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The Road from Local Numbers and Narratives to Public Health Change

By Adriane Casalotti, MPH, MSW, Chief, Government & Public Affairs, NACCHO, and Omayra Giachello, BA, MBA, MJ, Regional Health Officer, Illinois Department of Public Health

A total of 21% —that is how much our nation's local health department (LHD) workforce capacity shrank in the decade before the pandemic. This one data point helped put into context the stories we heard from LHDs across the country that struggled to keep up with the needs of their communities. It provided the key metric to reimagine national and state programs, drive congressional legislation, and provide a framing for the media, which turned its attention towards public health as COVID-19 swept the country. It is also a statistic that would not have been available without the efforts of LHDs to collect data, respond to surveys, and share stories.

We know there is variation among the nearly 3,000 LHDs across the country on a host of issues; just in Illinois, the 97 LHDs vary by how they are funded, what services they provide, and the role they play in their communities. This matters, because for all the important anecdotes of workforce constraints we hear, national and statewide statistics provide the broader context and evidence-base needed for stakeholders to engage, the media to take notice, and decision-makers to take action. Data are

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concrete, giving validity to the "what" and complementing the anecdotes describing the "why." Together, local numbers and narratives drive public health change through national policies and state programs.

How LHD Data Drives Public Health Policies and Programs

STEP 1: IDENTIFY THE CHALLENGE

There is a common refrain that "if you've seen one LHD, you've seen *one* LHD." While that may be true, lack of consistent structures, functions, and authorities make it difficult for decision-makers to understand the policies and resources that could best support issues facing the field. For example, all LHDs have their own stories of the workforce challenges they experience. Some have limited budget capacity and lack the funds to hire staff; others have enough resources on paper, but those resources are tied to disease-specific roles that leave other, more pressing issues unattended; some struggle to retain staff for more than a year or two, while others have difficulty recruiting new workers for open positions. Having clear statistics to describe the magnitude of the issue—even without being able to dig into each nuance—provides an evidence base that prioritizes it above others competing for the attention of decision-makers.

STEP 2: FOCUS THE STRATEGY

Once clear data points and supporting stories are identified, it is important to focus initiatives so that resources can be targeted. This can be difficult for LHDs because health is impacted by a wide range of factors: some are within the scope of public health departments (e.g., operating a vaccine clinic), but many are not (e.g., transportation barriers to getting a vaccine). While this breadth of issues is important to explore, data examined in the context of the community and the current positioning of local decision-makers will help to target change efforts on the most impactful causes.

STEP 3: ADVOCATE AND EDUCATE DECISION MAKERS

Collecting and analyzing data are critical steps; had NACCHO not collected workforce data since 2008, it would not be able to tell the story of staffing trends over time.

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However, far too often, that is where the process stops. It takes intention to transform those data into actionable insights and use those insights to craft solutions. To promote leadership and foster stakeholder buy-in on the one key issue, stories can be particularly impactful. Narrative brings the raw numbers to life, explaining the "why" behind the statistics and making the issue memorable to a decision-maker. These data stories elicit an emotional connection to the focused strategy, captivating decision-makers who translate the data into practice.

STEP 4: IMPLEMENT AND EVALUATE THE INITIATIVES

Some advocates point out that passing a bill is the easy part; implementing it is where the rubber meets the road. Here, too, it is critical to use data to advocate for meaningful practical application. For example, process and outcome evaluations from a previous program can inform a new initiative. In addition, most laws are reauthorized after a certain period of time, and the goals that programs aim to achieve change over time as community needs evolve. LHD data, particularly from ongoing evaluations, are critical to ensure decision-makers have the up-to-date information they need to decide how to adjust programming or whether to tweak or sunset a policy. These evaluation efforts provide key data to both improve the program itself and inform advocacy around the policy that authorized it.

A National Example: Driving Historic Public Health Workforce Investments

At NACCHO, the National Profile of Local Health Department (Profile) Study,[1] a census survey of LHDs conducted every three years, captures nationally representative statistics about LHD infrastructure and practice; it is where the 21% data point comes from. Without LHDs taking their time to respond to the Profile survey and share their experiences with us, NACCHO would not be able to effectively and accurately identify the most pertinent challenges facing the field.

This national statistic, coupled with specific stories from LHDs, points to limited workforce capacity as a near-universal issue. Data from the Profile Study showed that LHDs came into the pandemic at a workforce deficit, losing 20% of their jobs nationwide after the 2008 recession. In addition, although they added back 3% of that lost workforce between 2016 and 2019, those increases have not kept up with demand—with the country's population increasing by 8% over the same time. As a result, LHDs lost 21% of workforce capacity since 2008, with the number of full-time equivalent (FTE) staff dropping from 5.2 per 10,000 people in 2008 to 4.1 in 2019. Alongside an analysis of the federal policy landscape, these data informed NACCHO's 2022 Federal Legislative and Policy Agenda.[2] Workforce had been a common theme previously, but it became front and center for advocacy meetings, a targeted lane to convene a policy stakeholder coalition, and a narrative to frame challenges and opportunities for the media.

With the national workforce issue framed, NACCHO advocated and educated policymakers. It described how the results of this disinvestment are seen during the pandemic, as LHDs are stretched thin, and staff are pulled away from other essential areas to respond to COVID-19. We emphasized that strengthening the LHD workforce is critical now and into the future as we recover from the pandemic and must turn our attention back to the many other public health challenges that have fallen out of focus. To operationalize these takeaways, NACCHO developed solutions that policymakers could latch onto and champion. We used the LHD stories and Profile Study data to ensure that the U.S. Administration and federal agencies understood the workforce challenges faced by LHDs. Then, we placed a focus on public health infrastructure legislation to provide more disease agnostic, flexible, and sustainable funding for LHD jobs. That led to a historic investment in local public health: in the American Rescue Plan, which became law in March 2021, $7.6 billion was specifically included to bolster the public health workforce.

To ensure the $7.6 billion investment is effective in practice, NACCHO shared recommendations with the Administration on how to implement the initiative. Using the Profile Study, NACCHO explored the nuances in LHD staffing models across different population sizes. This served to better understand the ways in which implementation differs by jurisdiction. In addition, we reviewed previous funding initiatives to identify ways to better target the funding to various local needs. These informed a document developed in conjunction with the Big Cities Health Coalition outlining the key tenets of LHDs' needs. After using this document to educate officials across the federal government, $2 billion was released to support hiring at LHDs, and, in line with our recommendations, a specific percentage was included for states to target support at the local level. To ensure our recommendations are grounded in reality, we regularly meet with LHDs involved with our workgroups and Board of Directors to evaluate the initiative's successes, needs, and opportunities for further improvements.

A State Example: Driving Equitable Vaccine Distribution

Nearly one year into the pandemic, the Illinois Department of Public Health (IDPH), along with other public health departments across the U.S., was tasked with distributing and administering COVID-19 vaccines. As part of this effort, we recognized that vulnerable populations across the state would experience barriers to accessing these lifesaving immunizations. For example, some populations speak English as a second language; others have limited reading proficiency; some work at times that interfere with available appointments; while others have limited access to the internet for scheduling appointments.

