



2018 Health Care & Education Presidential Address: The American Diabetes Association in the Era of Health Care Transformation

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This address was delivered by Felicia Hill-Briggs, PhD, ABPP, President, Health Care & Education of the American Diabetes Association (ADA) at the ADA's 78th Scientific Sessions in Orlando, FL, on 23 June 2018. Diabetes has become a high-priority condition in the current era of health care transformation due to diabetes and prediabetes prevalence rates, suboptimal diabetes outcomes at the health care system and population levels, and high health care and public health costs attributed to diabetes. Population health is the path forward for the ADA to facilitate diabetes health care and public health improvement nationally. Population health management initiatives underway at the ADA include Diabetes INSIDE for health care systems and a Mental Health Provider Training Program and referral directory. Population health improvement initiatives include the prediabetes Risk Test Campaign, National Diabetes Prevention Program (DPP) dissemination in underserved states and populations, a DPP *Express* information technology platform, and a social determinants of health scientific review and recommendations. Dr. Hill-Briggs is a professor of medicine; physical medicine and rehabilitation; health, behavior, and society; and acute and chronic care at Johns Hopkins University in Baltimore, MD. She is a core faculty member of the Welch Center for Prevention, Epidemiology & Clinical Research and colead of behavioral, social, and systems science for the Johns Hopkins Institute for Clinical and Translational Research. Dr. Hill-Briggs has been elected to the National Academy of Medicine of The National Academies of Science, Engineering, and Medicine and is the 2018 recipient of the Rachmiel Levine Medal for Leadership from the ADA.

Over the past 4 years, I have had the pleasure of serving on the American Diabetes Association (ADA) board of directors during a period that is referred to as an era of health care transformation in the United States. The goals of transforming care are to improve the health of populations and the patient experience of care, while achieving value. In light of the major developments of this era, it is crucial to examine how the ADA is ensuring that it remains current, relevant, and impactful in achieving goals of improved population health for people with or at risk for diabetes.

To begin, my experience with diabetes reflects many of the challenges facing diabetes health care and public health practice today. My experience began in 1975, at 9 years of age, when I was diagnosed with type 1 diabetes. My family received care at a segregated family practice office in our Baltimore City neighborhood. Our family practice doctor had privileges at a segregated hospital, which is where I was hospitalized and eventually diagnosed. Because type 1 diabetes was so rare in African Americans, I was the first person with the disease whom doctors in the practice

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had seen. After discharge from the hospital, it took some time to find a doctor to treat me. I eventually entered care with a doctor who treated adults with type 2 diabetes. As I grew into young adulthood, while a graduate student, I experienced the perils of being underinsured and not being able to afford my medical care and diabetes supplies.

It was my professional exposures as a young clinician and researcher that allowed me to see the juxtaposition of populations with diabetes, their care, and outcomes. The challenges I encountered were not unique, nor were they limited to the past. They represent current and ongoing experiences of many people with diabetes. As the nation's foremost voluntary organization devoted to diabetes prevention and care, the ADA is poised to contribute discovery, support, and advocacy to ensure better care for our nation's population affected by diabetes. The ADA is called upon to use its collective 78 years of knowledge and evidence to address the looming challenge diabetes poses to health care and public health.

DIABETES AS A DRIVER OF THE NEED FOR CARE TRANSFORMATION

The Centers for Disease Control and Prevention (CDC) 2017 national diabetes statistics estimate 30.3 million people with diabetes in the United States and another 84.1 million with prediabetes (1). Diabetes has overwhelmed our health systems, ranking first in spending on health care (ambulatory care, inpatient care, pharmaceuticals, emergency care, and nursing facility care) and public health (2). The ADA study on the economic costs of diabetes, released in May 2018, revealed a total economic cost of diagnosed diabetes of \$327 million USD per year (3). Yet, despite spending and significant advances in diabetes discovery and treatments, diabetes outcomes have remained relatively unchanged at the population level. In fact, Lipska et al. (4), in an analysis of claims data on more than 1.6 million insured patients with type 2 diabetes, found that in the 8-year period between 2006 and 2013, despite increases in the use of the diabetes medications metformin, dipeptidyl peptidase 4 inhibitors, and insulin, the proportion of patients with an A1C <7.0% declined, and the proportion of patients with A1C ≥9%

