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Adapting to Adversity amid a Global Pandemic

Stakeholder Insights About Progress and Next Steps for Taking Integrative Action to Build Resilient Systems

Americans will remember 2020 for many events that spanned from devastating to inspirational (Jones, Palumbo, and Brown, 2021; Patton, 2020; Robert Wood Johnson Foundation [RWJF], undated). In the past year, there have been more than 500,000 deaths from coronavirus disease 2019 (COVID-19) (“Coronavirus in the U.S.: Latest Map and Case Count,” 2020); the highest unemployment rate since 1948, when labor data were first tracked (Bureau of Labor Statistics, 2020); and the highest number of opioid deaths ever seen over a 12-month period (Centers for Disease Control and Prevention, 2020). The United States will need to address the significant social and economic toll of 2020 for years to come. However, despite the devastation, there also have been stories of hope; organizations and communities have demonstrated agility, creativity, and empathy in response to and recovery from a global pandemic (Osland et al., 2020). This

backdrop has been a test of *collective resilience*, or the sustained ability of communities to prepare for, withstand, and recover from adversity.

COVID-19 offered a real-time example of what has been anticipated and studied for some time in resilience science—multisystem impacts coming from the overlap of an acute crisis and ongoing chronic stressors, such as historical structural inequities, that are exacerbating it. In the midst of the acute event of the pandemic, the death of George Floyd set off a storm of protests of the historical and ongoing injustice that people of color confront on a daily basis. In the second part of 2020, other disasters emerged, from tropical storms and hurricanes along the U.S. Gulf Coast to wildfires in California (Hubbard, 2020). This interplay of COVID-19 and other 2020 impacts resulted in stresses on many response systems, such as communicating how people were to protect themselves and others (e.g., mask-wearing, vaccines); how to economically reopen with attention to differential impacts by job category (e.g., essential workers versus nonessential workers); and how to educate young people given technological challenges (e.g., digital divide), family challenges (e.g., limited access for some families to food and other social services), and educational readiness challenges (e.g., lack of training for distance learning). This interplay of 2020 stresses presented the conditions for multisystem shock and failure horizontally across health, economic, and social systems and vertically from the federal to the local level. In some cases, communities were rapidly developing policy fixes to address the emerging resilience challenges—e.g., housing evictions, unemployment, food insecurity—faced by each sector (Allen, Haley, and Aarons, 2021). But although some of those fixes were useful in the short term, they under-

scored the systemic fragilities of the pandemic response overall.

Although 2020's multisystem shock was not the first for the United States, it provided an important opportunity to discuss what needs to be done to ensure that the nation can handle these stresses before challenges like this one emerge again. Although more analysis in the coming years will be needed, anecdotally at least, the challenges and opportunities that confront systems and that leaders face in building collective resilience and addressing the multitude of social, economic, environmental, and health problems need to be reviewed in the context of past resilience efforts to determine the implications for advancement or improvement in future resilience science and practice.

Why Community Resilience, and Integrative Resilience in Particular, Remains Important

In recent years, there has been considerable interest in enhancing the capacity of individuals, households, and communities to withstand, recover from, adapt to, or transform from facing adversity. This interest in resilience practice and science has occurred even as the available resources to mitigate or withstand stress have shifted or diminished. For example, funding from the Centers for Disease Control and Prevention for public health preparedness and response programs has been cut in half over the past decade and, between fiscal year (FY) 2019 and FY 2020, decreased from \$858 million to \$850 million (Trust for America's Health, undated), leaving a gap between available funding and needs. Over the past

20 years, disasters triggered by natural hazards alone have upset the lives of more than 800 million people, and more than 3 million people have lost their lives to these disasters (Anderson and Woodrow, 2019). Key risks that continue to reinforce the importance of building community resilience (see the box at right) include the fact that disasters are increasing in scope and scale; there are widening social inequities that are creating and being exacerbated by disasters (Wisner et al., 2014); climate change is influencing disaster scope and scale, including extreme weather events; and communities continue to bear the social and financial costs of prolonged and overlapping disaster recovery periods.

Although there has been focus on community or disaster resilience, integrative resilience (see the box at right) goes beyond more-traditional conceptualizations of community resilience to try to elevate specific areas that have gotten relatively less attention and to address emerging critiques (Table 1) about how traditional resilience framing might benefit vulnerable populations (Alvarez and Cardenas, 2019).

The term *integrative* can be defined as seeking to unify or blend separate entities into a unified whole in a way that treats these entities as equals (Merriam-Webster, 2021). Integrative resilience takes the fields of psychological resilience and community resilience, as well as other adjacent fields (e.g., health and health equity, social and environmental justice), and approaches them from a transdisciplinary perspective. This approach considers the multiple and interacting disciplines, systems, and other domains that influence resilience and adaptation and how to build a common operating picture and set of principles that can allow these fields to advance together more efficiently

in service of public good and justice. As noted earlier, COVID-19 and other 2020 events were a clear demonstration that generic resilience-building without attention to agility across response systems and across response leaders can miss key fragilities in responding to disasters that can overwhelm multiple sectors at once.

Community Resilience

Community resilience is “the sustained ability of a community to prepare for, withstand, and recover from adversity” (Acosta, Chandra, and Madrigano, 2017, p. 3). Adversity can include both chronic and acute stress.

Integrative Resilience

Integrative resilience is preparing for, withstanding, recovering from, and even transforming in the face of adversity in a way that

- incorporates social justice values—including the elevation of community voice—to guide resilience plans, processes, and trainings
- recognizes and adjusts resilience plans, processes, and trainings to consider and be responsive to deeply entrenched problems, power dynamics, and populations that have experienced historical and social inequities
- intentionally seeks to align and find common operating principles with similar fields and community movements (e.g., well-being, sustainability, equity and health equity, culture of health) (Acosta, Chandra, and Madrigano, 2017).

TABLE 1

How Integrative Resilience Might Address Common Critiques of Community Resilience

Common Critiques of Community Resilience	How Integrative Resilience Might Address These Critiques
Focus on “community” can disguise intra-community differences in power and resources that shape disaster risk and its management (Bankoff and Hilhorst, 2009)	Takes into account the intersections and interactions of systems and people to understand and identify intra-community power dynamics (Acosta, Chandra, and Madrigano, 2017)
Potential for community-based approaches to place responsibility on local populations rather than risk-producers and, in doing so, to normalize the precariousness of the situation (Chandler, 2014; Gladfelter, 2018)	Elevates community voice to reach decisionmakers and brings forward historical and structural inequalities so that they can be used to intentionally plan resilience actions that promote equity (Acosta, Chandra, and Madrigano, 2017)
Promoted discrete and localized interventions are ineffective at changing broader risk-creating systems (Clark-Ginsberg, forthcoming)	Promotes alignment and use of common operating framework and principles across systems to account for dynamic and complex system interactions that create risk and inequity (Acosta, Chandra, and Madrigano, 2017)

Purpose of This Perspective: Advancing the Integrative Resilience Agenda

In 2016, the RAND Corporation and RWJF convened a Resilience Roundtable to address the gaps in how researchers, practitioners, and policymakers in the field organize across multiple sectors to improve community conditions and propel change across disciplines and sectors (Acosta, Chandra, and Madrigano, 2017). At the time, there was recognition that, despite a steady growth in interest and evidence related to community resilience, the field was not well-integrated across levels (from individual to family to school to whole community) and disciplines (e.g., psychology, public health). How individuals adapt to stress and to risk and protective factors was often examined separately from analysis of the environmental, structural, and historical conditions that contribute to a community’s resilience. RAND produced a roundtable report, serving as a call to

advance a more integrative resilience practice and research agenda, that identified two components key to that integrative resilience agenda: resilience-oriented systems and resilience-oriented leadership (Acosta, Chandra, and Madrigano, 2017). RWJF, with RAND support, developed an associated grant program to learn more about the action steps that communities could take to transform their resilience efforts to be more integrative or evaluate the impact of integrative resilience efforts. Specifically, the grant program was focused on projects about resilience-oriented systems and leaders (see the box on p. 5) that

- transform or change the norms or values needed to tackle systemic inequities (e.g., historical racism, entrenched poverty) that impede resilience
- move the field toward transdisciplinary action (i.e., cross-sector work that shares a common framework and set of outcomes)

- use research to evaluate the processes and impacts of systems and leadership changes on a community's resilience.

Recently, as the COVID-19 pandemic has brought new resilience challenges to the forefront, RAND and RWJF once again convened researchers and practitioners to take stock of progress on the earlier integrative resilience agenda and to explore new stresses to systems and leadership in the wake of COVID-19 and other events.

The purpose of this Perspective is to document the recommendations from the resilience researchers and practitioners who attended the 2020 Resilience Roundtable, with three aims: first, to describe the evolution of the integrative resilience research agenda (Acosta, Chandra, and Madrigano, 2017); second, to lift up recommendations and concerns that were not present in the 2016 convening on this issue because of new issues from the pandemic and new concerns about the future; and third, to discuss continued gaps in meeting the promise of the earlier roundtable's recommendations, highlighted by the pandemic response. These recommendations will be critical for researchers, practitioners, and policymakers to move forward the field of integrative resilience.

Three Inputs to Advance Resilience Through Integrative Science

This section describes the evolution of the integrative resilience agenda from 2016, the year it was originally developed, to 2021, a year into an ongoing global pandemic. As noted, in 2016, RAND and RWJF convened the first Resilience Roundtable—a diverse group of scientists

Key Components of Integrative Resilience That Align with the RWJF Grant Program

Resilience-oriented systems move beyond embedding principles of resilience into existing systems and more holistically acknowledge the interconnections between systems to minimize reductionist approaches that might fix problems in a single system in the short term while creating problems in other systems in the longer term. (For example, a program that reduces welfare payments in the short term for individuals working part-time inadvertently results in individuals quitting their jobs because they make more from welfare than from working part-time, which, in turn, negatively affects a community's economy.) In addition, resilience-oriented systems maximize the ability of the systems to be adaptive to acute and chronic stressors.

Resilience-oriented leadership describes leaders with the competencies (e.g., community outreach and engagement, asset identification) and training to make decisions in uncertain circumstances that are informed by many disciplinary perspectives at once. Resilience-oriented leaders account for both chronic and acute stresses in the community.

and practitioners representing various sectors (e.g., health, environment) and disciplines (e.g., psychology, engineering) to discuss paths to a more integrative approach to resilience science and practice. This led to an integrative resilience grant program in 2018 that focused on linking communities that were already doing some innovative community resilience-building with researchers to help transform their efforts to become more integrative or evaluate the impacts of their integrative resilience efforts. The

grants focused specifically on two areas: resilience-oriented systems and resilience-oriented leadership (Table 3). In 2020, we convened a second Resilience Roundtable to bring grantees, researchers, and practitioners together to reflect on lessons learned over the past year. We briefly summarize these three activities and key insights, which form the basis of the recommendations for the next integrative resilience agenda, described in the next section, “Next Steps for the Integrative Resilience Agenda.” The through line, which emerged in 2016 and carried through the other two efforts, is resilience-oriented systems and leaders.

The 2016 Resilience Roundtable Identified Initial Priorities

Five years ago, the nation was grappling with the question of how systems and leaders would fare given exponential growth in the scope and scale of disasters and projections that a variety of shocks (e.g., hurricanes) and stressors (e.g., climate change, growing social inequities) were looming. There were concerns that, despite the decade or more of progress that communities had made in implementing programs to build community resilience since Hurricane Katrina, there were still major gaps in the way that practitioners and researchers were using resilience research to inform changes to resilience practice and vice versa. Although resilience research and practice hold great promise for positive impact, many of the relevant fields of study (e.g., engineering, public health, psychology) were not organized in the transdisciplinary manner needed to elevate the core components of resilience practice and policy.

The 2016 in-person meeting convened approximately 80 leading resilience researchers and practitioners to

advance that integrative resilience research and practice agenda. A primary focus was to explore how progress in parallel streams of activity (i.e., individual and community resilience research and practice) could be brought together. The meeting also sought to identify enduring questions that need to be answered to further advance the field and successfully implement resilience concepts (Table 2).

