Rural Diabetes Prevention and Management Toolkit

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Rural Diabetes Prevention and Management Toolkit

Welcome to the Rural Diabetes Prevention and Management Toolkit. This toolkit provides resources and best practices to help rural communities identify, implement, and sustain a program to prevent and/or manage diabetes.

The modules in this toolkit contain information and resources to guide developing, implementing, evaluating, and sustaining a rural program for diabetes prevention and/or management. For more information on rural community health programs, including general strategies for developing and implementing a program, visit the Rural Community Health Toolkit.

Module 1: Diabetes in Rural Communities
Overview of diabetes in the U.S. and unique challenges for rural communities.

Module 2: Diabetes Program Models
Models for diabetes prevention and management programs.

Module 3: Program Clearinghouse
Examples of diabetes prevention and management programs that have been implemented in rural communities.

Module 4: Implementation
Implementation considerations for diabetes prevention and management programs.

Module 5: Evaluation
Considerations, data collection strategies, and measures for evaluating diabetes prevention programs.

Module 6: Funding and Sustainability
Strategies to ensure the funding and sustainability of diabetes prevention and management programs.

Module 7: Dissemination Best Practices
Strategies for sharing information and results from diabetes prevention and management programs.

Module 1: Introduction to Diabetes in Rural Communities

This module provides an overview of diabetes in the United States and specific considerations for rural communities. Rural patients, healthcare providers, and communities can implement programs to prevent diabetes and mitigate its negative effects on population health.

For general information on what to consider when starting a program, see Creating a Program: Where to Begin in the Rural Community Health Toolkit.

In this module:

- Diabetes Overview
- Why Diabetes is a Concern for Rural Communities
- Diabetes Education and Care

Overview of Diabetes in the U.S.

Diabetes is a group of conditions resulting from the body's inability to make insulin, use insulin effectively, or both. Insulin helps to control the body's blood sugar (glucose) levels to ensure sufficient energy. There are different types of diabetes that can affect adults and children of all ages, genders, races, and ethnicities. The types of diabetes include:

- **Type 1 diabetes**, or insulin-dependent diabetes mellitus, is commonly known as juvenile or childhood diabetes. In type 1 diabetes, the body does not produce insulin.
- **Type 2 diabetes** can occur in adults or children. In type 2 diabetes, the body does not use insulin properly.
- **Gestational diabetes** is a type of diabetes that occurs during pregnancy, among pregnant women who have never had diabetes.
- **Prediabetes** is having blood sugar levels that are higher than normal, but not high enough to be diagnosed as having type 2 diabetes.

People with diabetes must monitor their blood sugar (glucose) level to keep it within a normal, healthy range. People with diabetes should manage blood sugar by checking levels multiple times per day to be sure it is not excessively high (hyperglycemia) or low (hypoglycemia). When diabetes is not well managed or left untreated, it can result in complications such as:

- Blindness
- Kidney disease or failure
- Heart disease
- Stroke
- Dementia
- Nerve damage
- Circulatory problems
- Lower-extremity amputations
- Death

A person with prediabetes is at an increased risk of developing type 2 diabetes. Type 2 diabetes accounts for approximately 95% of all diabetes cases in the U. S. and is preventable with regular physical activity and healthy weight loss. The Community Preventive Services Task Force (CPSTF) recommends intensive lifestyle interventions for type 2 diabetes management and combined diet and physical activity programs for Type 2 diabetes prevention.

Resources to Learn More

What is Diabetes?

Website

An overview of the most common types of diabetes: type 1, type 2, and gestational diabetes. Written for individuals with diabetes and their families to better address diabetes care and management.

Organization(s): National Institute of Health

Symptoms & Causes of Diabetes

Website

Presents detailed information about the symptoms and causes of type 1, type 2, and gestational diabetes.

Organization(s): National Institutes for Health

1 in 3 American Adults Has Prediabetes. Do You?

Website

An interactive web-based risk assessment tool to help people identify if they have prediabetes.

Organization(s): Ad Council

Why Diabetes is a Concern for Rural Communities

According to the Centers for Disease Control and Prevention's National Diabetes Statistics Report, as of 2018 an estimated 26.9 million people (8.2% of the population) had diagnosed diabetes in the United States. In 2016, 12.6% of the population had diagnosed diabetes in nonmetropolitan counties, compared to 9.9% in metropolitan counties. In one region of the U.S., referred to as the "diabetes belt," the prevalence of diabetes is approximately 11.7% of the population. The diabetes belt spans over 644 counties in 15 states. More than one-third of the counties in the diabetes belt are within the Appalachian Region, and most states in the diabetes belt are more rural than the U.S. average.

Diabetes is an increased concern for rural communities compared to urban communities because of **risk factors** that are prevalent in rural communities and **access** to a variety of services.

Risk Factors

There are many risk factors associated with diabetes. Having one or more risk factors increases the likelihood of developing diabetes. Common risk factors for diabetes include:

- Overweight and obesity
- Physical inactivity
- Poor diet
- Older age (age 45 and older)
- Family history of having diabetes
- Race and ethnicity

Rural areas have higher rates of obesity, putting them at an increased likelihood of developing diabetes. Some of the rural community characteristics that contribute to this risk include environmental characteristics and access barriers, which can make it more challenging to consume healthy foods, such as fruits and vegetables.