increased. In addition, diabetes risk, prevalence, morbidity, and mortality continue to differ by socioeconomic status and by race/ethnicity (1,5), with patterns of health disparity largely attributable to social determinants (5). Measurable disparities in care also persist, with lower socioeconomic status groups and racial/ethnic minorities receiving lower quality of diabetes care (6). Poor quality of care, combined with social determinants, contributes to avoidable diabetes health costs in these populations.

Hence, diabetes underscores the challenges health care transformation seeks to address. To contribute to transformation of the nation's outcomes in diabetes, the ADA must advance bold initiatives in the current era and beyond.

ADVANCING DIABETES POPULATION HEALTH SCIENCE AND ACTION

Population health provides a road map for the ADA to achieve a population-level impact in the current era. Population health is defined as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group” (7). Population health also includes the patterns of health determinants and the interventions and policies that link the determinants and health outcomes

(7). Figure 1 shows a model designed by colleagues and myself to depict the diabetes population health continuum (8). The model also presents the population health process from population risk stratification to interventions and outcomes.

The goal of diabetes population health is to achieve equity by addressing the population distribution with the right interventions, at the right time, in the right place, and using the right workforces. Population health spans medical care (population health management) and public health (population health improvement). Key to population health is the use of data and population-level analytics to identify and define the populations and population subgroups, characterize the population with regard to health metrics and measures, and monitor and evaluate the outcomes of population health initiatives. In addition, key to population health is moving beyond health care through clinic-community partnerships, multisector partnerships, and policy.

For the ADA, diabetes population health can be viewed as a means of operationalizing the ADA's mission “to prevent and cure diabetes and to improve the lives of all people affected by diabetes.” However, the population

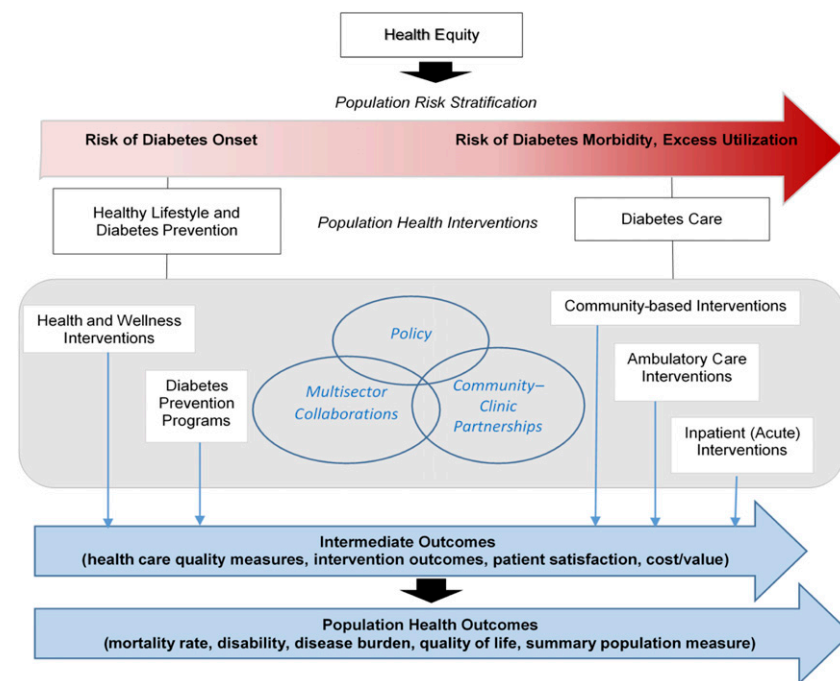


Figure 1—Diabetes population health framework. The case for diabetes population health improvement: evidence-based programming for population outcomes in diabetes. Reprinted with permission from Springer Nature (8).

health path forward necessitates broadened research scopes and competencies for investigators and diabetes research funders (9,10). It also calls for new educational programs for health care professionals (11–13) and new translation, dissemination, and implementation skills applied to populations and population subgroups. Finally, population health involves the leveraging of new opportunities and resources such as community health needs assessments and Community Benefit Dollars for initiatives that reinvest in the health of community populations (14,15).