Our phased plan of vaccine distribution, Restore Illinois, was intended to equitably administer doses based on risk of exposure.[3] However, COVID-19 case rate data from LHDs,

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examined alongside the Social Vulnerability Index[4] and state sources, showed that Black and Latinx populations across the state were disproportionately impacted by the virus. In addition, we heard many stories from LHDs that frontline essential workers, which included agricultural workers, were frustrated with not being able to get an appointment for their first dose. As a result of these numbers and narratives, IDPH prioritized improving access to the COVID-19 vaccine for this often-overlooked migrant farmworker community.

After becoming aware of the specific challenges Latinx populations were facing, IDPH's COVID-19 Equity Team partnered with the Illinois Migrant Council (IMC), a community-based nonprofit that improves access to employment, education, and housing for migrant farmworkers and their families.[5] Together, we hosted a community vaccination drive specifically for frontline essential workers. To ensure our initiative targeted the most impacted communities, we worked with the Kane County Health Department (KCHD) to explore vaccine uptake data by race, ethnicity, and zip code. Ultimately, we selected the Supermercado La Alcancia Shopping Center in Carpentersville as the location for the vaccine drive. KCHD knew from experience that this was a trusted location by Latinx community members. Nine days later, in measurable snow and -10° weather conditions, we successfully hosted Illinois' first COVID-19 equitable vaccination clinic, providing 388 first doses—with many Latinx individuals in attendance, even arriving early to get vaccinated.

The vaccine clinic was just a starting point for this initiative that has since spread throughout Illinois. In fact, we have returned to Carpentersville to administer 388 second doses. Although this was a second-dose clinic, we provided an additional 360 first doses, because demand for new vaccinations was high. To ensure this program continues effectively serving our most vulnerable communities, KCHD regularly collects data on participation and shares those successes and opportunities for improvement with IDPH. Using this data, we brought on additional community partners as host sites. During these scaled-up versions of the vaccine clinic, we engaged LHDs in the community to provide wrap-around services and basic health screenings to participants; community members met LHD staff, learned about their services, and even signed up for the LHD to be their medical homes. The collaboration between IDPH, KCHD, IMC, and others not only helped bolster the capacity of LHDs across the state, but also made it possible to improve the equitable distribution of vaccines in rural Illinois.

Driving Local Public Health Forward

To better protect and preserve the health of those we serve, it is critical to use a data-driven approach to developing and implementing initiatives. Advocates at the national and state levels require not only anecdotal experiences from LHDs, but to be able to back those up with statistics. Without LHDs sharing local numbers and narratives, we would not be able to prioritize, inform, and target the specific policy and programmatic efforts that drive public health forward. The investment one LHD makes to represent its community through data eventually turns into an investment for the entire field.

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Lessons Learned from the Front Lines of Climate Change: Using Evaluation to Build Readiness and Resilience for the Next Disaster

By Jennifer Avegno, Andres Melendez-Salgado, and Meredith McInturff, New Orleans Health Department

Communities in Louisiana are no strangers to the direct impacts of climate change on life and health. Although Hurricane Katrina may be the best-known adverse weather event in recent memory, multiple other natural and man-made disasters in the succeeding 16 years have provided opportunities to adapt and refine prevention and response strategies. In that time, the New Orleans Health Department (NOHD) took an increasingly prominent role in planning, logistics, and operations for citywide weather emergency response. This taught NOHD many lessons about how to most quickly and effectively respond to unpredictable and everchanging circumstances on the front lines of climate change. Specifically, the department learned that after-action reviews enable refinements post-disaster; flexibility and adaptability are required to manage the unique circumstances posed by each event; and targeted responses help equitably distribute resources and care.

Hurricane Katrina ravaged the Gulf Coast in August 2005, with its storm surge resulting in multiple levee failures, due to longstanding inadequate federal building standards and construction. Approximately 80% of the City of New Orleans—which included nearly 450,000 residents at the time—flooded, with some neighborhoods inundated with upwards of 15 feet of water. Thousands of residents were stranded without power, water, or sewerage, and federal aid was slow to arrive. Older adults, individuals with access and functional needs, and those residing in nursing homes experienced significant negative impacts because they were either too frail to survive evacuation or lacked appropriate resources to survive the post-storm aftermath.

Although NOHD played a limited role pre-Katrina, it became a strong voice for change after the storm. NOHD participated with other city agencies in an after-action review to assess its response and recovery efforts. This tool for rapid post-response evaluation[1] allowed NOHD to reflect on its work as a thought partner and reveal insights about successful strategies and opportunities for improvement.

Ultimately, NOHD created future disaster response plans, including a detailed approach to standing up emergency shelters. The need for a shelter plan was laid painfully bare as residents streamed into the Superdome during Katrina; the NFL stadium was large enough for tens of thousands, but lacked the amenities and personnel needed to ensure safety. Now, the city engages in regular conversations with local, state, and federal partners ahead of a storm to pre-position medical shelter assets locally. During a storm, NOHD ensures that the protection and restoration of core healthcare functions are given the highest priority. The department secures equipment and provides personnel to address medical needs in shelters. In addition, NOHD acts as the city liaison to alert public safety and emergency preparedness personnel to critical medical needs in real-time. Other key partners are also embedded in shelter planning, including our local animal shelter to help residents make plans that account for their furry family members; and hospitals, to ensure they receive desperately needed communications and supplies to care for critically ill patients. Together, the teams have a dynamic process for creating mass sheltering options for residents.

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Similarly, given the disproportionate risk an adverse weather event places on older adults and chronically ill individuals in nursing homes, NOHD championed a local ordinance requiring nursing home facilities across the parish to have a generator to power lifesaving services. Facilities are required to report their power and fuel status to the city daily. This two-way communication allows us to easily assess and prioritize nursing homes for resource support. NOHD's attention to high-risk residents who suffered tremendously during Katrina has saved lives and preserved health in the years since; no storm-related nursing home deaths have occurred in New Orleans since the ordinance took effect in July 2019.

Another improvement that resulted from the post-response evaluation was development of a Special Needs Registry (SNR). This registry identifies individuals in the city who, because of age, disability, or medical condition, would have significant difficulty evacuating for the next storm and might require specialized transport (e.g., paratransit, ambulance). Now, throughout each hurricane season, trained NOHD staff, along with New Orleans EMS personnel and Medical Reserve Corps volunteers, reach out to individuals on the list to update information, provide regular public communication raising awareness of the SNR, and coordinate safe transportation to state shelters when a storm approaches. In addition, the Orleans Parish Communications District connects callers directly to the SNR hotline during weather events, and tailored emergency messaging can be sent via text or call to provide critical information to registrants. This new process proved to be invaluable in equitably responding during future events.

In the 16 years between Hurricanes Katrina and Ida (Categories 5 and 4, respectively), at least 12 other less-severe storms made impact in New Orleans. These and countless others around the country taught NOHD additional lessons about how to best respond and recover; each after-action review helped to improve each next response. For example, Hurricane Laura, which decimated southwest Louisiana and sent over 12,000 evacuees to New Orleans, came at the height of COVID-19 and demanded great flexibility in our response. During the next several weeks, NOHD and its partners were in the unusual role of providing long-term mass hotel sheltering instead of the typical congregate shelter setting due to the need for social distancing. Within days, NOHD set up a resource center for those displaced and offered connection to health providers, pharmacy services, clothing, food, and COVID testing. Previous post-disaster evaluations taught the department about the importance of flexibility and adaptability during a response, and NOHD was able to keep that insight top-of-mind to rapidly overcome emerging challenges.

