Population Health Implications of the Affordable Care Act

Workshop Summary

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ACRONYMS

ABIA	Austen BioInnovation Institute in Akron
ACA	Affordable Care Act
ACC	Accountable Care Communities
ACO	Accountable Care Organizations
BMI	body mass index
CCO	Coordinated Care Organization
CDC	Centers for Disease Control and Prevention
CHNA	community health needs assessment
CHW	community health worker
CMS	Centers for Medicare & Medicaid Services
CPPW	Communities Putting Prevention to Work
EHR	electronic health record
FQHC	federally-qualified health centers
IOM	Institute of Medicine
IRS	Internal Revenue Service
ONC	Office of the National Coordinator for Health Information Technology
NACCHO	National Association of County and City Health Officials
SCHIP	State Children's Health Insurance Program

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Overview

This is an auspicious time in our history to be discussing the nexus between health care and population health in the context of health care reform, said George Flores, planning committee co-chair and Program Manager for The California Endowment. To drive home that point he quoted President Barack Obama, who said, "Simply put, in the absence of a radical shift towards prevention and public health, we will not be successful in containing medical costs or improving the health of the American people." Although there is no precise definition of population health, Flores continued, it can be viewed as an approach that treats the population as a whole (including the environmental and community contexts) as the patient. Citing an Institute of Medicine (IOM) report, he framed the nexus between health care and population health as the application of health strategies, interventions, and policies at the population level in a way that can advance current approaches to the nation's most pressing health concerns more efficiently than is possible with isolated, intensive, individual-level actions within the clinical care sector (IOM 2011).

After reviewing previous and ongoing IOM activities pertinent to the workshop topic,[1] Flores noted that the Affordable Care Act (ACA) provides unprecedented resources to prevent illness and keep people healthy and includes, for the first time, a National Prevention Strategy. Although the ACA will take years to produce results, it could be generations until resources for population health such as those reflected in the legislation re-appear. Along the way, the ACA presents the opportunity to realize what Flores called the "health dividend" by transferring funds now spent on medical care to social and infrastructure investments that can both stabilize the nation's fiscal health and improve the well-being of it citizens. Today, 97 percent of national health expenditures go to health care services, with only 3 percent going to prevention even though the biggest determinants of health are not medical care or even genetics, but rather, behaviors and environmental factors (Bipartisan Policy Center, 2012). "Health largely depends

[1] Activities include the reports *Quality Measures for Population Health and the Leading Health Indicators* (2013); *Primary Care and Public Health: Exploring Integration to Improve Population Health* (2012); *Living Well with Chronic Illness: A Call for Public Health Action* (2012); *An Integrated Framework for Assessing the Value of Community-Based Prevention* (2012); *The Best Care at Lower Cost: The Path to Continuous Learning Health Care in America* (2012); *For the Public's Health: The Role of Measurement in Action and Accountability* (2011); *A Population-Based Policy and Systems Change Approach to Prevent and Control Hypertension* (2010); an IOM workshop summary, *Interprofessional Education for Collaboration: Learning How to Improve Health from Interprofessional Models across the Continuum of Education to Practice – Workshop Summary* (2013); and the IOM Roundtable on Health Literacy and Roundtable on the Promotion of Health Equity and the Elimination of Health Disparities.

on conditions where we live, learn, work, and play, not just on the medical treatment we receive," said Flores. "Health is not just in pills and surgeries and hospitals. We need to think more broadly than that."

A more productive approach to thinking about health comes from considering it in the context of the social ecology model that the state of California uses. This model consists of four domains—the social milieu, the community, the family, and the individual (see Figure 2-1)—and it reflects the importance of socioeconomic factors, public health interventions, and health awareness education as key determinants of individual health. Flores said the ACA is creating opportunities to deal with each of these domains and providing incentives for developing innovations that will shift healthcare from today's high-volume and high-cost health care system focused on personal service to a future system that stresses healthy lifestyles and healthy environments. In his view, achieving this transformation is essential if the nation is to reduce morbidity and enable people to live longer, healthier lives through a sustainable investment in individual medical care.

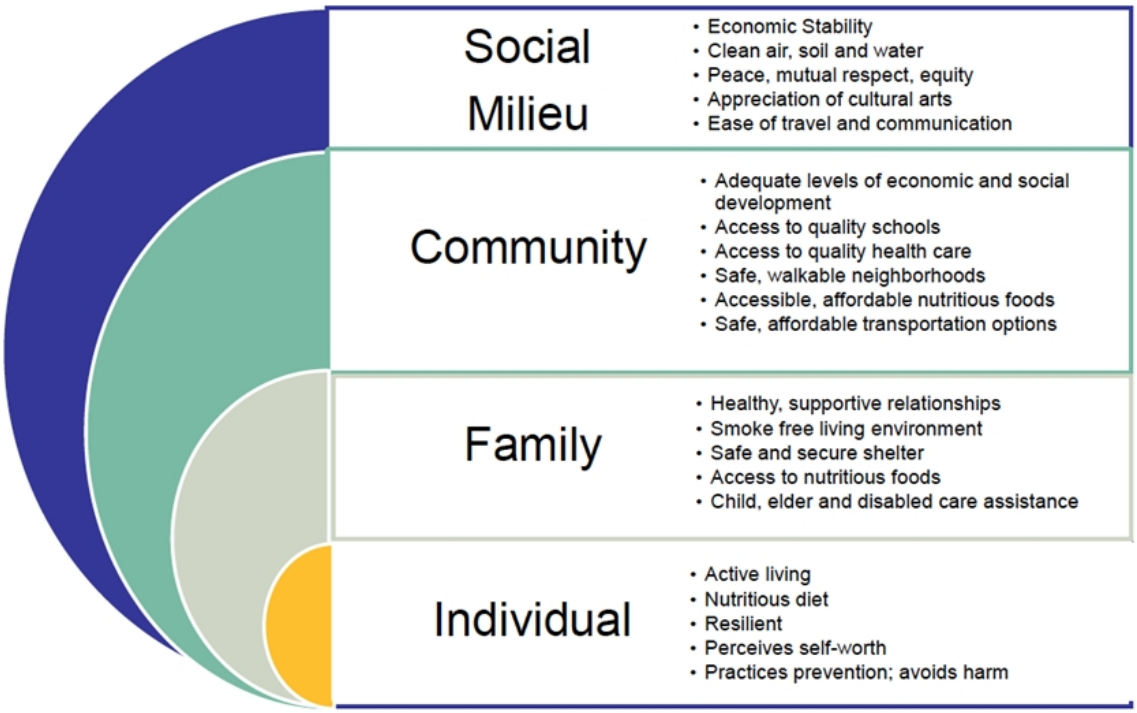

Figure 2-1 The California Department of Public Health's social ecology model of health.
SOURCE: Office of Health Equity, California Department of Public Health, 2013

Flores stated that the critical path for reform of the health care delivery system will first move from the current acute care system that focuses on episodic, non-integrated care to one that is coordinated and seamless and provides care that is accountable for outcomes. A next step would create a community-integrated, learning health care system that uses population health strategies capable of rapidly deploying best practices for both prevention and treatment. Such a system will comprise integrated networks linked to community resources capable of addressing psychosocial and economic needs of the community, with the goal of reducing the health

disparities that characterize the current system and thereby improving the health of the entire population. Beyond the main purpose of the ACA, the law's implementation affords the opportunity to move down the path of integrating population health into the health care system, elevate the priority for primary prevention and health equity, bridge clinical care and community health in health homes, empower consumers and communities to improve health outcomes, and provide incentives to improve workplace wellness.

There are a number of challenges to shifting the focus of the health care delivery system toward a population health perspective, Flores explained. Clinical care is better understood (and subsequently more valued) by the public than the broader notions of health and community health. Partly as a result, the aims of public health agencies (that focus on the health of communities) and health care organizations (that typically focus on individual patients) are not aligned, nor are the resources and political visibility associated with them comparable. Governmental public health practice already lacks the capacity and resources to sufficiently provide for the public's health and ACA implementation could shift some traditional public and population health services into the care delivery system.

California is implementing the ACA by creating health exchanges and policies and committing to develop and enforce language and cultural competency standards. The state is conducting a massive outreach campaign, said Flores, to enroll people by 2014 and is pushing for coverage for the remaining uninsured. The state is also developing consensus indicators for population health, creating community centers of care that will act as health homes that reach into the community, and training community connectors and *promotores* to act as educators, facilitators, and advocates, as well as expanding the health workforce in underserved areas. All of these changes are not happening easily, he said, and budget fights are creating challenges in balancing short-term fiscal concerns with long-term benefits. Flores noted that discussions about ACA implementation are commonly dominated by clinical care interests, with too little focus on prevention, population health, and social aims.

Investing the savings that ACA implementation will generate into prevention will be an uphill battle as well, he predicted. He stressed the importance of learning how to build bridges and create partnerships, ascertaining the level of understanding among policy makers and the public, and making business cases for prevention, public health, and population health. "Community empowerment and giving communities the capacity to work on behalf of population health should be among the highest priorities," said Flores, who noted that community empowerment is a priority of the many Community Transformation Grant program recipients in California. The goals of this program are to maximize health impact through prevention, advance health equity and reduce health disparities, and expand the evidence base that local policy, environmental, and infrastructure changes have a positive impact on health.

In closing his remarks, Flores quoted remarks made by Lawrence Brilliant, President of the Skoll Global Threats Fund, at the 2013 Commencement for the Harvard School of Public Health: "Somehow, these two sides of our national health debate—one outward looking at social justice and inclusion and one looking inward at high quality patient care that is exclusionary, met then [1960s "Great Society"] and must meet now on sacred ground, sharing the profound obligation—and great joy—of improving the health of the people."

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Current Models for Integrating a Population Health Approach into Implementation of the Affordable Care Act

Efforts to integrate health care services and efforts to improve health at the population level (e.g., beginning with the efforts of public health agencies) are already underway at the state and local levels. To showcase several approaches that have potential for scaling and replication through implementation of the Affordable Care Act (ACA), four panelists described their experiences with ongoing programs and addressed the challenges associated with these promising models. Janine Janosky, Vice President of Austen BioInnovation Institute in Akron (ABIA) and head of the Center for Community Health Improvement in Akron (Ohio) presented a nonprofit perspective. Joshua Sharfstein, Secretary of the Maryland Department of Health and Mental Hygiene and Chair of the Maryland Health Benefit Exchange, and Lillian Shirley, Director of the Multnomah County (Oregon) Health Department, spoke about a state and a local effort, respectively. Stella Whitney-West, Chief Executive Officer of NorthPoint Health and Wellness Center in Minnesota, provided an example of a community health center's program. An open discussion moderated by Sanne Magnan, President and Chief Executive Officer of the Institute for Clinical Systems Improvement and member of the Roundtable on Population Health Improvement, followed the panel presentations.

A NONPROFIT MODEL OF INTEGRATION

The Austen BioInnovation Institute in Akron is a 501(c)(3) nonprofit established to coordinate activities among three independent health care systems and two universities in northeastern Ohio, explained Janine Janosky. By taking advantage of ACA provisions, ABIA has created an accountable care community (ACC), an extension of the accountable care organization (ACO) concept, but one that does not depend on providers' adoption of a Medicare infrastructure. The Akron ACC, whose vision is to improve the health of the community through a collaborative, integrated, multi-institutional approach that emphasizes shared responsibility for the health of the community, includes the 5 core institutions and partners with public health and more than 65 additional social services and education entities, including the local faith community and Cuyahoga Valley National Park (ABIA, 2012). Doing good for the community,

she explained, can mean taking risks and placing the community's needs in tandem with the individual organization. "Some of these institutions and organizations are leveraging their resources for the good of the accountable care community, and some made decisions to sundown or to expand programs because that is what the community would benefit from," said Janosky.