The ADA is making progress toward a diabetes population health road map. I will highlight several of our population health management and population health improvement initiatives (Table 1).

DIABETES POPULATION HEALTH MANAGEMENT

Diabetes population health management focuses on cohorts of patients or other populations defined within the context of a health care setting or system (16). Population health management often uses multilevel interventions that are carried out within health care settings to improve the clinical outcomes and quality metrics of patient populations. The following sections describe two of the ADA's current population health management initiatives designed for national impact.

Diabetes INSIDE

Diabetes INSIDE (Inspiring System Improvement with Data-Driven Excellence)

is the ADA's long-term strategy to translate more than 78 years of our science and advocacy into action by supporting our nation's health care systems to improve population outcomes for people with diabetes. In 2009, the ADA began working with the company Intelligent Medical Decisions (iMD). iMD successfully designed and implemented Diabetes INSIDE as an integration of the ADA's *Standards of Medical Care in Diabetes* and professional education activities directly into health care quality improvement (QI) initiatives. In 2015, the ADA board of directors made a strategic decision to commit to goals of national diabetes population health management using the Diabetes INSIDE program. The ADA acquired iMD in 2016—its first private company acquisition—bringing the iMD expert team of Gregory Liptak; Elise Furman, RN, MBA, MEd; and Roy Furman, MD, PhD to the ADA.

The goal of Diabetes INSIDE is to catalyze, accelerate, and sustain health care improvement across health care systems, public health departments, payers, and the range of stakeholders and organizations committed to improving diabetes outcomes. To do so, Diabetes INSIDE applies population health and health services research methodologies, tools, and activities to improve diabetes quality of care and population outcomes within health care settings. Using population health data science and analytics, interventions are tailored to the needs, goals, resources, and demographics of health care partners and the populations they serve. Interventions include QI

training for health care personnel, multidisciplinary health care team coaching and provider professional development, patient self-management education and support program resources, community-integrated health strategies, and recognition and dissemination strategies.

Figure 2 shows the ADA's phased strategy for growth of Diabetes INSIDE for national population health impact. Between 2012 and the present, Diabetes INSIDE has been used within eight single health systems (phase 1). It has expanded to multisector partnerships in urban settings and is advancing into regional collaboratives that more effectively bring together health systems, payers, industry, and community organizations (phase 2). The first pilot collaborative is underway in Philadelphia, PA. Thomas Jefferson University Department of Internal Medicine and Department of Family and Community Medicine, University of Pennsylvania, and Hackensack University Medical Center are partnering with the ADA in this initiative. Rural clinics are key to the national strategy, and these are necessitating broader partnerships with federal and state government agencies (phase 3).

Diabetes INSIDE is leading to population health results. QI data from one of the original eight single health systems, Parkland Health & Hospital System in Texas, provide an example. Diabetes INSIDE was carried out within an urban safety-net hospital in this health system. The focus of the QI project was low initiation of insulin in patients with uncontrolled diabetes (A1C >9.0%). QI

Table 1—Examples of current ADA initiatives for population-level impact

Continuum	Initiative	Description
Population health management	Diabetes INSIDE	Health care system consultation and QI program to improve population-level diabetes quality metrics within health care populations with diabetes
	Mental health provider training and referral directory	Partnership with the APA to increase the mental health provider workforce available nationally for treatment of people with diabetes
Population health improvement	The Risk Test Campaign	Online tool and campaign to increase prediabetes screening, diagnosis, and referral to a National DPP
	Scaling and support for National DPP dissemination	CDC cooperative agreement for National DPP dissemination to underserved regions and web-based National DPP documentation tool available to community-, health care-, or public health-based National DPP LCP providers
	Social determinants of health scientific review	Commissioned evidence review and synthesis to inform recommendations for clinical and community diabetes practice and priorities for population interventions

LCP, lifestyle change program.