Based on the input of practice and research leaders at the roundtable (Acosta, Chandra, and Madrigano, 2017), the following two major priorities emerged for furthering a more integrative field of resilience:

- identify and implement organizational interventions, policies, or procedures that create *resilience-oriented systems* to address both acute stresses (e.g., natural disaster, active shooter, disease outbreak) and chronic stresses (e.g., violence, poverty, structural racism)
- assess and implement efforts to develop *leaders with resilience-oriented thinking* (e.g., ability to work across sectors in uncertain circumstances to address acute and chronic stresses together).

It became clear that, to take resilience research to scale in ways that are more fully embedded with community needs, processes, and leadership going forward, the model of how resilience researchers and practitioners work together would need to shift, with a particular focus on systems and leaders.

TABLE 2
2016 Resilience Roundtable Recommendations, by Area

Area	Recommendations
Stresses: A resilience framework should be applied across a variety of stresses.	<ol style="list-style-type: none"> 1. Develop a taxonomy of stressors and related policy that will support an integrated approach to resilience assessment over the continuums of time (day to day and over the long term) and level (individual, family, community). Incorporate community historical knowledge and ideas into data assessment and measurement. 2. Capture resilience data longitudinally from individuals and communities to support the development of complex systems modeling, and pilot test interventions based on that systems modeling. 3. Focus on narratives, storytelling, and digital media to increase understanding within and across communities of acute and chronic stress and build a culture of resilience.
Systems: A systems approach to build resilience is required.	<ol style="list-style-type: none"> 4. Develop a community resilience systems map that defines the system boundaries (i.e., key actors and intersection points) and margins of system performance (i.e., thresholds at which performance is adversely affected). 5. Identify effective models for interorganizational and administrative partnerships and return on investment for investing in partnership activities. 6. Identify cutting-edge policies, practices, and plans from across the globe and share them across systems, disciplines, and levels (organization, family, individual). 7. Develop a preliminary set of measures that can begin to benchmark system resilience and capture resilience return on investment.
Workforce: Resilience can be built by strengthening community leadership, workforce, and educational training programs.	<ol style="list-style-type: none"> 8. Define and measure the elements of training that will support resilience education. 9. Create structures that support a more collaborative workforce model on behalf of resilience. 10. Identify and promote leadership models to advance resilience orientation.

The 2018 Integrative Action for Resilience Grant Program Advanced the 2016 Roundtable Agenda

Since that 2016 meeting, RWJF has built on these Resilience Roundtable findings and focused on these organizational change and leadership development priorities. Specifically, in 2018, building from the 2016 roundtable, RWJF worked with RAND to launch the Integrative Action for Resilience (IAR) funding program. A key aspect of this program was to use innovative approaches that link communities and researchers and stimulate the development of new ideas to help communities build resilience

across sectors. The program focused specifically on systems (Recommendations 4–7 from the 2016 integrative resilience research agenda) and leadership development (Recommendations 8–10 from the 2016 integrative resilience research agenda). In addition, grantees were required to use nonacademic products that made use of narratives, storytelling, and digital media to increase understanding within and across communities of acute and chronic stress and to build a culture of resilience (Recommendation 3 from the 2016 integrative resilience research agenda). Table 3 provides a brief description of the community and research partners and aims of the funded IAR projects.

TABLE 3
Integrative Action for Resilience Grantees

Focus Area	Project Title	Community Lead	Research Partner(s)	Project Aim
Leadership development	Achieving Equity Through an Intergenerational Leadership Model	Action Communication and Education Reform	The Urban Institute and Community Science	To address leadership development by developing residents' capacities through Community and Youth Leadership Institutes and, ultimately, to enhance community resilience
Leadership development	Research-to-Resilience (R2R)—A Plan of Process for Building Just, Equitable, Thriving, and Adaptive Communities	Catalyst Miami	Texas Southern University	To use community-based participatory research methods to build leadership skills via the development of three resilience hubs to increase the ability of families and communities to overcome acute and chronic threats to their overall health and well-being in the Miami area
Leadership development and systems change	SCALE UP (Social Cohesion, Adaptation, and Leadership in Emergencies in Urban Places) East Boston	Neighborhood of Affordable Housing, Inc.	New York University	To develop a climate-resilient community model by increasing social cohesion, fostering systems thinking among community and organizational leaders, and developing a dynamic community resilience systems map
Systems change	Collective Healing—A Public Health Approach to Addressing the Spectrum of Trauma Through Resilience-Informed Research and Action	Sacramento Minority Youth Violence Prevention Collective, Health Education Council	New York University	To operationalize and evaluate how the organizational change strategies used by Sacramento Minority Youth Violence Prevention Collective impact the spectrum of trauma, police-community relations, and community resilience

To identify lessons learned from these funded projects, RWJF asked RAND to conduct a series of three small-group interviews (approximately six, 12, and 18 months after project start-up) with each of the funded community and research partners ($n = 32$; 8 groups x 4 interviews per group). Interviews lasted approximately 45 to 60 minutes, and, for each project, the groups of community and research partners were interviewed separately. Interviews focused on understanding the relationships between project activities and the intended project outcomes and documenting any contextual factors (including the global

pandemic) that might have helped or hindered the project or resulted in the project plans being adapted. We have analyzed the interview data and provided an unpublished interim report to RWJF documenting lessons learned to date from these projects. One more interview will be conducted when projects are ended to capture lessons learned.

These interviews revealed several lessons learned. First, to tackle multiple stressors requires strategic and coordinated action across many partners and was often outside the purview of one specific grant or grantee. To make the most of the IAR efforts, grantees made efforts to

strategically nest efforts into broader regional efforts to fill gaps and move toward community change—while continuing to work toward one higher-order or overarching goal. To strengthen intergenerational collaboration, leadership, and training for resilience requires building a network of trained leaders who can advocate for policy change and equity. These lessons align with the insights and recommendations from the 2016 Resilience Roundtable.

However, several grants also demonstrated ways to advance equity as part of their resilience work—providing operational approaches to advance the key principle of integrative resilience (Table 3). From a community perspective, the local community gains power by building capacity to use data that reveal whether state and local entities are complying with the equitable enforcement of laws. IAR research partners also had unique insights into how to bring equity to the forefront in community-driven research through the use of equitable evaluation. Practically, this suggests that research teams need to be diverse (not just in terms of race and ethnicity but also in terms of lived experience), use culturally responsive evaluation methods, and ensure that communities have the power to shape the research.

The 2020 Resilience Roundtable Provided New Input on Integrative Resilience Priorities Based on Recent Disasters

When the *Washington Post* asked readers to identify a word or phrase to describe 2020, the top submissions included “exhausting,” “chaotic,” and “heartbreaking,” as well as “transformative,” “perseverance,” and “six feet apart, but closer than ever” (Goren, Kulkarni, and Vongkiatjajorn,

2020). The global pandemic, civil and political unrest, and other acute and chronic stressors experienced by communities in 2020 provided a unique opportunity for RWJF and RAND to revisit the themes of the 2016 Resilience Roundtable to take stock of what we have learned as a nation from our failures and from our resilience. The second meeting, held over two days in December 2020, was an opportunity to take stock of national progress and what the recent set of national stressors meant for the path forward in continuing to build *resilience-oriented systems and leaders* who can embrace resilience-oriented thinking and approaches. This follow-up Resilience Roundtable was a second opportunity to bring together practice and research leaders to advance the call for integrative resilience action that started at the first roundtable in 2016. The aims of the second Resilience Roundtable were to

- enhance the work from the prior roundtable by identifying approaches to building and supporting resilience-oriented leaders and resilience-oriented systems used during the COVID-19 crisis
- discuss gaps still to be filled in supporting both local efforts and national resilience discussions, with particular attention to key issues emerging from pandemic preparedness and response, community trauma and police brutality, equity, social movements, and climate change
- lay the foundation for an updated agenda for what is next in building and strengthening resilience-oriented systems and leadership, particularly as the nation contends with multisystem shocks in the future.

RWJF and RAND brought together approximately 40 leaders interested in integrative resilience research and practice, bringing back some leaders who attended the 2016 Resilience Roundtable and inviting some new leaders focused on resilience systems change and leadership development (see Appendix A for a list of participants). The attendees included IAR grant recipients, who could reflect on lessons learned from their own resilience grants focused on the two theme areas of resilience-oriented systems and leadership.

Because of COVID-19, the second roundtable was virtual and used Zoom for a combination of plenary discussions with expert panels and small breakout groups organized to respond to various scenarios and conditions of 2020, with attention to the systems and leadership implications. Each day started with an expert panel in which participants discussed what had been learned in responding to the disasters of 2020 and where gaps in resilience-building remained (see Appendix B for a meeting agenda). After each expert panel, the participants were divided into one of four breakout groups, purposefully mixed by background, research, and practice, as well as areas of focus (e.g., human resilience, infrastructure, environment), to explore systems on Day 1 and leadership on Day 2. (The breakout group assignments were the same each day so that groups could have continuity in discussion.) Each group had a different *starting* scenario from 2020 (e.g., overwhelmed medical system, racial tensions) that escalated into multisystem impacts (e.g., growing cluster of COVID-19 cases, active-shooter event), but all of the groups were asked the same questions about the system or leadership opportunities and impacts (see Table 4 for a brief description of scenarios and discussion questions). Attendees explored how contin-

ued work to build resilience-oriented systems and leaders would be key in preparing for equitable recovery in the post-pandemic phase in 2021 and beyond, as well as for readiness for the next pandemic and stresses from climate change, racial inequities, and other issues.

The discussion participants reflected on what appeared to still be weak or missing in the response to COVID-19 and related concerns about social inequities, for the purpose of trying to identify the solutions that communities used to address these weaknesses and gaps. RAND and RWJF staff took notes at each breakout session, and then facilitators from RAND and RWJF used those notes to create a list of recommendations needed to continue advancing and enhancing the pillars outlined in the 2016 roundtable (i.e., resilience-oriented systems and resilience-oriented leadership). Discussions of weaknesses and gaps focused on the role that preexisting inequities (e.g., lack of equitable access to services and opportunities) had on the disproportionate contagion and fatality from COVID-19 in black, Latino, Native American, and poor communities; the lack of early and transparent information or data about these disparate impacts; and the subsequent lack of action to address these impacts. This final list of recommendations had a particular focus on surfacing action steps that would aid future national ability to handle multisystem events and avoid, or at least mitigate, multisystem failures that created these disparate impacts. Each recommendation was accompanied by its rationale.

Experiences responding to the global pandemic, civil unrest, and other stressors in 2020 suggest that communities that were more resilient relied on

- redundant formal (e.g., health care workforce) and informal supports. Informal supports often came

TABLE 4

Scenarios and Discussion Questions from the 2020 Resilience Roundtable

Brief Description of Scenarios	Systems Change Discussion Questions	Leadership Development Discussion Questions
<p>Anytown is facing an overburdened medical system that is trying to deal with two issues: (1) how to pivot to accommodate the medical issues of waves of protestors that have been beaten or maced due to police violence/racial tensions; (2) growing cluster of COVID-19 has been identified in undocumented population that are more afraid of police now than ever.</p> <p>Anytown is a community struggling to plan a response to an impending heat wave following the physical distancing required to prevent the transmission of COVID-19, and given the growing number of homeless individuals and individuals without essential services (e.g., water, power) due to rising unemployment and the expiration of rent/mortgage forgiveness.</p> <p>Anytown is a rural community dealing with an overwhelmed social service system of people requesting unemployment, losing health insurance coverage (due to lost employment) and so unable to get care, and clusters of the COVID-19 outbreak that are spreading due to gaps/ disparities in access to care. Anytown leaders are struggling with how to meet the combined social service and health care needs of their community.</p> <p>Anytown is a community grappling with longstanding racial tensions that have resulted in emerging conflict between political and police protesters, and a recent occurrence of a white active shooter at a local elementary school with predominantly black students.</p>	<p>You are a policymaker drafting a bill on resilience policy for Anytown, USA . . .</p> <ul style="list-style-type: none"> • What would your policy solution entail? • What system attributes would need to be in place to support successful implementation of your policy solution (e.g., governance, incentives, partnerships)? • What kinds of policy actions can be enacted now that will prepare Anytown to handle multisystem shocks like this in the future? • What would you use as indicators of policy implementation and impact? 	<p>You are a city planner drafting a resilience plan for Anytown, USA . . .</p> <ul style="list-style-type: none"> • How would you approach this problem? • What competencies would you need to solve this problem? What needs to be in place for youth to develop these critical competencies (e.g., on-the-job training, graduate certification)? • What incentives would help move your city to a solution (i.e., grease the wheels)? • What preestablished collaborations across sectors or disciplines would facilitate finding an efficient solution (i.e., grease the wheels)?

through bottom-up, emergent community-level volunteerism helping vulnerable populations by delivering food and supplies, providing clothing and child care, holding neighborhood fundraisers, and offering socially distanced outreach and events to counter isolation.