In addition to going beyond the Medicare-based structure, Janosky discussed how the ABIA-led ACC includes a large grassroots component that aims to give equal voice to all the constituents in the community, not just those who have a particular health insurance policy or belong to a specific health system. Key components of the ACC include integrated, collaborative medical and public health models; inter-professional medical teams; a robust health information technology infrastructure that standardizes data across the multiple electronic health records (EHRs); a community health surveillance and data warehouse; and a dissemination infrastructure to share best practices. This data-driven system also includes a data analysis team to measure the impact of the ACC on community-wide health and a group dedicated to policy analysis and advocacy.

Outlining the steps that ABIA took to create the ACC, Janosky explained that the system is based on the *Healthy People 2020* framework of health promotion, disease prevention, improved access to care and services, and health care delivery. "All of the members of the ACC fall within one or more of these realms," she said. The first step to build this system involved conducting a community-wide inventory of assets and resources and mapped it to the Centers for Disease Control and Prevention's (CDC's) Health Impact Pyramid (see Figure 3-1) (Frieden, 2010). ABIA then took each of the metrics of *Healthy People 2020* and conducted a broad-based examination of what resources were available that could address health priorities at the bottom of the community-wide health impact pyramid. Where the analysis identified gaps, the partners developed programs to address those gaps and shifted resources when needed. The partnership also established a set of benchmark metrics that include short-term process measures, intermediate outcome measures, and longitudinal measures of impact. It will use those measures to demonstrate the economic case for health care payment policies that lower the preventable burden of disease, reward improved health, and deliver cost-effective care across the broad community. In addition, said Janosky, the accountable care community involves cost avoidance and cost recovery models that will help reinvest savings in the coalition's work.

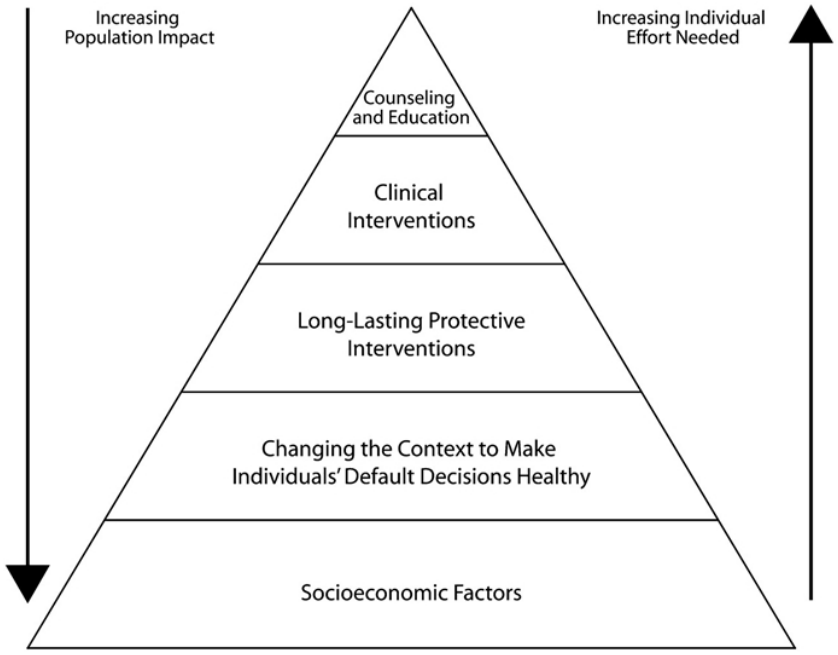

FIGURE 3-1 The health impact pyramid
SOURCE: Frieden, 2010.

As an example of a desired outcome, Janosky described the ACC's diabetes program, which aims to reduce the incidence of disease from its current level of approximately 8 to 10 percent of the population. This initiative is broad-based in that includes patients with diabetes at three independent health systems and with varying insurance status—including nearly a third of the population that has no insurance—and it touches every aspect of the Health Impact Pyramid. The program relies on a multi-disciplinary team with multi-focal modules of medical care, nutrition, physical activity, social and emotional well-being, and self management. The cost of the program, over the 2 years it has been running, has been about one-third less per person per contact hour than the comparable national Diabetes Prevention Project, and it has produced better clinical and behavior outcomes. More than half of the participants have lost weight, realized a substantial reduction in body mass index, and reduced their waist circumference. Emergency department visits have declined and there have been no amputations related to diabetes during the 2 years. Overall, the average cost per month of care of individuals with diabetes fell by 10 percent, and after 1 year of involvement there was a consistent reduction in costs. Using national figures for cost savings associated with improved blood sugar control and weight loss, Janosky estimated that this program saved more than $3,700 per person per year.

Janosky reviewed the metrics for success that the ACC uses and the two impact equations that serve as a proxy measure for the overall benefit and costs of the ACC effort. The first equation, which focuses on overall costs and benefits of the community-wide approach and which is useful for considering the impact of specific projects, examines three elements: quality improvement, the scope of the population served, and the costs of a disease in the community. The second equation measures burden in terms of delay of disease progression, the cost of treatment, and the loss of productivity, and it frames the impact of the ACC from a population perspective. "These two equations let us look more broadly as to what are the outcomes and successes, then we also have those metrics that looked specifically as to what might be

happening for an individual patient, individual practice plan, individual hotspot within the community," Janosky explained.

In terms of sustainability, Janosky noted that systemic changes have made collaboration the norm across the partners in the ACC and those changes are shifting the operating model to one of collective impact. The ACC is moving in the direction of routinely using sophisticated knowledge management tools to inform its work and also to inform local and state government about other approaches, such as zoning and planning policies that could help improve the health of the community by shifting the focus from disease treatment to health promotion and disease prevention. Finally, the ACC also hopes to support payment reform with the data it is generating.

ALL-PAYER HOSPITAL PAYMENT REFORM

Maryland is the only state in the country that sets hospital rates that apply to all payers, said Joshua Sharfstein. The system has consistent rules, results in no cost shifting, covers uncompensated care, and provides a platform for innovation in the area of payment reform. One such innovation is Maryland's Total Patient Revenue program, which establishes a global budget for a hospital independent of patient volume. This population-based rate method is offered to 10 rural hospitals and is consistent with these hospitals' mission to service the health needs of a community. The global budget covers all inpatient and outpatient facility revenues and creates a strong incentive to control unnecessary admissions and readmissions and to shift care to less costly settings. This program, which is now in its third year and received an extension for another 3 years, covers about $1.5 billion in funds and accounts for about 10 percent of net hospital revenue in the state.

Sharfstein described how in their efforts to better control costs, hospitals participating in the Total Patient Revenue program have established case management teams in the emergency department and have worked to address barriers that limit patient access to primary care. There has been an intense focus on reducing readmissions, transitioning patients to nursing home care, and managing chronic conditions. One lesson that has emerged is that many of the readmitted patients have behavioral health problems. There is now an effort in progress to find these individuals the behavioral health care they may need. In one case, the local hospital has taken over the school health program because it learned that it was seeing too many children with uncontrolled asthma coming into its emergency department.

Maryland has also organized local health improvement coalitions, involving public health agencies and other partners, across the state, and the local hospitals have helped to support these. Sharfstein noted there is robust participation in the areas where the Total Patient Revenue program is operating. Hospitals are recognizing that partnerships with public health agencies can help them succeed in the face of new financial incentives, e.g., to keep people out of the hospital by helping them improve their health. "My message to the hospitals is that they can get a huge amount of value by partnering with public health," he said, and also noted that these partnerships can benefit public health when funding is tight.

Early data have shown that Total Patient Revenue hospitals are seeing declines in admissions, readmissions, and avoidable admissions compared to hospitals that are not participating in the program. However, there are a number of challenges confronting the program, some of which have the potential to be addressed through implementation of the ACA. One challenge is that hospital and physician incentives are misaligned. Sharfstein said the potential for synergy is tremendous if the state can establish medical homes that work closely

with community coalitions. The adoption of health information exchanges, for which ACA provides incentives, offers the opportunity to develop maps that can help hospitals and coalitions focus on areas of greatest need. Expanded coverage offers the potential for more stable finances for hospitals, and the ACA gives the state the opportunity to modernize the Medicare waiver that serves as the basis for Maryland's all-payer system. Although the state is discussing such changes with the Centers for Medicare & Medicaid Services (CMS), health officials would also like to develop opportunities for sharing cost savings with physicians, expanding collaboration with public health coalitions, and expanding population-based budgeting to suburban and urban areas.

"We want to use this tool of an all-payer system to fundamentally realign and coordinate with other public health initiatives," Sharfstein said in closing. "What we are trying to do is create a system where the incentives flow naturally to those types of interventions that can produce better outcomes." The goal, he added, is to have such a system operating throughout the state to realize savings and improved health care across the entire health care system. "If we can get health care payment aligned to better patient experience and better outcomes, we will see a better coordinated experience for patients, and ultimately we will have improved health outcomes. When we do that, we get more financial incentives back into the health care system and we get a virtuous cycle."

STATEWIDE HEALTH SYSTEM TRANSFORMATION

Although the state was once advised to start small, Lillian Shirley said, Oregon is tackling a statewide effort to change the way health care is delivered and paid for by using its 15 coordinated care organizations (CCOs) to meet the goals of the Triple Aim[1]: improving population health and health outcomes while lowering costs. Toward that end, she explained, Oregon has made a commitment to CMS to reduce the annual increase in the cost of care by two percentage points, ensure that quality of care and population health improves, establish a quality incentive pool that increases every year as a percentage of the global budget, and report to the public about how these CCOs are performing according to CMS's core metrics.

As an incentive to the CCOs to participate in this effort, there will be quality pool funds of up to 2 percent of their global budget available based on comparative performance on 17 measures. In addition, Oregon as whole will be assessed annually on the CCO measures plus an additional 16 metrics and will face financial penalties if it does not meet quality goals. To meet its goals, the state has enumerated seven quality improvement focus areas:

1. Improving behavioral and physical health coordination,
2. Improving prenatal and maternity care,
3. Reducing preventable re-hospitalizations,
4. Ensuring appropriate care is delivered in appropriate settings
5. Reducing preventable and unnecessarily costly usage by super-users,
6. Addressing discrete health issues (e.g., asthma, diabetes, high blood pressure), and
7. Improving primary care for all populations.

[1] The Institute for Healthcare Improvement introduced the concept of the Triple Aim in 2006, and it has since been adopted by many health care organizations and also adapted for use in the activities of the CMS as the Three-Part Aim.

Shirley explained that the state has identified six attributes of CCO and ACO systems of care that lead to better management of care and is identifying metrics for each of these areas, including public health measures and activities based on such things as best practices and Task Force on Community Preventive Services. The state public health agency, she pointed out, is not only at the "table," but acts as a steward of metrics. Moreover, the broad use and adoption of an EHR across the state contribute to data collection and analysis needed to determine not merely "are individuals in a certain health system" going, but whether or not a community's health is improving.

Shirley discussed the strategy to combat diabetes in Portland and surrounding Multnomah County, Oregon. This multifaceted approach includes primary, secondary, and tertiary prevention. Primary and secondary prevention includes individual-level education and community-level, school-based healthful eating and healthy retail initiatives, as well as policy-level efforts to enable health impact assessments to identify place based strategies for prevention. At the tertiary level, efforts focus on chronic disease self-management education, diabetes care, and case management. She also noted that public health agencies can work with local CCOs and communities to identify the 10 leading causes of mortality and morbidity in each local community. One example in Multnomah County is end-stage liver disease. It is number nine on the list, and major causes are hepatitis and alcoholism. We can look at incentives that might improve education and treatment efforts. In each of these efforts, local advisory groups are looking at a wide range of factors, such as public safety and education that are normally not part of the health care spending discussion, but that negatively impact health. The work that public health agencies do in partnership with other sectors in prevention efforts can help decrease the medical costs associated with these outcomes.

