HMA

WWW.HEALTHMANAGEMENT.COM

# Implementing the National Diabetes Prevention Program Lifestyle Change Program in Correctional Settings

Written By
Angela Bowen, JD, MPA
Chrisanne Wilks, PhD, MPA
Pamela Geis
Linda Follenweider, MS, APRN
Julie White, MSW, CCHP

August 2023

# Table of Contents

## EXECUTIVE SUMMARY

# Managing type 2 diabetes is expensive.

In fact, one in every four U.S. healthcare dollars is spent on individuals diagnosed with diabetes, and more than half of that expenditure is directly attributable to diabetes. One study found medical expenses for individuals with prediabetes who developed type 2 diabetes (diabetes mellitus) increased by $8,015 over the next three years.

Administrators of correctional facilities are responsible for the healthcare costs for individuals in their custody who have type 2 diabetes, and the cost of managing this condition in these settings is particularly high. Populations with a higher prevalence of type 2 diabetes are overrepresented in correctional settings, including racial and ethnic minorities and people who experience poverty, are overweight or obese, have lower socioeconomic status, or have a serious mental illness. Diabetes prevention for these populations is important for improving health equity given that many of these sub-populations have historically been un- or underserved by the healthcare infrastructure in the United States.

Fortunately, type 2 diabetes is preventable. This white paper describes how the National Diabetes Prevention Program (National DPP) lifestyle change program can be used to achieve cost savings and better health for people at risk of developing type 2 diabetes in correctional settings.

The National DPP lifestyle change program has been successfully implemented in three state correctional facilities in Wisconsin. A total of 131 individuals have participated in the program. People who completed the program in 2018-2019 lost an average of 8.3 percent of their body weight.

Administrators of correctional settings, especially facilities where the length of stay is a year or longer, might consider implementing the National DPP lifestyle change program in their facilities. A cogent argument can be made that type 2 diabetes prevention provides a good return on investment in downstream costs. Offering the program would also be an important step in promoting health equity within correctional settings.

**PROGRAM SNAPSHOT**

### National Diabetes Prevention Program Lifestyle Change Program

The National Diabetes Prevention Program (National DPP) lifestyle change program is a year-long evidence-based program that the Centers for Disease Control and Prevention (CDC) developed. Program participants meet for 22 sessions to learn how they can reduce their risk of developing type 2 diabetes.

### Goal

The goal of the National DPP lifestyle change program is to reduce people's risk of developing type 2 diabetes. During the program, participants are expected to lose 5−7 percent of their weight and engage in physical activity for 150 minutes per week. For people with prediabetes, the program has proven to reduce the risk of developing type 2 diabetes by 58 percent (71 percent for participants ages 61 and older).

### Populations

The National DPP lifestyle change program is designed for adults. It has been implemented in many different settings and among diverse populations. To qualify for the program, individuals must have a body mass index ≥25kg/m2 (≥23kg/m2 if Asian American), and have had a blood test in the prediabetes range within the last year, have been previously diagnosed with gestational diabetes, or have received a score of five or higher on the Prediabetes Risk Test.

### Key Features

*Adaptable Curriculum:* The curriculum may be adapted to meet the needs of the intended population, including a list of relevant sources of nutritious foods, translation into other languages, and physical activity recommendations that are safe and available to participants.
*Modality:* The program may be administered in person, online, or through a combined approach.
*Coaches:* Anyone who is willing to be trained and receive certification may become a lifestyle coach.

### More Information

Learn more about the National DPP lifestyle change program at: https://coveragetoolkit.org/

## KEY TAKEAWAYS

**Problem**: Managing type 2 diabetes and the associated increased risks for serious health problems create significant healthcare delivery costs and negatively impact quality of life.

- Type 2 diabetes is a progressive chronic disease that is preventable with early intervention.
- One in every four U.S. healthcare dollars is spent on individuals diagnosed with diabetes, and more than half of that expenditure is directly attributable to diabetes.
- There are cost savings and improved life expectancy to be realized if individuals avoid or delay developing type 2 diabetes.
- It is estimated that 96 million people in the United States are at risk of developing type 2 diabetes.
- Individuals who are at highest risk of acquiring type 2 diabetes are over-represented in correctional settings.

**Solution**: Provide the National DPP lifestyle change program in correctional settings to reduce the risk of developing type 2 diabetes and reduce the burden of healthcare costs.

- Individuals at risk of developing type 2 diabetes can reduce or eliminate their potential for developing this condition through lifestyle modifications.
- The National DPP is a public-private initiative established by CDC. It provides a framework for how organizations and leaders can collaborate to improve type 2 diabetes prevention efforts in the United States.
- The core of the program is the National DPP lifestyle change program, which is a year-long evidence-based program delivered over 22 sessions using a CDC-approved curriculum.
- CDC carefully and rigorously certifies organizations to provide the National DPP lifestyle change program. This process is known as CDC-recognition. Organizations who administer the program must meet and maintain certain requirements to receive become a CDC-recognized organization.

**Proof of Concept**: The Wisconsin Department of Corrections (DOC) has successfully implemented the National DPP lifestyle change program.

- On April 4, 2019, the Wisconsin DOC was awarded full CDC-recognition status as a provider of the National DPP lifestyle change program.
- The department trained 19 sergeants and recreation therapists in three of its facilities to become lifestyle coaches.
- The curriculum was modified to account for the food items available in the commissary and the canteen.
- A total of 131 individuals have participated in the program. Completers in 2018-2019 achieved weight loss of 8.3 percent, which exceeded the program's goal of reducing participants' weight by 5−7 percent.

**Costs and Return on Investment**: The National DPP lifestyle change program will likely provide a return on investment in correctional settings.

- Wisconsin reported that each of its lifestyle coaches used approximately 65-70 hours per year to deliver the program. Costs for delivering the program can be estimated here.
- The National DPP lifestyle change program has proven cost effective in other settings and can be adapted to correctional environments as well. The CDC Diabetes Prevention Impact Toolkit can be used to assess the likely cost-effectiveness or cost savings of covering the National DPP lifestyle change program.
- To learn more, visit the Cost and Value page of the National DPP Coverage Toolkit.

*"The Department of Corrections sees value in implementing the CDC's Diabetes Prevention Program. Each sentence of the DOC's mission statement begins with one of following the words: protect, provide, promote, or partner. Our partnership with the CDC and the Wisconsin Department of Health Services to work toward sustainability of this program is an example of fostering partnerships."*

*- Wisconsin DOC Director of Nursing, Mary Muse, RN, MS, CCHP-A, CCHP-RN*

## FINANCIAL AND INDIVIDUAL IMPACT OF TYPE 2 DIABETES

Type 2 diabetes (diabetes mellitus) is pervasive, costly, and harmful. It is also preventable.

