Public Health 2035 Scenarios:
Divergent Futures

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## Introduction

### What will be the greatest accomplishments for public health in the next two decades?

### What obstacles may prove insurmountable?

### What will public health look like in the U.S. in the year 2035?

### What should public health leaders be doing today?

### What do we want public health to be in the U.S. in 2035 that can inform today’s agenda?

We are not our circumstances, we are not what happens to us. Rather, we are what we repeatedly do with opportunities to influence which future unfolds and how it unfolds, even as the context continues to change.

To help leaders in public health leverage opportunities and ingenuity in dramatically improving health and wellness, the Association of State and Territorial Health Officials (ASTHO) and the Institute for Alternative Futures (IAF) have developed three parallel stories or scenarios describing how the future of public health may unfold over the years to 2035. These scenarios help us understand and clarify where current trends may take us, what challenges we face, and what success might look like in advancing the effectiveness of public health in improving health outcomes, stewarding resources, and collaborating, partnering, and innovating.

While the future is inherently uncertain, scenarios help us bound that uncertainty into a limited number of likely paths. Once these alternative paths have been articulated, we can more easily explore uncertainty, clarify and challenge our assumptions, find opportunities and challenges we might otherwise miss, and consider our options.

These insights can then inform strategic planning by allowing us to:
- Test whether current strategies will be effective in different scenarios;
- Formulate strategies to more effectively adapt to the changing environment; and
- Assure that strategic plans address the larger picture and longer-term futures for the public health community.

The journey through this process strengthens the agency of the organization and assures that decisions today are accountable to tomorrow.
Background and Methodology

The Public Health 2035 scenarios build upon 2030 scenarios previously developed and released in 2014 by IAF with support from the Robert Wood Johnson Foundation and the Kresge Foundation. The original scenarios have been widely disseminated and used by state and local public health departments, foundations, non-profit organizations, associations, and academic programs.

The new scenarios integrate input from workshops conducted with ASTHO staff and the board of directors. Like their predecessors, the Public Health 2035 scenarios consider the range of forces, challenges, and opportunities shaping public health in the U.S. Furthermore, they are designed per IAF’s “aspirational futures” approach (see Figure 1 below). We believe that scenarios must explore the range of challenges, including the growing potential for “collapse” in many systems, as well as help us understand where our visions or aspirations would take us—that is, what a “surprisingly successful” future would look like and how we might achieve that future. We therefore develop scenarios in each of the following three zones:

- A “zone of conventional expectation” reflecting the extrapolation of current trends, a “most likely” or expectable future (scenario 1);
- A “zone of growing desperation” which presents a set of plausible challenges that an organization or field may face, a challenging future (scenario 2); and
- A “zone of high aspiration” in which a critical mass of stakeholders pursues visionary strategies and achieves surprising success (scenarios 3). IAF typically develops two scenarios in this zone in order to offer two alternative pathways to highly preferable or visionary futures. In the present report, we present one scenario in this zone that integrates elements from scenarios 3 and 4 in Public Health 2030.

Figure 1: Zones in IAF’s “Aspirational Futures” Technique
Three Public Health 2035 Scenarios

Overview of the Three Scenarios
Using the Aspirational Futures approach, ASTHO senior staff and Board explored and extended the original Public Health 2030 Scenarios in May and June 2017 workshops. The finalized scenarios are summarized below and presented in their entirety in the following pages.

Scenario 1: Improved Health, But Disparities Persist
Amidst recurring political, fiscal, and health challenges, public health agencies and health care slowly advance their capabilities. Many use automation and advanced analytics to improve services and community and population health. However, environmental trends and other crises continue to increasingly challenges the health and wellbeing of the nation, and there is little progress in improving the social determinants of health. Great variations in technological capabilities, funding, and approaches to prevention – along with a continuous rise in health care costs – significantly limit public health gains.

Scenario 2: Overwhelmed, Under-Resourced
Public health crises grow worse and more frequent, largely due to environmental trends. Funding cuts, a hostile political context, and information wars undermine the role and effectiveness of public health agencies. Failures cement public perception of government agencies as ineffective “nanny state” bureaucratic strongholds. Private sector initiatives produce significant innovations for health and wellness, but these primarily benefit the middle-class and affluent groups. Technological, economic, educational, and health disparities grow, and the institutions of public health have little capacity for doing anything about them.

Scenario 3: Optimal Health for All
National and local economies gradually grow, and new advances help households sustain themselves and improve health and wellbeing. Changes in values and demographics lead to health considerations in all policymaking and support for inclusion and fairness or equality of opportunity for all. Public health agencies use advanced analytics, gamification, and diverse partnerships to identify problems and opportunities, and catalyze and incentivize action to improve community health. While some disparities persist, the vast majority of U.S. residents attain greater opportunity for good health through quality improvements in housing, economic opportunity, education, and other social determinants of health.
Scenario 1: Improved Health, But Disparities Persist

Scenario 1 Highlights:

Public health agencies (PHAs) slowly advance their capabilities in technologically-enhanced monitoring of health across populations, emergency preparedness, and inspections. Meanwhile, fiscal pressures force PHAs to step back from personal clinical health services even though health insurance “re-reform” leaves many Americans un- and under-insured and with variable access to affordable and quality care. In the background, extreme weather events inside the US and around the globe more frequently challenge communities and raise the prevalence and severity of infectious disease outbreaks. Great variations in PHA capabilities, funding, and approaches to prevention – along with a continuous rise in health care costs – hold back public health from advancing as far as it should have by 2035.

Scenario Details

In 2035, late-career public health officials can look back on a series of important successes for the field, while at the same time recognizing that the field never made it as far as it should have.

The two decades leading to the year 2035, were largely characterized by recurring political, fiscal and health challenges. Virtually all states and territories continued to face severe fiscal constraints. The economy grew only slowly, marked by mild recessions in 2021 and 2028 and rising structural unemployment as automation and knowledge technologies replaced human brains as well as brawn in millions of jobs. Furthermore, the 2020s saw the opioid epidemic ravaging families and communities across the US, and extreme weather events taking its toll on the nation’s health and wellbeing. Along the way, some cities and counties went bankrupt. Americans turned to collaborative consumption or peer-to-peer economic activities to help themselves and raise their self-sufficiency, though their outcomes varied and often raised unintended problems.

Meanwhile health insurance “re-reform” left many Americans un- and under-insured, especially in those states that had not expanded Medicaid before the ACA was repealed. As a result, Federally Qualified Health Centers (FQHCs), FQHC “look-alikes”, and hospital emergency departments remained as the major safety net providers in most states.

Furthermore, continued Medicaid spending caps in states and US territories created additional pressures on those jurisdictions to better manage care and seek cost reductions. Research studies showed that addressing the social determinants of health was far more cost effective in
reducing health care costs, improving community economies, and strengthening the overall wellbeing of populations, than investments in health care. Yet decisive and sustained investments to improve housing, education, and economic opportunity remained scarce.

PHA Funding: In this context, state and local public health agencies (PHAs) gained flexibility but with less money. Some federal programs were significantly reduced, others saw little increase. For example, funding for clinical services operated by PHAs was cut back because the programs were perceived of as duplicative (when they were not). Services cut included state childhood immunization, breast and cervical cancer, TB, and STI screening and treatment programs.

On the upside, there was more block-granting of categorical federal chronic disease programs. PHAs in some states thus moved to work further “upstream” in their prevention programs with their block granted (though reduced) funding. Their activities included providing parenting support and education for mothers as well as fathers, coaching to increase preconception health, and working to improve birth outcomes, lower obesity rates, and reduce injuries.

Agency Consolidation and Comparability: Moreover, the combination of fiscal pressures, automation of public health tasks, and the ability to serve communities in digital and virtual spaces led to more sharing of services and consolidation among local health departments to realize economies of scale and use declining resources most effectively. Along the way, some large counties and cities “acquired” neighboring health departments. PHAs were mandated in the 2020s to implement a uniform chart of accounts, to better demonstrate ROI and enable agency-to-agency comparability and quality improvements. Most PHAs simultaneously adopted the newly defined standards of foundational public health services. Both the new standards for services and the uniform chart of accounts supported legislative requests for PHA funding/costing of public health services.