In the midst of the department's response to Laura, Hurricane Zeta blew through the city as a rare late-October Category 3 storm. It knocked out power throughout the area for days, but NOHD quickly established a basic medical special-needs shelter. Although there was limited opportunity to transport SNR patients out of the region due to the speed of the storm, NOHD used the registry—developed as a result of our post-Katrina after-action review—to identify who might need electrical support while power was being restored. Based on this data, the department deployed oxygen tanks to fire stations in areas with a larger concentration of SNR residents and staffed a central charging station for compressors, assistive devices, and other medical equipment. Because of these adaptive and targeted efforts, NOHD was able to limit congregate sheltering, provide basic services, and keep vulnerable individuals safe in their homes.

Now seasoned in emergency response due to frequent opportunities, NOHD faced yet another challenge in Hurricane Ida. This storm struck on the exact anniversary of Katrina's levee failures, which was a profound blow to the collective consciousness of city residents. Because it was an extremely dangerous and fast-moving storm, there was no opportunity to evacuate the city

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ahead of time. Ida severely disrupted the regional power grid during the height of summer. Although hospitals and nursing homes remained functional—thanks to the well-established procedures from years of practice and evaluation—new limitations to caring for older adults emerged. Specifically, NOHD became aware of concerns with food, water, and heat-related issues in primarily low-income apartment buildings a few days post-storm, so we immediately deployed staff to multiple buildings. What the department saw varied widely, from building managers doing all they could to support residents on-site, to complete abandonment, leaving residents without working elevators, lights, or power. Over the next three days, NOHD worked with public safety partners to open thousands of apartment doors, evacuate residents, and shut down buildings that were unfit for habitation. In this process, NOHD tragically discovered five individuals who had died within these apartment buildings. Legally, management companies were not subject to the same requirements as hospitals or nursing homes for generators, communication with NOHD, or submission of detailed evacuation plans; yet, in many cases, their residents were just as vulnerable.

NOHD and other city agencies came together to process this tragedy in another after-action review for Hurricane Ida. As a result, we worked with city administration to draft and pass a city ordinance that provides oversight and enhanced protections for vulnerable low-income residents of apartment buildings through targeted funding from federal and state programs, including Housing and Urban Development (HUD). Building managers must provide the city with detailed emergency plans, have an annual inspection to assess safety measures, provide 24/7 staff on-site during a declared emergency, and communicate with their residents appropriately during future events. NOHD leads oversight of this ordinance, and although the department wishes these tragedies had been avoided, the city is now better equipped to ensure this group of vulnerable individuals does not fall through the cracks of care.

Each disaster cycle—from Katrina to Ida and beyond—is unique, and the exact playbook used for one event is often not applicable to the next. However, NOHD approaches each emergency with the same underlying tenets: a focus on those who are most vulnerable and have least access; an understanding of the lessons of the past to provide a framework for the future; and an ability to pivot quickly when the circumstances demand it. Evaluating each response gave us vital insights into how to act quickly and decisively for the next one. Repeated natural disasters demand a great deal from our staff, but they are battle-tested and able to apply these lessons year after year to implement new policies, improve infrastructure, and create collaborative processes that, ultimately, bolster the city's readiness, recovery, and resilience.

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The Future of Public Health Data: Prioritizing Equity in Evaluation

Interview by Daniel Pagán, MA, MPH, Senior Research & Evaluation Specialist, NACCHO, and Jordan Royster, MSc, Research & Evaluation Specialist, NACCHO

As public health continues to play a vital role in addressing historic and ongoing injustice, equity must be ingrained in all aspects of local health department (LHD) work. This includes applying principles of equity in monitoring and interpreting public health data,[1] a core component of program evaluation. Although this has long been a practice of LHDs, their collection and sharing of data is not often participatory, which results in evaluations that are not representative of cultural differences across a community. This disconnect limits the ability of public health programs to tackle systemic biases and oppression, and hinders LHD capacity to effectively address social determinants of health, fairly allocate resources, and successfully improve population health outcomes.

To explore the first steps public health leaders can take to adopt equitable evaluation[2] practices, NACCHO identified two innovative LHDs representing one urban and one rural community to showcase how they embed equity in evaluation to better meet the needs of their very different communities. We spoke with leaders from the New York City Department of Health and Mental Hygiene (NYC DOHMH) and Florida Department of Health-Lafayette and Suwannee Counties (FL DOH-LSC). The conversation included Charon Gwynn, PhD, Deputy Commissioner for Epidemiology; Stephanie Farquhar, PhD, Director of Social Research, Center for Health Equity and Community Wellness from NYC DOHMH; Kerry Waldron, MPA, Health Officer/Administrator; Beverley Fountain, Health Educator, Healthiest Weight Florida; and Anne Linkh, MS, Health Educator, Accreditation Coordinator, Minority Health-Health Equity Liaison from FL DOH-LSC.

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NACCHO: Can you tell us about the first steps you took towards embedding equity into how you collect and share data?

New York City Department of Health and Mental Hygiene (NYC DOHMH): In 2015, our former Commissioner Mary Bassett set up Race to Justice—an "internal reform effort to help our staff learn what they can do to better address racial health gaps and improve health outcomes for all New Yorkers"[3]– making anti-racism a required part of everyone's job. As part of this effort, we worked to understand the impact that race had on our LHD's work and how to create policies to lessen this impact in four operational areas: workforce, finance, community engagement, and communications. That kind of leadership opened doors and opportunities that previously did not exist.

Integrating equity more intentionally into our data practices started informally, with our staff recognizing the need to do more around how we collect and disseminate data. This led to the establishment of our agency-wide Data for Equity workgroup in 2018—launched as a pilot project with support from the Government Alliance on Race and Equity[4]–which included staff that were recommended by division leadership. This workgroup developed a comprehensive set of recommendations to embed equity into every part of the data life cycle, from project development to data collection, analysis, and dissemination.

Since 2018, a small steering committee has led the implementation of many of those recommendations. More recently, the agency formalized Data for Equity as a permanent initiative, reimagining the workgroup as a dedicated cohort of staff identified through a more inclusive process; we intentionally included people who may not think of themselves as "data people," such as staff in community engagement, HR, finance, and IT. We see this work as a social process that happens through relationships and learning from our colleagues. At the end of the day, it is not about creating a checklist.

Florida Department of Health-Lafayette and Suwannee Counties (FL DOH-LSC): For us, the shift to equitable evaluation also began with conversations, led by our Minority Health/Health Equity Taskforce, a group created to help us better deliver health services and information to our community, particularly the many we serve with limited access to both. Our counties have high percentages of poverty, English as a Second Language (ESL) residents, and migrant farmworkers, as well as a high school graduation rate that is improving but lower than we want. The taskforce allows us to address these significant disparities using data.

NACCHO: What strategies do you use to promote equitable data practices?

NYC DOHMH (Stephanie Farquhar): Lifting up people's lived experiences in our data is necessary to provide context for health disparities. Data are not neutral; they reinforce both privilege and disadvantage. Reflecting on my own lived experience, I see myself normalized and validated in public health data all the time as a cisgender white woman. But as a queer woman, I am often invisible; as a single mom, I am only visible as a problem. This unevenness highlights the need for inclusive and participatory data collection, analysis, and sharing practices to undo many different kinds of harm.