**Type 2 diabetes is pervasive.** An estimated 37 million people in the United States have type 2 diabetes, and another 96 million (more than on out of every three people) have prediabetes, meaning they are at risk of developing type 2 diabetes.[1] Approximate 80 percent of those individuals do not know they have prediabetes.[2] Without intervention, 5−10 percent of people with prediabetes may develop type 2 diabetes annually, with risks increasing for those who are older, obese, use tobacco, and/or have reduced physical activity.[3, 4, 5]

The self-reported rate of adults in correctional settings diagnosed with type 2 diabetes in 2016 was 8−9 percent; however, the current actual rate of type 2 diabetes in correctional settings is likely higher, because diabetes rates have been increasing in the general population, and populations with a higher prevalence of type 2 diabetes are overrepresented in correctional settings.[6, 7, 8, 9, 10]

**Type 2 diabetes is costly.** One in every four U.S. healthcare dollars is spent on individuals diagnosed with diabetes, and annual medical expenditures in 2017 were $16,750 per person with diagnosed diabetes, which is 2.3 times more than expenditures for people without diabetes.[11, 12] One study of commercially insured adults found medical expenses for individuals with prediabetes who developed type 2 diabetes increased by $8,015 over the next three years when compared with individuals with prediabetes who did not develop type 2 diabetes.[13] Driving the cost of treating type 2 diabetes are hospital inpatient visits, complications related to the disease, and the costs of prescription medication.[14]

On a societal level, healthcare payers, employers, and federal, state, and county governments shoulder a huge burden in paying for healthcare, medication, and operations related to the treatment of type 2 diabetes. In correctional settings, federal, state, or county departments of corrections bear the cost of treating and managing diabetes among incarcerated populations.

**Type 2 diabetes is harmful**. At the individual level, type 2 diabetes reduces quality of life and life expectancy, makes it harder to manage other conditions, reduces work productivity, and requires a sizeable investment to treat.[15] People with type 2 diabetes are at higher risk of serious health complications, such as retinopathy, kidney failure, blindness, heart attack, stroke, certain types of cancers, cognitive dysfunction, and the loss of lower extremities (toes, feet, legs).[16, 17, 18, 19]

**Type 2 diabetes is preventable.** With appropriate interventions, type 2 diabetes is preventable.[20] Modest weight loss and increased physical activity can reduce or eliminate the risk of developing type 2 diabetes.[21] The Centers for Disease Control and Prevention (CDC) developed the National Diabetes Prevention Program (National DPP) to promote lifestyle changes that have proven to reduce by 58 percent the risk of individuals with prediabetes developing type 2 (71 percent for people ages 61 and older).[22] This paper describes how the National DPP lifestyle change program was implemented in three correctional facilities in Wisconsin, and how it could be implemented by other correctional settings.

## PREVALENCE OF DIABETES RISK FACTORS IN CORRECTIONAL SETTINGS

Data on the number of individuals at risk of developing type 2 diabetes in correctional settings is limited. However, an examination of factors associated with diabetes suggests a high prevalence of type 2 diabetes risk among people in correctional settings, including a greater proportion of subpopulations that have relatively higher risk of types 2 diabetes than the community setting, the relatively poorer health of individuals in correctional settings, and the increasing age of individuals in correctional settings.[23, 24] Other risk factors associated with increased risk of type 2 diabetes common among people in the correctional setting include having above normal weight, a household income

below 200 percent of the federal poverty level, lower relative educational attainment, a lack of health insurance prior to incarceration, and a diagnosis of serious mental illness. Each of these factors is discussed in further detail below.

### Greater Proportion of Subpopulations at Higher Risk for Type 2 Diabetes

People who belong to populations that have a higher burden of prediabetes and type 2 diabetes are overrepresented in correctional settings. For instance, 14.5 percent of people who are American Indian, 12.1 percent of African American/Black people, and 17 percent of Hispanic/Latino people have been diagnosed with diabetes compared with 8 percent of non-Hispanic White people.[25, 26] The percentage of people who are non-Hispanic White and have prediabetes is 35.5 percent, whereas 38.6 percent of people who are African American/Black and 34.6 percent of Hispanic/Latino people have been diagnosed as prediabetic. Individuals who identify as Black/African American and Hispanic/Latino represent 13.6 percent and 19 percent of the US population, respectively, but comprise 38.4 percent and 30.3 percent of the prison population. In comparison individuals who identify as American Indian represent 1.3 percent of the US population and 2.6 percent of the justice-involved population.[27] Therefore, more individuals at a higher risk of developing type 2 diabetes can be found in correctional settings than the community setting. Diabetes prevention for these populations is important for improving health equity given that many of these subpopulations have historically been un- or underserved by the healthcare infrastructure in the United States.

Further, the data show that racial and ethnic minorities also bear a disproportionate share of lower extremity amputations, diabetic retinopathy, diabetic nephropathy, and other complications of diabetes and experience these conditions earlier in their illness. Consequently, their care is up to 60 percent more expensive than for non-Hispanic White people.[28, 29]

### Poorer Health

Overall, individuals who experience incarceration have poorer physical and mental health than the general population.[30] Not only are chronic disease and the risk of chronic disease higher among the correctional population, but often a confluence of comorbidities makes appropriate intervention more urgent.[31] For instance, individuals in correctional settings have higher rates of HIV and hepatitis and had higher rates of COVID-19 at the height of the pandemic.[32, 33, 34, 35] The environment in correctional settings also may exacerbate chronic disease by offering high-calorie, high-sodium diets and reduced physical activity. The stressors associated with incarceration may also play a role.[36]

### Aging Population

Although the older population in correctional settings is not proportionally higher than in the community, the aging population in correctional settings continues to grow. The number of individuals ages 55 and older in correctional settings grew by 264 percent to 157,500 in 2015 from 43,300 in 1999.[37] Some estimates indicate that by 2030, one-third of incarcerated people will be ages 50 and older.[38] This age group is especially susceptible to type 2 diabetes and its complications. Consequently, this sub-population also has an increasing impact on correctional facility budgets because of their higher healthcare needs in general.[39]

### Above Normal Weight

A body mass index (BMI) above the normal range (>25%) is associated with increased risk of developing type 2 diabetes.[40] Individuals who have a BMI of 25 or higher represent 74−82 percent of individuals in a correctional setting.[41, 42, 43] Individuals who are obese represent 28−48 percent of the correctional population, depending on the facility.[44, 45, 46]

### High Poverty and Low Education

The socioeconomic status of individuals in correctional settings also puts them at greater risk for type 2 diabetes. Individuals who are experiencing poverty or living in low-income communities with food deserts are at greater risk of developing type 2 diabetes.[47] These individuals also are over-represented in correctional settings.[48] Similarly, people without a high school diploma, have been shown to have higher rates of diabetes and are overrepresented in the correctional setting.[49] In 2016, less than one in four individuals in the correctional setting had obtained a high school diploma.[50]

