated Care for Kids Initiative. She is a member of the Federal Reserve's Investment Strategy for Equitable Well Being design team, building off work done for the Colorado Community Response Initiative. Through the Stewards of Change Institute she has recently collaborated with HIMSS Government Affairs, the California Health Care Foundation and several communities around the country on creating mechanisms for informed, computable consent to share information between health and social services enabling whole person coordinated care. Dr. McCoy previously served as Senior Visiting Scholar at the American Academy of Family Physicians' Robert Graham Center for Policy Studies. Her scholarship there looked at the intersection of medical care with other early childhood systems. This built off her experiences as co-PI for New Jersey's Integrated Care for Kids cooperative agreement with CMMI, which aims to ensure that high risk Medicaid enrolled children receive a coordinated suite of "Core Child Services" in order to thrive and avoid out of home placement. As technology lead, she created the blueprint for a modular software suite to enable distributed community care coordination. She concurrently served as Clinical Director for the Greater Newark Regional Health Hub tasked with creating a population health strategy for the Newark, NJ region based on a regional HIE and access to Medicaid claims. Dr. McCoy obtained her undergraduate and medical degrees at Stanford University and her MPH at UCLA.

Katie McLaughlin, PhD, is a clinical psychologist with expertise in child and adolescent mental health and is the Executive Director of the Ballmer Institute for Children's Behavioral Health at the University of Oregon. She has a joint Ph.D. in Clinical Psychology and Epidemiology from Yale University. Before joining the Ballmer Institute, Dr. McLaughlin was a tenured professor of psychology at the University of Washington and Harvard University. She has dedicated her career to developing better strategies for the early identification and prevention of mental health problems in children and adolescents and training

the next generation of behavioral health professionals. As the Executive Director of the Ballmer Institute, Dr. McLaughlin will be leading the development and evaluation of the nation's first undergraduate training program in children's behavioral health. This transformative initiative provides an unprecedented opportunity to stimulate innovation in youth behavioral health at a moment when new approaches to intervention and service delivery are sorely needed.

Joe Neigel is the Director of Prevention Services for Monroe School District and Coordinator of the Monroe Community Coalition. He currently serves on the Washington State Legislature's School-based Behavioral Health and Suicide Prevention Subcommittee, the state Health Care Authority's Substance Abuse Prevention Advisory Board, and Snohomish County Health Department's Child Death Review Board. Joe is recognized across Washington State as an expert speaker on the topics of substance abuse prevention and trauma-informed practice. His community guide, "Prevention Tools: What Works, What Doesn't," is distributed statewide and internationally by the Washington State Health Care Authority. Joe is proud that the Monroe Community Coalition and their partners have achieved record levels of youth wellness in Monroe according to the Washington State Healthy Youth Survey results released in March 2023. According to the data, student alcohol use, marijuana use, vaping, depression, anxiety, and suicidality are each at, or near, 20-year lows.

Sara Whaley, MSW, MPH, MA, is a Senior Practice Associate at the Johns Hopkins Bloomberg School of Public Health, is a core faculty member of the Center for Mental Health and Addiction Policy and is the Program Director of the JHSPH Bloomberg Overdose Prevention Initiative. With expertise spanning social work practice, policy, and epidemiology, Sara now coordinates technical assistance and evaluation aimed at addressing the nation's overdose crisis and is actively engaged in state policy activities leading efforts to guide effective spending of funds from opioid settlements. Sara is committed to bridging research and government to share knowledge, create strong partnerships, and inform effective policy. Sara lives in Baltimore, Maryland, and is a member of the Baltimore City Women's Commission and the Maryland Public Health Commission's Communications & Public Engagement Work Group.

Reginald D. Williams II, AB, joined the Commonwealth Fund in 2020 as vice president of the International Health Policy and Practice Innovations program. In this role, he is responsible for fostering international dialogue, exchange, and education that enables U.S. policymakers and health care leaders to learn from cross-national experiences. He is responsible for the organization's international benchmarking activities, its international research and policy analysis, and the educational exchanges it conducts with key international partners. Critical to all activities is the cultivation of a robust international network of senior policymakers and health care leaders, including the Commonwealth Fund's Harkness Fellowships in Health Care Policy and Practice. Prior to joining the Fund, Mr. Williams was at Avalere Health, a consulting firm dedicated to improving health care, where he served as managing director focusing on health care delivery innovation and digital health. During his 15 years at Avalere, he led the firm's Evidence-Based Medicine Policy practice and several other practice groups, including managing the firm's Tel Aviv operations, and helping to build a network of consulting firms from around the world with whom Avalere could collaborate. Prior to joining Avalere, he was a member of the health policy team at the National Academy of Social Insurance (NASI). Previously, he served as chair of the board of directors at Mental Health America, a nonprofit dedicated to helping people live mentally healthier lives. Mr. Williams earned an A.B. in Biomedical Ethics from Brown University.

Suggested Readings

The readings below were suggested by speakers to add context or background for their presentations on April 4 and are not required to participate in the talks. Each reading below is linked for easy access, and where possible, full text is included in this briefing book, noted with a *.

Jonah Cunningham
NACBHDD State Comparison Project
America's County Government: A Short Primer*

Zeke Cohen
In Baltimore, Healing Trauma Is Now Official Policy*

Namkee G. Choi
Effect of Telehealth Treatment by Lay Counselors vs by Clinicians on Depressive Symptoms Among Older Adults Who Are Homebound: A Randomized Clinical Trial*

Reginald D. Williams II
Making It Easy to Get Mental Health Care: Examples from Abroad*
Mental Health Is a Top Concern Around the World. How Are Governments Responding?*
By Integrating Mental Health with Primary Care, Chile Increased Access to Treatment*

Kristine McCoy
CMS Integrated Care for Kids Initiative
In the NIC of Time: Six Domains of Primary Focus for the National Interoperability Collaborative*

Sara Whaley
The Opioid Settlements—Will the First Steps Be in the Right Direction?*

NATIONAL ASSOCIATION of COUNTIES NACo®

America's County Governments:

A SHORT PRIMER ON OUR HISTORY, DEFINITIONS, STRUCTURES AND AUTHORITIES

A Publication of the NACo County Governance Project

March 2024

NACo's Vision

Healthy, safe and vibrant counties across America.

NACo's Mission

Strengthen America's Counties.

About the National Association of Counties (NACo)

The National Association of Counties (NACo) strengthens America's counties, serving nearly 38,000 county elected officials and 3.6 million county employees. Founded in 1935, NACo unites county officials to:

- Advocate county priorities in federal policymaking
- Promote exemplary county policies and practices
- Nurture leadership skills and expand knowledge networks
- Optimize county and taxpayer resources and cost savings, and
- Enrich the public understanding of county government.

About the County Governance Project

NACo's County Governance Project provides a comprehensive guide to county government structure, authority, services and finances. Dig into individualized state profiles and the national database to learn about the intricacies of county governance by state, share information with policymakers and educate the public on the importance of counties.

AMERICA'S COUNTIES: A SHORT PRIMER

The term county is often used to describe two different meanings:

1. a substate unit of general purpose government, or
2. a substate census geography of a state.

** The term county includes parishes in Louisiana, boroughs in Alaska and city-county consolidations.*

Counties are deeply engaged in the labor market, employing more than

3.6 MILLION

public servants, representing one out of every 50 American workers

Annually, counties invest over

$600 BILLION

in our communities

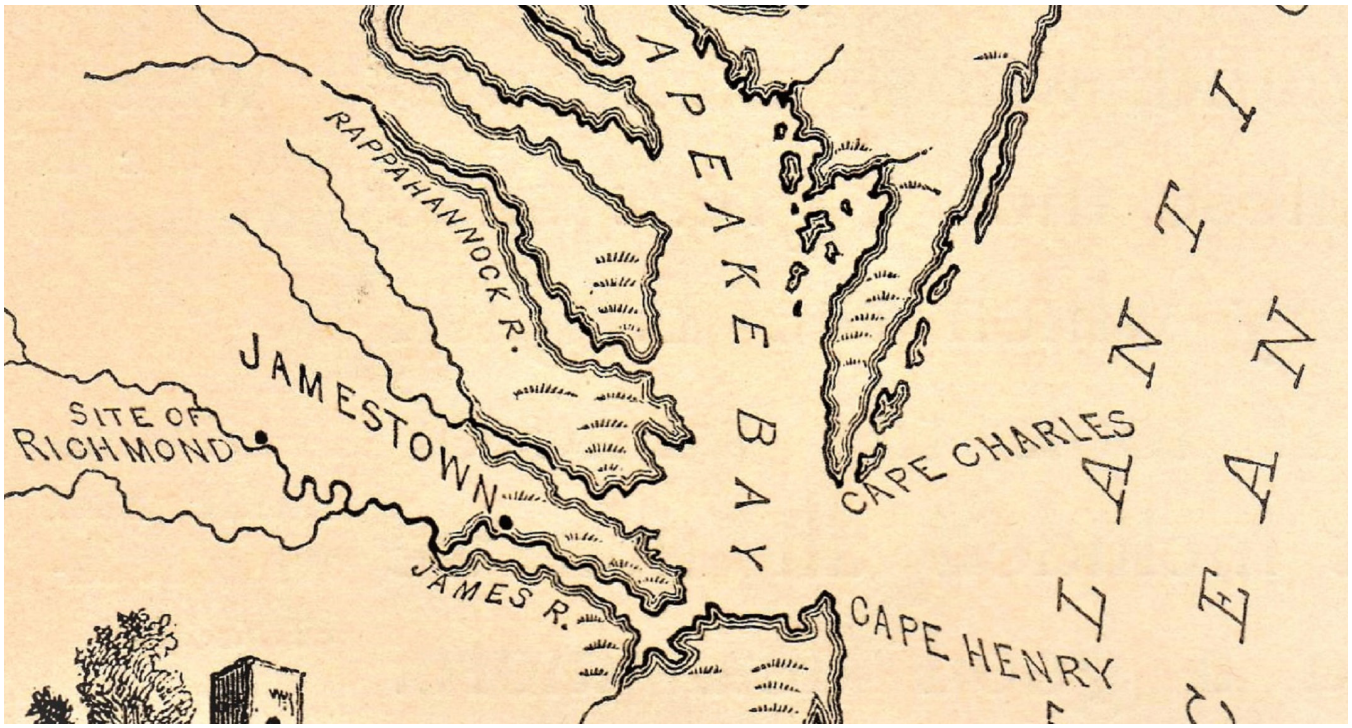
Counties are so present in our everyday lives that we sometimes overlook the many ways counties help our communities thrive. Often behind the scenes, nearly 38,000 county elected officials and a workforce of 3.6 million public servants, counties are responsible for maintaining roads and bridges, caring for our physical and mental health, administering our elections, ensuring public safety, strengthening environmental stewardship and so much more.

INTRODUCTION

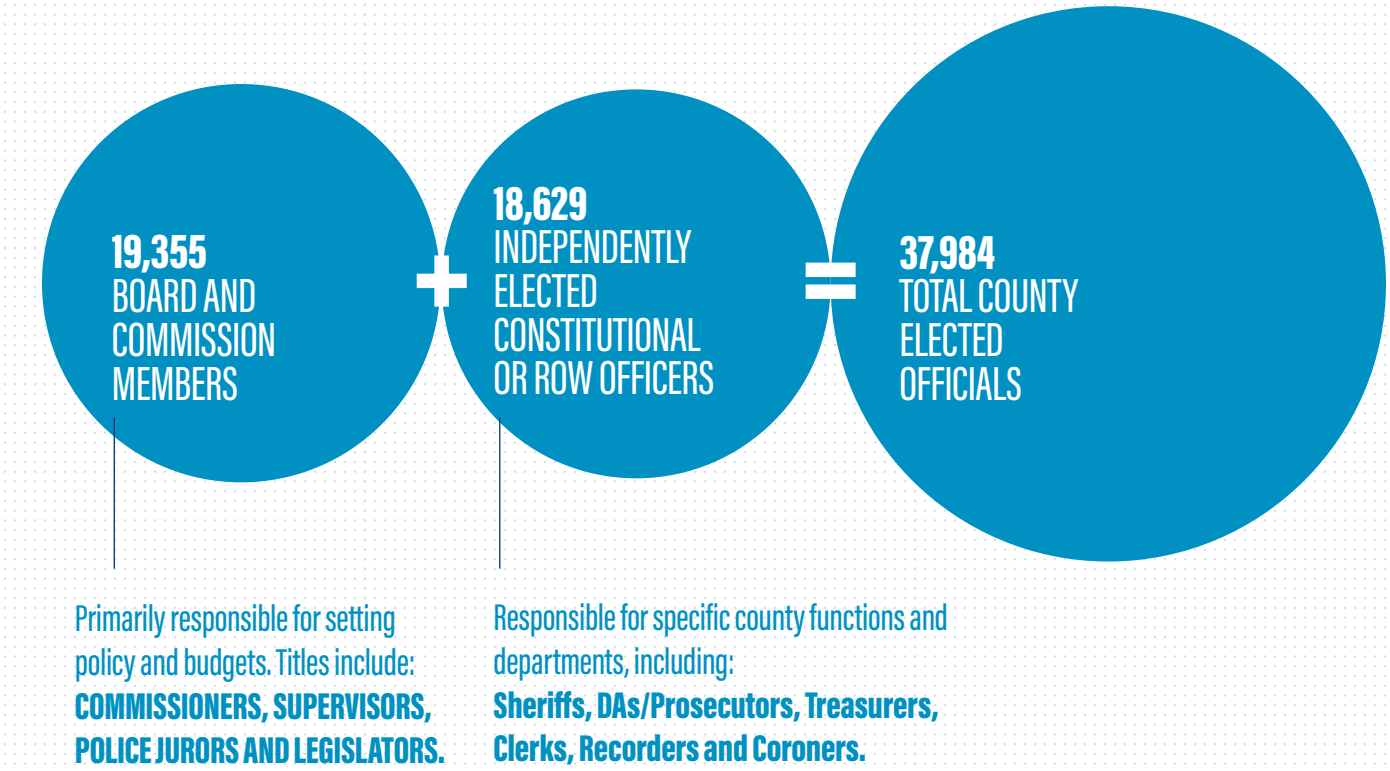
Counties are one of America's oldest forms of government, dating back to 1634 when the first county governments (shires) were established along the eastern shores of Virginia. The organization and structure of today's 3,069 county governments are chartered under state constitutions or laws and are tailored to fit the needs and characteristics of states and local areas.

Counties are one of America's oldest forms of government.

County governments and our elected and appointed county leaders are instrumental partners in our nation's intergovernmental system of federal, state, local and tribal officials. This system includes sub-state local compliance, delivery, management and implementation of federal laws, regulations, mandates and services.



Counties are diverse in structure and how we deliver services to our communities. In general, states authorize and set the roles and responsibilities of county governments. Counties are governed by locally elected officials and, in some instances, operate under home rule authority, which allows for more local flexibility and control with structural, functional and fiscal powers. Though the governance and organizational structures vary nationally and even within a state, all county, parish and borough governments are on the front lines of delivering vital services to residents. Counties invest more than $600 billion, collectively, each year.



Nationally, county governments are governed by 19,355 elected county policy board members (serving as the county legislative branch and/or executive branch) and elected executives (executive branch). These elected officials are primarily responsible for the budgets and fiscal oversight of the county, as well as setting the general policies of the county.

In addition, 18,629 independently elected county officials, often referred to as "constitutional officers" or "row officers", provide important leadership and management of specific county functions, such as sheriffs, district attorneys, county attorneys, clerks of the court, assessors, auditors, clerks, recorders, coroners, election administrators and treasurers. In some cases, these positions may be political or career officials appointed by the county board or another governing body.

> *Counties are diverse in structure and how we deliver services to our communities.*

HISTORY OF COUNTY GOVERNMENT

County governments trace our roots to the English shires of the 9th century. Rechristened "counties" after the Norman Invasion in 1066, they continued to serve a dual function — acting as administrative arms of the crown or national government as well as the citizens' local government. Power in the shire/county was shared between the "shire-reeve," or sheriff, and the justice of the peace.[i]

The English county structure was adopted along the eastern seaboard of North America by the colonists and adapted to suit the diverse economic and geographic needs of each of the colonies. The first county governments in the colonies were established in Virginia, near Williamsburg, by King Charles 1 in 1634. The colonial governor appointed local officials to serve on a county court, the governing arm of the county.[ii]

> *The first county governments in the colonies were established in Virginia, near Williamsburg, by King Charles 1 in 1634.*

Shortly after counties were established in Virginia, other colonies soon followed. Those in the South replicated the Virginia model, while those in the North took a different path, known as the New York model. County officials were elected rather than appointed, in the northern tier of colonies, and thanks to a strong network of cities and towns in the North, counties needed to provide fewer services.

Despite the long history of counties in the English settlements of North America, the framers of the new nation's Constitution did not provide for local governments. They left the matter to the states. Subsequently, the colonial county became the state's county, continuing our role as a substate administrative arm of the state government.

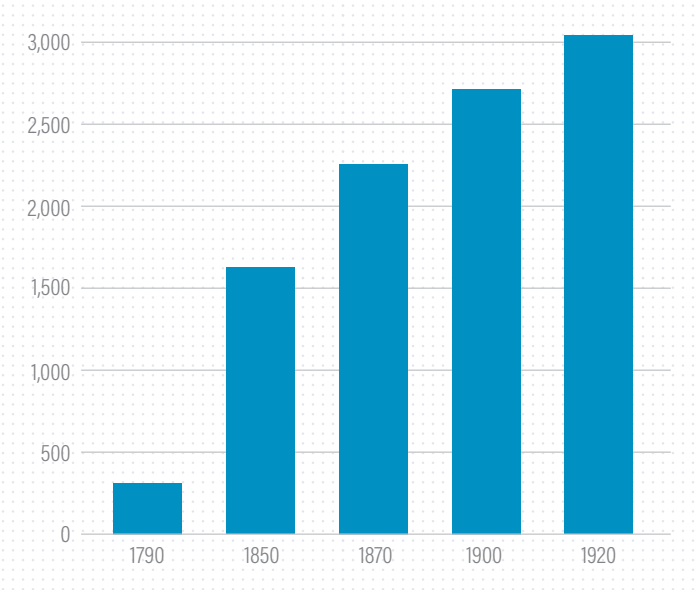
> *Subsequently, the colonial county became the state's county, continuing its role as a substate administrative arm of the state government.*

Counties evolved as units of local government and administration, but our importance from state to state and region to region varied depending on the economic, social and political conditions of the area.[iii]

In 1790, census data reported 292 counties. As the nation continued its westward expansion, the same local government forms followed; as a result, the 19th century was the most active period of county formation in our nation's history. The Northwest Ordinance allowed the newly settled territories to establish local governments and empowered the governors of those territories to create geographic divisions to serve as a unit of representation. **As a result, between 1790 and 1900, over 2,000 counties were formed.** Many of the less-settled portions of these states had a few very large counties in comparison to other states, which could then be subdivided as settlement expanded.[iv] And in some states, such as Texas, officials prioritized keeping local governments small so residents could be closer to the critical services that counties provide.[v]

After World War II, growth, suburban development and the government reform movement boosted the role of local governments. Those developments set the stage for post-World War II urbanization. In the 1970s and 1980s, a rise in the number of federal programs and unfunded federal mandates put pressure on counties to centralize our administrations and hire additional professional staff to guide operations.

NUMBER OF U.S. COUNTIES INCLUDED IN DECENNIAL CENSUS, 1790-1920



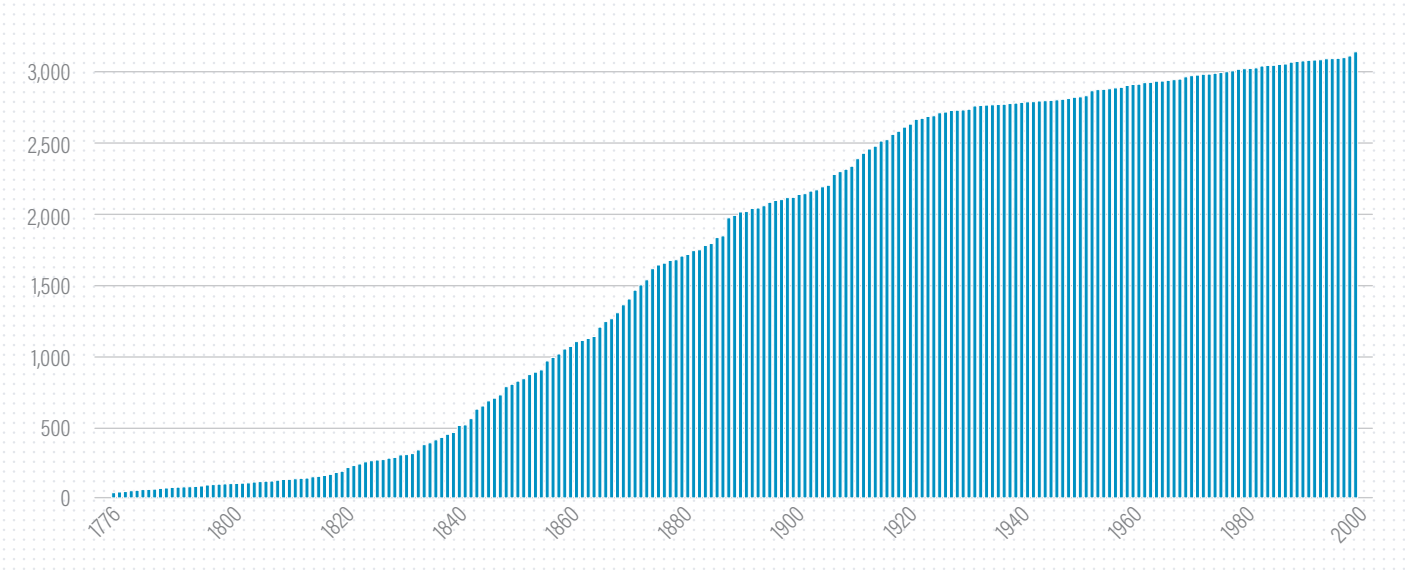
The changes in structure, greater autonomy from the states, rising revenues and stronger political accountability ushered in a new era for county government. Counties began providing an ever-widening range of services. These trends continue today.

Note: *The totals do not include statistical equivalents of counties (such as the independent cities of St. Louis and Baltimore and the cities of Virginia, some of which were independent as early as 1850).*

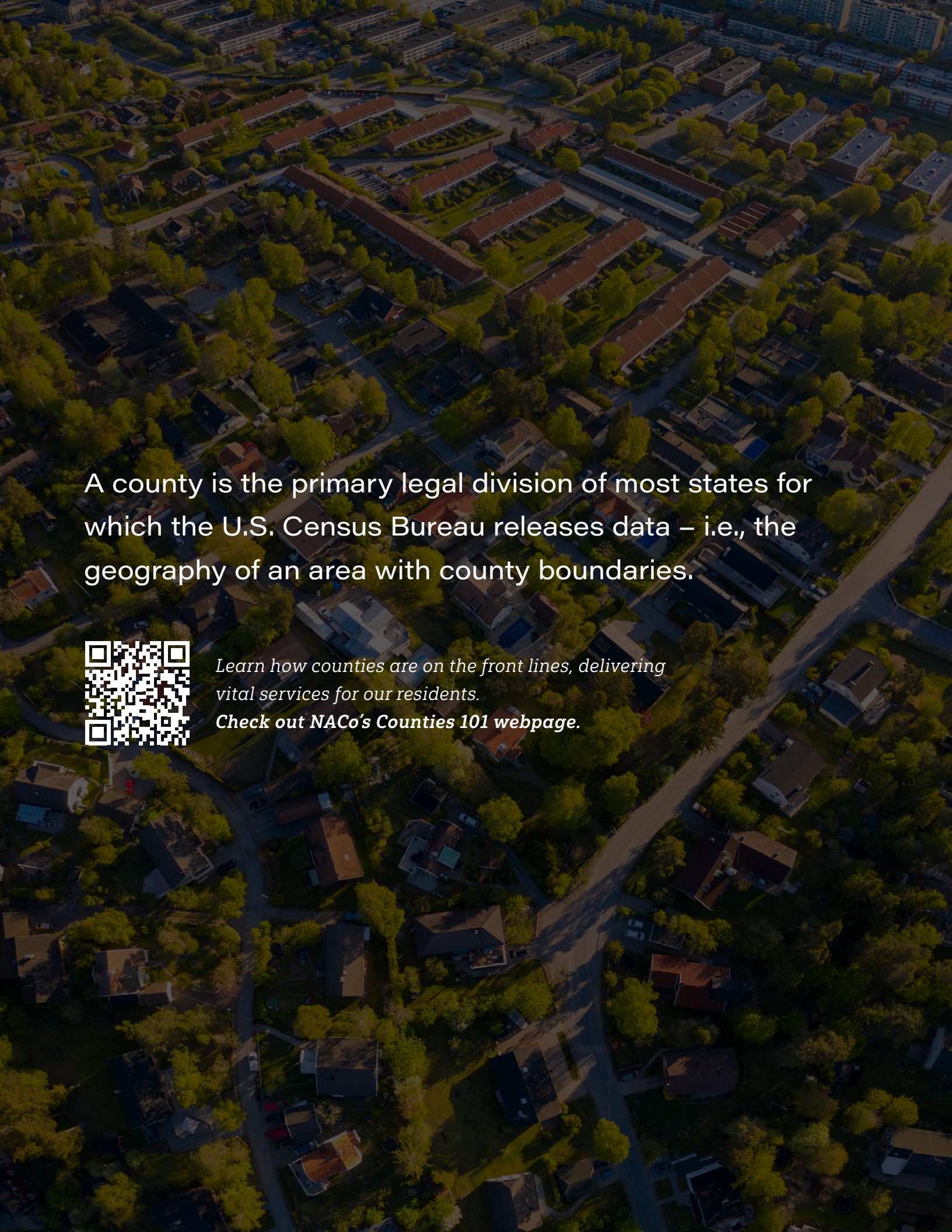
Source: *Census Bureau, "States, Counties, and Statistically Equivalent Entities," available at: https://www2.census.gov/geo/pdfs/reference/GARM/Ch4GARM.pdf*

THE U.S. ADDED OVER 2,000 COUNTIES IN THE 19TH CENTURY

No. of U.S. Counties, 1776-2000



Source: *Egor Larin and Alex Varlamov, "U.S. Historical Counties," available at: https://public.tableau.com/views/USHistoricalCounties/USACounties?:showVizHome=no*



A county is the primary legal division of most states for which the U.S. Census Bureau releases data – i.e., the geography of an area with county boundaries.

Learn how counties are on the front lines, delivering vital services for our residents.
Check out NACo's Counties 101 webpage.

WHAT IS A COUNTY?

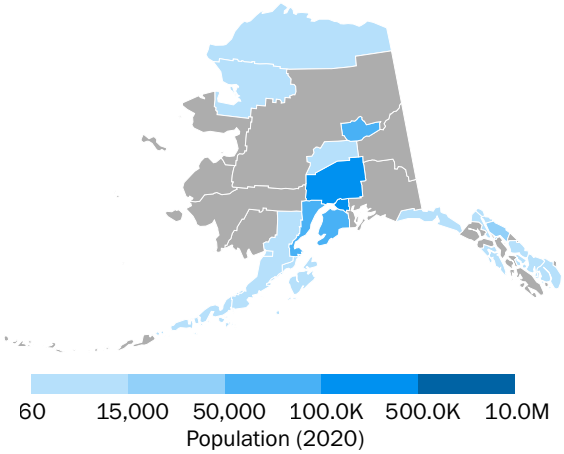
A county is the primary legal division of most states for which the U.S. Census Bureau releases data – i.e., the geography of an area with county boundaries. **In Louisiana, a county is known as a parish. In Alaska, a county is known as a borough.**

A county, as defined by the U.S. Census Bureau, may have a county government or may be considered a county equivalent for statistical purposes. **Three thousand and sixty-nine (3,069) counties have county governments,** which include 42 city-county consolidations, the District of Columbia and two independent cities (Baltimore City, Md. and St. Louis City, Mo.) considered county governments under their state constitution or city charter. For example, in Alaska some boroughs have city-borough consolidations or municipality-borough consolidations.

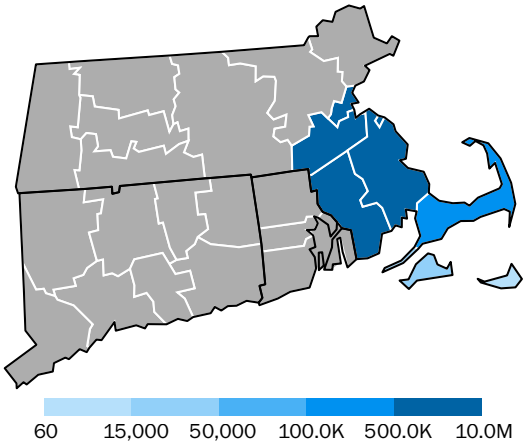
The U.S. Census Bureau considers a county equivalent to be an unorganized area bearing county designations, an independent city or the District of Columbia. According to the U.S. Office of Management (OMB), there are 3,143 counties and county equivalents, for geographic reference and statistical purposes, in the United States.

Some examples of county equivalents are as follows:

- The state of Alaska and the U.S. Census Bureau created the Alaska census areas, which are unorganized areas and considered as counties for statistical purposes.



- The U.S. Census Bureau considers each of the five boroughs of New York City as counties for statistical purposes, but the boroughs no longer have their own county governments. New York City serves as a consolidated city-county government, with each borough maintaining its own municipality with limited government functions.
- The U.S. Census Bureau counts Kalawao County, Hawaii, as a county equivalent for statistical purposes, but the county does not have its own county government. Rather, Kalawao County is a judicial district of Maui County's government and is administered by the Hawaii Department of Health. The government of Maui County serves the islands of Maui, Moloka'i, Lana'i and Kaho'olawe.



- All the counties in Connecticut and Rhode Island and seven county areas in Massachusetts no longer have county governments, so they are considered counties for statistical purposes only.[vi] Connecticut abolished all county governments in 1960 but still retained the former eight counties for elections and other administrative purposes, though the state transitioned to nine planning regions in 2024. Similarly, Rhode Island has counties that exist only for judicial administration purposes.[vii] Massachusetts, too, abolished 8 of its 14 county governments between 1997 and 2000, retaining county governments only in eastern Massachusetts with limited governmental functions.[viii]
- Four states (Maryland, Missouri, Nevada and Virginia) have independent cities. The U.S. Census Bureau treats all independent cities as county equivalents for statistical purposes, but some have both municipality status and county government authority. For example, Baltimore City (Md.) and St. Louis City (Mo.) are considered county governments under their respective state constitutions and Carson City (Nev.) under its city charter. In contrast, the 38 independent cities in Virginia are designated only as incorporated areas under Virginia state law, meaning the cities are NOT within a county boundary.

> *Baltimore City (Md.) and St. Louis City (Mo.) are considered county governments under their respective state constitutions and Carson City (Nev.) under its city charter.*

WHAT IS A COUNTY GOVERNMENT?

A county government is an organized entity with governmental character which covers the area of a county or county equivalent. **County governments have sufficient discretion in the management of our own affairs to be independent general purpose units of government.** Depending on the state, county governments are also known as parish governments (in Louisiana) or borough governments (in Alaska).

Most often, a county government provides services to residents in both unincorporated and incorporated areas of the county. Incorporated areas of a county are governed by municipalities with their own government, having been established and organized as a municipal corporation as permitted under state law. Thus, residents in incorporated areas of a county receive municipal and county services. In contrast, unincorporated areas of a county do not have a municipal government and are not organized to provide any municipal services to residents in these areas.

NACo considers an entity to be a county government if it is recognized as a county government under the state constitution, state law or by charter. There are 42 counties that are city-county consolidations, the District of Columbia, incorporated counties (Los Alamos, N.M.) and independent cities that are considered county governments under their state constitution (Baltimore City, Md.; St. Louis City, Mo.) or city charter (Carson City, Nev.).

NACo refers to these 42 counties as "city-county consolidations" because they have both county and municipality authorities. Most often, a city-county consolidation has a jail (not a temporary holding facility) and/or provides health care services for residents. Justice and public safety and health and hospitals are often top county investments.

> *Most often, a county government provides services to residents in both unincorporated and incorporated areas of the county.*

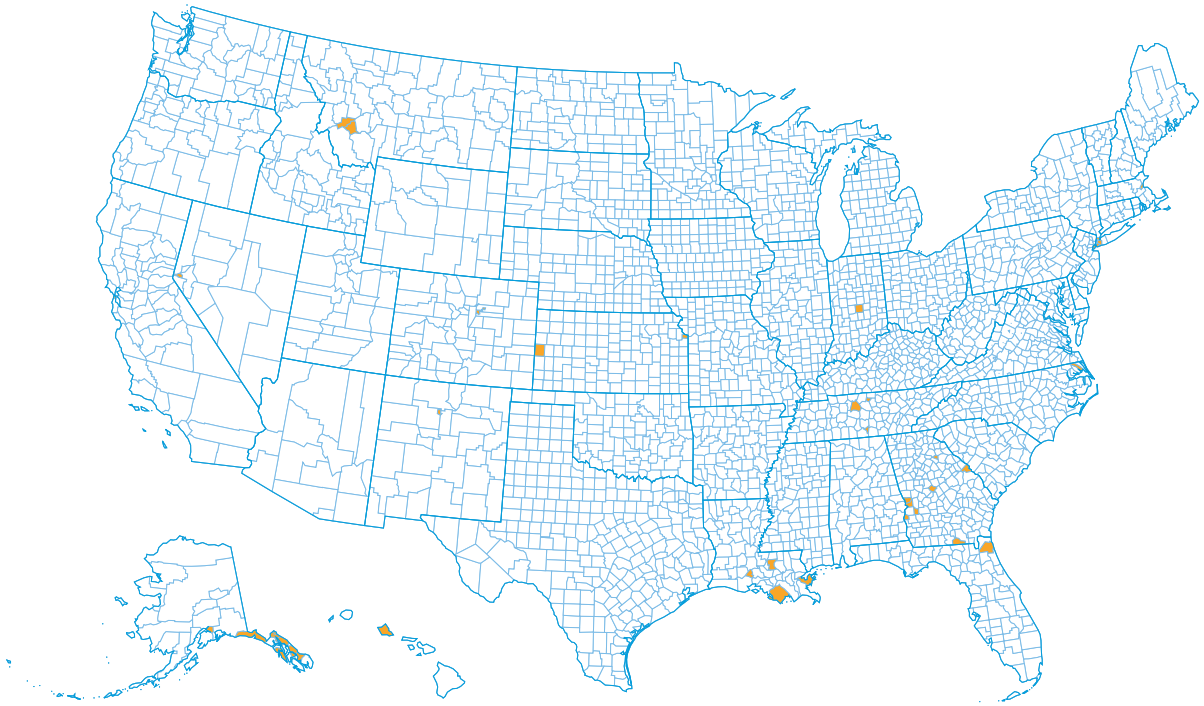
Several of the nation's largest U.S. cities are city-county consolidations, and many acquired this status more than a century ago. For example, the county governments of the NYC boroughs consolidated with the New York City government in 1898. As a result, New York City is a city-county consolidation which counts as one county government, but five county geographies for census statistical purposes.

Other large cities that are city-county consolidations include: New Orleans (consolidated with Orleans Parish in 1805), Boston (consolidated with Suffolk County in 1821), Philadelphia (consolidated with Philadelphia County in 1854), San Francisco (consolidated with San Francisco County in 1856) and Denver (consolidated with Denver County in 1902).

Alaska has the largest share of city-county consolidations (eight of the 19 boroughs). The latest city-county consolidation took place in 2014 in Georgia, between the city of Macon and Bibb County.

The number of county governments and county equivalents is not static; counties can change to meet the needs of local residents. The latest county established in the U.S. was the City and County of Broomfield, Colo., which formed in 2001, while Petersburg Borough, Alaska, was the latest county geography to incorporate and form a county government in 2013. County equivalents have seen even more recent changes: the Chugach and Copper River Census Areas in Alaska formed in 2019 (as statistical areas), and beginning in 2024, the Census formally recognized Connecticut's nine planning regions, each with a council of governments, as county equivalents, in place of its eight historical county geographies.[ix]

AMERICA'S 42 CITY-COUNTY CONSOLIDATIONS



Alaska

- Anchorage Borough
- Haines Borough
- City and Borough of Juneau
- Petersburg Borough
- City and Borough of Sitka
- Skagway Borough
- City and Borough of Wrangell
- City and Borough of Yakutat

California

- San Fransisco City & County

Colorado

- Broomfield City and County
- Denver City and County

Florida

- Duval County/City of Jacksonville

Georgia

- Bibb County
- The Unified Government of Cusseta-Chattahoochee County
- Athens-Clarke County
- Echols County
- Columbus-Muscogee County
- Quitman County
- Augusta-Richmond County
- Webster County

Hawaii

- Honolulu City and County

Indiana

- Indianapolis and Marion County

Kansas

- Greely County
- Unified Govt. of Wyandotte County and Kansas City

Louisiana

- East Baton Rouge Parish
- Lafayette Consolidated Government
- Orleans Parish
- Terrebonne Parish Consolidated Government

Massachusetts

- Nantucket County
- Suffolk County, City of Boston

Montana

- Anaconda-Deer Lodge County
- Butte-Silver Bow County

Nevada

- Carson City

New Mexico

- Los Alamos County

New York

- New York City

North Carolina

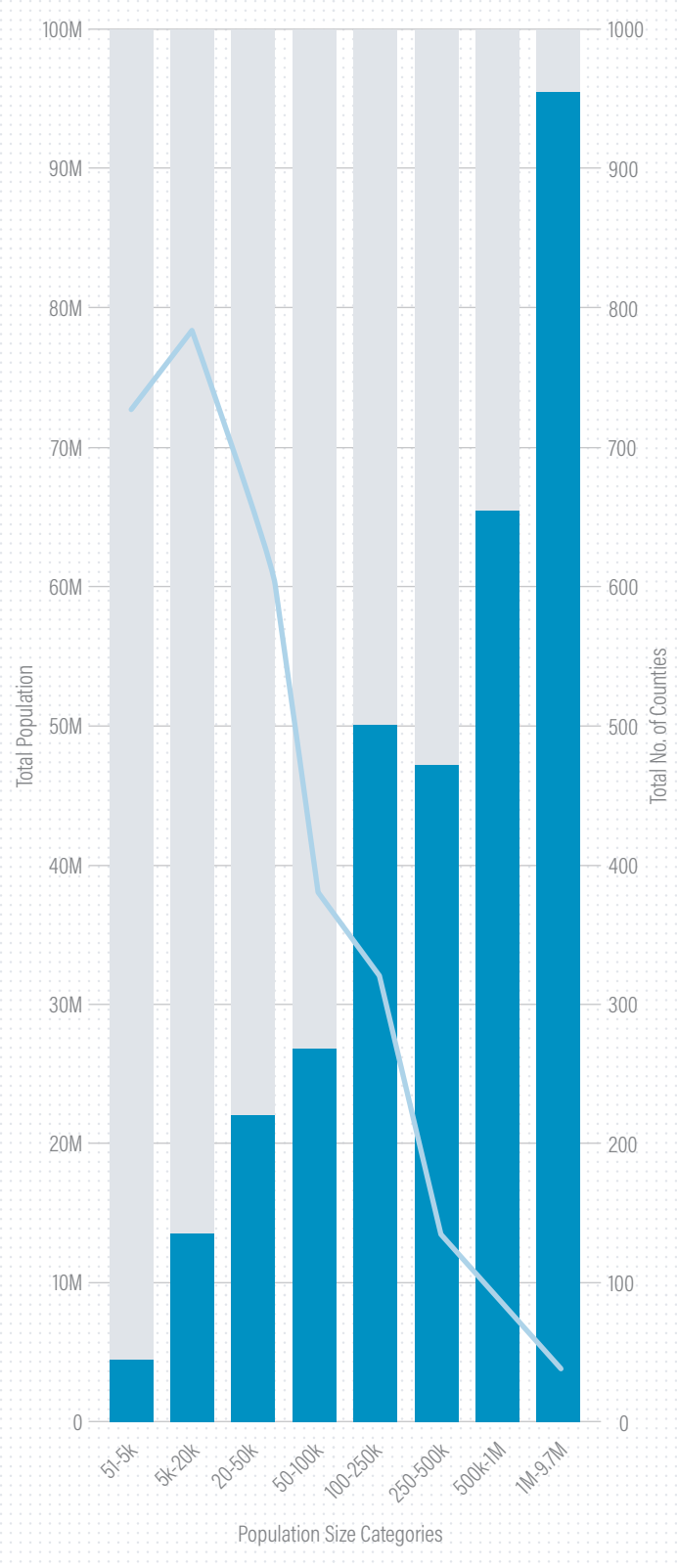
- Camden County

Tennessee

- Metropolitan Government of Nashville and Davidson County
- Moore County
- Trousdale County

NACo County News:
Explore articles from our award-winning, biweekly publication, press releases and more.