In some states, agency and department reorganizations over the 2020s consolidated public health, human services, Medicaid, and behavioral health into single agencies – as various states had already done. In other states, these “super agencies” were split apart. Similarly, where public health clinics remained open, they were often consolidated units that served regions versus individual counties or cities. Some of these clinics also adopted a “Health Commons” model where oral health, medical, behavioral, social services are physically co-located and thus offer “one-stop shopping” for residents. While neither agency model seemed to predict better health outcomes, the co-location of direct services in low-income neighborhoods created significant synergies among service providers. Cultural competency, however, continued to be an issue in both the healthcare and public health communities.

Leadership: Serving as the “chief health strategist” for the state or local community became a major aspiration for many PHAs. Yet their capacity to serve and succeed in such a role continued to be determined by budget constraints, policy directions, and the political acumen of individual health officers. As a result, PHAs in some states retained or expanded their collaborations with partners in health care delivery, and economic development, to seek advances in education, employment, and low-income housing. But in other states, PHAs were
limited to providing only legislatively mandated services (e.g., infectious disease control, restaurant inspection, and emergency preparedness) and thus constrained their ability to be proactive and collaborative with multiple sectors.

The Patient Centered Medical Home and “Doc Watson”: In healthcare, most primary care providers adopted the patient-centered medical home (PCMH) model and payment models that reward improved outcomes and reduced costs at individual and system levels and sought to improve population health.

Care improvements included the ability to anticipate patients’ needs by routinely analyzing large pools of data, including genomic and biomonitoring data (often transmitted to the EHR from the patients’ smart phones and wearable devices). Patient diagnosis and prescriptions became more effective through the integration of medical, biomonitoring, and environmental data analyzed by cognitive computing tools, such as IBM’s “Doc Watson” and its successors. Most health care systems and community health centers also provided their patients with some form of digital health coach that used personal health information to help them make healthier choices in their daily lives. Unfortunately, variable access to care over the 2010s and 2020s left many patients unaffected by clinical care advances.

Population Health, Partnerships: Beyond clinical care improvements, many communities saw the rise of health care systems that sought to improve the health of their population, including by addressing the social determinants of health for their patients. This was part of those provider organizations’ commitment to the “Triple Aim” (better quality care, lower per capita cost, increased population health). For non-profit hospitals, it was also aided by their recurring requirement to do community health needs assessments and improve community health.

However, their relationships with PHAs for this purpose varied widely. On one end of the spectrum, health care systems joined in community coalitions led by effective PHAs to address community health and adopt the “Triple Aim of Health Equity”. At the other end of the spectrum, health care systems did not see the PHA as having much to offer in terms of cooperation, leadership, analysis or as a cost-effective supplier of programs. Many health care systems, particularly for-profit systems, focused on “hotspotting” as population health management, i.e., treating the highest-cost patients who consume the majority of the total health care costs.

Emergency Preparedness: As opportunities grew to guide population health efforts by healthcare, so did the need to fight the opioid epidemic and negative effects of environmental trends. The nation saw rising rates of Adverse Childhood Experiences (ACEs), substance misuse, abuse, and addiction, and associated economic burdens. Extreme weather events inside the US and around the globe such as droughts, floods, fires, tornadoes, hurricanes, more frequently challenged communities and raised the prevalence and severity of viral, bacterial, and vector-borne infection outbreaks such as Lyme disease and dengue fever. PHAs often had to coordinate care among overcrowded emergency rooms, and when immunization records were destroyed in physician office fires or flooding and similar disruptions.
PHAs tried to comprehensively address these challenges as best they could. Thus, most consistently PHAs saw their role in emergency preparedness and response expand significantly. Many used ever better games and simulations to engage and prepare their communities for various types of emergencies. PHAs also recruited entry-level and community health workers from the most affected populations and communities. Others sought to leverage market mechanisms (e.g., crowd-sourced reviews) for preparedness and prevention or offer direct oversight of health aspects of the peer-to-peer economy.

**Informatics, Analytics:** To better prevent and control disease outbreaks, PHAs sought to automate their monitoring, inspection, and reporting activities by leveraging partnerships to increasingly pool information from a variety of public and private sources. In the process they focused on designing, approving, and controlling the quality of systems for these services, data streams, and analysis based on them, and on sharing information among community partners. Where their efforts were particularly successful, PHAs earned public recognition for their role and value in emergency preparedness and response.

Yet the adoption of technological advances remained coupled with serious concerns from data and cyber security breaches and lack of support for sustained maintenance of systems. These challenges thwarted many PHAs from taking advantage of the advances in health informatics being implemented by health care delivery partners.

PHAs in leading states, though, did seek to keep pace with the use of “big data” and advanced analytics to improve outcomes and communications in disaster preparedness, response, and recovery, as well as ongoing public health improvements. These PHAs ensured that the electronic health records (EHR) systems used by health care providers were interoperable and secure, and that aggregated data was accessible to PHAs among others. They also strongly advocated for privacy and discrimination protections, which were ultimately put in place.

Consequently, syndromic surveillance in many communities evolved to include predictive analytics and data from EHRs, biomonitoring, environmental monitoring, and other community sources. Personal health information in EHRs was integrated with data from environmental monitoring, social media, Medicare and Medicaid reimbursement, motor vehicle records, employment records, and other government sources. PHAs accessed the anonymized data through cloud computing services for health surveillance. This set up enabled, for example, public health nurses to use “tele-visits” and data from patient-worn and in-home biomonitoring, as well as access integrated data systems between health care providers and their patients in the community. Among environmental health workers, automation of monitoring, both ambient air and other neighborhood data, and in-office or in-building monitoring, allowed them to both see changes early as well as use predictive analytics to anticipate environmental problems and related health issues.

**Workforce, Partnerships:** PHAs required more technically savvy employees to manage the new data systems and advanced analytics as well as response to emergencies. Well-trained staff, however, were often at risk of being hired away to better paying jobs. Alternatively, many PHAs (particularly small offices, or those which could not share data or do advanced analytics) left big
data analytics to private sector contractors and local health care systems. In jurisdictions with supportive data-related laws and regulations, a number of health care systems had developed their own integrated data pools and robust insights about selected subpopulations.

In any case, PHAs that successfully harnessed the potential of increasingly complex and sophisticated analyses saw it strengthen their emergency preparedness, response, and recovery efforts. It also improved PHAs’ ability to target community needs, monitor health trends, provide better forecasts, and plan. For example, one emerging challenge for PHAs was the fact that next-generation social networking platforms facilitated intensive and continuous interaction among people, and this interaction often reinforced negative health behaviors. PHAs spent significant time and effort using advanced analytics to understand the social dynamics that played out in these networks and “nudge” the conversations toward better health. This included promoting individual and multiplayer games, school and community based “behavioral vaccines” such as Good Behavior Games, and monitoring the results. More generally PHAs collaborated with universities, health care providers and private companies to improve public health analyses and the design of public health services, and interventions aimed at individuals and behaviors.

**No Game Changers:** Despite the positive developments in technology and healthcare, the field of public health never saw any so-called “game-changers”. Big data analytics had proven useful in many contexts, including disease surveillance and health needs assessment. But it had not transformed society in the ways that some in the mid-2010s had expected. Genomic data was included in most EHRs, but it rarely provided a “smoking gun” for health researchers working on a specific disease or condition, or for population health researchers to identify useful genetic markers that positively affected prevention efforts.

As healthcare improved, there were no parallel improvements in the social determinants of health (such as housing, education, and economic opportunity) that would have been necessary to reduce health inequities, and the need for so much health care spending.

By 2035, public health had in fact made gains. Public health agency capacity to protect and promote health and prevent disease improved slowly albeit unevenly. Federal, state, and local health and other agencies, as well as non-profits and the business community, got better at environmental health protection and coordinating their preparation, response, and recovery. PHAs showed positive return on investment for many programs. Even some overall health outcomes improved, especially reductions in obesity and related chronic diseases.

But the continuous rise in health care costs had limited public health gains to half steps or “baby steps” and gains were not enjoyed equally in every jurisdiction or among different racial and ethnic groups. Health disparities persisted and in some cases widened. Annual “report cards,” “profiles,” and “health rankings” of local, state and territorial public health agencies continued to show the same states at the “top” and the “bottom” of the list.