So, NYC DOHMH is making a conscious effort to involve community groups from start to finish to ensure the data we publish tell representative and respectful stories. Two practical examples of this are the recent *Health of Asians and Pacific Islanders in New York City*[5] and *Health of the Indigenous Peoples of the Americas*[6] reports, which share the historic and ongoing struggles that produce inequitable health outcomes illuminated by data.

FL DOH-LSC: Community dialogue was also a key piece of the puzzle for us. Recently, we engaged community partners (e.g., our local Rural Health Disparities

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Coalition, healthy aging organizations, volunteer organizations, Chamber of Commerce, and faith-based organizations) to better understand what disparate factors impact our community and how we can effect change for our residents. For example, we will be leveraging these partnerships to reach underserved populations for a community survey assessing gaps in access to food insecurity services.

In addition, Florida has an excellent tool called Florida CHARTS (Community Health Assessment Resource Tool Set) that has data for each county. This allows our team to mine data on a frequent basis to explore geographic areas and outcomes disaggregated by demographics. We use that data to determine what we need to address and with whom.

NACCHO: What challenges do you face embedding equity in evaluation and data systems?

FL DOH-LSC: Small-town living often comes with the same participants volunteering their time and effort to effect change; the same partners and LHD staff appear on several committees. As a result, we have limited opportunities to ensure our efforts are representative of our entire community.

Even when we can engage residents, we have trouble reaching those most vulnerable, including our ESL residents. To address this, our community partners added navigators and community health workers to translate materials and help ESL residents access information. However, that capacity is also limited and is exacerbated when providing care. In one county, we have a Hispanic staff member that can help translate, but in the other, that skillset isn't present. Our counties do have a service that we can call up to access an interpreter, but it is not as efficient or effective as it could be.

In addition, the same staff and partners wear many different hats to tackle community health issues. Our staff are already stretched thin, and our financial resources are ever-shrinking; these challenges have an impact on our service delivery. For example, we used to deliver primary care, but budget cuts forced us to end those services. Our limited capacity and resources are yet another obstacle to making equity in evaluation not just another item on the to-do list.

NYC DOHMH: A significant challenge we experienced is that data are rarely part of an equity strategy and so often fall to the bottom of a priority list filled with important and urgent work. This makes it hard to get the resources to implement equity-focused evaluation and data protocols. However, having staff as internal advocates who bring their lived experience to the work helps to keep data equity a priority.

We also experience challenges with how to best engage community members and appropriately value their lived expertise. Making sure that engagement is bidirectional and people are paid for their time are complicated processes, but they are essential to achieving our health equity goals. Additionally, we need to be sure we have the qualitative expertise to document and act upon feedback from our communities.

Another issue arises when we need to describe demographic categories that might be new to some people, such as gender identity. People can be offended when you ask those questions in different data collection venues (e.g., community surveys, healthcare settings) because they think their gender is obvious. This is an opportunity for us as city government to use our power and responsibility to show up differently in collecting data, engage and educate all New Yorkers around gender identity, and set an example for thinking more inclusively about demographic categories.

NACCHO: What do you see as the next steps to integrating equitable evaluation and data use into the future of public health?

FL DOH-LSC: Internally, we meet monthly to discuss our programs' impacts and the ways data can inform how we better serve marginalized populations. One example

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includes when we saw an increased use of food banks in the past year and realized this can be leveraged to expand our reach outside of the city centers. To take action on this insight, we reached out to food banks to ask about who they serve and what we can do to help. Then, we tailored health education materials to the specific needs of those residents. For instance, we provided a food bank serving older adults with relevant vaccine information. Through this data-informed outreach, we established new partnerships and were able to reach three more areas in the county. While there's more work to be done, from these experiences, we know that the continued use of these data equity practices will allow us to better understand and serve our communities.

NYC DOHMH: LHDs need resources to strengthen our evaluation infrastructure, including both quantitative and qualitative data systems, so that data can be responsive and timely. Telling better stories about our communities requires new ways of working. NYC DOHMH's leadership, including former Commissioners Barbot and Chokshi, continue to commit to these new ways of working by building on the Race to Justice work and establishing a permanent Chief Equity Officer. Additionally, the recent NYC Board of Health resolution declaring racism as a public health crisis[7] institutionalized the Data for Equity work, which will keep our LHD accountable for improving data practices.

It's not as easy as just identifying an issue and solving it. In our LHD, almost everyone touches data at some point in the evaluation life cycle. We get asked a million times a day, "What article do I read?" or "Where can I take a course on data equity?" But there isn't one tool that we can pull off the shelf to tell us how we make data practices more equitable. We need a framework for embedding equity in public health data practices that can be shared across the country and adapted for local needs. That is only a first step—but a very important first step.

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Elevating Public Health Practice through a Rural Academic Health Department Model

By Lisa Macon Harrison, MPH, Health Director, Granville Vance Public Health, Adjunct Assistant Professor, Public Health Leadership Program, UNC Gillings School of Global Public Health, and Consulting Associate, Duke University School of Nursing; Carmen Samuel-Hodge, RD, MS, MPH, PhD, Embedded Researcher and Academic Partner, Granville Vance Public Health and Associate Professor, Department of Nutrition, UNC Gillings School of Global Public Health; and Devon Noonan, MSN, MPH, PhD, Academic Partner, Certified Addictions Nurse, Associate Professor, Dorothy L. Powell Term Chair in Nursing, Duke University School of Nursing

It is a mission of public health practice across the country to prioritize evidence-based interventions and program evaluations, yet the capacity to do this consistently in rural areas is limited. Granville Vance Public Health (GVPH), a two-county rural health district in north-central North Carolina, addresses this with a unique longstanding partnership between two universities and the local health department (LHD): the Rural Academic Health Department (AHD) Model at GVPH. This model provides a real-world laboratory, real-community relationships, and real-time testing for researchers' interests in generating rural public health practice-based evidence. It also connects local public health practitioners to real-time expertise in grant writing and management, evaluation, epidemiology, and health equity research. This is the magic; it's simultaneously beneficial to the community, the LHD, and the researchers.

The structure for an AHD can fit along a broad continuum from informal relationships to comprehensive collaboration (Figure 1). Most commonly, LHDs engage in informal connections with academic centers, such as working with undergraduate and graduate students seeking internships, part-time jobs, or other temporary posts to complete a practicum. These student placement opportunities benefit the student, the school, the LHD, and the future public health workforce. Health departments posit that this informal AHD structure can be so much more than just that traditional approach to mentoring and training the future workforce; it can also leverage the work of an LHD in many valuable ways for the community and the improvement of public health practice. For example, GVPH connected with Kelsey Sumner, a PhD student at the University of North Carolina-Chapel Hill (UNC), who volunteered her time to translate the inordinate amount of data collected by department nurses into accurate data dashboards. Not only did her background in epidemiology give her the skills to share the LHD's hard work with the community in ways people could easily understand, but Sumner shares

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Elevating Public Health Practice through a Rural Academic Health Department Model

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that it also gave her a sense of passion for public health: "When the pandemic really took off last March, I felt like it was my responsibility as someone pursuing a career in epidemiology to do something to help."[1] Her public-facing scientific communication efforts were vital to showcasing to the community how the pandemic was unfolding in their own corners of the counties.