COUNTIES BY POPULATION SIZE



Counties encompass a wide range of urban, suburban and rural areas throughout our jurisdictions. In place of a rural-urban classification,[x] NACo defines small counties as those with fewer than 50,000 residents, mid-sized counties as those between 50,000 and 500,000 residents, and large counties as those that have more than 500,000 residents.

The smallest county by population size is Loving County, Texas, with 51 residents, and the largest county by population is Los Angeles County, Calif., with nearly 10 million residents.[xi] California is one of 17 states where a majority of the population resides in large counties, while 14 states, including Alaska and North Dakota, do not have any large counties.[xii]

Over two-thirds of counties (69 percent, or 2,108 counties) are small, while only 4 percent (134 counties) are large. In fact, there are more very small counties with less than 15,000 residents (1,032 counties) than there are mid-sized or large counties with more than 50,000 residents (961 counties). Though there are only a small number of large counties, half of all county residents (160 million) live within one of these 134 counties. In fact, Los Angeles County, Calif. alone is home to 2 million more residents than the 1,000 smallest counties combined.

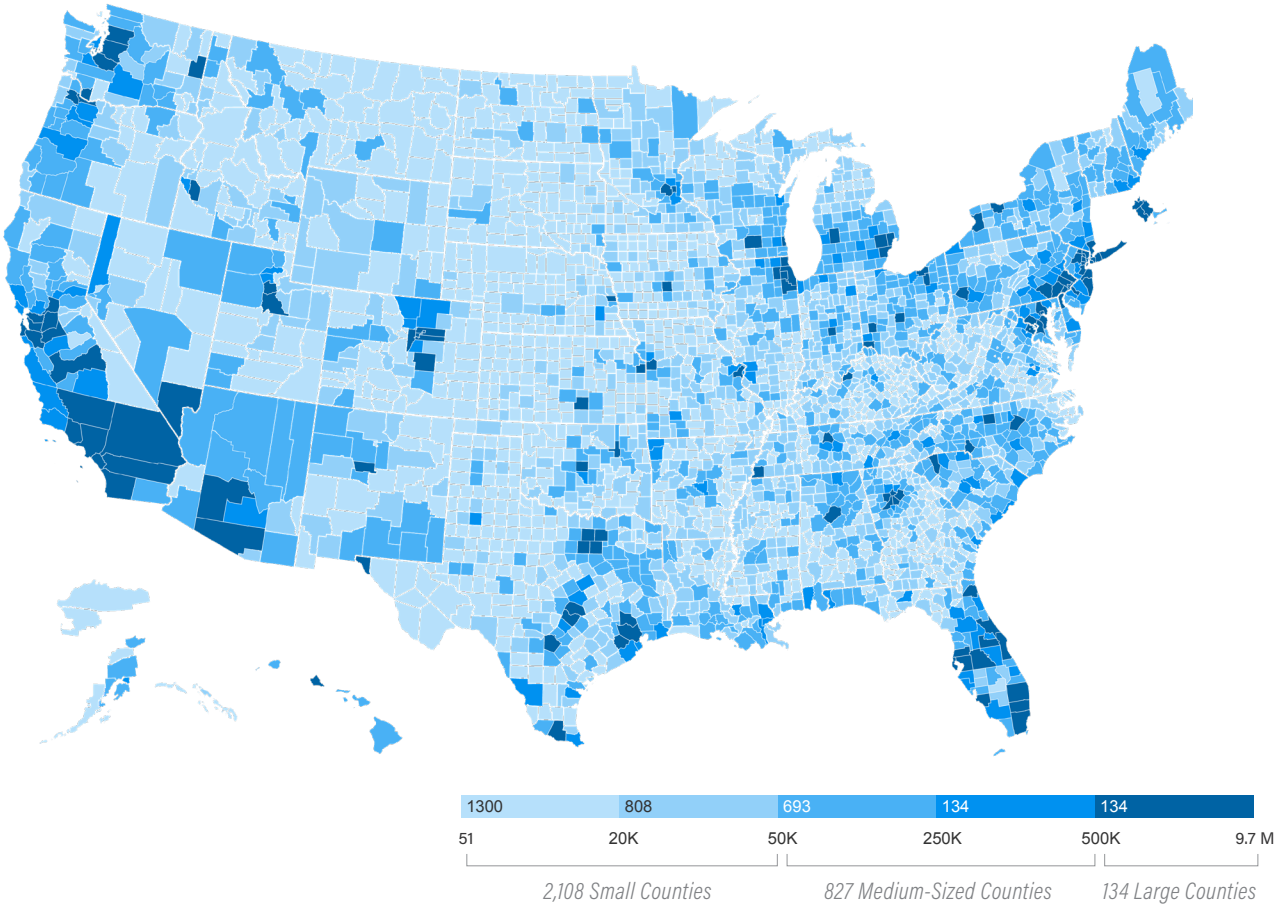
Alongside population size, county geographic size also varies significantly. The county government with the smallest geographic area is Arlington County, Va., at 26 square miles, and the county government with the largest geographic area in the lower 48 is San Bernardino County, Calif., at 20,105 square miles –larger than New Hampshire and Vermont combined. Alaska's North Slope Borough is quadruple the size at 88,824 square miles, which would make it the 12th largest state.[xiii]

Source: *NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) - 2022*

The disparities in terms of population and geographic size lead to very different population densities throughout America's counties. Hudson County, N.J. has over 15,000 residents per square mile – comparable to major city-county consolidations like San Francisco City and County (17,000 residents/sq. mi.), Boston/Suffolk County (13,000 residents/sq. mi.) and Philadelphia City and County (12,000 residents/sq. mi.). On the other hand, 20 counties across Alaska, Idaho, Montana, Nebraska, Nevada, New Mexico, South Dakota and Texas have less than 1 person every 2 square miles. Lake and Peninsula Borough, Alaska, has a population of 1,381 spread out over an area the size of West Virginia (nearly 24,000 square miles) – less than 1 resident for every 17 square miles.

TWO-THIRDS OF COUNTIES ARE SMALL, WITH <50,000 RESIDENTS

County Population Size (2022)



Source: *NACo Analysis of U.S. Census Bureau - Population Estimates Program (PEP) - 2022*

COUNTY GOVERNMENT AUTHORITY

County governments derive the extent of our authority from the states. The two basic doctrines on county authority, Dillon's Rule and Home Rule, often coexist within the same state.

Dillon's Rule counties must obtain state approval for any changes in the government's structure, function or fiscal organization. The concept of Dillon's Rule stems from a court decision in 1872. Judge John Dillon of the Iowa Supreme Court ruled that counties (and other local governments) possess only the powers explicitly granted by the state through the state legislature or state constitution. In Atkins v. Kansas, the U.S. Supreme Court upheld the Dillon decision. For example, Arizona state law dictates that counties with at least 175,000 residents must have a board of supervisors with five members, while counties with fewer residents must have a board with three members.

Home Rule counties manage local affairs, generally with more autonomy from the state legislature. Typically, the three areas of autonomy often granted by the state are:

1. **Structural domain:** Counties may alter the form of government, giving counties more flexibility to select the size of their legislative board, elect a county executive and/or appoint or elect row officers.
2. **Functional domain:** Counties may provide optional services – those not mandated by the state – without seeking permission from the state. The state may also grant counties the authority to consolidate services through interlocal agreements and allow oversight of special purpose districts.
3. **Fiscal domain:** Counties may adjust local revenues and expenditures, often by leveraging taxing authority, issuing bonds, establishing service districts and raising debt limitations.

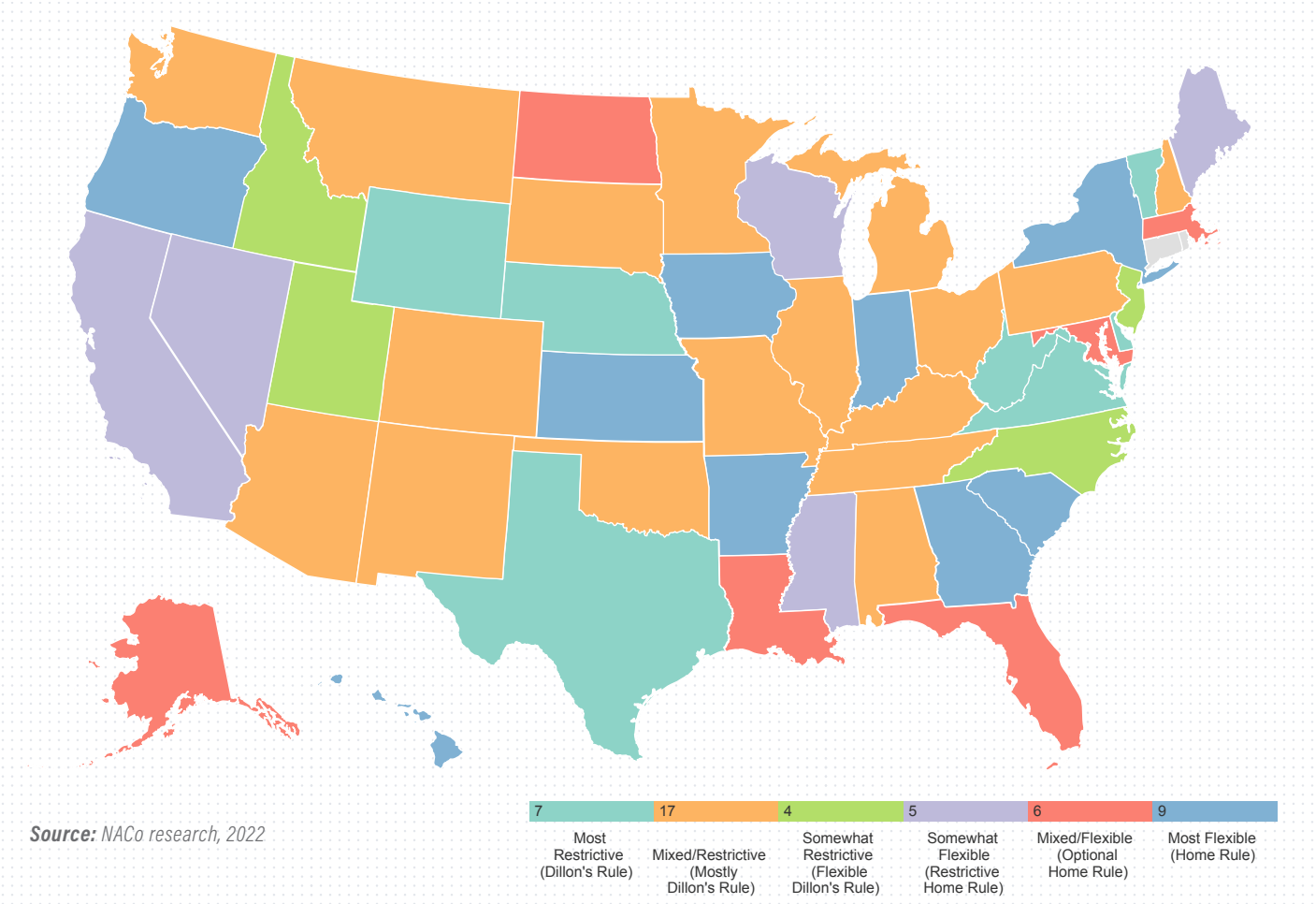
Home Rule applies to counties in various ways. For example, a county charter allows the county to organize and structure itself. In Colorado, for instance, the state constitution gives voters in a county the power to adopt a charter which establishes the organization and structure of the county government. The Colorado Constitution is explicit, however, that counties with a home rule charter must still provide all functions, services, facilities and other mandates required of counties by state statute.

At the most basic level, each county operates under one of these two doctrines of county authority, where, essentially, Home Rule counties are free to determine local affairs within a set list of restrictions, while Dillon's Rule counties are given explicit directives from which they must not deviate.

Currently, in 14 states, all counties operate under the more restrictive Dillon's Rule, while 13 states grant all counties Home Rule authority. The remaining 21 states with county governments have a mix of Home Rule and Dillon's Rule counties.[xiv] Six of these states (Alabama, Arizona, Illinois, Kentucky, Minnesota and Missouri) only grant Home Rule to larger counties (in some cases, only to one large county, such as Cook County in Illinois or Ramsey County in Minnesota), while the other 15 states permit any county to draft a Home Rule charter– with mixed results across states. In Hawaii and Maine, for example, all counties chose to adopt a charter and operate under Home Rule. In Idaho, New Hampshire and South Dakota, however, no county has chosen to adopt a charter despite having the option in state law, so all remain under Dillon's Rule.

In practice, the delineation between Home Rule and Dillon's Rule is not a simple nor obvious determination of county authority. Of the 34 states that permit some or all counties to operate under Home Rule, 15 states (44 percent) place substantial restrictions on county Home Rule authority – most

COUNTY AUTHORITY LEVEL



Source: *NACo research, 2022*

often related to finances (fiscal domain). For example, all counties in Hawaii and Iowa operate under Home Rule, but each of these states prohibits counties from levying any tax not explicitly authorized by the state legislature. In some states, such as California, Maine, Ohio and Wisconsin, the primary benefit of Home Rule authority is flexibility in how the government is structured (structural domain) – service provision and local finances are still delegated by the state. For Nevada and Mississippi, on the other hand, although all counties are under Home Rule, their local government structures and finances are delegated by the state, leaving flexibility only in service provision (functional domain).

As Home Rule does not necessarily entail complete flexibility to determine local affairs, so Dillon's Rule does not necessarily entail stringent inflexibility. Of the 35 states that place some or all counties under Dillon's Rule, 14 states (40 percent) provide additional, important flexibilities. Most often, counties are given additional flexibility in determining local government structure (10 states), but often, too, in service provision (8 states). Three states (New Jersey, North Carolina and Utah) have most or all counties operating under Dillon's Rule, but with a directive that courts should broadly interpret the grants of authority given to counties in the state constitution and statutes – greatly expanding county government authority. Utah, in particular, is a unique state, because of the case State v. Hutchinson in 1980, which ruled in favor of expanded county flexibility and so placed all Utah counties under "Hutchinson's Rule" – essentially, a very flexible version of Dillon's Rule which looks more like Home Rule in practice.[xv]

iCivics Student Education Tools:

NACo, together with iCivics, has created a full curriculum to educate students, grades 6 through 12, about the important role and functions of county government. The curriculum — along with the online game, "Counties Work" — assists teachers with preparing lessons on county government.

COUNTY EXECUTIVE, LEGISLATIVE AND JUDICIAL POWERS

Like the federal government, county governments have executive, legislative and judicial powers. These powers are exercised only within the framework of state and federal constitutional and statutory law. These powers are distributed across the county board, county agencies and county offices, including independently elected officials.

County Board and "Traditional" Government Form

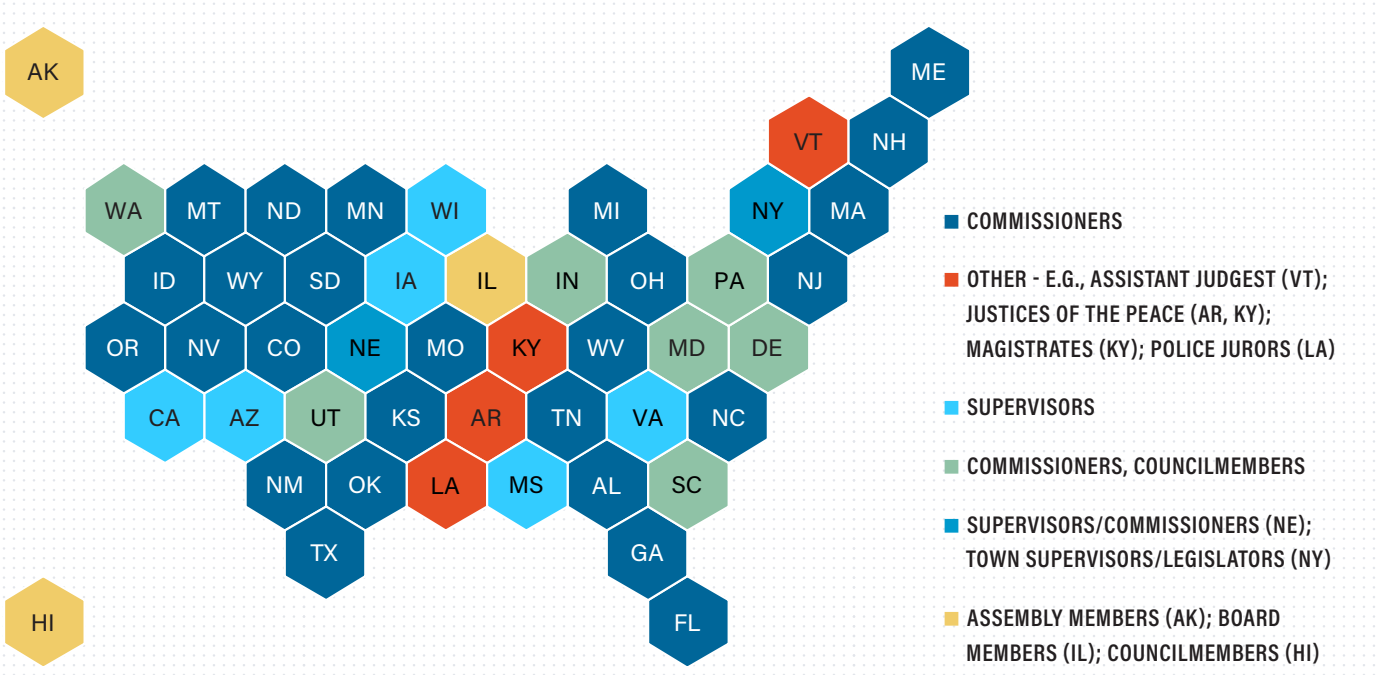
Under the most common "traditional" form of local government structure, the county boards generally exercise executive and legislative powers. Depending on the state, county boards are often known as: commissions, councils, assemblies, fiscal courts, levy court commissions, county legislatures and commissioners' courts. The board is typically responsible for adopting the county budget, overseeing county finances, shaping local public policy, approving the hiring of county employees and, in some cases, economic development and planning activities.

The members of county boards have a variety of titles, depending on the state, such as commissioners, supervisors, council members, assembly members, board members, justices of the peace (Arkansas) and police jurors (Louisiana). In most New Jersey counties, the county governing body was known previously as the board of chosen freeholders, until recent state law changed to board of commissioners.

County board members are elected by district, at-large (by the entire county) or a combination. There are nearly 19,000 elected county board members, plus about 700 elected county executives.

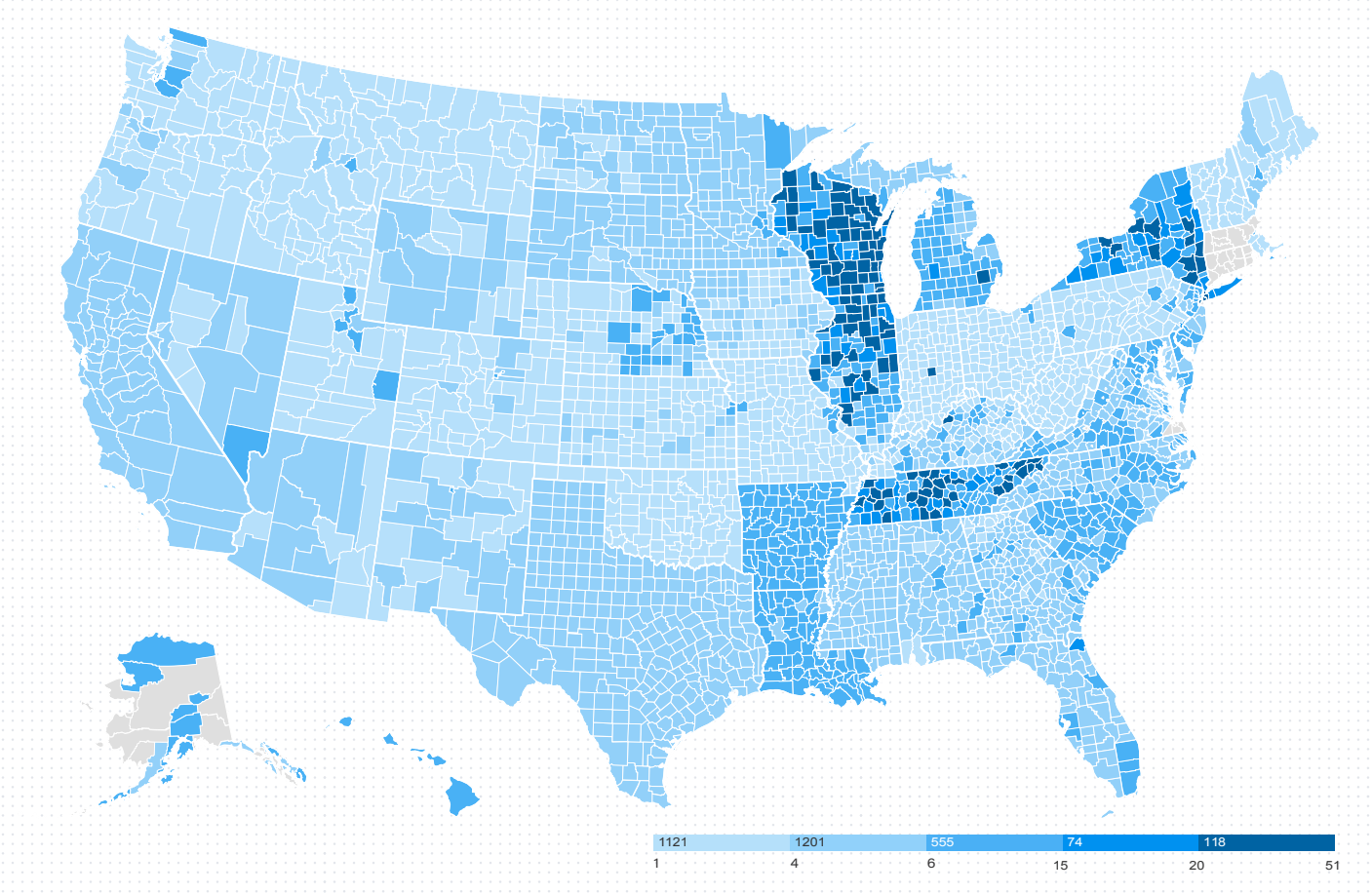
COUNTY BOARD MEMBERS HAVE A VARIETY OF TITLES

Titles for Members of the County Legislative Body

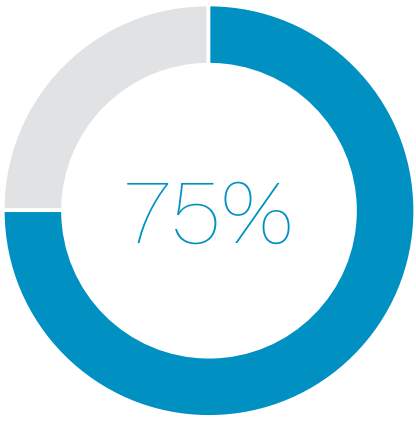


COUNTY GOVERNMENT STRUCTURE: SIZE OF THE LEGISLATIVE BODY, 2017

Number of representatives elected to a county governing board



Source: *NACo research, 2017*

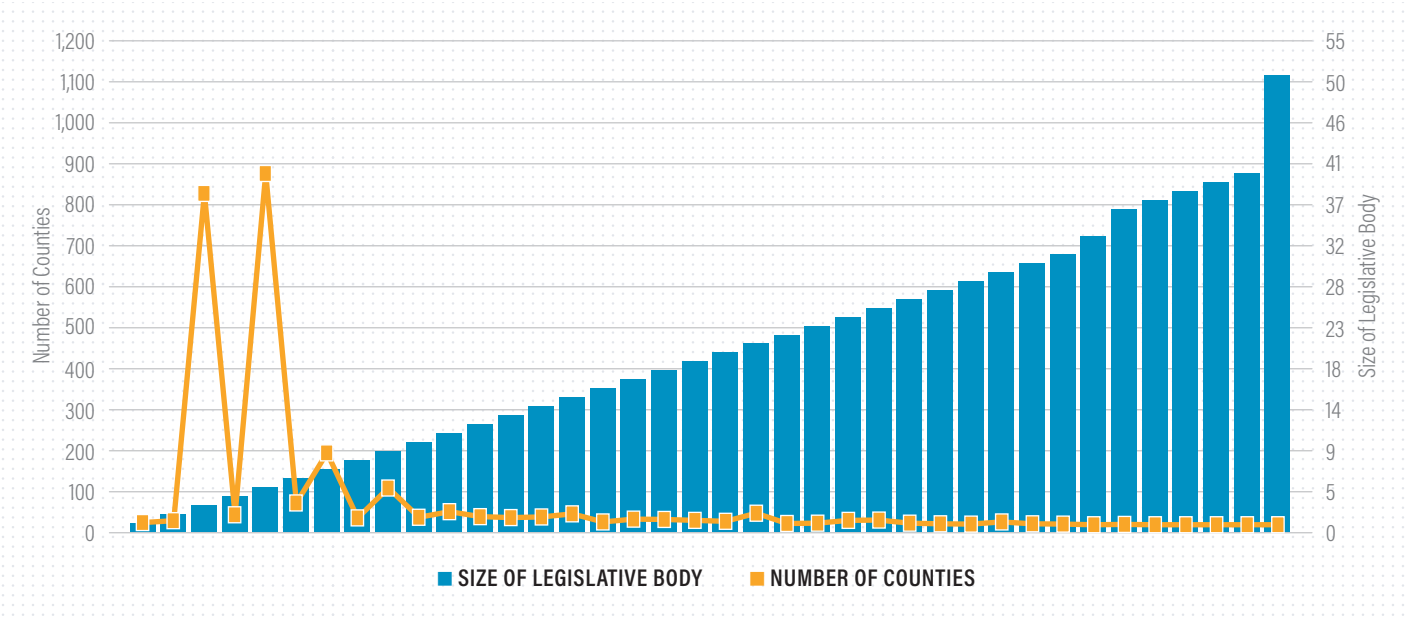


Three-quarters (75 percent) of counties have either three or five commissioners.

The size of each county governing body varies widely according to state statutes and county flexibilities. The smallest allowable governing body is in Georgia, where counties may have just one sole commissioner. Aside from NYC's 51-member council, the largest county governing body size is in Wisconsin, where counties may have a maximum of 47 commissioners, depending on population size (Marathon County, Wis. currently has 38 commissioners). Three-quarters (75 percent) of counties, however, have either three or five commissioners.

Governing body size is determined by state statutes in every state except Alaska and North Carolina. In Alaska, the governing body size is determined by local law or charter, and in North Carolina, the number of elector districts determines the number of commissioners.

SIZE OF LEGISLATIVE BODY VS. NUMBER OF COUNTIES



*Source: **NACo Collection and Analysis, 2015***

Elected County Executive and "Reformed" Government Form

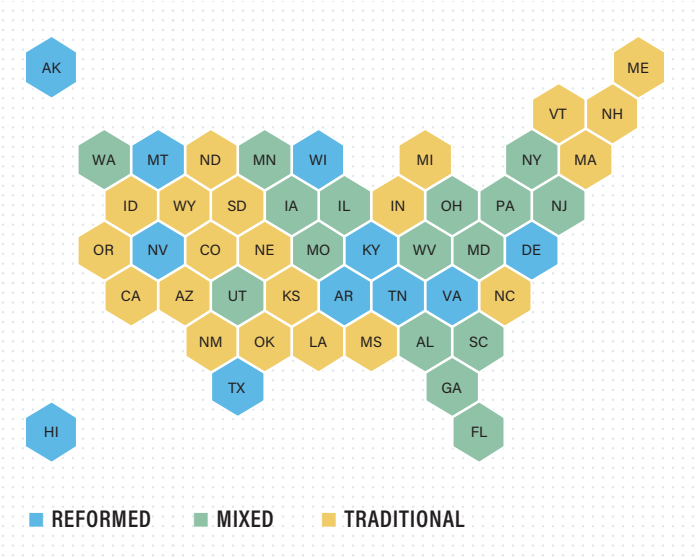
A majority of counties operate under the traditional, commission form of county government; however, over 40 percent have shifted to either the county administrator or the elected executive type in recent decades.

The separation of powers principle undergirds the reformed county governance system, similar to the President and Congress at the federal level. The elected county executive is the chief administrative officer of the jurisdiction and exercises executive authority. This position is elected countywide, rather than representing a portion or district within the county. Typically, the elected executive has the authority to veto ordinances enacted by the county board (subject to their possible override) and hire and fire department heads.

Within the reformed, council-executive form, there are also two primary subsets of these governance structures.

21 STATES ONLY PERMIT THE TRADITIONAL, COMMISSION FORM

County Government Form, according to State Statute

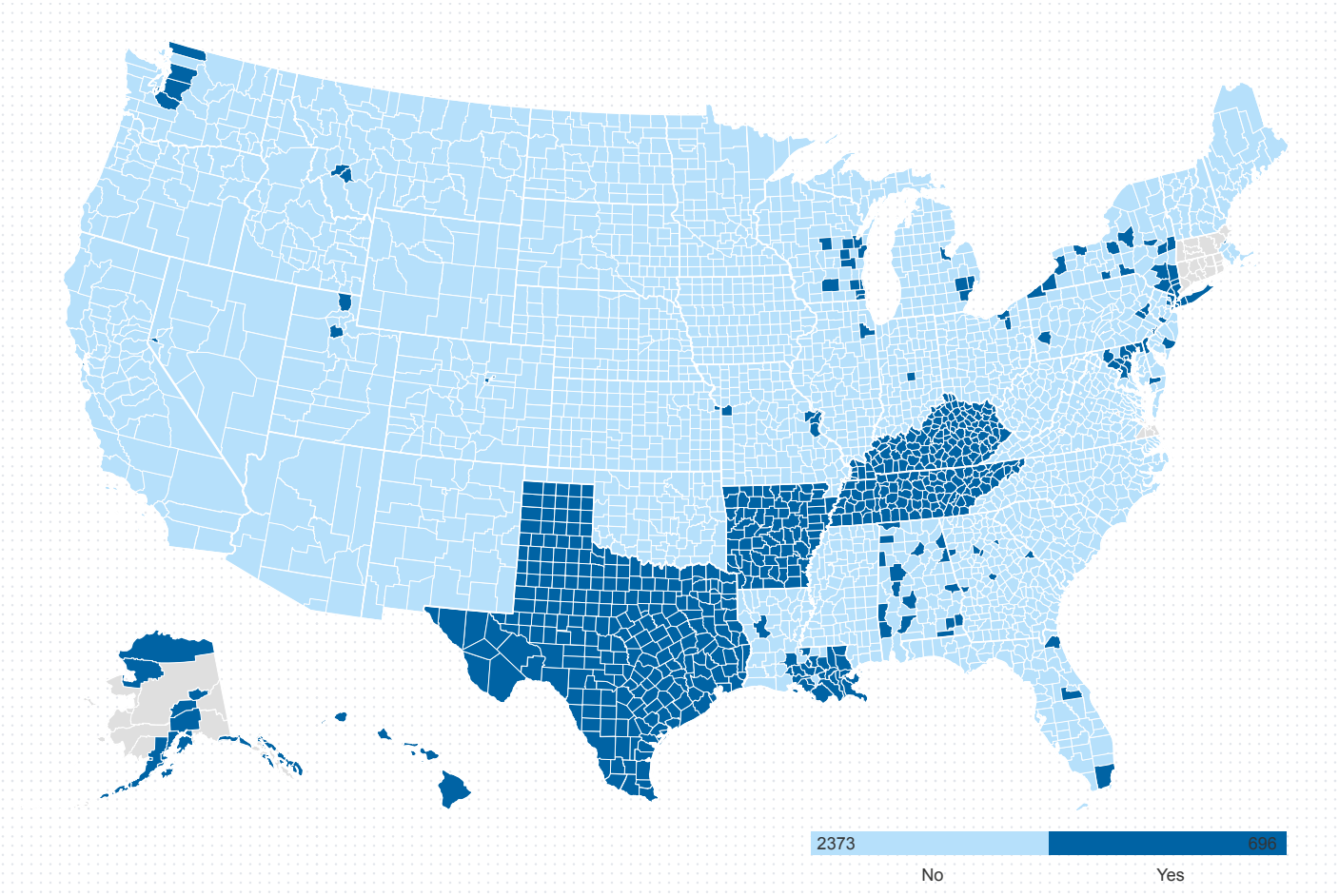


- In some places like Kentucky, Arkansas, and Cook Co. (Ill.), the county executive serves as the chief elected official and controls the executive branch of the county government, yet also serves as a voting member and chair of the county board as the legislative branch.
- In other places, the county executive may only manage the executive branch, including departments that are not managed by an independently elected official (e.g., sheriff, district attorney, treasurer, auditor). Similar to the President and a Governor, the executive often proposes an annual budget for consideration, amendment and adoption by the county board.

Most often, an elected county executive has the title of county executive; however, this executive might also carry the title of county judge, mayor, chief executive officer, chair or board president, depending on the state.

Elected county executives possess varying levels of authority. About 700 counties have an elected county executive, most notably in Arkansas, Hawaii, Kentucky, Maryland, New York, Tennessee and Texas, along with many major urban counties in states like Florida, Illinois and Washington. As the executive branch of a county government, the elected county executive commonly works with the legislative body to enact policy, oversees daily county operations and finances and often holds veto power over the legislative process.

NEARLY 700 COUNTIES HAVE AN ELECTED EXECUTIVE



Source: *NACo Collection and Analysis, 2015*

Constitutional "Row" Officers

Outside of the legislative and executive branches of county government, there are more than 18,600 other independently elected county officers responsible for specific county functions. Examples of these positions include assessor, auditor, circuit judge, clerk of the board, clerk of the court (judicial), coroner, county attorney, county engineer, judge of the probate, prosecuting attorney, public administrator, recorder, register of deeds, school superintendent, sheriff, surveyor, tax collector and treasurer.

If the state constitution makes a provision for an elected office, then the office is known as a constitutional officer. *For example, county auditor, clerk, court clerk, sheriff and treasurer positions are often mandated by state constitutions.*

If the state constitution makes a provision for an elected office, then the office is known as a constitutional officer. For example, county auditor, clerk, court clerk, sheriff and treasurer positions are often mandated by state constitutions. The role of the county board, as the legislative branch, is also typically outlined under the state constitution and law.

Certain counties, especially some under Home Rule, are granted flexibility in adjusting separately-elected positions to meet local needs, whether by adding or removing positions, or by converting positions from elected to appointed.

Some states have unique row officer positions. In Arizona, the constable is an elected officer which executes the orders of the court but does not perform the more traditional law enforcement duties of the sheriff.[xvi] And in Michigan, counties may appoint a drain commissioner to administer laws involving flood protection, stormwater and soil erosion, due to the fact that the state has been historically dominated by swamps that harbor potential health risks and negative impacts for agricultural lands.[xvii]

The title of a county position does not necessarily reflect the responsibilities of that position nor indicate whether the position is elected or appointed. For example, clerks in Florida typically serve as the Treasurer for the county and might also serve as the clerk to the county board and the county administrator, or they may provide other services.

There are more than 18,600 other independently elected county officers responsible for specific county functions.

*Check out **NACo's Counties Matter** campaign for a simple overview of some key county functions, including infrastructure, health and public safety.*

GLOSSARY OF MOST COMMON COUNTY ELECTED OFFICIALS

Like the federal government, America's 3,069 county governments are designed with "checks and balances" of authorities, mandates and functions across executive, legislative and judicial duties. These responsibilities are exercised within the framework of state and federal constitutional and statutory law.

County boards, led by nearly 19,500 elected officials nationally, generally exercise executive and legislative powers, including oversight of the county budget, policies and general operations. In more than 700 counties, the executive function is led or shared by a chief executive who is elected countywide.

Nationwide, more than 18,600 independently elected officials, often referred to as "constitutional" or "row" officers, are also elected for specific county functions.

Below is a sample of the most common elected positions in county government:

- **Assessor:** Official who establishes the value of land and property for taxation
- **Auditor:** Official who oversees and monitors county assets and finances
- **Clerk of the board:** Clerk who provides support and record management for the county board
- **Clerk of the courts:** Clerk who serves as the administrative officer of the county court system
- **Commissioner:** Officials with board oversight of the budget, policy and general operations
- **Coroner:** Official who investigates the causes and manners of death in a county
- **County attorney:** Legal advisor for the county
- **District attorney:** Chief prosecutor for the state within the county
- **Executive:** Chief executive officer of the county, similar to a city mayor or state governor
- **Public defender:** Attorney who upholds the constitutional right to legal representation within the community
- **Recorder:** Official who manages the public records of the county (e.g., elections, land, birth & marriage)
- **Sheriff:** Chief law enforcement officer (also typically manages the county jail)
- **Treasurer:** Official responsible for the management and investment of financial assets

Learn more about America's counties

NACo Achievement Awards:

The Achievement Awards program is a non-competitive awards program recognizing innovative county government programs in 18 categories covering a wide spectrum of county responsibilities. Achievement Award winners have been featured in local media and in County News. Check out the awards archive to explore past winners.