- flexible systems that were able to pivot to respond to community needs as conditions evolved (e.g., socially distanced cooling centers) and ensure that

community members had access to needed services (e.g., health, housing, unemployment).

- community voice to make social change through civic engagement and creative expression. This narrative allowed for the public to make a connection to the real individuals affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and emphasized the humanity behind the data.

- expanded access to broadband and technology to support virtual interaction. This access was seen as a way to start discussions about social justice.

To help encourage these changes across communities, participants made a series of recommendations focused on building resilience-oriented systems and leaders that can navigate the tensions between taking timely action and being responsive to root causes by focusing on long-term engagement of communities to empower them to thrive. These recommendations fell into seven primary areas: civil society; community voice; urgency, opportunity, and narrative; racial equity and trust; workforce; financing; and data. Table 5 provides a brief summary of the recommendations, and Appendix B provides a more detailed summary.

Aspects of civil society involvement; community voice; urgency, opportunity, and narrative; workforce; financing; and data were reflected in recommendations from the 2016 roundtable. However, after the events of 2020, the presence of a unique and time-sensitive policy window for advancing resilience was further emphasized, as was elevating community voice and shared decisionmaking. New discussions of racial equity emerged that cut across the 2016 recommendations.

Drawing on these recommendations, the work of the IAR grantees, and the current resilience evidence base, we provide recommendations for ways to continue enhancing or advancing what already exists in the 2016 Resilience Roundtable agenda. In the following sections, we reimagine the 2016 priorities in the areas of resilience-oriented systems and leaders using input from all of the breakout group discussions and plenary discussions, lessons learned from the IAR grantees, and emerging literature (from 2016

onward) that addresses these topics. Where relevant, we cite examples from IAR grantees or other participants.

Next Steps for the Integrative Resilience Agenda

As we reviewed the 2020 Resilience Roundtable insights and placed these ideas in the context of prior discussions from the 2016 roundtable and the IAR grantees, two recommendation areas emerged. These are key to continuing to advance the integrative resilience agenda, particularly given ongoing ambitions to build resilience-oriented systems and leaders.

Foster Resilience-Oriented Systems

Recommendations to foster resilience-oriented systems focused on three areas: centering equity in systems so that equity is a lens on all other choices (e.g., policy actions, resource allocation); building civil society capacity; and motivating new resilience-oriented policy.

Recommendation 1. Make Equity a Cross-Cutting Priority for Resilience-Oriented Systems to Avoid Reinforcing Historical and Structural Inequities That Create or Exacerbate Risk

The 2016 Resilience Roundtable noted that the core principles of equity and its relationship to resilience development had to be key priorities in resilience-oriented systems development because complex systems often can reinforce persistent inequities if those systems are handled in sector-based silos. In addition, risks can slip through the

TABLE 5

Participant Recommendations from the 2020 Resilience Roundtable

Area	Policy and Systems Recommendations	Leadership Recommendations
Civil society	<ul style="list-style-type: none"> • Build capacity of civil society organizations and those that support them (e.g., foundations, Federal Emergency Management Agency) to ensure sustained community participation. 	<ul style="list-style-type: none"> • Promote civic leaders as the owners of resilience agendas. • Support new funding models to support local capacity-building.
Community voice	<ul style="list-style-type: none"> • Elevate community voice to encourage trust and trustworthiness of systems. • Spend time in communities. • Create a community-driven investment fund. • Establish a shared decisionmaking structure. • Establish a community board. 	<ul style="list-style-type: none"> • Develop leadership capabilities for community and civic engagement and equitable and diverse teamwork. • Offer continuing education credits and cross-training to develop these capabilities in midcareer leaders.
Urgency, opportunity, and narrative	<ul style="list-style-type: none"> • Create urgency by identifying a data-driven and narrative push that will move resilience-oriented solutions to the unprecedented stressors faced during 2020 ahead of other solutions that might not be resilience-oriented. 	<ul style="list-style-type: none"> • Leverage the policy window provided by the ongoing global pandemic. • Build qualitative and quantitative analytic competencies to be able to build a compelling narrative.
Racial equity and trust	<ul style="list-style-type: none"> • Emphasize racial equity and trust-building in organizational mission, vision, and plans. 	<ul style="list-style-type: none"> • Train community leaders on historical drivers of equity (or inequities) in individual communities and how political, historical, social, and environmental factors have contributed to current conditions. • Build competencies to ensure that leaders can acknowledge and recognize inherent racial biases.
Workforce	<ul style="list-style-type: none"> • Redefine job duties and qualifications for professional staff with community outreach responsibilities. • Partner with community leaders and groups that already have credibility • Encourage redundancy in systems. 	<ul style="list-style-type: none"> • Develop leaders across the age spectrum, especially youth leaders. • Redefine lived experience as an essential and valued competency.
Financing	<ul style="list-style-type: none"> • Validate and compensate for community expertise. • Redefine community development to include grassroots and nonprofit development. • Use participatory budgeting. • Adjust the disaster declaration process to account for a combined disaster threshold. 	<ul style="list-style-type: none"> • Build capability to understand and navigate fiscal infrastructure and city, county, and state budgeting processes.
Data	<ul style="list-style-type: none"> • Standardize public health measures of racial equity. • Systematize a root cause dashboard to get more data on upstream factors that influence resilience. • Develop measures that capture community engagement and agency. 	<ul style="list-style-type: none"> • Use disaggregated and transparent data to understand equity.

cracks because a lack of cross-sector coordination, putting the onus back on populations at greater risk during disaster (Stillman and Ridini, 2015). Recent research has even suggested that systemic inequities and injustice are built into U.S. disaster policies, programs, and legislation (Jerolleman, 2019). The issue of promoting *equity*, or the *fair and just access to opportunity*, was a key theme from the 2020 roundtable’s analyses and is aligned with the progression of the field of resilience from a focus on bouncing back to a focus on bouncing forward to, now, a focus on “centering at the margins” in an effort to avoid reinforcing the systems that have created social inequities. This terminology has come into use in multiple disciplines in an effort to emphasize putting marginalized communities at the center of public policymaking to avoid perpetuating existing inequities. Centering at the margins means explicitly incorporating liberation psychology and critical race theories to understand the complex dynamics of power and how they intersect with the study and promotion of resilience (Atallah, Bacigalupe, and Repetto, 2019). There remained a persistent concern that equity was not enough of a priority in the discussions that surround the development of resilience-oriented systems.

1.1. Center Equity Discussions in Future Resilience Planning and Policy

The 2020 Resilience Roundtable discussions indicated that community members’ voices are still not central in most local decisionmaking processes, making it difficult to ensure that historical and structural contexts of policy choices are reflected. *Equitable resilience* has been defined as being “able to support the development of social-ecological systems that are contextually rooted, responsive

to change and socially just, and thus relevant to global sustainability challenges” (Matin, Forrester, and Ensor, 2018, p. 197).

Equity has three usual dimensions: distributional, procedural, and contextual (see the box at on p. 15). Although equity-centered resilience planning has become increasingly desired as a core outcome, participants noted that this approach was not standard or systematic enough in local resilience or disaster plans. In a review of 100 Resilient Cities efforts (Meerow, Pajouhesh, and Miller, 2019), only a few cities explicitly added an equity dimension to their planning frameworks. When cities did include equity, they tended to focus on distributional equity, or the equitable access to goods and services, but less on other important aspects of equity related to procedural equity, which often means deeper inclusion of historically marginalized populations. Furthermore, there is often little analysis of resilience planning in the context of history and systems.

Participants in the 2020 Resilience Roundtable reinforced these findings, citing the need to emphasize processes to discuss equity, specifically racial equity, in local planning processes. For instance, participants reflected on the need to create durable mechanisms (e.g., community boards) for community members to be heard and engaged meaningfully in local plans and reflected in accountability-monitoring structures. Discussions explored how a lack of those structures served as an impediment to responding effectively to the stresses of 2020 because the events of the year were lifting up longstanding issues of trust, trauma, and collective stress. Without established mechanisms to address those issues, local leaders often were struggling with how to engage underrepresented groups, build trust for everything from vaccine messaging to responding to

racial division, and identify processes to promote agency and inclusivity for disenfranchised individuals to help with the development of effective policy solutions. Tacoma, Washington, for instance, has a public-facing health equity index that the city uses to prioritize community services. Tacoma's annual budget allows for replacing 300 broken streetlights annually. The city now prioritizes the street corners with the lowest score on the quality health index as an infrastructure support for safety in the community.

1.2. Support Data Changes That Embed Equity-Oriented Measures in Resilience Planning

Another concern in building resilience-oriented systems related to having data structures that could more effectively link resilience outputs and outcomes (e.g., restoration of community functioning and a resumption of economic stability and productivity) with equity considerations. Data gaps in 2020, most notably in the form of not being able to systematically obtain granular data on COVID-19 impacts (e.g., by race and ethnicity, by gender, by occupation), certainly amplified this issue and highlighted serious data deficits that continue to impede ongoing disaster response and resilience development. However, the discussions of data extended beyond this disaggregation point. There is interest in an enhanced ability of data systems to capture the root causes or upstream drivers of health and social problems locally, which would allow for prospective planning that acknowledges inequities and would then help in implementing strategies to shore up resilience capabilities when multiple shocks and stresses occur, as in 2020. This root cause dashboard would need to be validated through structured conversations with affected communities but

Dimensions of Equity

Distributional equity focuses on allocation and resource management decisions, with attention to the balance of costs, risks, and benefits. Usually, distributive equity considers how decisions are made and benefits are distributed based on dimensions of need, social benefit, and considerations of equality.

Procedural equity addresses how the concept of fairness is included in approaches and policies once the equity parameters are set. (I.e., for whom are we improving equity?)

Contextual equity is the backdrop of both procedural and distributive equity because this form of equity accounts for the political, economic, social, and inter-generational factors in which populations engage with society, its systems, and its benefits. This form of equity includes such contextual variables as access (e.g., access to capital) and power (e.g., the ability to gain and maintain access to resources).

SOURCE: Adapted from McDermott, Mahanty, and Schreckenber, 2011.

would represent an important transformation in which data are prioritized and measured.

Although these types of efforts have been growing in some communities since 2016, there was an acknowledgment that the recommendations from the 2016 roundtable, which emphasized a more integrated approach to track community stresses over the long term with a focus on community history, was still not a part of usual community practice (Chandra et al., 2018). Metrics that more accurately captured the true timescale of disaster response

and recovery—tied to where communities and populations within that community started, given longstanding inequities—were needed. In short, measuring correctly based on preconditions would inform more-considered policies and resource allocation (Lu and Sun, 2020). To track whether resilience policy solutions are including equity factors also would require new measures that assess more-political determinants, such as accountable governance or the extent to which elected officials are accountable to their constituency, the extent to which community members are acknowledged or included in policies as they are written, and the presence of funding streams to determine how funds flow to community needs and partnerships (Mackebach, 2014).

Nonprofits and grassroots organizations play an essential role, acting as bridges between citizens and government to raise citizens' voices and provide critical insights into the dimensions that make up a community.