STAGED MODEL FOR IMPLEMENTING ACADEMIC HEALTH DEPARTMENT

Stage 1: Informal Relationships	**Stage 2:** More Established, Longer Term Relationships	**Stage 3:** Formal Written Agreement	**Stage 4:** Expansion	**Stage 5:** Comprehensive Collaboration

• Limited engagement between organizations
• Occasional teaching, internship placements
• Relationship might be on and off
	• More engagment between organizations
	• Recurring internships, teaching, research
		• Formalizing partnership activities
		  • What has been occurring
		  • What want to occur
		• Engagement may be limited to a single area (education, research, or service)
			• Expanding on existing elements of the partnership
			• Expanding into other areas (education, research, and service)
			• Partnership may be focused on all three areas
				• Collaboration on all three areas (education, research, and service)
				• Shared personnel and resources

Figure 1.

In 2012, GVPH began the Rural AHD Model with the UNC Gillings School of Global Public Health. Dr. Carmen Samuel-Hodge, Academic Partner, and Lisa Macon Harrison, GVPH Health Director, established a common interest in connecting research and practice during their work together at UNC through the CDC Prevention Research Center. The origin of the AHD model came about when GVPH sought a partnership with UNC's North Carolina Institute for Public Health during planning for a community health assessment. Now, Dr. Samuel-Hodge is regularly involved in the local community health assessment data collection process, serving as a special advisor in practice-based research activities—especially those that address health disparities in our counties.

Dr. Samuel-Hodge does so much more than consult from afar. Through the Institute, she has a formal longstanding agreement with GVPH to be embedded in its work. This idea to have an embedded researcher as part of the AHD model provides the opportunity to transform Dr. Samuel-Hodge's research into practice. But it took time to mature; she had to build lasting relationships with staff. When Dr. Samuel-Hodge first came to GVPH as a doctoral student, she simply wanted to hear more about what staff did and what their motivations were for doing the work. Although she worked in an LHD for nine years, Dr. Samuel-Hodge expected some reluctance from staff to her presence because she represented a university; she thought staff would fear that she would tell them what to do. So, she listened—a lot; she valued their perspectives before sharing information. Dr. Samuel-Hodge leveraged this practice-based knowledge staff shared to write grant applications informed by both research and practice to "pay her way," for example, covering most of her salary because no rural LHD can afford to pay for embedded faculty.

These relationships, as well as thinking strategically, helped GVPH move along the AHD continuum towards comprehensive collaboration. The department intentionally took on work that was consistent with GVPH's values and the community's priorities, included collaborations with relevant stakeholders, and maximized limited resources, including staff time to engage in efforts to seek grant funding. This unique "embedded researcher" structure allows for greater exchange of knowledge (empirical from research and experiential from practice); more nuanced understanding of contextual factors; and enhanced engagement among researchers, community members, and LHD staff. As a translational and implementation research specialist for GVPH, Dr. Samuel-Hodge now presents on-site a few days a week to help lead department efforts in chronic disease prevention strategies, nutrition, and physical activity interventions. She also helps to communicate about vaccine safety and effectiveness with different cultural groups.

This model also depends on a researcher who has a mind for research, a heart for community, and an affinity for rural areas, even when those are not the places where a research project can get the largest numbers of participants. Ashton Johnson, a GVPH staff member, recently shared that "having Dr. Samuel-Hodge as a consistent voice is like having a public health conscience—she consistently encourages us to strive for better in our work. She reminds us about literature reviews and the importance of collecting and analyzing data properly, while nudging us to remember the big picture and the why. She reminds us often of the health disparities that are present in rural areas and how those are important factors in our work. That combination of being mindful in all directions makes us a better LHD and helps us serve our community better." This is what it takes to move from informal connections to comprehensive collaboration.

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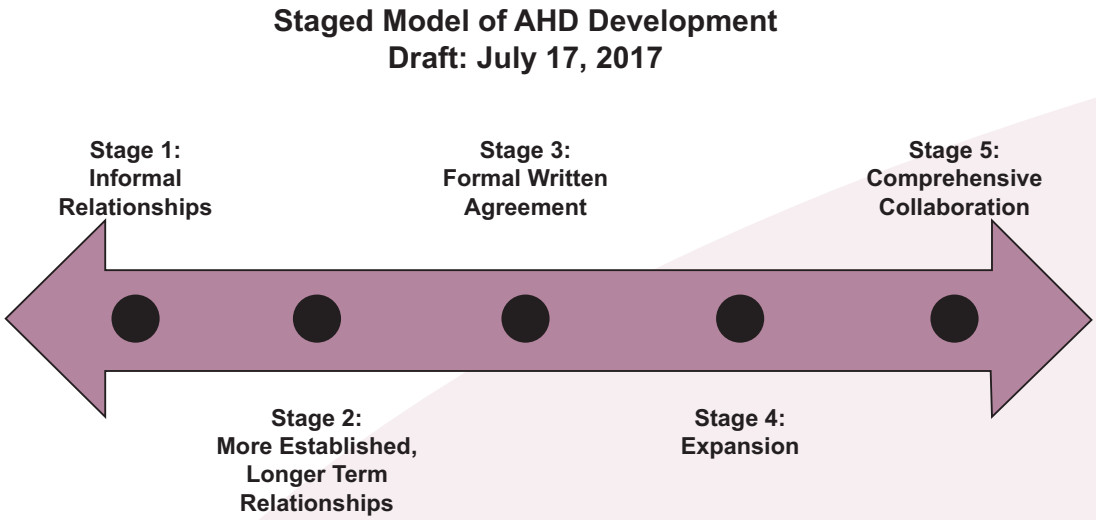
ACADEMIC HEALTH DEPARTMENT CONTINUUM



GVPH has continued working with UNC for nearly a decade now to leverage this kind of academic support and expertise in programs, services, and grant-funded efforts. In fact, this AHD model produced more than $7 million in grant funding for the community over a nine-year period—an outcome GVPH is particularly proud of and continues to benefit from.

Having an academic connection embedded in GVPH has a ripple effect of influence and problem-solving that rural LHDs rarely have access to just down the hall. In a separate partnership with Duke University, researchers in the Duke School of Nursing work with GVPH on several different initiatives. Recently, they observed GVPH's nursing team collecting qualitative data about the experiences of public health nursing during COVID-19. They explored how department nurses implemented innovations to manage the pandemic. For example, GVPH nurses bridged multiple data systems for case investigation and contact tracing in a meaningful way that promoted efficiency in managing inordinate amounts of COVID-related data. GVPH nurses also mobilized and implemented processes for lay health workers to assist with contact tracing. Ultimately, Duke researchers were able to bring to light these stories as a small step towards re-educating the public and policymakers about the importance of public health nurses to the health and wellbeing of communities.

In addition, the Duke Department of Population Health Sciences is currently assisting GVPH with an evaluation of our medication assisted treatment (MAT) and integrated care program. Because of the exacerbated isolation and anxiety caused by the pandemic among those with substance use disorder, it is critical that the department pay close attention to participation in this program. As a part of this joint evaluation project, a team of researchers tracked real-time retention data and asked patients about their satisfaction with its MAT and counseling services. Through this evaluation and engagement with patients directly about what we need to improve, GVPH continues to make changes that keep program retention high. This partnership with Duke University allows us to translate evaluation findings into program improvements so that our work better addresses the community's needs.