### Reduced Access to Health Insurance

Insurance status also has implications for diabetes and risk of diabetes. People with public or private health insurance have a lower risk of developing type 2 diabetes than individuals who are uninsured.[51] Understandably, having health insurance increases access to healthcare and the likelihood of getting guidance to prevent chronic conditions or improve health. People who were uninsured before entering a correctional facility are less likely to have been screened to determine their risk of developing type 2 diabetes. These individuals also tend to be overrepresented in correctional settings, with some estimates placing the proportion of people without insurance before becoming incarcerated at 50−90 percent, depending on the facility.[52, 53] Similarly, an estimated 80 percent of individuals will become uninsured again when they transition back into the community.[54, 55]

### Serious Mental Illness

A high proportion of people who are incarcerated live with serious mental illness (SMI). CDC reports that 20 percent of Americans have a mental illness in any given year, with 4 percent of these individuals having an SMI.[56] Depending on the facility type, 45−64 percent of people in correctional settings report having a mental health concern, and approximately 20−29 percent of people in correctional facilities have an SMI. [57, 58, 59] The prevalence of type 2 diabetes in people with an SMI is two to three times higher than for the rest of the population.[60, 61]

Individuals with an SMI are at risk of type 2 diabetes for several reasons. First, antipsychotic medications facilitate weight gain and adversely affect insulin sensitivity and secretion, placing individuals with an SMI at higher risk of developing type 2 diabetes.[62] These medications are the current standard of care in treatment of SMI and prevent suicide, hospitalizations, and all-cause mortality.[63] Moreover, some psychiatric disorders may be risk factors for type 2 diabetes independent of medications.[64] The combination of mental illness, diabetes, and other chronic conditions makes this group a key driver of healthcare costs in correctional settings. [65]

Given this burden of diabetes and prediabetes in correctional settings, much can be gained from reducing the risk of individuals who are incarcerated from developing type 2 diabetes. Doing so could have many positive implications, including reduced healthcare costs, better quality of life, improved health literacy education, and promotion of our national health equity goals.[66]

## A SOLUTION: THE NATIONAL DPP LIFESTYLE CHANGE PROGRAM

One strategy to reduce the risk of developing type 2 diabetes is to engage individuals in cost-effective lifestyle modifications and behavior changes. The CDC-designed National DPP s a partnership of public and private organizations that collaborate to prevent or delay the onset of type 2 diabetes.[67] At the core of the National DPP is the National DPP lifestyle change program, which follows an evidence-based, year-long curriculum focused on a healthier lifestyle, including more physical activity and healthier eating habits. The goal of the program is to reduce the risk of people developing type 2 diabetes.

Program participants are expected to lose 5−7 percent of their weight and engage in physical activity for 150 minutes each week.[68] The National DPP lifestyle change program can be offered in person, online, through distance learning, or a combined approach and is led by a trained lifestyle coach.[69] The National DPP lifestyle change program has

proven to reduce the risk of individuals with prediabetes from developing type 2 diabetes by 58 percent (71% for people older than age 60).[70] A follow-up study involving 3,200 adults completed 21 years after the original study has confirmed that the National DPP lifestyle change program was effective in the long-term prevention of type 2 diabetes.[71]

Many correctional settings already offer patient education for disease prevention and management or offer screenings for metabolic diseases like diabetes. Offering the National DPP lifestyle change program would deepen the commitment to prevention.[72]

### Cost Effectiveness of the National DPP Lifestyle Change Program

Projections in other settings that compare the cost of the National DPP lifestyle change program to the costs of treating type 2 diabetes show that the program is cost-effective.[73] Given the high cost of treating type 2 diabetes in correctional settings, the program would likely be cost-effective in these environments as well. The CDC Diabetes Prevention Impact Toolkit can be used to assess the cost-effectiveness or cost-savings of covering the National DPP lifestyle change program, and the costs of delivering the program can be estimated here. To learn more, visit the Cost and Value page of the National DPP Coverage Toolkit (coveragetoolkit.org). The National DPP Coverage Toolkit was developed by the National Association of Chronic Disease Directors (NACDD) and Leavitt Partners, an HMA company, with funding from CDC. It represents lessons learned from over five years of providing technical assistance to states promoting coverage and implementation of the National DPP lifestyle change program in Medicaid, Medicare, and commercial and employer-sponsored health plans.

## STUDY SHOWS THE NATIONAL DPP LIFESTYLE CHANGE PROGRAM IS EFFECTIVE IN CORRECTIONAL SETTINGS

The National DPP lifestyle change program has been translated into the correctional setting, and participants still achieved similar weight loss and improvement in A1C levels found in community settings. In the study "Prevention in Prison: The Diabetes Prevention Program in a Correctional Setting," 47 people from a federal correctional facility participated in a modified version of the National DPP lifestyle change program. Half of the participants did not complete the program largely due to transfers and releases from the facility. Participants who completed the program demonstrated significant reductions in their body mass index and A1C levels. Weight loss in the study was similar to what participants of the National DPP lifestyle change program in the community typically achieve.[74]

### Implementation and Adaptation to Correctional Settings

The main difference between this study and cohorts of the National DPP lifestyle change program outside of the correctional setting was that lifestyle coaches developed alternate methods for determining portion sizes as the participants were prohibited from having food scales because of security concerns. In the study, the National DPP lifestyle change program was modified to provide information relevant to the correctional environment such as referencing foods listed on the dining hall menu or available in the commissary. The curriculum was otherwise unchanged.[75]

### Findings

The authors concluded, "This study and its results make it clear that diabetes prevention is feasible and realistic in correctional settings." [76] The study supports that the National DPP lifestyle change program can be translated into correctional settings and achieve the same outcomes as in the broad community.

## PROGRAM SPOTLIGHT: WISCONSIN

The Wisconsin Department of Corrections (DOC) has successfully offered the National DPP lifestyle change program in three correctional facilities—Oshkosh, Redgranite, and Fox Lake—confirming that this program can work in a correctional setting. Other states likely could replicate or modify Wisconsin's approach to fit their unique needs. A discussion of alternative approaches for states with different funding, staffing, and contracting structures is included after this Wisconsin program spotlight.

### Implementation

State employees provide healthcare services in Wisconsin correctional settings with funding from the state. The Wisconsin DOC chose to become a CDC-recognized organization, meaning the department received CDC approval to provide the National DPP lifestyle change program. Wisconsin DOC met the Diabetes Prevention Recognition Program (DPRP) standards and requirements for CDC recognition, including attendance, activity, and weight-loss achievement metrics, and was awarded full CDC-recognition status on April 4, 2019. Sergeants and recreational therapists within the facilities who were enthusiastic about wellness trained as lifestyle coaches. The National DPP curriculum is designed to be taught by anyone interested in becoming certified, and clinician status is not required. The sergeants who became lifestyle coaches reported increased job satisfaction because of their new role. Wisconsin DOC has estimated that it takes approximately 65−70 hours per lifestyle coach to prepare and deliver the program and conduct data entry for a one-year cohort.