THE COMMUNITY HEALTH CENTER PERSPECTIVE

Health happens in healthy communities, said Stella Whitney-West in her opening remarks, and NorthPoint Health and Wellness Center is focused on working in North Minneapolis. In that community, 91 percent of residents have incomes below 275 percent of the federal poverty line[2] and among the highest rates of health disparities in the state, the highest unemployment rate, and the highest housing foreclosure rate. NorthPoint, she explained, was established in 1968 as a Community Health Center and operates as a Federally Qualified Health Center in partnership with Hennepin County. It offers integrated health and social services that include medical, dental, and behavioral health services as well as food and housing services, chemical dependency treatment, and even a public art gallery. As a community health center, 51 percent of its board members are patients.

Recently, NorthPoint developed a strategic plan focusing on primary care, community health, social determinants of health, and health equality to ensure that it has an impact on health outcomes. "We want to make sure that the first entry into the health care system is through primary care, as opposed to the hospital or emergency department," explained Whitney-West. She noted that NorthPoint is also providing training opportunities for health care jobs and scholarships for those students from the community who want to pursue a career in health care. A central component of its action plan was to become the state's first patient-centered health care

[2] The HHS Office of the Assistant Secretary for Planning and Evaluation provides a listing of current poverty guidelines at http://aspe.hhs.gov/poverty/13poverty.cfm (accessed September 27, 2013).

home, which enables it to receive state reimbursement for its community health workers and care coordination for patients enrolled in the health care home. As examples of community-centered health projects, she cited programs aimed at successfully convincing the entire county to be smoke-free, which included working with landlords and churches not to allow smoking in apartments and on church property, and programs to increase the availability of fresh produce in North Minneapolis and educate the community about the value of urban gardening.

NorthPoint is about to enter a new partnership aimed at reducing the rate of chlamydia infection, a sexually transmitted infection, in the community. Currently, the NorthPoint clinic has one of the highest screening rates in the state, but with little effect on reducing what is the highest rate of chlamydia infection in the state. NorthPoint will use its participatory model of partnering with community residents to identify solutions and interventions to reduce the chlamydia infection rates.

It will also hold its second Fit 4 Fun community health event. The first event was held in 2012 at the suggestion of NorthPoint's health care providers, who pointed out the lack of a place in North Minneapolis to exercise safely. This event features bicycle rides and repairs, a 5K walk/run, and a bicycle raffle for youth who complete the fitness activities. The first event far exceeded expectations with more than 700 people participating.

In the area of health equity, NorthPoint is trying an approach that aims to use culture and ethnicity as a means to promote healthy behaviors. As part of this effort, staff participate in training to become more culturally appropriate and to learn how to tap into cultural practices as a means of encouraging patients to change harmful behaviors and seek routine health care and screening.

One of NorthPoint's most promising ventures, said Whitney-West, is as a partner member of Hennepin Health, an integrated health care network serving as an ACA demonstration accountable care organization. Since January 2012, this partnership has been targeting the Medicaid expansion population of adults ages 21 to 64 without dependent children. The demonstration aims to reach some 10,000 members per month. She noted that this target population, which represents about 5 percent of the county's population, accounts for an estimated 64 percent of the health care spending, largely because care is usually crisis driven in this group of county residents. The partners placed particular emphasis on addressing social disparities and increasing preventive care, an approach that has reduced inpatient admissions by 14 percent and emergency department visits by 13 percent and cut health care expenditures by 5 percent, far exceeding the goal of achieving a 2 percent cost savings. Equally important was the finding that 87 percent of the patients treated said they were likely to recommend Hennepin Health to friends and family, a substantial increase in patient satisfaction compared to the care received from other health service providers.

Hennepin Health is also making investments in areas that Whitney-West said are expected to yield cost reductions ranging from 30 to 80 percent. These include creating a Sobering Center to reduce emergency department visits, repositioning a community center to serve as transitional housing, developing a behavioral health continuum based on a psychiatric consult model, providing vocational services, and expanding a clinic that provides intensive primary care. She added that NorthPoint is involved in several community grants and will be part of Minnesota's Health Exchange. She her colleagues are working to increase collaboration between providers and payers, but she said that barriers to data-sharing data between social services and health care providers need to be addressed.

DISCUSSION

In response to a question from session moderator Sanne Magnan about the difficulty of closing programs that are no longer useful, Janosky said that doing so is only possible when all the partners agree from the start that the community's long-term needs will outweigh any short-term challenges that arise from decisions to, for example, end or merge duplicative programs. Every partner has to buy into the vision that aligning or ending programs is sometimes necessary to yield better results. As an example of how this attitude translates into action, she explained how every funding request for health initiatives that comes into the local United Way office must align with the programs and goals of the ACO.

James Knickman, President and Chief Executive Officer of the New York State Health Foundation and a member of the Roundtable on Population Health Improvement, asked the panelists to comment on any common themes that heard during the sessions presentations. Whitney-West was of the opinion that the four presentations reaffirmed that "we are all rowing in the right direction." She added that she saw some good opportunities to learn from one another, noting that there was nothing that she heard that she could not replicate in her community. Shirley said that she was encouraged by the efforts being made to identify successful programs and scale them across communities while keeping the emphasis at the community level, which is where people need to be engaged. Magnan noted that all of these programs have a focus on meeting the goals of the Triple Aim, and that this focus means that cost becomes part of the outcomes measures. She saw this as an important change in attitude in public health.

During the discussion, Flores remarked on the energy that many different groups are bringing to the conversation of how to expand the role of population health. Community residents are getting involved and so are younger adults, who he said have not gotten engaged in health issues before. Physicians are now talking about the need to increase the number of professionals who can go into communities and help them become more resilient.

In response to a question about how the Office of the National Coordinator for Health Information Technology (ONC) could help public health agencies' efforts as ONC develops the third phase of the meaningful use requirements for health information technology, Shirley said it would be highly informative to funding decisions if EHRs could be mined for race and ethnicity data, but she acknowledged the cost and challenges implicit in adding lines of code to EHR. Flores said that ONC could help facilitate the deployment of telemedicine for population health purposes in a way that uses the nation's communications infrastructure so that data from remote parts of the country could be analyzed using analytic systems that primarily are available in more heavily populated areas. Whitney-West seconded this idea and noted that Minnesota has a communications system that links smaller communities with major hospitals. She added, however, that creating such a system and enabling the EHRs to transmit data to remote locations is expensive, and even when such a system is in place, finding trained analysts who can mine the data to generate the expected insights is difficult. Also, an unclear issue is how to manage all of the data generated in an EHR, how to get that data into the hands of practitioners, and how to use that data to put patients more involved in their own health care. "There is still a lot of groundwork that needs to be covered," she said.

A remote participant asked the panelists how they set community-wide goals for their initiatives. Shirley said that by law, all of Oregon's CCOs must include members of the community on their boards and the community members have been actively involved in setting

the goals for each CCO. Janosky said that ABIA identified what she called the "soft leaders" in the community, those individuals who hold no official position but are well connected with the community. This group serves as ABIA's final check before it rolls out any new program and its members play a central role in engaging the broader community.

In her community, Whitney-West convenes listening groups that include patients of different ethnicities who speak different languages. Although putting these groups together is expensive and time consuming, they provide important real-time feedback that is proving to be more valuable than the information generated by the usual focus groups that attract the most engaged individuals. Her program uses the input from these listening groups to develop and refine its blueprint for action. She added that "when the majority of your board members are from the community and are patients of the health center, it keeps us focused on the needs of the community."

Another remote participant asked the panelists if they had any ideas on how to organize drug treatment and long-term care as part of the ACA expansion. Shirley said that in Oregon, behavioral health and addiction are included in the global health care budget, so it is up to each community to decide how its CCO spends its funds given the community's needs. This is where data from EHRs would be useful, she noted. She added that there are number of early public health interventions that have been proven effective in pilot studies, particularly among adolescents, and the CCOs in Oregon are working to incorporate those as part of the continuum of care they provide. Janosky and Whitney-West both said their programs are taking the same approach of integrating behavioral health into larger health programs. At NorthPoint, a psychologist is now embedded in the primary care clinic.

Judith Monroe, Director of the Office for State, Tribal, Local, and Territorial Support at the CDC and a member of the Roundtable, asked the panelists if they thought there was an opportunity for public health departments to become more involved with care organizations. Each of the panelists said that their organizations all have partnerships with local public health departments, but Flores noted that in his experience public health officials do not understand the depth of commitment that is needed to address population health at the community level. "They are used to a command and control approach to infectious diseases," he said. He added that public health departments would be the entity that would be truly able to sustain population health efforts under the ACA, but they lack leadership and resources in too many places. Often, he said, public health departments are restricted in terms of how involved they can get beyond the core focus. Another roundtable member, Marthe Gold, who is visiting scholar at the New York Academy of Medicine, asked about the opportunity under the ACA to ensure a robust public health infrastructure. The panelists noted the importance of public health accreditation, regionalization, forming partnerships with organizations outside of the health community, and strong leadership.

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A Proposal to Bridge the Divide Between Health and Health Care

The challenge facing the nation, and the opportunity afforded by the Affordable Care Act (ACA), is to move from a culture of sickness to a culture of care and then to a culture of health, said Stephen Shortell, the Blue Cross of California Professor of Health Policy and Management and Dean Emeritus of the School of Public Health at the University of California, Berkeley, in a keynote presentation to the workshop. In the United States, he said, that means creating a market for health. "We have a market for disease and a market for care, but I would argue that we do not yet have a market for health," he said. Creating such a market "involves changing fundamentally what we pay and how we pay for it. If we start paying for health and wellness, then we will create markets for health and wellness, and providers and others in the community will develop capabilities to respond to those new incentives. I think that is at the heart of our challenge."

A key to making that change, said Shortell, is to pay technology-enabled, team-based systems of care to keep people well. Making this change calls on the health care enterprise to engage people, not just patients, and it also calls for a community-wide population focus that extends beyond individual accountable care organizations (ACOs) or integrated delivery systems. He added that changing the payment system to one based on risk-based global budgets will unleash great opportunities for innovation that will be aimed at keeping people from becoming patients in the first place, and if they do become patients, helping them recover their health as quickly as possible.

Shortell briefly reviewed some of the provisions of the ACA concerning workforce issues and prevention and public health efforts, and suggested that the Roundtable might undertake an effort to track how the nation is progressing on enacting those provisions. He then discussed the concept of communities and how that concept can be incorporated into a population-based health continuum that has the goal of creating what he called a chronically well population while reducing the number of chronically ill individuals, who currently account for 75 percent of U.S. health care expenditures. A community, he said, is a group of individuals with a sense of shared space, shared responsibilities, and perceived interdependence. Creating a community health care management system, he explained, requires assessing the health needs of that community; identifying the community assets, capabilities, and resources that are may be necessary to meet the needs identified; and then aligning service providers, managers, and governance within and across medical, health, and community sectors. Information systems, he added, provide the data

and feedback to measure progress and refine the system. A lasting system will only result when the necessary strategic, structural, cultural, and technical components are all in place (Shortell et al., 2000).

Changing the health care delivery system will be critical for creating a health care system that produces a chronically well population, stated Shortell. The process of achieving change must start with redefining "the product" from illness to wellness, from patients to healthy people. The business model needs to change from filling hospital beds to keeping them empty. The delivery system also needs to move from the hospital, clinic, and doctor's office to the home, workplace, and school, and the definition of providers needs to be extended beyond health care professions to include teachers, social workers, architects, urban planners, and community development specialists.

Medical homes implementing primary care interventions represent one development providing early evidence that changes in the delivery system can have a significant impact on creating a healthy population rather than treating a sick one. To make that point, Shortell provided a few examples. Group Health Cooperative of Puget Sound, for instance, has reduced emergency department visits by 29 percent and ambulatory sensitive admissions by 11 percent, while the Geisinger Health Systems in Pennsylvania has achieved a 7 percent reduction in medical costs. The chronic care demonstration project at the Massachusetts General Hospital reduced hospital and emergency department visits by 20 percent, produced a decline in mortality, and netted a 4.7 percent annual savings.