Recommendation 2. Make Community Development and Disaster Management Architectures More Inclusive of Civil Society to Elevate Community Voice and Build Local Economy and Agency

2.1. Redefine *Community Development* to Include an Intentional Focus on Capacity-Building for and Inclusion of Nonprofits and Grassroots Organizations

Nonprofits and grassroots organizations play an essential role, acting as bridges between citizens and government to raise citizens' voices and provide critical insights into the multiple dynamic dimensions (e.g., social, political) that make up a community (Morris, McNamara, and Belcher, 2019). Because of the often deep community embeddedness and bridging role of these organizations,¹ efforts need to be made to bring more of them into recovery decisionmaking and community development planning efforts, since they know their communities well and can react in a timely and culturally appropriate manner (Anderson and Woodrow, 2019). However, despite the critical role of nonprofits and grassroots organizations, government agencies have not always engaged with them during resilience and community development planning. Research has suggested that, despite the advantages to local development of connecting with the embedded civil society organizations, governments are not aware of which organizations play critical roles, have not invested time or money in building relationships, or have not identified mechanisms to formalize these partnerships. New technologies have offered innovative processes to be more inclusive of local community perspectives and be more responsive to emerging changes in policy and community conditions (Smith, Fressoli, and Thomas, 2014). Government agencies need staff time and expertise

(e.g., outreach, organizing, social media) and incentives (e.g., funding, training, or technical assistance) to engage these organizations.

2.2. Develop New Fiscal Mechanisms to Support Community Development Partnerships with Grassroots Organizations and Small Nonprofits

To be more inclusive of nonprofits and grassroots organizations, government, in partnership with foundations, will have to ensure that there is a fiscal infrastructure in place to support community development broadly and the efforts of grassroots organizations and nonprofits specifically. Fiscal infrastructure at many grassroots organizations is lacking, so new models will need to be put in place to help redefine granting processes to find ways to provide grants to small grassroots organizations and nonprofits and to begin to break down some of the systemic barriers to their capacity development.

Development of microeconomies (e.g., through collective efforts of micro-organizations composed of four to five people) has emerged globally as a pathway for disadvantaged and marginalized communities to create a more resilient economy by creating an alternative to investments from big businesses and multinational corporations that create a more balanced and thus resilient portfolio of investments across a community (Gernert, El Bilali, and Strassner, 2018). Examples from Thailand and Indonesia have shown the importance of philanthropy in supporting these microeconomies (Jayasooria, 2021). Through philanthropic support, there was a series of efforts made to organize home-based informal workers (e.g., through collective associations, such as the Network of Thai Street Vendors for Sustainable Development). As a collective, these work-

ers were able to advocate to improve working conditions, expand health insurance access to ensure that all civil society organizations were covered, and act as a negotiating entity to interface with the government over bans of street vendors in certain locations. In Indonesia, philanthropic support and investments were used to create a community fund that could be used to support immediate needs and provide microfinancing to small businesses and individuals living in poverty to improve their circumstances. These credit options filled a gap left by more-traditional lending institutions that were hesitant to get involved in microlending (Jayasooria, 2021). Improving infrastructures for the development of microeconomies could also confer benefits to small businesses that are shrinking during the current pandemic and often face similar barriers in accessing capital and other resources because of limitations in their knowledge, skills, and infrastructure.

Participants in the 2020 Resilience Roundtable also suggested developing a community-driven investment fund to support the co-creation of solutions (e.g., across government and civil society) and to build authentic reciprocal relationships among community members, elected officials, and other decisionmakers and stakeholders needed to help guide a community-wide investment portfolio.

2.3. Preestablish Agreements and Funding to Allow for Rapid Engagement of Grassroots and Community-Based Organizations to Address a Combined Threshold of Shocks and Stressors

In addition to capacity-building among grassroots and community-based organizations during steady-state times, there need to be mechanisms in place to allow for rapid engagement of these organizations during times of com-

munity crisis (see the box below) (e.g., Acosta et al., 2011; Vaughan and Hillier, 2019). Greater flexibility and agility to deploy funds are needed to ensure that funds automatically flow—instead of requiring onerous application processes at the time of a crisis. This challenge is not new, and, although some changes have been made in reimbursement procedures, little has been done to get preexisting service agreements in place with key vetted organizations in the United States (Acosta et al., 2011; Acosta, Chandra, and Ringel, 2013). There have been global government-led efforts to make progress in this area. For example, the Ministry of Health in Kenya developed a surge approach to “improve the resilience of health systems to better deliver

Resilience in Action: Example 1 from the Integrative Action for Resilience Grantees

The diverse East Boston community is at high risk for both cumulative and sudden climate-related events. The Neighborhood of Affordable Housing, Inc., and New York University worked together to develop a dynamic community resilience systems map to illustrate the strengths and ties of formal community organizations and the potential for increasing organizational cohesion. This interactive map has implications for improving the community’s ability to respond to not only chronic stressors but also acute stressors, such as disasters, because established nongovernmental organizations are identified in the map and the map can be used to target places where relationships can be built or strengthened. This type of dynamic map could be a first step toward identifying and formalizing a list of organizations that can be relied on for rapid engagement in the event of a disaster.

services for treatment of acute malnutrition over time, particularly during periods of high demand when the potential to save lives is greatest, without undermining the capacity and accountability of government health actors” (Ministry of Health, 2016). This approach consisted primarily of assessing local capacity and establishing agreements that identified a threshold or multiple thresholds (e.g., normal, alert, alarm, emergency) at which certain nongovernmental capacities would be activated based on population needs.

Getting these approvals in place before a crisis occurs will be critical and could be a priority for community development. Research is beginning to emerge providing suggested alternatives to traditional disaster-financing models. These adaptive-financing models call for more-strategic public-private partnerships, better evaluation to determine the impacts of disaster financing, more support for small business continuity planning, more-proactive action to get preapprovals in place to more efficiently disperse needed resources after an event, and a closer examination of the ethics involved in disaster financing (Hammett and Mixer, 2017). Reforms are even more-urgently needed given the events of 2020 and new research suggesting that federal disaster aid distributed across U.S. communities might be linked to widening racial inequities in wealth (Howell and Elliott, 2019). Even though this was raised as a priority prior to and during the 2016 Resilience Roundtable, there has been little effort to move this priority forward (Barnosky, Roberts, and Acosta, 2020; Finucane et al., 2020).

Participants in the 2020 Resilience Roundtable also suggested adjusting the disaster declaration process to include a combined disaster threshold. Because of the range of shocks and stressors that communities are dealing

with simultaneously, there is undue burden on communities to separately apply, track, and manage disaster assistance for multiple overlapping events. A tiered system for when multiple disasters occur would create more flexibility in deploying resources.

Recommendation 3. Take Action to Accelerate the Implementation and Evaluation of Resilience-Oriented Policy

3.1. Meet the Moment While the Policy Window Is Open by Creating Urgency for New Solutions Through Civic Engagement and Other Policy-Influencing Strategies

The Biden-Harris administration is engaging in planning and budget discussions about how to move forward as a country (e.g., Build Back Better). To leverage this policy window and build urgency to prioritize resilience-oriented policies will require a data-driven and narrative push, drawing from lessons learned about where resilience investments have paid off, that will move resilience-oriented solutions to address the unprecedented stressors the United States has experienced in 2020 ahead of other possible solutions that might not have resilience at the forefront.

Participants in the 2020 Resilience Roundtable discussed how the ongoing global pandemic presents an opportunity to encourage civic engagement for policy change, and they talked about how places have found ways to engage despite social distancing requirements in many states. For example, Engage PGH offers one example of a web-based portal to encourage civic engagement in ongoing projects across the city of Pittsburgh (Engage PGH, undated). Interested residents can register to be notified

about projects in their communities, and the platform allows them to provide input. For example, to inform the development of a new playground in Highland Park, community residents can review proposed design options; participate in and view community meetings where design options are discussed; complete a resident survey to provide input on topography, entrance, and style (e.g., modern cubes or traditional wooden ones); and share memories, drawings, and other insights on what the playground means to the community.

The events of the past year have presented an important opportunity to think about how to push forward a resilience policy (options are discussed in Recommendation 3.3) and establish mechanisms to influence policy. Research has shown that, to influence policy outcomes, simplified stories that are illustrative of complex community conditions can help raise the visibility of specific objectives (Tanner et al., 2019). Working through trusted and established networks is another way to advo-

The events of the past year have presented an important opportunity to think about how to push forward a resilience policy.

cate for change and engage champions and downstream implementers needed to achieve policy outcomes (Figure 1).

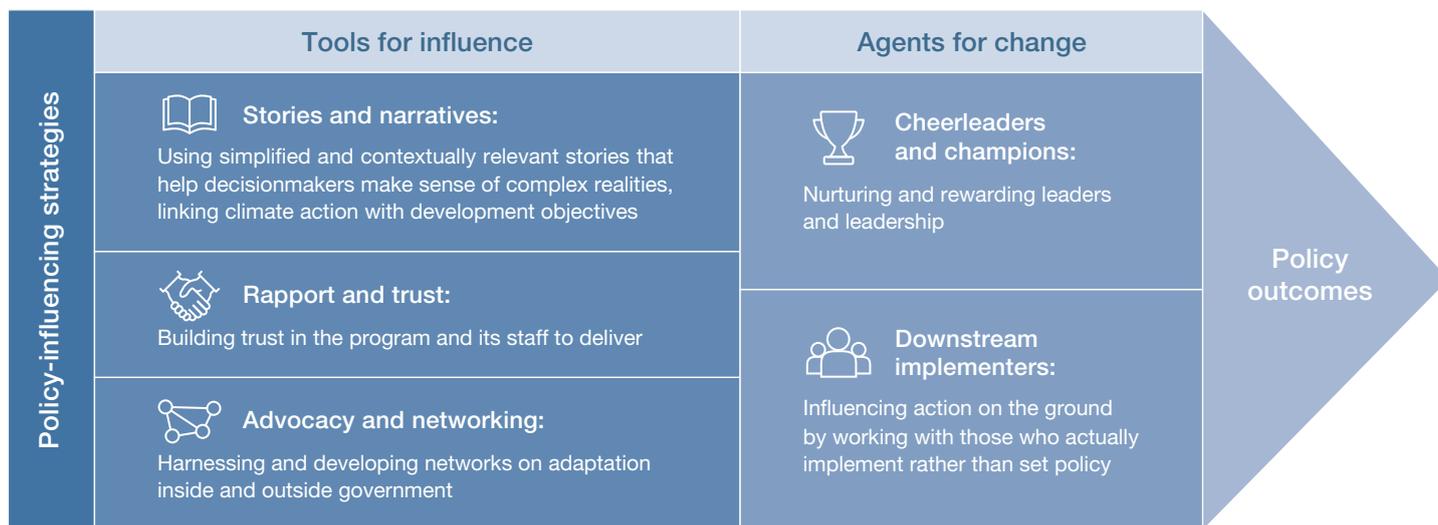
3.2. Develop Policies That Recognize the Interdependence of and Promote Robustness of Systems and Populations

Roundtable participants noted the challenge of creating policies that support basic access to services that are robust to shocks and stressors and part of redundant systems so that, if one or more of these basic services are compromised because of shocks or stressors, there are alternative support options available to populations in need. Creating redundancy in a time that the nation as a whole is moving toward austerity might be challenging, but participants

emphasized the importance of such policy options as paid sick leave for all essential workers, early childhood education, tax incentives for parental leave, and other support systems essential for families with children. Policies related to decentralizing the supply chain in support of micro-economies (as previously described) were also identified as a critical option to promote redundancy within community systems and to protect essential workers and vulnerable populations.

Beyond examining the redundancy created by a single policy, additional research is needed to understand how the sequencing of policies with complementary elements might be able to create more-adaptive and more-resilient communities when these policies are implemented in a

FIGURE 1
Typology of Policy-Influencing Strategies



SOURCE: Adapted from Tanner et al., 2019 (CC BY 4.0).

specific sequence over time (Howlett, 2019). Developing policies that, as previously mentioned, feature agility and flexibility might allow for policy rollout to be sequenced in a more complementary and aligned manner that would contribute to greater collective outcomes (Howlett, 2019). Operationally, resilience policies should contain both a substantive solution to a policy problem and a procedural component to maintain community engagement and promote accountability in formulating, deciding, and administering a policy over the long term (Capano and Woo, 2017; Kwakkel et al., 2010; Nair and Howlett, 2016).

