

California Department of Public Health
Diabetes Prevention and Management
REPORT TO THE CALIFORNIA LEGISLATURE

Recommendations on Diabetes Prevention and Management
As required by Chapter 108, Statutes of 2016
(Assembly Bill No. 2696)



1) Summary

Chapter 108, Statutes 2016 (Assembly Bill No. 2696) requires the California Department of Public Health (CDPH) to submit a report to the Legislature that includes a summary and compilation of recommendations on diabetes prevention and management. CDPH's Chronic Disease Control Branch (CDCB) is submitting the following report with relevant findings and recommendations on diabetes prevention and management.

2) California Department of Public Health Programs

CDPH's CDCB implements evidence-based strategies to prevent and manage diabetes utilizing the National Diabetes Prevention Program (National DPP) and the Diabetes Self-Management Education and Support (DSMES) program. CDPH received two grants from the Centers for Disease Control and Prevention (CDC) in 2013 and 2014 *State Public Health Action to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health (CDC RFA DP13 1305)*, known in California as Prevention First (1305) and *State and Local Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke (CDC RFA DP14 1422PPHR14)*, known in California as Lifetime of Wellness (1422). CDPH coordinated with City of Los Angeles and City of San Diego as they also received 1422 funds. Under these two grants, CDPH's CDCB staff and partners implemented evidence-based strategies to prevent and manage diabetes from 2013 through September 2018. Additionally, a five-year CDC grant *Improving the Health of Americans Through Prevention and Management of Diabetes and Heart Disease and Stroke (CDC-RFA-DP18-1815PPHF18)*, known in California as "Prevention Forward" (1815) began October 2018 and goes through June 2023. Major accomplishments from the two grants included:

- Ten local health departments (LHDs), including six in the Central Valley, were funded to address diabetes and cardiovascular disease; including expansion of the National Diabetes Prevention Program (National DPP) for those with prediabetes in their communities.
- 113 National DPP lifestyle change programs are CDC-recognized or pending recognition in California, and there are over 40 National DPP lifestyle change programs sites in the Central Valley.
- 596 diabetes educators were trained through health system coordination with Health Services Advisory Group (HSAG), the California Quality Improvement Organization.
- Monterey County created an educational pathway for students to serve as community health workers (CHWs) for diabetes prevention in the County's Latino community.

- Culturally-adapted national [Prediabetes Awareness Campaign](#) public service announcement advertisements ran for two years in the Central Valley, Los Angeles, and San Diego.
- As of April 2018, the estimated number of people covered by private or public sector insurance for the National DPP includes:
 - 1.4 million California Public Employees Retirement System (CalPERS) members covered, and over 17,000 adult members enrolled in National DPP lifestyle change programs
 - 13 million Medi-Cal (Fee-For-Service and Managed Care) members are covered, and approximately 1 million members are eligible (National DPP lifestyle change programs coverage beginning January 2016).
 - 8.3 million Anthem Blue Cross commercial plan members were covered
 - 3.5 million Blue Shield commercial plan members were covered.

CDPH's Maternal, Child and Adolescent Health Division (MCAH) implements the California Diabetes and Pregnancy Program (CDAPP) and their Sweet Success program, funded by the Maternal and Child Health Services Title V Block Grant. CDAPP's Sweet Success program provides technical support and education to medical personnel and community liaisons to assist in promoting improved pregnancy outcomes for high-risk pregnant women with pre-existing diabetes and women who develop diabetes while pregnant, gestational diabetes mellitus (GDM). Medical providers who complete a CDAPP Sweet Success application, undergo standardized CDAPP Sweet Success training, and provide direct patient care to women with diabetes while pregnant become CDAPP Sweet Success Affiliates.

The MCAH Division contracts with the CDAPP Sweet Success Resource Center (Resource Center) to develop and record training and education to medical personnel to assist in promoting improved pregnancy outcomes for high-risk pregnant women with preexisting and gestational diabetes. The Resource Center trained about 2,000 program affiliates in 2017-2018 through online trainings that covered a range of subjects, including gestational diabetes. In addition to training, the Sweet Success Resource Center also provides educational resources for both providers and pregnant women with diabetes. For more information on available resources, visit the CDAPP [Sweet Success program website](#) at www.cdappsweetsuccess.org/resources.