Appointed County Administrator

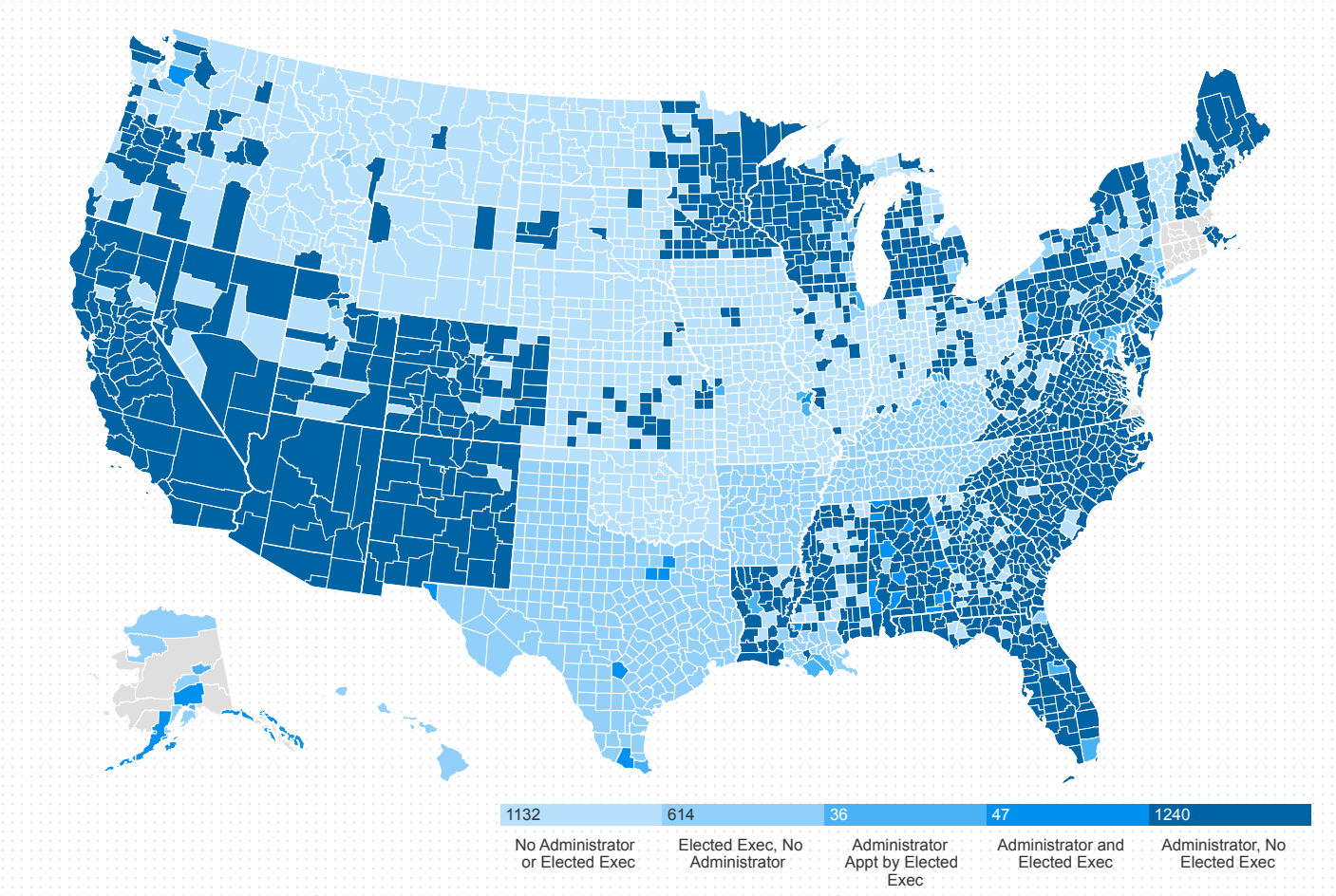
Some county positions with the title county executive/county executive officer are not elected county executives, but appointed (for example, in a number of California, New Mexico and Virginia counties). They fulfill the function of appointed county administrators and/or managers. The majority of county administrators are appointed by the county board, but a minority of county administrators are appointed by the elected county executive or by both the elected executive and the county board.

> *1,300 counties have an appointed county administrator.*

Eighty-three (83) counties have both an appointed administrator and an elected executive. In 36 of these counties, the executive appoints the administrator. All Maryland counties, for example, have an administrator. The administrator is appointed the elected executive in the nine Maryland counties which have an executive, plus Baltimore City, and by the county council in the remaining 14 counties.

Approximately 1,300 counties have the equivalent of an appointed county administrator. Administrator, manager and chief administrative officers are common titles; however, this position may have one of 115 different titles, depending on the state. For example, an appointed county administrator in some Minnesota counties has the title of county coordinator. Appointed county administrators have different levels of authority, depending on the county governance structure and enabling state statutes.

OVER 1,300 COUNTIES HAVE AN APPOINTED ADMINISTRATOR



The county administrator is typically the top appointed career official of the county. Administrators serve the county's legislative body by carrying out the policies and procedures established by its members. Generally, the administrator oversees the daily operations of the county government, including the formation of the county budget and management of programs and services. Administrators may also partner with the private sector, nonprofits, academia and others for the benefit of the community.

Judicial Branch

Depending on the state, county attorneys (such as district attorneys or prosecutors) and magistrates may carry out the judicial power of counties in accordance with state law. Variations exist from state to state with respect to whether these positions are considered part of the judicial branch or executive branch of local government. Often, the classification depends on the nature of the position. In Indiana and New Mexico, for example, the district attorney is considered part of the judicial branch. In California, the county attorney is a distinct position from the district attorney which is appointed by the board and part of the executive branch. Typically, a district attorney will serve the same function as a prosecutor in bringing criminal cases to court. A county attorney generally handles civil legal issues, though will sometimes also function as a district attorney in handling criminal cases, especially in more rural, unincorporated areas.

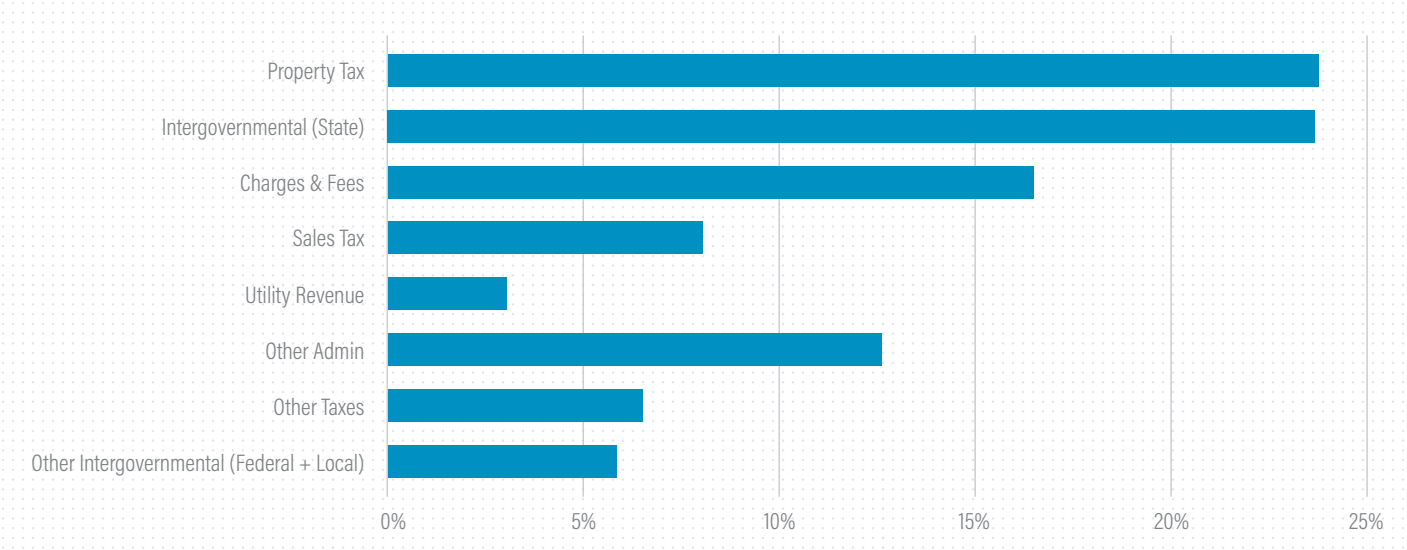
The judicial branch is particularly complex at the county level. Overall, judicial organization can be grouped into single county or multi-county. In a single county system, courts are organized along county lines; in a multi-county system, courts are shared among counties or organized along district lines. Just under half (46 percent) of states have single county local judicial systems, while the remainder (54 percent) have multi-county judicial organization. Even though judicial organization may be organized along county lines, local administration may differ. The judicial system can be run by the county, state or mixture of the two. Most court administration is run by the state, except in a handful of states like Maryland, Minnesota, Ohio and Texas where the counties play a larger role.

COUNTY FINANCES

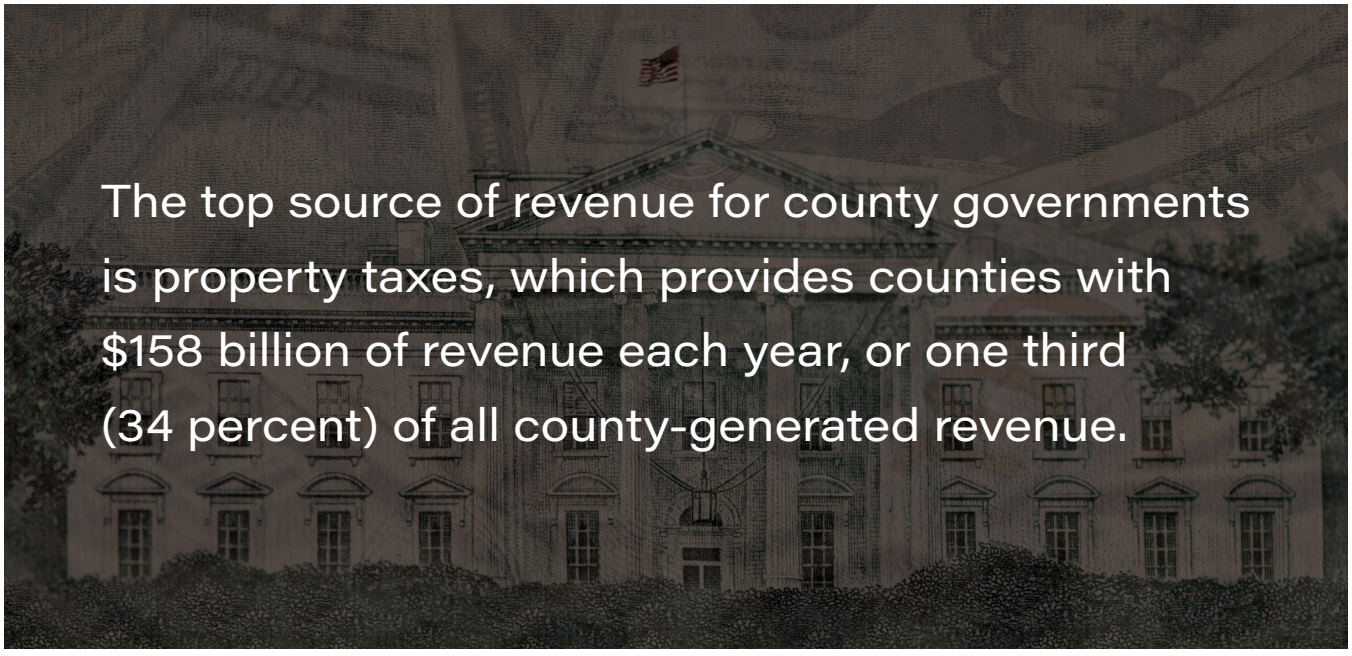
County boards approve the final budget, similar to how Congress adopts the federal budget. In most counties with an elected county executive or appointed county administrator, these officials are often responsible for developing the initial budget preparation. In total, county governments invest more than $600 billion annually, based on U.S. Census of Governments data.[xviii]

PROPERTY TAXES PROVIDE TOP SOURCE OF COUNTY REVENUE

Breakdown of Total County Revenue



Source: *NACo Analysis of U.S. Census Bureau - 2017 Census of Individual Governments: Finance*



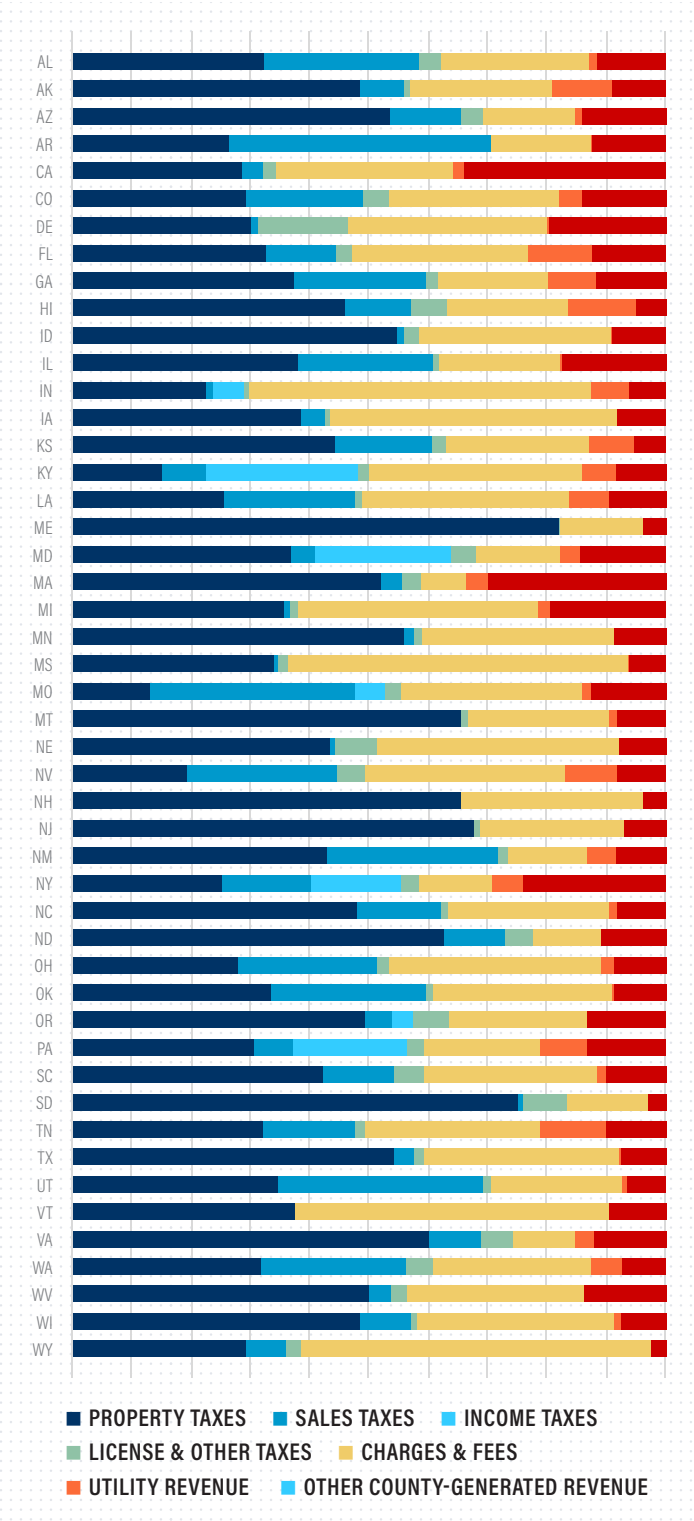
The large majority of the funding that counties use to provide services is generated by the county government itself, sourcing taxes and fees from residents and businesses. County governments generate 71 percent of all our own county revenue. Less than one third (29 percent) come from other governmental entities, namely federal (4 percent) and state (24 percent) governments, with variations by state and county.

Overall, the top source of revenue for county governments is property taxes, which provides counties with $158 billion of revenue each year, or one third (34 percent) of all county-generated revenue. Tax revenue as a whole provides over half (54 percent) of all county-generated revenue. Sales taxes are the second largest tax category, providing $53 billion (11 percent of county-generated revenue). Tax revenue is especially important to county governments because it mostly goes into county general funds, thus allowing for the most flexibility in investing the funding back into the community.

Charges and fees comprise the overall second largest category of county revenues, providing $110 billion, or one quarter (23 percent) of county-generated revenue. **These revenues, however, generally do not provide any flexibility to the local government, but are rather a "dollar in, dollar out" category of revenue** which encompasses funding that goes directly to provide a specific service or to reimburse the government for a service already provided. Some common examples include court and recording fees, public library charges, parks and recreation charges (including camping areas, swimming pools, museums and other facilities operated by the county), highway tolls, public hospital charges and revenue associated with public housing projects. These types of charges come directly from a specific government service and support that service directly.

COUNTY REVENUE STRUCTURE IS DIVERSE

County-Generated Revenue Breakdown by State



Source: *NACo Analysis of U.S. Census Bureau - 2017 Census of Individual Governments: Finance*

Note: *"County-generated revenue" excludes intergovernmental revenue from the federal, state and other local governments.*

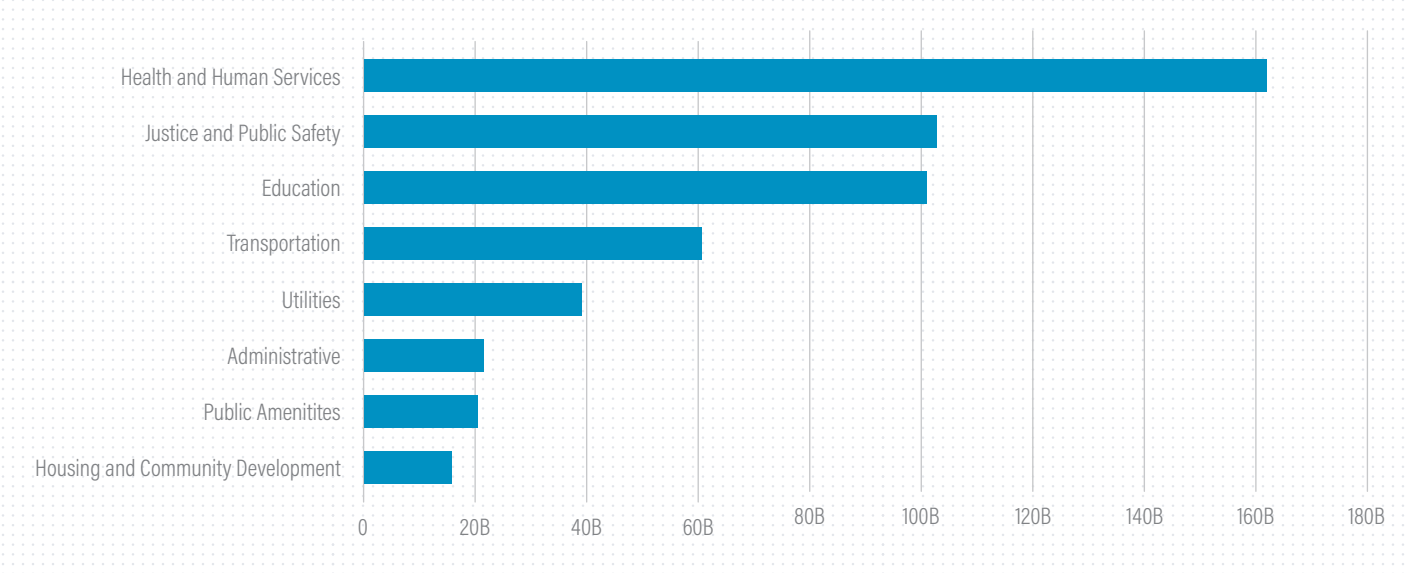
When it comes to large investments, most counties turn to debt financing to make the investment more quickly without having to wait to save up cash. Whether investing in capital infrastructure or helping the community recover from a disaster, there are certain times when general fund revenues cannot cover the necessary expenditures, so debt financing becomes an invaluable financial tool. Typically, a local government will issue bonds to borrow money, though some may qualify for certain state or federal loan programs, or even take out a short-term loan from a bank or other financial institution.

Although property taxes are the top revenue source for counties in aggregate, much variation exists at the state level. Counties in some states rely heavily on local sales taxes (Missouri), charges and fees (Indiana) or even local income taxes (Kentucky and Maryland). This variation exists in part due to shifting local priorities, but also due to varied county fiscal authority. County governments are dependent on states for the authority to raise revenue. Most states permit county governments some amount of flexibility over the ability to raise revenue, though some states impose more restrictions while others grant more authority. For example, Georgia, Hawaii and Tennessee do not impose any restrictions on county property taxes, thus allowing counties to adjust property tax revenue according to the needs of residents. On the other hand, in five states (Maine, Massachusetts, New Hampshire, New Jersey, Vermont), counties are severely restricted in their ability to raise revenue and not permitted to levy their own property taxes; rather, counties in these states must levy property taxes through their municipalities.

Thirty-one (31) states allow counties to implement some kind of local sales tax, though states tend to restrict sales taxes more than property taxes, sometimes only allowing sales tax revenue to be levied for specific purposes. In Colorado, for example, counties may collect a sales tax only for public safety improvements. Depending on the state, counties may also collect a local income tax, a tax on short-term rentals, a fuel tax or one of a variety of other taxes.

HEALTH AND HUMAN SERVICES IS TOP COUNTY INVESTMENT

Total County Expenditures, by Category



Source: *NACo Analysis of U.S. Census Bureau - 2017 Census of Individual Governments: Finance*

County revenues are important for the services they enable counties to provide. The top four investment categories for counties are Health and Human Services ($163 billion or 27 percent), Justice and Public Safety ($107 billion or 18 percent), Education ($103 billion or 17 percent) and Transportation ($61 billion or 10 percent).

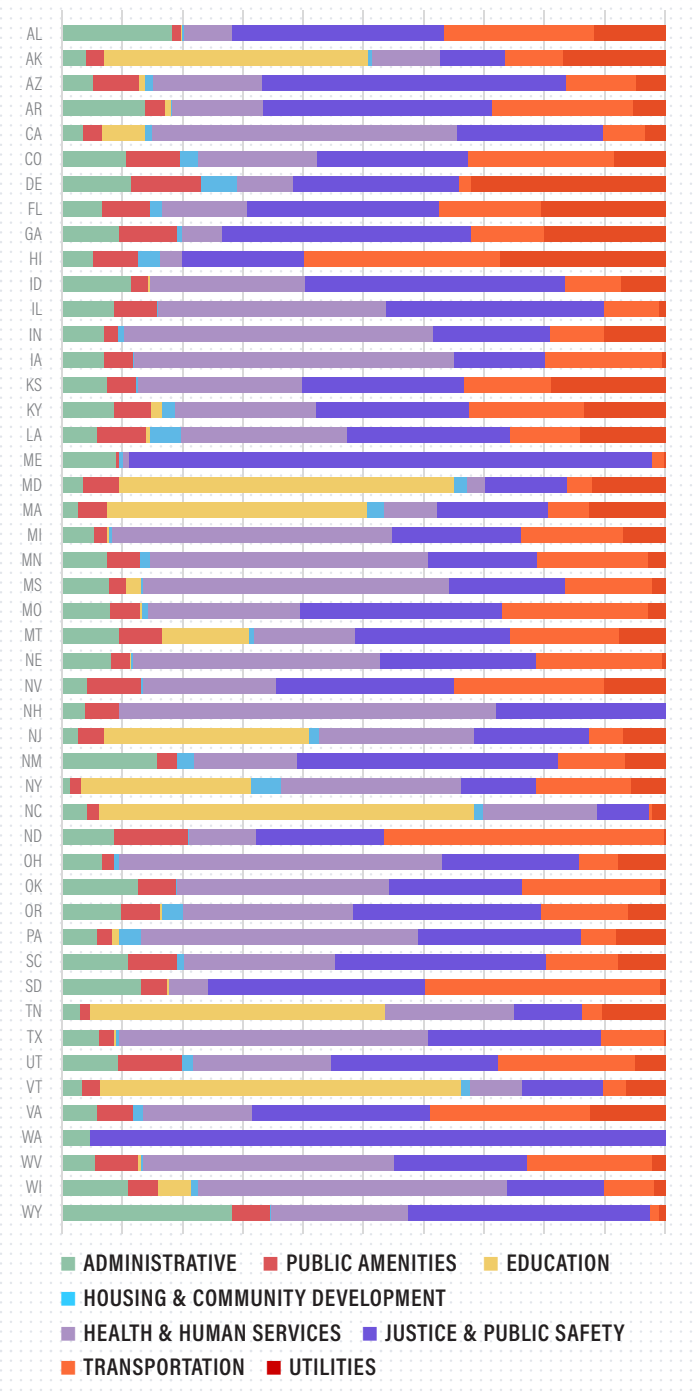
At the state level, the top county investment categories vary based on county priorities and authority levels, though health and human services, justice and public safety and transportation appear in the top most frequently. For counties in 40 states, Justice and Public Safety services is one of the top two services on which counties focus. Similarly, in 29 states, Health and Human services is one of the top two county investment categories. Only three states (Hawaii and the Dakotas) have Transportation as their top county investment category, but 11 states have Transportation as their second highest expenditure category and Transportation ranks third in another 19 states.

Although Education is the third highest investment category for counties as a whole, it ranks as the top category in only a few states (especially, Alaska, Maryland, North Carolina, Tennessee, Virginia). While K-12 education is generally a state and local partnership, the county role in that partnership varies, as most states designate authority to independently elected or appointed school boards. Almost all states mandate the school boards to raise revenue for schools through property and other taxes, with the state contributing the remainder. Public school districts are only dependent on county governments in Alaska, Maryland, North Carolina, Tennessee and Virginia, meaning counties in those states have a statutory obligation to directly fund K-12 schools. In terms of post-secondary education, counties' decision-making authority varies, though counties remain critical actors in driving integration and coordination among human services, workforce and economic programs to strengthen career pathways.

All of these county services and expenditures are dependent both on the authority each state gives to county governments in state law, as well as the ability of each county to raise adequate revenue.

COUNTY PRIORITIES AND MANDATES ARE DIVERSE

County Expenditure Breakdown by State



Source: *NACo Analysis of U.S. Census Bureau - 2017 Census of Individual Governments: Finance*

MEMOS MADE EASIER: COUNTY EXPLORER DATA RESOURCES

NACo's County Explorer is a dynamic data-visualization tool designed to help strengthen your staff memos, floor speeches, and district travel. This comprehensive platform contains nearly a thousand datasets that will help contextualize the countless issues you will encounter in Congress.

NATIONAL ASSOCIATION of COUNTIES NACo
COUNTY EXPLORER

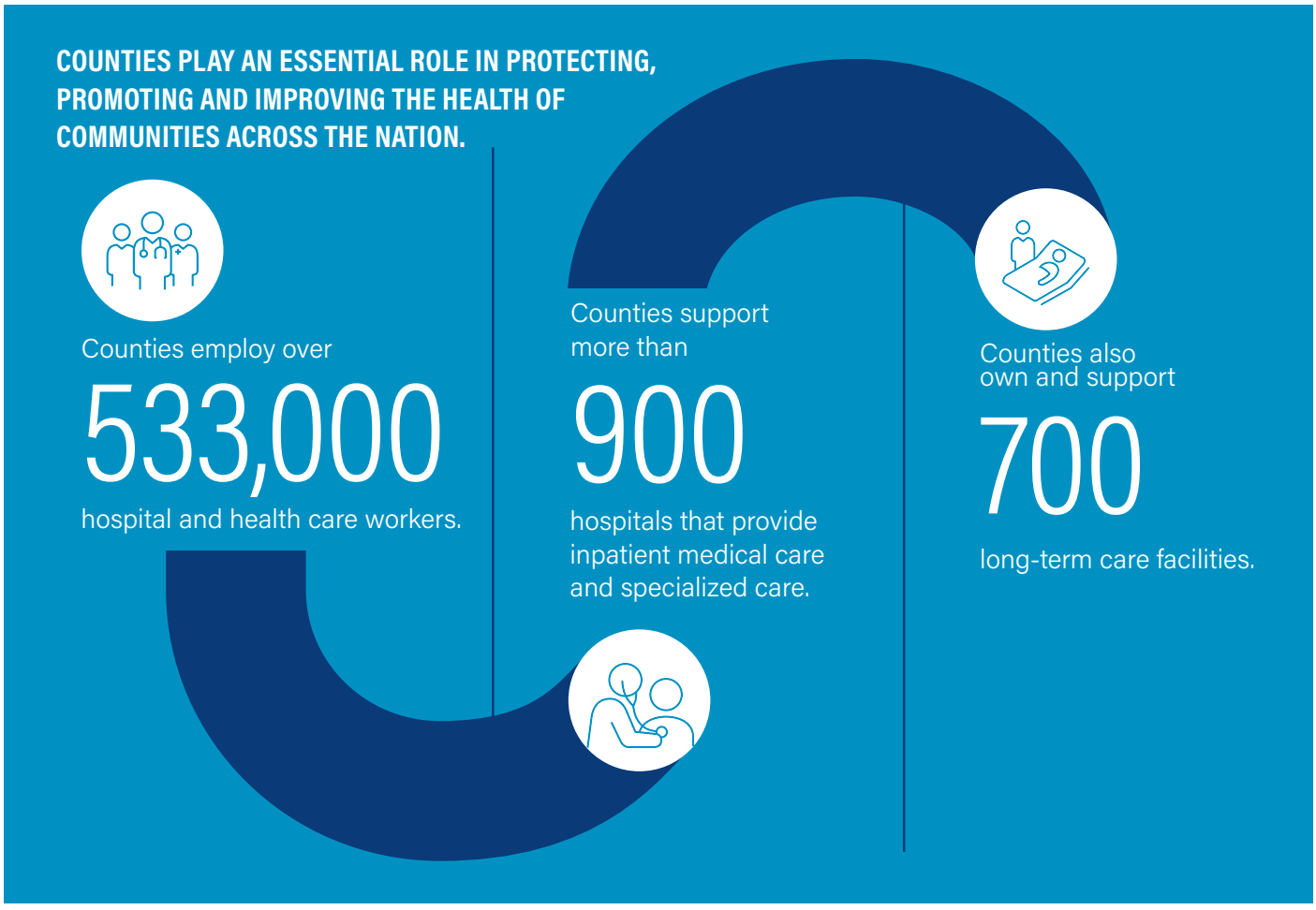
County Explorer is an accessible and user-friendly tool. Check out the new design, functionality and more at **Explorer.NACo.org**.

A SNAPSHOT: FUNCTIONS OF COUNTY GOVERNMENT

Following is a brief snapshot of the governmental responsibilities of America's county governments:

Community Health

- Own or support over 900 public hospitals and clinics with more than 58,000 beds
- Manage and/or govern more than 1,900 local public health departments / authorities
- Operate more than 700 long-term care facilities and more than 750 behavioral health authorities
- Provide mandated healthcare for low-income, uninsured or indigent residents in a majority of states
- Contribute to Medicaid in 25 states, including the District of Columbia. Of these states, 19 mandate counties to contribute to the non-federal share of Medicaid costs and/or administrative, program, physical health and behavioral costs
- Provide significant health services, including mental health and substance abuse treatment, for the general public and for millions of inmates of county jails and detention facilities

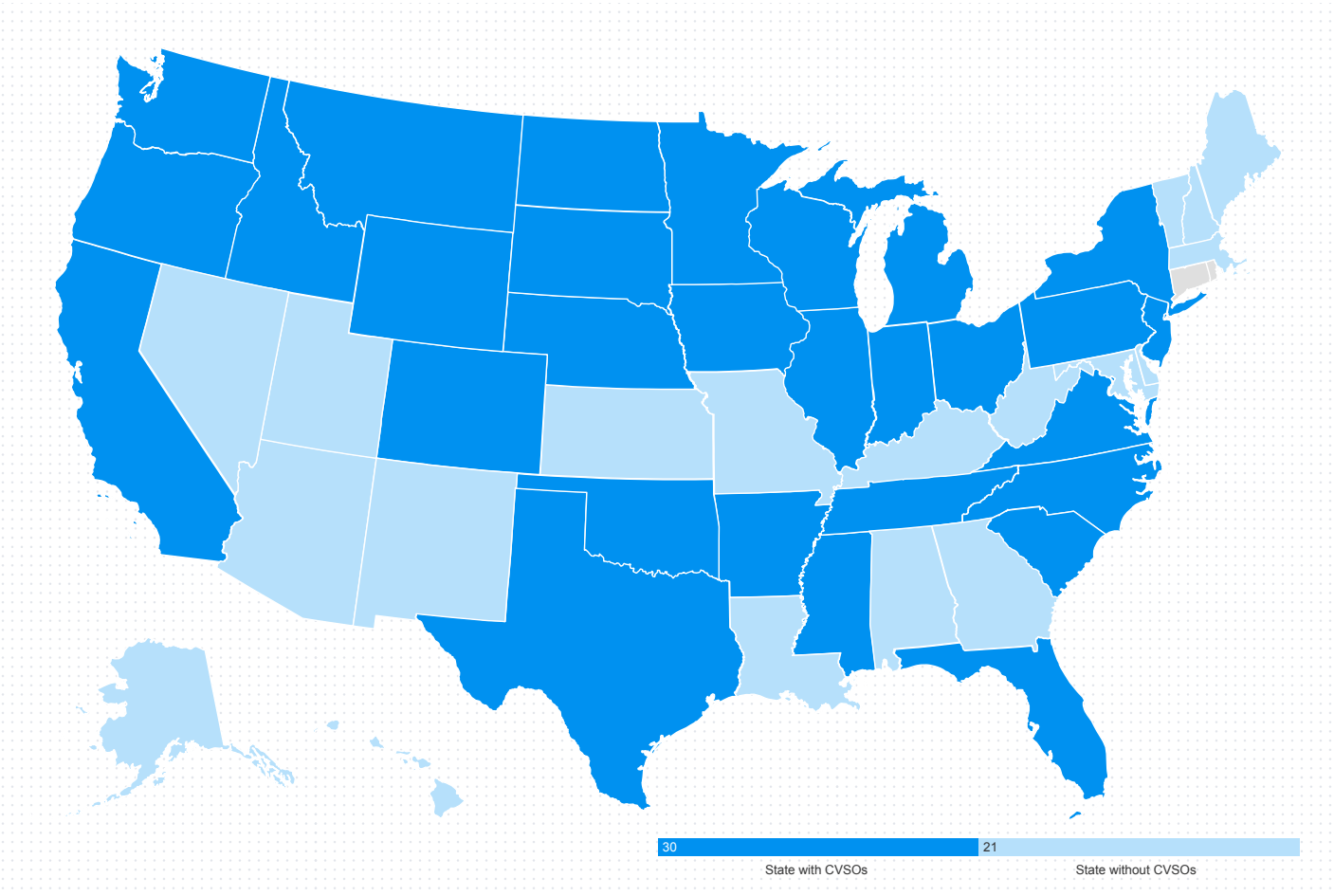


Human Services Including Veteran Services

- Counties partner with the federal government to administer a wide range of human services and nutrition supports that help stabilize vulnerable families and individuals, though this role varies by program and state. County-administered programs include Temporary Assistance for Needy Families (TANF) and the Social Services Block Grant (SSBG) in 9 states, the Supplemental Nutrition Assistance Program (SNAP) in 10 states, the child welfare system in 11 states and the Child Care and Development Fund (CCDF) in 8 states. Counties invest $62 billion of federal, state and local funds in human services each year.
- Over 248,000 county human services professionals deliver vital services to our nation's most vulnerable populations, including seniors, individuals with disabilities, children experiencing abuse and neglect, homeless individuals and low-income households.
- Counties in 29 states, plus the District of Columbia, have county veterans service officers (CVSOs), predominantly funded with local taxpayer dollars, to serve as essential advocates for veterans and their families as they navigate the complex process of accessing their Veteran Affairs (VA) benefits.

COUNTY VETERAN SERVICE OFFICERS (CVSOs) BY STATE

Indicated whether a state has or does not have County Veteran Service Officers (CVSOs)



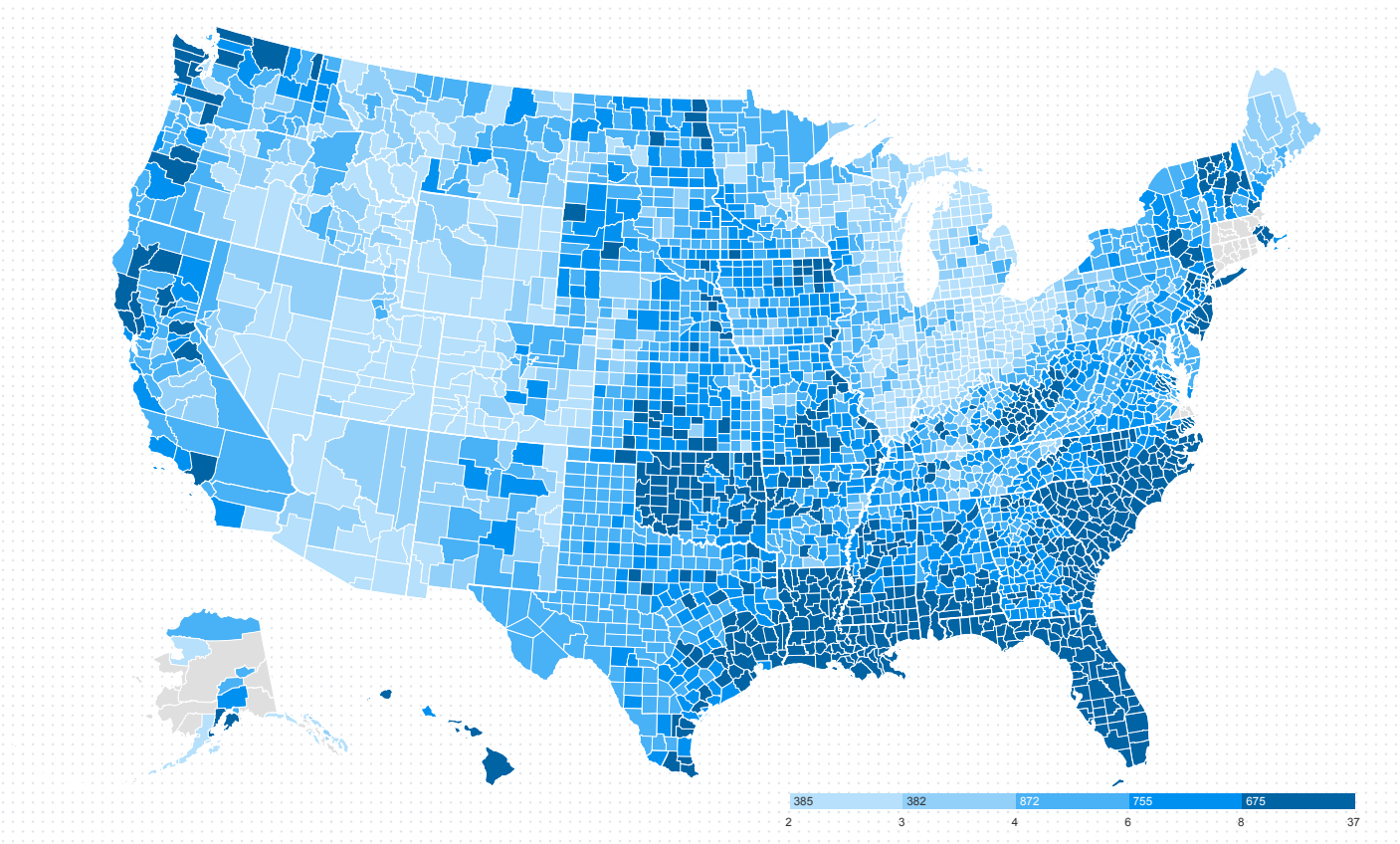
Source: *National Association of County Veteran Service Officers (Adapted by Center for a New American Security (CNAS))*

The County Landscape:

Our 3,069 county, parish and borough governments are on the front lines of delivering vital public services to over 300 million residents across the nation. Learn more about the roles and responsibilities of counties in fostering healthy, safe and vibrant communities.