3.3. Capitalize on the Resilience Policy Window to Invest in More-Equitable Broad Infrastructure and Energy as a Starting Point to Build Momentum for More-Unifying Resilience-Oriented Policy Choices

The events of 2020 (e.g., COVID-19, power outages, rising unemployment) have opened up a policy window to make progress on improving the equity of several systems that are considered community lifelines. These community lifelines are essential systems and services (e.g., energy, water, transportation, communication) critical to health and safety that support the functioning of all other systems and services (e.g., health, emergency services, businesses). For example, the social-distancing requirements related to the ongoing global pandemic have raised the need for more-robust broadband networks (i.e., the communications lifeline) to support virtual business, education, and social interactions. The following policy options to address broadband access in ways that promote health equity have been identified by the Brookings Institution through a series of local case studies (De Jong et al., 2015; Tomer et al., 2020):

- **options to improve access**, such as federal, state, and local government incentives for building out private networks to connect difficult-to-reach places or support for publicly owned networks and investment of capital assets in targeted wireless services for libraries, schools, and other public buildings to increase access (Roberts et al., 2017)
- **options to improve affordability**, such as providing direct subsidy programs, setting national affordability standards, or requiring private providers to offer affordability pricing if they receive government funding
- **options to develop a skilled workforce and informed consumers**, such as offering education and training through schools, libraries, and non-profit organizations and repurposing existing workforce development programs to include or prioritize digital skills development
- **options to educate decisionmakers, community members, and influencers**, such as creating coalitions dedicated to advancing these policy options, appealing to institutions that could gain the most benefits (e.g., banks to reach more customers, schools to reach more students), and having measurable objectives that are monitored in a transparent manner.

These options would make broadband more available to all communities and give communities more agency to become involved in these broadband and communication industries through the workforce or through a local advocacy group or coalition—all hallmarks of resilience (Tomer et al., 2020). Research has shown a positive relationship between broadband access and nearly every social determi-

nant of health, including access to educational and business opportunities, social interactions for single households and entire neighborhoods, and access to health care.

Similarly, the power outages across Texas in February 2021 have raised the visibility of national discussions about energy investments (i.e., the energy lifeline), equity, and health. The policy window is open to move forward the dialogue and policy support in these areas in a way that simultaneously promotes health and equity, economic, and educational goals (Meerow, Pajouhesh, and Miller, 2019). Energy insecurity, a persistent challenge for many low-income households in the United States, was made worse by the rise in unemployment caused by the COVID-19 crisis. At the same time, as many people were forced to stay home, household energy demands to provide basic services, such as electricity and temperature control, increased.

Improving access to and affordability of broadband and energy can begin to address some of the prevailing inequities across the country and provide new opportunities for communities to prosper.

These needs were exacerbated when extreme weather events occurred. The following resilience-oriented policy options, which account for interactions between systems and people and intentionally promote equity, have been suggested to help households afford energy use (Graff and Carley, 2020; Hernández, 2016):

- an increase in funding for the Low Income Home Energy Assistance Program and an expansion of the program's eligibility.
- suspension of energy disconnections for households unable to pay their bills during times of crisis. This could be coupled with moratoria on late fees, reconnection fees, and other penalties.
- an increase in funding for the Weatherization Assistance Program to help low-income households become more energy-efficient.
- increased local outreach to low-income households to encourage them to apply for utility assistance programs.

Improving access to and affordability of broadband and energy can begin to address some of the prevailing inequities across the country and provide new opportunities for communities to prosper.

Cultivate Resilience-Oriented Leadership

During discussions of resilience-oriented leadership, two recommendation areas emerged: (1) traits and capabilities of resilience-oriented leaders and (2) necessary training and education.

Leaders need to understand how to bring diverse perspectives together in effective ways, and, to do that, they must acknowledge the depth of equity issues that underlie the stresses that many communities face.

Recommendation 4. Support Leadership Development of Resilience Capabilities

The 2016 Resilience Roundtable noted that resilience necessitates new ways of thinking and new ways of training. Furthermore, leaders need to understand how to bring diverse perspectives together in effective ways, and, to do that, they must acknowledge the depth of equity issues that underlie the stresses that many communities face. These same themes emerged in discussions at the 2020 Resilience Roundtable. Although some discussion points echoed themes raised in 2016 (e.g., transdisciplinary training, continuing education), issues of equity took on even greater prominence in 2020, and there was recognition of the historical and systemic factors that contribute to community inequities (Madrigano et al., 2017). Conversations underscored the importance of understanding these historical intricacies, through lived experience or through spending time immersed in the community. Participants focused on competencies that can allow leaders to center efforts around community, with equity and justice in mind. Relatedly, empathy and humility, seen as crucial for relating to the perspectives of others, are traits that are valued for resilience-oriented leaders.

4.1. Build Skills Needed to Translate Community Engagement into Civic Action

Participants in the 2020 Resilience Roundtable highlighted the importance of partnerships and community engagement for community resilience. An active and engaged community offers many benefits, particularly during times of crisis, such as the opportunity to build trust between residents and authorities, preestablished lines of communication, and more-accurate information for decisionmaking (Stark and Taylor, 2014). Confusion and uncertainty are often associated with overlapping and multisystem shocks, and these states demand leadership that can provide direction and clarity while allowing individual community members to retain agency. Strong community leadership has been shown to facilitate the translation of community engagement and awareness to resilience (Ridzuan et al., 2020). Participants in the roundtable noted that the abilities to cultivate relationships with community members, build equitable partnerships, and foster collaboration are critical for leaders who wish to nurture community engagement. Recognizing when to take charge and when to let others take on a leadership role is another highly valued capability that is foundational for sustaining successful

The ability to tie complex concepts together through the power of story is a way to demonstrate empathy and strengthen relationships.

partnerships. Demonstrating and modeling effective teamwork and active listening were also deemed important for bringing disparate views together and leveraging collective community assets. *Place leadership*, which locates value in the social and relational connections between people located in specific places, is also highly relevant for community resilience (Beer et al., 2019; Lough, 2021).

4.2. Understand How to Use Narrative and Storytelling to Tie Complex Concepts Together

Narrative and storytelling can be used to develop a personal connection to complex societal problems and slow-moving disasters, such as climate change, community trauma, and systemic racism. The power of narrative was discussed in the 2016 roundtable, and storytelling is increasingly being used to bolster civic engagement and build community resilience (Acosta, Chandra, and Madrigano, 2017). However, participants in the 2020 roundtable noted that there remain many opportunities

to take full advantage of narrative and storytelling, particularly to close racial, socioeconomic, and generational divides. Proficiency in storytelling and narrative analysis are viewed as highly desirable skills for leaders. The ability to tie complex concepts together through the power of story is a way to demonstrate empathy and strengthen relationships.

The COVID-19 pandemic shined a bright light on the interconnections between health and well-being and political, socioeconomic, and physical environments. Although there has been a recognition for some time that the disciplines and sectors addressing infrastructure resilience (e.g., environmental, physical resilience) and those addressing the human aspects of resilience (e.g., health and well-being, psychological resilience) must work together, there remain gaps in competencies (Madrigano et al., 2017). Narrative and storytelling are useful devices to move beyond zero-sum thinking, which might pit certain members of a community against one another, and to engender the empathy required to support large-scale structural policy changes necessary for systems to remain robust to multiple and overlapping shocks and stressors and to prevent multisystem failures.

4.3. Bring Together Quantitative and Qualitative Sources of Data to Make Decisions Informed by a Holistic Understanding of Community Dynamics

Resilience-oriented leaders need a breadth and depth of understanding of the social, political, and environmental dynamics that factor into issues of community planning, design, and economic development. Participants in the 2020 Resilience Roundtable noted that leaders need to be proficient in the interpretation and use of both quantita-

tive and qualitative data to take a holistic approach to decisionmaking. Participants also recognized the tension between a long-term vision for a community and concrete achievements that could be made within fiscal or political cycles. The challenge and opportunity for resilience-oriented leaders is to incentivize long-term strategies by conveying meaningful incremental progress and building multistakeholder coalitions. Some participants noted that this requires “getting comfortable with inefficiency” to allow the time it can take to garner broad participation and genuine engagement and to allow a variety of community stakeholders to interact and come to a mutual understanding for a path forward.

4.4. Align Internal Organizational Accountability Structures and Job Duties to Better Support Authentic Community Engagement

Participants in the 2020 roundtable noted a few key organizational actions that leaders should consider when operating from a resilience-oriented framework. First, within the leaders’ own governmental or nongovernmental organization, a period of self-reflection and “getting their house in order” should occur. This kind of self-assessment is necessary to hold team members accountable and to enable partnerships with external stakeholders. Second, redefining job duties with community engagement at the forefront will allow organizations to genuinely serve the communities in which they operate. Such authentic community engagement will facilitate the types of trust-building and knowledge-sharing that are necessary to prepare for, withstand, and thrive in the face of multiple and overlapping shocks and stressors. This might mean allowances for compensatory time and flexible schedules for professional staff

so that they can better engage with community members as part of their regular work duties. Finally, discretionary budgets should be considered where possible, which will allow staff to direct resources toward community needs when they arise.

Recommendation 5. Enhance Training and Education Opportunities Across the Spectrums of Age, Race and Ethnicity, Career, and Lived Experiences to Build a More Robust Set of Future Leaders

Diversity of the workforce was front and center in many of the conversations at the 2020 Resilience Roundtable. A diverse workforce that represents the population it serves is recognized as one of the ways to drive down disparities in an increasingly diverse nation. For example, a diverse public health workforce is more likely to implement targeted approaches in communities, create systems to support needs, and develop effective solutions to help address

Redefining job duties with community engagement at the forefront will allow organizations to genuinely serve the communities in which they operate.

Participants at the 2020 Resilience Roundtable called for rethinking recruitment across the entire pipeline—from youth development to midcareer professionals—to break the systemic barriers that often hinder recruitment and retention of diverse workforce members.

health disparities than a workforce that is not representative of the community it serves (Coronado et al., 2020). This line of reasoning extends to the entirety of the community resilience-oriented workforce. Participants at the 2020 Resilience Roundtable called for rethinking recruitment across the entire pipeline—from youth development to midcareer professionals—to break the systemic barriers that often hinder recruitment and retention of diverse workforce members.

5.1. Offer Opportunities for Cross-Training or Transdisciplinary Training

As we discussed earlier, the capabilities required for resilience-oriented thinking are inherently transdisciplinary and necessitate leaders to be knowledgeable in a wide array of fields and have the ability to communicate with practitioners holding a diverse set of experiences. There have been calls for greater interdisciplinary training to prepare resilience-oriented leaders and for the operationalization and measurement of resilience to be part of all training programs across the social and natural

sciences (Acosta, Chandra, and Madrigano, 2017). In this way, someone trained in urban planning would also have a basic understanding of how urban design affects behavioral and mental health. Similarly, someone trained in the psychological sciences would also be familiar with how community context and built and natural environments affect mental health. Participants at the 2020 Resilience Roundtable reiterated this call, arguing that such cross-training could be built into higher-education degrees, for example, by requiring public health trainees to gain city planning experience as part of their degree requirements. In order for higher education to become more involved in addressing complex, contextually relevant “real-world” problems, this type of transdisciplinary training is necessary (Holloway et al., 2019).

5.2. Provide Continuing Education Credits to Build Resilience Capabilities for Midcareer Leaders Already in the Field

Participants noted that, for those leaders already in the field, continuing education credits are a way to expand

and diversify their skill set and are essential to teach professionals new ways of thinking in a rapidly evolving context. Continuing education can also be used to ensure that essential “soft” competencies, such as those required to interact and work with local communities, including knowledge of various conceptualizations of community, an understanding of how to facilitate authentic community engagement, and the ability to articulate the importance of equity and inclusion in leaders’ work, are bolstered in a workforce (Amodeo, 2003). To maximize the effectiveness of any continuing education program, it should be designed with adult professionals’ learning needs in mind—those who hail from a variety of backgrounds, those who have demanding day-to-day responsibilities, and those who have an expectation that they will be able to quickly apply the competencies developed to the workplace (Koo and Miner, 2010). Innovative community leadership development programs can also be used to create new pathways for midcareer or seasoned professionals to apply their skills in new areas or to open the door to constituents who have previously been shut out of the decisionmaking process.