Shortell also outlined changes that must occur in the public health sector. Greater flexibility is needed in the use of funds, he said, and public health must create new partnerships with delivery systems that better target those most in need of preventive services. Public health and health care providers must also develop joint goals with metrics to measure progress and share infrastructure that can help sustain the workforce. In addition, the community development and social service sectors need to include health in all of its policies, including those pertaining to zoning, housing, transportation, labor, and education. When population health becomes something that everyone thinks about, it can help other sectors of the community become more effective at achieving their strategic goals. Shortell acknowledged that making these types of systemic changes is difficult, but there are many examples, including those being discussed at this workshop, demonstrating that hard work does produce results.

He then made what he called a bold proposal—that the Centers for Medicare & Medicaid Services and other payers create a risk-adjusted, population-wide health budget to be overseen by a community-wide entity tied to multiyear performance targets. Examples of performance targets might include

- Reduction in newly diagnosed diabetics,
- Reduced infant mortality,
- Reduced preterm births,
- Reduced obesity rates in children and adults,
- Lower blood pressure for patients with congestive heart failure,
- Reduced disability and work loss days due to illness, and
- Greater functional health status scores among samples of the population.

This is not a "pie-in-the-sky" proposal, he said, noting that California is working toward this end. Shortell described some survey data showing that several payment reform ideas have

significant support among various organizations in the state. For example, two-thirds of the organizations reported they are attempting to link patient care with private or public community efforts to improve population health. The key challenge, he said in closing, will be in building the needed partnerships based on shared goals, shared information, innovations in the use of human resources, and cross-sector, cross-boundary leadership.

DISCUSSION

During the brief discussion period that followed Shortell's presentation, Mary Pittman, President and Chief Executive Officer of the Public Health Institute and a member of the Roundtable, noted that the Centers for Disease Control and Prevention (CDC) has established the National Leadership Academy for the Public's Health to enable multisector jurisdictional teams to address public health problems within their communities through team-identified community health improvement projects. She then asked Shortell why he believes that leadership across sectors is so important. He replied that inertia is a major obstacle to progress. "Individuals have to pay attention to the needs of their own organizations before they spend additional time working on these community-wide efforts," he said, "so executives need incentives to include engagement in community-wide efforts as part of their job." He added that the depth of leadership needs to be increased so that community leaders can come from the ranks of an organization, not just its executive suite.

David Stevens of the National Association of Community Health Centers asked where the political will would come from to turn his bold proposal into reality. Shortell said it will need to come from the state and local levels. In California, the Secretary of Health and Human Services has taken the lead. Leaders in the private sector, including the chief executives of the state's large insurance companies and integrated health care organizations, have joined in the effort. Called the Berkeley Forum, this collaborative effort generated a report that calls for a transition to global budgets as quickly as possible (Berkeley Forum, 2013). He added that it is important to tell politicians and interest groups that money going into the health sector is not available to spend on other priorities.

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Catalyzing and Sustaining the Adoption and Integration of a Population Health Concept

One of the hoped-for effects of the Affordable Care Act (ACA) is innovations in payment reform, public policy, community benefits, and community transformation that can in turn produce sustained improvements in population health. To explore how the ACA can create opportunities for innovation, six panelists discussed their thoughts on how to transform the current health system in a way that benefits population health. Debbie Chang, Vice President for Policy and Prevention at Nemours, spoke about two approaches to innovation to link the clinic and the community to improve population health. Genoveva Islas-Hooker, Regional Program Director of the Central California Regional Obesity Prevention Program, discussed how grassroots efforts can produce sustainable increases in healthy behaviors. James Hester, former Acting Director of the Population Health Models Group at the Centers for Medicare & Medicaid (CMS) Innovation Center and now an independent consultant, spoke about the opportunity to create new funding streams to reward improvements in population health, using Vermont's experience as an example. Wilma Wooten, Director of the San Diego County Department of Public Health, described the county-level Live Well San Diego program. John Auerbach, Professor and Director of the Institute on Urban Health Research at Northwestern University, described several ways in which population health is being funded and prioritized, and Julie Trocchio, Senior Director of Community Benefit and Continuing Care at Catholic Health Associates, discussed how provisions in the ACA are prompting nonprofit hospital systems to incorporate public health into their operations. An open discussion moderated by Dave Chokshi, a White House Fellow at the Department of Veterans Affairs and member of the workshop planning committee, followed the panel presentations.

PERSPECTIVES FROM AN INTEGRATED CHILD HEALTH SYSTEM

There are two ways to approach population health, said Debbie Chang—either by (1) starting from the community and thinking about the needs of populations and then integrating with clinical care, or (2) starting from the individual needs of patients and learning about the social or community factors that are impacting their health and addressing these needs through policy or systems change. At Nemours, a nonprofit, full-continuum child health system in

Delaware and Florida, she and her colleagues have taken advantage of funding opportunities provided through the ACA to launch innovative programs that have used both approaches successfully, in one case to address the problem of childhood obesity and in the other instance to improve treatment of children with asthma. In both projects, the aim was to connect clinical care and population health in an integrated health system that encourages productive interactions between informed, activated patient, family, and community partners and an organized, prepared, proactive health team.

The goal of the obesity prevention project was to reduce the prevalence of overweight and obese children across the state of Delaware by 2015. Once the geographic population and shared outcome was defined, Nemours developed a multisector strategy that first established partnerships that engaged child care, schools, primary care, and other community settings—the places where children live, learn, and play. The purpose of this outreach effort, Chang explained, was to have those systems of care work together to provide a consistent message that would support a child's overall health and well-being. Early on in this effort, the Nemours team developed a set of priority policies that would be needed to support health activity and eating by children, including the introduction of new licensing and regulation requirements for the state's Child and Adult Care Food Program in child care facilities and the requirement to increase physical activity in schools. To leverage new policies, Nemours also pursued practice changes that would enable implementation of these policy changes. These activities included establishing learning collaboratives in schools and in child care and primary care settings, developing and adapting tools to promote practice change and adoption of new policies, and providing technical assistance.

Chang and her colleagues also conducted a social marketing campaign, titled *5-2-1-Almost None* (eating at least five servings of fruits and vegetables; no more than 2 hours of screen time per day; at least 1 hour of daily physical activity, and almost no sugary beverages), which stressed a healthy lifestyle based on increasing healthful eating and physical exercise and limiting screen time and sugary beverages. They also leveraged the Nemours electronic health record to establish a childhood obesity quality improvement initiative that alerts users when a patient's body mass index is above the healthy weight range and outlines appropriate follow-up and counseling for families. Finally, Nemours worked with intention and systematically across sectors to improve health and well-being among the state's children (Nemours, 2012).

This program went statewide in 2006, and the most recent data from the 2011 Delaware Survey of Children's Health indicate that the prevalence of overweight and obesity among Delaware's children has remained level, and that overweight and obesity has decreased among African-American males and white females (Nemours, 2011). The survey results showed that behavior changes were occurring, too, with increases in the amount of fruits and vegetables eaten, declines in the consumption of sugar-sweetened beverages, and increases in the overall levels of physical activity. Screen time, however, has increased. "We know there is more work to be done in this area," said Chang.

She noted that in schools where the program piloted 150 minutes of physical activity, students were 1.5 times more likely to achieve an indicator of physical fitness compared to students in a control group (Chang et al., 2010). Moreover, she added, recent data show a clear and consistent relationship between fitness and academic achievement and between fitness and student behaviors, an important finding because those data indicate that health and education goals align, thus making it more likely that schools will adopt such a program. In the child care setting, she continued, 100 percent of participants in the first learning collaborative made

significant changes in healthful eating or physical activity, and 81 percent made changes in both. Electronic health record data from the primary care setting indicated that lifestyle counseling related to physical activity and healthful eating was provided to 95 percent of Nemours's patients, which she said is nearly double the national average.

Starting in 2009, Chang and her colleagues, in partnership with the Centers for Disease Control and Prevention (CDC), began laying the groundwork for a national effort to address obesity prevention in the childcare setting. The Healthy Kids, Healthy Future Steering Committee, co-chaired by Nemours and the CDC, has brought together some 40 experts in early childhood education and obesity prevention, two groups that have been siloed but who need to work together to be catalysts for positive change for children. The CDC has also provided funding via a cooperative agreement under the ACA to bring the Nemours evidence-based learning collaborative model to scale nationally to increase the number of child care facilities that meet best practices in healthful eating, physical activity, breastfeeding, and screen time and to increase the number of young children attending programs that meet those practices. The goal of the 5-year program, said Chang, is to reach an estimated 840 early childhood education centers serving 84,500 children in 6 states in its first year of operation.

In its project aimed at reducing asthma-related emergency department visits among pediatric Medicaid patients, Nemours is using a CMS Health Care Innovation Award to expand a population-based strategy to create an explicit link to the primary care setting. After briefly describing the logic model that Nemours developed, she explained that the most important consideration is to start with the desired outcomes and work backward to identify primary drivers or agents of change. Nemours has created a new interdisciplinary team that includes the primary care clinician, a psychologist, and a community health worker who provides input on what is occurring in the child's environment that impacts the asthma. In addition, Nemours is linking its electronic health record to the school's health system to provide input from that setting.

Chang concluded her remarks by noting that important lessons are being learned from the Innovation Awards program that need to be disseminated and translated into new policies and practices. She added that partnerships and collaborations between public health and Medicaid leaders are needed to increase investments in community-based services and that financing is needed to support integrators who lead these efforts. She proposed that evaluation of integrated payments models be conducted over longer periods of time to give prevention strategies time to demonstrate a return on investment and support actuarial analyses of prevention. Pathways for incremental reforms are also needed to help states achieve the long-term goals of delivery reform and population-based health.

THE ROLE OF GRASSROOTS LEADERS IN IMPROVING COMMUNITY HEALTH

Genoveva Islas-Hooker began her presentation by describing the San Joaquin Valley, an eight-county region in the center of California that has the largest concentration of farm workers in the state and the second largest number of Latinos overall. Agriculture is the booming economy, but there is a striking number of prisons, which have only recently been outpaced by the establishment of kidney dialysis centers. This region, where a bag of carrots costs more than a bag of chips and where drinking water is more expensive than sugar-sweetened beverages, is the setting in which Genoveva Islas-Hooker has been working to ensure access to healthy food and physical activity as a way of improving population health. One fact about the area is that though it is the "salad bowl" of the nation, the low income residents of the San Joaquin Valley

often do not have access to healthful food. Perhaps not surprisingly, she said, one in three children is obese and one of every two Latino children is at risk of developing diabetes.

With support from the Robert Wood Johnson Foundation, Islas-Hooker and her colleagues developed a curriculum on leadership development to engage residents as the agents of change in their community. This program targeted residents who usually do not get involved in decision making, but who are connected to their communities. Once engaged, these individuals have become health advocates who have helped spur their communities to raise funds for playgrounds and create weekly farm markets in cooperation with neighborhood schools, which use the markets as a means of teaching children about healthful eating alternatives. One byproduct of this effort has been that some of these community leaders are assuming leadership positions within their local community, including on the school board and school wellness committees. "With resident leadership, we have been able to increase access to healthy foods for children and increase opportunities for safe places to play," she said. "What we risk in the absence of engaging these leaders is the status quo." She concluded her remarks by predicting that this type of outreach to improve public health should outlast program funding because it is building capacity and engagement at the grassroots level. By doing so it is generating a passion for improvement that changes the community's perception of what it can accomplish in terms of improving health.

CREATING A FUNDING STREAM TO REWARD IMPROVEMENTS IN POPULATION HEALTH

The goal of health care reform, said James Hester, is to provide access to affordable, quality health care for all in a manner that is economically sustainable. To achieve this reform, he said, the health care system must transform to one in which the payment model aligns with and rewards Triple Aim outcomes. A successful transformation could create a funding stream to reward improvements in population health and open a window of opportunity to shift to more sustainable funding models for population health. However, he added, the complexity and relative weakness of key building blocks for population health payment models creates the threat that population health will not be incorporated in new payment models in a meaningful way.