In 2035 PHAs and public health leaders recognized that they still have a long way to go to improve population health, reduce disparities, and optimize their use of emerging technologies.
Scenario 2: Overwhelmed, Under-Resourced

Scenario 2 Highlights:

Funding cuts, a hostile political context, and information wars undermine the role and effectiveness of public health agencies (PHAs) that subsequently fail to attract talented young people. Public health crises grow worse and more frequent, largely due to environmental trends, and create short-term infusions of resources targeted to the problem. Yet the political “blame game” justifies further cuts in core public health functions. Private sector initiatives produce significant innovations for health and wellness. However, the most vulnerable populations cannot afford the new means for getting healthy, and fall further behind middle-class and affluent groups. Technological, economic, educational, and health disparities grow, and the institutions of public health have little capacity to do anything about them.

Scenario Details

Given how many Millennials$^1$ and Globals$^2$ obtained degrees in public health by 2035, it is shocking in retrospect how few young people actually chose to work in public health. But this might have been inevitable given the overwhelming problems in public health over the past two decades.

Funding was cut repeatedly at the federal, state, and local levels, including support for organizations like the Association of State and Territorial Health Officials (ASTHO) and others. When public health calamities erupted – such as a disease outbreak, an extreme weather event, food and water contamination – that affected a large swath of the middle and upper class, public health agencies (PHAs) bore the blame in massive public protests and legislative hearings and in the press for lack of preparation or ineffective responses. In a few, high visibility cases, State Health Officers were charged with involuntary manslaughter and misconduct in office. Politicians announced new funds to fight each problem, hire new “problem solvers” (often their friends from the private sector), and then undermined those very efforts the next fiscal year with budget cuts. No wonder so many young MPHs decided to apply their skills in the private sector where they could make better salaries.

Recessions and Reduced Spending: The situation outside the field of public health was not particularly rosy either. Severe recessions in 2023 and 2030 dashed the economic hopes for most Americans and shrank public budgets at the state and local levels. This meant less tax

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$^1$ The US generation born 1983-2002
$^2$ The US generation born beginning in 2003
revenue and the escalating unemployment rate meant that fewer individuals were on employer sponsored health care. As poverty increased, more and more people became eligible for WIC, SNAP and other programs, but funding was flat or decreased. Political polarization and one-upmanship continued to block any substantive legislation to expand health insurance or address major public health problems.

As a result, cities and states had to do more with less. Some cities declared bankruptcy. Many cities and counties scaled back the responsibilities of PHAs, some even replacing them with nonprofit institutions to lower cost.

There were also significant challenges to prevention efforts. As state and local revenue went down, some mandatory and entitlement spending on health care delivery went up and reduced discretionary funding for prevention. This cycle of spending on health care delivery to meet acute and urgent health needs shortchanged prevention that would ultimately have lowered costs in the long term.

Society, Technology, Health Care, Disparities: The economic recessions were mirrored by declining social conditions, especially for disenfranchised and low-income populations. Higher unemployment led to higher rates of depression, homelessness, substance abuse, violence, and crime. Chronic illness became more prevalent, while mental and behavioral health worsened.

Health disparities became even starker as safety nets were cut and access to health care declined. Behavioral health services, identified in the late 2010’s as a critical need for the future, never saw increased funding and access declined in most states after the ACA was repealed.

Furthermore, as smartphones, wearable devices, learning apps, and real-time social networking became staples of mainstream American life, they reinforced economic and educational disparities that undergirded many of the nation’s most critical public health challenges.

Similarly, clinical care improved in the early 2020s as personal biomonitoring technologies were integrated into the electronic health record (EHR) systems of many high-end health care systems. Patients who could afford the higher insurance and the biomonitoring tools gained access to enhanced real-time personalized care. But health care providers for most Medicaid patients and other populations were stuck with more primitive EHRs that improved little.

Even well-intentioned grassroots efforts exacerbated disparities. For example, more and more residents decided to take community matters into their own hands. With the aid of networked and smart devices, “citizen science” services and activities expanded and advanced throughout the 2010s and 2020s, particularly in surveillance and monitoring. However, most were in affluent neighborhoods while few such networks came from or focused on marginalized communities.
Misinformation, Distrust, Outbreaks: Social media and online network users in part fueled this regression by spreading misinformation and vitriolic propaganda against government programs, including public health. The rise of “tobacco deniers” (skeptics of the severe health consequences to tobacco use) and of “immunization deniers” (those refusing to be immunized or have their kids immunized), reflected the growing information wars and distrust of government, public health and the health care industry.

By 2020, this trend had ballooned out of control. A particularly virulent outbreak of measles occurred in several states, followed by a flu pandemic in 2022. Tens of thousands of people died as a result of the outbreaks.

PHAs had tried their best to address the escalating demand for instant and comprehensive response to these outbreaks, but they were underfunded, overworked, and too limited in their ability to communicate and coordinate with other governmental agencies and with residents. During the flu pandemic PHAs were unable to effectively analyze real-time data emerging in their communities and coordinate optimal vaccine distribution within and across cities and states.

As alarm spread across the nation, an exposé on “CDC Flunks Epidemiology” pressured Congress to hold more hearings and appropriate new funds for public health. But it was too little, too late. Budgets for preparedness had been flat lined for several years despite experts having predicted a severe flu outbreak in the early 2020s. The situation was further confounded by massive cyber security attacks that periodically left PHAs and service providers crippled and in general disarray as hundreds of PHAs and millions of individuals had personal and patient data stolen and computer systems disabled.

Distrust of PHAs: The flu pandemic disaster was paralleled by the failure to stop the opioid epidemic despite additional funding. This cemented the public perception of government agencies like PHAs as ineffective “nanny state” bureaucratic strongholds for people who liked telling others what to do and could not find jobs elsewhere.

This reputation made it all the harder for PHAs to gain access to EHR records and other data streams and to recruit and retain top people, making them even easier targets for budget cuts. PHAs had previously tried to improve their public image during the 2010s through the accreditation process. However, accreditation had failed to reach “critical mass” because many PHAs either could not afford the fees or could not provide all the services required to meet the standards for accreditation.

Chronic Disease, Disparities: The infectious disease outbreaks were paralleled by the added burden of the chronic disease epidemic that grew out of control in the 2020s. Yet PHAs lacked the funding and political support to prevent chronic diseases and improve community health. That is because for many inside and outside of public health, the historical familiarity of infectious disease provided a more understandable challenge than the more complex issues of
community health and social determinants that were driving the nation’s chronic disease burden.

For example, there were regressions in control of one particular major contributor to chronic disease: tobacco. The end of the Tobacco Settlement funds in 2025 was a death knell for many PHA-led anti-tobacco programs. The tobacco industry got some restrictions weakened and aggressively renewed its advertising and promotion efforts. In some states smoking bans in and around buildings were rolled back.

The failure to address the social determinants of health and related behavior also contributed to the dramatic rise of diabetes. Diabetes grew from 37 million in 2015 to 55 million by 2030 (including 13 million with the disease but not yet diagnosed). Childhood obesity contributed to this acceleration, leading to record high numbers of deaths – even among children as young as 12. This increase in diabetes in adults and children was further concentrated in African American and Hispanic populations.

New & Re-emerging Diseases: As the burden of chronic illness grew relentlessly during the 2020s, the attention of healthcare organizations and PHAs was diverted by the impact of environmental trends. By 2025, the cycle of droughts, floods, fires, tornadoes, and superstorms had increased and worsened. By 2030, accelerated global warming with significant ice melt/glacier reductions led to sea level rise of a staggering 14 inches over levels in the year 2000. Intensifying storms led to repeated historic flooding in many parts of the country in the 2020s. This flooding was regularly preceded or followed by periods of devastating drought, even in the same year. Meanwhile, warmer temperatures allowed the Aedes aegypti mosquito to extend its range.

The flash floods in many areas became more common and intense, frequently deterioration of buildings, roads, runways, and other infrastructure. Some towns and small cities were thus rendered completely uninhabitable within a matter of weeks. Many residents of low lying coastal regions of Florida, Virginia, Louisiana, Alaska, Puerto Rico, and US territories in the Pacific, were forced to evacuate so often that many simply relocated altogether, not returning to their original homes.

As energy blackouts grew more frequent in communities, they led to increased mold and mildew exposure and carbon monoxide poisoning (from overutilization of and damages to portable generators). Plus, heavier rains overtaxed the combined sewer systems (mixing waste water and storm drainage particularly in periods of heavy rains) in many cities and produced major outbreaks of gastrointestinal illnesses, food and water contaminations, and water-borne illnesses, killing thousands.