3) Diabetes in California

In 2017, nearly 3.2 million adults self-reported that they had diabetes, and another 4.6 million self-reported that they had prediabetes.¹ Diabetes is known to increase the risk of cardiovascular disease (CVD) and it can lead to end stage renal disease (ESRD), blindness, and limb amputations in adults.² Adults account for 99% (3,170,747) of all estimated cases of diabetes in California.³

4) Funding and Expenditures

As required by the legislation, the Department annually posts on its Internet Website a summary of the amount and source of any funding directed to, and expenditures by, CDPH for programs and activities aimed at preventing or managing diabetes. This can be found on the [diabetes prevention and management funding](https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/DiabetesPrevFunding.aspx) webpage at <https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/CDCB/Pages/DiabetesPrevFunding.aspx>

5) Financial Impact

According to a UCLA Center for Health Policy Research [2016 Health Policy Brief](#), the current trends in diabetes and prediabetes are alarming due to the associated human and financial costs.⁴ Diabetes increases the risk of serious medical complications and is extremely costly to families, businesses, health care plans, states, and the nation. In the United States (U.S.), diabetes was estimated to cost \$245 billion in 2012, including \$176 billion in direct medical costs and \$69 billion in lost productivity.⁵ In California, the total cost of diabetes was estimated to be more than \$27 billion, with \$19 billion of that spent on direct medical care for diabetes and \$8 billion on the indirect costs associated with the disease. In addition, undiagnosed diabetes is estimated to cost California \$2.8 billion and prediabetes \$5.3 billion in direct medical care.⁶

6) Recommendations

Listed below are recommendations for diabetes prevention and management.

Federal Recommendations

Several entities have issued recommendations at the federal level, please see below for the specific recommendations from each entity.

1. Centers for Disease Control and Prevention Recommendations

CDC website link:

1422 & 1305: <https://www.cdc.gov/diabetes/programs/stateandlocal/index.html>

1815: <https://www.cdc.gov/diabetes/programs/stateandlocal/cdcfunded.html>

Evidence-based Strategies:

- i) Increase access to and coverage for the National DPP lifestyle change program for people with prediabetes
- ii) Implement policies or systems in health care systems to facilitate identification of people with prediabetes
- iii) Increase health care provider referral of participants to CDC-recognized lifestyle change programs

- iv) Increase health care system implementation of community referral systems for evidence-based lifestyle change programs
- v) Increase community clinical links that facilitate referrals and provide support to enroll and retain participants in the National DPP lifestyle change program
- vi) Increase enrollment and retention in CDC-recognized organizations delivering the National DPP lifestyle change program
- vii) Increase number of people with prediabetes enrolled in a CDC-recognized lifestyle change program who have achieved 5-7% weight loss
- viii) Collaborate with payers and relevant public and private sector organizations within the state to expand availability of the National DPP as a covered benefit for one or more of the following groups: Medicaid beneficiaries; state/public employees; employees of private sector organizations
- ix) Develop a statewide infrastructure to promote long-term sustainability/reimbursement for CHWs as a means to establish or expand their use in a) CDC-recognized lifestyle change programs for type 2 diabetes prevention and/or b) American Diabetes Association (ADA)-recognized/American Association of Diabetes Educators (AADE)-accredited DSMES programs for diabetes management
- x) Implement evidence-based engagement strategies (e.g. tailored communications, incentives, etc.) to build support for lifestyle change
- xi) Increase access to and coverage for ADA-recognized/AADE-accredited (DSMES) programs for people with diabetes
- xii) Increase use of pharmacist patient care processes that promote medication management for people with diabetes
- xiii) Increase participation in ADA-recognized/AADE-accredited DSMES programs by people with diabetes
- xiv) Decrease proportion of people with diabetes with an A1C > 9 percent
- xv) Increase Medicaid recipients with diabetes who have DSME as a covered Medicaid benefitⁱ
- xvi) Expand or strengthen DSMES coverage policy among public or private insurers or employers, with emphasis on one or more of the following: Medicaid and employersⁱⁱ

ⁱ DSME is already a Medi-Cal benefit. All Medi-Cal Managed Care Plans are contractually required to cover DSME for Managed Care beneficiaries with diabetes.