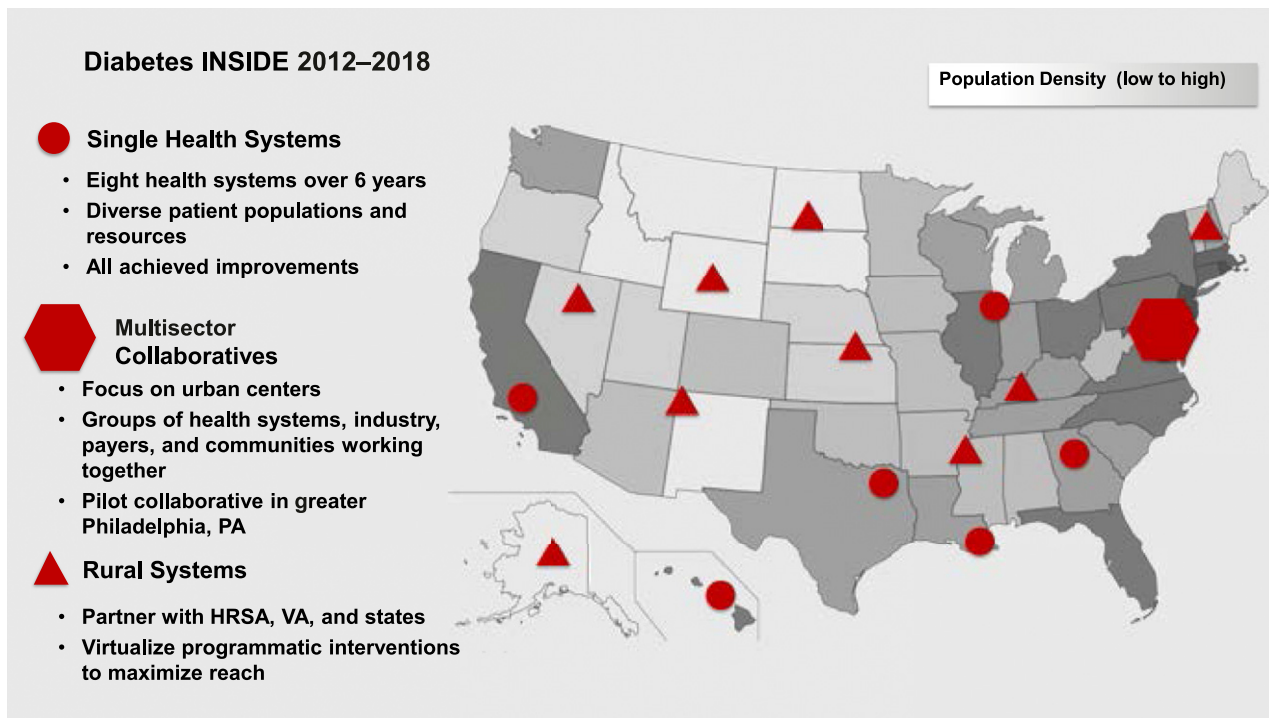


Figure 2—Phases and geographic reach of the ADA's Diabetes INSIDE program for national impact in diabetes population health management. Phase 1 was engagement of eight single health systems representing diverse geographic, socioeconomic, and racial/ethnic populations. Phase 2 began the transition to a multistakeholder collaborative model. Phase 3 is expansion into rural regions. VA, U.S. Department of Veterans Affairs health care program.

interventions included electronic medical record updates for identifying and tracking patients with unmanaged diabetes, previsit planning for insulin initiation goals, shared medical appointments, and provider education and training. After the targeted intervention, insulin initiation increased by 24% at the population level, and subsequent reductions were observed in the proportion of patients with an A1C >9.0% and in the mean population-level A1C (from 8.3 to 7.8%) (Fig. 3).