Elevating the practice of public health in a rural area and telling the story about the work GVPH accomplishes in and with the community remains paramount. GVPH has been able to accomplish this through formal agreements with UNC and Duke University, while adding capacity to its stretched workforce and infusing sustainable funding for population health into its community. Whether GVPH is continuing the trajectory of chronic disease prevention and health promotion work, starting a new intervention, evaluating a current service model, or fighting a pandemic, the Rural AHD Model has been both an incredibly beneficial journey and a positive synergy, with so much more to accomplish.

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Public Health 3.0 In Practice: A National Framework for Evaluating Local COVID-19 Response and Recovery

By Amy Laurent, MSPH, Abigail Sekar, MPH, and Eva Wong, PhD, Public Health – Seattle & King County, Assessment, Policy Development & Evaluation

Public Health 3.0 hinges on expanded collaborations with multiple sectors to improve social determinants of health (SDOH) through access and utilization of data from new, disaggregated, and real-time sources. Public Health-Seattle & King County (PHSKC), a local health department (LHD) in Washington State, answers this call by collecting and sharing actionable community-level data, adapting to evolving issues, and promoting health and wellness for all King County residents. One way PHSKC has applied Public Health 3.0 principles[1] is through evaluation of its COVID-19 response efforts. PHSKC used the CDC framework for monitoring and evaluating community mitigation strategies[2] to assess the wide-ranging effects COVID-19 continues to have in its community. This evaluation guided the department's decision-making about how to better fight the pandemic while supporting equitable community recovery.

To reduce infections and prevent deaths, Washington State and King County—along with many other jurisdictions across the country—implemented nonpharmaceutical intervention (NPI) strategies that were known to be effective at limiting communicable disease spread.[3] However, the most effective NPIs are those that limit person-to-person contact, but have substantial socioeconomic effects on communities.[4] For example, business closures can result in loss of jobs and income, which can make it difficult for workers to meet basic needs, such as housing, food, healthcare, and utilities. Monitoring these economic, social, and health outcomes, especially how they differ by race and other demographics, is important to moderate unintended inequities in implementing community mitigation strategies.

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Public Health 3.0 In Practice: A National Framework for Evaluating Local COVID-19 Response and Recovery

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In partnership with the CDC and the Washington State Department of Health, PHSKC tracked economic, social, and overall health metrics in King County to answer the following questions:

1. What economic, social, and health changes occurred during the COVID-19 pandemic?
2. Did these changes vary by COVID-19 risk group, race, geography, gender, health status, or socioeconomic status?
3. Did economic, social, and health disparities change compared to a pre-pandemic baseline?
4. Based on these changes, how should PHSKC adjust NPI strategies? What additional supports are needed to address adverse effects of NPIs?

To select the specific metrics that would help the department answer these questions, PHSKC conducted a literature review of previous outbreaks linking NPIs to specific population-level outcomes. In addition, it used criteria in the CDC framework to prioritize metrics that would be timely, relevant, valid, representative, and disaggregated (Table 1).

Criteria	Definition
Timely Relevant	Weekly or monthly refresh was ideal Likely to change due to NPI/mitigation implementation
Valid	High quality and reproducible
Representative Disaggregated	Available county-wide Available by race/ethnicity, sub-county geography, gender, socioeconomic status, sexual orientation, and gender identity

Table 1: Criteria for selecting economic, social, and health metrics.

For example, PHSKC tracked unemployment claims, social service needs, food insecurity, family violence, access to healthcare, death rates, and causes of death[5]. Alongside these metrics, it reviewed local, state, and federal policies to provide important context for the effects of multiple simultaneous systemic changes on outcomes. Some of these policies implemented NPIs, including mask mandates, stay-at-home orders, and business and school closures, while others attempted to mitigate adverse effects of NPI strategies, such as student loan forbearance, eviction moratoria, grocery vouchers, school meal expansions, expansion of telehealth coverage, and vaccine passports.[5]

The next step was to identify data sources that were timely and relevant within the context of an ever-changing, unpredictable pandemic. This proved to be a challenge because datasets commonly used in public health—such as for community health assessments—are often disseminated annually, with a considerable lag from data collection to sharing. As a result, they cannot measure immediate impacts or shifts in services during public health emergencies. In addition, these datasets often focus on health metrics rather than socioeconomic conditions or other SDOH.

With these limitations in mind, PHSKC developed new cross-sector partnerships to access service, legal, and economic data not traditionally used in public health. For some of these partnerships, PHSKC previously yet unsuccessfully broached the concept of data sharing. However, having a well-defined evaluation approach that uses a federal framework helped to explain why these data were important. Ultimately, the department developed new relationships with several local and national agencies,

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including the Prosecuting Attorney's Office, child protective services, utility assistance, National Domestic Violence Hotline, and the behavioral health call hotline. PHSKC signed new data sharing agreements (DSAs) with some and modified existing DSAs with others, as well as relied on publicly available datasets, such as the Census Household Pulse Survey, for its evaluation.

This evaluation approach revealed insights about the disparate effects of COVID-19 mitigation strategies on SDOH across our community. On the economic front, PHSKC discovered that unemployment claims rose dramatically following the launch of various NPI strategies,[6] particularly in service industries—with Black, Indigenous, and People of Color (BIPOC) workers disproportionately impacted.

In addition, the department identified housing and food needs as the primary drivers of social service hotline calls, which doubled from February to March 2020. When it came to social outcomes, our evaluation findings pointed to a notable uptick in food insecurity, with county enrollment in food assistance programs increasing by 22% from January 2020 to January 2021. Food insufficiency rates among Black, American Indian/Alaskan Native (AIAN), Native Hawaiian/Pacific Islander (NHPI), and Hispanic/Latinx communities were more than double those of Asian residents. Health outcomes illustrated that mental and behavioral health impacts fluctuated during the pandemic, with symptoms of depression higher among those who lost employment or identified as AIAN, NHPI, or multiracial. In addition, all-cause death rates increased by 12% in 2020, compared to a 2017–2019 baseline, and rates were significantly higher among AIAN and Hispanic/Latinx residents. This evaluation highlighted that NPI strategies had substantial economic, social, and health effects, with BIPOC communities experiencing disproportionate hardships.

To help PHSKC better understand how to translate these insights into action, it engaged community partners and subject matter experts in interpreting the findings. This process centered community by focusing on whether the quantitative data aligned with qualitative lived experiences. Through this collaboration, the partners shared information and power with communities most severely impacted, which resulted in community-led solutions that better aligned the distribution of resources with need. Specifically, it led to the development and implementation of new programs and sustainable recovery planning. For example, King County government established a food security assistance program with CARES act funds, using food security and food assistance enrollment findings from PHSKC's evaluation to prioritize funding distribution to highly impacted geographic and racial/ethnic communities. Furthermore, the data were used to quantify scope and depth of current need across the county to maximize the reach of its resources. As another example of how our evaluation generated actionable insights, a local city integrated findings into their economic development plan, which included recovery planning and support strategies. Ultimately, adopting this evaluation approach based on Public Health 3.0 and CDC's framework informs a more equitable pandemic response and recovery.