Rural communities often have populations that are at an increased risk of developing type 2 diabetes, including older adults and certain racial and ethnic groups. Some racial and ethnic groups at higher risk of diabetes include people of Alaska Native, American Indian, African American, Hispanic, and Asian or Pacific Islander descent.

Access

Some of the barriers to accessing healthcare and health education in rural communities include:

- Fewer healthcare providers – Workforce shortages make it difficult to provide diabetes education, retain dietitians and nutritionists, and replace retiring providers. It also limits access to specialty care providers, such as endocrinologists.

- Higher rates of uninsured – Inadequate access to health insurance makes it more challenging for rural populations to cover medical appointments, medications, and supplies.
- Fewer transportation options – Limited access to transportation options in rural areas makes it more difficult for people with diabetes to travel to appointments.

For more information on the key issues affecting healthcare access among rural populations, see the Healthcare Access in Rural Communities topic guide.

Resources to Learn More

Diabetes Self-Management in Rural America as a Public Health Issue
Website
Describes the diabetes self-management education (DSME) program, with a focus on rural communities, giving patients the knowledge and skills needed to manage their diabetes and improve health. Provides information about the National Diabetes Education Program (NDEP) offering culturally and linguistically appropriate diabetes education resources, and includes diabetes prevention and management resources for rural communities.
Organization(s): Centers for Disease Control and Prevention

Diabetes Education and Care

Compared to urban populations, rural residents have higher rates of diabetes risk factors including being overweight/obese, high blood pressure, high cholesterol, and being physically inactive. Rural communities have higher rates of diabetes-related hospital deaths and only 62% of rural communities have access to diabetes self-management education and support.

The American Diabetes Association's (ADA's) Standards of Medical Care in Diabetes provides guidelines for diagnosing and treating people who have diabetes. The guidelines include the following evidence-based recommendations for improving care and promoting population health:

- Classifying and diagnosing diabetes
- Preventing or delaying type 2 diabetes
- Medically evaluating and assessing comorbidities
- Facilitating behavior change approaches
- Target blood sugar levels
- Diabetes technology
- Managing obesity
- Using medicines to control blood sugar
- Managing cardiovascular disease
- Foot care
- In-hospital care
- Advocacy

The guidelines also include recommendations for specific populations, including older adults, children and adolescents, and pregnant women.

Effective screening, education, and self-management can improve the lives of people with diabetes who are living in rural communities. Diabetes self-management and education support (DSMES) programs can help people with diabetes to develop behaviors to help manage diabetes more effectively. Additionally, partnerships between healthcare providers and community groups can support the goals of DSMES programs, such as reducing the risks of diabetes-related complications and common barriers to the adoption and maintenance of healthy lifestyle habits, while improving care continuity and clinical outcomes.

Implementation considerations related to community partnerships are available in Module 4.

Resources to Learn More

Standards of Medical Care in Diabetes – 2020 Abridged for Primary Care Providers

Document

An abridged version of the standards of medical care featuring the most relevant evidence-based recommendations for clinical providers when diagnosing and treating adults and children with all forms of diabetes.

Citation: Clinical Diabetes, 38(1), 10-38

Organization(s): American Diabetes Association

Date: 1/2020

Module 2: Diabetes Program Models

Different program models can be implemented to improve diabetes care and reduce the burden of diabetes in rural areas. The goals of diabetes programs may vary depending on the target population's needs and the available resources in a given community. Programs may focus on diabetes prevention, education, self-management, or other strategies. Evidence-based model programs can be offered in a variety of settings, including healthcare systems, community locations, schools, churches and other faith-based locations, homes, and worksites.

To learn how to identify and adapt interventions, see Developing a Rural Community Health Program in the Rural Community Health Toolkit.

This toolkit identifies six program models for diabetes prevention and management. Some rural diabetes programs integrate aspects of multiple program models.

In this module:

- Clinical Partnerships Model
- Self-Management Model
- Telehealth Model
- Community Health Worker Model
- School Model
- Faith-Based Model

Clinical Partnerships Model

In this model, healthcare providers work together to promote and support diabetes management and prevention programs. Programs can collaborate with a range of healthcare and community providers and organizations to extend the reach of services, increase access, and improve coordination of diabetes care.

Effective partnerships will include several types of healthcare professionals, including clinical and non-clinical healthcare workers. Clinical partnerships can expand the care team to involve a range of practitioners, such as:

- Primary care providers
- Ophthalmologists
- Dietitians
- Pharmacists
- Nurses and nurse case managers
- Optometrists
- Podiatrists
- Mental health professionals
- Dental professionals
- Diabetes educators
- Community health workers
- Volunteer lay persons

Partnerships may help to build community-based support for people with diabetes. Involving non-clinical professionals and community-based organizations in diabetes education and self-management may help to:

- Improve patient adherence to medication guidelines, monitoring recommendations, and lifestyle changes that can enhance glucose control for diabetes.
- Minimize miscommunication and misunderstandings in the provider-patient relationship outside of clinical visits.
- Reduce the burden of follow-up on providers.
- Reduce the burden of travel time and distance on rural patients and their families.

Using a team approach to provide diabetes care, management, and education services can improve coordination of care and continuity between practices and providers. It can also expand the types of services available within communities, addressing some of the common rural barriers to accessing healthcare and health education. See the Healthcare Access in Rural Communities topic guide for more information on the key issues affecting healthcare access among rural populations.