At the federal level, the CMS Innovation Center, which was authorized by the ACA, aims to test innovative payment and service delivery models to reduce program expenditures under Medicare, Medicaid, and the State Children's Health Insurance Program while preserving or enhancing quality of care. To accomplish this task, the Innovation Center has $10 billion in funding through fiscal year 2019, and the ACA gives the Secretary of Health and Human Services the authority to expand successfully validated models to the national level without supportive legislation. Although the Innovation Center is creating what Hester called the building blocks for transformation, it is at the state and regional level that these building blocks get assembled with CMS acting as a constructive partner, not just for programs in its domain but for all payers.

To accommodate providers at various places along the transformation continuum, the Innovation Center has developed a portfolio of initiatives with escalating amounts of risk. For example, a hospital with no experience in risk sharing could try a coordinated care and bundled payment program that would provide a good experience working with physicians and other providers, while a Massachusetts or California provider system that has been working with global budgets for decades could serve as a pioneer ACO. Today, said Hester, the Innovation

Center has more than 40 different model tests in progress and is assessing outcomes according to the Triple Aim metrics, which were including in the Innovation Center's program announcements. He also explained that the population health program at the Innovation Center has four components: (1) developing a robust set of measures for tracking changes in population health, (2) testing new models of payment and service, (3) building collaboration among a variety of stakeholders, and (4) promoting and disseminating successful models of transformation.

As an example, Hester discussed Vermont's decade-long effort at transforming its delivery system and its role as a laboratory for health care reform. Vermont has a population of about 600,000 people and 13 hospitals whose service areas do not overlap, which creates a collaborative rather than competitive environment. Three commercial payers and two public payers operate in the state, which has one of the lowest rates of uninsured in the nation at approximately 5 percent and ranks eighth in the nation for access to care and seventh for quality of care. At the beginning of 2013, 75 percent of Vermont's population was served by Blueprint for Health medical homes that are testing several payment models based on capacity and performance rather than fee-for-service, and a single Medicare ACO covers an additional 50,000 seniors.

Although there is a broad diffusion of the language supporting better health for populations and for new payment models that are aligning the interests of multiple payers, the evolution of the delivery system lags the rhetoric, Hester cautioned. "Health care systems are comfortable with today's fee-for-service model, and the task of transforming to a model that manages total cost and patient experience is all consuming," he said. Complicating the transformation is the fact that improving the population's health is complex and requires reinvestment of shared savings from multiple sectors and valuing of long-term impacts. The payment models for population health are still in the early stages of development and the infrastructure and tools for population health improvement are not well developed, Hester added, creating the risk that new payment models will be established with no meaningful population health component. Given that population health traditionally has been funded by grants and taxes, and not payment for services, the key question becomes one of how to pay for population health in a transformed delivery system. "That's a simple question to ask, but one remarkably difficult to answer," said Hester. "Do we want to pay for changes in risk factors, life expectancy, or well-being? Until we figure out the answer, we will not get the community health system we need."

BUILDING BETTER HEALTH AT THE COUNTY LEVEL

Live Well San Diego is a 10-year strategic vision for creating a county that is healthy, safe, and thriving. The health component of Live Well San Diego,[1] Wilma Wooten explained, uses four main strategies: (1) building better service delivery systems, such as improving Medicaid eligibility operations; (2) pursuing policy and environmental changes, such as implementing a farm-to-school program where schools pool procurement efforts to purchase and use produce from local growers; (3) supporting positive and healthy choices, exemplified by increased servings of fruits and vegetables; and (4) improving the culture from within county government ("walk-the-walk") by implementing a robust employee wellness program focused on

[1] Of note, the safety component of Live Well San Diego, or Living Safely, was adopted in fall 2012; the thriving component was in development at the time this summary was prepared.

reducing health risk factors for county employees. Prevention is a mainstay for the 3-4-50 concept: three behaviors (tobacco use, poor diet, and physical inactivity) lead to four diseases (cancer, heart disease and stroke, type 2 diabetes, and respiratory conditions like asthma) that account for more than 50 percent of the deaths in San Diego.

San Diego is the fifth largest county in the United States and it has a history of engaging in public–private partnerships to address local public health issues. During the past decade, a series of efforts have evolved that now provide the foundation for the health component of Live Well San Diego. The county has had a childhood obesity initiative ongoing since 2004. Wooten noted that between 2005 and 2010, the percentage of the county's children that are overweight or obese decreased 3.7 percent, the biggest decline of all of Southern California's counties. This outcome is thought to be due, in part, to the collective effort of the San Diego Childhood Obesity Initiative. In 2008, the county expanded on this initiative by focusing on prevention as a key pillar to address chronic diseases in general. In 2009, the County of San Diego Board of Supervisors approved the Nutrition Security Plan to promote nutrition education for county food stamp recipients. In 2010, the county was awarded the Communities Putting Prevention to Work (CPPW) grant, known locally as Healthy Works. This obesity prevention grant focused on policy, system, and environmental changes to support healthful eating and increased physical activity across the three broad areas of healthy food, healthy schools, and healthy places. As examples of the activities implemented by the Healthy Works CPPW program, Wooten highlighted the Fresh Fund incentives project that brought fresh produce into areas with limited access to healthy food by offering a one-to-one dollar match that provided up to $20 per month for purchasing fresh fruits and vegetables at neighborhood farmers' markets. This program benefited more than 8,000 low-income individuals. She noted that eight school districts implemented wellness policies that increased student physical activity and five districts started providing breakfast in classrooms. San Diego also adopted a regional transportation plan that included adding automated bicycle facilities in 13 jurisdictions.

All of the programs described above have supported the Live Well San Diego plan since it was approved by the Board of Supervisors in 2010. What began as a Health and Human Services Agency (HHSA) initiative, remarked Wooten, was soon embraced by the other four divisions of the County of San Diego government, and spread quickly to engage multiple community sectors, including businesses, schools, community- and faith-based organizations, the military, hospitals, and city governments. The outgrowth of this initiative will focus on transforming the health of the San Diego community through a combination of behavioral and systems change to create an accountable care community—a community that is integrated across health, social, and behavioral services. As the HHSA physically combined health and social services in 1998, becoming an "Agency of One," this change has driven greater integration and collaboration.

To support the Live Well San Diego strategy of integration, the County of San Diego HHSA has initiated the development of the Knowledge Integration Program, which includes an electronic information exchange for county public health, social service, behavioral and physical health, and probation data. Wooten added that the program includes service delivery improvements to support person-centered, strength-based, and trauma-informed practice using the integrated information. The functional capabilities of this program will implement new technologies and policies that will enable staff to share information, identify what services a client is using, make electronic referrals, coordinate service delivery, obtain relevant notifications, and produce population-based shared analytics. This new service model will

support efforts to provide the analytics and predictive modeling capabilities needed to transform the delivery of health and social services across the county. In the future, the program will be expanded so information will be shared across the entire region, including interface with the San Diego Regional Health Information Exchange (health and meaningful use data) and the San Diego Community Information Exchange (social services data).

Several ACA-funded programs also support Live Well San Diego, Wooten stated. The California Home Visitation Program provides comprehensive, coordinated in-home services to 100 first-time mothers and their children up to age 2 to support positive parenting and improve outcomes for families residing in at-risk communities. Among the goals of the program are to promote maternal health and well-being, improve infant and child health and development and prevent childhood injuries and abuse, reduce emergency department visits, and improve school readiness. A Community Transformation grant is funding chronic disease prevention efforts that include continuation of 11 interventions developed under the Healthy Works CPPW program. It emphasizes tobacco-free living, active living and healthful eating, clinical preventive services, social and emotional wellness, and healthy and safe physical environments. The San Diego Care Transitions Program is participating in the CMS Innovation Center–funded Community-Based Care Transitions Program to test models for improving transitions from the inpatient hospital setting to home or other post-acute care for high-risk fee-for-service Medicare patients. HHSA's Aging & Independence Services unit, the Area Agency on Aging and Aging & Disability Resource Connection for San Diego County, have partnered with 11 hospitals with 13 campuses to provide innovative care transitions services for over 21,000 fee-for-service Medicare patients each year with the goal of reducing all-cause 30-day readmissions by 20 percent.

Wooten noted that the County of San Diego also has a National Public Health Improvement Initiative[2] grant that supports voluntary public health department accreditation based on performance against a set of nationally recognized, practice-focused, and evidence-based standards. The goal of this program, she explained, is to improve and protect public health by advancing continuous quality improvement and performance.

In her closing comments, Wooten noted that Live Well San Diego supports the Triple Aim of improved population health, enhanced individual quality of care, and reduced per capita health care costs.

THE MASSACHUSETTS EXPERIENCE WITH INNOVATIONS IN INTEGRATING POPULATION HEALTH

In John Auerbach's view, there are two approaches to funding and prioritizing population health. The traditional approach, he said, is through grants to public health, and he said this approach merits continuing and expanding. The state of Massachusetts' Mass in Motion public–private partnership to reduce obesity, which reaches about one-third of the state's population, is an example of this approach. In this case, the state had no money to fund the initiative, so it took the role of identifying the issues, bringing together interested parties, and persuading five Massachusetts foundations, one insurer, and one hospital system to fund this program. Since

[2] The National Public Health Improvement Initiative provides support to state, tribal, local, and territorial health departments through the Prevention and Public Health Fund established by the ACA. In 2012, 73 health departments at various levels received support from the Fund to "make fundamental changes and enhancements in their organizations and implement practices that improve the delivery and impact of public health services" (www.cdc.gov/stltpublichealth/nphii/about.html).

then, Mass in Motion has also received Community Transformation Grants through the ACA. The program now funds 50 city and town coalitions to change policies and conditions that negatively affect the public's health. For example, coalitions have used these grants to leverage city funding for sidewalks near schools and to promote walking and biking to school. Communities have used grants to support incentives for stores selling healthy foods in low-income neighborhoods and to create safe communities that keep local gyms open late. Auerbach noted that this program, like the one that Islas-Hooker discussed earlier, relies heavily on grassroots involvement to mobilize communities to promote and engage in healthy behaviors. The state will be using ACA innovation funds from CMS to evaluate the Mass in Motion program and link it to primary care providers.

The Massachusetts Prevention and Wellness Trust Fund is another example of the traditional approach to funding public health. The $60 million Trust Fund was created by the Massachusetts legislature through a one-time assessment on insurance plans and hospitals. The state public health department and an advisory board will oversee the disbursement of these funds over 4 years. Auerbach explained that 75 percent of the money must be spent on competitive grants to reduce costly preventable health conditions, reduce health disparities, increase healthy behaviors, adopt workplace-based wellness programs, and develop an evidence base of effective prevention programs. Municipalities, community organizations, providers, health plans, and regional planning activities can apply for grants from the Trust Fund. He noted, too, "that the insurance plans and hospitals were at the table when this was discussed and did not oppose the creation of the trust (although they were not pleased that it was supported with an assessment). Their recognition of the value of expanded prevention was a result of years of working to develop the cultural atmosphere in which we could float an idea like this and have it be considered and ultimately passed."

The second, novel approach to funding public health would create incentives for insurers and providers to redirect a portion of their funding to go toward efforts to improve the health of the overall population. This approach is getting increasing attention in this era of global payments and the ACA, said Auerbach, and Massachusetts is examining this approach in two ways. The first involves the work of a legislatively mandated statewide quality advisory committee to identify performance metrics and create a reporting system for population health measures. The idea here, he explained, is to guide the state division of insurance in its efforts to set standards that all insurers would follow. But in trying to formulate a set of metrics for population health, the committee came to the conclusion that it was too difficult to add new indicators of population health to the data collection burden. He added that the committee will explore whether there are better fits with accountable care organization-level or hospital-wide indicators.