Increasingly antibiotic-resistant bacteria caused intense co-infections with new and re-emerging diseases, also resulting in more intense infections and even deaths from more “traditional” diseases. For example, in the summer of 2024, a robust strain of West Nile Virus emerged in seemingly unrelated parts of the nation. Some states also reported an increase in
malaria and dengue fever cases. Then the impact of Zika worsened as antibody-dependent enhancement (ADE) set up those people with antibodies from dengue and West Nile virus for more severe disease from Zika.

Meanwhile, conflicts intensified between states and within communities for food and water. Food and energy prices had soared as crops and livestock died from droughts, hotter summers, wildfires, and illnesses.

**Organization, Coordination:** In this tempest of highly complex challenges, health care organizations and PHAs struggled to prepare for and mitigate the physical and mental health impacts of economic declines, social unrest, and extreme weather. Many PHAs, downsized and deteriorated over the years leading to 2035. Local health departments – especially those serving rural areas – were consolidated, eliminated, or subsumed into other government agencies. Funding and workforce cuts further isolated PHAs and hampered the collective ability of state and local governments to partner and coordinate in addressing environmental, social, and economic factors underlying and shaping health. In most communities, PHAs simply retrenched to their “core”, providing basic or fundamental public health services – health inspections, infectious disease control and emergency preparedness. And for emergencies, PHAs could do little but provide some pre-disaster preparedness and inadequate post-event mitigation.

**Private Sector:** As the perceived value of PHAs further declined in the eyes of the public, talented young people with a public health education became disillusioned with the field and public service, preferring to work in the private sector rather than join a PHA and spend their career in demoralized offices responding to public criticism.

Some states looked to the private sector to apply newly available technologies to solve problems in both communicable and non-communicable diseases. The public supported such efforts to reallocate PHAs’ funding to private sector delivery. Similarly, many universities shut down their schools of public health in the 2020s. A few merged their public health schools and departments with their business schools.

With a steady supply of talented employees and investment capital, then, the private sector yielded innovative approaches to health challenges, particularly in advanced analytics, online health education, and preventive self-care. These innovations improved health for those with the ability to pay for them.

PHAs that remain by 2035 are often underfunded, isolated, and afraid of taking any chances that might subject them to further public scrutiny. Some of these agencies are led by the “cronies” of elected officials, or by physicians who no longer want to practice medicine but lack the financial resources necessary to retire. The health aspirations of the public are pursued not through the traditional public health establishment but through private sector innovations. These usually overlook the needs of the most vulnerable members of society, many of whom lack access to quality health care, effective prevention, and other public health services.
Scenario 3: Optimal Health for All

Scenario 3 Highlights:

National and local economies gradually grow, and new advances help households sustain themselves and improve health and wellbeing. Changes in values and demographics lead to health considerations in all policymaking and support for inclusion and fairness or equality of opportunity for all. Public health agencies use advanced analytics, gamification, and diverse partnerships to identify problems and opportunities, and catalyze and incentivize action to improve community health. While some disparities persist, the vast majority of U.S. residents attain greater opportunity for good health through quality improvements in housing, economic opportunity, education, and other social determinants of health.

Scenario Details

To be sure, the decades leading up to 2035 had their fair share of challenges. Yet opportunities for all to be healthy improved dramatically and public health played important roles in leading this transformation.

The late 20th and early 21st century saw the beginnings of a changing society. New technologies and ways of organizing had been producing encouraging results in many communities since the 1990s. As time progressed, a combination of political, economic and environmental challenges, evolving technologies, and changing values accelerated community transformations and advanced health and inclusion. The more conservative policies of the late 2010s led to a rebound in the 2020s, not only increasing public health program funding but also supporting changes in policies raising equity in housing, food, education, employment and beyond. There was also significant job loss to automation, as well as advances in low cost energy, home and community food production, distributed manufacturing (3D printing) that lowered the cost of living.

Changing Values, Demographics and Social Contract: Over the 2010s and 2020s, the nation’s working population changed rapidly. Baby Boomers retired from government and private sector jobs, making room for younger cohorts that brought innovation and new technologies for improving outcomes.

There was also a clear and surprisingly rapid growth of governmental and private sector support for fairness or equality of opportunity for all, particularly opportunity for optimal health. This included greater sensitivity to health equity and health disparities; more tolerant
attitudes towards lesbian, gay, bisexual, transgender, and questioning (LGBTQ) rights; and a stronger sense of the role of the social determinants of health in shaping our success in life.

By the mid-2020s, political scientists described a new social contract that had emerged in the US over the previous decade. Americans expected their government agencies to coach, lead, and cheerlead for fairness and inclusion. And while individuals’ personal health decisions would be respected, the default choice should be the healthy choice.

On their part, the people were overtly willing to pay taxes to support the government functions that they saw as relevant to the nation’s wellbeing. They also supported government efforts in using technologies to become transparent in its operations, to continuously innovate and be more cost-effective.

**Politics, Policy, Population Health:** The value shift and demographic change helped transform politics. Voters rewarded candidates that brought pragmatism and a “can-do” optimism to improve fairness and opportunity for the nation and its communities.

Disagreements remained on many issues, but shared understandings and a spirit of cooperation became the norm. This included agreement on the value of and support for collaborations across sectors to achieve mutually beneficial goals, and the aggressive implementation of the “Health in All Policies” approach. For this objective, state and local public health agencies (PHAs) were tasked to serve as “chief health strategists,” playing a major role in cutting across agencies and disease related “stovepipes” to stimulate collaborative health generation in their communities. (Where the Mayor or Governor wanted to take on the role of chief health strategist, the PHA provided effective support.) Congress adjusted legislation to allow PHAs to use up to 10 percent of their categorical program funding to develop their foundational capabilities and achieve accreditation.

Furthermore, Congress lifted its “gag orders” on politically challenging topics. This allowed the Centers for Disease Control and Prevention and other agencies to engage in research, advocacy, and program planning related to legal products (e.g., sugar and guns) that could harm health. Congress also granted more flexibility in federal categorical funding programs. These changes helped PHAs move from disease-specific programs to focus on population health while addressing local and state priorities.

**Economics and Alternative Economics:** In the background, the national economy resumed its slow growth, with minor recessions. Federal finances gradually improved, as did the finances for most states, cities and counties.

While the economy and public health funding improved, however, structural unemployment continued to grow. Globalization, automation, and knowledge technologies were fundamentally changing the economic reality for the United States. Robotics, 3D/4D printing, and digitization reduced many manufacturing and service jobs through the 2020s.
Declining revenues forced federal, state, and local government to spend smarter and to cut some programs and services. Income support payments increased as job loss to automation grew. Coordination of benefits across the Earned Income Tax Credit, TANF, SNAP and others brought millions out of poverty.

Many Americans also became more self-reliant by creating their own local livelihoods, producing food, trading services, manufacturing their own home goods and electronics. In some communities, Time Banks facilitated the trading of services and even aspects of the delivery of core public health functions; others were less formal as neighbors helped neighbors. Many people also joined collaborative consumption schemes to rent or share cars (e.g., Zipcar), bikes, and other goods rather than owning the items themselves. This community self-help was often ramped up after major environmental events, including Superstorms which occurred more frequently in the 2020s.

Overall, advances in in-home and in-community food production (from community gardening to high tech aeroponics and vertical agriculture, to 3D printed food and cultured meat); low cost solar and other sustainable energy production and storage; local printing/production of home goods including electronics – collectively called “abundance advances” – lowered the cost of living in low-income neighborhoods. Support for equity and inclusion gave rise to mixed income neighborhoods. Zoning changes allowed denser neighborhoods, and expansion of (very) low-income housing (often constructed using low-cost high-quality components 3D printed on site).

This more distributed economy often supported community members in crowd-sourcing and crowd-funding health improvement efforts that they deemed most important for their community. Many communities actively sought to improve social coherence by merging the interests of the wealthiest and poorest residents. These ultimately performed far better economically than those communities that maintained the status quo.

**PHA Organization, Standards:** PHAs increasingly drew on organizational tools and advanced informatics to transform how they operated. Smaller local public health agencies in many states were rationalized with shared services, task automation, virtual services, and generally realizing economies of scale. Most PHAs also implemented a uniform chart of accounts and achieved accreditation during the 2010s. These changes improved their ability to compare and learn from their peers in other jurisdictions, provide comparative cost analysis, and justify state and local funding.