NUMBER OF FEDERALLY DECLARED DISASTERS BY COUNTY BETWEEN 2013 AND 2022

The number of disaster declarations authorized by the President, both major disaster declarations and emergency declarations, for incidents affecting a county in 2013-2022



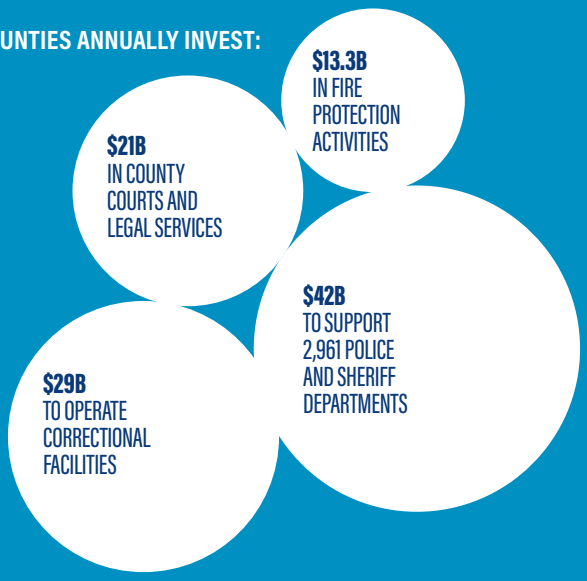
Source: *U.S. Federal Emergency Management Agency 2013-2022 Disasters data, 2023*

Justice and Public Safety

- Operate 91 percent of local jails, which processed more than 7.3 million admissions in 2022.
- Serve as the local arm of the state/county court systems, including key players such as judges, district attorneys, public defenders, court clerks, and jail administrators (and court facilities)
- Provide essential first responder services through sheriffs, police departments, constables, 911 operations, firefighters, EMT/EMS professionals and coroners/medical examiners
- Lead regional and local emergency management planning, response and coordination, including through county Emergency Operations Centers

Counties play a major role in two distinct areas of justice and public safety: ***emergency response and preparedness, and the criminal justice system.***

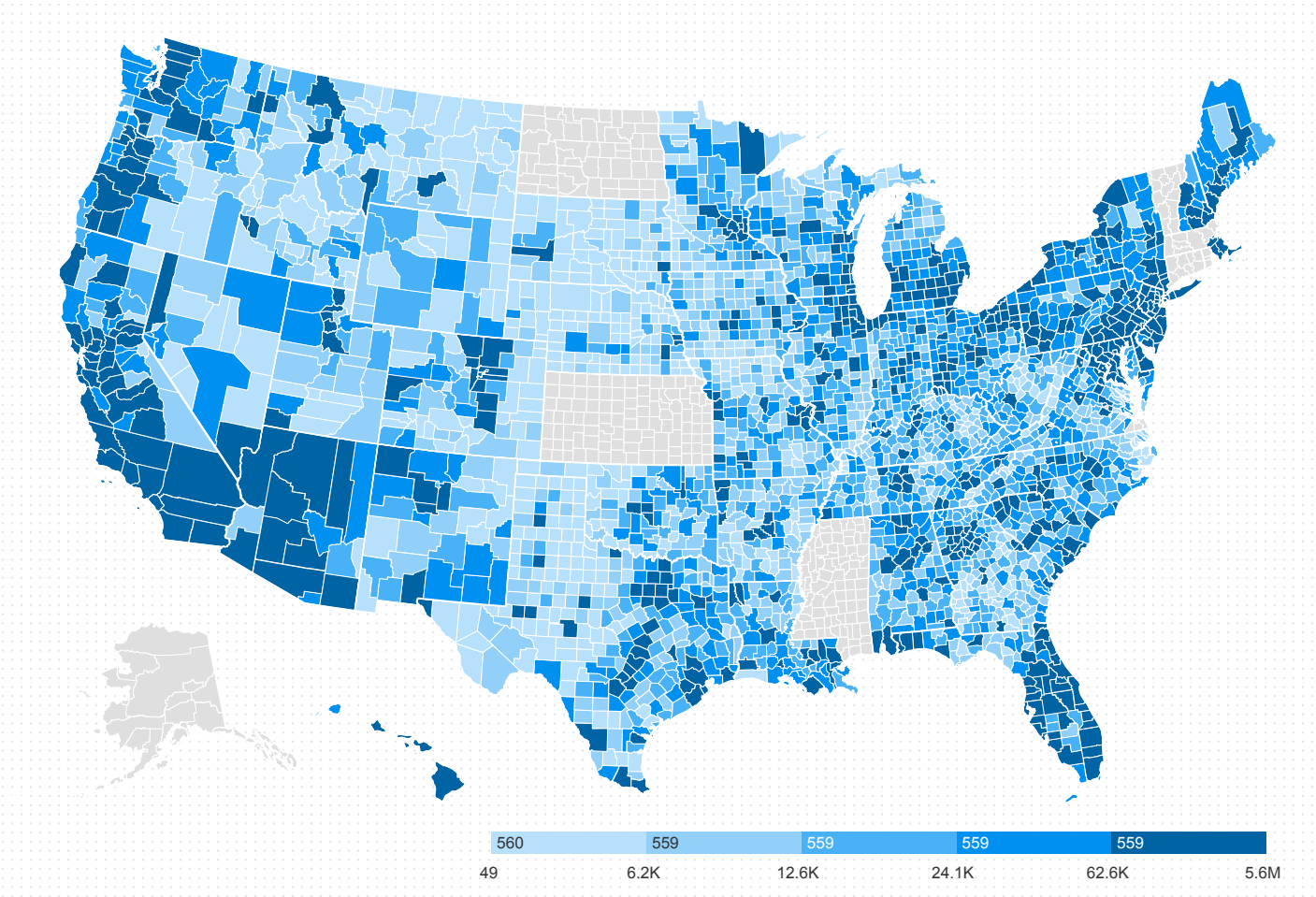
COUNTIES ANNUALLY INVEST:



Public Administration

- Record keeping including birth and death certificates, court records, election records, land records, marriage licenses, real estate transactions and tax assessments
- Tax assessments and collections, including for other public entities such as public schools, municipalities and special purpose districts
- Elections administration including funding and management of over 100,000 polling places and coordination and training of more than 630,000 poll workers each election cycle
- Essential community facilities and services, such as parks and recreation, public libraries, arts and culture programs and facilities, community and technical colleges, housing and homelessness services, and community and economic development

TOTAL REGISTERED VOTERS (2020)

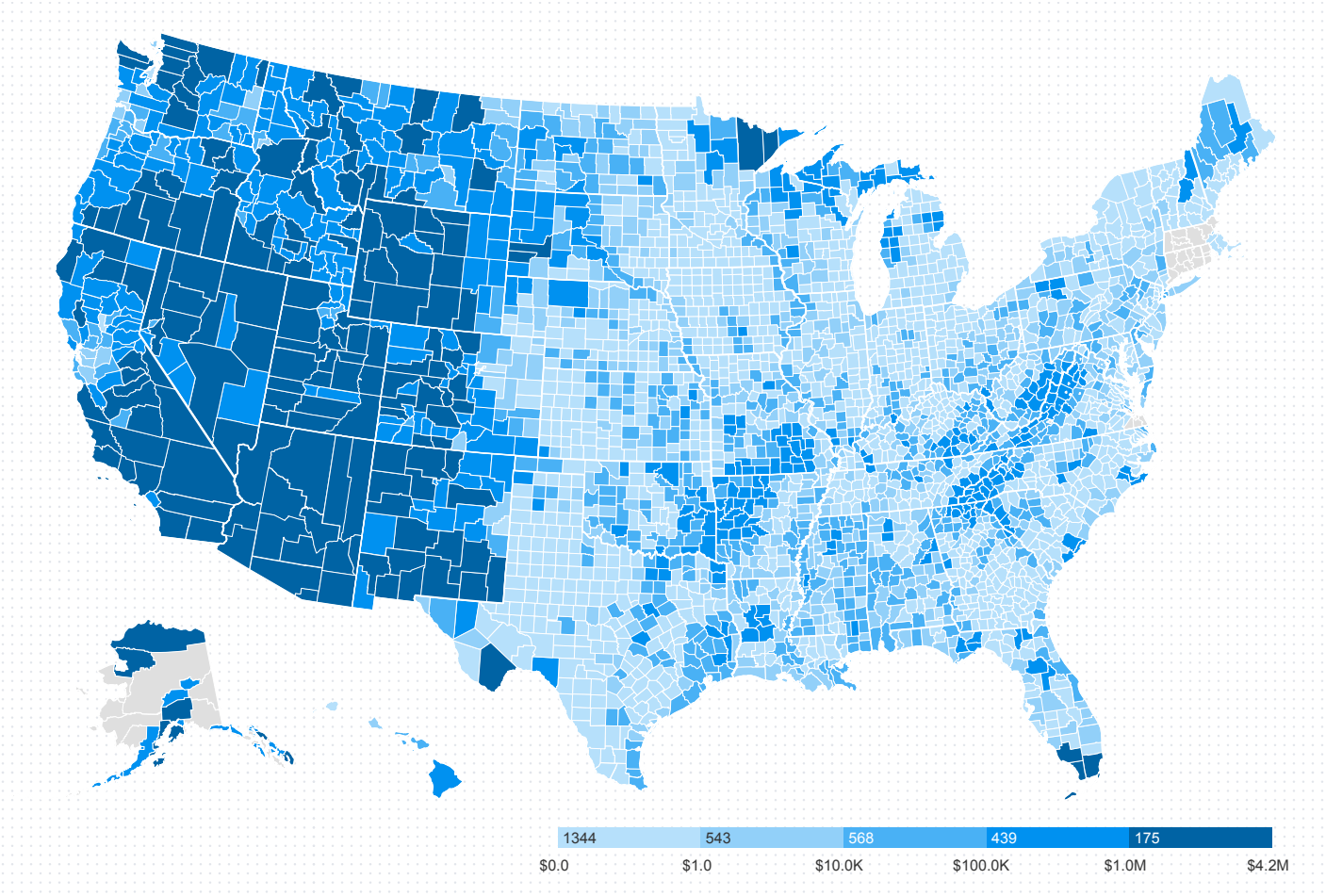


Source: *NACo Analysis of State Board of Elections website data*

Public Lands

- Nearly 62 percent of counties have federal public land with our boundaries
- As federal land is not taxable by local governments, the federal Payment-in-Lieu-of-Taxes (PILT) account provides essential compensation to over 1,850 counties in 49 states, the District of Columbia, Guam, Puerto Rico and the U.S. Virgin Islands for lost tax revenues. Counties collectively received more than $562 million in PILT funding in FY 2023.
- The Secure Rural Schools and Community Self-Determination (SRS) Act was enacted in 2000 to compensate for steep reductions in revenues from timber harvests, which resulted from national policies that substantially diminished revenue-generating activities within federal forests. For FY 2022, the SRS program provided $269 million for roads and schools and other critical services in over 700 mostly rural counties, parishes and boroughs across the United States.

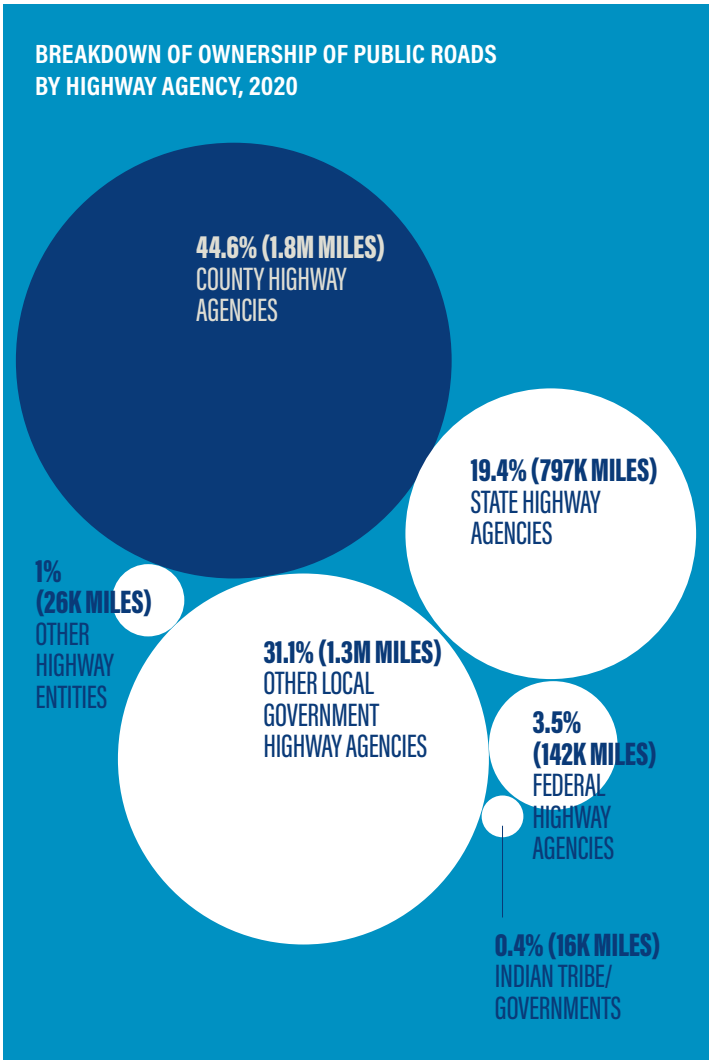
2023 PAYMENT IN LIEU OF TAXES (PILT) AMOUNT



Source: *NACo Analysis of U.S. Department of the Interior Data*

Transportation and Infrastructure

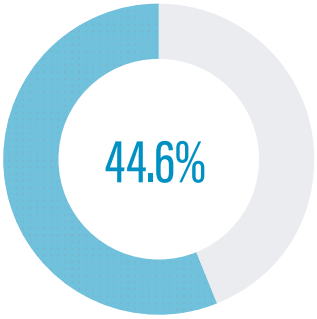
- Own and maintain more than 45 percent of public road miles and 38 percent of bridges
- Support 40 percent of public transportation systems
- Own or involved in operations of more than one-third of public airports
- Major owners of public facilities, such as courthouses, county administration buildings, jails and detention centers, dams and reservoirs, sports stadiums, water purification systems, sewage treatment facilities, ports, and solid waste management and recycling centers



There are **4.1 million** public road miles within counties across the nation where most trips both start and end.

In total, county highway agencies own and maintain **1.8 million** road miles.

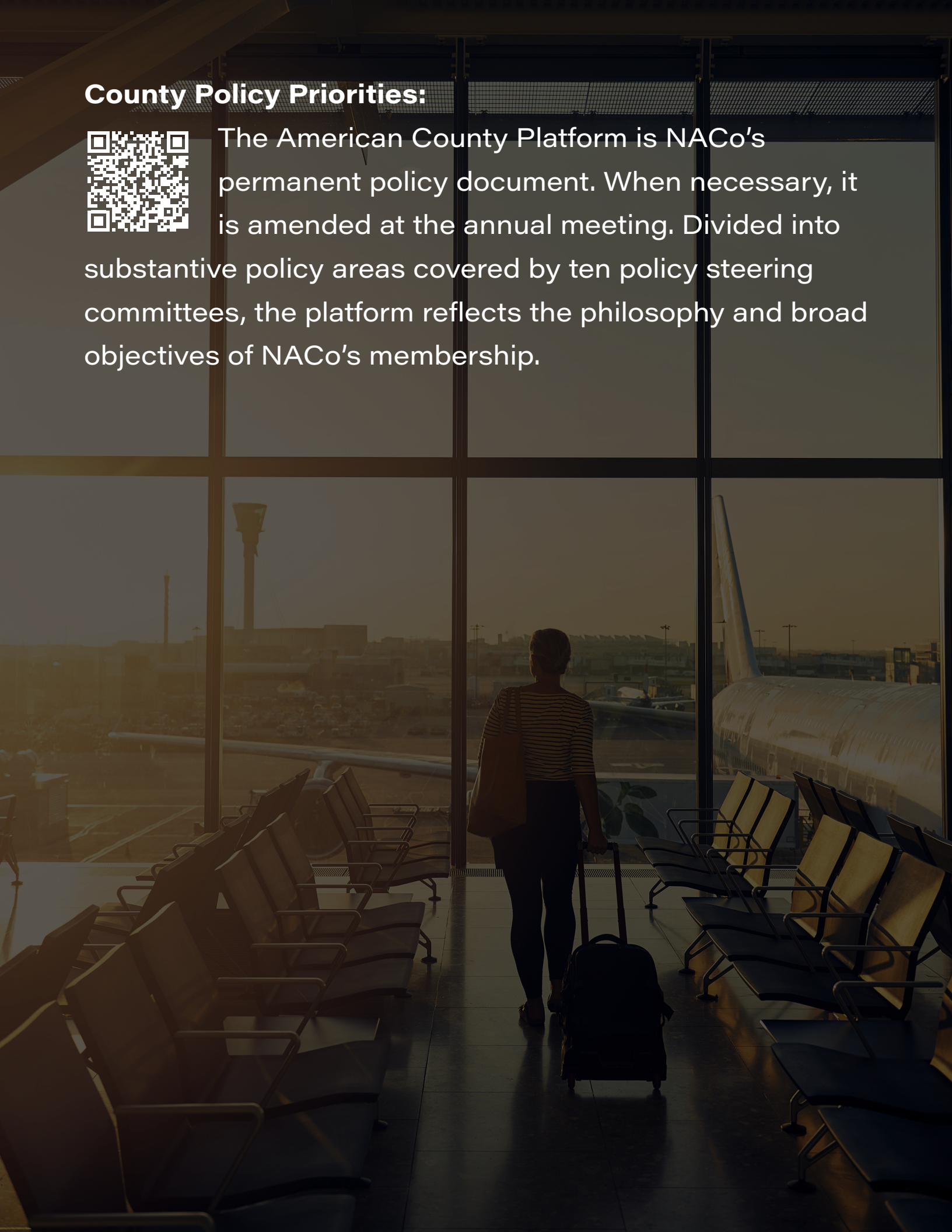
County governments invest **$30 billion** towards the maintenance, operation, repair and construction of toll and non-toll highways.



COUNTIES OWN MORE PUBLIC ROAD MILES THAN ANY OTHER LEVEL OF GOVERNMENT.

County Policy Priorities:

The American County Platform is NACo's permanent policy document. When necessary, it is amended at the annual meeting. Divided into substantive policy areas covered by ten policy steering committees, the platform reflects the philosophy and broad objectives of NACo's membership.



ABOUT OUR INTERGOVERNMENTAL SYSTEM

The National Association of Counties (NACo), as the national voice of America's county government officials, holds a special place in our nation's Federalism system of intergovernmental entities.

As an association of public officials, NACo is not a special interest group but a major partner in our nation's intergovernmental system. Under America's form of Federalism, the intergovernmental system is about the balance, division and sharing of power and responsibilities between and among levels of government: federal, state, local and tribal.

NACo is a member of the "Big Seven" coalition of national associations whose members represent the chief elected officials of state and local governments. The leadership of our organizations work together regularly to address national issues of mutual interest affecting state and local governments, including in consultation and partnership with elected and appointed officials across the three branches of the federal government.

The Big Seven Coalition consists of NACo, along with the National Governors Association, Council of State Governments, National Conference of State Legislatures, U.S. Conference of Mayors, National League of Cities and the International City/County Management Association (only group representing non-elected officials).

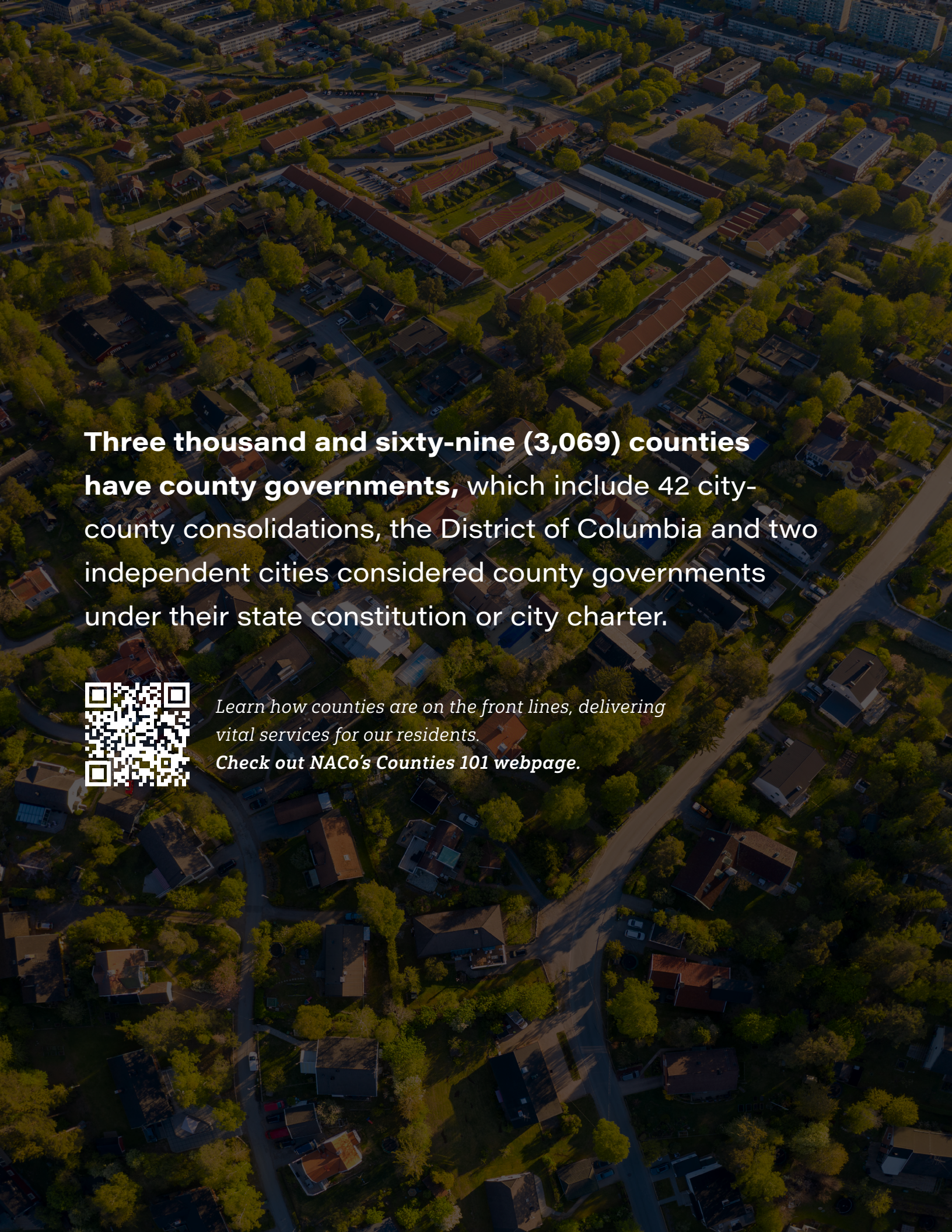
As national representatives of general-purpose state and local governments, led by our publicly elected officials, our associations are distinguished from the larger world of nonprofits and special interest groups, mainly by our governmental membership and our connections to governmental policy. As public entities, our collective missions are to represent the broader, public interest in public affairs.

At the core of NACo's mission is to bring county officials together to advance county priorities in national policymaking, promote exemplary county policies and practices, nurture leadership skills and expand knowledge networks, optimize county and taxpayer resources and enrich the public's understanding of county government. NACo achieves this goal by involving over 1,500 county elected and professional officials in more than 30 NACo committees, caucuses, advisory committees and task forces.

Under America's form of Federalism, the intergovernmental system is about the balance, division and sharing of power and responsibilities between and among levels of government: federal, state, local and tribal.

NACo and our county officials are not lobbyists or a special interest group. We are part of our nation's intergovernmental system of public elected officials.

*Check out **NACo's Advocacy Hub and Federal Policy Priorities***



Three thousand and sixty-nine (3,069) counties have county governments, which include 42 city-county consolidations, the District of Columbia and two independent cities considered county governments under their state constitution or city charter.

Learn how counties are on the front lines, delivering vital services for our residents.
Check out NACo's Counties 101 webpage.

ENDNOTES

[i] Britannica, "Shire," available at: https://www.britannica.com/topic/shire-British-government-unit

[ii] Emily Salmon, "County Formation during the Colonial Period," Encyclopedia Viriginia (December 2020), available at: https://encyclopediavirginia.org/entries/county-formation-during-the-colonial-period.

[iii] Census Bureau, "States, Counties, and Statistically Equivalent Entities," available at: https://www2.census.gov/geo/pdfs/reference/GARM/Ch4GARM.pdf

[iv] Ibid

[v] Marilyn Haigh, "Why does Texas have so many counties? A history lesson," The Texas Tribune, July 3, 2018, available at https://www.texastribune.org/2018/07/03/beto-orourke-visited-all-254-counties-texas-why-are-there-so-many/.

[vi] See Judy A. Watson, "County Government Abolishment," OLR Research Report (1998), available at: https://www.cga.ct.gov/PS98/rpt%5Colr%5Chtm/98-R-0086.htm; and Secretary of the Commonwealth of Massachusetts, "County Government," available at: https://www.sec.state.ma.us/divisions/cis/government/gov-county.htm

[vii] Rhode Island Government, "Fun facts & trivia," available at: https://www.ri.gov/facts/trivia.php

[viii] Secretary of the Commonwealth of Massachusetts, "County Government," available at: https://www.sec.state.ma.us/divisions/cis/government/gov-county.htm

[ix] U.S. Census Bureau, "Change to County-Equivalents in the State of Connecticut for 2022 ACS," (September 2023), available at: https://www.census.gov/programs-surveys/acs/technical-documentation/user-notes/2023-01.html

[x] The terms urban and rural are multidimensional concepts that can involve indicators such as population size, density or geographic isolation. The U.S. Census Bureau employs an urban-rural classification which delineates urban areas as densely developed territory, encompassing residential, commercial and other non-residential urban land uses. Rural areas encompass all population, housing and territory not included within an urban area. In another definition, the Office of Management and Budget designates counties into metro areas and micro areas. Metro areas constitute an urban core of 50,000 or more people and micro areas constitute an urban core of 10,000-49,999 people. Micro areas and counties outside of both metro and micro areas are considered rural. NACo does not employ a singular definition for urban and rural counties; rather, we encourage our members to self-identify based on the unique composition of their jurisdiction.

[xi] Census Bureau, "2020 Population and Housing State Data" (2021), available at https://www.census.gov/library/visualizations/interactive/2020-population-and-housing-state-data.html.

[xii] Haya El Nasser, "More Than Half of U.S. Population in 4.6 Percent of Counties," Census Bureau, October 24, 2017, available at https://www.census.gov/library/stories/2017/10/big-and-small-counties.html.

[xiii] NACo County Explorer Data, 2024.

[xiv] Though only 21 states actually have a mix.

[xv] State v. Hutchinson, Utah Supreme Court, 624 P.2d 1116 (1980), available at: https://law.justia.com/cases/utah/supreme-court/1980/16087-0.html

[xvi] Arizona Constable Ethics, Standards and Training Board, "What Do Constables Do?", available at: https://cestb.az.gov/about-us/what-do-constables-do

[xvii] See Michigan Association of County Drain Commissioners, available at: https://macdc.us/

[xviii] NOTE: New U.S. Census figures expected in summer 2024

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In Baltimore, Healing Trauma Is Now Official Policy: A groundbreaking law directs city agencies and employees — from cops to librarians — to root out practices that cause trauma. Already, lives have been saved.

Reasons to Be Cheerful Magazine

By: Lisa Elaine Held December 2, 2022

In the year since Donna Bruce started working at the Baltimore public library's Penn North branch, she has connected more than 400 visitors to housing programs, food assistance and substance abuse recovery options — and saved a man from dying of a drug overdose by administering the emergency treatment Narcan.

Poverty is pervasive in the neighborhoods around the Penn North library, and many people come in simply looking for heat or shelter. Bruce is leading a team of "peer navigators" in the library system trained to provide trauma-informed engagement and support to the public.

"It takes me back," she says, remembering the moment the man collapsed. "I get emotional, because if the peer navigator program wasn't here, if Narcan wasn't here, I don't know what would have happened to him."

All navigators have personal experience with mental health challenges or substance abuse disorders and act as role models in the community.

After her mother died, Bruce experienced a mental health crisis that led to a substance abuse disorder. "I'm also a hairstylist … and people sit in my chair and get their hair done, and I hear so much trauma, but they don't understand that they have been traumatized," she says. "A lot of the time people say, 'What did you do?' instead of 'What happened to you?' When we begin to look at what happened to a person, we can address those issues better, and that person can understand and heal."

Peer Navigators is the first city agency program that owes part of its origin story to Baltimore's 2020 Elijah Cummings Healing City Act. The goal of the groundbreaking legislation is to help departments reckon with and change policies that have caused — and continue to cause — trauma, while charting a new path rooted in healing.

The act mandates that city employees receive training, to gain awareness and learn how to help those who have been harmed. At the same time, agency leaders must evaluate their practices and procedures to determine if they are causing trauma and how to change those that are to better serve Baltimore's communities.

"There are people's personal experiences … [like] exposure to violence or poverty, and then there's deeper, policy-level trauma and the role that local government, specifically, has played in shaping a city that is deeply segregated and extremely violent," says City Councilmember Zeke Cohen, who introduced the legislation. "Throughout our history, Baltimore has unfortunately been an innovator in ways of oppressing predominantly Black communities, and we are living that reality today."

In the last century, the city has enforced residential segregation ordinances, perpetuated the use of "racial covenants" that prohibited homeowners in wealthy, white neighborhoods to sell to Black families, and disproportionately invested public dollars in higher-income neighborhoods. The Baltimore Police

Department's unconstitutional and often violent policing of Black communities resulted in a federal consent decree in 2016, and a 2021 report found that while Black residents make up 30 percent of Maryland's population, 70 percent of incarcerated people in the state are Black. Those factors have contributed to concentrated, generational poverty in neighborhoods where healthy food options are non-existent and rates of gun violence are high. In fact, 2017 research found that residents in the city's wealthy, primarily white northern neighborhoods live about 15 years longer than residents in the neighborhoods served by the Penn North library.

Clinicians have been using a trauma-informed perspective in mental and behavioral health since the late 1990s. But according to behavioral health clinician Amelia Roeschlein, only recently have institutions and organizations sought to root out and reduce harms embedded in policies and practices.

While there's no research yet into the impact of a citywide policy like Baltimore's Healing City Act, Roeschlein says evidence shows the approach can improve social environments, decrease violence, and reduce other negative encounters.

Several Baltimore schools have benefited from using restorative practices, a form of communication and conflict resolution related to trauma-informed care. In 2020, researchers at Johns Hopkins University found that over the course of one year, school climates improved, relationships between teachers and students were strengthened, and there was a 44 percent reduction in suspensions.

"It has been shown that [trauma-informed care] creates more of a community of hope and healing and recovery versus one of danger … and hopelessness," Roeschlein says.

Indeed, Baltimore students put Cohen on the path to crafting the Healing City Act. After a 2019 shooting at Frederick Douglass High School, he began speaking to them, and community members, about how to reduce Baltimore youth's exposure to violence. One message he says he heard loud and clear from students: "You spend too much time trying to police us."

Employees of Baltimore's public library system were the first to complete the training. Previously, they were tasked with immediately kicking out anyone who came into the library intoxicated. Not only did the library change that policy, officials decided that they would do more to make the library a safe space for those suffering from substance abuse disorders. With the help of the Maryland Peer Advisory Council, they started the peer navigator program and brought Bruce and others on to provide individuals with support, equipping them with resources including Narcan.

ll employees completed the Healing City training protocol, which consists of seven two-hour sessions including "Historical and Structural Racism as Forms of Trauma" and "Mindfulness and Restorative Practices as Healing Strategies." But Bruce and the other navigators enrolled in a much more in-depth Peer Recovery Specialist Certification program. In addition to 46 initial hours of training on advocacy, ethics, mentoring, wellness and recovery, it requires recertification every two years.

The Healing City Act has also led to public events, such as an annual summit and a lunch-and-learn webinar series with healing professionals. A website lists trauma-informed community resources, including programs that help incarcerated individuals navigate re-entry, provide housing assistance and support survivors of intimate partner violence.

It will take years to roll out employee training across the city, but the Parks and Recreation department is up next. It's also possible that trauma-informed policies could at some point be implemented by the Baltimore Police Department. The BPD has long been a state agency, but voters approved a ballot initiative in November to transfer control to the city. In any case, Cohen says the work is slow by design. "We are going really, really deep, and that is going to take as long as it takes," he says.

Karen Webber has already seen first-hand as a public school teacher and then principal how similar change helped some Baltimore schools. As the director of education and youth development for the Open Society Institute, she was a key ally to Cohen as he envisioned what the Healing City Act could and should be.

"Children and adults are learning different ways of handling disputes and disagreements and also of creating community," Webber says. "If that happens in the school, and it also happens when you go to the rec center, and it also happens when you go to the library … I've always conceptualized this as something that we can adopt as an entire city."

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Original Investigation | Geriatrics

Effect of Telehealth Treatment by Lay Counselors vs by Clinicians on Depressive Symptoms Among Older Adults Who Are Homebound
A Randomized Clinical Trial

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Abstract

IMPORTANCE Older adults who are homebound and have low income have limited access to psychosocial treatments because of their homebound state and geriatric mental health workforce shortages.

OBJECTIVE To evaluate clinical effectiveness of a brief, aging service–integrated, videoconferenced behavioral activation (tele-BA) treatment delivered by lay counselors compared with videoconferenced problem-solving therapy (tele-PST) delivered by licensed clinicians and attention control (AC; telephone support calls).

DESIGN, SETTING, AND PARTICIPANTS This 3-group randomized clinical trial using a randomization prior to consent approach included individuals aged 50 years or older who were homebound and had 24-item Hamilton Depression Rating Scale (HAMD) scores of 15 or greater between February 15, 2016, and April 15, 2019. Tele-BA and tele-PST participants received 5 weekly treatment sessions. Assessments were performed at baseline and 12, 24, and 36 weeks after baseline. Intention-to-treat statistical analyses were performed from January 1, 2020, to February 15, 2020.

INTERVENTIONS Tele-BA participants were taught 5 steps for reinforcing healthy behaviors to improve mood, physical functioning, and social engagement. Tele-PST participants were taught a 7-step approach for problem solving coping skills.

MAIN OUTCOMES AND MEASURES The primary outcome was the 24-item HAMD scores. Response (ie, ≥50% reduction in HAMD) and remission (ie, HAMD <10) rates and effect sizes for clinically meaningful differences were examined. Secondary outcomes were disability, social engagement and activity frequency, and satisfaction with participation in social roles.

RESULTS A total of 277 participants were enrolled, including 193 (69.7%) women, 83 (30.0%) who were Black, 81 (29.2%) who were Hispanic, and 255 (92.1%) with income of $35 000 or less. The mean (SD) age was 67.5 (8.9) years. Among these, 90 participants were randomized to tele-BA, 93 participants were randomized to tele-PST, and 94 participants were randomized to the AC. Compared with participants in the AC group, participants in the tele-BA and tele-PST groups had significantly higher response and remission rates and medium to large effect sizes (tele-BA: raw growth modeling analysis d = 0.62 [95% CI, 0.35 to 0.89]; P < .001; tele-PST: raw growth modeling analysis d = 1.00 [95% CI, 0.73 to 1.26]; P < .001) for HAMD scores. While tele-PST was significantly more effective than tele-BA for reducing HAMD scores (t_{258} = −2.79; P = .006), there was no difference between tele-BA and tele-PST on secondary outcomes.

(continued)

Key Points

Question Is tele-delivered behavioral activation (tele-BA) treatment by bachelor's-level lay counselors for older adults who are depressed and homebound with low income clinically effective?

Findings In this randomized clinical trial with 277 participants, tele-BA by lay counselors and tele-delivered problem-solving therapy by licensed clinicians were significantly more effective than telephone support calls in improving depressive symptoms, disability, social engagement and activities, and satisfaction with participation in social roles. Tele-BA was significantly less effective than tele-delivered problem-solving therapy in reducing depressive symptoms, but there were no differences in other outcomes.

Meaning These findings suggest that tele-BA by lay counselors for older adults with low income who are homebound was an effective depression treatment.

+ Visual Abstract

+ Invited Commentary

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

Abstract (continued)

CONCLUSIONS AND RELEVANCE In this randomized clinical trial, participants who received tele-BA by lay counselors achieved statistically and clinically meaningful changes in depressive symptoms. Given shortages of licensed mental health clinicians, tele- and lay counselor–delivered services may help improve access to evidence-based depression treatment for large numbers of underserved older adults.

TRIAL REGISTRATION ClinicalTrials.gov Identifier: NCT02600754.

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Introduction

The number of older adults who are disabled and homebound is increasing. Of Medicare beneficiaries aged 65 years or older, 8.3% were chronically homebound between 2011 and 2017, and 26.2% were at rapid risk of becoming homebound over the 7-year period.[1] Older adults who are homebound (three-quarters of whom are women and one-third of whom are not White) tend to be socioeconomically disadvantaged.[2] In addition, their rates of depression are 2- to 3-fold higher than their nonhomebound peers.[3-5] While pharmacotherapy is the primary treatment for geriatric depression, its effectiveness is especially low for these older adults, as it does not address their multiple life stressors that are depression risk factors.[6] Pharmacotherapy has also been found inadequate for treating older adults with persistent depressive disorder with cerebrovascular or neurodegenerative comorbidities.[7]

Our previous randomized clinical trial (RCT)[8] found that brief, videoconferenced problem-solving therapy (tele-PST) delivered by licensed clinicians was highly effective for older adults with low income who were depressed and homebound. However, given geriatric mental health workforce shortages, a more scalable approach to improving access to depression treatment for these older adults could be to deploy lay counselors.[9,10] Lay counselor interventions have been found effective for depression prevention and treatment in other countries.[11,12] Lay counselors, also known as *psychological well-being practitioners*, are critical to the stepped care model of the UK's National Health Service's Improving Access to Psychological Therapies program.[13,14] In the US, bachelor's-level lay counselor–provided cognitive behavioral therapy (CBT) was as effective as PhD-level expert–provided CBT for older adults with generalized anxiety disorder.[15,16]

Behavioral activation (BA) is the most widely used lay counselor–provided depression treatment, as its simpler approach compared with more complex treatment modalities (eg, CBT) is well suited for lay counselors without professional mental health training.[17] A large RCT in the UK[17] compared BA delivered by mental health workers without professional training in psychotherapy with CBT delivered by psychotherapists and found that BA was not inferior to CBT in depression, anxiety, and physical health outcomes, while costs were lower and quality-adjusted life-year outcomes were better.

In this RCT, we tested the clinical effectiveness of a brief, videoconferenced BA (tele-BA) delivered by bachelor's-level counselors for older adults with low income who were depressed and homebound. Tele-BA was compared with tele-PST delivered by master's-level clinicians and an attention control (AC) consisting of telephone support calls by research assistants. All interventionists were embedded in a large aging service agency that provides home-delivered meals and case management for older adults who are disabled. The rationales for integrating depression treatment in an aging service agency were that aging service case managers are well situated to identify depression because of their close and supportive contacts with older adults who are homebound and that coordinating depression treatment and case management is necessary for older adults with low income who tend to have multiple comorbid health, financial, and other life stressors.