The state is also looking at whether it could reduce costs, improve health, and promote population health by standardizing the use of community health workers (CHWs) as members of clinical teams who would have an outward focus on population-based conditions. The state created a board of certification with legislative support to give clinical providers, hospitals, and health care centers confidence about the training and skills of these individuals. The certification board is housed in the public health department, the same location as the certification boards for nurses and other health care professions. It is now reviewing what the training and certification requirements should be and how often CHWs should be recertified. This work is expected to be completed by the end of 2013, Auerbach said in closing.

MOVING HOSPITALS TOWARD POPULATION HEALTH

Today, hospitals are part of the public health system and are engaged in population health, said Julie Trocchio, and the ACA is playing an important role in making that happen. "There are many provisions in the Affordable Care Act that are pushing hospitals towards public health," she said, including the expansion of coverage, both through commercial insurance and Medicaid, and the development of national prevention strategies and coverage of prevention activities. Also important are the various incentives and penalties included in the ACA, particularly concerning rehospitalization, that are changing the mindset of hospital administrators to one of keeping beds empty by keeping people healthy. She predicted, though, that the biggest impact will come from the tax-exempt hospital provisions in ACA that mandate community health needs assessments (CHNAs) and planning and transparency in the way hospitals charge for their services and collect payment.

One of the provisions of the ACA is that every tax-exempt hospital facility must conduct a CHNA at least every 3 years and obtain input for that CHNA from people who represent the broad interests of the community and those with special knowledge of or expertise in public health. Perhaps the most important provision, said Trocchio, is that the CHNA must be widely available to the public, which she said will ensure that hospitals do a good job in preparing this assessment. The Internal Revenue Service (IRS) has also proposed additional rules that will require that the input to the CHNA must include at least one state, local, tribal, or regional public health department; members of medically underserved, low-income, and minority populations or their representatives; and written comments from previous CHNAs (IRS, 2011). The CHNA itself must include the definition of the community served and a description of the process and methods used to conduct the assessment. This description must detail how the hospital accounted for input, how it prioritized significant community health needs, and what the potential resources are to address those needs. The IRS has also proposed that the CHNA must be adopted by an authorized body of the hospital (IRS, 2011).

The ACA also calls for tax-exempt hospitals to develop and adopt an implementation strategy to meet the community needs identified in the CHNA and describe any needs identified in the CHNA that are not being addressed as well as the reasons why they are not. In its proposed rules, the IRS will also require that the implementation strategy will specify the actions that a tax-exempt hospital facility intends to take to meet each significant need, the anticipated impact of these actions, and a plan to evaluate the impact. The proposal rules call for the implementation strategy to spell out the programs and resources the hospital plans to commit and any planned collaborations. Trocchio said that taken together, themes in the ACA and the IRS's proposed rules encourage collaboration and the formation of partnerships between hospitals and public health partners, draws attention to disparities and vulnerable populations, and increases transparency.

As a result, Trocchio noted, hospitals are collaborating and forming partnerships with public health, and they are using public health resources, such as the County Health Rankings. She added that the assessments are not revealing many surprises in that access to health care is the number one issue in many communities across the country. Programs to address low birth weight, mental health issues, dental health, problems with aging, stroke, and heart disease are also needed in many areas of the country. Hospitals are also starting to become aware of and take action to address some of the upstream determinants of health. As examples, she cited a program in Baltimore that is starting programs to keep kids in school and buying up rundown properties

and less desirable businesses and turning them into vibrant, community-owned businesses. In Boston, Children's Hospital has been giving out vacuum cleaners to families whose children are repeatedly seen in the emergency department for asthma-related health problems.

"The bottom line is that hospitals are finding that they can no longer care just for the person in the hospital bed. They must look at the health of the community that the patient is being discharged into," said Trocchio, adding in closing that "these requirements are getting the attention of the highest level of leadership in hospitals. Boards are paying attention. Chief executives are paying attention. They are accountable now and that is making a huge difference."

DISCUSSION

To start the discussion, George Flores asked the panel to consider this question of how the health care system would differ if it emphasized the health needs of children rather than those of older adults, which he believes is the case today. Wooten said she would introduce more play and physical activity into schools because of their demonstrated effect in decreasing obesity. She cited as an example the Chula Vista, California, elementary school district, which has used a Community Challenge Grant to focus on physical activity in the classroom. This program, which also teaches children how to engage and educate their parents about the value of physical activity, has had a significant impact on obesity rates throughout the entire school district. She would also like to see comprehensive wellness programs implemented in schools and daycare facilities.

Islas-Hooker voiced the same opinion and agreed that children can be an important vehicle for changing the behavior of adults. She noted that students at a high school in Fresno, California, led an effort to eliminate sugary drinks and snacks from their school and are drawing attention to the overt marketing of unhealthy products to them and their peers. "I think that youth engagement is powerful and that they are very innovative in terms of how they are trying to inform us about what their needs and issues are," she said.

If there was a greater focus on children, said Chang, there would be a greater focus on prevention and population health. "Children are not just little people. They have developmental needs of their own, and our goal should be to prevent future illness and help them grow up healthy," she said. A focus solely on cost cutting works against children, she added. "Children will never be at the table because they are not the cost drivers," she stated. She believes the only way to have a balanced approach that values children is to place a greater emphasis on the population health piece of the Triple Aim and to make children a focus of that effort.

Terry Allan, from the Cuyahoga County Board of Health and a member of the Roundtable, asked Islas-Hooker how costly it was to train the grassroots leaders in her community outreach program. She responded that the cost was minuscule, about $100 a person for some of the efforts, and in some cases nothing at all. In one example, the cost was $7 for an exercise video that a resident of the community purchased and used to teach herself and her neighbors the routines. One community raised $1,000 and used it to convert a vacant grass field into a soccer field with goals that served as the foundation for organizing a youth soccer league." The return on investment in these small programs is huge," said Islas-Hooker, who has leveraged the success with these small programs to secure large, multiyear grants that will enable bigger efforts across multiple communities.

In response to a question about metrics that the panelists would like to see developed and used to track the impact of programs on population health, the discussion turned to the subject of

how to establish a framework that would enable hospital systems to measure the value of population health efforts given that a particular hospital may not realize all of the benefits of their efforts. Someone commented that there has been a struggle to find consistent characteristics of successful efforts to measure over the long term and across an entire health care system. Other comments concerned the need for a system that can report on the chosen metrics and the difficulty in deciding on how granular to make these measures in terms of balancing the need for useful data with the burden that metrics can place on the provider community.

Hester noted that some of the pioneering ACOs have been experimenting with an enhanced health risk appraisal tool that includes information on patient risk factors and self-reported outcomes. He said that these ACOs are finding these metrics helpful for tracking what is happening at the population level as well as for managing the population and identifying the people who need care. Another meeting participant voiced the opinion that government, particularly state and local, could play a role in the development and use of metrics by convening groups that would identify metrics that get embedded in the health care system of the facility licensing process.

Lawrence Deyton, from the George Washington University School of Medicine and Health Sciences, asked if any thought was being given to the type of training that is needed for the entire health care provider team to become advocates for and partners in population health efforts as opposed to obstacles. He wondered if there was a role for accreditation and licensing boards in terms of setting standards for training, and he asked if successful local community groups are talking to their state boards about adding requirements for training in population health to licensing requirements. Chang said that one activity that Nemours has instituted with its innovation grant takes clinical teams into the community. Although this has been an eye-opening experience for the clinical staff, she said that formal training on population health in addition to gaining experience in the community is important for having a sustained impact on how clinicians view these problems. Panelists and participants noted several examples of individual clinicians who have had attitude-changing experiences after going out into the community and seeing how larger issues impact individual health. Trocchio noted that her organization's experience has been that when someone with a background in public health joins the staff of one of its hospitals, the community benefit program of the hospital changes from one of random acts of kindness to one that takes focused, strategic action on population health issues.

6

Final Thoughts

In his summary remarks, co-chair George Isham commented on the wide variety of examples that were presented during the day and noted that there is no template yet for integrating public and personal health. "That may be okay for where we are now, but it lays out a challenge of identifying what key common points might be so that we can move from individual programs to a framework that makes sense," he said.

Before soliciting reflections on the workshop from each member of the Roundtable, Isham asked Hilary Heishman from the Robert Wood Johnson Foundation for her observations from the perspective of someone who looks for levers that can be used to align forces for improving the quality of health care. She said the levers she heard pertaining to the system that produces health at the community level included

- Collaborations involving multiple stakeholders;
- Using financial incentives to align the interests of physicians and hospitals;
- Addressing information flow to assess community health and monitor the performance of the health care system;
- Having a strong integrator[1] and involved, committed leadership;
- Having an agreed-upon vision, culture, and goals;
- Community engagement in setting priorities and involvement in improving health;
- Solid training and defined roles among the health care team members;
- Certification and licensing that supports the new roles for population health; and
- A learning and improving environment (including, for example, a community health improvement plan that the collaborative group agrees on and works to implement jointly).

Having these nine items, she said, can turn a good program into a sustainable program, one that will have the financial resources to succeed, the data to demonstrate success, and the

[1] See, for example, Chang (2012), who defines integrator as an "entity that serves a convening role and works intentionally and systemically across various sectors to achieve improvements in health and well-being for an entire population in a specific geographic area. Examples of integrators range from integrated health systems and quasi-governmental agencies to community-based nonprofits and coalitions."

community and professional buy-in to maintain momentum. "These are the pieces that get the system moving in the right direction," she said.

Isham noted that he heard many of the panelists talk about a tension between the cultures of public health and health care delivery and the need to overcome the barriers that lead to treating them as separate cultures. Some speakers referred to analogous challenges, or signs of dissatisfaction on both sides of the cultural fence between health care and public health, including the need for payment reform in health care delivery and the need to address the problems with categorical funding on the public health context. Isham remarked on the fact that presentations listing opportunities under the ACA referred to the National Prevention Strategy and National Quality Strategy, two parallel, but not yet integrated, national initiatives. Isham also reiterated the conditions required for collective impact, mentioned by different speakers: a common agenda, shared measurement, mutually reinforcing activities, continuous communication, and a backbone of support or infrastructure. Isham also commented on the importance of having an infrastructure to support population health and remarked on the fact that public health is suffering a loss of funds when they are most needed. Sanne Magnan added that she would add to the growing list of topics surfaced during the meeting the ability to sustain focus and the need to demonstrate return on investment—to answer the question that multiple stakeholders will ask "what's in it for me?"—by helping stakeholders identify how they could participate and potential benefits of working together. Other members commented on the clear need to educate different health professions to understand and be able to contribute to improving population health and on the related need to broaden the reach of system communication beyond patient engagement toward facilitating a richer understanding among the public about the many factors that create health. Comments from other roundtable members also highlighted the importance of developing sustainable sources of funding for population health initiatives, with accompanying policies that create markets for health. To this end, several remarked that they viewed as encouraging the news from the CMS Innovation Center about a second round of grants with a population health focus. Several members reiterated Isham's observation that the field would benefit from templates and best practices so that successful models for financing population health can be scaled and spread in a more systematic manner. One member noted that without a range of efforts to sustain successful programs and demonstrate the value they provide, current population health initiatives, such as those supported by Community Transformation Grants, are at risk of suffering the same fate as substance abuse treatment programs—many were developed in the 1990s, but few had a robust, large, systemic impact.

The need to develop a strong research agenda, identified by Shortell's keynote presentation was noted by roundtable members. One member pointed out that despite significant gains in reducing the prevalence of smoking, some 20 percent of the American population still use tobacco, and that obesity control and injury prevention still call for developing effective interventions. The point was also made that community health assessment, mentioned by several speakers, can be a unifying activity between public health agencies and health care organizations, and population health measurement more broadly can be a means of aligning those different systems.