Although the CDC framework and PHSKC evaluation approach centered equity, gaps remain in the availability of data on important and relevant topics, including childcare availability, educational outcomes, and community violence. Even when data exist, they are not always comprehensive; some data sources may represent only a fraction of the level of need. In particular, many datasets either do not capture demographic data at all or capture inconsistently defined categories for race, ethnicity, disability status, or gender identity. As a result of these constraints, community members helping to interpret the data expressed that they felt invisible when the data do not include their identities, creating challenges in advocating for resources for their community. Improved data collection is critical to support equity-informed decisions, represent all communities, and

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prevent inadvertently widening existing inequities.

When looking across indicators, COVID-19 and NPIs had wide-ranging effects on King County's population. As mentioned earlier, the impacts of the pandemic, as well as the community mitigation efforts, were not equally shared by all. That being said, having access to real-time data was not only feasible, but also considerably useful in directing PHSKC's resources to disproportionately affected populations. When responding to emerging issues that can exacerbate health inequities, the use of Public Health 3.0 in conjunction with the CDC monitoring and evaluation framework proved to be invaluable. In particular, PHSKC was able to promote a public health emergency response approach that quantifies racial inequities with the goal of alleviating them. The department was also able to better align programs and policies with the greatest need and empower community members to lead public health solutions. Finally, PHSKC reaffirmed that a well-defined rationale and innovative framework aids in relationship-building. Overall, this dually informed evaluation method created opportunities for new partnerships, increased access to novel datasets, and deeper community connections.

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Not Just Another Dashboard: Fostering a Culture of Data in Rural Health Departments with *SHARE-NW*

By Elizabeth Heitkemper, PhD, RN, Assistant Professor, University of Texas at Austin School of Nursing; Greg, Whitman, BA, Project Manager, University of Washington School of Nursing; Melinda Schultz, MA, Research Coordinator, University of Washington School of Nursing; and Betty Bekemeier, PhD, MPH, RN, FAAN, Kirby & Ellery Cramer Endowed Professor, University of Washington School of Nursing and Director of the Northwest Center for Public Health Practice

The COVID-19 pandemic illustrates the power of using public health data to inform decisions and clarifies the challenges to doing this well. Research shows limited key public health data exists,[1] especially for local health departments (LHDs) serving rural populations.[2] Further contributing to these difficulties is a need for improved data use capacity among a local public health workforce already stretched thin from chronic underfunding.[3-5]

To address these issues, *SHARE-NW: Solutions in Health Analytics for Rural Equity across the Northwest*, a partnership research project, created an interactive dashboard making data available and accessible to local public health practitioners while building their capacity for data use and data-driven decision-making. The researchers partnered with rural LHDs in Alaska, Washington, Oregon, and Idaho to help them use the *SHARE-NW* dashboard to identify and address health inequities in their communities for priority topic areas, including diabetes and mental health. To ensure the dashboard is usable and relevant for users, the team created its features (e.g., dynamic filters, pop-up tooltips, and visualizations) in collaboration with staff from its partner LHDs[6]. *SHARE-NW* also has a curated repository of online trainings and webinars, including newly developed training modules that use problem-based learning to teach broad audiences how to use and communicate data to promote health equity.

Since *SHARE-NW*'s launch in August 2021, feedback from our partner LHDs highlights its relevance to local public health practice. One LHD described

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Not Just Another Dashboard: Fostering a Culture of Data in Rural Health Departments with *SHARE-NW*

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how it helped them make a tangible decision about their work that will ultimately improve the health of the communities they serve. After spending time exploring the dashboard, they noticed limited availability of tobacco data for their jurisdiction. So, the LHD decided to hire a tobacco coordinator who will prioritize the gathering and use of public health data, including local disparities in tobacco-related outcomes. As a result, future tobacco programming will be data-informed and better target health inequities. The LHD is further bolstering this new data capacity agency-wide by "starting to develop a whole professional development plan for staff and will use the [*SHARE-NW*] trainings as a tool for that."

SHARE-NW is contributing to building a culture of data use in rural LHDs. To further this goal, the team is building out new *SHARE-NW* dashboard features, including infographic templates and decision-support tools, to make it even easier for LHDs to utilize data in the most efficient and meaningful ways possible.

However, this cultural transformation is not going to happen from a single project—much needs to change to realize this goal. Registration data for the *SHARE-NW* live online training series exemplifies the profound interest in acquiring and advancing data skills—141 people registered, 94 completed pre-training work—but the inability of more than one-fifth of registrants to actually attend points to the competing and often urgent priorities local public health practitioners face in their daily work. For LHDs to fully embrace data and harness the power of tools like *SHARE-NW* to address health inequities and improve population health, supportive policies need to be in place. Specifically, LHD leaders need to commit to developing staff's data skills by giving them time to regularly engage in training. One partner LHD summarized the situation perfectly: "In public health, we have to step back and be more intentional."

For more information, visit the dashboard at https://sharenw.nwcphp.org/, and view our on-demand webinar at https://www.nwcphp.org/training/hot-topics-in-practice to hear more examples of local applications of *SHARE-NW*.

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Interpreting Decision Intelligence in the Context of Public Health

By Tomás J. Aragón, M.D., Dr.P.H., Former Health Officer, City and County of San Francisco; State Public Health Officer and Director, California Department of Public Health; Adjunct faculty, University of California, Berkeley School of Public Health

As local health officials, decision-making is our most important activity. In March 2020, local health officials across the Bay Area were the first in the U.S. to issue legal orders for all residents to shelter in place (SIP) to prevent the spread of COVID-19. The SIP orders were the culmination of a series of difficult decisions to implement community mitigation approaches. Although the Bay Area has been lauded for acting early and decisively, at the time public health officials made their decision, there was tremendous uncertainty whether our actions would avert a public health catastrophe. However, the quality of a decision cannot be judged by its outcome; a good decision can have a bad outcome, and a bad decision can have a good outcome. The quality of a decision depends only on the quality of the **decision-making process** at the time the decision was made.

Because a decision—a choice between two or more alternatives—involves an irrevocable allocation of resources, it is imperative that public health officials know what goes into making good decisions in the face of high stakes, high uncertainty, extreme time constraints, and multiple competing objectives. Decision intelligence (DI) is the key to making these good decisions and improving outcomes.[1] DI is the integration of problem solving and decision quality within a performance improvement framework, ensuring quality and continuous improvement of decision processes and results (Figure 1). Local health officials often use components of DI in the context of both individuals and teams, but are not aware of its integrated structure.

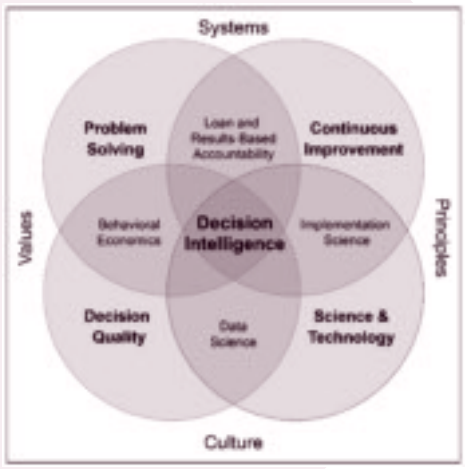

Figure 1. Decision intelligence framework for public health

Problem-solving follows a causal pathway (Figure 2). For example, when a patient presents to an emergency room with chest pain (**problem**), the clinician considers and prioritizes **consequences** (e.g., death, discomfort) and **causes** (e.g., heart attack, heartburn, anxiety), tests hypotheses by collecting data (i.e., history, physical examination, diagnostic tests), and then uses the results to select and implement a treatment plan (**countermeasures**).