Observed improvements in diabetes control at the level of an entire diabetes population within a health care system are not easy to achieve. However, they are possible using a systematic approach to expert consultation and QI, such as that of Diabetes INSIDE. Importantly, the economic and quality-of-life impacts of such improvements are significant. The Health Resources and Services Administration of the U.S. Department of Health and Human Services (HRSA) reports that, with every 1% reduction in A1C, the risk of developing eye, kidney, or nerve disease is reduced by 40%, and the risk of heart attack is reduced by 14% (17). Within a health care population in poor diabetes control, a 1.25% reduction

in A1C can potentially result in savings of more than \$3 billion USD over 3 years (18). For Diabetes INSIDE, ADA received the 2015 Award for Outstanding Continuing Education Outcomes Assessment and the 2016 Award for Outstanding Innovation in Continuing Professional Development from the Alliance of Continuing Education in the Health Professions. Further details and outcomes of Diabetes INSIDE will be disseminated through publications.

Mental Health Provider Training and Referral Directory

There are additional labors of love that are achieving goals. In 2016, the ADA published its first position statement on the psychosocial needs and care of people with diabetes (19). The position statement recommends that all diabetes health care professionals have awareness of and proficiency in addressing the nonclinical (normative) psychosocial symptoms and behaviors common in diabetes, such as diabetes distress. However, there is also a tremendous need for a workforce of licensed and credentialed mental health providers who are trained in diabetes. This workforce is

essential for assessing, diagnosing, and treating mental health disorders in people with diabetes.

Due to the efforts of the ADA's expert behavioral health professionals and of past President of Health Care & Education, David Marrero, PhD, the ADA and the American Psychological Association (APA) entered into a partnership to meet this need. The partnership created the first diabetes-focused continuing education (CE) program for licensed mental health providers. This training continues to expand in reach and impact. Licensed mental health providers who complete the CE program become eligible for inclusion in the ADA's Mental Health Provider Referral Directory. In addition, they receive 12 CE credits from APA and membership in the ADA at the Associate level. Moreover, these providers gain access to ongoing learning and mentoring through a new ADA listserv for behavioral health and psychosocial topics and monthly peer-mentoring calls with expert professionals in the field. All professional members are encouraged to help direct mental health practitioners toward this program to increase the behavioral health workforce available to all people with diabetes.