A roundtable member commented that although the topic of health disparities was mentioned numerous times, it would be helpful to have additional information about what communities are doing to address health disparities and how best to measure progress in addressing them. Another member remarked on the creativity demonstrated by the various programs to improve population health, and especially the notion of moving from collaboration

toward collective impact. One roundtable member commented on the importance of establishing a system, such as an activity index, to ascertain the level of involvement of different counties or communities in population health improvement activities, to ultimately assess whether a higher level of activity is associated with marked improvement in outcomes. The member added that although there is a rich history of community coalitions in the 1990s organized around such topics as child health and substance use, few of those efforts resulted in robust and systemic change, and many had limited or no effect. One could point to good things accomplished by such programs, but they "did not move the needle on drug use on the one hand, or on overall children's health, on the other hand. I think we need to be a little bit sober and make sure that these things are moving in the right direction." "Good work dies when the funding dies," noted another roundtable member, and some of the good programs lifted up today are near the end of their funding, so the issue of sustainable funding is crucial. The Community Transformation Grants program could be brought to an end before it has even had a chance to run its full course, the commenter added. Leadership, learning strategy, and efforts to demonstrate returns on investment are required to help prevent the loss of what is being built today.

A participant's comments about the need for population health metrics indicated that perhaps the field needs to learn when good—in measurement and evidence or best practices—is good enough to implement and to share with others in the field. Moreover, a gap remains in the view that many stakeholders have of population health: there is a need to see the population and its health from the community perspective and not merely from the perspective of the clinical care setting. Another member remarked that several presentations referred to youth and children, but most of the large (health care) costs are found at the other extreme of the lifespan, indicating a need to look at that what public health can do to improve health at the end of life.

Isham then opened the floor to comments from the general audience. An attendee from the National Association of School Nurses remarked that schools were mentioned frequently during the day's proceedings, and that schools are a locus of great importance to population health improvement efforts. She suggested that school nurses could serve as valuable partners in getting population health concepts introduced into schools.

In a closing comment, one of the roundtable members stated that in the face of pressure individuals may feel to return to their "camps" after a gathering that is cross-sectoral and multidisciplinary, the day's message is that there is no alternative but to begin to change, moving in the direction of greater collaboration—among public health and health care entities and well beyond—in all the dimensions of work needed to improve the health of the population.

APPENDIXES

Appendix A

Biographies of Speakers and Planning Committee

John Auerbach, M.B.A., is Professor of Practice and Director of the Institute of Urban Health Research at Northeastern University. He was the Massachusetts Commissioner of Public Health from 2007 to 2012. Under his leadership the Department developed new and innovative programs to address racial and ethnic disparities, to promote wellness (including the Mass in Motion campaign), to combat chronic disease and to support the successful implementation of the state's health care reform initiative. From 2010-2011, Auerbach served as President of the Association of State and Territories Health Officials (ASTHO). Prior to his appointment as Commissioner, Auerbach had been the Executive Director of the Boston Public Health Commission for 9 years. As such he oversaw the health department for the City of Boston, the City's Emergency Medical Services and the largest homeless shelter in New England. During this time period he was a member of the Board of the National Association of County and City Health Officials. He had previously worked at the State Health Department for a decade, first as the Chief of Staff and later as an Assistant Commissioner overseeing the HIV/AIDS Bureau during the initial years of the AIDS epidemic. Earlier in his career he was the administrator of Boston City Hospital's Primary Care Residency Training Program and a manager of one of the state's first community health centers.

Debbie I. Chang, M.P.H., as Vice President of Policy and Prevention for Nemours, is focusing on developing and achieving Nemours' policy and advocacy goals; identifying, evaluating, replicating and promoting model practices and policies in strategic areas such as innovation in child health promotion, prevention, and Nemours' integrated system of care; and developing and advancing Nemours' visionary child health prevention strategy across the enterprise. Ms. Chang is also leading a collaborative learning effort with eight communities across the country to harness and promote innovative policies and practices to improve the health and well-being of children in cross-sectoral (integrating health and other sectors serving children), place-based approaches. During the last 5 years at Nemours, she created and led Nemours Health & Prevention Services, an operating division devoted to improving children's health over time through a cross-sectoral, community-based model in Delaware that includes developing, implementing, evaluating, and promoting model prevention interventions. Ms. Chang has over 22 years of federal and state government and private sector experience in the health field. She has worked on a range of key health programs and issues including Medicaid, State Children's Health Insurance Program (SCHIP), Medicare, Maternal and Child Health, national health care reform and financing coverage for the uninsured. She has held the following federal and state

positions: Deputy Secretary of Health Care Financing at the Maryland Department of Health and Mental Hygiene, with oversight for the State of Maryland's Medicaid program and the Maryland Children's Health Program; Director of the Office of Legislation for the Health Care Financing Administration (now the Centers for Medicare & Medicaid Services); and Director of SCHIP when it was first implemented in 1997. Ms. Chang also served as the Senior Health Policy Advisor to former U.S. Senator Donald W. Riegle, Jr., former chair of the Senate Finance Subcommittee on Health for Families and the Uninsured. She currently serves as the co-Principal Investigator on a Robert Wood Johnson evaluation grant, "Evaluation of School and Child Care Sector Childhood Obesity Prevention Strategies in Delaware." She is an active member on a number of boards including Grantmakers in Health, Healthy Eating Active Living Convergence Partnership, National Institute for Children's Healthcare Quality (NICHQ) Policy Advisory, and Obesity National Advisory Committees, and the University of California, Los Angeles, Alliance for Information on Maternal and Child Health Support Center National Advisory Panel. Ms. Chang is a senior associate in the Department of Population, Family and Reproductive Health at the Bloomberg School of Public Health, Johns Hopkins University. She has published work on integrating population health and medical care, SCHIP, and Maryland's Managed Care Program. She holds a master's degree in Public Health Policy and Administration from the University of Michigan and a bachelor's degree in Chemical Engineering from the Massachusetts Institute of Technology.

George R. Flores, M.D., M.P.H., is a Program Manager for The California Endowment's (TCE's) Healthy California Prevention team. His work focuses on grantmaking to improve health and equity through community-based prevention and a health workforce suited to health system reform. His work aims to strengthen collaborative work of public health, primary care, and community outreach for prevention to address the social and environmental factors that shape health outcomes. Dr. Flores previously managed grantmaking to develop models of health-supportive policies and community environments, including Healthy Eating Active Communities and the Central California Regional Obesity Prevention Program, two nationally-prominent multisite, multisector programs to prevent childhood obesity that provided key lessons for the development of The Endowment's Building Healthy Communities strategy.
Prior to the TCE, Dr. Flores served as Public Health Officer in San Diego County and in Sonoma County, also as Clinical Assistant Professor for the University of California, San Francisco, Family Practice Residency Program, Director, Project HOPE in Guatemala, and Deputy Health Officer in Santa Barbara County. Dr. Flores received his M.D. from the University of Utah, and M.P.H. from Harvard. He is an alumnus of the Kennedy School of Government's Executive Program and the National Public Health Leadership Institute. He is a member of two Institute of Medicine committees that published the milestone reports *Preventing Childhood Obesity: Health in the Balance*, and *The Future of the Public's Health in the 21st Century*. Dr. Flores is a founder of the Latino Coalition for a Healthy California. Over his career, Dr. Flores has been a resource to government and non-government organizations. He has given hundreds of presentations and written dozens of reports for diverse audiences on topics including disease prevention, community health, immigrant health, health disparities, and environmental policy. Dr. Flores' work has been published in the *Journal of the American Public Health Association*, *American Journal of Preventive Medicine*, and *Preventing Chronic Disease,* among others. He co-authored a book chapter, "Latino Children's Health and the Environment," in *At Risk! Latino Children's Health*, recently published by Arte Publico Press. Dr. Flores was recognized by the National Hispanic Medical Association as 2011 Physician of the Year for his work that addresses

social and environmental inequities and the role of communities in advancing policy and systems change to improve health. His vision is for every community to be a healthy, safe, and supportive place to raise children, go to school, work, and play.

James A. Hester, Ph.D., M.S., has been active in health reform and population health for almost four decades. His most recent position was the Acting Director of the Population Health Models Group at the Innovation Center in CMS assisting in the development of delivery system transformation and payment reform initiatives such as Pioneer ACO's, medical homes and population health models. Prior to joining CMS, he was the Director of the Health Care Reform Commission for the Vermont state legislature. The commission was charged with developing a comprehensive package of health reform legislation and recommending the long term strategy to ensure that all Vermonter's have access to affordable, quality health care. The delivery system reforms included a statewide enhanced medical home program and the development of pilot community health systems based on the ACO concept. Dr. Hester has held senior management positions with MVP Healthcare in Vermont, ChoiceCare in Cincinnati, Pilgrim Health Care in Boston, and Tufts Medical Center in Boston. He began his managed care career as Director of Applied Research for the Kaiser Permanente Medical Care Program in Los Angeles, California. His initial introduction to analyzing complex systems came in the aerospace industry through work on the Apollo project's rocket engines and high powered gas dynamic lasers. Dr. Hester earned his Ph.D. in urban studies, and his M.S. and B.S. degrees in Aeronautics and Astronautics, all from the Massachusetts Institute of Technology. He has a continuing interest in health services research and teaching, and has held faculty appointments at the University of Vermont (UVM), University of Cincinnati, Harvard School of Public Health and the University of Massachusetts. He has served on the boards of Vermont Information Technology Leaders (VITL), the Vermont Program for Quality Health Care, and UVM's College of Nursing and Health Science.

Genoveva "Veva" Islas-Hooker, M.P.H., is the Regional Program Director for the Central California Regional Obesity Prevention Program (CCROPP), a program of the Public Health Institute, which works to create healthy communities in California's San Joaquin Valley through policy, systems and environmental change. At the heart of CCROPP's efforts has been building the capacity of grassroots community members to be leaders for change in their communities. She has more than 20 years of experience working in the public health field in both public and private sectors. She has worked for the California Department of Health Services, Kern Health Systems, Bakersfield College, Blue Cross of California, the Kern County Department of Public Health and the Darin M. Camarena Health Center Inc. Born in Fresno, she grew up in the rural farm-working communities of the San Joaquin Valley. Islas-Hooker's bachelor's degree in health science, with an emphasis in community health, is from California State University, Fresno; she earned an M.P.H. in health education and promotion at Loma Linda University. She is a member of the American Public Health Association. She is also the current board chair for the Latino Coalition for a Healthy California and a board member for California Food Policy Advocates and the California Institute for Rural Studies.

Janine E. Janosky, Ph.D. . . . a prominent authority on improving health, Dr. Janosky is a Vice President and leads the Center for Community Health Improvement at the Austen BioInnovation Institute in Akron. The center provides a robust infrastructure for both clinical and community-

based research, structuring ways that scientists and clinicians reach patients beyond traditional venues and in community settings, thus addressing patients' needs and environments while expanding and accelerating research. Further, the center is implementing processes for increased quality and effectiveness, lowering cost, and enhanced patient experiences and engagement, with an emphasis upon the medically underserved populations in the Akron region; and developing a nationally-recognized integrated health and wellness model, the accountable care community (ACC). Dr. Janosky is an expert in attracting research funding and achieving impactful community health initiatives. Most recently, Dr. Janosky served as the vice provost for research at Central Michigan University where she led the effort to facilitate research opportunities, administer intellectual property activities, direct university commercialization endeavors and technology transfer activities, and develop innovative educational programs. Prior to joining Central Michigan, Janosky served as the executive director of the University of Pittsburgh School of Medicine's Center for Primary Care Community-Based Research, an entity she envisioned and created.