5.3. Expand Leadership Development Programs for Youth to Understand and Build the Skills Needed to Address Multisystem Stressors

Youth leadership programs might be particularly relevant in the context of multisystem stressors (see the box at right). The response of children to disasters is related to many factors, including direct experience with the event and previous experience of trauma (Osofsky et al., 2009). But the participation of youth in leadership programs

can result in higher degrees of self-efficacy and foster post-disaster resilience (Osofsky et al., 2018). Leadership programs can also help youth recognize how their diversity and life experiences can be assets to their community rather than a means for them to feel othered and can help them envision multiple pathways to success. In some communities, multigenerational leadership institutes pair youth and adults to foster long-term, sustained community change and resilience.

Resilience in Action: Example 2 from the Integrative Action for Resilience Grantees

In north Montgomery County, Mississippi, a predominantly African-American community with tremendous economic and social challenges, community-based organizations are working to cultivate genuine leadership to shift systems from a top-down power structure to a citizen-powered structure through the development of Community and Youth Leadership Institutes. Working with academic research partners, Action Communication and Education Reform (ACER) and Montgomery Citizens United for Prosperity (MCUP) have developed a fellowship program to support, train, and prepare emerging and seasoned leaders to sit on local boards and commissions and to be able to meaningfully participate in the public policy process at the local and regional levels. Ultimately, the groups aim to develop strong citizen leadership, adult and youth, who are empowered to hold those in elected and appointed positions of power accountable; and move the needle toward economic, environmental, and social justice.

5.4. Develop Leadership and Training Programs That Emphasize Community Experience

As discussed previously, resilience-oriented leaders must possess a range of capacities and capabilities, many of which are honed outside the classroom through a diverse set of life experiences (see the box below). These experiences can build trust in the communities they serve and increase their overall effectiveness. However, career development and retention programs often are not targeted toward this segment of the workforce. For example,

Resilience in Action: Example 3 from the Integrative Action for Resilience Grantees

Catalyst Miami has been working to identify and collectively solve issues adversely affecting low-wealth communities throughout Miami-Dade County for decades. Their ten-week Community Leadership on the Environment, Advocacy, and Resilience program “provides participants with the groundwork to become climate justice educators, leaders, and innovators in their own communities and beyond. Participants develop a deep and intersectional understanding of climate science, local climate change threats, and solutions” (Catalyst Miami, undated). Recently, Catalyst Miami partnered with academic researchers from Texas Southern University (TSU) to evaluate its programs and assist communities in identifying the most-successful strategies for supporting skill development among residents and organizational leaders. Through this partnership, Catalyst Miami and TSU are determining which skills have the greatest impact on resiliency and how to best train leaders in thinking across sectors to deal with multisystem stressors.

community health workers usually do not have extensive formal schooling but have lived experience in health inequity and racism and reflect the diverse populations they serve. Evidence indicates that lack of growth opportunities in this field contributes to job dissatisfaction and high rates of turnover, and development programs that focus on proficiency rather than formal schooling are desired (Anabui et al., 2021). Thus, building a more diverse set of resilience-oriented leaders should account for the diversity of the workforce and the career trajectory and development programs that are needed for different types of workers.

Summary and Next Steps

The events of 2020 have provided a unique opportunity to take stock of U.S. resilience investments and learn more about the community conditions, system attributes, and leadership qualities that are needed to keep communities safe and healthy as the United States heads into an increasingly uncertain future. The 2016 Resilience Roundtable provided a broad set of recommendations to advance the field of integrative resilience by bringing together research and best practices to address chronic and acute stresses so that policymakers, practitioners, and researchers could take a more holistic approach to building safe, secure, and adaptive community systems. The 2016 recommendations also focused on initial steps for building more-resilient systems and a more agile workforce. To revisit these initial steps and to continue to advance and augment these initial recommendations, we gathered insights from participants in the 2020 Resilience Roundtable, grantees of RWJF’s Integrated Action for Resilience grant program, and the literature. These new recommendations focused specifi-

cally on building not just more-resilient but more-equitable systems and on supporting the development of agile and diverse resilience-oriented leaders with unique qualities and skills based on their age, career, and lived experiences (Table 6).

As mentioned previously, 2020 has been a record-breaking year—in the United States, there have been more than 500,000 deaths from COVID-19 (“Coronavirus in the U.S.: Latest Map and Case Count,” 2021); the highest unemployment rate since 1948, when labor data were first tracked (Bureau of Labor Statistics, 2020); and the high-

TABLE 6

Recommendations to Augment and Advance the 2016 Integrated Resilience Agenda

Recommendations	Subrecommendations
1. Make equity a cross-cutting priority for resilience-oriented systems to avoid reinforcing historical and structural inequities that create or exacerbate risk.	1.1. Center equity discussions in future resilience planning and policy. 1.2. Support data changes that embed equity-oriented measures in resilience planning.
2. Make community development and disaster management architectures more inclusive of civil society to elevate community voice and build local economy and agency.	2.1. Redefine <i>community development</i> to include an intentional focus on capacity-building for and inclusion of nonprofits and grassroots organizations. 2.2. Develop new fiscal mechanisms to support community development partnerships with grassroots organizations and small nonprofits. 2.3. Preestablish agreements and funding to allow for rapid engagement of grassroots and community-based organizations to address a combined threshold of shocks and stressors.
3. Take action to accelerate the implementation and evaluation of resilience-oriented policy.	3.1. Meet the moment while the policy window is open by creating urgency for new solutions through civic engagement and other policy-influencing strategies. 3.2. Develop policies that recognize the interdependence of and promote robustness of systems and populations. 3.3. Capitalize on the resilience policy window to focus on more-equitable broad infrastructure and energy investment as a starting point to build momentum for more-unifying resilience-oriented policy choices.
4. Support leadership development of resilience capabilities.	4.1. Build skills needed to translate community engagement into civic action. 4.2. Understand how to use narrative and storytelling to tie complex concepts together. 4.3. Bring together quantitative and qualitative sources of data to make decisions informed by a holistic understanding of community dynamics. 4.4. Align internal organizational accountability structures and job duties to better support authentic community engagement.
5. Enhance training and education opportunities across the spectrums of age, race and ethnicity, career, and lived experiences to build a more robust set of future leaders.	5.1. Offer opportunities for cross-training or transdisciplinary training. 5.2. Provide continuing education credits to build resilience capabilities for midcareer leaders already in the field. 5.3. Expand leadership development programs for youth to understand and build the skills needed to address multisystem stressors. 5.4. Develop leadership and training programs that emphasize community experience.

est number of opioid deaths ever seen over a 12-month period (Centers for Disease Control and Prevention, 2020). Clearly, there is still a long way to go to move from the current state to a more ideal one in which systems across the United States are adaptive and leaders are agile and diverse. However, the policy opportunities from the disaster and equity reckonings of 2020 provide a glide path for accelerating some actions that have been articulated in prior years but not have not been actualized. Changes to data systems and community processes that center equity in future resilience planning are important places to start to realize the promise of resilience-oriented systems. The development of leaders who can consider intersectional and intersectoral issues in resilience funding and policy development is addressable and is now essential as the United States continues to deal with overlapping disasters.

To take the bold action needed to make progress on the recommendations laid out in this Perspective will require working outside the established paradigms of disaster preparedness and resilience from a decade ago. As previ-

New relationships between practitioners and researchers are needed to address community-driven priorities.

ously mentioned, integrative resilience seeks to address prior critiques of these approaches by taking into account intracommunity power dynamics; historical and structural inequalities; and alignment and use of a common operating framework and common principles across systems to account for dynamic and complex system interactions that create risk and inequity (Acosta, Chandra, and Madrigano, 2017). New relationships between practitioners and researchers are needed to address community-driven priorities. There are lessons that can be learned about how to develop a more resilient community, despite limited resources, from global partners like the Global Resilience Partnership that have successful initiatives in developing countries. Forming paired learning networks with domestic and global partners could help accelerate the application of these lessons learned. Continuing to find creative ways to work at the local level and to capture that work in ways that can be replicated will be critical given the entrenched systemic issues. Beginning work outside systems with flexible support from foundations while working to make changes within systems themselves will be critical to maintain momentum and make progress.

Appendix A. 2020 Resilience Roundtable Participants

For the 2020 Resilience Roundtable, RWJF and RAND brought together approximately 40 leaders interested in integrative resilience research and practice. Table A.1 presents the list of participants.

TABLE A.1
2020 Resilience Roundtable Participants

Name	Title or Position	Affiliation
Abramson, David	Clinical associate professor	New York University School of Global Public Health
Acharya, Karabi	Director, Global Ideas for U.S. Solutions	Robert Wood Johnson Foundation
Acosta, Joie	Senior behavioral scientist	RAND Corporation
Adefris, Zelalem	Vice President of Policy and Advocacy	Catalyst Miami
Aldrich, Daniel	Director, Security and Resilience Studies Program	Northeastern University
Allen, Ivye	President	Foundation for the Mid South
Andrews, Leon T., Jr.	Director of Race, Equity, and Leadership	National League of Cities
Aten, Jamie	Founder and director	Humanitarian Disaster Institute
Augustine, Lauren	Executive director	National Academy of Sciences
Barber, Sharrelle	Assistant professor, Sc.D., M.P.H.	Drexel University Dornsife School of Public Health
Beale Spencer, Margaret	Marshall Field IV Professor of Urban Education	University of Chicago
Bland, Rachel	Learning associate	Robert Wood Johnson Foundation
Bloom, Amanda	Director of Programs and Impact	Health Education Council
Bond, Maritza	Director of Public Health	New Haven, Connecticut
Bullard, Robert	Professor of urban planning and environmental policy	Texas Southern University
Burger, Dan	Senior program officer	National Academy of Sciences, Gulf Research
Callahan, Robin	Vice President of Philanthropic Services	Greater Tacoma Community Foundation
Chandra, Anita	Vice president	RAND Corporation
Cockhren, Ingrid	Community facilitator, Midwest and Tennessee	ACEs Connection
Costigan, Tracy	Director, Learning	Robert Wood Johnson Foundation
Coven, Martha	Independent consultant	Coven Consulting, LLC
Cowan, Emily	Graduate student research assistant	New York University College of Global Public Health
Crooks, Nicole	Community engagement coordinator	Catalyst Miami

Table A.1—Continued

Name	Title or Position	Affiliation
Crowe, Nikki	Program coordinator	Fond du Lac Band of Lake Superior
Cunningham, Michael	Professor	Tulane University
Davis, Rachel	Executive director	Prevention Institute
Dill, LeConté	Associate professor	New York University College of Global Public Health
Eichelberger, Laura	Senior Epidemiology and Health Research Consultant	Alaska Native Tribal Health Consortium
Ellis, Wendy	Assistant professor and director	Milken Institute School of Public Health, George Washington University
Ervin, Grant	Chief Resilience Officer, Pittsburgh	100 Resilient Cities (Rockefeller Foundation)
Fieldhouse, Sarah	Executive assistant and notetaker	RAND Corporation
Giffee, Philip	Executive director	Neighborhood of Affordable Housing
Gilbert, Brandi	Associate researcher	Urban Institute
Gudaitis, Peter	Executive director and chief executive officer	New York Disaster Interfaith Services
Harrell, Rodney	Vice President, Family Home and Community	AARP
Hetherington, Daniel	RWJF support	Robert Wood Johnson Foundation
Hobor, George	Senior program officer	Robert Wood Johnson Foundation
Holdbrook-Smith, Arielsela	Public health graduate student	New York University
Holen, David	Adjunct professor of anthropology; Coastal Community Resilience Specialist	University of Alaska Fairbanks Alaska Sea Grant
Howe, Tricia	Research assistant	Alaska Native Tribal Health Consortium
Izegbe Onyango, Anita	IAR grantee	Catalyst Miami
Jackson, Felicia	Board member	Connect Fort Bend
Jett, Quintus	President and chief executive officer	Newark Provisions
King, Denaë	Research program manager	Texas Southern University
Kirby, Seth	Vice President for Community Impact	Greater Tacoma Community Foundation
Kirshen, Paul	Professor	University of Massachusetts Boston