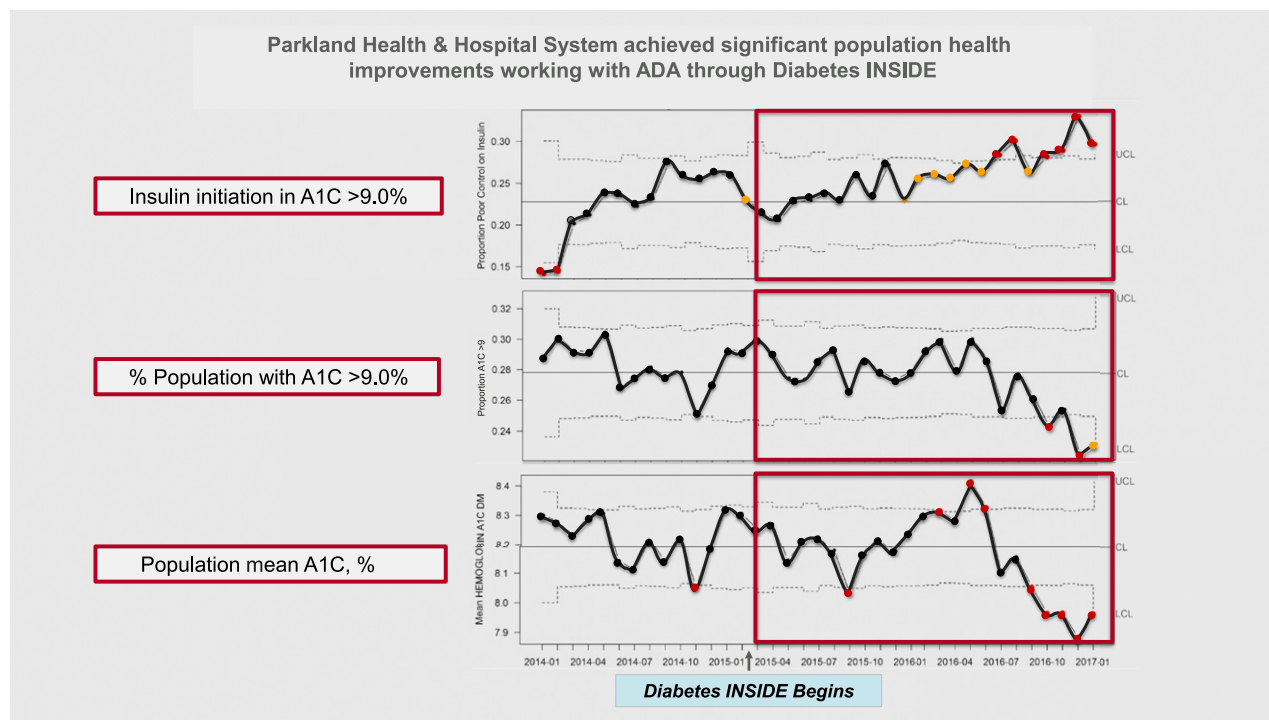


Figure 3—Diabetes INSIDE quality improvement results within an urban safety-net hospital, where the quality improvement initiative focused on improving insulin initiation rates in patients with an A1C $>9.0\%$. Data represent 23,611 patients and 73,849 A1C values over a 3-year period from baseline (2014) to Diabetes INSIDE initiation (2015) and follow-up (through 2017). CL, central line (average); DM, diabetes; LCL, lower control limit; UCL, upper control limit.

For providers seeking to refer patients for diabetes-appropriate mental health services, the Mental Health Provider Referral Directory is now available to assist in locating diabetes-proficient providers by geographic region (professional.diabetes.org/ada-mental-health-provider-directory). Thanks to this ADA-APA educational program, the network of providers promises to grow into a valuable behavioral health resource for diabetes team care.

DIABETES POPULATION HEALTH IMPROVEMENT

Interventions for population health improvement are designed to be proactive, targeting activities addressing prevention, risk reduction, health equity, and health promotion (16). Often, goals are for long-term and sustained improvement in community health status. By addressing social and behavioral determinants of health, population health improvement can reduce avoidable causes of health care utilization. In doing so, we can reduce the proportion of the population that enters into and must depend on medical care. Following are three examples of current ADA initiatives toward population health improvement.

The Risk Test Campaign

In 2016, a first-of-its-kind national campaign was launched as a joint effort of the ADA, CDC, American Medical Association, and Ad Council. This public service campaign aimed to promote public awareness of prediabetes and the National Diabetes Prevention Program (National DPP) to reduce the incidence of type 2 diabetes. I had the pleasure of representing the ADA and spreading the word in the popular media, alongside Dr. Ann Albright, Director of the CDC Division of Diabetes Translation and a former ADA President of Health Care & Education. We are all indebted to Dr. Albright and her teams for the standardization, implementation, and oversight of the National DPP.

Today, the ADA is driving the Risk Test Campaign. The Risk Test (diabetes.org/risktest) allows people to determine their risk of prediabetes using an online tool that takes about 1 min to complete. The Risk Test is also available in a paper format. The Risk Test online tool gives those at high risk of prediabetes (score ≥ 5) information on how to discuss prediabetes with a doctor and resources to register for a local or online National DPP. Those at low risk (score < 5) are given healthy living information and programs,

caregiver toolkits and services, advocate tools, and invitations to rescreen periodically. The ADA's 2020 goals for the Risk Test Campaign are to reach 20 million people taking the Risk Test, with a resulting 2.5 million people referred to a program meeting the CDC's National DPP criteria. The ADA aims to reach populations and communities that are at highest risk of prediabetes and type 2 diabetes, including individuals aged 45–65 years and racial/ethnic minority populations such as Black/African Americans, Native Americans, Hispanic/Latino Americans, and Asian Americans. To ignite this movement, the ADA is engaging our members, supporters, partners, and stakeholders via multiple channels, including social media, health care provider outreach, and community-based outreach. The ADA invites all professional members to share the Risk Test with individuals and populations at risk.