Lillian Shirley, B.S.N., M.P.H., M.P.A., director of the Multnomah County Health Department, provides public health leadership in collaboration with community partners to address the county's health needs, and offers health policy leadership on both a county and state level. Her jurisdiction is known for innovation in policy and systems approaches to improving and protecting the publics' health. Under her leadership the jurisdiction has implemented a "health in all policies" approach to transportation, planning, built environment and food policies. They were one of the first counties in the nation to develop a multisector City/County Climate Action Plan and a health equity lens for resource distribution. The Governor of Oregon appointed Ms. Shirley Vice-Chair of the Oregon Health Policy Board charged with overseeing Health Reform in Oregon and in early 2013 invited her to serve on an Affordable Care Act Advisory Workgroup to help ensure Oregon maintains a sound insurance market due to ACA reform actions. Ms. Shirley is currently Immediate Past President of the National Association of County and City Health Officials (NACCHO). She was elected Vice-Chair of an eight organization, three county ACO in Oregon–Health Share of Oregon. Ms. Shirley was also invited to be a committee member for the United States Environmental Protection Agency Local Government Advisory Committee and is a liaison representative for NACCHO on the Community Preventative Services Task Force. Multnomah County Health Department was selected to serve as the convening organization and legal entity for an 18 organization collaborative including four counties and 15 hospitals to jointly undertake a comprehensive community health needs assessment and planning process that will integrate the Hospital's requirements for IRS reporting and the Public Health Departments' foundation for accreditation. Multnomah County Health Department has integrated Health Outcomes and Goals in the Portland/Multnomah Climate Action Plan, the 25-year planning document known as the Portland Plan and included active living, healthy eating goals in the regional Built Environment Atlas--all planning, development and transportation multi sector documents. Her department is the largest provider of safety-net services in the state of Oregon. A Federally Qualified Health Center with integrated primary care, dental, pharmacy, and mental health services, all of their clinics have been recognized as Tier 3 Primary Medical Homes. In addition, the department provides health services in all county jails. Prior to coming to Oregon, Ms. Shirley was Director of Public Health in Boston. After participating in the merger of Boston's public hospital with Boston University's medical center, Ms. Shirley served as the first executive director of the newly formed Boston Public Health

Commission. Ms. Shirley received a master's degree in public health from Boston University and a master's degree in public administration at the John F. Kennedy School of Government at Harvard University. Ms. Shirley served for 9 years as a board member of CareOregon, the states largest Medicaid insurer. She served as Vice President of the Public Health Foundation, member of the Board of Oregon Public Health Institute, the Portland Sustainable Development Commission, OHSU School of Medicine Dept of Community Medicine Adjunct Faculty, and Board Member of North by Northeast Community Health Center.

Stephen M. Shortell, Ph.D., M.P.H., M.B.A., is the Blue Cross of California Distinguished Professor of Health Policy and Management and Dean Emeritusat the School of Public Health at the University of California, Berkeley and also Professor of Organization Behavior at the Haas School of Business at Berkeley. He is a behavioral scientist who has spent most of his career examining the factors influencing organizational innovation and performance in the health sector particularly in regard to integrated delivery systems and quality improvement. His papers have appeared in a wide variety of organizational and health services/health policy research journals and he is the author or co-author of 10 books. Dr. Shortell is an elected member of the Institute of Medicine, past editor of *Health Services Research*, and past President of AcademyHealth. The work of he and his colleagues has been recognized through receipt of the distinguished Baxter Allegiance/Graham Prize for their contributions to health services research, the Distinguished Investigator Award from AcademyHealth, and the Distinguished Research Scholar Award from the Division of Healthcare Management of the Academy of Management.

Joshua M. Sharfstein, M.D., is the Secretary of the Maryland Department of Health and Mental Hygiene. Previously he served as principal deputy commissioner of the U.S. Food and Drug Administration 2009-2011 and as the Commissioner of Health in Baltimore, Maryland, from December 2005 to March 2009. From July 2001 to December 2005, Dr. Sharfstein served on the Minority Staff of the Committee on Government Reform of the U.S. House of Representatives, working for Congressman Henry A. Waxman. He serves on the Health Information Technology Policy Committee for the U.S. Department of Health and Human Services, on the Board on Population Health and Public Health Practice of the Institute of Medicine, and on the editorial board of the *Journal of the American Medical Association*. A pediatrician, Dr. Sharfstein lives with his family in Baltimore, Maryland.

Julie A. Trocchio, M.S., B.S.N. is senior director of Community Benefit and Continuing Care for the Catholic Health Association (CHA) of the United States in Washington, D.C. She coordinates CHA activities related to planning and reporting community benefits and leads CHA advocacy on the charitable purpose of nonprofit healthcare. She also coordinates CHA programs and advocacy related to the well-being of aged and chronically ill persons in need of long-term care and home and community-based services. Ms. Trocchio earned a degree in nursing from Georgetown University and a master's degree in community health nursing from University of Maryland.

Stella Whitney-West, M.B.A has more than two decades of experience working with governance and policy boards of nonprofit organizations and more than 20 years of senior management experience in the Twin Cities nonprofit community. She is CEO of NorthPoint Health & Wellness Center a federally qualified health center with medical, dental, behavioral

health and human services. The clinic has been accredited by Joint Commission since 1976 and is a certified health care home. NorthPoint utilizes a team based integrated model of care that includes community health workers, social workers and client advocates to address four strategic areas: primary care, community health, social determinates of health, and health equity. Recently, Ms. Whitney-West was appointed to the Minnesota Health Exchange Advisory Task Force and serves on the board of directors for Urban Home Works, Twin Cities LISC and Minnesota Association of Community Health centers. Ms. Whitney-West holds an M.B.A. from University of St. Thomas and a B.S. degree in Biology from the University of Minnesota.

Wilma Wooten, M.D., M.P.H., is board-certified in Family Medicine and trained in preventive medicine and public health. From 1990 to 2001, she practiced medicine as a faculty member of the University of California, San Diego (UCSD), Department of Family and Preventive Medicine. She transitioned to the County of San Diego Health and Human Services Agency in 2001, where she has served as the Public Health Officer since February 2007. In this position, she has oversight for approximately 500 employees with a budget of approximately $100M serving a county of 3.1 million residents. She is an Adjunct Professor at San Diego State University (SDSU) Graduate School of Public Health (GSPH) and a UCSD Volunteer Associate Clinical Professor in the Department of Family and Preventive Medicine. Dr. Wooten obtained her undergraduate degree from Spelman College; master's of public health and doctor of medicine degrees from the University of North Carolina, Chapel Hill; family medicine residency training from the Georgetown/Providence Hospital Family Medicine Program; and preventive medicine residency training from the SDSU. Dr. Wooten is on the executive committee for the California Conference of County and City Local Health Officers (CCLHO), and is a Board member for the National Association of County and City Health Officials.

Appendix B

Workshop Agenda

June 13, 2013

National Academy of Sciences Building, Auditorium
2101 Constitution Avenue, NW
Washington, DC

8:30 am	Welcome and Introductions David Kindig, *Co-Chair,* Roundtable on Population Health Improvement
8:45 am	Workshop overview and opening Remarks George Flores, Planning Committee *Co-Chair*
9:15 am	Panel I: Opportunities to integrate a population health approach in Affordable Care Act Implementation; current models OBJECTIVE: Showcase promising models of integrated systems for personal and population health improvement with potential for scaling and replication through Affordable Care Act implementation. Moderator: Sanne Magnan, Member of the Roundtable on Population Health Improvement Janine E. Janosky Vice President Austen Bioinnovation Institute in Akron, Center for Community Health Improvement Joshua M. Sharfstein Secretary, Maryland Department of Health and Mental Hygiene Chair, Maryland Health Benefit Exchange

Lillian Shirley
Director
Multnomah County (Oregon) Health Department
Oregon

Stella Whitney-West
Chief Executive Officer
NorthPoint Health & Wellness Center
Hennepin County, Minnesota

10:35 am Break

10:45 am Discussion about Opening Remarks and Panel I
Moderator: Sanne Magnan, Member of the Roundtable on Population Health Improvement

11:45 am Presentation: Bridging the Divide between Health and Health Care
Steve Shortell (via videoconference)
Blue Cross of California Distinguished Professor Health Policy and Management
Professor of Organizational Behavior
University of California, Berkeley

12:05 pm Discussion

12:20 pm Lunch

1:20 pm Panel II: Catalyzing and sustaining the adoption and integration of a population health concept in Affordable Care Act implementation; innovations real and proposed

OBJECTIVE: Identify opportunities for sustained improvements in population health through Affordable Care Act driven innovations in payment reform, public policy, community benefits, and community transformation

Moderator: Dave Chokshi, Planning Committee Member

Debbie I. Chang
Vice President, Policy & Prevention
Nemours

Genoveva Islas-Hooker
Regional Program Director
Central California Regional Obesity Prevention Program

James A. Hester
Independent Consultant
Vermont
Former Acting Director, Population Health Models Group
Innovation Center, Centers for Medicare & Medicaid Services

Wilma Wooten
Director
San Diego County Department of Public Health

John Auerbach
Distinguished Professor of Practice and Director of the Institute on Urban Health Research
Northeastern University

Julie A. Trocchio
Senior Director, Community Benefit and Continuing Care
Catholic Health Association

3:20 pm Break

3:35 pm Discussion: Panel II
Moderator: Dave Chokshi, Planning Committee member

4:35 pm Reflections on the day
George Isham, *Co-Chair,* Roundtable on Population Health Improvement

5:00 pm Public Comment

5:15 pm Adjourn

Appendix C

References

ABIA (Austen BioInnovation Institute in Akron). 2012. *Healthier by design: Creating accountable care communities*. Akron, OH: Austen BioInnovation Institute in Akron. http://www.abiakron.org/Data/Sites/1/pdf/accwhitepaper12012v5final.pdf (accessed August 8, 2013).

Bipartisan Policy Center. 2012. *Lots to lose: How America's health and obesity crisis threatens our Economic Future*. Washington, DC: Bipartisan Policy Center.

Berkeley Forum. *A New Vision for California's Healthcare System: Integrated Care with Aligned financial incentives.* Berkeley: University of California School of Public Health. http://berkeleyhealthcareforum.berkeley.edu/report/ (accessed August 12, 2013).

Chang, D. 2012. *What does a population health integrator do?* http://www.improvingpopulationhealth.org/blog/2012/05/what-does-a-population-health-integratordo.html (accessed June 4, 2013).

Chang D. I., A. S. Gertel-Rosenberg, V. L. Drayton, S. Schmidt, and G. B. Angalet. 2010. A statewide strategy to battle childhood obesity in Delaware. *Health Affairs* 29(3):480-489. http://content.healthaffairs.org/content/29/3/481.full.pdf+html (accessed 8/13/2013).

Frieden, T. R. 2010. A framework for public health action: The health impact pyramid. *American Journal of Public Health* 100(4):590-595.

IOM (Institute of Medicine). 2011. *For the public's health: The role of measurement in action and accountability.* Washington, DC: The National Academies Press.

IRS (Internal Revenue Service). 2011. Part III—Administrative, procedural, and miscellaneous notice and request for comments regarding the community health needs assessment requirements for tax-exempt hospitals. Notice 2011-52. http://www.irs.gov/pub/irs-drop/n-11-52.pdf (accessed September 25, 2013).

Jacobson, D. M., and S. Teutsch. 2012. *An environmental scan of integrated approaches for defining and measuring total population health by the clinical care system, the government public health system, and stakeholder organizations*. Paper commissioned by the National Quality Forum, Washington, DC.

Kindig, D., and G. Stoddart. 2003. What is population health? *American Journal of Public Health* 93(3):380-383.

Nemours. 2012. *Integrator role and functions in population health improvement initiatives.* Washington, DC: Nemours. http://www.improvingpopulationhealth.org/Integrator%20role%20and%20functions_FINAL.pdf (accessed August 13, 2013).

Nemours. 2011. *Delaware survey of children's health data brief*. http://www.nemours.org/about/policy/encouragehealth/delaware-survey.html (accessed August 13, 2013).

Shortell, S. M., R. G. Gillies, D. A. Anderson, K. M. Erickson, and J. B. Mitchell. 2000. *Remaking healthcare in America: The evolution of organized delivery systems*, 2nd edition. San Francisco: Jossey-Bass.