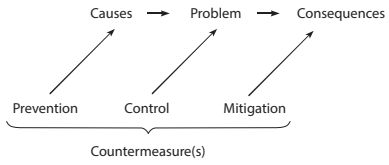

Figure 2. Problem solving causal graph

The patient's response to treatment is more data for learning and adjusting hypotheses and treatments. This whole process is a series of problem-solving decisions, learning, and continuous improvement. The seasoned clinician is an expert in clinical DI.

Similarly, solving complex public health problems is a series of causally linked decisions to (a) select and focus on the right **problem**, **consequences**, and root **causes**, and (b) design, evaluate, and improve **countermeasures** to achieve improved population health while minimizing harmful outcomes and unintended consequences. However, a good decision is only as strong as its weakest link. So local health officials must ensure good decision-making processes in the face of information uncertainty, limited science, and time constraints[2] by leveraging these six steps (Figure 3) of making good decisions:

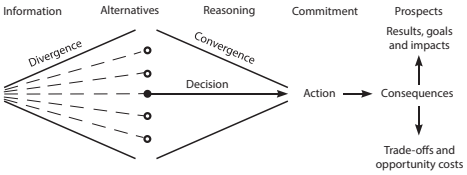

Figure 3. Six requirements for decision quality.

1. **Frame** the decision problem or opportunity, including identifying values and setting goals;
2. Gather relevant data and **information;**
3. Generate creative, doable **alternatives;**
4. Conduct sound **reasoning** to select or prioritize the best alternatives to achieve the goals;
5. Involve the right stakeholders and build consensus (shared understanding and **commitment** to action); and
6. Understand the possible future state including **consequences, trade-offs, and impacts.**

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Interpreting Decision Intelligence in the Context of Public Health

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1. Health outcomes
2. Health equity
3. Ethical issues
4. Efficiency issues (e.g., cost-effectiveness)
5. Legal exposures and risks
6. Logistical and operational challenges
7. Public trust and communications
8. Political support and risks

Table 2 The (HELP)[4] checklist for decision intelligence in complex environments.

For high-stakes decisions in complex political environments (think of recent high-profile CDC decisions[2,3]), local health officials can use the (HELP)[4] checklist (Table 2) to consider multiple dimensions of decision-making, engage diverse stakeholders, and ensure communications builds public trust while managing expectations. For stakeholders, also consider who has veto power over your decision(s) and involve them early in the process.

Finally, good decision-making processes involve multidisciplinary teams with cognitive diversity, intellectual humility, and psychological safety supported by a culture of creativity, accurate information, sound reasoning, and commitment to action. Even better, they include trusted persons that will vigorously challenge causal assumptions and predictions.

To learn more, a selection of my favorite books on making better decisions (and avoiding terrible mistakes) is provided online at https://bit.ly/3IlFX8T.

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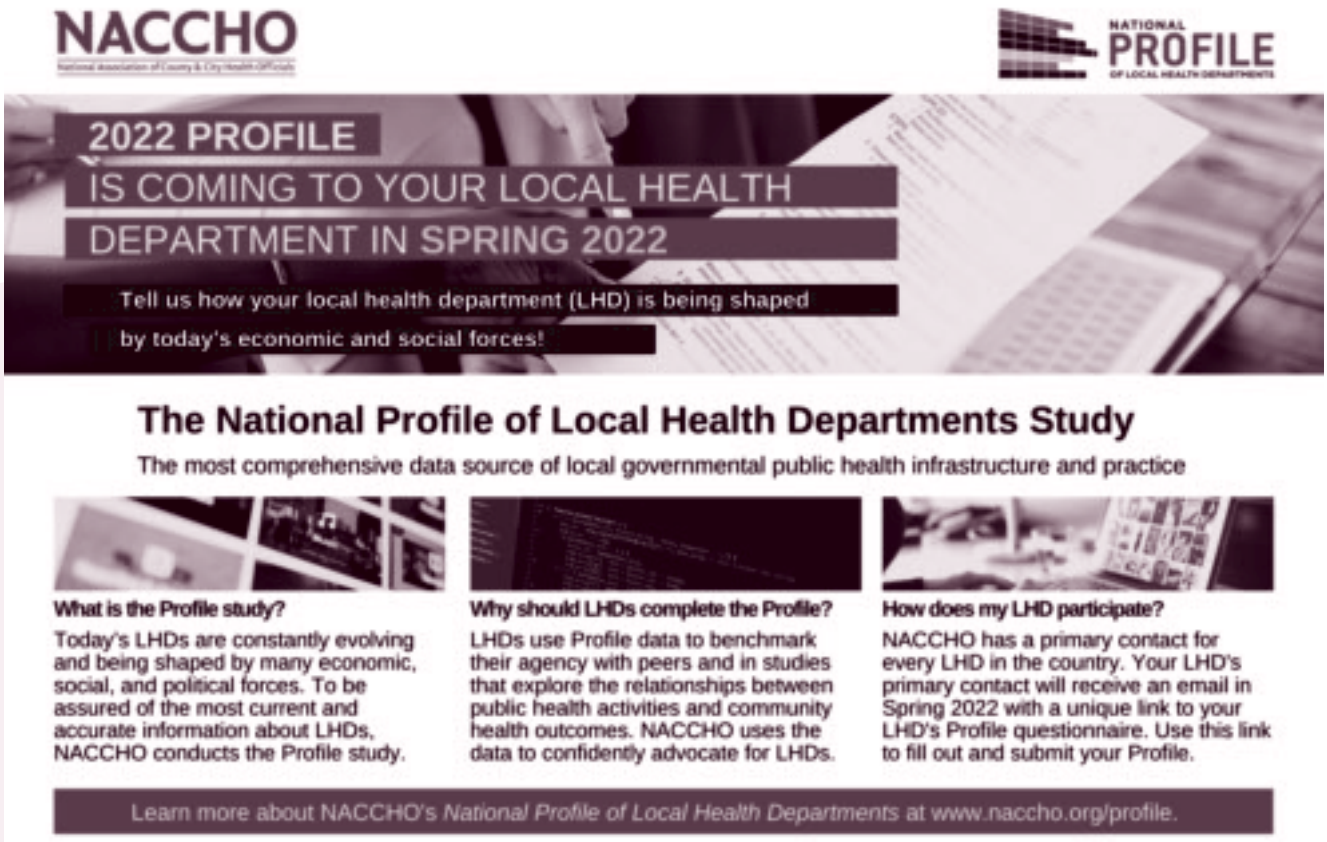

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NACCHO Exchange, the quarterly magazine of the National Association of County and City Health Officials (NACCHO), reaches every local health department in the country. It presents successful and effective resources, tools, programs, and practices to help local public health professionals protect and improve the health of all people and all communities.

Mailing and Contact Information

Please direct comments or questions about *Exchange* to Beth Hess, Communications Specialist, at bhess@naccho.org. To report changes in contact information or to check membership status, please contact NACCHO's membership staff at 877-533-1320 or e-mail membership@naccho.org. Additional copies of *NACCHO Exchange* may be ordered at http://www.naccho.org/pubs.

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NACCHO Exchange

NACCHO
1201 Eye Street, NW, Fourth Floor
Washington, DC 20005
Phone: (202) 783 - 5550
Fax: (202) 783 - 1583
www.naccho.org

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