Scaling the National DPP and Supporting Sites in Implementation

When diabetes prevention became U.S. policy with Congress' passage of The Diabetes Prevention Act of 2009, the National DPP became the most successful research to policy to practice example

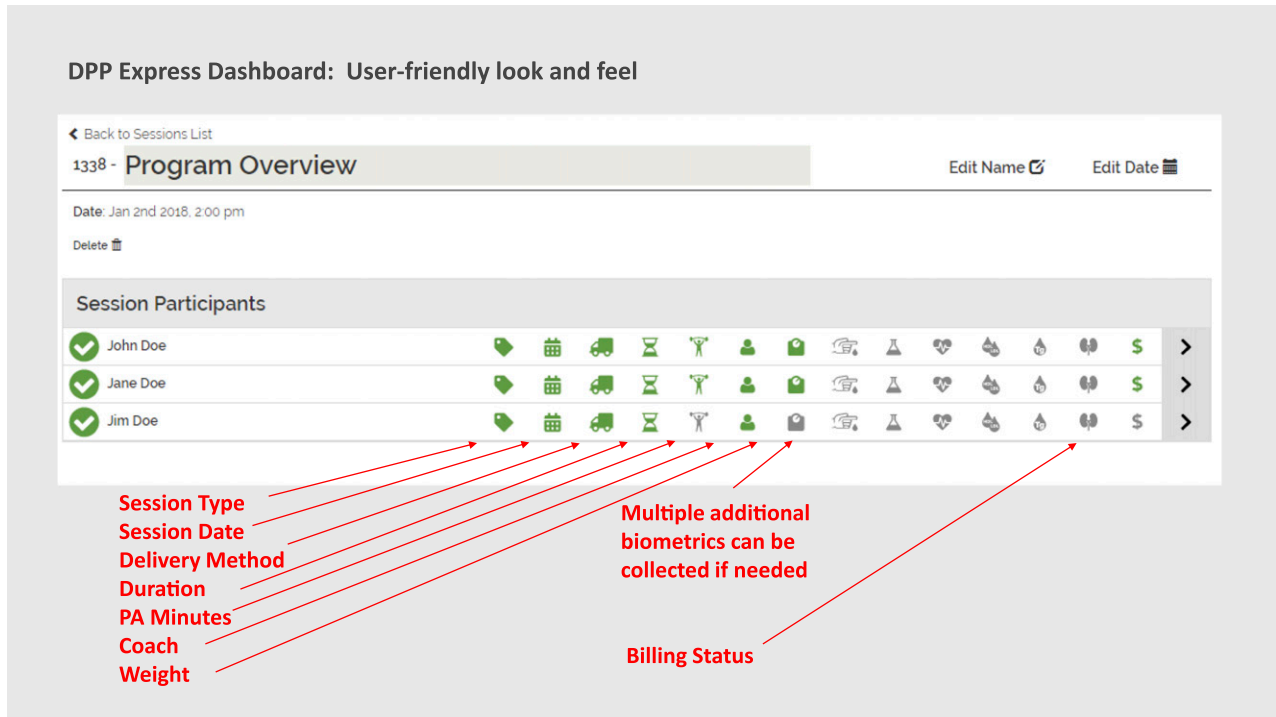


Figure 4—Screenshot of the ADA’s National DPP online documentation tool, *DPP Express*. The platform is compliant with HIPAA and HITECH. PA, physical activity.

of our time. Further progress has been made with the Centers for Medicare & Medicaid Services (CMS) reimbursement for Medicare suppliers of the National DPP, both in community-based non-health care organizations and within health care organizations. However, even with the doors opened by these accomplishments, the National DPP still must reach those who are most in need to realize the promise of diabetes prevention policy throughout the nation.