ⁱⁱ The Medi-Cal Managed Care Plan contracts do not specify that this DSME needs to be DSMES (Diabetes Self-Management Education and Support), which is a nationally standardized and accredited program. Therefore, Managed Care Plans have flexibility in how they offer diabetes self-management education. In addition, Diabetes Self-Management Training (DSMT) is a covered Medi-Cal benefit for all Fee-For-Service and Managed Care beneficiaries. This benefit covers individual or group sessions but does not specify that DSMES programs or DSMES standards need to be used, which again allows flexibility in how the sessions are offered.

2. The [Community Guide](#)

<https://www.thecommunityguide.org/topic/diabetes>

The Guide to Community Preventive Services (The Community Guide) is a collection of evidence-based [findings](#) of the [Community Preventive Services Task Force \(CPSTF\)](#). The Task Force was established by the US Department of Health and Human Services in 1996 and is an independent, nonfederal panel of public health and prevention experts with members representing research, practice, and policy expertise. It is a resource to help practitioners select interventions to improve health and prevent disease in their state, community, community organization, business, health care organization, or school.

Recommendations:

- i) Engage community health workers for diabetes prevention to improve glycemic (blood sugar) control and weight-related outcomes to people at increased risk for type 2 diabetes.
- ii) Implement team-based care to control type 2 diabetes.
- iii) Implement comprehensive telehealth intervention to supplement the care of adults who have chronic disease affected by diet, such as cardiovascular disease and diabetes.
- iv) Implement use of diabetes self-management mobile phone applications (apps) in health care systems to improve blood glucose among patients with type 2 diabetes.
- v) Engage community health workers to help patients manage their diabetes, which improve patients' glycemic and lipid control and reduce their health care use.
- vi) Implement use of text messaging interventions to increase medication adherence among patients with chronic medical conditions.

3. [U.S. Preventive Services Task Force](#)

<https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/screening-for-abnormal-blood-glucose-and-type-2-diabetes>

The U.S. Preventive Services Task Force is an independent, volunteer panel of national experts in disease prevention and evidence-based medicine. The Task Force works to improve the health of all Americans by making evidence-based recommendations about clinical preventive services.

Recommendations:

- i) Provide screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.
- ii) Provide screening for GDM in asymptomatic pregnant women after 24 weeks of gestation.

State Recommendations

Several entities in California have issued recommendations at a state level, please see below for the specific recommendations from each entity.

1. University of California (UC)

[UC San Diego <https://medschool.ucsd.edu/research/IDMH/pages/default.aspx>](https://medschool.ucsd.edu/research/IDMH/pages/default.aspx)

Background: In addition to the diabetes epidemic, one-third of U.S. adults suffer from nonalcoholic fatty liver disease (NAFLD),⁷ and up to 20% of these patients will develop a highly aggressive form of the disease, nonalcoholic steatohepatitis (NASH).^{8,9} High fructose corn syrup (HFCS) is a direct cause of NASH. NASH frequently progresses to cirrhosis, resulting in liver failure or cancer.¹⁰ NAFLD and NASH are linked to obesity and often co-exist with diabetes. The incidence of diabetes, NAFLD, NASH, and NASH-related cancer is particularly high among Native Americans and Hispanics, two groups that comprise a substantial part of California's population. Furthermore, due to high consumption of processed foods and drinks containing HFCS, the incidence of these diseases is higher than average in individuals of low socioeconomic status, including teenagers.^{11,12} Altogether, obesity, diabetes, NAFLD, and NASH place a heavy burden on our health care system.