Study hypotheses were that both tele-BA and tele-PST would be more effective than AC at 12, 24, and 36 weeks after baseline, resulting in lower depressive symptoms (primary outcome), and lower disability, higher social engagement and social activities, and higher satisfaction with social roles (secondary outcomes) and that tele-BA would be less effective than tele-PST, but both would result in clinically meaningful outcomes in terms of response and remission rates and effect sizes.[18] To our knowledge, this is the first RCT to test the effectiveness of aging service–embedded tele-BA by lay counselors for older adults with low income who are homebound. This analysis could have significant implications for training the geriatric mental health workforce in a rapidly aging society and improving access to depression treatment for growing numbers of older adults who are homebound.

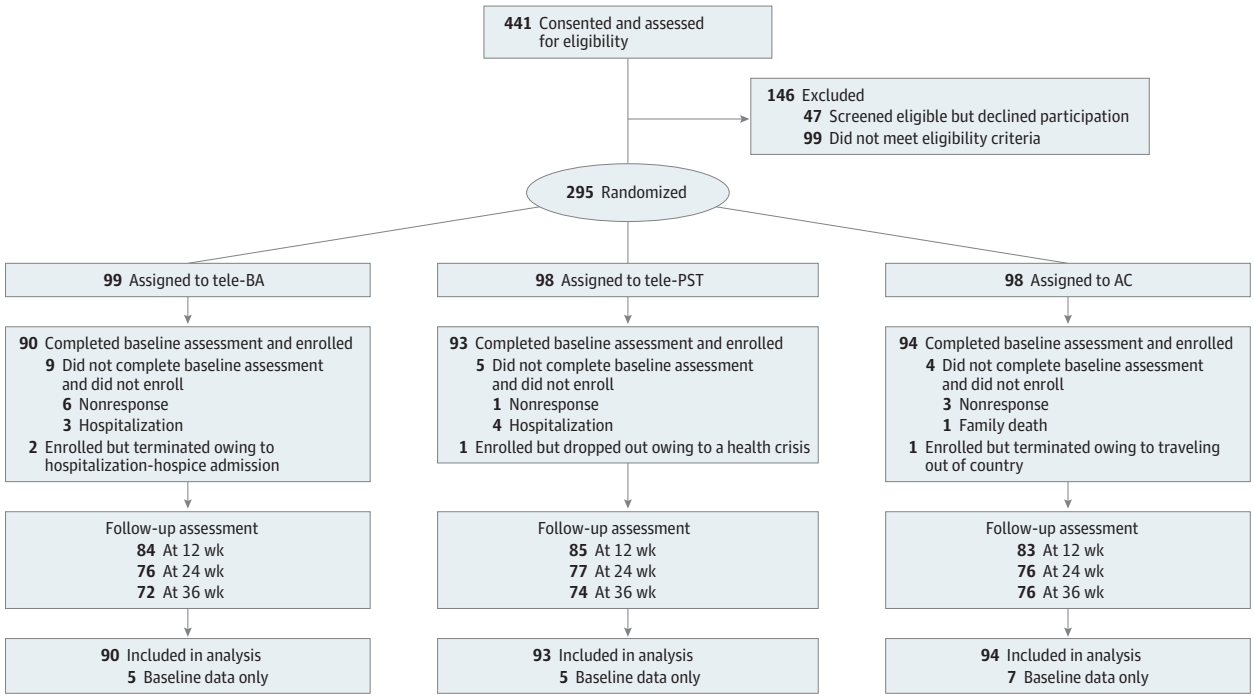
Methods

The University of Texas at Austin institutional review board approved this study. All participants provided written informed consent prior to baseline assessments (Trial Protocol in Supplement 1). This study is reported following the Consolidated Standards of Reporting Trials (CONSORT) reporting guideline.

Participants

From February 15, 2015, to April 15, 2019, home-delivered meals and aging services case managers referred 505 individuals aged 50 years or older who were homebound (ie, not able to leave home without others' assistance owing to physical or functional health problems) and who were residing in Central Texas to the study team. Of these individuals, 441 consented to screening, 295 were eligible, and 277 completed the baseline assessment and were enrolled (**Figure 1**). Inclusion criteria were moderately severe to severe depressive symptoms (defined as 24-item Hamilton Depression Rating Scale [HAMD][19,20] score ≥15); self-identifying as non-Hispanic White, Black, or Hispanic (other

Figure 1. Participant Flow Through the Study



AC indicates attention control; tele-BA, tele-delivered behavioral activation treatment by a lay counselor; and tele-PST, tele-delivered problem-solving therapy by a clinician.

racial/ethnic groups were not included because they were <2% of home-delivered meal recipients in the target area); and English or Spanish proficiency. Exclusion criteria were high suicide risk, probable dementia, bipolar disorder, psychotic disorder, substance misuse, antidepressant medication intake or modification within the past 8 weeks, and current participation in any psychotherapy.

Study Design and Procedures

In an RCT design with randomization prior to consent (a preferred public health approach[21]), a random assignment sequence generated by the project's biostatistician (C.N.M.) was used to assign referred, potentially eligible individuals into 3 RCT groups prior to screening: (1) five 1-hour weekly sessions of tele-BA, (2) five 1-hour weekly sessions of tele-PST, or (3) five 30- to 45-minute weekly AC telephone support calls (to control for any social interaction effect). Five sessions meet the PST's 4-session minimum dose.[22] Most of the participants in our previous tele-PST study were able to master training content in 4 to 5 sessions.[23]

All participants received home-delivered meals and case management services as usual and 2 monthly booster calls. To reflect real-world practice, the tele-BA, tele-PST, or AC interventionist assigned to work with the participant conducted an in-home baseline assessment 1 week prior to treatment or AC calls. Following the baseline assessment, tele-BA and tele-PST participants received tele-delivery equipment (a secure laptop with a Health Insurance Portability and Accountability Act–compliant videoconferencing platform and a 4G wireless card) plus instructions and all written session materials (for psychoeducation, handouts, and worksheets). Only a few participants had their own computers or internet service.

Trained assessors conducted follow-up assessments at 12, 24, and 36 weeks after baseline, mostly at participants' homes, with a few exceptions (eg, telephone assessments for participants no longer residing in the area at time of follow-up). Blinding of treatment conditions was not possible, as we also assessed treatment acceptability for tele-BA and tele-PST participants. However, assessors were not informed of study hypotheses. No tele-BA or tele-PST participants dropped out during treatment owing to dislike of or disagreement with treatment modalities or sessions, but a few participants were terminated during the intervention phase owing to a long-term hospitalization or hospice admission. In total, 25 participants (9.1%) were not assessed at 12 weeks, 48 participants (17.3%) were not assessed at 24 weeks, and 55 participants (19.9%s) were not assessed at 36 weeks (Figure 1). Attrition rates did not significantly differ by treatment condition. There were no trial-related adverse events.

Treatments, Interventionist Training, and Fidelity Monitoring

Two lay counselors used a 5-step tele-BA manual that we adapted from the BA manual by Lejuez et al.[24] Sessions were designed to decrease behaviors that maintain or contribute to depression and increase or reinforce meaningful, healthy, and enjoyable behaviors for improving mood, physical functioning, and social engagement and activities through goal setting and activity planning. Before working with participants, lay counselors, one with a bachelor's degree in social work, the other with a bachelor's degree in communication, received a 50-hour didactic training in depression, BA, and care coordination and practiced tele-BA sessions with 3 older adults who were homebound and depressed under the supervision of a licensed clinical social worker (L.S.). The licensed clinical social worker also provided clinical supervision and fidelity monitoring of 20% of all sessions during the intervention phase.

Two tele-PST therapists used the 7-step PST-primary care (PC) manual developed for PC patients[25] that was successfully used in our previous tele-PST study.[8] In addition to training in problem-solving skills, PST also addresses anhedonia and psychomotor retardation through behavioral activation.[25] The developer of PST-PC (M.H.) provided certification, clinical supervision, and fidelity monitoring of tele-PST therapists following the same procedures as in tele-BA. In AC, research assistants engaged participants, with techniques including genuine regard and adding perspective, and provided nonspecific support.

Measures

Depressive Symptoms

The 24-item HAMD consists of the GRID-HAMD-21 structured interview guide[18] augmented with 3 additional items that assess feelings of hopelessness, helplessness, and worthlessness, as these cognitive processes are thought to be more sensitive to depression in older adults.[19] Consistent with other geriatric depression studies,[26,27] we defined response as 50% or greater reduction in HAMD score since baseline[28] and remission as HAMD score less than 10.

Disability

Disability was measured using the 12-item World Health Organization Disability Assessment Schedule (WHODAS 2.0)[29] to measure degree of in 6 domains of functioning: cognition, mobility, self-care, getting along, life activities, and participation. Scores were measured on a scale of 0 to 4, with 0 indicating no difficulty and 4, extreme difficulty or cannot do.

Social Engagement and Activities

We used the 10-item Social Engagement and Activity Questionnaire (SEAQ) to measure frequency of social engagement and activities that were likely to result from tele-BA or tele-PST. Scores were measured on a scale of 0 to 5, with 0 indicating not at all and 5 indicating every day. We developed the SEAQ based on our previous tele-PST data and validated it with data from this study.[30]

Satisfaction With Participation in Social Roles

We used the 6-item, Patient-Reported Outcomes Measurement Information System Item Bank version 1.0 Satisfaction with Participation in Social Roles (SPSR)—Short Form 6a[31] to measure contentment with one's ability to carry out social roles, including regular personal, household, and family responsibilities over the past 7 days. Scores ranged from 0 to 4, with 0 indicating not at all and 4, very much.

Participant characteristics at baseline are reported for descriptive purposes and include sociodemographic characteristics; number of chronic illnesses (range, 0-9; including arthritis; diabetes; hypertension; heart disease; stroke; emphysema, chronic bronchitis, or other lung problems; kidney disease; liver disease; and cancer); impairments in activities (range, 0-6) or instrumental activities of daily living (range, 0-6); pain ratings (range 0-10); antidepressant, anxiolytic, and analgesic medication intake; and Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition)[32] depression diagnosis.

Statistical Analysis

Participant Characteristics at Baseline

Between-group 1-way analysis of variance (with Bonferroni-corrected post hoc tests), χ^2 tests, and *t* tests were used to assess group differences in participant characteristics. All tests of significance were 2 tailed with α set at .05.

Treatment Effect

With 277 participants (intraclass correlation coefficient, 0.80 and time variable coded as the weeks), power was 0.80 for $d = 0.45$ and 0.95 for $d = 0.60$ for 2-tailed $\alpha < .05$ in examining hypothesized differences between tele-BA and tele-PST compared with AC and between tele-BA and tele-PST. In addition to response and remission rates, treatment effects for each outcome were analyzed in an identical manner. All models were fit using mixed-effects regression models[33] implemented using the *lmer* function from the *lme4*[34] and *lmerTest*[35] packages using RStudio statistical software version 1.2.5033 (R Project for Statistical Computing). Mixed models are a powerful option for representing the intent-to-treat population in longitudinal data in which participants are missing data at some time points,[36] as it includes all time points containing complete data for variables included in a putative model. Linear mixed models were estimated using maximum likelihood under the missing at random

assumption. Models included the pretreatment assessment of the outcome as a covariate and a random intercept for participants (ie, time points were nested within participant). All follow-up assessments were included as outcomes. Prior to entering treatment effects in the models, we fit the following models to establish an unconditional growth model: (1) an unconditional time (ie, no time variables) model that contained only the mean-centered baseline assessment of the outcome, (2) a linear time model, (3) a quadratic time model, and (4) a natural log time model. The unconditional growth models were compared using Akaike information criterion values to determine which unconditional growth model was the best fit to the data. Models whose Akaike information criterion was lower than a comparison model by 2 or more were substantially better models.[37]

After establishing the unconditional growth model, treatment effects, coded using dummy variables for tele-BA and tele-PST (eg, 1 if tele-PST and 0 otherwise), were entered. In addition to the primary models, we examined age at baseline as a covariate and the treatment group by age interaction but found no significant effect. As an additional sensitivity analysis, we fit the final models using log-transformed values of the outcomes and found an identical pattern of significant effects. In the final models, mean estimates across all follow-ups were computed and pairwise differences between the conditions were estimated (ie, AC vs tele-BA, AC vs tele-PST, and tele-PST vs tele-BA) using estimated marginal means implemented with the R *emmeans* package[38] to obtain model-predicted mean differences. These mean differences were divided by the pooled baseline SD of the outcome variable to obtain a standardized effect size (raw growth modeling analysis *d*) equivalent to traditional standardized effect sizes for mean differences between groups (eg, Cohen *d*).[39]

Results

Participant Characteristics at Baseline

Among 277 participants, 193 (69.7%) were women, 83 (30.0%) were Black, and 81 (29.2%) were Hispanic (**Table 1**). The mean (SD) age was 67.5 (8.9) years, and 255 participants (92.1%) had an annual income of $35 000 or less. Our study cohort closely represented the overall population of individuals in the study area who receive home-delivered meals. Almost two-thirds of participants (172 participants [62.1%]) had persistent depressive disorder and 142 participants (51.3%) were using 1 or more antidepressant medications.

A total of 90 participants were enrolled in tele-BA, 93 participants were enrolled in tele-PST, and 94 participants were enrolled in the AC group. Participants did not differ among groups on HAMD, WHODAS, and SPSR scores at baseline. Groups differed only on age ($F_{2,274}$ = 4.12) and SEAQ scores ($F_{2,273}$ = 9.74) with tele-PST participants being approximately 3 years younger and reporting higher SEAQ frequency than tele-BA or AC participants.

Treatment Effects

At the 12-week follow-up, tele-PST participants had the highest response rate (51.8% [95% CI, 40.7% to 62.7%]), followed by tele-BA participants (32.1% [95% CI, 22.4% to 43.2%]) and then AC participants (12.0% [95% CI, 6.6% to 21.0%]) (P < .001). Remission rates were significantly higher in the tele-BA (29.8% [95% CI, 20.3% to 40.7%]) and tele-PST (35.3% [95% CI, 25.2% to 46.4%]) groups (P = .52) compared with AC participants (9.6% [95% CI, 4.9% to 18.2%]) (P < .001). Assessment of longitudinal models based on the intent-to-treat approach indicated that the unconditional time model did not differ from models containing time parameters with the exception of the HAMD model, which exhibited a significant negative linear effect for time (t_{463} = −2.43; P = .02), indicating a linear decrease in HAMD scores between the 12- and 36-week assessments. Despite the linear time effect, we present the HAMD model without a time parameter for consistency of presentation. Sensitivity analyses indicated that treatment main effects were consistent in models with and without time. The unconditional time model pools the 3 follow-up assessments so that treatment group differences represent the mean group difference across all follow-up assessments.

Compared with participants in the AC group, participants in the tele-BA and tele-PST groups had significantly reduced HAMD scores across all follow-up assessments (tele-BA: estimate, −3.56 [95% CI, −5.09 to −2.03]; $P < .001$; tele-PST: estimate, −5.72 [95% CI, −7.23 to −4.20]; $P < .001$). Scores for WHODAS scores across all follow-up assessments were similarly reduced among the

Table 1. Participant Characteristics at Baseline and Response and Remission at 12-Week Follow-up

Characteristic	No. (%)			*P* value
	Tele-BA (n = 90)	Tele-PST (n = 93)	Attention control (n = 94)	
Age, mean (SD), y[a]	68.7 (9.5)	65.5 (8.1)	68.4 (8.7)	.02
Sex				
Women	66 (73.3)	63 (67.7)	64 (68.1)	.66
Men	24 (26.7)	30 (32.3)	30 (31.9)	
Race/ethnicity				
Non-Hispanic White	36 (40.0)	46 (44.1)	36 (38.3)	.75
Non-Hispanic Black	29 (32.2)	28 (30.1)	26 (27.7)	
Hispanic	25 (27.8)	24 (25.8)	32 (34.0)	
Living alone	46 (51.1)	42 (45.2)	50 (53.2)	.52
Education				
<High school	21 (23.3)	18 (19.4)	31 (36.2)	.06
High school diploma	19 (21.1)	11 (11.8)	15 (16.0)	
Some college or associate's degree	31 (34.4)	35 (37.6)	26 (27.7)	
Bachelor's degree or higher	19 (21.1)	29 (31.2)	19 (20.2)	
Household income, $				
≤15 000	49 (54.4)	42 (45.2)	59 (62.8)	.08
15 001-25 000	22 (24.4)	25 (26.9)	26 (27.7)	
25 001-35 000	12 (13.3)	15 (16.1)	5 (5.3)	
≥35 001	7 (7.8)	11 (11.8)	4 (4.3)	
Self-rated financial status				
Just manage to get by	74 (82.2)	77 (82.8)	79 (84.0)	.77
Have enough to get along, even a little extra	13 (14.4)	15 (16.1)	14 (14.9)	
Money is not a problem	3 (3.3)	1 (1.1)	1 (1.1)	
No. of chronic illnesses, mean (SD)[b]	3.6 (1.6)	3.9 (1.6)	3.8 (1.7)	.38
No. of ADL impairment, mean (SD)[c]	1.8 (1.5)	1.9 (1.6)	1.9 (1.6)	.91
No. of IADL impairment, mean (SD)[c]	2.7 (1.3)	3.2 (1.4)	3.0 (1.6)	.36
Pain rating, mean (SD)[d]	5.4 (2.9)	4.8 (2.7)	4.7 (3.2)	.20
Prescription medication intake				
Antidepressant	48 (53.3)	50 (53.8)	44 (46.8)	.57
Antianxiety or sleep	35 (38.9)	39 (41.9)	29 (30.9)	.27
Analgesic	59 (65.6)	62 (66.7)	54 (57.4)	.36
SCID-5 diagnosis				
Major depressive disorder, single episode	16 (17.8)	12 (13.0)	14 (15.2)	.70
Major depressive disorder, recurrent episode	16 (17.8)	19 (20.7)	22 (23.9)	
Persistent depressive disorder, dysthymia	58 (64.4)	60 (65.2)	54 (58.7)	
Unspecified or missing	0	1 (1.1)	2 (2.2)	
Depressive symptoms score, mean (SD)[e]	23.2 (5.7)	22.7 (5.7)	22.9 (5.7)	.75
Disability score, mean (SD)[f]	22.8 (8.0)	23.9 (9.4)	23.0 (9.8)	.71
Social engagement and activities, mean (SD)[g]	11.2 (5.2)	14.3 (6.6)	10.9 (5.7)	<.001
Satisfaction with participation in social roles, mean (SD)[h]	15.0 (6.5)	14.0 (5.9)	14.2 (5.7)	.51
Depressive symptoms at 12 wk, % (95% CI)[i]				
Response[j]	32.1 (22.4-43.2)	51.8 (40.7-62.7)	12.0 (6.6-21.0)	<.001
Remission[k]	29.8 (20.3-40.7)	35.3 (25.2-46.4)	9.6 (4.9-18.2)	<.001

Abbreviations: ADL, activities of daily living; IADL, instrumental activities of daily living; SCID-5, Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders* (Fifth Edition); tele-BA, tele-delivered behavioral activation treatment by a lay counselor; tele-PST, tele-delivered problem-solving therapy by a clinician.

[a] Analysis of variance results Bonferroni-corrected: $F_2 = 4.115$; $P = .02$ (Tele-BA = AC<Tele-PST).

[b] Range, 0 to 9.

[c] Range, 0 to 6.

[d] Range, 0 to 10.

[e] Measured using 24-item Hamilton Depression Rating Scale.

[f] Measured using 12-item World Health Organization Disability Assessment Schedule.

[g] Measured using 10-item Social Engagement and Activity Questionnaire. Analysis of variance results Bonferroni corrected: $F_2 = 9.741$; $P < .001$ (Tele-BA = AC<Tele-PST).

[h] Measured using Satisfaction with Participation in Social Roles—Short Form 6a.

[i] Measured using the 24-item Hamilton Depression Rating Scale. Includes 84 participants in the tele-BA group, 85 participants in the tele-PST group, and 83 participants in the active control.

[j] Response was defined as 50% or greater reduction of HAMD score from baseline. Fisher exact tests of differences were $P = .01$ between Tele-BA and Tele-PST, $P = .003$ between Tele-BA and AC, and $P = .001$ between Tele-PST and AC.

[k] Remission was defined as HAMD score less than 10. Fisher exact tests of differences were $P = .52$ between Tele-BA and Tele-PST, $P = .002$ between Tele-BA and AC, and $P < .001$ between Tele-PST and AC.

tele-BA and tele-PST groups compared with the AC group, and scores for SEAQ and SPSR were significantly increased (**Table 2**).

Follow-up means estimated from the mixed models show that HAMD scores decreased in the tele-BA (12.4 [95% CI, 11.3 to 13.5]) and tele-PST (14.6 [95% CI, 13.5 to 15.6]) groups (**Table 3**). While this difference was statistically significant (P = .006), tele-BA and tele-PST did not significantly differ on any secondary outcome across all follow-up assessments (**Figure 2**). Compared with the AC group, the effect sizes of the tele-BA group were 0.62 (95% CI, 0.35 to 0.89) for depression, 0.43 (95% CI, 0.21 to 0.65) for disability, −0.51 (95% CI, −0.74 to −0.27) for SEAQ, and −0.47 (95% CI, −0.69 to −0.24) for SPSR, and effect sizes for the tele-PST group were 1.00 (95% CI, 0.73 to 1.26) for depression, 0.42 (95% CI, 0.20 to 0.64) for disability, −0.58 (95% CI, −0.82 to −0.34) for SEAQ, and −0.55 (95% CI, −0.77 to −0.33) for SPSR outcomes.

Table 2. Mixed Model Treatment Effect Parameters for Primary and Secondary Outcome Models

Outcome	Estimate (95% CI)	*P* value
Depressive symptoms[a]		
Intercept	18.12 (17.05 to 19.19)	<.001
Baseline score	0.60 (0.49 to 0.71)	<.001
Tele-BA vs AC	-3.56 (-5.09 to -2.03)	<.001
Tele-PST vs AC	-5.72 (-7.23 to -4.20)	<.001
Disability[b]		
Intercept	22.21 (20.79 to 23.63)	<.001
Baseline score	0.52 (0.43 to 0.61)	<.001
Tele-BA vs AC	-3.91 (-5.93 to -1.89)	<.001
Tele-PST vs AC	-3.80 (-5.81 to -1.80)	<.001
Social engagement and activities[c]		
Intercept	10.29 (9.31 to 11.26)	<.001
Baseline score	0.45 (0.35 to 0.54)	<.001
Tele-BA v. AC	2.97 (1.59 to 4.35)	<.001
Tele-PST v. AC	3.38 (1.97 to 4.78)	<.001
Satisfaction with participation in social roles[d]		
Intercept	14.54 (13.59 to 15.49)	<.001
Baseline score	0.52 (0.43 to 0.61)	<.001
Tele-BA v. AC	2.81 (1.46 to 4.17)	<.001
Tele-PST v. AC	3.32 (1.98 to 4.67)	<.001

Abbreviations: AC, active control; tele-BA, tele-delivered behavioral activation treatment by a lay counselor; tele-PST, tele-delivered problem-solving therapy by a clinician.

[a] Measured using 24-item Hamilton Depression Rating Scale.

[b] Measured using 12-item World Health Organization Disability Assessment Schedule.

[c] Measured using 10-item Social Engagement and Activity Questionnaire.

[d] Measured using Satisfaction with Participation in Social Roles—Short Form 6a.

Table 3. Model-Based Mean Estimates From Mixed Models Across All Follow-Ups, Pairwise Treatment Contrasts, and Standardized Effect Size Estimates

	Estimates across all follow-ups, mean (95% CI)			Treatment condition contrast, *t* (*P* value)			Standard effect size (95% CI)		
Measure	Tele-BA	Tele-PST	AC	Tele-BA vs AC	Tele-PST vs AC	Tele-PST vs tele-BA	Tele-BA vs AC	Tele-PST vs AC	Tele-PST vs tele-BA
HAMD	14.6 (13.5 to 15.6)	12.4 (11.3 to 13.5)	18.1 (17.0 to 19.2)	4.58 (<.001)[a]	7.42 (<.001)[b]	-2.79 (.006)[a]	0.62 (0.35 to 0.89)	1.00 (0.73 to 1.26)	-0.38 (-0.64 to -0.11)
WHODAS 2.0	18.3 (16.9 to 19.7)	18.4 (17.0 to 19.8)	22.2 (20.8 to 23.6)	3.81 (<.001)[c]	3.73 (<.001)[a]	0.10 (.92)[d]	0.43 (0.21 to 0.65)	0.42 (0.20 to 0.64)	0.01 (-0.21 to 0.23)
SEAQ	13.3 (12.3 to 14.2)	13.7 (12.7 to 14.7)	10.3 (9.3 to 11.3)	-4.23 (<.001)[e]	-4.72 (<.001)[e]	0.57 (.57)[f]	-0.51(-0.74 to -0.27)	-0.58 (-0.82 to -0.34)	0.07 (-0.17 to 0.31)
SPSR	17.4 (16.4 to 18.3)	17.9 (16.9 to 18.8)	14.5 (13.6 to 15.5)	-4.08 (<.001)[e]	-4.86 (<.001)[g]	0.74 (.46)[g]	-0.47 (-0.69 to -0.24)	-0.55 (-0.77 to -0.33)	0.08 (-0.14 to 0.31)

Abbreviations: AC, active control; HAMD, 24-item Hamilton Depression Rating Scale; SEAQ, 10-item Social Engagement and Activity Questionnaire; SPSR, Satisfaction with Participation in Social Roles—Short Form 6a; tele-BA, tele-delivered behavioral activation treatment by a lay counselor; tele-PST, tele-delivered problem-solving therapy by a clinician; WHODAS, 12-item World Health Organization Disability Assessment Schedule.

[a] *df* = 258.

[b] *df* = 259.

[c] *df* = 256.

[d] *df* = 257.

[e] *df* = 254.

[f] *df* = 253.

[g] *df* = 255.

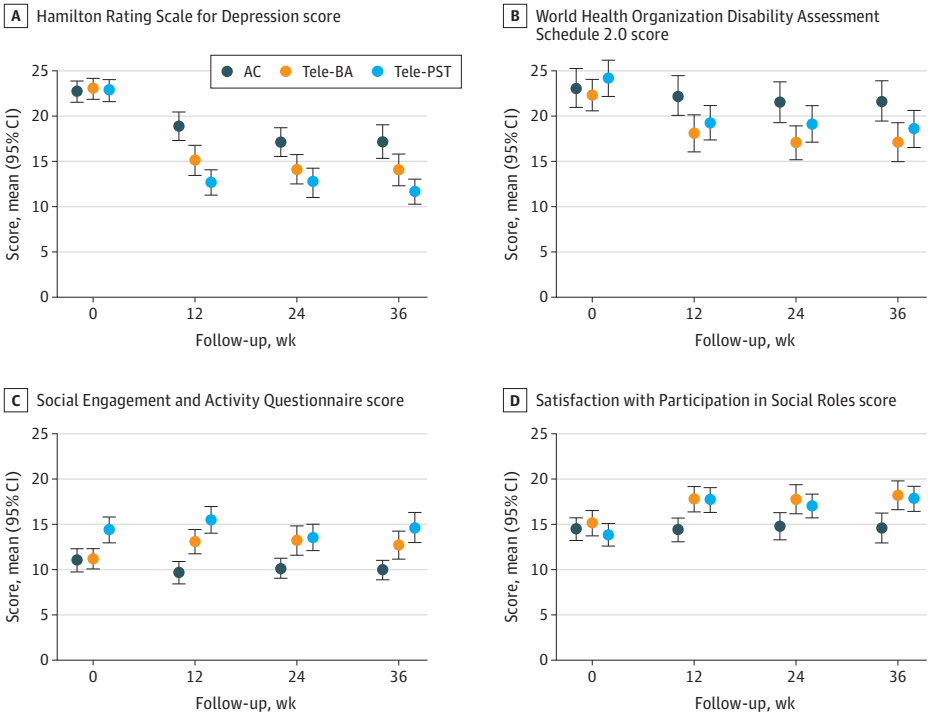
Discussion

The findings of this RCT suggest that that lay counselors can deliver evidence-based treatment with fidelity to achieve clinically meaningful changes in depression, disability, and activity levels, with the effects persisting at 36 weeks, among older adults with low income who are homebound. Although tele-BA participants' HAMD score reduction at follow-up was 2 points less than that among tele-PST participants, the 0.62 effect size for tele-BA compared with AC is an impressive outcome, especially since AC participants also experienced some symptom reduction, likely owing to caring social interactions for these socially isolated older adults. This effect size compares favorably to that found in a meta-analysis of 27 psychotherapy trials for late-life depression (0.73 [95% CI, 0.51 to 0.95]).[40] The 30% remission rate among tele-BA participants also compares favorably with the rate of remission found in a meta-analysis of 51 double-blind RCTs of antidepressants vs placebo for older adults (33.7% vs 27.2%).[41] Furthermore, there was no evidence that the effects of tele-BA significantly differed from those of tele-PST on secondary outcomes. As noted, almost two-thirds of participants had persistent depressive disorder, which tends to be resistant to pharmacotherapy. These positive outcomes show that tele-BA or tele-PST could be offered in combination with or in lieu of pharmacotherapy.

These findings are important given high rates of depression among increasing numbers of older adults who are homebound, which in turn contribute to further physical and mental deterioration and higher health care costs. Especially with the tragic sequelae of coronavirus disease 2019 in nursing homes,[42] the number of older adults who are homebound is likely to increase more rapidly in the future.

One strength of this study is that participants were racially/ethnically diverse, reflecting the increasing diversity among older adults in the US population. Along with shortages of licensed mental health professionals, older adults who are depressed, homebound, and members of racial/ethnic minority groups and have low income face even more barriers to accessing psychotherapy than their peers who are more socioeconomically advantaged, as they often lack transportation. In-home

Figure 2. Outcome Scores by Treatment Groups Across Assessments



AC indicates attention control; tele-BA, tele-delivered behavioral activation treatment by a lay counselor; and tele-PST, tele-delivered problem-solving therapy by a clinician.

psychotherapy is rarely available. Given these challenges in providing depression treatment to older adults who are at increased risk, aging service–integrated tele-BA by lay counselors is a viable option. During routine screenings, aging service case managers are best situated to identify depression and refer older adults to treatment. Older adults with low income also need case management and other supportive services along with depression treatment, given the many stressors they face owing to limited financial resources and multiple health problems. The Older Americans Act[43] stipulates funding for aging-service agencies to provide mental health services directly or to purchase these services. This funding may be used to employ bachelor's-level mental health workers who can expand the reach of mental health services for older adults at increased risk who are not being adequately served by the existing mental health service systems.

Tele-delivery is also necessary because travel costs associated with in-person sessions are significant barriers to treatment scalability and sustainability. The combined costs of the Health Insurance Portability and Accountability Act–compliant videoconferencing platform, which was minimal for each participant, and hot spot internet connection for those without an existing internet connection are significantly less than travel time and mileage reimbursement for interventionists. Therefore, tele-delivery is less resource intensive than in-person delivery regarding travel times and economies of scale (ie, higher interventionist-to-client ratio).

Limitations

This study has some limitations, one of which is that all participants resided in a single, large metropolitan area, which may limit generalizability of the findings to non-metropolitan areas. Another limitation is the lack of a longer (ie, beyond 9 months) follow-up period.

Conclusions

This RCT found that the effects of tele-BA by lay counselors for older adults who were housebound with low income compared favorably with the effects of tele-PST delivered by licensed clinicians. Faced with licensed mental health clinician shortages, tele- and lay counselor–delivered services have potential for easy replication and sustainability and can improve access to evidence-based depression treatment for large numbers of underserved older adults.

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SUPPLEMENT 1.
Trial Protocol

SUPPLEMENT 2.
Data Sharing Statement

FEBRUARY 25, 2021

Making It Easy to Get Mental Health Care: Examples from Abroad

▲ In Uganda, Thrive Gulu trains lay people to serve as counselors, who then offer help for mental health and social problems. Photo courtesy of Thrive Gulu.

TOPLINES

Even before the pandemic, many Americans with depression, anxiety, or other mental health problems did not get treatment because of provider shortages, lack of insurance, and an absence of treatment models that worked for them

Other countries' approaches to expanding mental health services offer the U.S. important lessons on prioritizing mental health, making care more convenient, and scaling treatment approaches to help more people

AUTHORS

Martha Hostetter, Sarah Klein

SECTIONS

Even before the pandemic, many people in the United States experiencing depression, anxiety, or other mental health problems did not get treatment. We investigated how other countries have expanded access to mental health care in recent years. Their strategies include paying general practitioners to deliver mental health services and hire mental health staff; leveraging telehealth platforms to assess and treat mild-to-moderate symptoms; deploying community health workers to screen people and help them navigate the system; and strengthening the capacity of nonprofit organizations to address problems such as unemployment and social isolation.

Even before the COVID-19 pandemic, most Americans with mental health conditions did not get treatment because of provider shortages, lack of insurance coverage, and a dearth of treatment models that worked for them.

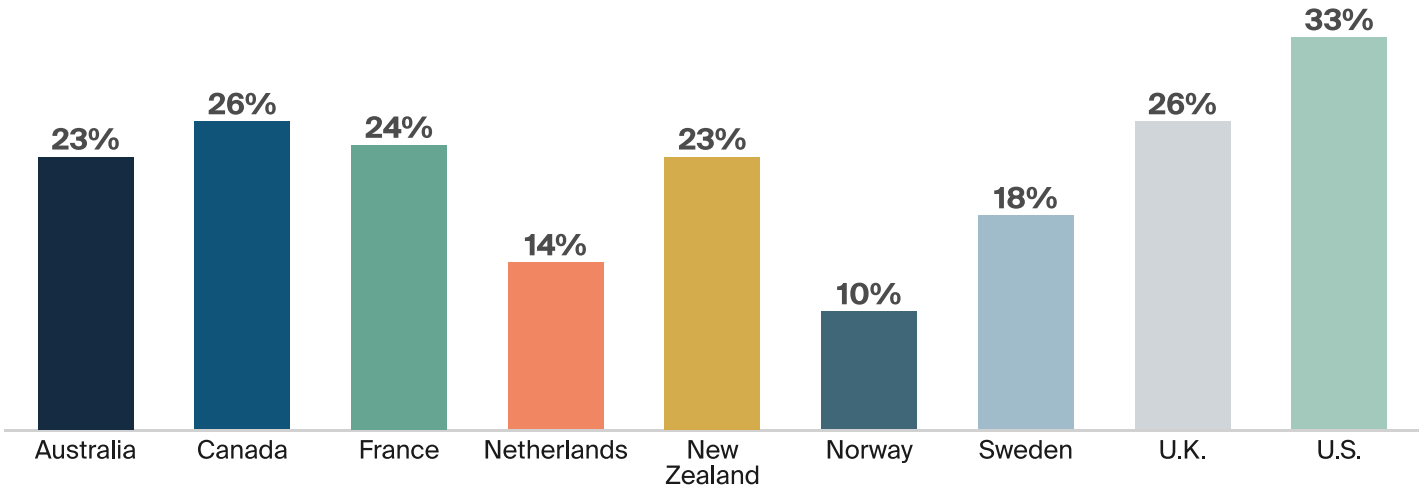
But other high-income countries have managed to expand access to mental health care in recent years. Some have developed national strategies to promote well-being and prevent mental health problems, often prompted by evidence that untreated conditions sap economic productivity. They've launched public health campaigns to raise awareness of mental health problems, encouraging people struggling with common conditions like anxiety or depression to seek help. And many have made it easier to find and access treatment. Certain low- and middle-income countries, meanwhile, have leveraged community health workers and technology to bring services to more people.

Even though other countries' health systems differ from ours in many ways, their approaches to expanding mental health services offer the United States lessons on how to prioritize mental health, make care more convenient, and scale treatment approaches to help many more people.

When the Commonwealth Fund fielded a survey exploring the early effects of the pandemic on the mental health and financial stability of residents in the U.S. and other high-income countries, researchers found that Americans were faring the worst. A third said they had been experiencing stress, anxiety, or sadness that was hard to cope with since the outbreak of the pandemic. And nearly a third (30%) reported having trouble paying for food, rent, or other necessities, causing them to use up their savings or seek loans to get by. Both rates were higher in the U.S. than those reported by residents in Australia, Canada, France, Germany, the Netherlands, New Zealand, Sweden, and the United Kingdom, and in some cases much higher.

Americans are more likely than people in other countries to report mental health concerns.

Percent of adults who reported experiencing stress, anxiety, or great sadness that was difficult to cope with alone since the outbreak started:



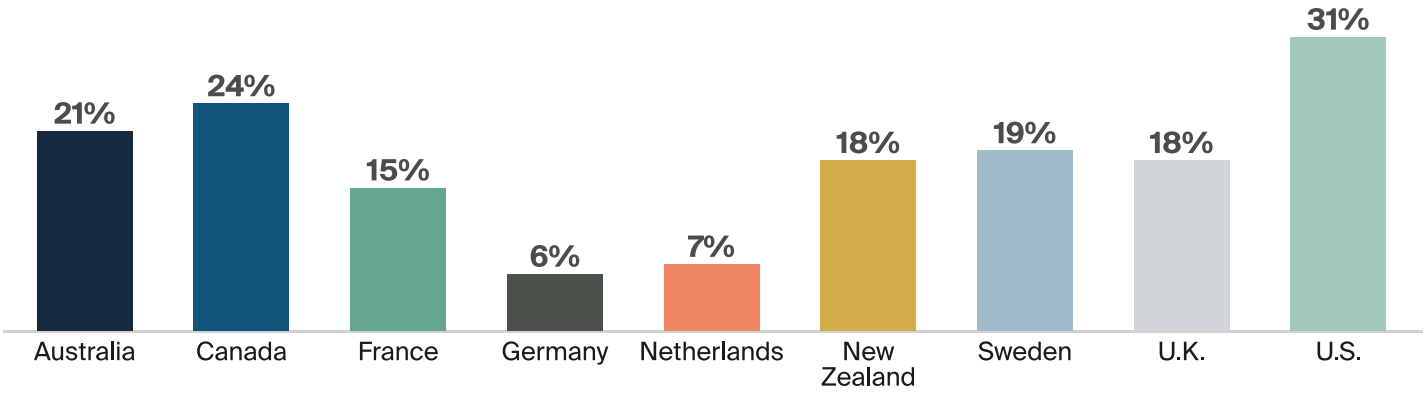
Download data

Notes: Question not asked in Germany. Differences between the U.S. and all other surveyed countries were statistically significant at the $p < 0.05$ level.

Source: Reginald D. Williams II et al., *Do Americans Face Greater Mental Health and Economic Consequences from COVID-19? Comparing the U.S. with Other High-Income Countries* (Commonwealth Fund, Aug. 2020). https://doi.org/10.26099/w81v-7659

Americans were the most likely among survey respondents to report negative economic consequences stemming from COVID-19.

Percent of adults who were unable to pay for basic necessities like food, heat or rent, and/or used up all or most of savings, and/or borrowed money or took out loan because of coronavirus pandemic:



Download data

Notes: Questions not asked in Norway. "Borrowed money or took out a loan" question not asked in Germany. Differences between the U.S. and all other surveyed countries were statistically significant at the $p < 0.05$ level.