The ADA is one of ten organizations awarded a CDC Cooperative Agreement to scale the National DPP to underserved areas. Objectives are to increase the availability of National DPP–recognized programs; increase screening, diagnosis, and detection of prediabetes; increase enrollment and retention rates in National DPP sites; and provide evidence for expanding benefit coverage for these programs. The ADA is implementing the National DPP in underserved areas in the states of Arizona, California, Kansas, Oklahoma, and Texas, with a dissemination focus on Hispanic/Latino populations, Medicare beneficiaries, and men.

In addition to serving as a dissemination channel for scaling the National DPP, the ADA is building resources to facilitate

other National DPP sites across the nation. One example is the ADA’s launch of its National DPP documentation platform, *DPP Express*. *DPP Express* is a web-based, secure platform to aid National DPP suppliers in the routine collection and documentation of program measures required for CDC reporting. The platform was designed to meet several needs. First, it is compliant with the Health Insurance Portability and Accountability Act (HIPAA) and the Health Information Technology for Economic and Clinical Health (HITECH) Act. Second, it incorporates the CDC 2018 DPP Standards and the CMS Medicare DPP reimbursement requirements. Third, it provides documentation fields for CDC-required DPP session data, and it enables users to document additional biometrics/data points for generation of CDC Recognition reports. Finally, it provides a billing alert when DPP participants meet Medicare reimbursement requirements. Figure 4 is a screenshot of the documentation tool. *DPP Express* is available for use by ADA’s Diabetes Education Recognition Programs, as well as any community or health care supplier of a National DPP. This is especially important because, as a public health program, the National DPP is

being conducted in communities and nontraditional care sites around the country that do not have clinic-based health records or documentation platforms. Thus, *DPP Express* is a valuable tool for these providers.

Social Determinants of Health Scientific Review

We know that, despite our best efforts and interventions, subgroups of the population are left behind. People with diabetes in the community where I was born and raised fare no better today than was the case in the era when I was diagnosed. The past few years have brought increasing focus on the role of social determinants of health in the patterns of socioeconomic and racial/ethnic disparities observed in health outcomes in the United States. These patterns are seen broadly in the health of the nation, and they are observed in diabetes outcomes in particular.

The ADA has commissioned a Social Determinants of Health Scientific Review Committee, and the work of this committee has just gotten underway. The committee will conduct a rigorous review and synthesis of the literature on the role of social determinants in diabetes outcomes and the impact of social

determinant intervention approaches on these outcomes. The committee's report will serve as an authoritative, up-to-date resource to identify research and knowledge gaps and to guide evidence-based recommendations for action in clinical and community settings and multisector partnerships.

OPPORTUNITIES FOR GLOBAL IMPACT

Finally, just as diabetes has overwhelmed U.S. health care by way of economic costs and the human costs in length and quality of life, psychosocial burden, and disability, so too has our global community been adversely affected by diabetes. Since 2009, I have had the opportunity to spend a considerable portion of my professional life working toward population health initiatives in countries with some of the greatest diabetes burden, including the Caribbean nations and Saudi Arabia. I have observed the influence of the ADA, through its *Standards of Medical Care in Diabetes*, in each of the partnering countries. Now more than ever, it is time for the ADA to lend its knowledge and evidence base to the cause of global diabetes population health. To increase its reach and impact on populations, the ADA is partnering with organizations with shared interests and missions, both domestically and internationally. Look for more joint statements and initiatives, for example, with organizations including the American Heart Association and the European Association for the Study of Diabetes, as we work toward common language and recommendations regarding diabetes care.

In conclusion, I hope you are as energized as I am about health care and education science and practice opportunities in the ADA. This is an era of increasing challenges and demands, leading to new opportunities for population impact. Through numerous initiatives and collaborations now underway, including Diabetes INSIDE, the Mental Health Provider Training and Referral Directory, the Risk Test Campaign, National DPP scaling and dissemination support, and the social determinants of health scientific review,

the ADA's national and global relevance in this era is palpable and measurable.

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