Implementation Considerations

The success of clinical partnerships and using a team approach for diabetes prevention and management requires leadership support and commitment, active participation from members of the care team, effective communication, and adequate resources. According to the National Diabetes Education Program, the six steps to creating or expanding a team are:

1. Ensuring leadership commitment
2. Identifying team members
3. Describing the patient population
4. Assessing available resources
5. Developing a system that supports coordinated and continuous care
6. Evaluating process and outcomes

Ensuring the ongoing success of the team involves efforts to promote patient satisfaction and participation in care, promoting a community support network for diabetes patients, maintaining clear communication and coordination with the team, providing patient follow-up, and using information technology, such as telehealth to support patient care.

Rural programs using partnerships to provide diabetes education and care should:

- Encourage communication between healthcare providers and community stakeholders
- Provide services where the priority populations live, work, and play
- Encourage cross-referrals and coordinated follow-up
- Coordinate and disseminate clearly-worded, culturally appropriate educational materials
- Share findings from diabetes and self-management programs with the community
- Encourage local organizations to promote wellness (such as healthy break areas and competitive incentives to encourage healthy behaviors)

Program Clearinghouse Examples

- The Health Wagon
- St. Luke's Miners Hospital Diabetes Outreach Program
- St Mary's Hospitals and Clinics
- Meadows Regional Medical Center

Resources to Learn More

Redesigning the Health Care Team: Diabetes Prevention and Lifelong Management

Document

Provides information and guidance when forming a multidisciplinary care team for diabetes prevention and management.

Organization: National Diabetes Education Program, National Institutes of Health, Centers for Disease Control and Prevention

Date: 6/2011

Self-Management Model

Diabetes self-management refers to the activities and behaviors an individual undertakes to control and treat their condition. People with diabetes must monitor their health regularly. Diabetes self-management typically occurs in the home and includes:

- Testing blood sugar (glucose)
- Consuming balanced meals and appropriate portion sizes
- Engaging in regular exercise
- Drinking water and avoiding dehydration
- Taking medications as prescribed
- Adjusting medications as needed
- Conducting self-foot checks
- Monitoring other signs or symptoms caused by diabetes

People with diabetes can learn self-management skills through diabetes self-management education and support (DSMES) programs. DSMES programs provide both education and ongoing support to control and manage diabetes. These programs help people learn self-management skills and provide support to sustain self-management behaviors. DSMES programs have helped people with diabetes lower blood sugar (glucose) levels, prevent complications, improve quality of life, and reduce healthcare costs.

The Stanford Diabetes Self-Management program is an evidence-based approach designed to improve diabetes self-management practices, and delivered by certified educators.

While it is important for people with diabetes to develop and engage in self-management practices, self-management can also involve family members, friends, or other caregivers. These individuals can offer emotional support, model healthy behaviors, participate in exercise activities, help monitor blood sugar (glucose) levels, administer insulin or other medications, and open communication around effective self-management practices. Enhanced social support from family and friends can help build self-efficacy for diabetes self-management. Self-efficacy, related to diabetes self-management, is an individual's belief in their ability to successfully manage their own health needs. Self-efficacy is important for effective diabetes self-management.

Examples of Rural Diabetes Self-Management Programs

- The Chronic Disease Self-Management Program (CDSMP) is a small-group workshop designed to address chronic conditions, including diabetes. Two trained peer facilitators deliver the six-week workshop. The workshop covers health strategies — addressing diet, exercise, and medication use — and teaches techniques for handling the mental and emotional aspects of the condition, managing symptoms, and communicating with healthcare providers.
- The University of Virginia Diabetes Tele-Education Program offers diabetes education courses that teach diabetes self-management skills. The program is delivered through video conferencing technology and made available to people who have, or are at high risk for developing, diabetes.

Implementation Considerations

It is important that patients understand the benefit of diabetes self-management activities. Programs can encourage healthcare providers to speak openly with patients about self-management and refer patients to self-management programs. Patients with diabetes should be encouraged to ask questions and be reminded that these activities can help them to achieve successful disease management.

Program Clearinghouse Examples

- St. Luke's Miners Hospital Diabetes Outreach Program
- Tri-County Health Network
- Meadows Regional Medical Center

Resources to Learn More

Diabetes Self-Management in Rural America as a Public Health Issue
Website
An overview of the benefits of diabetes self-management programs. Describes different types of diabetes self-management education and support programs available to communities.
Organization(s): Centers for Disease Control and Prevention (CDC)

Diabetes Self-Management Education and Support
Website
Provides links to resources and tools to help communities develop, promote, implement and sustain diabetes self-management education and support (DSMES) programs. Includes a DSMES toolkit, technical assistance guide, policies, reports, and several case studies.
Organization(s): Centers for Disease Control and Prevention (CDC)

Diabetes Self-Management Program (DSMP)

Website

Describes the Stanford self-management model, an evidence-based program delivered by certified trainers, designed to improve diabetes self-management practices. The trainers are non-health professionals who may have diabetes themselves and have completed the master training program. Includes educational resources that supplement the program curriculum.

Organization(s): Self-Management Resource Center

My Diabetes Self-Management Goal

Document

A worksheet helpful to individuals when managing their diabetes and setting personal health goals.