Wisconsin DOC has made several system changes in the correctional environment to support implementation of the National DPP lifestyle change program. First, potential participants are screened to ensure their release date falls after the estimated completion date for the 12-month program. Second, A1C tests are provided for individuals who self-refer into the program. Lastly, the National DPP lifestyle change program has spurred change in other areas of the facilities. For instance, program staff worked with the canteen vendor to color code and reorder the food on the menu to support healthier choices, and with commissary staff to begin listing the calories and carbohydrate content of the food served during the regularly scheduled meals.

### Achieving Key Leadership Support

Support from the medical director of the DOC Bureau of Health Services was critical to implementing the National DPP lifestyle change program in Wisconsin's correctional settings, as was the assistance of the director of nursing and the warden at each facility. Without the support of these individuals, the program would not have been successfully implemented. Educating leadership and obtaining buy-in required trust, strengthening of existing relationships, and perseverance.

Wisconsin DOC also found it beneficial to have one or more champions for the National DPP lifestyle change program. This individual is someone who recognizes the value of the program, can articulate the case for coverage of the program in correctional settings to leadership, and is willing to shepherd the implementation process from conceptualization through evaluation of the first cohort.

"The opportunity to implement the CDC's Diabetes Prevention Program is an example of partnering and contributing to reducing health disparities and responding positively to health inequities. Engagement of justice populations in their own health has positive benefits for the individual and for the justice environment."

*–Wisconsin DOC Director of Nursing, Mary Muse, RN, MS, CCHP-A, CCHP-RN*

In Wisconsin, the National DPP state quality specialist at the state Division of Public Health championed the program and has served as the program coordinator since the program's inception at Wisconsin DOC. To build expertise and collaborate with other states promoting coverage of the National DPP lifestyle change program in various settings, the Division of Public Health participated in a multi-year collaboration with NACDD and Leavitt Partners, an HMA company, to support the expansion of the National DPP lifestyle change program through collective impact. NACDD and Leavitt Partners continue to provide states technical assistance in expanding state diabetes prevention efforts.

## Outcomes

To date, 19 Wisconsin DOC staff have trained as lifestyle coaches and 131 individuals across the three facilities have participated in the program. The Wisconsin National DPP state quality specialist presented the following cohort data in 2018−2019 at the 2019 NACDD Chronic Disease Academy:

- 16 percent of the participants were Black and 84 percent were White.
- 100 percent of participants were male, with an average age of 45.6 years.
- 58 percent of participants were eligible for the program based on a blood test.
- 100 percent of participants attended 14 or more sessions in months one through six. Typically,16 sessions take place in the first six months.
- 71 percent of participants attended six or more sessions in months 7−12. Typically, six sessions take place in the second six months.
- Overall average weight loss was 8.3 percent during the year-long cohort, well above the National DPP lifestyle change program goal of 5−7 percent weight loss.

The response from program participants was positive, with some participants reportedly sharing what they learned with their families. Some of the lifestyle coaches have found that teaching the program has inspired them to make healthier choices as well. Wisconsin DOC plans to scale the National DPP lifestyle change program to all appropriate facilities in the future.

## Lessons Learned

Wisconsin DOC has learned many valuable lessons since implementing the National DPP lifestyle change program. First, Wisconsin DOC has developed criteria for evaluating which facilities would be ideal for implementing the program, identifying 11 of 22 facilities as a good fit. Among the criteria was the length of stay at the facility. The main intake facility and the rehabilitation facility were unsuitable because of the typically shorter length of stay. The minimum-security facilities were also disqualified for the same reason. Wisconsin DOC has yet to implement the program in a maximum-security facility but is investigating the possibility.

Second, Wisconsin DOC has learned the value of getting blood tests for some program participants. Initially, Wisconsin DOC identified program participants through self-referral only; however, for full CDC recognition, CDC requires that 35 percent of program completers must demonstrate their eligibility based on a blood test indicating prediabetes or a history of gestational diabetes mellitus (GDM).[77] Staff delivering the program began coordinating with the DOC Health Services Unit (HSU) to test individuals who were self-referred, This partnership then led to HSU referring many additional individuals to the program.

Implementation of the program also had its challenges. For example, one of the DOC lifestyle coaches experienced a temporary three-month transfer to a different facility in the middle of a program cohort, leaving the facility without a coach. The program participants were unable to complete the program, and the data from that cohort were lost. To avoid this issue, Wisconsin DOC now tries to have at least two lifestyle coaches per facility.

Another challenge occurred when one facility offering the program was locked down for three months for security reasons. During this time, all group meetings were canceled, and staff had additional work responsibilities, so continuing the National DPP lifestyle change program was impossible. Wisconsin DOC stayed in close communication with CDC to avoid losing its full CDC-recognition status. Wisconsin DOC also had to pause offering the National DPP lifestyle change program during the COVID-19 pandemic. However, Redgranite Correctional Institution relaunched the program with a new cohort in October 2022 and launched a second new cohort in January 2023. Wisconsin's National DPP state quality specialist is currently providing technical assistance to the two other correctional facilities as they prepare to relaunch their programs.

### Program Spotlight Conclusion

Wisconsin has demonstrated that it is possible to implement and sustain the National DPP lifestyle change program in a correctional setting. The model of having the department of corrections become a CDC-recognized organization, having sergeants and recreational therapists serve as lifestyle coaches, and limiting participation to individuals who will be in a facility for a full 12 months, could be applied in other states.

## CONSIDERATIONS FOR IMPLEMENTING THE NATIONAL DPP LIFESTYLE CHANGE PROGRAM IN A CORRECTIONAL SETTING

States vary in how they fund and deliver healthcare in correctional settings. For some, Wisconsin's model may not be feasible or politically viable. As such, this section discusses other ways the National DPP lifestyle change could be implemented in a correctional setting.

### Covering the Program

Healthcare services in correctional facilities typically are state-funded. In Wisconsin, it was only necessary to get buy-in within Wisconsin DOC to receive funding for the National DPP lifestyle change program, but for other states, it may be necessary to have the support of the governor's office. Making the case for coverage of the program in correctional settings may include a discussion of the costs of type 2 diabetes and other comorbidities in correctional settings in the state.