**Smarter Health and Prosperity Partnerships:** PHAs also partnered with health care systems, universities, and citizen science networks, to explore the dynamics of health and prosperity. PHAs infused communications, metrics, predictive analytics, real-time simulations, and optimization efforts with data from a wide range of medical, social, behavioral, environmental, and economic sources in collaboration with their partners. Together they could now explore and share with others the implications of trends and quantify the costs of events using indicators such as lost work time and business income or reduced educational attainment.
Policies, programs, and expenditures could now be routinely assessed for their effectiveness and return-on-investment (ROI).

These modeling and analytics capabilities led to sweeping advances in epidemiology, community interventions, and the guidance of behavior change, helping significantly reduce the country’s chronic disease burden. Many types of inspections were automated, and integrated data allowed public health to use “predictive analytics” to anticipate and prevent problems using fewer and better trained PHA employees. (Similarly, advanced analytics and artificial intelligence capabilities were used to successfully predict cyber attacks and identify malicious actors before they struck.)

The evaluation of public health interventions became routine and regularly demonstrated the achievement of intended outcomes and positive ROI for health interventions and programs. The most effective interventions were the result of what local, state, and federal public health organizations did in conjunction with other agencies; organizations in health care delivery, housing, education, employment, economic development; and other community and business groups.

Increased Federal Funding for Public Health: As upstream investments in population health and prevention led to downstream savings in health care delivery programs, Congress, the Centers for Medicare & Medicaid Services, and state and local governments effectively shared part of these savings with PHAs. With public support, all levels of governments stabilized or increased public health funding and in the 2020s, Congress restored the Prevention and Public Health Fund to the $2 billion level originally called for when it was created. State health departments were tasked with distributing this federal revenue to communities for community prevention purposes.

PHAs as Health Development Agencies, Chief Health Strategist: Highly energized cohorts of public health leaders built on the growing consistency and effectiveness of PHAs throughout the 2020s to operate as “health development agencies”, the broader counterpart to the PHAs role as “chief health strategist” for the community. These PHAs were advising on the distribution of state and local spending for community prevention purposes, often leading the analysis of health problems and opportunities in partnership with universities, community partners and health care systems (particularly in their community health needs assessments). PHAs also facilitated community vision development and priority setting, that catalyzed action by multiple sectors. In the process, PHAs learned and applied innovation principles from each other and other sectors and organizations, and leveraged stakeholders and resources from other sectors to improve health and wellbeing.

Virtual Public Health Enterprise Shares Best Practices: Noting similarities to private franchise models, many leaders referred to the collaborative network of PHAs that developed in the early 2020s, as the “public health enterprise.” These PHAs:

- Have teams with the interdisciplinary training and skills needed to work with other analysts and stakeholders, target highly sophisticated and effective messages and
interventions, and support their agencies’ role in fostering and promoting prevention strategies. This includes systems and population perspectives and skills in advanced analytics, policy development, public health advocacy, and community engagement.

- Lead in the analysis and dissemination of best practices for community interventions, and in the identification of the most cost-effective and appropriate providers of a program or service. In some cases, the funds went to PHA programs. In most cases, however, they went to other community organizations or community development efforts.
- Have implemented a uniform chart of accounts and achieved accreditation. These changes improved their ability to compare and learn from their peers in other jurisdictions, provide comparative cost analysis, and justify state and local funding.
- Partner with health care systems, universities, and citizen science networks, to explore the dynamics of health and prosperity.
- Access data, employ predictive analytics, and conduct syndromic surveillance.
- Have, facilitate, and pursue shared community health visions.

Increased PHA funding because of success: Their move to become health development agencies and the resulting achievements in improving community health over the years to 2035 earned PHAs public recognition for their role as chief health strategists for their communities. Using their collaborative analyses and evaluations, PHAs had raised public consciousness of the social determinants of health and leveraged this consciousness to acquire additional resources for public health activities from the business community, foundations, and their local health care providers. Some developed “pay for performance options” that allowed gain sharing for effective health promotion that reduced health care costs.

Based on the leadership and evidence of effectiveness provided by PHAs, all levels of government ultimately realized that if budgets needed to be reduced, public health spending was too cost-effective to be cut. When public health spending ultimately had to be reduced, governments sought to minimize its cuts.

Improving Social Media: PHAs monitored web and mobile applications and other innovations and emerging knowledge technologies for quality, health promoting impacts, inclusiveness, and effectiveness in community engagement. Some larger PHAs partnered with leaders in academia, health care, and technology to develop methods for providing high quality health information in trustworthy, timely, and culturally sensitive ways, and for improving community health and personal health behavior through “peer uplift,” i.e., leveraging “peer pressure” or “friend pressure” in online engagement, which had proliferated as cities provided their own free wireless networks and as access to smart phones and data plans were subsidized.

Consumers and communities used social media to organize, evaluate, rate, and share activities and experiences across a wide range of areas. Over time, social networks, local health improvement initiatives, PHAs, and partners converged into a broad, national public health innovation network through which communities could exchange their innovations and best practices, and leverage the expertise of PHAs and their leaders. Such learning platforms helped
PHAs, community groups, local businesses, and health care providers to multiply their collaboration and effectiveness.

At the same time, however, there were widespread concerns about the quality of information being propagated on social media. People were as often impressed by the “wisdom of the crowds” as they were startled by the “insanity of the mob.” For health, food safety, and health care, then, the public increasingly looked to experts in PHAs and academia to help them distinguish good information from bad, and knowledge from opinion. For example, the public expected PHAs to aid Yelp!, Urban Spoon, their successors, and other consumer rating websites in maintaining quality-rating processes (which included the use of PHA-required safety monitoring data for restaurants and other organizations).

Community Resilience and Preparedness: One major use of community engagement tools was to address environmental health and disaster preparedness. Creative, flexible, and agile PHAs facilitated pre-event resilience games and simulations to minimize the potential costs and impacts of environmental disasters, such as the droughts, floods, heat waves, fires, and severe storms that were increasingly taking their toll on all parts of the country. Such PHA emergency preparedness activities reflected the broader “mind-change” that recognized the threat of extreme weather events.

The national commitment to mitigating the effects of extreme weather was also reflected in the results of community goal setting activities and growing support for Health in All Policies (HiAP). PHAs worked with citizens, businesses, policymakers, and various agencies to reduce environmental impact and expand renewable energy. This included establishing “no emissions” and “reduced emissions” zones in communities. PHAs also encouraged reduced reliance on cars and promoted anti-idling policies for vehicles; worked with private and nonprofit organizations to expand the number of hybrid and electric vehicles in communities; encouraged more biking, car-sharing, and ride-sharing; encouraged and provided quality control for automated and networked citizen science (monitoring and reducing toxins and pollutants); and fostered greater energy efficiency and renewable energy use in buildings and communities.

Emergency preparedness simulations and games helped community groups imagine and practice roles they could play in disaster response. These efforts proved important in 2024, after Superstorm Richard pounded the coasts of Delaware, New Jersey, and New York. Together with community groups and other responders in the region, members of the Tri-State Time Bank led in quickly collecting, distributing, and delivering food and supplies, and in getting homes and apartments ready for reoccupation.

Universal Health Care and Community Centered Health Homes: In health care, the ACA was repealed and replaced in the late 2010s, but in the 2020s there was more successful effort to create universal access. Nearly all US residents gained access to capitated and effective health care by the mid-2020s, incentivized to improve the patient experience of care (including quality and satisfaction) and the health of populations, as well as to reduce the per capita cost of health care. Preventive services no longer required co-pays. Primary care evolved to the
“Community-Centered Health Home” model where health care providers—particularly large health care systems—worked to improve population health.

Research and evaluation drew on the spread of electronic health record (EHR) systems that collected genomic, biomonitoring, and socioeconomic data. PHAs used EHRs to identify groups and neighborhoods whose social, genetic, and environmental risks could be addressed through targeted prevention strategies. Medicaid-managed care pilots pioneered related analyses and in the 2020s the agency funded or supported community interventions related to the social determinants of health that showed outcomes. PHA targeting was used in many of these pilots. Health care providers used this integrated deep individual level and community level analytics to direct their funding priorities for population health strategies.