Organization(s): New York City Department of Health and Mental Hygiene

Date: 6/2012

Telehealth Model

Rural communities can use telehealth and telemedicine to support diabetes care and management. Telehealth is defined as:

> "The use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health and health administration. Technologies include video conferencing, internet-based services and communication, store-and-forward imaging, streaming media, and terrestrial and wireless communications."

Telemedicine refers specifically to the delivery of clinical services via technology.

Telehealth and telemedicine use a range of technologies — such as live video, mobile devices and applications (apps), and computers — to overcome rural barriers to healthcare access and improve care. RHIhub's Telehealth and Health Information Technology in Rural Healthcare topic guide provides information on how telehealth can help healthcare providers in rural communities.

Telehealth and telemedicine can be used to deliver diabetes education, management, and monitoring services. This includes:

- **Diabetes self-management** – Telehealth can support diabetes self-management activities such as blood sugar (glucose) monitoring and tracking. For example, the Community Preventive Services Task Force (CPSTF) recommends the use of mobile phone apps in healthcare settings for the self-management of type 2 diabetes. These interventions can improve communication. Patients can enter data into mobile apps and receive automated or tailored feedback from healthcare providers.
- **Medication adherence** – Taking medications as prescribed is important for diabetes management. Telehealth can help people with diabetes to take their medications correctly — at the correct dose and frequency — and remember to fill prescriptions. Text messages are one way to improve medication adherence among patients with chronic disease, as recommended by the CPSTF.
- **Specialty care consultations** – Telehealth can help rural patients to connect with specialty care providers remotely. This helps rural patients because they are no longer required to travel long distances. Video conferencing can be used to provide endocrinology consultations, for example. An endocrinologist may perform clinical assessments, review or order laboratory tests, adjust medications, or make other recommendations regarding clinical treatment plans using telehealth.

For more information about identifying and implementing telehealth programs in rural communities, see the Rural Telehealth Toolkit.

Examples of Rural Diabetes Telehealth Programs

- Project ECHO provides evidence-based programs for managing complex conditions, including diabetes. This model extends care to rural patients through videoconferencing and is used in communities across the country.
- The Mississippi Diabetes Telehealth Network, a program of the University of Mississippi Medical Center's Center for Telehealth, was launched in 2014 to improve care for people with diabetes in Mississippi's Delta region. The program provides remote patient monitoring, using telehealth to deliver health education, coaching, and interventions to patients in their homes. Evaluation results indicate that providing remote patient monitoring through telehealth is effective for diabetes management in rural areas.
- The University of Virginia Diabetes Tele-Education Program uses video conferencing technology to deliver diabetes education to people who have, or are at high risk for developing, diabetes. The diabetes education courses address diabetes basics, nutrition, self-management, and lifestyle changes.

Implementation Considerations

Many rural communities rely on clinical partnerships to deliver telehealth services. Identifying partnership opportunities can help address the cost barriers of implementing telehealth programs. It can also help broaden the range of services available to patients. When using telehealth, it is also important to ensure patient comfort with using technology. Strategies for supporting patients who are less comfortable with using telehealth technology include enlisting support from family, friends, or caregivers. Additionally, programs should communicate the benefit of telehealth to patients and ensure that telehealth programs meet patient needs related to diabetes care.

Program Clearinghouse Examples

- Tri-County Health Network
- Meadows Regional Medical Center

Community Health Worker Model

In this model, community health workers (CHWs) support diabetes prevention and management programs by helping address individual- and community-level factors affecting diabetes care and outcomes. CHWs are also known as lay health advocates or promotores(as) de salud. CHWs help people in the community to adopt healthy behaviors, among other activities. They possess characteristics similar to the populations they serve. These characteristics include, for example, common language, ethnicity, socio-economic status, values, and experiences. Because of their similarities with the community, CHWs can develop trusting, one-on-one relationships with patients.

CHWs can support diabetes care in a variety of ways. Commonly, CHWs help patients with diabetes to improve their self-management skills and behaviors. CHWs can also help patients by:

- Providing patient care
- Supporting patient care delivered by other healthcare providers
- Identifying and accessing community resources to meet clinical and lifestyle goals
- Interpreting and translating clinical information
- Providing care coordination
- Providing culturally appropriate health education
- Providing social support
- Supporting diabetes self-management programs
- Providing outreach and enrollment services
- Providing home visiting services

The Community Preventive Services Task Force (CPSTF) recommends employing CHWs in programs for diabetes management and diabetes prevention. Interventions that engage CHWs have helped patients improve control of blood sugar (glucose) and lipids. Evidence also indicates these interventions are cost-effective.

For more information on how rural communities can use CHWs to improve health outcomes, see the Community Health Workers in Rural Settings topic guide.

To learn about opportunities and strategies for developing a rural CHW program, see the Community Health Worker Toolkit. The toolkit includes information on CHW program models, implementation considerations, sustainability strategies, and evaluation.