Another strategy for permanently codifying requirements around diabetes prevention and the National DPP is for partners to work with their state legislature to support coverage for the program in the correctional setting. The legislative process is sometimes a long one, but when successful, it adds permanency and increases the likelihood of consistent funding. Additional information on working with the state legislature to achieve coverage of the National DPP lifestyle change program can be found on the Role of the State Legislature in Medicaid Coverage page of the National DPP Coverage Toolkit (coveragetoolkit.org).

### Differences Between Public and Private Healthcare Delivery

In Wisconsin DOC, state employees provide all healthcare services in the correctional facilities. After the decision to cover the National DPP lifestyle change program was made, Wisconsin DOC had direct control of the implementation of the program. Some states contract with private healthcare providers to provide healthcare, and in others, private companies manage all operations in correctional settings. Finally, some state correctional facilities and county jails have partnered with academic medical centers or state universities to deliver healthcare.

When a private organization or state university is used, the state agency responsible for contracting services for the correctional setting could embed the National DPP lifestyle change program into requests for applications to administer correctional services or into contract amendments. Embedding the National DPP lifestyle change program would require any private organization to provide the program as a part of their contract with the state.

Even if a state has yet to fund the National DPP lifestyle change program in correctional settings, private organizations can still choose to include the National DPP lifestyle change program as a value-added service that may also lower overall costs of care for the organization. Some Medicaid managed care organizations have taken this route, implementing the National DPP lifestyle change program as a value-added service because of the expected return on investment.[78]

Regardless of whether healthcare in the correctional setting is provided by the state, a state university, or a private organization, the organization responsible for providing healthcare must determine whether to become a CDC-recognized organization and train its staff as lifestyle coaches or to contract with a CDC-recognized organization from the community to deliver the program. In many correctional settings, the process of engaging outside organizations is challenging, and in some cases, infeasible. However, contracting with an organization from the community is a possibility worth exploring. These two options are discussed in further detail below.

### The Organization Responsible for Providing Healthcare Becomes a CDC-Recognized Organization

If the organization responsible for providing healthcare decides to become a CDC-recognized organization, it will need to meet DPRP standards, and the requirements for CDC recognition. CDC's National DPP Customer Service Center provides technical assistance to navigate this process.[79] The organization also will need to train lifestyle coaches. Lifestyle coaches must be certified but are not required to be licensed healthcare providers, unless state lawmakers and policymakers have set limitations on who can serve as a lifestyle coach in correctional settings. This flexibility allows training of corrections officers and other appropriate staff in correctional facilities to serve as lifestyle coaches. Wisconsin DOC trained sergeants and recreational therapists to provide the coaching. Nurses and other healthcare providers also can provide these services.

Using internal staff as lifestyle coaches leverages existing relationships between staff and individuals in facilities and the staff's knowledge of the facility. It encourages healthier behaviors in staff, allows the lifestyle coaches to have a different relationship with participants, and has the potential to increase job satisfaction. Using internal staff also removes issues with obtaining approvals and screenings to allow outside individuals to enter facilities. However, training internal staff does require an upfront investment, as well as staff who are enthusiastic about the program and who have the workload capacity to take on the responsibilities of a lifestyle coach.

### Contracting with a CDC-Recognized Organization from the Community

Correctional institutions also have the option of contracting with a CDC-recognized organization from the community to provide the National DPP lifestyle change program. A registry of all CDC-recognized organizations can be found here.[80] The viability of this option largely depends on the requirements and processes of the correctional setting to bring external providers into the facility. This varies greatly by jurisdiction, and it could take anywhere from two weeks to seven months to bring in an external provider. Some CDC-recognized organizations are likely unfamiliar with working in a correctional setting and will require guidance on the rules and processes of the facility. A facility also could consider asking a community-based program with which they have an existing relationship, but that does not currently provide the National DPP lifestyle change program, to consider getting staff trained to become lifestyle coaches.

One potential advantage of using a CDC-recognized from the community is that this organization could support participants as they transition back into the community, especially if it can provide additional services, such as helping connect participants to employment opportunities and healthcare. One limitation to this is program participants may not live near the correctional setting upon release or may prefer to discontinue their association with an organization connected with their incarceration. Considerations for partnering with CDC-recognized organizations from the

community may include selecting one that has offices or partnerships across the state or one that is in the community the individual will enter after discharge.

The delivery modality of the program could also be used to support individuals transitioning back into the community. CDC-recognized organizations have the option of delivering the program using online or distance learning. For those correctional facilities that have the capacity, partnering with CDC-recognized organizations in an individual's local community that delivers the program online could provide an option for continuing the National DPP lifestyle change program after discharge and provide support services for individuals transitioning back into the community.

### Working with Populations of Focus

Correctional settings also may pilot the National DPP lifestyle change program with a small group before implementing the program throughout a facility. For example, if moving program participants around the facility to the program location `would be challenging, the program could be piloted with a group that is already located together, such as individuals with severe and persistent mental illness. Additionally, if demonstrating a return on investment (ROI) is necessary to secure further funding, the program could be piloted with a group that has a higher need for the program or higher medical costs for the facility, such as individuals who have been prescribed medications that put them at risk of weight gain.

Implementers of the program also should consider the unique needs of the program participants. For example, people with a history of GDM, with severe and persistent mental illness, from racial minority backgrounds, who primarily speak a language other than English, have physical or intellectual disabilities, and/or are experiencing chronic disease, may all have unique needs. The National DPP lifestyle change program can be adapted to meet the needs of each cohort.

### Considerations for Jails

The approved curriculum, the evidence-base for the National DPP lifestyle change program, and the requirements to maintain CDC-recognition constrain the program to the one-year delivery period. Although some participants will likely benefit from exposure to the program for any period, the return on investment will likely be highest for people who complete the one-year program. With the length of the program in mind, correctional settings with short-term incarceration (less than a year) may consider alternate diabetes prevention options.

### Additional Factors Supporting Diabetes Prevention Efforts

In addition to healthcare services, facilities contract with vendors to provide food for both the cafeteria and the canteen. Food choices available to individuals in facilities may hinder or support their success in the National DPP lifestyle change program. Facility leadership may consider requesting that vendors offer healthier food options. Leadership may also consider the availability of options to support the 150 minutes of physical activity per week that the National DPP lifestyle change program requires.

## CONCLUSION

Type 2 diabetes places a heavy individual, financial, and staff burden on correctional settings. By offering the National DPP lifestyle change program, these facilities can decrease the number of individuals with prediabetes who progress to type 2 diabetes. The study, "Prevention in Prison: The Diabetes Prevention Program in a Correctional Setting," confirms that comparable program outcomes are achievable in these settings.

Wisconsin DOC has successfully implemented the program in three facilities and proven it is feasible and sustainable in state correctional settings. Other states could replicate Wisconsin DOC's model of becoming a CDC-recognized

organization, training sergeants and recreational therapists as lifestyle coaches, and only allowing eligible individuals with a release date after the 12-month program to participate. However, states with different funding mechanisms, such as private healthcare delivery, or other unique circumstances, can implement the program in other ways, such as contracting with a CDC-recognized organization from the community.