As care and access thus improved, federal funding was mostly cut for public health programs flowing through PHAs for screening and treatment. Some PHAs, particularly in physician shortage areas, continued to receive funding to provide supportive services in person or via telehealth (practitioner to patient) and Project ECHO (practitioner to practitioner), for HIV/AIDS, maternal and child health, and primary care (for the small percent of those still lacking access to health care).

Public Health 3.0: Taken together, in the decades leading up to 2035 public health had been upgraded from categorical, fragmented Public Health 2.0 organizations to nimble and collaborative Public Health 3.0 enterprises that accelerated achievements in outcomes and the creation of opportunities for all to be healthy. These shifts in technology, health care, social media, and the roles of residents and public health, called for a new kind of public health worker with the systems and population perspectives needed as well as skills in advanced analytics, policy development, public health advocacy, and community engagement.

With a national commitment to prevention and a seat locally for public health at nearly every policy making table, PHAs lead coalitions of stakeholders in the health, social, economic, and environmental sectors that enhance community health. For example, they work with developers and urban planners to ensure the availability of safe, attractive places where people can be physically active and, where environmental disaster strikes, in rebuilding better than before with health in mind as recovery takes place. They foster mixed-income neighborhoods, entrepreneurship, and job matching and training programs, as well as self-production and community co-production. PHAs also work with app and game developers and health care providers to ensure that new technological developments are made trustworthy, affordable, user friendly and culturally appropriate for vulnerable populations. At their best, PHAs promote resilience, hope, and perseverance at all levels in ways that build and reinforce equity.

In 2035, Americans celebrate the movement toward a healthier and more just society. There are still gaps and economic injustices. However, thanks to the strategic leadership of PHAs and shared community visions for the future, families and communities across the US are ready to lean in and continue building a nation where all Americans can enjoy living healthy, productive, and meaningful lives, where everyone gets a fair shot at optimal health.
### Scenario Matrix
The following pages offer a side-by-side comparison of the scenarios across multiple dimensions. Each column is consistent with but not solely duplicative of the respective scenario.

<table>
<thead>
<tr>
<th>Scenario Matrix</th>
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<tbody>
<tr>
<td><strong>Scenario #1</strong></td>
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<tr>
<td><strong>MACRO ENVIRONMENT</strong></td>
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<tr>
<td><strong>National Economy and Tax Policy</strong></td>
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<td><strong>State, Territory, and Local Fiscal Health</strong></td>
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<tr>
<td><strong>Internet and Social Media</strong></td>
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<td>Scenario #1</td>
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<tr>
<td><strong>M A C R O  E N V I R O N M E N T</strong></td>
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<tr>
<td>Social networking platforms often reinforce negative health behaviors, and increase access to internet-based healthcare services. Variable success with integrating and maintaining Internet of Things (IoT). Where it is done well, it does enhance social and environmental monitoring.</td>
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<tr>
<td><strong>Environmental Threats and Impacts</strong></td>
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<tr>
<td>More frequent and intense weather swings, extremes in U.S. and around the globe, including hotter and drier summers, floods, tornadoes, occasional superstorms. Increased prevalence and severity of viral, bacterial, vector-born outbreaks; multiple pandemics. Increased prevalence of cancers, mental and behavioral health problems, asthma, chronic diseases.</td>
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<tr>
<td><strong>Health Care Quality, Access, and Affordability</strong></td>
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<tr>
<td>Number of uninsured and underinsured rise. Opioid crisis drives integration of behavioral health services.</td>
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<td>Scenario #1</td>
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<tr>
<td><strong>MACRO ENVIRONMENT</strong></td>
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<tr>
<td>Most primary care providers adopt Patient-Centered Medical Home and payment models aligned with Triple Aim.</td>
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<tr>
<td>Variable access to care; increased use of ER and FQHC, and digital health coaches; policies support and define telehealth and healthcare extenders, including reimbursement for these services/roles. Where available, electronic health records (EHRs) are interoperable and secure, integrate genomic biomonitoring data, public health pharmacy.</td>
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<tr>
<td>Health and Health Equity Outcomes</td>
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<tr>
<td>Some overall health outcomes improve, especially reductions in obesity and obesity-related chronic diseases. But chronic disease prevalence increases overall. Health disparities persist and in some cases, widen.</td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
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<tr>
<td><strong>Funding for Public Health</strong></td>
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<td><strong>Federal Funding</strong></td>
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<tr>
<td><strong>State and Local Funding</strong></td>
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<tr>
<td><strong>Philanthropy, Foundations and Other Funders and Support</strong></td>
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<td>Scenario #1</td>
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<tr>
<td><strong>Public Health Agency Role in Health Care Delivery and with Health Care Providers</strong></td>
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<td><strong>Health Care Providers' Role in Population Health</strong></td>
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<tr>
<td><strong>Public Health Agency Role in Health Aspects of Gig Economy</strong></td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
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<tr>
<td>broad access to crowd-sourced reviews of services.</td>
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<tr>
<td><strong>Public Sentiment on, Understanding of Government, and Public Health</strong></td>
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<tr>
<td><strong>Surveillance and Epidemiology</strong></td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
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<tr>
<td><strong>Emergency Preparedness, Response, and Recovery</strong></td>
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<tr>
<td><strong>Environmental Health/Safety Inspections</strong></td>
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<td>Scenario #1</td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
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<tr>
<td>Injury and Violence (incl. gender and sexual violence) Prevention</td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
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<tr>
<td>E-Cigarette and Tobacco Control and Prevention</td>
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<td>Chronic Disease Prevention</td>
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<tr>
<td>Businesses incentivize employees and some communities to work on prevention to lower health care costs.</td>
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<tr>
<td>PHAs guide community benefits investments to address housing, education, neighborhood safety, physical activity, and access to food.</td>
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<tr>
<td>PHAs research dynamics of social media/social networks, find ways to “nudge” them for better health.</td>
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<td>Scenario #1</td>
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<tr>
<td><strong>Health Equity Promotion</strong></td>
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<tr>
<td><strong>Evaluation, ROI and Effectiveness of Public Health Interventions and Programs</strong></td>
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<tr>
<td><strong>IT and Informatics</strong></td>
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<td>Scenario #1</td>
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<tr>
<td><strong>PUBLIC HEALTH</strong></td>
</tr>
<tr>
<td>In leading states and cities, PHAs keep pace with big data analytics, use it to target community needs, monitor trends, and make better forecasts.</td>
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<tr>
<td>Smaller PHAs, where they have the funds, rely on private contractors and local health care systems to provide “big data” analyses.</td>
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<tr>
<td><strong>PHA Workforce</strong></td>
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<tr>
<td>More than half of state-level public health staff in 2035 hold a graduate degree.</td>
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<td>Entry-level and community health workers are recruited from the most affected populations and communities.</td>
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<tr>
<td>Well-trained staff are often hired away to better paying jobs.</td>
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<td>Scenario #1</td>
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<tr>
<td><strong>Accreditation</strong></td>
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Scenario Workshop Toolkit and Discussion Guide

for Use in State and Territorial Public Health Planning

What is the future for public health?

What is your vision for public health?

Are your assumptions accurate?

Will your strategies be successful?

Public health agencies and others can use this toolkit and discussion guide to conduct their own scenario workshop and consider the implications of the Public Health 2035 scenarios for their own strategies and operations.

This section includes:

▪ Pre-Workshop Decisions
▪ Group Assignment Instructions
▪ Agendas and Instructions
▪ Considering Scenario Likelihood & Preferability Polling Form
▪ Small Group Instructions
▪ Small Group Response Template

Pre-Workshop Decisions

WHAT ARE YOUR OBJECTIVES FOR THE WORKSHOP?
First, are you using the workshop to consider the implications for your agency/department, a subunit of the department, and/or your governmental partners and community partners? Who or what is the focus for this scenario workshop?

Second, what are the objectives or questions you want to explore using the scenarios? You will use the three Public Health 2035 scenarios to consider the implications or responses in each scenario. Below are several questions that you can use, adjust, or add onto.

▪ What are the range of forces, challenges, and opportunities shaping public health?
- What are the implications for my organization in different scenarios?
- How should my organization adjust to or pursue its strategies in the different scenarios?
- What leadership roles should my organization play in the different scenarios?
- Are our current goals achievable in each scenario? Will our strategies be successful in the different scenarios? In each scenario, how would the goals need to be adjusted?