Recommendation: While the simplest solution to this problem is improved public education, diet, and exercise, the food and beverage industry has been reluctant to reduce HFCS use, propagating the claim that fructose is no more harmful than other sugars or carbohydrates.¹³ Research underway into these topics may dramatically impact public health by implicating fructose more as a toxin than a classic macronutrient, and further promote that the relationship between severe hepatic dysfunction and high fructose ingestion is analogous to the link between lung disease and cigarette smoking. Only state-of-the-art, scientifically sound collaborative research will educate the public about the threat posed by the obesity/diabetes/NAFLD/NASH epidemic and the dangers of HFCS consumption.

2. Statewide Diabetes Stakeholder Group

CDPH's California Prevent Diabetes: Screen, Test, Act Today™ (CA PDSTAT) network was launched in September 2015 in partnership with CDC, the American Medical Association, and the National Association of Chronic Disease Directors during a strategic planning meeting in Los Angeles. As a result, CDPH Prevention First and Lifetime of Wellness Programs and the CA PDSTAT stakeholder group partnered to [develop and implement the Diabetes Prevention Through Lifestyle Change Programs 2018 Action Plan](#) (Action Plan). By January 2017, the CA PDSTAT network grew to approximately 220 members from a variety of public and private sector organizations. Regular in-person meetings, webinars and teleconferences now facilitated by CDPH Prevention Forward Program allow members an opportunity to network and collaborate with each other to continue to implement focus areas and activities included in the Action Plan. Successes include increases in the number of Californians who have access to National DPPs as a covered benefit from large statewide health plans, CalPERs, and Medi-Cal.

The Action Plan lays out four focus areas, or “pillars,” to scale and sustain the evidence-based National DPP in California.

Recommendations:

- i) Availability
 - a. Provide training and technical assistance for implementing National DPPs.
 - b. Encourage organization with existing evidence-based chronic disease prevention and self-management programs to add National DPPs.
- ii) Community Engagement: Awareness
 - a. Provide training and technical assistance for implementing National DPPs.
 - b. Encourage organization with existing evidence-based chronic disease prevention and self-management programs to add National DPPs.
- iii) Coverage
 - a. Promote coverage and provider reimbursements for National DPPs by private and public health plans.
- iv) Provider Engagement: Screen, Test, and Refer
 - a. Provide education and training to members of the health care system (including physicians, health care providers and non-physician team members) on prediabetes algorithms to increase routine screening and glucose testing.
 - b. Work with health systems, medical groups and providers (including chief information officers and quality improvement teams) to implement changes to electronic health records (EHRs) to increase prediabetes screening, testing, and referrals.

3. California Medical Association (CMA)

<https://www.cmadoes.org/>

CMA is a professional organization representing more than 44,000 physician members and medical students in all modes of practice and specialties across California. CMA's mission is to promote the science and art of medicine, the care and well-being of patients, the protection of public health, and the betterment of the medical profession.

Recommendations:

- i) Support statewide and local policies that decrease consumption of sugar-sweetened beverages (SSB), such as a tax on SSBs.
- ii) Support efforts to improve school wellness and increase consumption of healthy foods and beverages, such as expanding nutrition requirements in school settings.
- iii) Encourage restaurants to include diabetic, low-sugar options on their menu.

4. CDPH California Wellness Plan 2014

The [California Wellness Plan](#) (CWP) is the result of a statewide process led by CDPH to develop a roadmap with partners to create communities in which people can be healthy, improve the quality of clinical and community care, increase access to usable health information, assure continued public health capacity and achieve health equity. Several recommendations and goals in the CWP address diabetes and related disorders.

Recommendations:

Goal 2: Optimal Health Systems Linked with Community Prevention

- i) Decrease adult and childhood obesity and diabetes.
- ii) Decrease the prevalence of diagnosed diabetes, in adults, from 9 to 8 per 100.
- iii) Decrease the prevalence of diagnosed gestational diabetes mellitus in hospital deliveries.
- iv) Increase awareness of prediabetes.
- v) Increase the percentage of Medi-Cal recipients with prediabetes or at high risk for type 2 diabetes who have access to evidence-based lifestyle intervention programs.
- vi) Increase the percentage of Medi-Cal recipients with diabetes who have access to DSME.
- vii) Increase the proportion of people with diabetes in targeted settings who have at least one encounter at a DSME program per year.