Examples of Rural Diabetes CHW Programs

- The Brazos Valley Care Coordination Program was established to help patients in rural Texas access primary and follow-up care, with the goal of reducing preventable emergency department visits. CHWs worked closely with providers and patients with diabetes to coordinate care. CHWs provided assistance with scheduling, reminders, and coordinating transportation for appointments. They also connected patients to needed community resources and conducted home visits to provide diabetes education and other supports.
- In eastern Kentucky, a CHW initiative called Kentucky Homeplace was established to help address the environmental factors that contribute to chronic diseases such as diabetes. The program trains CHWs to provide and coordinate health and social services, such as health information, referrals to agencies or providers, scheduling appointments, and coordinating transportation. The program also provides the Diabetes Self-Management Program and diabetes education.

Implementation Considerations

Rural communities seeking to implement a CHW model for diabetes care should ensure that CHWs work as part of a team. Successful programs integrate CHWs into an existing team and clarify their specific role within the team. Depending on the scope of the diabetes program and the role of the CHW, they may be paid or volunteer. For more information on implementing CHW programs, see Program Implementation in the Community Health Workers Toolkit.

Program Clearinghouse Examples

- Montgomery County Kentucky Health Department
- St. Mary's Hospitals and Clinics
- Tri-County Health Network
- Mariposa Community Health Center

Resources to Learn More

Resources for Community Health Workers (CHWs)
Website
Provides links to free resources to help CHWs support people with diabetes.
Organization(s): American Diabetes Association

Diabetes Initiative: Build a Program - Community Health Workers
Website
An overview of how community health workers (CHWs) can support patients and assist providers in diabetes self-management programs. Includes links to program examples, presentations, and journal articles focused on CHWs and diabetes care and self-management.
Organization(s): Robert Wood Johnson Foundation

School Model

Schools are an important setting for diabetes prevention and management for children and adolescents. Among children, type 1 diabetes is most common but the prevalence of type 2 diabetes is increasing rapidly. Interventions designed to promote diabetes care and management within schools can help children stay healthy.

According to the Centers for Disease Control and Prevention (CDC), diabetes management within schools is most effective when school staff, patients, family members, and healthcare providers work together in partnership. This includes:

- School nurses
- Teachers
- Counselors
- Coaches
- School principals
- Office staff and administrators
- Students with diabetes
- Parents or guardians
- Healthcare providers
- Nurses
- Certified diabetes educators
- Other healthcare providers

Schools may need to provide assistance with blood sugar (glucose) testing, medication administration, and monitoring of children and adolescents who have diabetes. School nurses are the most appropriate people to be involved in testing and medication administration, when needed. Schools should also ensure the student's teachers and additional staff members are prepared and comfortable assisting with their diabetes care.

In schools, education and training for teachers, staff, students, and families is also important. Teachers and other school staff can advocate for and support children with diabetes by understanding their monitoring and treatment needs, assisting with appropriate food choices, promoting physical activity, and ensuring access to water and bathroom breaks, among other considerations. Educating all students about diabetes will also help to dispel myths and increase understanding and break down barriers within schools.

To learn about opportunities and strategies for developing a program that provides healthcare services in schools, see the School-Based Services Integration Model in the Rural Services Integration Toolkit. This model includes information about rural communities that are developing programs that link school systems with healthcare programs.

Examples of Rural Diabetes School-Based Programs

- The Adolescent Pre-Diabetes Prevention Program, based in Delhi, Louisiana, provides pre-diabetes screenings, counseling, and nutrition education to high school students. The purpose of the program is to detect and prevent the onset of pre-diabetes and reduce the development of type 2 diabetes in adolescents living in rural Louisiana. School staff members are also invited to participate in the program.

Implementation Considerations

Effective diabetes management and prevention programs within schools will have a designated team that is knowledgeable about diabetes and involved in the student's care. This team will include a range of school staff, the child who has diabetes, parents and/or guardians, and healthcare providers. Within schools, it is also important to establish tools for diabetes management. These tools include, for example, a diabetes medical management plan, individualized health care plan, and an emergency care plan for hypoglycemia and hyperglycemia. These plans can help teachers and staff to effectively manage diabetes care.

Resources to Learn More

Helping the Student with Diabetes Succeed
Website
An overview of diabetes and diabetes management among school-age children. Offers recommendations for ensuring effective management programs for students in school settings. Identifies specific actions for effective management to be taken by school district administrators, nurses, teachers, food service managers, bus drivers, school psychologists, counselors, parents, and students.
Organization(s): National Institute of Health, National Institute of Diabetes and Digestive and Kidney Diseases

Managing Diabetes at School
Website
Provides information on diabetes management strategies in school settings. Covers topics on developing a management plan, working with teachers and staff, and creating checklists of necessary supplies to be used by children with diabetes. Offers links to additional information and resources.
Organization(s): Centers for Disease Control and Prevention

School Staff Trainings
Website
Contains resources designed for school staff working with children who have diabetes and their parents and diabetes care providers. Includes a guide and training modules for school personnel.
Organization(s): American Diabetes Association

Faith-Based Model

Faith-based organizations can support and deliver diabetes prevention and management programs in rural communities. Examples of faith-based organizations include churches, synagogues, mosques, meeting houses, and other places of worship. They may be organized as congregations, national networks, or as free-standing organizations. For example, the YMCA is a national network of organizations that have implemented faith-based interventions.

Leaders of faith-based organizations can play an important role in the lives of members of faith communities. The shared confidence in information provided by faith-based organizations can be powerful. Healthcare professionals have recognized the important role of faith and spirituality in perceptions of health, disease, and healing.