**WHAT SHOULD BE THE FOCUS OF THE IMPLICATIONS DISCUSSIONS; WHAT ARE YOUR CURRENT DIRECTIONS AND STRATEGIES?**

What are your current directions, strategies, or goals for you, your team, your organization, or your workshop participants as you explore the implications of each scenario?

**HOW LONG SHOULD THE WORKSHOP BE?**

Can you devote four hours or 6 hours (7 if you don’t have a working lunch) to the workshop? The longer version provides participants with more time to “step into” and absorb the scenarios.

**HOW WILL YOU PRESENT THE SCENARIOS?**

Ask one or more of your participants to become familiar with the scenarios in advance, and present them and answer questions about them. For example, you may have three people assigned to this task, with each presenting one of the three Public Health 2035 scenarios but all having read all three scenarios. You may then assign the same individuals to the small groups tasked later in the workshop to discuss that particular scenario in more detail. Also consider recruiting a group facilitator and reporter for each small group in advance.

**WHOM WILL YOU INVITE TO THE WORKSHOP?**

The workshop can be successful with 3-100 people or more. Whom would you like to include in the workshop? For example, your partners and staff; leaders and staff of organizations from other sectors; leaders, members, and staff of an association; and leaders, staff and community partners? Keep in mind that this is a learning opportunity, a significant professional development experience, and that the discussions – particularly across departments and community partners – have led to novel partnerships and activities.

**ASSIGNING PARTICIPANTS INTO SMALL GROUPS**

Divide participants into small groups, seated at the same table from the beginning of the day. Depending on the number of participants, each group can consist of 3-15 people. Assign participants to groups so that there is a mix of leaders, staff, and other types of participants. If you have more than three groups, you can have two or three groups focused on the same scenario but you will need to allow more time for presenting and comparing the results. (For example, if you have 90 people, at 6 tables of 15 each; then there would be two tables each presenting results from Scenario 1, Scenario 2, and Scenario 3 – see below for suggestions on how to facilitate this.)
Full Day Agenda and Instructions

9:00 Welcome and Introduction
- Review workshop agenda and objectives for your organization
  - Describe the handouts
- Have participants introduce themselves

9:30 Three Public Health 2035 Scenarios
- Review each of the scenarios (10 to 12 minutes per scenario)
  - For each scenario, have someone present the scenario and then have participants review the text and matrix for that scenario. Briefly discuss the scenario and answer questions, if any.
  - Respond to questions after having reviewed all of the scenarios (5min)
- Have each participant complete the Considering Scenario Likelihood & Preferability polling form (5min)
  - Collect and process the results while the group continues with the agenda. Calculate the average rating for each scenario for both likelihood and preferability, and share the results later during the full group discussion.
  - Note: a frequently asked question is whether the likelihood and preferability columns need to sum to 100. The answer is no. Score each scenario independently, and the sum might be more or less than 100.
  - Have one or two people collect the polling results, compute the results, and record these results on a flip chart or slide.

10:30 Break

10:45 Small Group Instructions
- Present the "Instructions for Small Groups" provided in this toolkit.
- Recruit a group facilitator and reporter for each group. Have the reporters take notes on a laptop or using a flip chart or notepad. The reporters will be turning in their notes of the discussions.
- Assign each group one of the scenarios to explore a scenario in detail and consider the implications for your organization or community.

11:00 Small Group Discussion
- Each group “steps into” and considers its assigned scenario.
- Each group completes the Small Group Response Template for its assigned scenario.

12:00 Lunch
- This can be a working lunch, where each small group gets its lunch and continues working, or a specified lunch break of 30 to 60 minutes.
Small Group Discussion (cont.)

Full Group Discussion

- Each small group has 5 minutes to present its report on implications of their scenario and answer questions about their scenario or reports. (about 30 minutes total)
  - Facilitator for the full group instructs participants to be listening for strategies that are “robust,” i.e., that work in two or more scenarios.

- The full group identifies and discusses the similarities or differences in the small group answers across the scenarios and specifically identifies what strategies are “robust,” i.e., that work in two or more scenarios.
  - At least one reporter records the discussion, particularly the “robust” strategies.

- Then the full group considers the following:
  - Are there any current strategies that would be counterproductive in one or more of the scenarios?

- Given the discussion, stepping back from the three scenarios, in light of the “robustness” or not of your current strategies, are there strategies or actions that should be recommended and pursued?

- Present and discuss the results from the "Considering Scenario Likelihood & Preferability" exercise.
  - Refer to the slide or flip chart that the reporter has used to capture these results.
  - Interpreting the ratings:
    - 100% for likelihood means that it is 100% certain to happen, 0% means it never will; 100% for preferability means that it is totally preferable; 0% means there is nothing desirable or preferable about this scenario.
    - Expect likelihood ratings to be higher for Scenario 1, which was developed and written to represent the most likely of the three.
    - Scenario 2 offers a challenging future and Scenarios 3 offers a visionary alternative. Expect preferability ratings to be higher for Scenarios 3, which was developed and written to represent the most preferable among the three.
    - Obviously, the future is uncertain, and in your organization’s planning, it would be wise to consider the challenges of Scenarios 1 and 2 as well as a more successful path found in Scenario 3.
    - Planning for the most likely future tends to reinforce it. This is a suboptimal use of energy and resources. The discussion of robust strategies gives a better sense of strategies that would yield results that are more positive.
  - Do participants agree on the preferability of each scenario? If there are disagreements, where do people disagree?
Discuss as a full group whether your organization’s current planning or activities will be effective in the likely scenarios.
  - If one of the other futures comes about, what would you be ready to do?
  - Should you – through your strategies, programs, or other actions – help create the preferable scenarios or make them more likely? What would that take?

3:30 Next Steps

- What are the relevant next steps, given the recommendations?
- Are there any new or enhanced partnerships that should be pursued?
- How does the Department remain aware of the major forces shaping public health and your work, including using these scenarios?
  - One possibility: Every 6-12 months, your organization should ask itself, “Toward which of these scenarios are we headed?” You will have signposts identified by the groups for each scenario. You can assign relevant members of the organization to monitor for these “signposts”.
  - Note to participants that to some extent, all organizations observe what is happening in their environment; some organizations do this scanning more systematically. The signposts give additional specific development to monitor.
- Having a one- or two-hour session every 6 months allows your organization to keep learning and to improve its thinking about your directions and the contingencies you need to consider.

4:00 Adjourn
Half Day Agenda and Instructions

9:00 Welcome and Introduction
- Review workshop agenda and objectives for your organization
  - Describe the handouts
- Have participants introduce themselves

9:20 Three Public Health 2035 Scenarios
- Review each of the scenarios (10 to 12 minutes per scenario)
  - For each scenario, have someone present the scenario and then have participants review the text and matrix for that scenario. Briefly discuss the scenario and answer questions, if any.
  - Respond to questions after having reviewed all of the scenarios (5min)
- Have each participant complete the Considering Scenario Likelihood & Preferability polling form (5min)
  - Collect and process the results while the group continues with the agenda. Calculate the average rating for each scenario for both likelihood and preferability, and share the results later during the full group discussion.
  - Note: a frequently asked question is whether the likelihood and preferability columns need to sum to 100. The answer is no. Score each scenario independently, and the sum might be more or less than 100.
  - Have one or two people collect the polling results, compute the results, and record these results on a flip chart or slide.

10:00 Small Group Instructions
- Present the "Instructions for Small Groups" provided in this toolkit.
- Recruit a group facilitator and reporter for each group. Have the reporters take notes on a laptop or using a flip chart or notepad. The reporters will be turning in their notes of the discussions.
- Assign each group one of the scenarios to explore a scenario in detail and consider the implications for your organization or community.

10:15 Small Group Discussion
- Each group “steps into” and considers its assigned scenario.
- Each group completes the Small Group Response Template for its assigned scenario.

11:15 Full Group Discussion
- Each small group presents a summary from its discussion on implications of their scenario. (5 minutes per group)
  - Facilitator for the full group instructs participants to be listening for strategies that are “robust,” i.e., that work in two or more scenarios.
The full group identifies and discusses the similarities or differences in the small group answers across the scenarios and specifically identifies what strategies are “robust”, i.e., that work in two or more scenarios.

- At least one reporter records the discussion, particularly the “robust” strategies.

Then the full group considers the following:

- Are there any current strategies that would be counterproductive in one or more of the scenarios?

Given the discussion, stepping back from the three scenarios, in light of the “robustness” or not of your current strategies, are there strategies or actions that should be recommended and pursued?