## ACKNOWLEDGEMENT AND CONFLICTS

The authors acknowledge the labels used in this paper including racial and ethnic group labels, terms for individuals involved in the justice system, and descriptions of conditions and disability may not be the terms or labels individuals from these populations use to describe themselves. The terms are used for consistency with existing literature.

The authors and contributors, specifically Angela Bowen, Chrisanne Wilks, and Pamela Geis, perform funded work to expand the National Diabetes Prevention Program nationally.

## ENDNOTES


[1] Centers for Disease Control and Prevention. The Facts, Stats, and Impacts of Diabetes. Available at: https://www.cdc.gov/diabetes/data/statistics-report/index.html. Accessed April 18, 2023.
[2] Centers for Disease Control and Prevention. Prediabetes - Your Chance to Prevent Type 2 Diabetes. Available at: https://www.cdc.gov/diabetes/basics/prediabetes.html#:~:text=Prediabetes%20is%20a%20serious%20health,t%20know%20they%20have%20it. Accessed January 23, 2023.
[3] Bennasar-Veny M, Fresneda S, Lopez-Gonzalez A, Busquets-Cortes C, Aguilo A, Yanez A. Lifestyle and Progression to Type 2 Diabetes in a Cohort of Workers with Prediabetes. *Nutrients.* May 2020;12(5):1538.
[4] van Herpt T, Ligthart S, van Hoek L, Lieverse M, Ikram A, Sijbrands MA, Kacousi M. Lifetime Risk to Progress from Pre-diabetes to Type 2 Diabetes Among Men and Women: Comparison Between American Diabetes Association and World Health Organization Diagnostic Criteria. *BMJ Open Diabetes Research and Care.* 2020;8:e001529. doi:10.1136/bmjdrc-2020-001529
[5] Rooney M, Rawlings A, Pankow J, Tcheugui J, Coresh J, Sharrett R, Selvin E. (2021, February 08). Risk or Progression to Diabetes Among Older Adults with Prediabetes. *JAMA Internal Medicine.* February 2021;181(4):511-519. doi:10.1001/jamainternmed.2020.8774
[6] US Department of Health and Human Services. National Diabetes Statistics Report 2020, Estimates of Diabetes and Its Burden in the United States. Available at: https://diabetesresearch.org/wp-content/uploads/2022/05/national-diabetes-statistics-report-2020.pdf. Accessed April 18, 2023.
[7] American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2017. *Diabetes Care*. 2018;41(5):917-928.
[8] The Pew Charitable Trusts. Prison Health Care: Costs and Quality, How and Why States Strive for High-Performing Systems. Available at https://www.pewtrusts.org/-/media/assets/2017/10/sfh_prison_health_care_costs_and_quality_final.pdf. Accessed April 18, 2023.
[9] Maruschak LM, Bronson J, Alper M. Medical Problems Reported by Prisoners. US Department of Justice, Bureau of Justice Statistics. 2016. Available at https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/mprpspi16st.pdf. Accessed April 18, 2023.
[10] American Diabetes Association. Position Statement: Diabetes Management in Detention Facilities. Available at https://diabetes.org/sites/default/files/2021-11/ADA-position-statement-diabetes-management-detention-settings-2021.pdf. Accessed April 18, 2023.
[11] American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2017. *Diabetes Care*. 2018;41(5):917-928.
[12] Wang Y, Zhang P, Shao H, Andes L, Imperatore G. Medical Costs Associated With Diabetes Complications in Medicare Beneficiaries Aged 65 Years or Older with Type 2 Diabetes. *Diabetes Care.* 2022;45(11):2570-2576. doi:10.2337/dc21-2151
[13]Khan T, Tsipas S., Wozniak G. Medical Expenditures for Individuals with Prediabetes: The Potential Cost Savings in Reducing the Risk of Developing Diabetes. *Popul health Manag*. 2017;20(5):389-396. Doi 10.1089/pop.2016.0134. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5649409/.
[14] American Diabetes Association. Economic Costs of Diabetes in the U.S. in 2017. *Diabetes Care*. 2018;41(5):917-928.
[15] Centers for Disease Control and Prevention. The Facts, Stats, and Impacts of Diabetes. Available at: https://www.cdc.gov/diabetes/library/spotlights/diabetes-facts-stats.html#:~:text=The%20Im. Accessed April 18, 2023.
[16] Tomic D, Shaw J, Magliano DJ. The Burden of Risks of Emerging Complications of Diabetes Mellitus. *Nature Reviews Endocrinology.* 2022;18(8):525-539. doi:10.1038/s41574-022-00690-7.
[17] Haw JS, Shah M, Turbow S, Egeolu M, Umpierrez G. Diabetes Complications in Racial and Ethnic Minority Populations in the USA. *Current Diabetes Reports*. 2021;21(2):8.
[18] Alam S, Hasan K, Neaz S, Hussain N, Hossain F, Rahman T. Diabetes Mellitus: Insights from Epidemiology, Biochemistry, Risk Factors, Diagnosis, Complications and Comprehensive Management. *Diabetology.* 2021;*2*:36-50.
[19] Spanakis E, Hill GS. Race/Ethnic Difference in Diabetes and Diabetic Complications. *Curr Diab Rep.* 2023;13(6). doi:10.1007/s11892-013-0421-9
[20] Albright A. Making Strides in Type 2 Diabetes Prevention. *Diabetes Spectrum.* 2018;31(4):299-302. doi:10.2337/ds18-0031.