Faith-based organizations can raise awareness, create healthy environments, and conduct diabetes prevention and management activities for members. Examples of diabetes strategies and activities implemented by faith-based organizations include:

- Sharing messages with members through lectures, newsletters, and announcements
- Providing access to information and resources on diabetes prevention and management
- Partnering with community coalitions that address diabetes
- Arranging educational activities within the organization
- Offering emotional and social support
- Organizing workshops and programs to support healthy living through nutrition and physical activity
- Conducting community outreach, screening, and education
- Providing healthy food and activities during planned events
- Implementing policies that support healthy behaviors within the organization

Faith-based organizations can work with community health workers (CHWs) to provide health information and other diabetes prevention and management support services.

Examples of Rural Diabetes Faith-Based Programs

- Partners in Health and Wellness (PHW) is a faith-based initiative developed by the North Carolina Council of Churches to help churches integrate health initiatives into their congressional communities. Churches may join the PHW Collaboration and apply for mini-grants to support various health initiatives, such as healthy snacks and church meals, exercise classes, community outreach, regular blood sugar checks, and other efforts designed to reduce and prevent diabetes and chronic disease.

- A faith-based initiative in Alabama, Saving Lives, provides information and resources to support health and wellness within communities, focusing on modifiable behaviors

related to diabetes, hypertension, and cholesterol. The program coordinates health screenings and assessments, delivers workshops and informational toolkits, and supports health promotion activities and events within faith communities.

Implementation Considerations

Partnerships are important for supporting faith-based interventions for diabetes prevention and management. Faith-based organizations can partner with existing community groups to connect members with information, resources, and support.

Faith-based community programming may include community outreach, screening, and diabetes education programs. Culturally competent care for different populations requires sensitivity to spirituality as a component of the individual's cultural identity.

Module 3: Program Clearinghouse

The HRSA Federal Office of Rural Health Policy has funded rural communities to implement diabetes education and management programs as part of the 330A Outreach Authority program. This program focuses on expanding access to healthcare services in rural areas.

Examples of current 330A Outreach Authority grantees and other promising programs that have developed a diabetes education and management program in a rural community are provided below. Diabetes education and management program model information is available in Module 2.

- Mariposa Community Health Center
  Project Title: Vivir Mejor! (Live Better!) Consortium
  Synopsis: The Vivir Mejor! program was initially designed to provide culturally competent diabetes education classes for Hispanic/Latino communities in Santa Cruz County, Arizona. The program has now expanded to focus on cardiovascular disease prevention.

- Meadows Regional Medical Center
  Project Title: Meadows Diabetes Education Program
  Synopsis: This program offers the American Association of Diabetes Educator's (AADE) credentialed Diabetes Self-Management Education classes, as well as the CDC's National Diabetes Prevention Program to community members in rural Georgia.

- Tri-County Health Network
  Project Title: Prevention through Care Navigation Outreach Program
  Synopsis: This program provides community-based support through community health workers to reduce the prevalence of diabetes and cardiovascular disease in rural southwestern Colorado.

- St. Mary's Hospitals and Clinics
  Project Title: Medical Home Plus Project
  Synopsis: A coordinated care model using nurse managers to connect patients who have chronic diseases to medical and social services

- St. Luke's Miners Hospital Diabetes Outreach Program
  Project Title: My Health, My Community – St. Luke's Miners Memorial Hospital Community Outreach Partnership
  Synopsis: This program is working to provide diabetes awareness, education, and management in the primary care setting as well as obesity and diabetes prevention outreach within the community.

- Montgomery County Health Department
  Project Title: Western Appalachian Kentucky Healthcare Access Consortium
  Synopsis: This program uses community health workers to provide outreach, education, navigation, and care coordination services.

- The Health Wagon
  Project Title: Enhancing Primary Care for People with Diabetes in Southwestern Virginia
  Synopsis: This project provides comprehensive healthcare services to people with chronic diseases in Southwestern, Virginia.

Mariposa Community Health Center

- **Project Title:** Vivir Mejor! (Live Better!) Consortium
- **Grant Period:** 05/01/2012-04/30/2015
- **Program Representative Interviewed:** Rosie Piper, Health Promotion Manager
- **Location:** Nogales, AZ
- **Program Overview:** Vivir Mejor! is a culturally competent health education program. The program uses a 13-week curriculum to deliver weekly education classes and supplemental physical activity sessions to participants. Education classes are delivered by promotoras, with trained and certified instructors providing physical activity sessions. The program was created by the Mariposa Community Health Center (MCHC) to help address the high prevalence of chronic disease in rural Hispanic/Latino populations near the U.S.-Mexico border. The program was initially designed to provide diabetes prevention education, but has now expanded to focus on cardiovascular disease prevention.

Read more about Vivir Mejor! in RHIhub's Rural Health Models and Innovations.

Models Represented by this program:

- Community Health Worker Model

Meadows Regional Medical Center

- **Project Title:** Meadows Diabetes Education Program
- **Grant Period:** 05/01/2012-04/30/2015
- **Program Representative Interviewed:** Susan McLendon
- **Location:** Vidalia, GA
- **Program Overview:** The Meadows Diabetes Education Program offers the Association of Diabetes Care & Education Specialists (ADCES) credentialed Diabetes Self-Management Education classes, as well as the CDC's National Diabetes Prevention Program to community members in rural Georgia. The program is designed to help patients learn effective diabetes self-management practices. Sessions are free and open to all interested community members. The program also uses telehealth to promote care coordination between local clinics and specialists. Overall, the program has demonstrated a reduction in emergency department use and a decrease of inpatient hospitalizations.