Present and discuss the results from the "Considering Scenario Likelihood & Preferability" exercise.

- Refer to the slide or flip chart that the reporter has used to capture these results.
- Interpreting the ratings:
  - 100% for likelihood means that it is 100% certain to happen, 0% means it never will; 100% for preferability means that it is totally preferable; 0% means there is nothing desirable or preferable about this scenario.
  - Expect likelihood ratings to be higher for Scenario 1, which was developed and written to represent the most likely of the three. Scenario 2 offers a challenging future and Scenarios 3 offers a visionary alternative. Expect preferability ratings to be higher for Scenarios 3, which was developed and written to represent the most preferable among the three.
  - Obviously, the future is uncertain, and in your organization’s planning, it would be wise to consider the challenges of Scenarios 1 and 2 as well as a more successful path found in Scenario 3.
  - Planning for the most likely future tends to reinforce it. This is a suboptimal use of energy and resources. The discussion of robust strategies gives a better sense of strategies that would yield results that are more positive.

11:45 Next Steps

- What are the relevant next steps, given the recommendations?
- Are there any new or enhanced partnerships that should be pursued?
- How does the Department remain aware of the major forces shaping public health and your work, including using these scenarios?
  - One possibility: Every 6-12 months, your organization should ask itself, “Toward which of these scenarios are we headed?” You will have signposts identified by the groups for each scenario. You can assign relevant members of the organization to monitor for these “signposts”.


Note to participants that to some extent, all organizations observe what is happening in their environment; some organizations do this scanning more systematically. The signposts give additional specific development to monitor.

- Having a one- or two-hour session every 6 months allows your organization to keep learning and to improve its thinking about your directions and the contingencies you need to consider.

12:00 Adjourn
Please use the grid below to assess the likelihood and preferability of each scenario separately.

1. 100% refers to highly likely or preferable.
2. 0% means there is nothing desirable or preferable about a particular scenario.
3. Percentages can be from 0 to 100 in each cell.

<table>
<thead>
<tr>
<th></th>
<th>Likelihood</th>
<th>Preferability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1:</strong></td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Improved Health,</td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>But Disparities</td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Persist</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Scenario 2:</strong></td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Overwhelmed,</td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Under-Resourced</td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td><strong>Scenario 3:</strong></td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>Optimal Health for</td>
<td>0 to 100</td>
<td>0 to 100</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A. Facilitators for each small group review objectives, agenda, roles and responsibilities.

**Objectives**
- Step into the scenario, understand it
- Consider the greatest changes and implications
- Develop recommendations assuming this scenario will occur
- Identify signposts that indicate movement toward this scenario

**Agenda**
- Distribute copies of the small group template to each group and review

**Roles and the Responsibilities**
- Determine reporter/recorder. Ask a volunteer to take notes and report small group results to the full group.

Facilitator: remind participants that each scenario includes the following components: scenario highlights, a detailed narrative describing how that scenario came to pass, and a scenario matrix that presents the scenarios side-by-side. Have participants review the column of the matrix that relates to their scenario.

B. Brainstorm answers to the following questions.

   (If time is short, skip to questions 3, 4, and 5 on implications and recommendations.)

1. What are the greatest changes in this scenario? (5min) Facilitator writes keywords on flip chart.
2. What signposts, headlines would indicate movement toward these scenarios? (5) E.g., headlines for digital health coaches, severe budget cuts, reductions in obesity.
3. What are the implications for your health department? (15)
   - Considering your current goals and strategies, how successful will they be in this scenario? Would you have to add or change your strategic priorities and/or approaches?
   - How would this scenario impact your department’s workforce in terms of size, capacity, and/or scope?
4. What are the major implications for other stakeholders in this scenario? (15) E.g., residents, community organizations, educational institutions, professional associations, researchers, clinicians, policy-makers, third-party payers, and government. Consider stakeholders both inside and outside the traditional health sector.
5. What recommendations would you make in the context of this scenario? (15) Identify in the recommendation who should do what and, as relevant, by when.

C. Reporter identifies the key points he or she will present from the discussion.
1. **What are the greatest changes in this scenario?**

2. **What are the signposts that would indicate we are heading toward this scenario?** (What event or news media headline would indicate we are headed toward this scenario?)

3. **What are the implications for your health department?**
   Given your current goals and strategies, how successful will they be in this scenario? Would you have to add or change your strategic priorities and/or approaches?

   How would this scenario impact your department’s workforce in terms of size, capacity, and/or scope?

4. **What are the major implications for other stakeholders in this scenario?**
   (E.g., residents, community organizations, educational institutions, professional associations, researchers, clinicians, policy-makers, third-party payers, and government. Consider stakeholders both inside and outside the traditional health sector.)

5. **What recommendations would you make in the context of this scenario?**
   (Identify who should do what, when)
Patient Centered Medical Homes
Health Care Innovation
- Excellent Care
- Lower Cost
- Increased Population Health

Public Health Agency
Gains in public health, but costs continue to rise. Automation shrinks public health workforce. PHAs consolidate and share.

Scenario 1
Improved Health, But Disparities Persist

Re-Reformed Health Care
Triple Aim

Electronic Health Records
* Data Flows *

EHRs
* * *

In some states many have great primary care through PCMHs

Patient-Centered Medical Home
Teams of Providers

Welcome!
We've anticipated your needs!

Data Pools

Public Health Agency
Gains in public health, but costs continue to rise. Automation shrinks public health workforce. PHAs consolidate and share.

Variable access to affordable and quality care

Biometrics

Reduced funding to PHAs but greater flexibility

Electronic health coach

Walkable Community

Safety

Data Optimization

Predictive Analytics

Environmental Monitoring

Biomonitoring Data

Extreme Weather

Opioid Epidemic

Emergency Preparedness

Fiscal Pressure & Deficits

Automation

Outbreaks overcrowding

Re-Reformed Health Care

Triple Aim

Electronic Health Care

- Excellent Care
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Welcome!
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Data Optimization

Predictive Analytics

Environmental Monitoring

Biomonitoring Data

Extreme Weather

Opioid Epidemic

Emergency Preparedness

Fiscal Pressure & Deficits

Automation

Outbreaks overcrowding
SCENARIO 2
Overwhelmed, Under-Resourced

Unable to Afford Healthcare
Poverty and Distrust

Severe Recessions

Technological Advances

Limited Resources

Recurring Extreme Weather Events

Bad Air Quality

Health Regression

Healthcare

Flu Pandemics, Dengue & Other Outbreaks

Infrastructure Deteriorating

Homelessness

Distrust Government

Protests

“nanny state”

Understaffing

Underfunding

Layoffs

Cuts to Prevention

Refugees

Carbon Monoxide Poisoning

Mold

Mildew

Private Sector

Life Is Good for Some, not Others

Citizen Science Networks

Low-income Communities Cut Off from Better Future

False Propaganda

Defenders

Limited Resources

Funding Cuts & Some City Bankruptcies

Toxin Contamination

Low-income Population Suffers Most

Violence

Disparities

Overwhelmed, Under-Resourced

High Seas

Low-income Population Suffers Most

Mildew

Mold

Carbon Monoxide Poisoning

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Low-income Population Suffers Most

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High Seas
SCENARIO 3
Optimal Health for All

- Environmental justice
- Social justice
- Health Equity
- Near Universal Healthcare

- Partner with Business
- Support Social Movements
- Funding $$
- Partner with Community

- Health care supports population health
- CCHHs

- Abundance Advances
- CHIEF HEALTH STRATEGIST
- Facilitating Community Transformation
- Advanced Analytics
- Quality Assurance
- Health in All Policies (HiAP)

- Public Health Funding Streams
  - Prevention Fund
  - Increased Federal Funding
  - More Flexibility
  - Increased State & Local Funding

- National Public Health Enterprise
  (consistent services, accounting, comparability)

- Personal Health Data
- Gamification

- My Health
- Abundance Advances
- Food Production
- Sharing Services
- 3D Printing

- Low-Cost Energy
- Community Centered Health Homes
- Emergency Preparedness, with Enhanced Resilience

- Support for Health, Fairness & Inclusion
- Helping Low-Income Populations

- New Social Contract Fueled by Demographic & Attitude Changes

- Successful Pursuit of Health, Fairness, Inclusion

- Health in All Policies (HiAP)

- We’re here for you and your community