Table A.1—Continued

Name	Title or Position	Affiliation
Knapp, Christine	Director of Sustainability	City of Philadelphia
Lee, Rachel	Project manager	Boston University Center for Antiracist Research
Lisicich, Priscilla	Executive director	Safe Street
Littmann, Kathi	President and chief executive officer	Greater Tacoma Community Foundation
Madrigano, Jaime	Policy researcher	RAND Corporation
Martin, Carlos	Senior fellow	Urban Institute
Masten, Ann	Regents Professor of Child Development	University of Minnesota
Matthews, Nathaniel	Chief executive officer	Global Resilience Partnership
Meirs, Kaitlyn	Program associate	Robert Wood Johnson Foundation
Merdjanoff, Alexis	Clinical assistant professor	New York University
Milliken, Charlene	Senior program officer	The National Academies
Moore, Quianta	Fellow in child health policy	Baker Institute for Public Policy, Rice University
Mousa, Mo	Chief financial officer	Greater Tacoma Community Foundation
Osofsky, Joy	Ramsay End Chair of Psychiatry	Louisiana State University Health Sciences Center
Oto-Kent, Debra	Founder and executive director	Health Education Council
Peach, Robbin	Resilience Advisor	Neighborhood of Affordable Housing
Perez, Elisabeth	Interim director, Office for Community Technology	City of Portland
Peterson, Kristina	Facilitator	Lowlander Center
Plough, Alonzo	Chief Science Officer and Vice President for Research Evaluation	Robert Wood Johnson Foundation
Rea, Chris	Doctor	National Academies of Sciences, Engineering, and Medicine
Revels, Michelle	Senior associate	Community Science
Russo, Pamela	Senior program officer	Robert Wood Johnson Foundation
Schoch-Spana, Monica	Senior scholar	Johns Hopkins Center for Health Security

Table A.1—Continued

Name	Title or Position	Affiliation
Schwarz, Aviva Geiger	Data editor, Center for Antiracist Research's COVID Racial Data Tracker	Boston University
Sealy-Jefferson, Shawnita	Assistant professor	Ohio State University
Shandas, Vivek	Professor	Portland State University
Shields, Monique	Executive assistant	Greater Tacoma Community Foundation
Silk, Alyson	Program administrative assistant	Robert Wood Johnson Foundation
Silvani, Kristin	RWJF support	Robert Wood Johnson Foundation
Simmons, Maisha	Director	Robert Wood Johnson Foundation
Sukys, Megan	Vice President of Communications	Greater Tacoma Community Foundation
Tarini, Paul	Senior program officer	Robert Wood Johnson Foundation
Taylor Williams, Romona	Executive director	Montgomery Citizens United for Prosperity
Vega, Melinda	Community Engagement Coordinator	Neighborhood of Affordable Housing
White, Al	Director	Action Communication and Education Reform, Inc.
White-Newsome, Jalonne	Senior program officer	Kresge Foundation

Appendix B. 2020 Resilience Roundtable Event Summary

Overview

In 2016, RWJF, working with RAND Corporation researchers, convened a roundtable on the topic of integrative action for resilience. A report was produced, and key findings pointed to the need to advance cross-sector thinking in building resilience-oriented systems and leaders. Since then, RWJF and other organizations have invested in research and practice solutions to advance resilience across the country.

In 2020, we saw an overlay of acute and chronic stress, what it does to systems, and what it calls for in leaders. The multisystem shocks of COVID-19, police brutality, and economic downturn provide an important opportunity to discuss what needs to be done to ensure that the United States can handle these stresses and prevent multisystem failures in the future.

On December 8 and 9, 2020, RWJF and RAND researchers partnered to convene a virtual roundtable with leaders in resilience research and practice to discuss what had been learned about resilience, what their investments had yielded so far, and where to go from that point to con-

tinue to build resilient systems and leaders. The purposes of the roundtable were to provide updates and to identify priorities for action to continue building the field of integrative resilience.

Event Agenda

The virtual roundtable was held from 12:30 to 4:30 p.m. EST over a two-day period. Each day began with a plenary panel that included three speakers and ended with a series of small-group discussions. The following speakers at the opening plenary panel (December 8) shared approaches to specifically prevent multisystem failures and handle the cascading stressors over the past year:

- Nathaniel Matthews, chief executive officer of the Global Resilience Partnership
- Rachel Lee, project manager; and Aviva Geiger Schwarz, data editor, Boston University Center for Antiracist Research's COVID Racial Data Tracker
- Kathi Littmann, president and chief executive officer of the Greater Tacoma Community Foundation.

On December 9, the plenary panel consisted of the following speakers, who discussed what the pandemic and other recent events revealed about the types of investments, policies, and programs that have been effective (or not) in helping communities contend with both acute shocks and chronic stressors and the types and composition of collaborations that promote resilient leaders and systems:

- Leon T. Andrews, Jr., Director of Race, Equity, and Leadership, National League of Cities

- Grant Ervin, Chief Resilience Officer, Assistant Director for the Department of City Planning, City of Pittsburgh
- Maritza Bond, Director of Public Health, New Haven, Connecticut.

After each of the plenary panels, participants were assigned to one of four small breakout groups to have a 75-to-95-minute facilitated discussion. Facilitators were from RAND and RWJF and took notes during each discussion. Groups were purposefully mixed by background, research, and practice, as well as areas of focus (e.g., human resilience, infrastructure, environment), to explore systems on Day 1 and leadership on Day 2. (The breakout group assignments were the same each day so that groups could have continuity in discussion.) Each group had a different *starting* scenario from 2020 (e.g., overwhelmed medical system, racial tensions) that escalated into multisystem impacts (e.g., growing cluster of COVID-19 cases, active-shooter event), but all of the groups were asked the same questions about the system or leadership opportunities and impacts (see Table 4 for a brief description of scenarios and discussion questions).

Attendees explored how continued work to build resilience-oriented systems and leaders would be key in preparing for equitable recovery for the post-pandemic phase in 2021 and beyond, as well as for readiness for the next pandemic and stresses from climate change, racial inequities, and other issues. To generate this event summary, we used participant participation in the chat function on RingCentral from plenary and breakout group sessions and notes from the discussion after each plenary panel and at each breakout session.

Key Themes Discussed

What Are Some Examples of Community Resilience over the Past Year?

To open the two-day event, participants were asked to reflect on the events over the past year and describe one example of resilience in their communities. Participants used the chat function during the opening plenary to share examples in four broad areas:

- **Informal and community-based networks provided instrumental and social supports.** Participants described how bottom-up, emergent community-level volunteerism helped vulnerable populations by delivering food and supplies, providing clothing and child care, holding neighborhood fundraisers, and offering socially distanced outreach and events to counter isolation.
- **Systems showed flexibility to respond to community needs as conditions evolved.** Participants described the pivots made by educators and public health departments to support their communities through school closures, heat waves, and civil unrest.
- **Community members raised their voices through active civic engagement and creative expression.** The fielding of the 2020 Census, the presidential election, and the Black Lives Matter and police violence protests provided opportunities for communities, particularly young people, to get organized through volunteer efforts, social media activism, and creative expression (e.g., poetry, dancing, murals) to encourage social change.

- **Communities improved their technology infrastructure to support virtual interaction.** These efforts included upgrading internet capacity, offering free Wi-Fi to ensure broader access, and improving offerings to support children and families (e.g., a free virtual “kids camp,” a virtual leadership training).

What Themes Emerged Across Plenary Panelists' Presentations?

Plenary speakers described their experiences with communities and what was learned about how communities successfully handled the multisystem shocks of the past year. In addition to delivering their specific presentations, which are available from RAND upon request, plenary speakers described the following key themes across their work:

- **Narrative allows for the public to make a connection to the real individuals affected by SARS-CoV-2 and emphasizes the humanity behind the data.** More-predictable and more-consistent pathways to raise community voice are needed to lift up stories that help communities learn how to navigate obstacles to resilience.
- **The ongoing pandemic is likely to have a significant impact on mental health; however, public health lacks mental health data.** Plenary speakers suggested that grassroots organizations will be an important conduit to this type of data because governmental agencies do not have a coordinated system to facilitate analysis of these data.
- **Communities are faced with tensions between taking timely action and being responsive to root**

causes. The actions taken as part of a rapid response can be used to simultaneously address root causes, but, to be dually focused, these response actions will take long-term engagement prior to the advent of an emergency. Recovery actions will not be enough to build resilience to emergent shocks and stresses; root causes will need to be addressed if communities are to thrive.

What Policy Solutions Are Needed to Build More-Equitable and More-Resilient Communities?

After the Day 1 plenary, participants broke into four small groups to discuss the policy solutions, system attributes, and indicators or data needed to build more-equitable and more-resilient communities. The participants reflected on what appeared to still be weak or missing in the 2020 response to COVID-19 and related concerns about social inequities.

Policy solutions identified by participants focused on options in four areas: community capacity-building, community planning, workforce solutions, and financial policy.

Participants suggested that the following policies are needed to prioritize *capacity-building* of grassroots organizations, small nonprofits, and other community-based organizations essential to sustained community participation:

- **Training and organizational and fiscal capacity-building** are needed to create systemic processes that help build the capacity of grassroots organizations, local foundations, and smaller nonprofits to direct resources to those in need.

- **Grassroots organizations and nonprofits** are embedded in communities and act as trusted gatekeepers that can quickly implement solutions, but funds are required to support their development efforts. It is critical to have trusted agents in the community (e.g., faith-based organizations) as a first step to effective community engagement.

To improve *community planning*, participants suggested the following:

- **Create a community-driven investment fund.** This fund would support investing, utilizing, and celebrating the expertise of community members to co-create solutions. Authentic reciprocal relationships between community members, elected officials, and other decisionmakers and stakeholders are needed to help guide a community-wide investment portfolio.
- **Train community leaders on historical drivers of equity (or inequities) in individual communities.** Understanding the unique nature of each community (e.g., political structures, historical structures, the relationship between law enforcement and the community) and the decisionmaking levers in each community and teaching members to move those levers can enable people to innovate at the local level.
- **Spend time in communities** in which the plans are being developed to build trust through relationships.
- **Establish a shared decisionmaking structure** (a planning council) that brings multiple sectors—

with multiple levels of power—to a common table with a unified focus.

- **Establish a community board** to ensure that there is an established structure for residents to have a voice.
- **Create urgency** by identifying a data-driven and narrative push that will move resilience-oriented solutions to the unprecedented stressors faced during 2020 ahead of other solutions that might not be resilience-oriented.
- **Emphasize racial equity and trust-building** as goals of community plans, especially in places with histories of structural racism. To get at some of these root causes will require planning that focuses more upstream on community-level prevention and racial justice.

Participants also suggested the following policy solutions oriented toward creating a more robust *workforce* to support communities:

- **Redefine job duties and qualifications for professional staff with community outreach responsibilities.** Because these duties extend beyond the typical workday, community outreach staff will need to have flexible hours and be offered comp time or other flexible scheduling options to better reach the communities they serve. The qualifications for this type of position should be expanded to include lived experience, giving those who have established trust and credibility in communities an opportunity to be part of the solution.
- **Partner with community leaders and groups that already have credibility.** Before a crisis, it is

essential to have networks and trusted gatekeepers ready to quickly mobilize and respond, since these relationships can lead to better outcomes than in communities that use outside entities that have not built up trust to respond to a crisis. These types of organizations exist in every community, and ensuring that they are identified and enfranchised would help augment the public health workforce.

- **Encourage redundancy in systems.** Participants noted the challenge of creating policies that support redundancy in a time when the nation as a whole is moving toward austerity, but they emphasized the importance of such policy options as paid sick leave for all essential workers, early childhood education, tax incentives for parental leave, and other support systems essential for families with children.

Participants discussed the following financial policy solutions to help offer incentives for change, empower communities to redirect funds to needed investments, and offer more flexibility for a variety of community needs and organization types:

- **Validate and compensate for community expertise.** To help build a core of strong leadership and to grow community knowledge about the issues, participants suggested offering financial compensation to engage youth (e.g., via stipend or paid work) and individuals who serve on a planning commission or community board. Having a core of knowledgeable community members will allow leadership to get ahead of emerging community issues (e.g., climate, violence) and civil unrest rather than being reactive as events evolve.