Source: Reginald D. Williams II et al., *Do Americans Face Greater Mental Health and Economic Consequences from COVID-19? Comparing the U.S. with Other High-Income Countries* (Commonwealth Fund, Aug. 2020). https://doi.org/10.26099/w81v-7659

The survey was fielded between late March and late May 2020. Given the duration of the pandemic, many more people may now be in distress — financial or otherwise. In recent months, we reached out to mental health advocates, researchers, and providers in several of the countries we surveyed to explore how the pandemic has been affecting people's well-being and how their mental and public health systems have been responding. What we heard was similar to reports in the U.S., where the pandemic has had negative effects on broad swaths of society: isolated elders, families juggling work and schooling, stymied young people, and populations that had been disproportionately affected by COVID-19, particularly people of color, indigenous groups, and refugees. The findings accord with other surveys, including one by the U.S. Centers for Disease Control and Prevention that found increases in adult mental health problems, substance use, and suicidal thoughts.

Mental Health Approaches in Selected Countries

	Treating mild-to-moderate symptoms	Integrating physical and mental health care
Australia	✓	✓
Canada		
New Zealand	✓	
Netherlands		✓
Norway	✓	
Pakistan		✓
Uganda		
United Kingdom	✓	✓
Zimbabwe		

Engaging More People with Mild-to-Moderate Symptoms

Several countries have sought to expand access to care for people with mild to moderate mental health problems, particularly depression and anxiety. People with these conditions are often not identified or treated in either low- or high-income countries, according to a 2013 report from the World Health Organization.

In 2008, the United Kingdom launched Improving Access to Psychological Therapies (IAPT), thought to be the most ambitious effort by any country to expand mental health services. The goal is to engage many more people with anxiety and depression in treatment, primarily cognitive behavioral therapy (CBT), which the U.K.'s clinical evidence review body, the National Institute for Health and Care Excellence, has recommended as effective for these and other conditions. In the early 2000s, the NHS spent some £80 million (USD 113 million) a year

on counseling, out of an annual budget of £100 billion (USD 141 billion). Advocates argued that investing substantially more in these services would pay for itself by helping more people get back into the workforce.

IAPT differs from predominant models of mental health care in the U.S. in several ways. First, it promotes a standardized approach. Frontline therapists (known as psychological well-being practitioners) receive a year's training in a national CBT curriculum. People with symptoms of mild-to-moderate depression or anxiety are offered treatment by these practitioners, typically over the phone or via text messaging. For patients who find this insufficient, treatment shifts to face-to-face therapy with psychologists.

IAPT is also unusual in that treatment outcomes — the degree to which people feel better — are measured at each session, and aggregated data about treatment retention and results are reported on a public dashboard. There is minimal gatekeeping: people with general practitioners can refer themselves to the program, can pursue therapy as well as pharmacological treatment, and incur no costs. The program has grown steadily over the years; during 2019–20, nearly 1.7 million Britons were referred to it and more than half of those who completed treatment recovered.

The success of the initiative in reaching patients with less complex needs (those needing more specialized services still face challenges) has encouraged adaptations in other countries, including Australia, New Zealand, and Norway. Starting in 2012, Norway piloted a program known as Prompt Mental Health Care in 12 regions and then rolled it out to 49 sites. As the name indicates, an explicit goal of the program is to speed time to treatment, with responses to requests for services mandated within 48 hours. Because Norway has few mental health professionals offering treatment for people with mild as opposed to serious mental illnesses, waiting times for such treatment under the usual system can be months long and general practitioners — who may have some training in CBT — are often the only option.

Under Prompt Mental Health Care, people with symptoms of depression or anxiety can refer themselves. After initial screening, they are offered low-intensity treatments by therapists with one year of CBT training — including guided exercises and group courses — or face-to-face therapy by clinical psychologists. A randomized controlled trial found that Norwegians who received treatment under Prompt Mental Health Care were more likely to report reduced symptoms of anxiety or depression at six months follow-up than those who received usual care, which mostly included referrals to their general practitioners for therapy and references to books or other self-help resources (58.5% vs. 31.9%).

Integrating Physical and Mental Health Care

Some countries have sought to expand access by offering mental health services in primary care clinics. Advocates have long called for such integrated care in recognition that many people with mental health conditions also have physical health conditions, and the two can affect each other. But in the U.S., many primary care providers lack the time, training, and staff members to treat behavioral health conditions.

Beginning in 2014, the Netherlands increased funding for general practitioners (GPs) working alongside other health professionals to provide mental health care to patients with mild-to-moderate mental symptoms. Today, 90 percent of general practices have at least one team member trained to identify mental health issues. They support patients in managing stress, anxiety, insomnia, and other common problems, or refer them to specialists for more complex conditions. These services may be provided directly by physicians or more commonly by "general practice mental health workers," who have up to a year's training in screening, diagnosis, and intervention, and support GPs in managing mental health issues.

Australia has broadened access to mental health services through the country's Better Access to Psychiatrists, Psychologists and General Practitioners through Medicare Benefits Schedule, which since 2006 has paid general practitioners to offer early intervention, assessment, and management to people with mental disorders, as well as referrals to community-based mental health care providers. Patients are eligible for up to 10 individual therapy sessions and 10 group therapy sessions per year.

In the U.K, the National Health Service (NHS) has been experimenting with different ways of integrating physical health, mental health, and social services. In some regions, primary care practices have been grouped together and made responsible for 30,000 to 50,000 residents, with support from multidisciplinary teams including nurses, mental health professionals, social workers, and community health service workers.

Using Digital Platforms to Offer Convenient, Customized Care

Mental health care providers have been ahead of most other types of clinicians in adopting telehealth tools, with psychiatrists and psychologists delivering therapeutic services via phone and video for decades and accumulating evidence that these approaches can be just as effective as in-person visits for some patients. And well before the pandemic, in the U.S. and many other countries, digital health innovators had begun leveraging telehealth tools as well as chatbots and other forms of artificial intelligence to engage people with behavioral health conditions, both as a way of making care more accessible and to make up for workforce shortages.

In the Netherlands, many digital health tools are evaluated by a division of the Ministry of Health, Welfare, and Sport, and evidence of their effectiveness is tracked in a national database that clinicians can search before prescribing them. "Many GPs have received training on how to

use and offer digital mental health interventions," says Laura Shields-Zeeman, a 2018–19 Commonwealth Fund Harkness Fellow who leads the department of mental health and prevention for the Trimbos Institute, the country's national institute of mental health and addiction. Many of these tools are free or are available for a small subscription; those that combine face-to-face treatment with online modules are reimbursed by insurers, as they are part of treatment delivered by clinicians.

> "For people with mild-to-moderate complaints, there are a lot of self-help and self-management digital support options available, which helps to reduce caseloads in clinics that provide specialized mental health care."
>
> **Laura Shields-Zeeman**
> Head of Mental Health and Prevention at the Netherlands Institute for Mental Health and Addiction

Among the apps and digital platforms that Dutch leaders and private insurers have supported are ones to help patients manage particular problems such as postpartum depression, insomnia, and excess alcohol consumption. "We even have online modules on how to manage working from home during the pandemic," says Shields-Zeeman.

The Australian government also funds a variety of digital platforms, including MindSpot and This Way Up, virtual mental health clinics that offer screenings using online and telephone assessments as well as referrals, recommendations for treatment, and access to web-based courses, including ones focused on managing depression, anxiety, and post-traumatic stress disorder. Since the pandemic began, MindSpot and This Way Up have seen a ninefold increase in requests for counseling services. The country's two major health plans also offer help navigating mental health services via telephone 24/7, and crisis lines run by the nonprofits Lifeline and Beyond Blue have received more federal support to increase access to trained professionals.

In mid-April 2020, as the pandemic got underway, the Canadian government launched Wellness Together Canada, a digital portal that connects citizens of all ages to self-guided tutorials, text-messaging, confidential chat sessions, and phone counseling with peer support workers, social workers, psychologists, and other professionals at no cost. The portal also offers self-assessments that allow users to monitor their progress.

Addressing the Social Determinants of Mental Health Problems

Some countries have begun to recognize that mental health issues are often rooted in or exacerbated by societal problems such as racism, workplace stress, and unemployment. To promote well-being, leaders have sought to ameliorate such systemic factors while also offering support to those coping with their effects.

New Zealand's government is attempting to do so by dedicating the bulk of its NZD 1.9 billion (USD 1.4 billion) budget for mental health and well-being (the 2019 Wellbeing Budget) over five years to community-based organizations that address both. One is Emerge Aotearoa, which offers peer and community-based supports as well as therapeutic services to people with mental health problems, substance use disorders, or disabilities. It also helps them find housing, employment, or other social supports.

The budget also includes additional funding for housing, employment, and poverty reduction initiatives and directs money to general practitioners to hire community health workers, mental health counselors, and health coaches who work in partnership with community-based organizations to promote well-being and offer support to people with mental health and addiction challenges.

In rolling out the program, New Zealand's leaders prioritized practices that operate in low-income communities or serve the indigenous Māori population. "We're finding in the practices that have had this model for a while, the outcomes have been really positive," says Barbara Disley, who led New Zealand's first Mental Health Commission and now serves as CEO of Emerge Aotearoa. "The level of pharmacological interventions is much lower when you get people connected in the right way to the right sorts of community support."

In Australia, mental health initiatives involve large employers. This summer, employers in the road transport and logistics sector joined forces to develop Healthy Heads in Trucks and Sheds, a program that seeks to promote good mental health among truck drivers and distribution and warehouse staff, who often feel the strains of long hours, isolation, and pressure to meet delivery schedules.

Economic and mental health are connected.

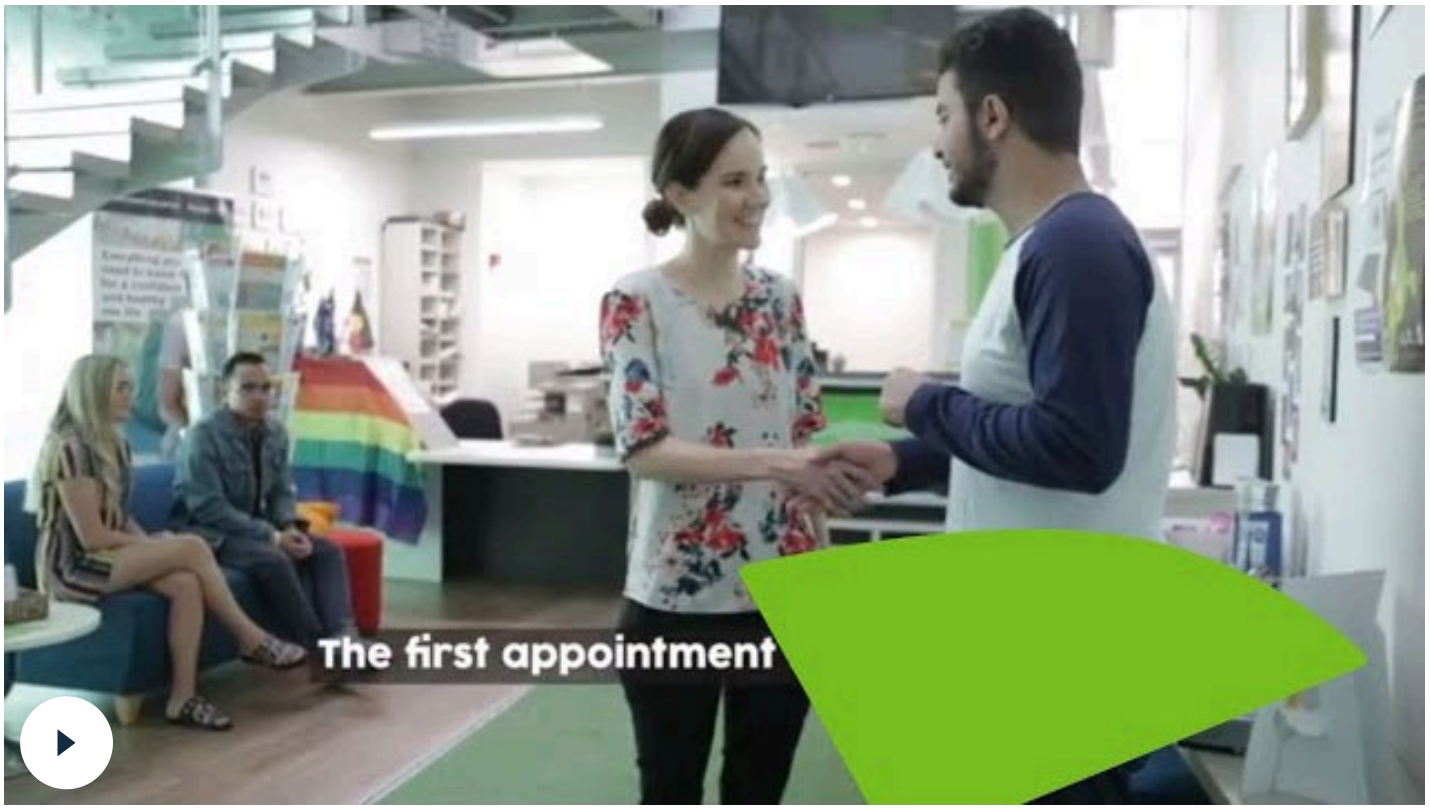
56%

of U.S. adults who reported negative economic consequences of the pandemic also said they were experiencing mental health distress.

Source: https://www.commonwealthfund.org/publications/issue-briefs/2020/aug/americans-ment health-and-economic-consequences-COVID19

Australia and other countries have also sought to engage young people. Since 2006, Australia has funded brick-and-mortar centers that serve as a one-stop shop for young people (ages 12 to 25) who need mental health services or social supports, including help in finding jobs. Run by a nonprofit, the 100 headspace centers have a casual atmosphere designed to appeal to young people. Staff, including physicians, psychologists, social workers, occupational therapists, nurses, peer counselors, and specialists in substance abuse treatment, invite questions about how to cope with depression and anxiety, anger, bullying, and other challenges.

"The emphasis is on supporting mental health and well-being in the community and in a way that's non-stigmatizing for young people," says Jane Burns a 2004–05 Harkness Fellow and an enterprise professorial fellow in the University of Melbourne's Faculty of Medicine, Dentistry, and Health Sciences. Increased funding during the pandemic has enabled the nonprofit to expand access to online services and phone help lines that are available to youth seven days a week.



Headspace centers serve as a one-stop shop for young Australians who need mental health services or social supports.

Frugal Innovations in Expanding Mental Health Care Access

Expanding access to mental health supports doesn't need to be expensive, as advocates working in low- and middle-income countries have demonstrated. In Pakistan, Uganda, and Zimbabwe — countries that have as few as one psychiatrist or psychologist per million residents — nonprofits have leveraged community health workers and and/or technology to offer counseling, education about mental illnesses, and referrals to higher-intensity care.

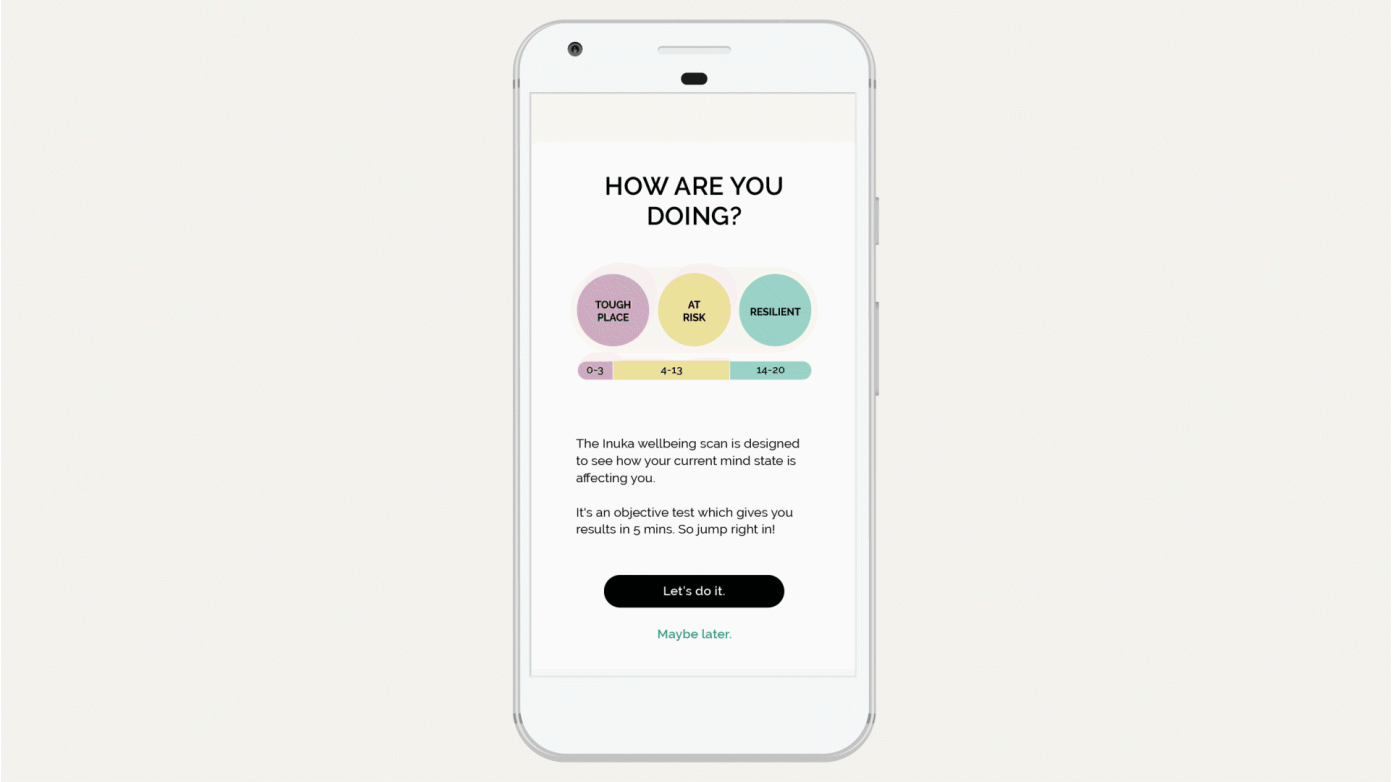
Zimbabwe

One such approach is the Friendship Bench, developed in 2007 by Dixon Chibanda, M.D., a psychiatrist in Zimbabwe, after one of his patients in a remote village committed suicide. The program trains grandmothers to offer CBT to people experiencing depression or traumatic events such as intimate partner violence. The first group of grandmothers had already been working as community health workers and had earned the respect of peers.

A 2016 randomized controlled trial found people who engaged with the grandmothers in problem-focused conversations had significantly lower scores on a scale measuring symptoms of common mental health disorders at six months than did members of a control

group who received brief counseling from nurses, evaluations for medication, and psychoeducation.

To scale the model in Zimbabwe and other countries including the Netherlands, Chibanda and his colleague Robin van Dalen created a digital platform known as Inuka, which means "arise" in Kiswahili. Users complete an automated survey that asks about their symptoms of anxiety or depression as well as their sleep habits and sense of purpose; the app provides an immediate rating (green for resilient, yellow for at-risk, and purple for "in a tough place"). Users are connected with a coach who typically spends between 60 and 90 minutes exploring their challenges and developing practical steps for tackling one of them — all through text-based chats. Subsequent chat sessions are shorter and most problems are resolved within four sessions, says van Dalen, Inuka's CEO. An evaluation found that 82 percent of people who were initially determined to be in the highest-risk category returned to the lowest-risk one within four coaching sessions.



▲ Users of the Inuka app complete surveys about their symptoms and then receive coaching via text. Courtesy of Inuka.

Uganda

Another program, Thrive Gulu, was established a decade ago to help residents of Northern Uganda cope with the traumatic effects of a civil war that led to genocide, the abduction of children to become soldiers, and rampant sexual abuse. Thrive Gulu operates Northern Uganda's only drop-in counseling center and has developed individual and group counseling programs. It is run by mental health professionals who train lay people to serve

as counselors and gender-based violence monitors. These frontline workers offer help to meet people's mental health and social needs, the latter through approaches such as literacy training and economic empowerment programs. Both are important, says Mick Hirsch, Thrive Gulu's executive director: "You don't want to empower people economically without also providing them with some mental health support. You can't predict when past trauma will return."

▲ Thrive Gulu provides both mental health and social supports, including suicide prevention and health literacy programs. Photo courtesy of Thrive Gulu.

The organization also works to combat stigma surrounding mental illness. In Uganda, people who exhibit signs of mental illness may be shunned. "We've learned those few initial contacts with clients have such power especially in a society where there is so much stigma," Hirsch says. "Having someone affirm their experience gives them something they may never have received." Since COVID-19, the organization has provided tele-counseling services and promoted positive mental health via radio shows.

Pakistan

In Pakistan, where there are just 125 psychiatrists in a country of 216 million, staff of Interactive Research and Development (IRD), a nonprofit that pilots public health interventions in low-income countries, trained more than 65 community health workers (CHWs) to screen people for depression and anxiety in three low-income areas of Karachi. For those who screen positive, the CHWs offer instruction in basic coping skills, provide counseling using CBT techniques, and make referrals to psychologists and psychiatrists for more severe problems.

"Given the stigma around mental illness, I thought fewer than 40 percent of people we approached would be willing to participate," says Aneeta Pasha, country director of IRD Pakistan. "But when the first team went out, 85 percent of people said they were willing and ready to enroll in counseling."

The program, known as Pursukoon Zindagi (Urdu for "peaceful life"), is funded through grants and other philanthropy, and has since expanded to include 100 CHWs, some of whom are assigned to medical clinics to support patients with tuberculosis (TB). They found high rates of depression and anxiety among TB patients and that those receiving support were significantly more likely to attend medical visits and adhere to medication regimens (92% versus 75%) than patients whose mental health problems went untreated.

A review of more than 1,700 transcripts of the CHWs' sessions with clients revealed that economic problems were one of the greatest sources of distress, prompting staff to connect people to vocational training and microfinance programs, as well as housing and food supports. During COVID-19, the CHWs have offered support via telephone, videoconferencing, and medical clinics.

Lessons for Mental Health Policy and Practice in the U.S.

While expanding access to mental health treatment is increasingly a priority for many countries, these efforts are still a work in progress. Commonwealth Fund survey findings suggest there's still much work to be done: during the early months of the pandemic, only half of adults in Australia (54%) and Canada (47%) were able to get mental health services when they wanted them, while only a third of adults in the U.K. (32%) and U.S. (31%) were able to do so.

Still, the U.S. can learn from other countries' efforts to expand access to mental health treatment to meet widespread need.

Funding and strategy matter.

Across most high-income countries, mental health services are insufficiently funded, as compared to services for physical health problems. Setting clear targets for increased funding — as has been done in Australia, Canada, New Zealand, the U.K., and other countries — is an important first step in expanding access to care.

Canada's first mental health strategy, published in 2012 by the government's Mental Health Commission, called for an increase in mental health's share of public health care spending from 7 percent to 9 percent. Eventually, the federal government transferred CAD 5 billion (USD 3.9 billion) to provincial and territorial governments to improve access to mental health services for a decade, starting in 2017 — a significant investment but one that fell short of the recommended target.

In the U.S., efforts to institute a national mental health strategy have proceeded in fits and starts. Some policies were designed to broaden access to coverage. A 2008 law mandates that insurers provide coverage for mental health and addiction treatment that is on par with what they provide for services treating physical health conditions. Changes made to Medicare regulations, meanwhile, allow payment for depression screening and management of mental health conditions by primary care providers. But the success of these initiatives depends on having enough providers trained and willing to deliver mental health services. Some psychiatrists and psychologists in the U.S. don't accept Medicaid or Medicare — or any insurance coverage at all — and general medicine physicians have yet to fill the gap.

In Canada, the process of developing a national mental health strategy took place in tandem with strategy development by the 13 provincial and territorial governments. This was helpful in creating a "community of practice" around mental health policy across the country, according to Mary Bartram, Ph.D., director of COVID-19 policy at the Mental Health Commission and a lead author of the report outlining the mental health strategy. Canada's experience may provide a roadmap for coordinating approaches at the federal and state levels and spurring action in the U.S.

Care should be convenient, customizable, and scalable to meet need.

Normalizing mental health problems and reducing the hassle factor in getting help may encourage more people to seek and stay in treatment. The success of the U.K.'s IAPT program and other countries' adaptations point to the importance of having easy on-ramps for people to get care in the manner they want. That can mean receiving treatment in their own homes or via text, chat, or phone — whether for a few days, several weeks, or even longer. In Australia, the largest health insurer, Bupa, partnered with mental health providers, advocates, and developers, to create video and audio recordings offering wellness tips to men, who are often unwilling or unable to engage in traditional treatment.

Australia's largest insurer and its partners created videos and podcasts offering wellness tips to men, who are often unwilling or unable to engage in traditional treatment.

Delivering low-intensity therapeutic and self-help treatments through tutorials, group classes, chatbots, and other approaches could help meet demand. Experiences in Kenya, Pakistan, and Uganda suggest that a little help can go a long way for some people, and that having some support is better than having none.

In the U.S., many digital apps have been designed with the "worried well" and affluent customers in mind, because it's easier for tech developers to market their products than to enlist insurers to pay for them. It will be important to measure whether digital tools are reaching — and are tailored to — patients with low income, including those enrolled in Medicaid, who account for a disproportionate share of spending on mental health services.

Different types of mental health care professionals may be needed.

Substantially expanding access to treatment may also mean training and empowering professionals other than psychiatrists, psychologists, or clinical social workers to provide screening or treatment. In Norway and the U.K., some counselors receive a year's specialized training in CBT; in the Netherlands, some receive up to a year's training to help screen and treat people in primary care practices. Less-wealthy countries have trained community health workers to assess people's mental health and offer basic supports.

“We need to come up with novel ideas on how to get help to more people,” says Benjamin Miller, Psy.D., chief strategy officer of Well Being Trust, a U.S. foundation that works to advance mental, social, and spiritual health. “Since we don’t have enough mental health professionals where we need them when we need them, why not democratize the knowledge around mental health to enable a new and community-based workforce to take on issues we have traditionally left to the specialty health care sector?”

Jane Burns of the University of Melbourne suggests that the economic upheaval of the pandemic may offer an opportunity. “We need a workforce to care for people who are aging, disabled, or mentally ill,” she says. “This could be a reset and opportunity to think through what the new workforce will look like.”

To encourage more people to engage in mental health treatment, we need to earn their trust.

Some people may be hesitant to use mental health tools or services perceived to be promoted by the government or by their health plans or health care institutions. In Canada, it remains to be seen whether Canadians will be comfortable disclosing personal information to the country’s government-run mental health platforms. To date, take-up is a work in progress, the Mental Health Commission’s Bartram says.

Greater transparency around the results of mental health treatments could build public trust. The U.K. created an easily accessible database to share results of its national CBT program. Also needed is evidence on the effectiveness of digital health tools, and a strategy for making that knowledge part of clinical practice. One model for this is the Netherlands’ database of evaluated and recommended digital health tools.

Efforts such as Australia’s Beyond Blue initiative, which has engaged employers, schools, senior centers, and other community institutions in promoting well-being, also show the benefits of a collaborative approach to reducing the stigma of mental illness and encouraging more people to get treatment.

Given that so many people are feeling the strains of the pandemic and its repercussions, it’s crucial that we find and spread cost-effective ways of making mental health supports more broadly available.

PUBLICATION DETAILS

DATE

Mental Health Is a Top Concern Around the World. How Are Governments Responding?

The Commonwealth Fund

By: Reginald D. Williams II April 28, 2023

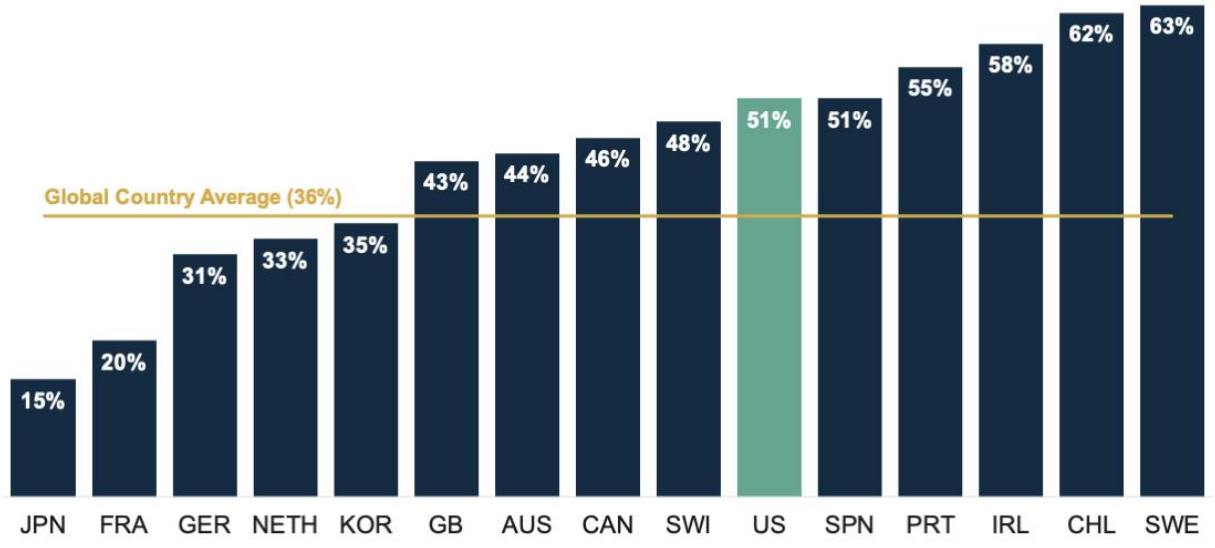
https://www.linkedin.com/pulse/mental-health-top-concern-around-world-how-governments

The COVID-19 pandemic triggered a rapid increase in mental health issues around the world. An Ipsos survey fielded in 2021 found mental health was the second-biggest health concern overall across 34 countries; in Chile, Ireland, Portugal, Spain, Sweden, and the United States, it was the top concern. In fact, a third of all Americans are struggling to cope with stress, anxiety, or sadness, according to a 2020 Commonwealth Fund survey.

Many of these countries were already in the throes of a mental health crisis before the pandemic. For instance, suicide rates in the United States — the highest in the world —have been rising for nearly 20 years.

Most people in the U.S. report mental health is the biggest problem facing the country

Percentage of people who say mental health is the biggest health problem facing people in their country



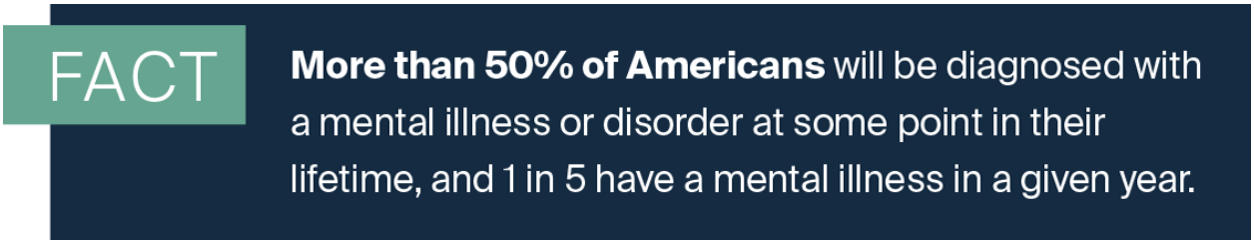
Note: Global country average is average of 34 surveyed countries, only select high-income countries have been included.
Data: 2022 Ipsos Survey.

A handful of the countries surveyed have taken steps to expand access to mental health services, including by integrating them more easily into routine care. It should be noted that these countries, unlike the U.S., have universal health care coverage.

In 2014, the Netherlands required all primary care offices to provide mental health services to patients with mild-to-moderate mental health issues, primarily by hiring psychologists, nurses, and social workers. By 2020, 94 percent of Dutch primary care physicians reported having mental health providers in their practices, compared to just a third of physicians in the U.S. This has allowed psychiatrists and other, more specialized, mental health providers to focus on those with more complex psychiatric disorders. One study found that as a result, most patients with mental health problems were either treated in a primary care office or a less specialized care practice, with only 13 percent referred to more specialized care. Research shows that when patients were referred to the appropriate place of care based on their conditions, they saw improvements in symptoms after just three months.

Last year, Australia updated its national policy framework to improve access to mental health care and supporting services across all states and territories. This includes integrating mental health care with other health and social services, such as housing and social care; developing initiatives to attract, train, and retain a mental health workforce; and establishing community-managed organizations to deliver mental health care alongside public health workers and primary care providers. Research shows these types of reforms can help reduce the prevalence of mental health conditions, but Australia's initiative remains underfunded.

Norway historically had a high rate of mild to moderate mental health conditions, but few Norwegians received care. A program known as Prompt Mental Health Care was piloted in 2012 with the goal of expanding access by limiting appointment wait times to 48 hours, allowing patients to see mental health providers without a referral, and offering guided self-help courses and group therapy. A randomized controlled trial found program participants were more likely to report reduced symptoms of anxiety or depression after six months compared to those who received standard care, where wait times could be as long as 12 weeks. The program has now been rolled out in roughly 50 sites across the country.



The potential value of these approaches for the United States is self-evident, but even countries where people largely do not see mental health as a significant problem, like Japan and France, stand to benefit from expanding access to services. It's possible that such perceptions are a function of high levels of stigma around mental health issues — Japan, in fact, has one of the highest suicide rates in the world.

Last year, the Biden administration announced a national strategy to increase the mental health care workforce and connect more Americans to care. As a start, the U.S. Preventive Services Task Force recommended that doctors screen all adult patients under age 65 for anxiety. But there is a long way to go: half of Americans with mental health conditions skip or delay needed care because of costs. In adults

age 65 and older, research demonstrates that mental health conditions alongside chronic conditions leads to a significant increase in health care spending.

Countries around the world are at a critical juncture. Policymakers can stick with the status quo, leaving those struggling to cope with recent traumas and enduring stressors without support, or they can strengthen mental health services to ensure everyone can get the care they need, without barriers.

The author thanks Shanoor Seervai, Munira Gunja, and Evan Gumas for their contributions.

By Integrating Mental Health with Primary Care, Chile Increased Access to Treatment

The Commonwealth Fund

By Evan Gumas June 2, 2023

https://www.linkedin.com/pulse/integrating-mental-health-primary-care-chile-increased

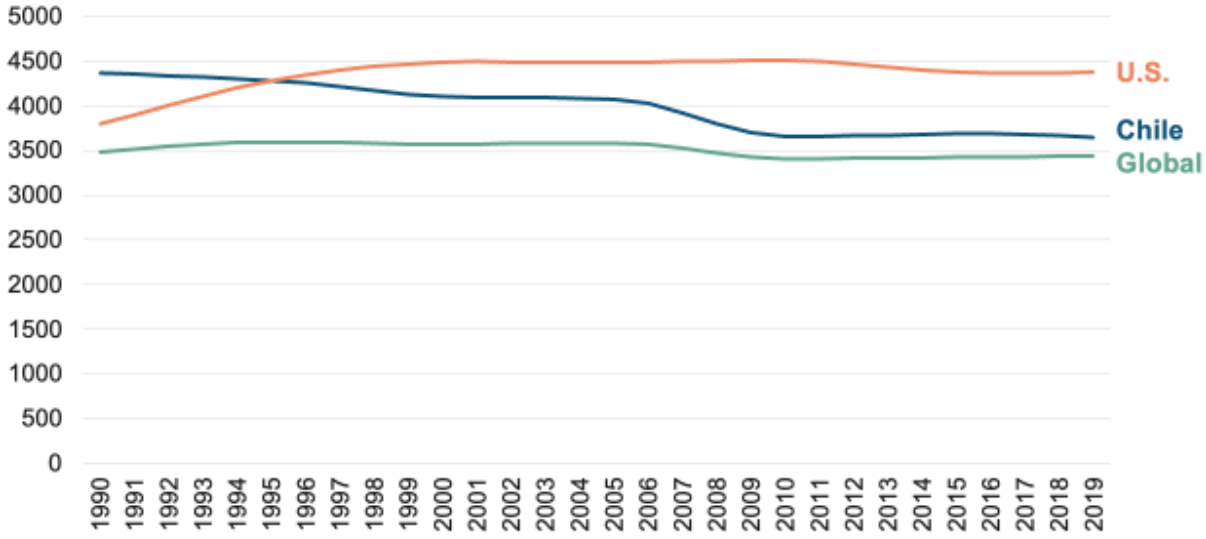
Two decades ago, Chile embarked on a major revamping of the way mental health services are delivered to residents. Acknowledging the heavy toll that depression was having on its society, the Chilean government in 2001 began piloting the Programme for Screening, Diagnosis and Comprehensive Treatment of Depression by placing a behavioral health specialist in selected primary care clinics around the country. Two years later, because of its success, the program was expanded nationally.

By 2019, the prevalence of depressive disorders in Chile had dropped to an all-time low of 3,644 per 100,000 from 4,364 per 100,000 in 1990. Notably, 84 percent of Chileans undergoing treatment for a behavioral health need in 2022 were being treated in a primary care setting.

The nation's health system leaders understood the value of integrating primary and behavioral health care: by working together in teams, primary care providers and behavioral health specialists can more effectively address people's mental health needs while helping to overcome the short supply of these specialists.

Following global trends, Chile has reduced the prevalence of depressive disorders. The U.S. has seen a gradual increase, with rates plateauing in recent years.

Age-standardized prevalence of depressive disorders per 100,000 people



Note: Prevalence refers to the total number of cases of a given disease in a specified population at a designated time.

Data: GBD 2019.

Chile's Emphasis on Workforce in Integrating Mental Health Care

In the face of the nation's high burden of depressive disorders, Chile's government created a dedicated mental health unit within the health ministry. The unit's 1993 National Mental Health Plan promoted the integration of primary care and mental health and deployed a network of mental health services throughout the primary care system. A second plan, released in 2000, went further by seeking to improve the way mental health services are delivered in community health centers.

The depression screening and treatment program launched the following year relies on what's known as a colocated model for its primary health centers (PHCs). During a regular primary care consultation, a nurse or other staff member who detects depression refers the patient to a physician within the clinic to confirm the diagnosis. The physician, who has received mental health training, then determines the severity of the case. When symptoms are deemed severe — roughly 14 percent of the time — patients are referred externally for evaluation.

By incorporating mental health services into general care, Chile helped "normalize" mental health treatment across society. The government backed up that commitment by significantly building treatment capacity. Since 1999, the number of psychologists has grown from 120 working in 120 PHCs to more than 2,100 working in 678 centers nationwide. Moreover, the number of teaching hours dedicated to mental health in Chile's medical schools has almost doubled since 2004.

With these workforce investments, mental and primary health care integration led to demonstrable improvements in treatment access. Between 2009 and 2016, the rate of people receiving mental health treatment increased from 40 per 1,000 people to 50 per 1,000. And, for people in treatment, the average number of mental health consultations annually increased from 3.9 to 4.8.

Depression rates remain high in Chile, for a multitude of reasons. Still, most Chileans can get treatment through their primary care provider now that most physicians are trained to assess and treat their patients' mental health needs or refer patients to other professionals. And all PHCs have at least one psychologist on staff.

In the U.S., Better Integration Would Help Meet High Unmet Needs

In the United States, medical and behavioral health services are traditionally delivered via separate, poorly coordinated systems. Primary care providers refer patients to behavioral health providers, yet too often there is a lack of follow-up and coordination. The multitude of federal, state, and private health care delivery systems further complicates the situation; each has different approaches to addressing the needs of their patient populations.