Read more about Meadows Diabetes Education Program in RHIhub's Rural Health Models and Innovations.

Models Represented by this program:

- Clinical Partnerships Model
- Telehealth Model
- Self-Management Model

Tri-County Health Network

- **Project Title:** Prevention through Care Navigation Outreach Program
- **Grant Period:** 05/01/2012-04/30/2015
- **Program Representative Interviewed:** Lynn Borup, Executive Director
- **Location:** Telluride, CO
- **Program Overview:** The Tri-County Health Network (TCHNetwork) was created to improve population health and address health inequities in rural southwestern Colorado. TCHNetwork consists of 8 consortium partners and was designed to help overcome common geographic barriers and other healthcare limitations characteristic of the region. All CHW services are based on 5 evidence-based programs, free of cost, and offered on a rolling basis. Services include biometric screenings, providing peer support, and mitigating transportation issues to ensure clients have the tools to make smart health-related decisions.

Read more about Prevention through Care Navigation Outreach Program in RHIhub's Rural Health Models and Innovations.

Models Represented by this program:

- Clinical Partnerships Model
- Telehealth Model
- Self-Management Model

St. Mary's Hospitals and Clinics

- **Project Title:** Medical Home Plus Project
- **Grant Period:** 05/01/2012-04/30/2015
- **Program Representative Interviewed:** Pam McBride, Chief Grants Officer
- **Location:** Cottonwood, ID
- **Program Overview:** St. Mary's Hospital and Clearwater Valley Hospitals and Clinics created the Medical Home Plus project to connect frontier residents to health and social services through the use of nurse case managers and a community referral system. The project uses the evidence-based practice of the collaborative care model embedded within the promising practice of the medical home model.

Read more about the Medical Home Plus Project in RHIhub's Rural Health Models and Innovations

Models Represented by this program:

- Clinical Partnerships Model
- Community Health Worker Model

St. Luke's Miners Hospital Diabetes Outreach Program

- **Project Title:** My Health, My Community – St. Luke's Miners Memorial Hospital Community Outreach Partnership
- **Grant Period:** 05/01/2009-04/30/2012
- **Program Representative Interviewed:** Micah Gursky, Rural Health Clinic Administrator
- **Location:** Coaldale, PA
- **Program Overview:** St. Luke's Miners Memorial Hospital, in partnership with the Tamaqua Area Community Partnership and Lehigh Carbon Community College, created the My Health, My Community Program to provide community outreach and case management to rural Appalachian Region community members. This program uses nurse practitioners, ADA-certified nurse educators and dietitians to focus on diabetes awareness, education, and management in the clinic and community setting as well as outreach and education related to obesity and diabetes prevention and treatment.

Models Represented by this program:

- Clinical Partnerships Model
- Self-Management Model

Montgomery County Health Department

- **Project Title:** Western Appalachian Kentucky Healthcare Access Consortium or "The Bridge/El Puente" Program
- **Grant Period:** 05/01/2012-04/30/2015
- **Program Representative Interviewed:** Gina Brien
- **Location:** Mt. Sterling, KY
- **Program Overview:** The Montgomery County Health Department developed the Western Appalachian Kentucky Healthcare Access Consortium to provide primary care, dental, and mental health services to clients diagnosed with or at risk for chronic diseases, including diabetes. This program, called The Bridge, uses community health workers to provide outreach and case management services to residents of Montgomery County, with a special emphasis on the Latino population. The CHWs work to reduce and eliminate barriers to care, including language, transportation, the ability to navigate the healthcare system, and cultural competency among health care providers thus leading to improved health outcomes.

Models Represented by this program:

- Community Health Workers Model

The Health Wagon

- **Project Title:** Enhancing Primary Care for People with Diabetes in Southwestern Virginia
- **Grant Period:** 05/01/2009-04/30/2012
- **Program Representative Interviewed:** Teresa Gardner
- **Location:** Clinchco, VA
- **Program Overview:** Partnering with the University of Virginia Health System and Mountain States Health Alliance, the Health Wagon provides primary care services to patients with or at-risk for chronic diseases in Southwest, Virginia. Using a nurse practitioner care coordinator, the Health Wagon uses the chronic care model — including coordination with an endocrinology clinic for specialized diabetes care — to reach patients with diabetes and other chronic diseases.

Models Represented by this program:

- Clinical Partnerships Model

Module 4: Implementation Considerations for Rural Diabetes Programs

This module presents cross-cutting implementation considerations for rural organizations implementing diabetes prevention or management programs. There is no one-size-fits-all strategy for implementing a rural community-based diabetes program. Each program should be tailored to address the specific geographic, demographic, social, cultural, and economic circumstances of the community and priority populations.

For considerations for implementing specific rural diabetes program models or approaches, see Module 2.

For a general overview of rural program implementation, see Implementing a Rural Community Health Program in the Rural Community Health Toolkit.