- **Redefine community development to include development of grassroots organizations and nonprofits.** To ensure that grassroots organizations and small nonprofits are able to access the capital needed to make change, policies will need to offer new models for financial management to support needed capacity-building activities. Many states have hub organizations that work through associations of nonprofits to provide low- and no-cost training to build capacity in smaller nonprofits and grassroots organizations that could be leveraged as trusted partners. Additionally, given the flexible funding structure of many foundations, philanthropy might be uniquely positioned to spearhead these types of changes. Participants described how this type of effort could have secondary benefits because small nonprofits often suffer from the same systemic growth inhibitors as small businesses (e.g., access to capital), so changes to improve their capacity-building could also have implications for small business development.
- **Use participatory budgeting.** Participants described a process in which a portion of the city budget was designated for residents to be involved in budgetary and other decisions related to racial justice. Similar to the evolution of planning councils to address HIV/AIDS, participatory budgeting could be used to bring together multiple sectors and affected populations to develop and fund a comprehensive and integrated system to promote racial equity.
- **Adjust the disaster declaration process to include a combined disaster threshold.** Because of the

range of shocks and stressors that communities are dealing with simultaneously, there is undue burden on communities to separately apply, track, and manage disaster assistance for multiple overlapping events. A tiered system for when multiple disasters occur would create more flexibility in deploying resources.

When asked about system attributes that would need to be in place to support successful implementation of policy solutions, participants described the following:

- community voice and trust in systems
- redundancies across community networks, the workforce, and others
- increased access to health systems (e.g., using mobile units from cities to come to rural communities)
- increased access to broadband, which can act as a starting point for discussions of social justice.

Participants also discussed the following implications for indicators and measures to help track policy solutions and system attributes:

- **Standardized measures.** Participants suggested that standardizing public health measures of racial equity is necessary to address gaps and deficiencies in the current system and make data by race and ethnicity more accessible and uniform. However, participants also acknowledged that these measures can vary from community to community, and community input will be essential to determine how best to use them to set benchmarks for diversity and to drive decisions.

- **Root cause dashboard.** Participants also discussed the importance of moving measures further upstream to capture root causes and conditions that have created current inequities, not just mortality and morbidity. Again, participants emphasized that data points would need to be validated through structured conversation with affected communities.

To track whether resilience policy solutions are working will require new measures that assess the following:

- representation of whether there is participation of community residents on boards, commissions, and city councils
- accountable governance or the extent to which elected officials are accountable to their constituencies
- the extent to which community members are acknowledged or included in policies as they are written
- funding streams to determine how funds flow to community needs and partnerships
- agency or whether community members feel they have agency in their communities (discussed as a proxy measure for the idea of trust).

Participants also identified the following sources for further measurement insights:

- Pacific Lutheran University has a student-led equity initiative that uses the language of equity sustainability and justice to wrap up all of its inclusion metrics.
- Melinda Gates has captured a lot of data around the added impact of COVID-19 on women across all sectors.

- Tacoma has a public-facing health equity index that it uses to prioritize community services. For example, Tacoma’s annual budget allows for replacing 300 broken streetlights annually. The city now prioritizes the street corners with the lowest score on the quality health index as an infrastructure support for safety in the community.

What Are Ways to Amplify and Continue Growing Leaders Focused on Equitable Resilience?

After the Day 2 plenary panel, participants were asked to reflect on the competencies, tools and incentives, and pre-established collaborations across sectors or disciplines that would help amplify and grow leaders focused on equitable resilience. Common themes discussed by participants across the four small groups are described in this section.

When asked about the tools or incentives needed to support leaders, participants suggested the following:

- **Disaggregated and transparent data** are needed for leaders to engage people in action. One participant discussed an initiative to teach community members how to use “Data as a Defense”² by looking at disaggregated outcomes by race so that people could see disparities and then develop responsive goals, missions, and direction for their work.
- **New funding models** are needed to support local capacity-building. Microgrants and adjusted procurement structures are needed to support community development (e.g., through trust-based philanthropy) and to respond during an emergency (e.g., mutual aid, giving circles).

- **Leverage the window provided by the ongoing global pandemic.** Participants discussed how the ongoing global pandemic presents an opportunity to encourage civic engagement for policy change, and they talked about how places have found ways to engage despite social distancing requirements in many states. For example, Engage PGH and City U are two examples of current civic engagement initiatives in Pittsburgh.

To be successful at supporting the adaptiveness of community systems, future public health leaders need competencies in the following:

- **Community engagement** and integrating community voice into decisionmaking, including how to create equitable partnerships and build relationships across a community prior to a crisis. These partnerships need to be deeply aligned with organizational needs and feel central to organizational mission, not something extra. However, it is important that leaders understand how to make the most of community engagement, since some participants cautioned that prior engagement efforts have overburdened some communities with little benefit to those communities.
- **Civic engagement skills.** Given the importance of *civic engagement* approaches to combat national and political narratives (by bringing people together), leaders will need to have civic engagement skills and be able to recognize opportunities that require collaboration versus those that benefit from alignment across community efforts. Nonprofits and schools in the community are the center of this expertise, so

“You have to act as if it were possible to radically transform the world. And you have to do it all the time.” —Angela Davis

they would need to be involved in leadership roles in community engagement training efforts. Examples of how to put a community in the driver’s seat can be found in organizational models (e.g., Interaction Institute for Social Change) and in research (Darling et al., 2019).

- **Teamwork**, including how to listen, collaborate, and respect everyone’s roles (which participants described as in contrast to more-traditional individualistic leadership training). Leaders also need to be able to be comfortable with inefficiency, take the time to encourage participation, reach different disciplines, and get comfortable with the complexity of different points of view.
- **City budgeting** and mechanisms to inform residents about how resources are allocated (e.g., participatory budgeting).
- How **political, historical, social, and environmental factors** play into health and influence the short- and long-term impacts of decisionmaking. For example, how are historical planning decisions

playing out now, and what are lessons learned for future infrastructure investments?

- **Mixed-methods analytic skills**, including
 - equity self-assessment that can be applied across all actors in a system
 - economic analysis to be able to better connect health to the bottom line and translate the connections to leadership or elected officials
 - the role of quantitative and qualitative or narrative data (e.g., storytelling).
- **Opportunities to participate in continuing education or certifications, cross-training, and fellowships to learn about cross-sector and multi-disciplinary collaboration.** For example, offering internships in mental health for those with lived experience could add diversity to the mental health field and create new pathways for community

Participants consistently mentioned that community voice and engagement was the most critical preexisting form of collaboration to get in place.

residents with lived experience to be part of the solution.

When asked about preestablished forms of collaboration, participants consistently mentioned that community voice and engagement was the most critical preexisting form of collaboration to get in place. Several participants also mentioned the importance of *youth leadership*. Engaging youth in leadership opportunities can help develop their skills in marketable enterprises (e.g., solar energy), bring industries to their home regions, and prepare them for addressing future climate challenges. Other necessary forms of collaboration would need to be tailored based on specific community conditions.

Several other considerations that participants consistently mentioned are as follows:

- **Leaders need to be civic** rather than political to make consistent change over time and across administrations. Some models have embedded a single person in charge of capacity-building for resilience (e.g., 100 Resilient Cities, Bloomberg American Cities Climate Challenge), but, although useful, these models were not considered sustainable because of their defined scope and time frame.
- **Leaders need to acknowledge and recognize inherent racial biases** in government-led decisionmaking, and a bold and intentional effort will be needed to address these biases and take more-equitable action. This intentional effort will require community engagement and voice and a better understanding of data on disparities and inequities. Leaders need the skills to move from intent to impact—despite the effort and difficulty required to do

so—and to center the voices of minority community members. For example, one participant described how a project to address a food desert (a need identified by researchers and experts) shifted, based on community voice, to focus instead on community safety and park revitalization. Discussing racial tensions can be challenging, but participants mentioned a model that is growing in national recognition—ACT: affirm, counter, transform.

Speaker Biographies

Leon T. Andrews, Jr.

Director of Race, Equity, and Leadership, National League of Cities

Leon T. Andrews, Jr., serves as chair of the board for the National Recreation and Park Association. Prior, Andrews served as the senior fellow and program director at the National League of Cities' Institute for Youth, Education, and Families. Andrews has worked for the U.S. Department of Justice, U.S. Senator Barbara A. Mikulski, the U.S. Public Interest Research Group, the Allegheny County Department of Human Services, YouthBuild Pittsburgh, and the Development Corporation of Columbia Heights and as an adjunct professor in the Department of Political Science at Eastern Michigan University. He is an author and a presenter at several conferences and forums and serves on the boards of the National Recreation and Park Association and ChangeLab Solutions. He received a B.A. in political science from Howard University and an M.S. in public policy and management from Carnegie Mellon University.

Maritza Bond

Director of Public Health, New Haven, Connecticut

Maritza Bond is a health professional with experience in local, state, and federal services and mandates. Prior, Bond served as the Director of Public Health and Social Services for the city of Bridgeport, Connecticut. Bond has been in the public health sector for over 15 years, serving in both urban and rural settings. Prior to joining the City of New Haven, Bond served as executive director of Eastern Area Health Education Center, Inc. Bond was awarded the Health Equity Superstar award from the Connecticut Health Foundation in 2015 and was the 2015 Rural Health Leadership Fellow. Bond was also a 2008 Health Leadership Fellow at the Connecticut Health Foundation and has served on various boards and committees statewide. Bond holds a master's degree in public health and an M.P.A. certificate in nonprofit management from the University of Connecticut. She earned a B.S. in public health from Southern Connecticut State University, specializing in health promotion.

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Kathi Littmann is the president and chief executive officer of Greater Tacoma Community Foundation, which she joined in July 2015. Littmann has experience in diverse industries, ranging from public education leadership to commercial construction management. She has worked with The Bill & Melinda Gates Foundation, U.S. military bases, and multibillion dollar construction programs. Littmann holds an Ed.D. in educational leadership for social justice from Loyola Marymount University and an M.Ed. from Marymount University. She is also a 2005 Broad Urban Superintendents Academy fellow.

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Notes

¹ *Embeddedness* may be defined as “the extent to which individuals are enmeshed in their communities” (Ng and Feldman, 2013, p. 72).

² “Data as a Defense” is the name of a workshop.

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Acknowledgments

We would like to thank Tracy Costigan, the Director of Learning at the Robert Wood Johnson Foundation, and Priya Gandhi, a former research associate at the Robert Wood Johnson Foundation, for their support and contributions to the Resilience Roundtable and to the Integrative Action for Resilience grant program. We would also like to thank our reviewers, David Abramson and Aaron Clark-Ginsberg. It should be noted that David Abramson is a grantee of the Integrative Action for Resilience program and was a roundtable attendee.

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About This Perspective

In the United States in 2020, there were more than 500,000 deaths from coronavirus disease 2019 (COVID-19), the highest levels of unemployment since 1948, and the highest-ever number of opioid overdose deaths in a 12-month period. It is clear that communities continue to bear the social and financial costs of prolonged and overlapping disaster recovery periods. Efforts to build *community resilience* (or the ability to withstand and adapt to acute and chronic stress) to natural hazards, COVID-19, and other chronic and acute stresses continue to be necessary to address the increasing scope and scale of disasters and the widening social inequities exacerbated by disasters, climate change, and the growing racial and economic divisions in the United States.

In 2016, the RAND Corporation and the Robert Wood Johnson Foundation (RWJF) convened a Resilience Roundtable to address the gaps in how researchers, practitioners, and policymakers in the field of resilience comprehensively organize to improve community conditions and propel change across disciplines and sectors. In 2020, RAND and the RWJF convened a virtual Resilience Roundtable with three aims: to describe the evolution of the integrative resilience research agenda developed at the 2016 Resilience Roundtable, to lift up recommendations and concerns that were not present in the 2016 roundtable; and to

discuss continued gaps in meeting the earlier roundtable's recommendations for integrative resilience, highlighted by the pandemic response. The purpose of this Perspective is to document the recommendations emerging from the 2020 roundtable.

This work was funded by the Robert Wood Johnson Foundation and conducted within RAND Social and Economic Well-Being.

RAND Community Health and Environmental Policy Program

RAND Social and Economic Well-Being is a division of the RAND Corporation that seeks to actively improve the health and social and economic well-being of populations and communities throughout the world. This research was conducted in the Community Health and Environmental Policy Program within RAND Social and Economic Well-Being. The program focuses on such topics as infrastructure, science and technology, community design, community health promotion, migration and population dynamics, transportation, energy, and climate and the environment, as well as other policy concerns that are influenced by the natural and built environment, technology, and community organizations and institutions that affect well-being. For more information, email chep@rand.org.

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