Chile's experience shows that effective integration of behavioral health services with health care delivery requires a solid foundation of primary care designed for the population's needs — something the U.S. has historically lacked. Findings from the 2020 Commonwealth Fund International Health Policy Survey showed that among adults in 11 high-income countries, those in the U.S. reported the highest rate of mental health needs. But just 33 percent of U.S. primary care physicians have mental health professionals in their practice.

FACT

Most people in the U.S. don't have access to integrated mental health and primary care, and **more than a quarter of Americans with a mental illness** reported not being able to access the treatment they needed.

A recent plan from the U.S. Department of Health and Human Services laid out a series of steps to encourage and incentivize the integration of mental health care with primary care, including interprofessional consultation, which allows the primary care provider to consult with specialists while treating patients.

Such integration may take time, as it did in Chile. But it's a necessary starting point for connecting people with effective care and improving behavioral health workforce capacity. Continued workforce investments, flexibility in implementing integration models, and appropriate use of technology are all needed to achieve equitable access to behavioral health services.

The author thanks Celli Horstman, MPP and Nathaniel Counts for their contributions.

In the NIC of Time: Six Domains of Primary Focus for the National Interoperability Collaborative

Stewards of Change Institute
Healthcare Information and Management Systems Society

"By failing to prepare, you are preparing to fail."
— Benjamin Franklin

ISTOCK.COM/ZONADEARTE

NIC is a new "Community of Networks" designed to increase collaboration among the sectors that impact health and well-being by improving information-sharing, interoperability, and use of technology. Our goal is to improve outcomes for everyone, particularly vulnerable and under-served members of society. NIC is led by the Stewards of Change Institute and AcademyHealth.

NIC members and other interested parties are encouraged to use this material as the basis for ongoing discussions and interactions on the new NIC website and its collaboration portal. We recognize the complexity of each of the six domains that are summarized here, and encourage active participation – especially on the NIC portal – to delve into topics relevant to your own work and interests. The aim is to identify common themes, needs and areas where collaboration within and among domains could be genuinely valuable.

By providing this unique, explicit look at all six domains, our goal is to enable and support the identification and analysis of common and divergent factors among them – and thereby instigate and accelerate cross-sector information-sharing, interoperability, and collaboration

Stewards of Change Institute is a national nonprofit organization that provides catalytic leadership to improve the future of children, families and communities by inspiring and initiating transformational change in health and human services at all levels. SOCI's vision is to serve as a driving force for bringing together progressive ideas, cutting-edge tools, and leading innovators from the public and private sectors; conducting, synthesizing and applying research; and providing education, support, training, and advocacy to advance information-sharing and interoperability.

AcademyHealth is a leading national organization serving the fields of health services and policy research and the professionals who produce and use this important work. Together with our members, we offer programs and services that support the development and use of rigorous, relevant and timely evidence to increase the quality, accessibility, and value of health care, to reduce disparities, and to improve health. We bring stakeholders together to address the needs of an evolving health system, inform health policy, and translate evidence into action.

Most of the content in this document was originally researched and written by Stewards of Change Institute for a white paper commissioned by the Healthcare Information Management and Systems Society (HIMSS). The content has been expanded for its use by NIC.

The Healthcare Information and Management Systems Society is a global, cause-based, not-for-profit organization focused on better health through information technology (IT). HIMSS leads efforts to optimize health engagements and care outcomes using IT. HIMSS North America, a business unit within HIMSS, provides thought leadership, community building, professional development, public policy, and events. HIMSS North America represents 64,000 individual members, 640 corporate members, and over 450 non-profit organizations.

We invite input on the content of this document to ensure its accuracy and ongoing usefulness. To ask a question or provide a comment, please send an email to NIC@stewardsofchange.org.

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SECTION I: Introduction and Background

Public and private organizations, as well as thought leaders nationwide, have long recognized that interoperability and information-sharing are at the heart of enabling a genuinely effective approach to addressing virtually any situation affecting multiple organizations, systems, jurisdictions and/or government at all levels.

With this understanding as backdrop, numerous efforts have been made for decades – many of them successful – to improve coordination, communication and collaboration within and among six of the primary domains that operate across the spectrum of care. What this document seeks to accomplish that we believe has not previously been done is to examine the workings of each of the six domains; identify and analyze their successes, problems, commonalities and intersections; and then, based on that learning and additional research by NIC's leader organizations, help them work more cooperatively and interoperatively to deal with a broad array of issues (such as public health crises).

The six domains are: human and social services; public health; public education; public safety; emergency medical services; and health information technology, which differs from the others in that it cuts across domains and is critical to their operations. The mission and work of each domain are summarized in this document, which was researched and written by the Stewards of Change Institute (SOCI), the Healthcare Information and Management Systems Society (HIMSS), and several subject matter experts to whom we are very grateful for the knowledge and guidance they contributed (see Acknowledgements).

SECTION II: Understanding the Six Domains . . . to Connect the Dots

Each of the six domains examined below is in itself a complex, sprawling and diverse field that encompasses numerous agencies, organizations and/or other entities. Each also has its own norms, standards, bureaucracies and internal information-sharing and interoperability challenges. Moreover, each has a full complement of daily and long-term mission responsibilities. It is therefore unrealistic to think they can find a way to broadly exchange data in all circumstances anytime soon, even if the scope were limited to any one issue.

What is possible and what we believe is in these domains' own best interests, however, is to identify particular data sets, processes and other elements of their current work – focused on specific problems (ex., the opioid crisis) – that could be shared. And we believe that doing so would result in better collaboration, services and outcomes in the short term, and increasingly over time. Perhaps most pointedly, to the extent that interoperability and information-sharing among stakeholders is desirable, it clearly needs to be done sooner rather than later, since it would be far more difficult (at best) once an immediate need must be addressed. A deliberately simple example of how this process could be started in a given community: Activities already being conducted in each domain under the umbrella of "preventing opioid addiction" could be identified and enumerated, with answers to questions such as: What data does each domain hold that some or all others do not, and which of them could be of genuine benefit if they were shared?

Answering questions such as these would enable us to "connect the dots," prioritize actions, and then focus on those that could have the greatest impact, the most quickly. Against this backdrop, the next section provides an overview of each of the six domains, including a review of its fundamental functions and structures; its key challenges; and its pragmatic opportunities for taking short-term action. As it develops organizationally and in its on-the-ground activities, NIC's goal is to expand understanding of the domains themselves and, most importantly, to enable them to become more effective -- individually and collectively -- through greater collaboration, information-sharing and interoperability.

Human and Social Services

Mission: Means-tested human services programs, also referred to as social services (or, sometimes, as welfare) comprise about 80 separate federal initiatives that provide a very broad array of benefits and services including: cash and housing assistance, food stamps, medical care, child welfare, human trafficking prevention, energy support, refugee aid, job training, and targeted education assistance for poor and low-income Americans. Individuals and families receive these and other services/benefits from a wide array of providers, based on their specific needs, means and circumstances – all of which can differ greatly and are subject to varying requirements. Furthermore, many recipients use multiple services and providers, again depending on numerous factors.

Today, it is widely recognized that a comprehensive, coordinated set of services is critical to enhancing operational and programmatic efficiencies, as well as outcomes for the people being served. The array of factors that need to be included in creating a holistic, person-centered approach are commonly referred to as the Social Determinants of Health and Well-Being. Indeed, those factors – such as housing, transportation, and jobs, among many others – have the greatest impact. Specifically, research indicates that behavioral and lifestyle choices are responsible for 50 percent of health outcomes; environmental factors and human biology/genetics each contribute 20 percent; and clinical healthcare accounts for only 10 percent.[1]

New healthcare approaches emerging over the past five years, such as Value Based Care Payment Models and Accountable Care Communities, recognize the importance of the Social Determinants and offer incentives to advance coordinated care.[2] Doing so can be very challenging, however, for a host of reasons including: unique and narrow eligibility requirements; legislative requirements and funding silos that restrict spending to specific/narrow purposes; demographic and cultural variability; varying data and technology standards and systems that inhibit data-sharing; and legal hurdles (real or perceived) that also impede Interoperability. This fragmented ecosystem makes coordination cumbersome in the human services field as well as in the other five domains described in this report.

Addressing these complex challenges requires a higher level of planning, alignment and coordination than most systems can achieve within their current constraints. Preventing and addressing major public health problems, for instance, requires the ability to share and use information in a responsible and timely manner to make informed decisions, as well as to gain access to the appropriate types and quantities of services when and where they are needed. However, a cornerstone of preparedness is that communications, system linkages, and trusting relationships among all partners need to be established before a crisis occurs, because trying to accomplish this granular level of coordination and cooperation during an emergency is far more difficult if not impossible.

Infrastructure: Human services assistance/programs are delivered and run by numerous federal, state, local governmental, private, and nonprofit providers across the country. Their systems are made up of a hodge-podge of modern and legacy technologies produced by a variety of vendors that generally operate independently, don't coordinate with each other, and are usually proprietary. They were designed and built in response to specific requirements to serve particular populations, as mandated by enabling (usually federal) legislation and funded by appropriations that often flow from Washington to the state and local levels for implementation. Many of the largest human services systems are directed by federal agencies under congressional statutes that provide policy and funding guidelines for states to build their own programs/systems. These agencies and their main systems include:

[1] Schroeder, SA. (2007). We Can Do Better – Improving the Health of the American People. NEJM. 357:1221-8.
[2] ihttps://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs. html

One of NIC's near-term objectives is to compare the six domains in order to gain insights about them and stimulate communications among them.

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Department of Health and Human Services, Centers for Medicare & Medicaid Services (CMS) – Integrated Eligibility Systems (IES) and Medicaid Management Information Systems (MMIS).

Department of Health and Human Services, Administration for Children and Families – Comprehensive Child Welfare Information System (CCWIS), Temporary Assistance for Needy Families (TANF), Head Start and Child Support Enforcement.

US Department of Housing and Urban Development – Homeless Management Information Systems, Section 8 Housing and Public Housing.

US Department of Agriculture, Food and Nutrition Services – Supplemental Nutrition Assistance Program (SNAP).

There has been a shift toward more interoperability within and among systems over the past decade, driven by innovation in the private sector, the need for greater efficiency and integration, and the availability of increasingly advanced technology. Moreover, thought leaders in and out of government – and, importantly, in the nonprofit sector – have progressively grown to understand the value of interoperability and information-sharing and, as a consequence, have championed coordinating, harmonizing and aligning systems. Some of the key infrastructure innovations that are critical for doing so include:

Standardized Data Exchange Models. The Administration for Children and Families (ACF) established the National Information Exchange Model (NIEM) for human services in 2015 to provide a combination of programmatic, policy, business, and technical expertise. This collaborative work group, overseen and coordinated by ACF, consists of federal,state, local, and non-profit organization representatives.

NIEM has contributed to advances in domain data-modeling and governance; privacy/confidentiality in data exchange; data harmonization; business modeling using Unified Modeling Language to simplify data-exchange implementation; and support for various federal and state data-exchange projects. Rationalizing data definitions and the sharing process would accelerate the exchange of information at times of emergency, when speed and access become particularly critical.

Service-Oriented Architectural. The National Human Services Interoperability Architecture (NHSIA) provides a standardized framework that states and local jurisdictions can use to facilitate information-sharing, improve service delivery, prevent fraud, and improve outcomes for children and families. NHSIA builds off the progress of the Medicaid Information Technology Architecture (MITA), which seeks to create architectural standards and funding requirements for state Medicaid technology systems.

Global Federated Identity and Privilege Management. GFIPM is a solution that offers secure, scalable, and cost-effective technologies for information-sharing within the law enforcement and criminal justice communities. This approach could be utilized by human services programs to ensure identify management when sharing confidential and sensitive information.

Application Program Interfaces. APIs are sets of routines, protocols, and tools for building software applications. Essentially, they specify how software components should interact, so they enable information-exchange. Using API systems facilitates the exchange of information without having to modify underlying technology.

Advances in Hardware and Software Technology. The exponential rate of progress in technology is being fueled by inexpensive and massive cloud storage capacity, faster and more powerful computer processors, enhanced analytical tools, and ubiquitous mobility solutions.

Sources of Funding: The FY 2016 federal budget allocation for human services programs was approximately $350 billion, with an additional $935 billion for federal Medicare and Medicaid expenditures. The ratio of public social spending to GDP in the United States was below the average for the 34 member nations of the Organization for Economic Cooperation and Development. Roughly half of this assistance in our country went to families with children, most of which were headed by single parents.[3] While we are classifying Medicaid within the Public Health domain in this report, it is important to note that it has an enormous impact on the human services ecosystem because of the federal funding available to states that pursue integrating their human service technology with Medicaid systems. The federal government provides a 90 percent match to pay for technology that supports interoperability between Medicaid and human services, if it benefits the administration of Medicaid programs. Medicaid therefore becomes one of the major funding drivers for integration and interoperability between public health and human service programs.[4]

Challenges to Human Services Data-Sharing: Six key federally funded programs for low-income people vary significantly in regard to: eligibility requirements, including age and income; how income is counted; and which benefits are available to whom. Data from FY 2015 show that the federal government spent nearly $540 billion on benefits for these six programs: the Earned Income Tax Credit, Medicaid, the Housing Choice Voucher program, the Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), and Temporary for Needy Families (TANF).[5]

A key challenge for these programs is that they are authorized by different federal statutes, enacted at different times, and in response to different circumstances. Furthermore, other laws – such as those governing how funding is appropriated and spent – also have an impact on federal programs and the rules they need to set. As a result, for example, streamlining eligibility requirements would require changing many laws, as well as coordinating among a variety of lawmakers and congressional committees.

Another challenge is that a different federal agency administers each program. For some, such as TANF, state governments also establish some program rules, making it more difficult to make changes at the federal level within or across these programs. Finally, financial constraints obviously also have a significant impact. If rule changes raise the income eligibility limit in a program, more people could utilize it – and that program's costs presumably would increase.

Despite these challenges, Congress, federal agencies and states have taken some steps in recent years to streamline program administration and rules, including by making greater use of data-sharing where permitted by federal law, and by aligning eligibility processes among various programsso common applications can be used. For example, SSI recipients in most states are automatically eligible for Medicaid, and some states have integrated the SNAP process with other low-income programs through combined applications to streamline eligibility determination.

Workforce: According to the U.S. Census Department's May 2015 data, total national employment in U.S. community and social services organizations is 1,972,140 people. Approximately 53,000 are Executive Managers or trainers in the field.

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[3] Elizabeth H. Bradley, Maureen Canavan, Erika Rogan, Kristina Talbert-Slagle, Chima Ndumele, Lauren Taylor, and Leslie A. Curry. "Variation in Health Outcomes: The Role of Spending on Social Services, Public Health, and Health Care, 2000-09." Health Affairs 35, No.5 (2016):760-768; doi:10.1377/hlthaff.2015.0814.

[4] https://www.acf.hhs.gov/sites/default/files/assets/acf_toolkit_july_2012_final.pdf

[5] Federal Low-income Programs: Eligibility and Benefits Differ for Selected Programs Due to Complex and Varied Rules GAO-17-558: Published: Jun 29, 2017. Publicly Released: Jul 14, 2017.

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Partners for Information Exchange: Historically, human services were organized so that case workers and managers had a more-comprehensive view of the client. There was less fragmentation, partially because people worked in the same office and/or knew each other. Additionally, most activities required in-person meetings, so clients and workers formed relationships. There were also simply fewer services available, so fewer systems were needed to facilitate coordination and communication. Finally, of course, there was less technology, so the work had to be done person-to-person.

Since enactment of the 1965 Social Security Act, however, there has been an explosion of human and health services being offered and utilized by people in every community. As a result, the need of various providers to share information has also grown, and all participants in this domain – clients, patients, clinicians, researchers, payers, and government – have higher expectations about accessing data, especially with the rapid growth of technology. This reality underscores the importance of developing common infrastructures and other elements that will enable and accelerate greater interoperability and information-sharing.

Potential Improvements: An array of changes are needed to drive progress on data-sharing and interoperability. Some of the key ones include:

Increase education, dissemination and action to integrate the Social Determinants of Health and Well-Being. Pursuing this goal is integral to achieving a comprehensive approach to treating clients and patients. Having a common view and model of how to serve people and families will provide a shared vision of what the interplay of systems could accomplish.

Implement standard data-sharing protocols and architectures. Taking this step will mean new systems could be built, ready to exchange information with other programs or services that adopt the same standards and exchange protocols.

Develop a universal enterprise data-sharing agreement template. The purpose is to encourage responsible information-sharing through a common understanding of the legal requirements for doing so. Some laws created in the 1960s should also be updated to reflect the social and technological changes that have taken place, including tools to protect privacy/confidentiality.

Increase collaboration and information-sharing among communities. In particular, create new means – and utilize existing ones – to showcase successful (and unsuccessful) efforts, so that jurisdictions can learn from each other and avoid repeating each other's mistakes.

Leverage advances in analytics and augmented intelligence. Effectively utilizing the best modern technologies will require more national leadership from all sectors. It is important to do so in order to more-effectively use the vast stores of information we already have, as well as to educate workers about effective practices and assist them with tasks ranging from mundane scheduling and logistics to complex case planning and interventions.

Key Resources fo More Information

National Human Services Interoperability Architecture: https://www.acf.hhs.gov/nhsia- definition

Human Services NIEM Domain: https://www.niem.gov/ https:/www.acf.hhs.gov/about/interoperability#chapter-3

Confidentiality and Privacy Toolkits: https://www.acf.hhs.gov/sites/default/files/assets/acf_ confidentiality_ toolkit_final_08_12_2014.pdf

http://stewardsofchange.com/what-we-do/Pages/confidentiality.html

National Interoperability Collaborative: http://kresge.org/news/new-national-initiative- seeks-increase-impact-data-sharing-health-and-human-services

www.stewardsofchange.com

Augmented Intelligence applications to Child Welfare: http://stewardsofchange.org/wp- content/uploads/2016/06/Child-Welfare-and-Cognitive-Computing-White-Paper.pdf

Social Determinants of Health and Well-Being: http://itcc.stewardsofchange.org/resources/SDOH%20Learning%20Report- external%20FINAL%205-24-16.pdf

Public Health

Mission: The U.S. public health system has been defined as the network of public, private, and voluntary organizations that contribute to the health of the population as a whole in a geographic jurisdiction (see https://www.cdc.gov/nphpsp/essentialservices.html). Public health partners include state and local governmental health agencies, healthcare providers, public safety agencies, human services organizations, environmental organizations, and others that may vary by community. By law, governmental public health agencies have the responsibility to monitor health status, diagnose and investigate health hazards, mobilize community partnerships, develop policies and plans to support personal and community health, enforce laws and regulations, and conduct research to ensure and maintain community health.

Infrastructure: The federal government sets health goals for the nation and provides funding for programs, services, and educational efforts. Federal agencies with lead public health responsibilities include:

Centers for Disease Control and Prevention (CDC). Part of the US Department of Health and Human Services, the CDC works to increase health security through scientific research (advanced computing and lab analysis), investigation of outbreaks, provision of information about health risks and hazards, and response to health crises (see https://www.cdc.gov/about/organization/mission.htm).

Assistant Secretary for Preparedness and Response (ASPR). After the devastation caused by Hurricane Katrina, Congress passed the Pandemic and All Hazards Preparedness Act (PAHPA) and created ASPR to coordinate preparedness planning and response, build federal emergency medical operational capacity, fund hospital preparedness activities and infrastructure, and develop a national system to reinforce state and local capacity in an emergency or disaster.

In some states, public health responsibilities and funding are focused at the state level, while in others the local health agencies are in the lead. By law, the governmental public health agency has the chief responsibility for the essential services described above, and can engage the private sector to carry out the services and programs.

Because of the variability across the country and across jurisdictions in how public health is organized, national professional organizations play a major role in advising on policy development, sharing information on best practices, and professional development for the workforce. The leading public health organizations at the national level are the Association of State and Territorial Health Officials (ASTHO) and the National Association of County and City Health Officials (NACCHO).

Sources of Funding: The majority of public health funding is at the state level, with most coming from pass-through federal funds from HHS, EPA, USDA, and DHS and additional support from state general funds (NORC, 2014). Private foundations such as the Robert Wood Johnson Foundation and the DeBeaumont Foundation also provide funding to state and local health agencies for demonstration projects.

Workforce: Approximately 300,000 people are estimated to be employed at federal, state, and local health agencies (Beck et al., 2014). There are numerous vacancies for skilled professionals such as epidemiologists and informatics experts.

Partners for Information Exchange: Because public health is responsible for monitoring, forecasting, and analytics around community health, its information infrastructure comprises information and communication technologies (ICT) including hardware, software, services and devices; broadband infrastructure; and a workforce skilled in "public health informatics" (Edmunds et al, 2014). Every health agency is organized differently, but generally a person, team, or department is responsible for making health data flow to the state and to other public partners in the jurisdiction.

Private healthcare providers and laboratories are required to notify health departments when they see a case of a reportable disease (e.g., Zika, measles), but healthcare delivery systems rarely share clinical data that is not mandated by law. With the growing interest in tracking and incorporating the Social Determinants, some communities are beginning to exchange health information more readily among private and public sector agencies and organizations.

Challenges to Public Health Data-Sharing: Public health has encountered some specific challenges to making interoperability and information-sharing effective, including:

Diversity and Decentralization. There are more than 2,500 public health agencies in the U.S. at the federal, state, local, territorial, and tribal levels. One result of this expansiveness is great diversity, but another is that public health cannot and does not speak with one voice about interoperability issues (or much else). This reality makes it difficult for some stakeholders to engage public health consistently or to implement solutions that can be used more uniformly, and therefore more effectively, across public health.

Legal Framework. There is no federal public health law; rather, there are state, local, and tribal statutes and regulations. The result is that the legal framework is specific to a jurisdiction, which means discussion about interoperability and implementation can be inhibited. This is best exemplified by public health's collective

inability to reconcile data-sharing and consent laws across jurisdictions in the U.S., though not for want of trying. The 2017 effort to address the 21st Century Cures Act's Trusted Exchange Framework and Common Agreement is the latest attempt to address this issue.[1]

Funding and Policy Mismatch. Most public health activities are federally funded by the CDC, the Center for Medicare and Medicaid Services (CMS), and others. Even though the legal framework for public health is state/local/territorial/tribal, there are strong financial incentives for agencies at all levels to comply with the guidelines and requirements that federal funders often stipulate in their grants, contracts, and cooperative agreements. While this may sound like a unifying force, it produces tension in some jurisdictions, which feel internal pressure not to comply or which result in federal guidelines that permit substantial variability.

"Stovepipe" Funding. The CDC primarily funds public health program by program, usually due to stipulations from Congress or the reality of federal appropriations. State, local, territorial and tribal public health agencies similarly organize their programs in this "stovepipe" fashion, so the information systems they create are often hostage to the individual programs they support. There are often barriers to creating common, shared, or leveraged systems that can be used by multiple programs, and jurisdictions that have been able to implement more-integrated systems have usually done so with their own funds.

Increasing Centralization of Technical Resources. Technical infrastructure at public health agencies is becoming increasingly centralized, especially at the state level. The result is that individual programs are less in control of their system infrastructure and less able to make their own decisions about which systems to deploy and how. The primary motivation for this centralization is cost containment, as well as technical risk-reduction through more-rigorous information-security practices, but interoperability can encounter new challenges – especially outside the agency. In many agencies, for instance, simple installation of a digital certificate may require months of negotiation and delay with internal service providers.

Potential Improvements: Public health is an active player in healthcare interoperability, with numerous needs and opportunities for internal systems integration as well as external interoperability. The CMS EHR Incentive Programs have pushed a good number of these activities to the forefront, but many of their clinical reporting requirements were pre-existing and often legally mandated. Here are a few suggestions about what public health agencies could do:

Embrace Standards. Move wherever possible to more-standardized versions of both transport and messaging standards, with as little local variation as possible. For example, the American Immunization Registry Association has developed an Aggregate Analysis Reporting Tool to help Immunization Information System projects assess their compliance with national interoperability standards.[2]

Move Toward Service-Oriented Architectures (SOA[3]). SOA, which involves modularization of software into smaller, reusable components, is one approach to making interoperability practical. It allows for increased scalability, lower cost through re-use of software components, increased flexibility in software implementation, and less lock-in to a specific hardware or software platform. SOA is being used increasingly within public health systems to reduce costs and keep more up-to-date, and it has even greater potential for enabling the sharing of services and capabilities in the larger healthcare ecosystem.

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[1] https://www.healthit.gov/21st-century-cures-act-trusted-exchange-and-common-agreement-tfca-kick- meeting-1

[2] http://www.immregistries.org/initiatives/assessment

[3] See Arzt, Noam H. "Service-Oriented Architecture in Public Health: Interoperability Case Studies," Journal of Healthcare Information Management, 24(2), Spring 2010. <https://www.hln.com/noam/JHIM- SOASpring2010pdf>

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Partner with Health Information Exchanges (HIEs). Public health should continue to work with state-based or community HIEs where they exist, as they make good partners for interoperability and can promote standard approaches within the jurisdiction. There are strong examples of state HIEs that are thriving – in DE, IN, MI, NY, and VT to name a few. The Office of the National Coordinator recently released a report, "Connecting Public Health Information Systems and Health Information Exchange organizations," that includes best practices and lessons learned in the use of HIEs to mediate connections to public health information systems. Public health should also consider participating in new organizations that are working aggressively to promote health exchange, but which have had very little formal public health participation to date, including vendor associations (like the CommonWell Health Alliance[4]), and private national organizations providing health information exchange services (like the Sequoia Project[5] and its CareQuality[6] collaborative).

Strengthen National Organizations. Public health should continue to work with and strengthen its own professional organizations to promote its interests in interoperability. Many of these organizations – such as the American Immunization Registry Association, the Association of PublicHealth Laboratories, the Council of State and Territorial Epidemiologists, and the International Society for Disease Surveillance – work in specific domain areas to promote standards, represent public health in the broader healthcare ecosystem, and even support interoperability operationally. Additionally, public health should continue to advocate with the CDC and other government agencies for public health funding to promote and implement standards-based solutions for interoperability. The Joint Public Health Informatics Task Force is a key convening organization that brings together major public health organizations, industry organizations, and government to discuss major informatics issues facing public health today.

Key Resources for More Information

Arzt, Noam H. "The Interoperability of Things," Journal of Healthcare Information Management, 29(4), Fall 2015. https://www.hln.com/wp-content/uploads/2016/03/JHIM- InteroperabilityOfThings-Fall-2015.pdf

Office of the National Coordinator for Health Information Technology, "Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap version 1.0," October 2015. https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide- interoperability-roadmap-final-version-1.0.pdf

Office of the National Coordinator for Health Information Technology, "Connecting Public Health Information Systems and Health Information Exchange Organizations: Lessons from the Field. September 2017. https://www.healthit.gov/sites/default/files/FINAL_ONC_PH_HIE_090122017.pdf

ASPR Public Health Emergency. http://www.phe.gov/

Beck A, Boulton ML, Coronado F. Enumeration of the governmental public health workforce, 2014. American Journal of Preventive Medicine, 47(5):S306-S313.

[4] http://www.commonwellalliance.org/
[5] http://sequoiaproject.org/
[6] http://sequoiaproject.org/carequality/

Edmunds M, Thorpe L, Sepulveda M, Bezold C, and Ross, DA. The future of public health informatics; Alternative scenarios and recommended strategies. (2014). eGEMs 2(4):1156. https://www.ncbi.nlm.nih.gov/pubmed/25848630

HIE Toolkit for Public Health. HIMSS and NACCHO. http://www.himss.org/public-health- hie-toolkit

NORC (2014). An examination of public health financing in the United States. http://www.norc.org/PDFs/PH%20Financing%20Report%20-%20Final.pdf

From the American Journal of Public Health, Supplement 2, 2017, Vo. 107, No.S2:

From Anthrax to Zika: Fifteen Years of Public Health Emergency Preparedness
Rachel Nonkin Avchen, Tanya Telfair LeBlanc, and Christine Kosmos

Public Health Disasters: Be Prepared Robert James Kim-Farley

Science in Emergency Response at CDC: Structure and Functions
John Iskander, Dale A. Rose, and Neelam D. Ghiya

The Evolution of Public Health Emergency Management as a Field of Practice
Dale A. Rose, Shivani Murthy, Jennifer Brooks, and Jeffrey Bryant

A Child's Health Is the Public's Health: Progress and Gaps in Addressing Pediatric Needs in Public Health Emergencies Eric J. Dziuban, Georgina Peacock, and Michael Frogel

Project Public Health Ready: History and Evolution of a Best Practice for Public Health Preparedness Planning Sarah K. Summers and Madison J. Ferraro

Applying the 15 Public Health Emergency Preparedness Capabilities to Support Large- Scale Tuberculosis Investigations in Complex Congregate Settings Alison Jaffe Levy,
Katelynne Gardner Toren, Carina Elsenboss, and Masahiro Narita

Funding Public Health Emergency Preparedness in the United States
Rebecca Katz, Aurelia Attal-Juncqua, and Julie E. Fischer

Public Health Preparedness Funding: Key Programs and Trends From 2001 to 2017
Crystal R. Watson, Matthew Watson, and Tara Kirk Sell

Progress in Public Health Emergency Preparedness—United States, 2001–2016 Bhavini Patel Murthy, Noelle-Angelique M. Molinari, Tanya T. LeBlanc, Sara J. Vagi, and RachelN. Avchen

Community Assessment for Public Health Emergency Response (CASPER): An Innovative Emergency Management Tool in the United States. Amy Schnall, Nicole Nakata, Todd Talbert, Tesfaye Bayleyegn, DeAndrea Martinez and Amy Wolkin

Public Health System Research in Public Health Emergency Preparedness in the United States (2009–2015): Actionable Knowledge. Public Health System Base. Elena Savoia, Leesa Lin, Dottie Bernard, Noah Klein, Lyndon P. James, and Stefano Guicciardi

Improvements in State and Local Planning for Mass Dispensing of Medical Countermeasures: The Technical Assistance Review Program, United States, 2007– 2014
Paul G. Renard, Sara J. Vagi, Chris M. Reinold, Brenda L. Silverman, and RachelN. Avchen

Public Education

Mission: Public elementary and secondary education in the U.S. serves children in grades K-12, mainly through schools that are open to all children regardless of immigration status, income, ethnicity, disability status, religion, sexual orientation, or other factors. Broadly speaking, the mission of public education is to prepare students with the necessary skills to fully participate in society and the workforce.[1] The accountability requirements established in the 2001 No Child Left Behind law spurred an unprecedented focus on accountability and standardized testing at the state level that precipitated a decades-long emphasis on data collection, reporting, and quality.[2]

Traditionally, states have been responsible for setting standards and systems of accountability for public education. In 2007, however, with support from the federal government, state leaders began working together with national convening organizations to develop a shared set of standards for math and English language arts known as the *Common Core State Standards*, which were adopted by 42 states as of 2015 (http://www.corestandards.org). These in turn spurred development of new standardized tests and data-collection strategies.[3] In 2010, 26 states began the process of jointly revising science standards, resulting in the *Next Generation Science Standards* (https://www.nextgenscience.org/developing-standards/developing-standards), which were adopted by 20 states as of 2017 (http://ngss.nsta.org/About.aspx).

In 2015, then-President Obama signed into law the Every Student Succeeds Act (https://www.ed.gov/essa?src=ft). Among other goals, it establishes annual statewide assessments to be provided to educators, families, students, and communities; it also maintains accountability to improve the lowest-performing schools, while at the same time devolving flexibility and accountability back to the state level.

Infrastructure: Public education is governed by laws and regulations at the federal, state, and local levels, with oversight from both appointed and elected leaders. The U.S. Department of Education oversees federal law and funding, and state education agencies oversee their own state approaches to standards, curriculum, accountability and funding. States differ on the extent of local control offered to counties and school districts.

U.S. Department of Education. Its mission is to "promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access" (https://www2.ed.gov/about/overview/mission/mission.html). Established by Congress in 1980, the department's goals are to: (1) strengthen the federal commitment to access to equal educational opportunity for every individual; (2) supplement and complement the efforts of states and local school systems to improve quality of education; (3) encourage involvement of the public, parents, and students in federal education programs; (4) promote improvements in the quality and usefulness of education through research, evaluation, and sharing of information; (5) improve the coordination of federal education programs; (6) improve the management of federal education activities; and (7) increase accountability of federal education programs to the President, the Congress, and the public.

State Education Agencies. Each state has an agency that oversees elementary and secondary education and is led by an elected or appointed chief education officer, superintendent, or secretary. Its roles include funding and funding oversight, data-collection systems and federal reporting, accountability systems, teacher credentials, assessments, and many other obligations. ets.aspeninstitute.org/content/uploads/2015/12/Aspen-SEA-Roles-Nov24-final.pdf).

[1] Jobin-Leads (2012).
[2] U.S. Department of Education (2006).
[3] Gewertz (2017)

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State Boards of Education. These are bodies overseeing state education; they are made up of leaders appointed by the governor or legislature, or elected by constituents, depending on the state. While their oversight is generally "big picture," state boards are charged with a number of activities, including setting statewide curriculum standards; establishing high school graduation requirements; determining qualifications for professional education personnel; establishing state accountability and assessment programs; and developing rules and regulations for the administration of state programs (http://www.nasbe.org/about-us/state-boards-of-education/).

School Districts. Public schools are organized into school districts, led by an official appointed by the district's governing body, the school board. In most states, districts are local governing bodies with powers including taxation. School districts oversee all aspects of curricula and instruction. They also manage data-collection systems and mandatory reporting. In some states, they also have control over funds allocation.

Local School Boards. Local school boards oversee school districts and are usually composed of elected officials who represent the diversity of their communities. In compliance with state and federal laws, they establish policies and regulations by which their local schools are governed. They are responsible for: employing and overseeing the superintendent; developing and adopting policies, curriculum, and the budget;overseeing facilities issues; and adopting collective bargaining agreements (http://www.nsba.org/ABOUT-US/FREQUENTLY-ASKED-QUESTIONS).

Sources of Funding: Most public education funding comes from state and local coffers; in 2012-13, 45 percent came from states, 45 percent from local sources (including property taxes), and 9 percent from the federal government.[4] The federal funds are typically allocated for two types of students: those who are socioeconomically disadvantaged and those who are in special education programs.

Workforce: A total of 7.7 million people were employed in public education at the federal, state, and local levels in 2012, with 99 percent of them employed locally.[5]

Partners for Information Exchange: With its organizing infrastructure, local education agencies retain control over data systems for gathering and storing information on student, teacher, and school performance. Information is generally not shared between local school districts or states, although most states have aggregate statistics by school or district available to the public; the federal government also reports state and local education statistics, in aggregate.

The Statewide Longitudinal Data Systems program was authorized by the Educational Technical Assistance Act of 2002. It provides grant funds to states to establish data systems that securely follow students from early education through the workforce and facilitate the disaggregation, reporting, and analyses of longitudinal data. These data systems are intended to "help States, districts, schools, and teachers make data-driven decisions to improve student learning, as well as facilitate research to increase student achievement and close achievement gaps" (https://nces.ed.gov/programs/slds/faq_grant_program.asp). As of 2016, 16 states plus Washington, DC, had fully established P-20W (pre-school to college to workforce) data systems and 37 states plus DC had the ability to link across at least some of their education agencies' data.[6] They have the ability to follow students within states and across educational systems, but not across states or into other types of systems that serve children and youth (e.g., child welfare).

Challenges to Education Data-Sharing: Education data are highly informative when integrated with data from other systems that serve children and youth. These cross-agency collaborations are still somewhat rare, however. Key challenges to education data-sharing both within education and across different sectors include the following:

> **Legal Frameworks**. The data privacy law that governs education data is the Federal Education Right and Privacy Act (FERPA). In general, FERPA states that schools are required to allow students and their parents access to educational records, but are prohibited from sharing those records with third parties without prior written consent. There are several key exceptions, including: to school officials at the current or a future school, in connection with financial aid, to organizations conducting studies for or on behalf of the educational entity, or to comply with a judicial order or a lawfully issued subpoena (https://www2.ed.gov/policy/gen/guid/fpco/ferpa/students.html). Data-sharing across agencies is an allowable activity and there is a solid legal framework for cross-tegration.[7] In ted FERPA rule made more explicit the kinds of agencies that can serve as agents of K-12 entities for data-sharing purposes, which allowed for more flexibility (https://studentprivacy.ed.gov/training/data-sharing-under-ferpa-regulations-january-2012). A subsequent 2017 clarification by the U.S. Department of Education's Privacy Technical Assistance Center outlines how education data can be legally included in third-party integrated data systems (https://studentprivacy.ed.gov/sites/default/files/resource_document/file/IDS-Final_0.pdf).

[4] https://nces.ed.gov/programs/digest/d15/tables/dt15_235.10.asp?current=yes
[5] https://www2.census.gov/govs/apes/2012_summary_report.pdf
[6] Perez(2016)
[7] Petrila, Cohn, Pritchett et al (2017).

The Children's Online Privacy Protection Act (COPPA) also governs data collection in schools, specifically as it pertains to operators of websites or online services directed to children under 13 years of age, including vendors providing educational technology services in schools (https://www.ftc.gov/enforcement/rules/rulemaking-regulatory-reform-proceedings/childrens-online-privacy-protection-rule).

Systems Integration. Each locality has the authority to determine which data system it invests in. Tracking across systems can be thwarted when they do not align or when there are not common identifiers to track students. Educational data pertaining to students' pre-school experiences, K-12 education, higher education, alternative education, career technical education, and workforce development experiences reside in different systems governed by different agencies, which may or may not come together for the purposes of sharing information.[8] There are technical and institutional barriers for sharing data across these domains. The U.S. Department of Education Common Education Data Standards (CEDS) initiative aims to streamline the understanding of data and data items within and across State Longitudinal Data Systems, including information specifically for practitioners, policymakers, researchers, IT specialists, and others (https://ceds.ed.gov/Default.aspx).

Limitations of Education Data for Research Purposes. Information about non-school factors is critically important for understanding students' educational outcomes, as roughly 70 percent of variance in K-12 student achievement is attributable to non-school factors (Coleman et al., 1966). These are principally the negative impacts of poverty (Jones & Schneider, 2009). Currently, data are not systematically available for the integration of in-school and out-of-school experiences and their roles in student achievement. Other limitations include a lack of geographic breadth, with data often drawn from one classroom, one school, or one school district, though students at greatest risk for poor academic performance have the highest transiency rates (Sampson et al., 2009; Schafft, 2006); and a lack of temporal breadth, drawing from just one or a few years, but not tracking students lon itudinally from K-12.