- viii) Decrease the proportion of people with diabetes who have Hemoglobin (Hgb) A1C > 9 percent.
- ix) Increase the proportion of health care providers participating in Medi-Cal EHR Incentive Program who report on the percentage of adults with diabetes who have Hgb A1C > 9 percent.
- x) The ten largest health plans in California will achieve the National 90th percentile in performance of Healthcare Effectiveness Data and Information Set (HEDIS) control measures for hypertension, heart disease, and diabetes.
- xi) Decrease the age-adjusted hospital discharge rate for diabetes as any-listed diagnosis for persons with diabetes from 337 per 1,000 in 2008 to 275 per 1,000.
- xii) Increase the proportion of people with diabetes in targeted settings who have at least one encounter at a DSME program per year.

The 2018 [CWP Progress Report](#) describes obesity and diabetes awareness, prevalence, and access to services, including:

- Both adult and child obesity increased;
- Adults awareness of prediabetes increased;
- Adults diagnosed with diabetes increased;
- Women diagnosed with gestational diabetes mellitus decreased; and,
- Hypertension and diabetes control is improving in the ten largest California health plans.

7) Coordination of State Departments and Statewide Organizations

CDPH, in partnership with state and community stakeholders, is committed to reducing the burden and prevalence of diabetes in California communities. There are multiple levels of coordination between CDPH, other state agencies, health systems (including Federally Qualified Health Centers) and providers, health plans and businesses. They include previous funding to and coordination with ten LHDs through two federal grants (1305 and 1422), and coordination with San Diego and Los Angeles 1422 grant efforts. In current federal 1815 grant, CDPH's CDCB will continue to coordinate with nine LHDs and the MCAH program.

In addition, CDPH's CDCB will maintain coordination of the CA PDSTAT stakeholder group and advancement of pillar goals through ongoing webinars and in-person meetings.

1. Availability

- CDPH's CDCB will continue to coordinate with health plans and systems, National DPPs, LHDs, and state and national partners to share resources about National DPP lifestyle change coach training, support for bilingual

services and materials, promising practices on obtaining CDC-recognition, and how to increase access to National DPPs.

2. Community Engagement: Awareness

- CDPH's CDCB will continue to coordinate with CA PDSTAT stakeholder group, Healthy Hearts Alliance, state programs including CDPH's Nutrition Education and Obesity Prevention Branch, Tobacco Control Branch, Maternal, Child, and Adolescent Health program, CalPERs, Department of Health Care Services (DHCS), and California Department of Aging to develop and implement a Diabetes Awareness and Outreach Campaign funded by the California State Legislature in the Budget Act 2018. The campaign's goal is to engage Californians at risk for type 2 diabetes about their personal risk and risk factors for diabetes, increase awareness of the link between diabetes and cardiovascular disease, and promote resources and National DPPs. The campaign will include traditional media, advertising, and social media components, which will run in June 2020.

3. Coverage

- CDPH's CDCB will continue to work with CalPERs, Medi-Cal, Medicare, and commercial plans to promote the availability of National DPP lifestyle change programs as a covered benefit. National DPP lifestyle change programs are now a covered benefit for CalPERs, Medicare members, and many commercial health plans. As of January 1, 2019, National DPP will be a covered benefit for Medi-Cal members.
- CDPH's CDCB will continue to work with health plans to promote enrollment in National DPP lifetime change programs.

4. Provider Engagement: Screen, Test, and Refer

- CDPH's CDCB will continue to work to increase community clinical linkages in order to facilitate referrals, engaging CHWs to enroll and retain participants in National DPP and/or DSMES programs.
- CDPH's CDCB will coordinate with California Medical Association to train future medical providers on the benefits of National DPP and DSMES during the in-person Champion Provider Fellowship trainings.
- CDPH's CDCB will coordinate with DHCS to increase referrals to National DPP. CDPH and DHCS are receiving technical assistance under the "State Medicaid and Public Health Collaboration to Advance the CDC's 6|18 Initiative."

8) References

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