[21] Hill JO, Galloway JM, Goley A, et al. Scientific Statement: Socioecological Determinants of Prediabetes and Type 2 Diabetes. *Diabetes Care.* 2013;*36*(8):2430-2439. doi: https://doi.org/10.2337/dc13-1161
[22] Centers for Disease Control and Prevention. National Diabetes Prevention Program. Available at: https://www.cdc.gov/diabetes/prevention/index.html. Accessed December 19, 2022.
[23] Maruschak LM, Berzofsky M, Unangst J. Medical Problems of State and Federal Prisoners and Jail Inmates 2011-12. Bureau of Justice Statistics, US Department of Justice. Available at: https://bjs.ojp.gov/content/pub/pdf/mpsfpji1112.pdf. Accessed April 18, 2023.
[24] Davis DM, Bello JK, Rottnek F. Care of Incarcerated Patients. *American Family Physician.* 2018;98(10):577-583.
[25] Centers for Disease Control and Prevention. Hispanic or Latino People and Type 2 Diabetes. Available at: https://www.cdc.gov/diabetes/library/features/hispanic-diabetes.html. Accessed January 25, 2023.
[26] Centers for Disease Control and Prevention. Prevalence of Both Diagnosed and Undiagnosed Diabetes. Available at: https://www.cdc.gov/diabetes/data/statistics-report/diagnosed-undiagnosed-diabetes.html. Accessed January 25, 2023.
[27] Federal Bureau of Prisons. Inmate Statistics. Available at: https://www.bop.gov/about/statistics/statistics_inmate_ethnicity.jsp. Accessed January 25, 2023.
[28] Haw JS, Shah M, Turbow S, Egeolu M, Umpierrez G. Diabetes Complications in Racial and Ethnic Minority Populations in the USA. *Current Diabetes Reports.* 2021;21(2):8.
[29] Tomlinson DM, Schechter CB. Cost-Effectiveness Analysis of Annual Screening and Intensive Treatment for Hypertension and Diabetes Mellitus Among Prisoners in the United States. Available at: https://biotech.law.lsu.edu/cases/prisons/medical/v2/report9_tomlinson.pdf. Accessed April 18, 2023.
[30] Office of Disease Prevention and Health Promotion. Healthy People 2030, Social Determinants of Health Literature Summaries: Incarceration. Available at: https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/incarceration. Accessed January 25, 2023.
[31]Maruschak LM, Berzofsky M, Unangst J. Medical Problems of State and Federal Prisoners and Jail Inmates 2011-12. Bureau of Justice Statistics, US Department of Justice. Available at: https://bjs.ojp.gov/content/pub/pdf/mpsfpji1112.pdf. Accessed April 18, 2023.
[32] Strick LB, Budak JZ. HIV and Corrections. National HIV Curriculum, The University of Washington. Available at: https://www.hiv.uw.edu/go/key-populations/hiv-corrections/core-concept/all. Accessed December 27, 2022.
[33] Deb LC, Hove H, Miller tk, Pinks K, Njau G, Hagan JJ, Jansen RJ. Epidemiology of Hepatitis C Virus Infection Among Incarcerated Populations in North Dakota. *PLOS ONE.* March 2022;17(3):e0266047.
[34] Carson EA, Nadel M, Gaes G. Impact of COVID-19 on State and Federal Prisons. March 2020–February 2021. Bureau of Justice Statistics. Availabile at: https://bjs.ojp.gov/content/pub/pdf/icsfp2021.pdf. Accessed April 18, 2023.
[35]Marquez N, Warn JA, Parisk K, Saloner B, Dolovich S. COVID-19 Incidence and Mortality in Federal and State Prisons Compared with the US Population April 5, 2020, to April 3, 2021. *JAMA.* 2021;326(18):1865-1867.
[36]Davis DM, Bello JK, Rottnek F. Care of Incarcerated Patients. *American Family Physician.* 2018; 98(10):577-583.
[37]The Pew Charitable Trusts. Prison Health Care: Costs and Quality, How and Why States Strive for High-Performing Systems. Available at https://www.pewtrusts.org/-/media/assets/2017/10/sfh_prison_health_care_costs_and_quality_final.pdf. Accessed April 18, 2023.
[38]Bondolfi C, Taffe P, Augsburger A, Jaques C, Malebranche M, Clair C, Bodenmann P. The Impact of Imprisonment on Cardiovascular Disease Risk Factors: A Systematic Review and Meta-Regression on Weight and BMI Change. *European Journal of Public Health.* 2020;10(10).
[39]The Pew Charitable Trusts. Prison Health Care: Costs and Quality, How and Why States Strive for High-Performing Systems. Available at https://www.pewtrusts.org/-/media/assets/2017/10/sfh_prison_health_care_costs_and_quality_final.pdf. Accessed April 18, 2023.
[40] Center for Disease Control and Prevention.Diabetes Risk Factors. Available at: https://www.cdc.gov/diabetes/basics/risk-factors.html#:~:text=Have%20a%20parent%2C%20brother%2C%20or,Indian%2C%20or%20Alaska%20Native%20person. Accessed April 18, 2023.
[41] Maruschak LM, Berzofsky M, Unangst J. Medical Problems of State and Federal Prisoners and Jail Inmates 2011-12. Bureau of Justice Statistics, U.S. Department of Justice. Available at: https://bjs.ojp.gov/content/pub/pdf/mpsfpji1112.pdf. Accessed April 18, 2023.
[42]Davis DM, Bello JK, Rottnek F. Care of Incarcerated Patients. *American Family Physician.* 2018; 98(10):577-583.