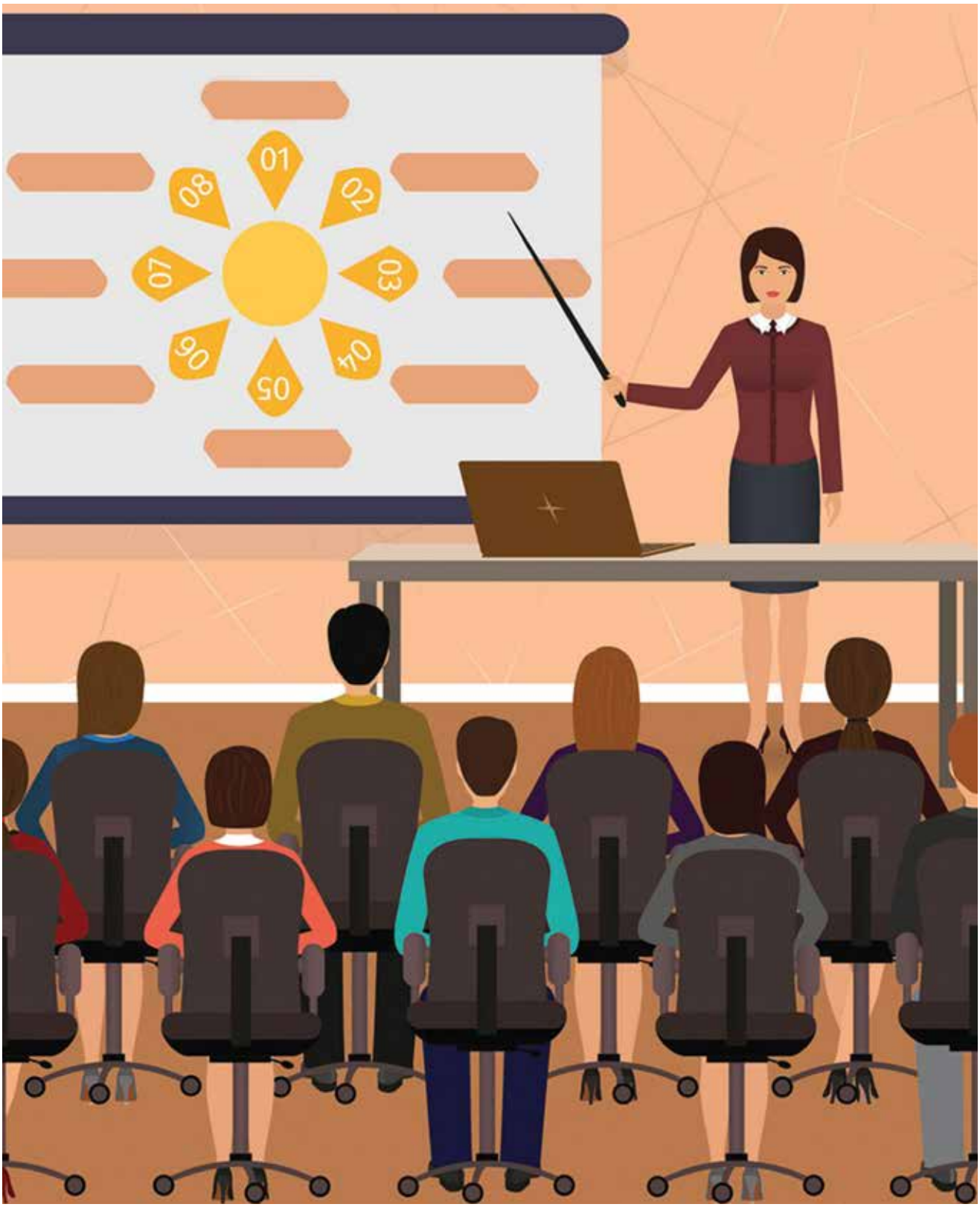
Potential Improvements: Public education is the sector that serves the most children and youth nationwide. It is nearly universal in its coverage of children from different racial and ethnic, socioeconomic, immigrant, cultural, and linguistic backgrounds. Harnessing the power of these data – and using them to better serve children and youth – is a key means of improving individual lives, as well as bolstering the U.S. economy and reducing income inequality. The following are a few suggestions about what public education agencies could do to better share data and better use data for improving programs and practice:

Increase education, dissemination and action to integrate the social determinants of educational outcomes. Pursuing this goal is integral to achieving a more-comprehensive approach to understanding and improving educational outcomes for the most-disadvantaged students. Recognizing that a large portion of students' in-school outcomes can be attributed to factors that are outside the school walls is an important first step. Integrating those factors into curricula, service approaches, and data-driven decision-making is essential.

Implement standard data-sharing protocols and architectures. Taking this step will mean new systems could be built, ready to exchange data with other educational programs or student-focused services that adopt the same standards and protocols.

More clearly define and promote integrated data systems. Educating policy-makers and funders on the availability of integrated data would spur progress, as would providing proof-of-concept examples of how they support better outcomes for students, as well as cost savings for government agencies. Collaborating with related initiatives and funding sources – such as Social Innovation Fund's administrative data grants, collective impact, and social impact financing – could leverage existing resources.

[8] London and Gurantz (2010).



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Create legal frameworks to support responsible integrated data systems. The many overlapping state and federal privacy laws governing the collection, use, and disclosure of administrative data pose a significant challenge to data-sharing initiatives. In the face of this ambiguity, agency legal counsels take approaches that minimize risk to their individual agencies by adopting the most-prohibitive interpretation of relevant privacy statutes. Legal advocacy to help integrated data systems negotiate data- sharing agreements is necessary to form a more-collective rather than individualized governance structure.

Increase collaboration and information-sharing among communities. In particular, create new means – and utilize existing ones – to showcase successful (and unsuccessful) efforts, so that jurisdictions can learn from each other and avoid repeating each other's mistakes.

Resources for More Information

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Public Safety

Mission: The U.S. public safety system includes law enforcement, fire and rescue services, and the emergency medical service (EMS) network of public, private, and voluntary organizations that contribute to the safety of the public in a geographic jurisdiction. Public safety partners include agencies that respond to emergencies, whether man-made or natural, and others that may vary by community but have a role in protecting the public and dealing with health and safety crises. By law, governmental public safety agencies have the responsibility to monitor safety status, develop policies and plans to support personal and community safety, enforce laws and regulations, and conduct research to ensure and maintain community safety.

Infrastructure: Public safety is generally regarded as a community responsibility. While agencies exist at the state and federal levels that play supportive roles in some cases, the bulk of public safety exists at the local (city, county, tribal) level, with no element of state or federal direct control over operations. The federal government works to provide consensual standards and to conduct research in public safety methods and processes and provides funding for programs, services and educational efforts. Federal agencies with lead public safety responsibilities include:

> **Department of Homeland Security**: DHS provides the coordinated, comprehensive federal response in the event of a terrorist attack, natural disaster or other large-scale emergency, while working with federal, state, local, and private sector partners to ensure a swift and effective recovery effort. DHS provides funding for state and local emergency operations centers, as well as for public safety agencies

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to ensure readiness to prevent and respond to situations such as natural or man-made emergencies that particularly require multiple responding agencies. DHS has been instrumental in designing and funding projects related to emergency response and communications issues, including interoperability initiatives to enhance communications among agencies and jurisdictional levels. DHS also conducts scientific research related to emergency management and communications interoperability (see https://www.dhs.gov).

Department of Justice: After the tragic events of 9/11, DOJ invested fully in assisting state, local, and tribal agencies to prepare for preventing and responding to all relevant situations/crises. While DOJ focuses on law enforcement aspects of public safety, it has been an influential leader in information-sharing across all agencies and in the formulation of the National Information Exchange Model (NIEM), which is a framework for standardizing exchanges such as those that help facilitate information-sharing in the event of an emergency. Through its Office of Justice Programs, DOJ funds state and local governments for technology and training, and conducts research through the

National Institute of Justice to develop improved processes and technologies for public safety. The Bureau of Justice Assistance in the Office of Justice Programs was heavily involved in funding and technical assistance related to 9/11, Katrina and pandemic preparations

Office of the Director of National Intelligence: (ODNI): The Program Manager for the Information Sharing Environment (ISE) was positioned in ODNI in response to a congressional mandate to the President (contained in the Intelligence Reform and Terrorism Prevention Act of 2004, as amended); the mandate was to build an ISE across the federal government, with respect to state and local governments, in order to share information to support counter-terrorism initiatives. This office pioneered many of the architectures, concepts, and frameworks that have been adopted by the Department of Homeland Security, the Department of Defense, DOJ, and other federal agencies to improve information-sharing across multiple domains. The ISE framework is documented and used by federal, state, local, territorial, tribal, and international partners to foster better information-sharing and interoperability in support of improving government operations (see https://www.ise.gov).

States generally provide a coordination and planning role for public safety, with associated funding varying widely across the nation. All states have some sort of state-level version of homeland security, with varying degrees of capability, generally reporting to their governors. States also generally have fire marshals who coordinate the work of fire services and standards. Emergency management operations often exist at the state as well as the local level. States are the conduits for significant amounts of federal grant dollars, distributed to them via block grant programs.

Because of the autonomy of local public safety agencies, national professional organizations play a major role in advising on policy development, sharing information on best practices, and professional workforce development. The leading public safety organizations at the national level are the International Association of Chiefs of Police, the International Association of Fire Chiefs, the National Emergency Management Association, and the Association of Public Safety Communications Officials.Because of the autonomy of local public safety agencies, national professional organizations play a major role in advising on policy development, sharing information on best practices, and professional workforce development. The leading public safety organizations at the national level are the International Association of Chiefs of Police, the International Association of Fire Chiefs, the National Emergency Management Association, and the Association of Public Safety Communications Officials.

Sources of Funding: Public safety funding comes primarily from tax revenues at the local level, augmented to a small extent with federal funds from DHS, DOJ and additional, limited support from state general funds. Private foundations such as the Robert Wood Johnson Foundation and Arnold Foundation also provide funding to state and local safety agencies for research and demonstration projects.

Workforce: About 850,000 people are estimated to be employed in law enforcement activities at all levels. In addition, as of 2014, there were 1,134,400 firefighters in the U.S. (not including those who work for the state or federal governments or in private fire departments). Of these, 346,150 (31%) were career and 788,250 (69%) were volunteer. As of 2014, there were also 241,000 emergency medical technicians (EMTs) in our country. There are numerous vacancies nationwide, particularly in law enforcement.

Partners for Information Exchange: Information-sharing among public safety agencies in the normal course of their work has always been of critical importance to practitioners. When police, fire and Emergency Medical Services (EMS) personnel are responding to a major emergency, interoperability among their communications and information systems is vital. But public safety agencies also have urgent needs to exchange information with other domains, including public health, hospitals and other healthcare and transportation service providers. Because of the long history of recognizing this need, a number of critical national networks have been established to support interoperability.

The FBI provides the national Crime Information Center, which allows for 40,000 separately identified agencies to seek data on crime, criminals, and other subjects. The Homeland Security Information Network was established precisely to enable public safety agencies to create an information-exchange capability to share situational awareness prevention and response information across multiple users and domains. The National Law Enforcement Telecommunications System links all law enforcement agencies across the country through state control points to share information on all matters pertaining to law enforcement and public safety. Common situational awareness is provided in many consolidated communications centers, which dispatch police, fire, and emergency medical resources when warranted.

Because public safety is constantly in motion and mostly mobile, its information infrastructure encompasses information and communication technologies, including both fixed and mobile hardware, software, services and devices; broadband infrastructure; and a workforce skilled in public safety communications and technology. Field-based personnel are equipped with mobile radios, computers, smart phones, and/or tablets to enable data-sharing and situational awareness. Public safety personnel are trained to use mobile technology to communicate and share critical data with each other and with external systems, such as an EMT communicating with a hospital before arrival.

One of the most striking advances in decades is envisioned by the creation of the First Responder Network Authority, which was authorized by Congress in 2012 and operates independently within the Department of Commerce. FirstNet, which is scheduled to begin implementation in spring 2018, will provide nationwide broadband wireless capability for interoperability, information-sharing, and communications across all of public safety.

Challenges to Information-Sharing in Public Safety: Because of the autonomous and distributed nature of public safety, local agencies have both tactical and strategic information-sharing challenges. The events of 9/11 revealed a serious lack of interoperability in the field environment using mobile communications technology due to a lack of common standards, frequency of sharing problems, and proprietary technologies that pervade this field. It also became clear in assessments of the challenges to public safety during 9/11 that information exchanges using computer technology were not easily managed. The 9/11 Commission report and others led to a major investment in improving communications interoperability and, to some extent, to moving forward with digital data standards that have ameliorated this problem.

Within a specific community, the public safety agencies are well aware of the need to communicate and share information in responding to an emergency involving all public safety services, and there is no contention about this need at the service-provider level. There is less consensus about the needs and means to share information with other agencies, particularly state and federal supporting organizations.

Creating a multi-agency, multi-jurisdictional interoperability situation requires common standards for operational procedures, as well as technology, and there has been progress in operational agreements over the past several decades. The standards of the National Incident Management System are widely supported in the public safety community.

Given the status of much of the nation's public safety communications systems, the older technology is not conducive to effectively integrating with a smart phone-equipped public, so it is still true in most parts of the nation that citizens cannot send texts or images to the 911 dispatch centers that could inform responding units. The response to this challenge has been the introduction of NextGen 911, which is focused on introducing an IP-based technology to solve this incompatibility.

As we more fully recognize the need for collaboration between public safety and public health, and indeed between public safety and the health and human services broader community (including additional domains), we also realize that common approaches and standards are lacking.

Potential Improvements: The reliance on mobile phones in society today has accelerated the need to convert all public safety agencies to the NextGen 911 model. This move is progressing, but not rapidly. There will be significant opportunities to expand and improve interoperability with the implementation of FirstNet, and this mobile, wireless, broadband capability will stimulate improvements. New applications will be developed as this infrastructure is implemented.

Public safety has an opportunity to improve the exchange of information about specific emergencies through the development of information-exchange standards, building on the work previously done using NIEM methodologies. More work is needed to develop and gain full acceptance of the standards for specific exchanges within public safety, but also for exchanges between public safety and other entities, for example among police, fire, and EMS units with hospitals covering pre-arrival information.

Public safety can also play a role in detecting the start of emergencies such as pandemics. Calls for service come most immediately to public safety dispatch or 911 centers, and the early warning of expanding illnesses is mostly available in the data captured by the call centers in public safety. While some research has been done and pilot projects have been tried to take advantage of this potential, there is no nationally recognized set of best practices for doing so.

One of the potential improvements that deserves considerable attention is the reinvention of collaboration principles to govern interoperability in response to an emergency. Agencies must re-examine what collaboration means in all levels of pre- and post-event activities, and integrate information-sharing as a fundamental principle in designing collaboration. We should rethink our collective responses from the knowledge gained, particularly over the past 17 years, in dealing with major emergencies; strive to design truly integrated responses that overcome the constraints imposed by jurisdictional boundaries or non-interoperable technology; and then derive standards and processes that will lead to more-streamlined approaches and practices.

Key Resources for More Information

Why can't we talk? National Task Force on Interoperability, https://www.ncjrs.gov/pdffiles1/nij/204348.pdf

Public Safety and Democracy, Paul Romer and William Bratton, https://www.city- journal.org/html/public-safety-and-democracy-11277.html

Unlocking interoperability, Emerging Management Magazine, http://www.govtech.com/em/next-gen-911/Unlocking-Interoperability-What-It-Means-for-Next-Generation-Public-Safety-Communications.html

First Responder Network Authority, https://www.firstnet.gov Critical Decisions in Data Sharing, IJIS Institute,

http://c.ymcdn.com/sites/www.ijis.org/resource/collection/93F7DF36-8973-4B78-A190-

0E786D87F74F/IPSTSC_Critical_Decision_Criteria_for_Data_Sharing_20130710.pdf

National Information Exchange Model, PM-ISE, https://www.ise.gov/mission- partners/national-information-exchange-model-niem

Next Generation 911, https://www.911.gov/911-issues/standards.html

Emergency Medical Services

Mission: In 1966, a report entitled "Accidental Death and Disability" was released by the National Academies of Sciences, bringing to light the "neglected epidemic" of accidental injury. This report, along with passage of the 1966 Highway Safety Act, provided impetus for increased national attention to victims of motor vehicle trauma. The federal government was given a leadership role in reducing the number of injuries and deaths on America's highways. As a result, the National Highway Safety Bureau (the predecessor of the National Highway Transportation Safety Administration) was created. A part of this new agency, the Division of Emergency Treatment and Transfer of the Injured was dedicated to Emergency Medical Services (EMS).

The EMS system has grown to become the best-known public-response system for individual medical crises in the U.S. EMS includes the public safety answering points (PSAPs), emergency medical dispatchers (EMDs), Emergency Medical Responders (EMRs), Technicians (EMTs), Advanced EMTs (AEMTs), Paramedics, and designated Medical Directors. EMS is part of a tiered response system that dispatches law enforcement, fire services, and/or ambulances, as dictated by the nature of the emergency (also see the Public Safety section above). These resources are deployed in specific geographic locations as part of a larger network of services organized by each state.

Medical services partners include agencies that respond to emergencies, and others that may vary by community but have a role in protecting the public. Emergency services contact, diagnose, triage, and transport patients under the direction of a locally authorized Medical Director. The service may be delivered in home, ambulance, local clinic, or hospital (if the patient is transported). It may be a general hospital or one of the following types of specialty facilities: trauma center, pediatric center, burn center, cardiovascular care, or stroke center.

Governmental emergency medical services are governed by state laws, regulations, policies, and procedures. These include a requirement to provide leadership to local jurisdictions. Each state must also have a system in place to evaluate and improve the quality of its EMS system. EMS operates at the intersection of Public Health, Public Safety, and healthcare

Infrastructure: Under the Department of Transportation (DOT), the National Highway Traffic Sa fety Administration (NHTSA) developed the framework for, and leads, EMS systems in the United States. Every state has legislation that authorizes the EMS system within its borders, as well as the authorities that oversee service delivery and resource training. National EMS standards are determined by DOT and are modified by each state's Department of EMS (usually under its Department of Health); they are also altered by Regional Medical Advisory Committees (usually in rural areas), by other committees, or even by individual EMS providers.

States generally provide coordination and planning roles for EMS, with associated funding varying greatly across the nation. Emergency management operations for medical and safety issues exist at the state as well as the local levels. States are the conduits for significant amounts o f f ederal g rant dollars, distributed to them via block grant programs. Federal partners and their roles with EMS include:

Department of Defense. Provides criteria, guidance and instructions to inform delivery of services.

Department of Health and Human Services. Provides technical assistance, subject matter expertise, and direct program services to states, tribes, territories, and local communities to prepare for and respond to disasters and emergencies.

Department of Homeland Security. Provides coordination for federal response to terrorist attacks and natural disasters.

Federal Communications Commission. Through the Public Safety and Homeland Security Bureau, works to ensure that first responders have access to reliable, interoperable equipment.

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Funding for programs, services, and educational resources is supported in part by the CDC and the Assistant Secretary for Preparedness and Response as a part of other efforts covered by these federal agencies. EMS systems, however, are practical examples of the minute-by-minute emergency response mechanism for individuals in crisis. The organizational model that has tested out so well to deliver this response, in coordination with public safety and medical agencies, applies just as well to community and regional health responses.

Sources of Funding: Public emergency services funding derives primarily from tax revenues at the state and local levels, augmented to a small extent by federal funds. The services themselves may be provided by a local government or may be the responsibility of the regional or state government. Municipality-operated services may be funded by service fees and be supplemented by property taxes.

Workforce: As of 2014, there were approximately 241,000 emergency medical technicians in the United States. There are numerous other support personnel, such as emergency medical responders and paramedics, throughout the country. In addition, there are private agencies that provide emergency medical services and that are not part of the public network.

Partners for Information Exchange: Information-sharing among public medical agencies in the normal course of their work has always been of critical importance to practitioners. When EMS personnel are responding to a major emergency, interoperability is vital among dispatch, ambulance, clinics, hospitals, and public safety agencies and information systems.

Emergency medical services are constantly in motion and mostly mobile; information infrastructure includes information and communication technologies, including both fixed and mobile hardware, software, services and devices; and broadband infrastructure. Personnel are equipped with mobile radios, computers, smart phones, and/or tablets to enable information-sharing and situational awareness. EMS personnel are trained to use mobile technology to communicate and share critical information with each other and with external systems, such as Emergency Medical Technicians or paramedics on the way to a hospital, communicating with a Medical Director.

Potential Improvements: A potential improvement over the existing EMS system would be a further integration with public health, public safety, environmental health, social and human services, and education in some circumstances. This integration could play an important role in detecting the start of emergencies, such as the Flint water crisis or other comparable events, as well as the national opioid epidemic. Once these groups are coordinated across their individual vertical towers of care, earlier detection could be accomplished through public and environmental health systems, and further services could be coordinated with social and human services systems.

Calls for service come most immediately to public safety dispatch or 911 centers; medical services are dispatched along with safety professionals, and the early warning of expanding illness is mostly available in the data captured by the call centers in public safety, or downstream in the EMS reporting.

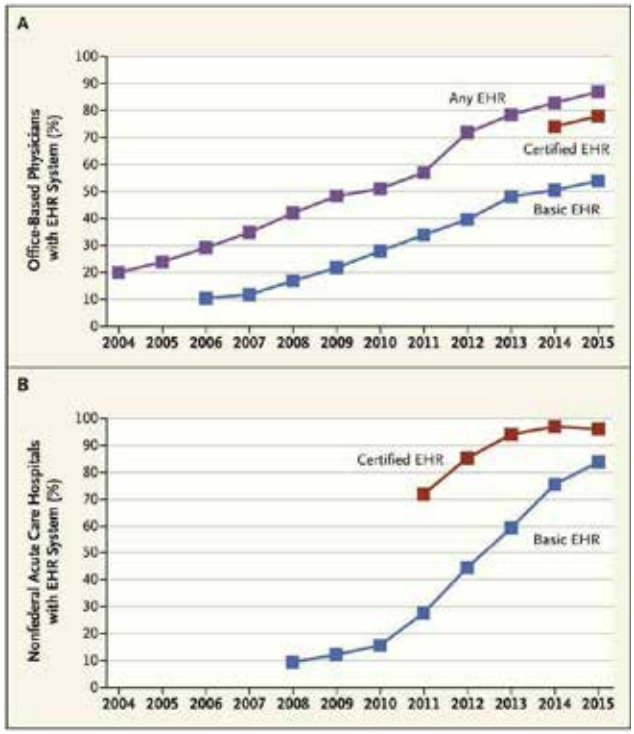
Key Resources for More Information

www.ems.gov/OEMhistory.html_
www.ems.gov/partners.html

Health Information Technology

Mission: While a strong business case and appropriate policy are necessary for interoperability to flourish, at the end of the day it's the available information technology (IT) that makes data flow. Because of the distributed nature of healthcare in the U.S., the IT resources, decision-making, and infrastructure are equally decentralized. And a competitive marketplace on the one hand leads to great innovation, while on the other hand often limits effective cooperation. Rapid advancements in technology have also led to implementation stratification on the part of health organizations, so users can rarely keep pace equally in all technical areas. This leads to conflicting pressure to implement new technology as it becomes available, and to allow existing technologies and approaches to become more widely implemented.

Infrastructure: Infrastructure: Health information technology (HIT) encompasses many components. The following are the most crucial relating to Interoperability:



Commoditization of Computing Equipment. Unlike in the past, today almost all types of computing equipment – from the largest virtual servers to the smallest hand-held devices – are essentially commodity purchases, with little to differentiate the hardware or basic operating system functionality. Cloud computing has simplified the deployment of scalable servers, and even Apple- and Windows-based desktops and laptops are all but interchangeable. Most application development has moved to the web anyway, reducing dependence on user hardware choices. Furthermore, prices continue to drop as speed, screen pixel count and storage capacity increase. Users need these devices to interact with data in the healthcare ecosystem.

Clinical Systems. These support a wide range of activities, from direct patient care, to population health management, to more- specialized functions like radiology,laboratory information and pharmacy management. Clinical systems often look a little different at ambulatory versus hospital- based environments. At the center of these systems are Electronic Health Records, the adoption of which has been spurred financially by the CMS EHR Incentive Programs, which were part of the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009; they continue to be revised as CMS advances its overall payment models. Additional systems also contain clinical data, often fed from EHRs and other clinical systems, including various public health registries and other surveillance systems.

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Administrative Systems. While these are more transparent to many in the healthcare ecosystem, they drive the payment for healthcare services that, at the end of the day, drive most spending in healthcare organizations. The advent of payment reform, uncertainty in insurance markets spurred by recent changes in the Affordable Care Act (ACA), and new data-coding standards that impose additional data-entry burdens on users raise additional challenges for the ongoing survival of these systems.

The Internet. Fundamental to interoperability is the internet itself, fed by local networks within organizations that provide connectivity between computers and other devices. Advances in telecommunications have turned computing into an "anytime, anywhere" activity. The nation's backbone network continues to improve in resilience and speed. Ubiquitous access to high-speed communications is an essential requirement for almost all activities. While the cable TV industry has largely supplanted the telephone carriers in providing network connectivity to the home, cell providers have enabled mobile computing at increasing access speeds.

Mobile Computing. While this term once referred to the "lucky ones" who had a laptop, mobile computing has exploded to include a wide variety of devices – conventional and unconventional – now referred to as the Internet of Things. Laptops have been supplemented (and in time may be supplanted) by cell phones big and small, tablet computers big and small, and "wearable" devices, all of which have found a place in the clinic as well as the home. Through this transformation, we have all but taken multimedia for granted as faster networks and central processors in our devices no longer constrain the types of information we can view.

Sources of Funding: Infrastructure certainly has its costs, but information technology is moving into our society as a core capability of our work, family, and social lives. Different industries spend different amounts on IT in general. While commoditization of hardware has reduced cost, increased demand for more and more capacity continues to drive spending, which competes with other organizational priorities for investment. The CMS EHR Incentive Programs have spurred investment in EHRs, but payment reform continues to introduce uncertainty into the future availability of funds for investment in Health IT.

Workforce: Approximately 188,600 people are estimated to work as medical records and health information technicians (Bureau of Labor Statistics, 2014). Demand for health IT workers continues to grow steadily, as does the need for clinical staff trained and experienced in healthcare informatics. As the labor market for skilled IT in the U.S. tightens, and sometimes shifts overseas, organizations may find it increasingly difficult to advance their health IT projects successfully.

Partners for Information Exchange: There was a time when healthcare professionals assumed they only needed to talk to each other. Those days are long gone, however, as patient access to healthcare data is not just "nice to have" but a clear expectation of both government ("view/download/transmit" requirements for EHRs in the CMS EHR Incentive Programs) and patients themselves. As we think of the healthcare ecosystem as a Learning Health System, all participants – patients, clinicians, researchers, payers, government – have more expectations about access to data. We are coming to realize the growing interdependency among all these individuals and the importance of partnerships supported by common infrastructure and purpose to enable interoperability.

The Office of National Coordinator's (ONC) work implementing the 21st Century Cures Act and its focus on trusted exchange is an important step toward advancing the creation of a national interoperable health system.

In January 2018, ONC published a draft Trusted Exchange Framework and Common Agreement (TEFCA) for public comment. The draft is meant to build on and recognize the industry's significant work over the last few years to broaden the exchange of data to meet the needs of patients and the providers who serve them. It aims to improve the flow of information among healthcare stakeholders and expand patient access to their health data, while allowing for a competitive marketplace that fosters innovation and development of new technologies

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to improve care coordination, population health management, and patient outcomes. Its goal is to help scale interoperability efforts for health nationwide and ensure that patients, providers across the care continuum, community and social services, and many more stakeholders can effectively and efficiently participate in interoperability efforts.

The single on-ramp described by ONC seeks to enable access by existing Health Information Networks (HINs) to electronic health information regardless of what health IT developer they use, health information exchange or network they contract with, or how far across the country the patients' records are located. Moreover, the on-ramp would provide opportunities for HINs to innovate and build out additional use cases and services that would provide value to their participants and support their long-term sustainability.

While implementation of TEFCA will not begin until 2019 or later, it is important to recognize the potential to create national approaches and standards to achieve interoperability in health, and potentially in related fields such as human and social services.

Challenges: [1] Healthcare is complex. Challenges to working together abound, including:

Lack of agreement on definitions, scope, and priorities. While the 21st Century Cures Act provides a definition of interoperability [2] there are many more definitions in use in healthcare. Even if a definition is widely accepted, there is no real agreement on the scope pf interoperability that we should focus on – clinical data, administrative, medical devices, all of the above? – nor on what the appropriate "world view" really is. Despite broad discussion of "patient-centered" healthcare,the U.S. system remains largely provider-centered, and this core difference affects how we view and implement interoperability.

Ambiguity over the role of HIEs and state government. A national strategy around HIEs has not been developed, including not on a "hub and spoke" scheme that seems natural to many given the size and complexity being dealt with. State-level HIEs are strong in some places, non-existent in others. In the absence of a strategy, the private sector has moved to fill the gap with vendor-based HIEs, collaboratives such as the Commonwell Health Alliance, the Sequoia Project and CareQuality. The Strategic Health Information Exchange Collaborative (SHIEC) is working to link independent community and state-level HIEs together, especially through its Patient Centered Data Home project.

Lack of agreement over timelines and pace of change. We observe other sectors of the economy where market disruptors have caused real, leap-frogging change: iPhone, clever apps like Waze, smaller and smaller microprocessors. But it appears we've been waiting for a decade or more for healthcare IT's transformative moment. Healthcare is very complex, however, and different organizations view change and the pace of change differently. So the road toward a singular, transformative moment could be a long and hard one.

Inconsistent Laws and Regulations. U.S. laws related to health IT, especially regarding privacy and patient consent for sharing, are a patchwork of federal, state, local, and tribal statute and regulations that often conflict or are ambiguous. From HIPAA to FERPA to 42 CFR Part 2 to various state laws regarding the sharing of mental health or adolescent health data, it is difficult for participants (let alone their automated systems) to navigate this world within their jurisdiction. The introduction of cross-jurisdictional sharing makes the navigation even more difficult.

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[1] London and Gurantz (2010). Based in part on Arzt, Noam H. "The Interoperability of Things," Journal of Healthcare Information Management, 29(4),
Fall 2015. https://www.hln.com/wp-content/uploads/2016/03/JHIM- InteroperabilityOfThings-Fall-2015.pdf

[2] London and Gurantz (2010). http://docs.house.gov/billsthisweek/20161128/CPRT-114-HPRT-RU00-SAHR34.pdf (p.351)

Standards. We have been working on interoperability standards for nearly 20 years, and it feels like great progress and little progress have been made at the same time. Some participants maintain that the implementation of standards needs to continue to evolve as healthcare evolves. Others ask for patience because of how long it takes to implement a particular version of a standard consistently among a set of data-sharing partners. There is no consensus on which approach might be best.

Semantics. Even if data flowed freely and unimpeded from one organization to another, the use of that data would be suspect at best (and harmful at worst) without consistent and shared meaning. Medicine is a complicated business, and its knowledge base is constantly changing and evolving. If nothing else were done over the next few years other than to ensure that data in various systems use standard terminologies and code sets, there would be far greater progress for interoperability and information-sharing.

Governance. A shared governance experience helps us make tough decisions to address some of the challenges described above. Some argue that only government can bring all the stakeholders to the table and convene the conversation. Many observe that this has not happened in the past few years, and the sector continues to flounder. While some private initiatives have tried to fill the void, participation is self-selected, technical architectures sometimes seem arbitrary, and it is even more challenging to keep self-interests and conflicts of interest in check.

Potential Improvements: Here is no single answer to this set of challenges, but consider this advice from a recent article which proposed that we begin by:[3]

Be skeptical of the notion of "consensus." The best strategy might not be the most popular one. Some problems are, in fact, intractable. One critical role of leadership is to provide direction when the best choice is not obvious.

Leverage the past with an eye to the future. Broad experience and knowledge are available about the successes and failures of past initiatives. At this inflection point, we must consider everything that has occurred before we charge ahead.

Recognize this is more about the pace than the substance of change. The healthcare ecosystem is too large, complex, and fragmented to move in lock-step. So a broad vision is needed for early adopters, mainstream implementers, and laggards to all see a path forward. Details should be tailored to each phase of implementation.

Key Resources for More Information

Arzt, Noam H. "The Interoperability of Things," *Journal of Healthcare Information Management,* 29(4), Fall 2015. https://www.hln.com/wp-content/uploads/2016/03/JHIM- InteroperabilityOfThings-Fall-2015.pdf

Office of the National Coordinator for Health Information Technology, "Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap version 1.0," October 2015. https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide- interoperability-roadmap-final-version-1.0.pdf

Interoperability Standards, https://www.hln.com/knowledge/interoperability-standards/

By providing this unique, explicit look at the six primary domains that operate across the spectrum of care, NIC's goal is to engage the broader interoperability community in identifying and analyzing the common and divergent factors among them in order to accelerate information-sharing and collaboration. One of our near-term goals is to compare these domains – through crowd-sourcing on the new NIC Collaboration Portal to gain deeper insights about them and to stimulate cross-sector communication/dialogue. Each of the domains are examined more fully in the expanded version of this document at www.stewardsofchange.org/NIC.

This document was written by **Adam Pertman**, a Senior Consultant for SOCI and the National Coordinator and Communications Director for NIC; **Juli Baker**, a Senior Consultant for SOCI and a Project Site Leader for NIC; and **Daniel Stein**, President of SOCI and Co-Principal Investigator for NIC. We sincerely thank the contributors and reviewers who provided the research, writing, and other input that made this document possible. They included:

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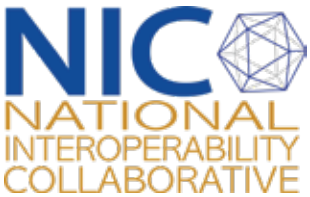
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The Opioid Settlements—Will the First Steps Be in the Right Direction?

Sara Whaley, MPH, MSW; Joshua Sharfstein, MD

Author affiliations and article information are listed at the end of this article.

It has been 18 months since the final settlement of the long-awaited multidistrict litigation case 2804, the largest of the opioid litigation lawsuits against the manufacturers and the distributors, including McKesson Corp, AmerisourceBergen, and Cardinal Health, and the manufacturer/distributor Johnson & Johnson. Payments from the $26 billion deal began in May 2022 to 46 participating states and local jurisdictions and will continue over the next 18 years. Proceeds from litigation against generic drug manufacturers, consultants, and pharmacies will soon become available.[1] The bankruptcy settlement of Purdue Pharma, which is now being reviewed by the US Supreme Court, could bring another $6 billion to the table. All told, how these funds will be spent is likely to be a $56 billion question.

Looming over the opioid settlement decisions are the memories of the tobacco Master Settlement Agreement of the 1990s when less than 3% of funds were used toward tobacco prevention and cessation programs. The majority of funds from the Tobacco Master Settlement were deposited into states' general funds with no guidance or oversight on their expenditures. Dollars were used to fill budget gaps, fill potholes, and, in some instances, were used to subsidize tobacco farming.[2] To avoid a repeat of this experience, many of the opioid settlements come with default guardrails requiring participating jurisdictions to spend at least 70% of the funding to address the present and future overdose and addiction crisis. These settlements, however, allow for spending up to 15% to reimburse past expenses related to the opioid epidemic and another 15% for other uses altogether. Whether 70% or 100% of the funds are used to save lives today and in the future, how specific funding decisions are to be made, and where the funds will go are all questions for the participating states and localities. Four key questions will determine whether these historic settlements make a meaningful difference in an epidemic still killing more than 100 000 US individuals per year from overdose.

Who Decides?

A portion of the funds will be allocated at the state level, and a portion at the local level; how much for each varies by state. To manage the process, some states have created oversight boards. Some of these boards will ultimately decide what programs are funded, whereas others only have advisory power with the final approvals being made by the governor or attorneys general's offices. For some smaller jurisdictions, local employees may single-handedly decide what programs to fund. Scrutiny is appropriately increasing on who these decision-makers are and whether they have conflicts of interest.

A best practice is for states to convene groups working to address the harms of addiction and publicly share the details of fund distribution. In Colorado, for example, the Colorado Office of the Attorney General partnered on its disbursement strategy with a range of governmental and nonprofit organizations, including the Colorado Consortium for Prescription Drug Abuse Prevention, the Colorado Health Institute, Colorado Counties, Inc, and the Colorado Municipal League. A key component of Colorado's strategy has been the development of the Colorado Opioid Settlement Memorandum of Understanding, which provided the framework for the disbursement of opioid settlement funds to 19 regions, local governments, an infrastructure fund, and a state fund.

How Transparent?

The settlements do not require public disclosures about the dollars to be spent on opioid remediation; they are only required to report on the up to 15% that may be used toward "other expenditures." A best practice is to amend this default and make a formal declaration to publicly report 100% of their expenditures. For example, in New Jersey, the state's Memorandum of Understanding between state and local governments requires the state to report annually to the public the expenditures from the states' 50% share. Also, participating local governments must publicly report expenditures of their allocated half of the settlement funds.

Issues of transparency in Ohio made national news because the OneOhio Recovery Foundation, which is overseeing the state's opioid settlement funds, was sued by Harm Reduction Ohio for not making its records publicly available. On the other end of the spectrum, Rhode Island's Executive Office of Health and Human Services, which oversees 80% of the state's settlement funds, designated a section of its existing website for all materials related to the opioid settlements. These materials include live streams and recordings of meetings, meeting materials including meeting minutes and slides, and proposed budgets and funding plans. Several other jurisdictions and locales are similarly building out their existing dashboard or planning new portals to track opioid settlement spending.

What Will Be Funded?

A best practice for jurisdictions is to integrate spending from the opioid settlement into a broader strategy that considers local needs, available federal grant funds, and policies related to health insurance, law enforcement, addiction treatment, and harm reduction. For example, a county in a state that did not expand Medicaid for adults under the Affordable Care Act may need to spend more funds on direct treatment services than a county in a state that did expand Medicaid and consequently has a low rate of uninsured individuals. Such a county might instead direct more funding to services, such as harm reduction, that are difficult to fund through other existing mechanisms.

As another example, Minnesota has integrated settlement funds into existing infrastructure to blend resources. The state's Opioid Epidemic Response Advisory Council oversees this process. Other states and local jurisdictions, like Nevada and Wisconsin, have funded new statewide needs assessments, or coordinated stakeholder listening sessions and gathered local feedback to ensure that opioid settlement spending is informed by data and local experience.

Experts, including public health scholars and addiction specialists, have put together several guides and evidence-based strategies to help states and localities make funding decisions, but there is no requirement to use them. The engagement of knowledgeable health professionals can help direct funding to effective efforts, such as access to all forms of medication for addiction treatment approved by the US Food and Drug Administration, harm reduction services, and peer support services. Equally important are advocates who are working to avoid scenarios where settlement funds are directed toward programs and institutions that may not make a difference or may actually be harmful.[3] Examples of such expenditures include those for abstinence-based education, family separation through the child welfare system, and equipment for law enforcement.

How Will Progress Be Measured?

It is not too early to ask about plans for monitoring and evaluating the use of the funds. In fact, a proactive plan for tracking outcomes can help to inform requests for proposals and other infrastructure and staffing decisions. In North Carolina, a partnership between the University of North Carolina Injury Prevention Research Center, the North Carolina Association of County Commissioners, and the North Carolina Department of Health and Human Services has created a

dashboard in which the public will be able to track the effect of each dollar used by counties from the opioid settlements. Each jurisdiction in North Carolina is required to complete an annual report that outlines what programs were funded, how well the intervention performed, and how the program has affected individuals or the community. Since the opioid settlement funds will be dispersed over the next 18 years, outcome measures can inform redirection of funding over time.

At this early stage, state and local jurisdictions can use these 4 questions as a pressure test of their current process. If states' plans are not clear on decision-making power, transparency, funding investments, and oversight, they run the risk of missing a critical opportunity. Now is the moment to take first steps in the right direction.

ARTICLE INFORMATION

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Correction: This article was corrected November 30, 2023, to replace the words "substance abuse experts" with "addiction specialists."

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Updated December 2, 2021