[43] Centers for Disease Control and Prevention. National Diabetes Statistics Report: Appendix. Available at: https://www.cdc.gov/diabetes/data/statistics-report/appendix.html#tabs-1-6. Accessed January 24, 2023.
[44]Maruschak LM, Bronson J, Alper M. Medical Problems Reported by Prisoners. U.S. Department of Justice, Bureau of Justice Statistics. 2016. Available at https://bjs.ojp.gov/sites/g/files/xyckuh236/files/media/document/mprpspi16st.pdf. Accessed April 18, 2023.
[45] Tala Al-Rousan LR. Inside the Nation's Largest Mental Health Institution: a Prevalence Study in a State Prison System. *BMC Public Health*. 2017:17. Available at https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4257-0. Accessed Apirl 18, 2023.
[46] Davis DM, Wilson L, Salas J, Gilman RH. Obesity Epidemic in U.S. Prison Populations: A Meta-Analysis and Review of the Literature. *Journal of Correctional Health Care*. 2023;23(2). doi.org/10.1089/jchc.21.06.0055
[47]Gaskin DJ, Thorpe Jr RJ, McGinty EE, Bower K, Rohde C, Young H, LaVeist TA, Dubay L. Disparities in Diabetes: The Nexus of Race, Poverty, and Place. *American Journal of Public Health.* 2014;104(11):2147-2155.
[48] National Research Council. The Growth of Incarceration in the United States: Exploring Causes and Consequences. Available at: https://nap.nationalacademies.org/catalog/18613/the-growth-of-incarceration-in-the-united-states-exploring-causes. Accessed Apirl 18, 2023.
[49]Borrell LN, Dallo FJ, White K. *Amer J Public Health.* 2006;96(9):1637-1642.
[50] Beatty LG, Snell T.L. *Profile of Prison Inmates, 2016.* Available at: https://bjs.ojp.gov/content/pub/pdf/ppi16.pdf. Accessed April 18, 2023.
[51]Mahoney S, Bradley A, Pitts L, Waletzko S, Robinson-Lane S, Fairchild T, Terbizan D, McGrath R. Health Insurance Is Associated with Decreased Odds for Undiagnosed Prediabetes and Type 2 Diabetes in American Adults. *International Journal of Environmental Research and Public Health.* 2020;17(13):4706.
[52] Gates A, Artiga S, Rudowitz, R. Issue Brief–Health Coverage and Care for the Adult Criminal Justice-Involved Population. *The Henry J. Kaiser Family Foundation Commission on Medicaid and the Uninsured*. Available at https://www.kff.org/wp-content/uploads/2014/09/8622-health-coverage-and-care-for-the-adult-criminal-justice-involved-population1.pdf. Accessed June 19, 2023.
[53] Wang EA, White MC, Jamison R, Goldenson J, Estes M, Tulsky JP. Discharge planning and continuity of health care: findings from the San Francisco County Jail. *Amer J Public Health*. 2008;98(12):2182–2184.
[54] National Research Council. The Growth of Incarceration in the United States: Exploring Causes and Consequences. Available at https://nap.nationalacademies.org/catalog/18613/the-growth-of-incarceration-in-the-united-states-exploring-causes. Accessed Apirl 18, 2023.
[55]Mallik-Kane K. Returning Home Illinois Policy Brief: Health and Prisoner Reentry. Urban Institute Justice Policy Center. Available at https://www.urban.org/sites/default/files/publication/42876/311214-Returning-Home-Illinois-Policy-Brief-Health-and-Prisoner-Reentry.PDF. Accessed June 19, 2023.
[56] Centers for Disease Control and Prevention. About Mental health. Available at: https://www.cdc.gov/mentalhealth/learn/index.htm#:~:text=1%20in%205%20Americans%20will,illness%20in%20a%20given%20year.&text=1%20in%205%20children%2C%20either,a%20seriously%20debilitating%20mental%20illness.&text=1%20in%2025%20Americans%20lives,bipolar%20. Accessed April 20, 2023].
[57] Whicher C, Price H, Holt R. Antipsychotic medication and type 2 diabetes and impaired glucose regulation. *Mechanisms in Endocrinology*. 2018;178(6):R245-R258.
[58]James DJ, Beatty LG. Mental Health Problems of Prison and Jail Inmates. Available at: https://bjs.ojp.gov/content/pub/pdf/mhppji.pdf. Accessed April 19, 2023.
[59]Whicher C, Price H, Holt R. Antipsychotic medication and type 2 diabetes and impaired glucose regulation. *Mechanisms in Endocrinology*. 2018;178(6):R245-R258.
[60]Holt RI. Association Between Antipsychotic Medication Use and Diabetes. *Current Diabetes Reports.* 2019;19;96-106.
[61] Chhim T, Chase P, Neumiller J. Antipsychotic-Induced Diabetes Mellitus. *US Pharm.* 2012;37(11):39-44.
[62]Centers for Disease Control and Prevention. About Mental health. Available at: https://www.cdc.gov/mentalhealth/learn/index.htm#:~:text=1%20in%205%20Americans%20will,illness%20in%20a%20given%20year.&text=1%20in%205%20children%2C%20either,a%20seriously%20debilitating%20mental%20illness.&text=1%20in%2025%20Americans%20lives,bipolar%20. Accessed April 20, 2023].

[63]James DJ, Beatty LG. Mental Health Problems of Prison and Jail Inmates. Available at: https://bjs.ojp.gov/content/pub/pdf/mhppji.pdf. Accessed April 19, 2023.
[64]Llorente MD, Urrutia V. Diabetes, Psychiatric Disorders, and the Metabolic Effects of Antipsychotic Medications. *Clinical Diabetes.* 2006;24(1):18-24.
[65]James DJ, Beatty LG. Mental Health Problems of Prison and Jail Inmates. Available at: https://bjs.ojp.gov/content/pub/pdf/mhppji.pdf. Accessed April 19, 2023.
[66] US Department of Health and Human Services. HHS Equity Action Plan. Available at: https://www.hhs.gov/sites/default/files/hhs-equity-action-plan.pdf. Accessed January 25, 2023.
[67]Centers for Disease Control and Prevention. National Diabetes Prevention Program. Available at: https://www.cdc.gov/diabetes/prevention/index.html. Accessed December 19, 2022.
[68] Centers for Disease Control and Prevention. Research Behind the National DPP. Available at: https://www.cdc.gov/diabetes/prevention/research-behind-ndpp.htm. Accessed on June 15, 2023.
[69] National DPP Coverage Toolkit. National DPP Coverage Toolkit: Delivery Options. Available at: https://coveragetoolkit.org/medicaid-agencies/medicaid-agencies-delivery/program-delivery-options/. Accessed January 18, 2023.
[70]Centers for Disease Control and Prevention. National Diabetes Prevention Program. Available at: https://www.cdc.gov/diabetes/prevention/index.html. Accessed December 19, 2022.
[71]American Heart Association. Lifestyle Changes, Meds Effective to Prevent or Delay Type 2 Diabetes; No Change in CVD. Available at: https://newsroom.heart.org/news/lifestyle-changes-meds-effective-to-prevent-or-delay-type-2-diabetes-no-change-in-cvd. Accessed April 18, 2023.
[72]The Pew Charitable Trusts. Prison Health Care: Costs and Quality, How and Why States Strive for High-Performing Systems. Available at https://www.pewtrusts.org/-/media/assets/2017/10/sfh_prison_health_care_costs_and_quality_final.pdf. Accessed April 18, 2023.
[73]National DPP Coverage Toolkit. Cost & Value. Available at: https://coveragetoolkit.org/cost-value-elements/. Accessed June 15, 2023.
[74]Fine A, Gallaway SM, Dukate A. Prevention in Prison: The Diabetes Prevention Program in a Correctional Setting. *Diabetes Spectrum. 2019;*32(4):331-337.
[75]Fine A, Gallaway SM, Dukate A. Prevention in Prison: The Diabetes Prevention Program in a Correctional Setting. *Diabetes Spectrum. 2019;*32(4):331-337.
[76]Fine A, Gallaway SM, Dukate A. Prevention in Prison: The Diabetes Prevention Program in a Correctional Setting. *Diabetes Spectrum. 2019;*32(4):331-337.
[77] Centers for Disease Control and Prevention. Diabetes Prevention Recognition Program: Standards and Operating Procedures. Available at: https://www.cdc.gov/diabetes/prevention/pdf/dprp-standards.pdf. Accessed January 16, 2023.
[78] National DPP Coverage Toolkit. Engaging MCOs to Attain Coverage. Available at: https://coveragetoolkit.org/mcocoverage/. Accessed June 15, 2023.
[79] Centers for Disease Control and Prevention Customer Service Center. Receiving and Maintaining CDC Recognition. Available at: https://nationaldppcsc.cdc.gov/s/topic/0TOt000000001QbGAI/receiving-and-maintaining-cdc-recognition. Accessed June 19, 2023.
[80] Centers for Disease Control and Prevention. Registry of All Recognized Organizations. Available at: https://dprp.cdc.gov/Registry. Accessed June 19, 2023.