In this module:

- Community Partners
- Recruiting Participants
- Success Factors
- Challenges

Community Partners

Working with community partners is important when implementing a rural diabetes program. Rural community partnerships can provide different types of support, including networking, coordination, cooperation, and collaboration. Community partners can help rural diabetes programs with:

- Improving access to healthcare providers, including specialists
- Sharing or exchanging limited resources
- Coordinating outreach to potential program participants
- Facilitating community stakeholder and provider buy-in, commitment, and involvement
- Increasing community awareness of program goals and progress
- Recruiting program participants

Examples of community partners that may help with diabetes program implementation include:

- Universities and university extension services
- Local or state public health departments
- Large medical systems and diabetes specialists
- Corporations or businesses
- Schools
- Nonprofit organizations
- Recreation facilities or community centers, such as the YMCA
- Faith-based organizations

Resources to Learn More

Mobilizing Community Partnerships in Rural Communities: Strategies and Techniques
Document
Provides guidance to local health departments, healthcare organizations, non-profit organizations, and the private sector in rural communities for developing community partnerships that can effectively address common concerns and overcome challenges. Includes examples of successful partnerships in rural communities.
Organization(s): National Association of County and City Health Officials (NACCHO)
Date: 7/2013

Recruiting Participants

Successful diabetes prevention and management programs must consider the best ways to maximize program participation. Recruitment refers to the process of conducting outreach to inform potential participants about the program. Some best practices for recruiting diabetes program participants are to identify priority populations, target outreach efforts, identify champions, work with community partners, and encourage referrals.

Identify Priority Populations

To recruit and retain participants, rural programs should identify priority populations, those who have the greatest need for diabetes prevention and management efforts. To define the priority population, programs can consider population differences by gender, age, income, culture, and geography.

Target Outreach Efforts

After identifying priority populations, rural programs should choose outreach efforts. Successful diabetes programs use multiple outreach methods. Outreach should be contextually and culturally appropriate so participants feel comfortable from their initial encounter with the program.

Outreach materials – Programs should tailor outreach materials to grab the attention of the priority population. Program materials should be easy to read and culturally appropriate. Examples of outreach materials for diabetes programs include:

- Print media
- Radio
- Television
- Word-of-mouth (provider and participant referrals)
- Internet and social media

Outreach venues – The location of outreach materials should vary based on the priority population. Examples of outreach venues include:

- Clinics
- Community health centers
- Pharmacies
- Recreation centers
- Local businesses
- Schools
- Faith-based centers

Identify Program Champions

A program champion can help recruit and retain participants. The National Diabetes Prevention Program developed the Program Champion Strategy to support recruitment and outreach. Program champions can:

- Help new participants sign up for the program
- Encourage participation in program events
- Promote the program in the community
- Expand outreach efforts
- Serve as role models

Encourage Referrals

In rural communities, healthcare providers, pharmacists, and others can refer eligible patients to the diabetes program. Successful rural diabetes programs establish relationships and share information about the program with these providers to encourage referrals.

Resources to Learn More

Program Champion Strategy Toolkit
Website
Provides information, strategies, and resources demonstrating how program champions support recruitment and enrollment of new participants with diabetes. Includes resources for program staff on the champion strategy process and on recruiting and training program champions. Also offers guidance materials and talking points for program champions.
Organization(s): National Diabetes Prevention Program, Centers for Disease Control and Prevention (CDC)

Success Factors

Rural diabetes programs have identified several characteristics that contribute to their success.

- **Use a team approach** – Having buy-in from healthcare providers and other members of the clinical team is crucial, especially for diabetes programs involving changes to the clinical system or new self-management practices. Using a team approach can help build support for change.
- **Ensure leadership support** – Successful programs must have support and commitment from leadership. Leadership can help increase buy-in across all levels by communicating the program's purpose and goals and serving as a program champion.
- **Maintain flexibility** – It is important to adapt the program to local circumstances and cultures. Doing so allows the program to have greater reach and impact. This includes adapting program materials to participant literacy levels and also being flexible when establishing program goals and expectations.
- **Coordinate transportation** – Transportation can be a significant barrier in rural communities. Public transportation in rural communities is limited, and some individuals may not have reliable personal transportation. Some rural diabetes programs help coordinate transportation to community events and appointments.
- **Use a common social center** – The setting for the diabetes program, workshop, or class is important. Hosting the program in a common, well-known location can help ease transportation issues and link program participants with other social programs offered in the community.
- **Support participant retention** – It is important to encourage participants to remain engaged in the diabetes program. Some best practices for diabetes program retention are to use low-literacy materials, tailor communication to specific populations, address barriers to participation, encourage social connection, and use incentives.
- **Involve community members** – Community involvement in rural diabetes programs is crucial to success. Community members can offer a meaningful and familiar connection for program participants. Rural programs can hire and train community members as community health workers to support outreach and education. Community members can also help translate program materials, and support overall community health and wellness.

Resources to Learn More

Elements of Successful Rural Diabetes Management Programs

Document

Examines how local innovations implemented by rural diabetes management programs overcame key challenges of the rural setting and provided effective disease management.

Author(s): Fraser, R., Skinner, A.M., & Mueller, K.J.

Organization(s): Rural Policy Research Institute, RUPRI Center for Rural Health Policy Analysis

Date: 2006

Personal Success Tool (Retention Tool)

Website

An interactive resource to help lifestyle coaches increase the retention of people with prediabetes or at risk for type 2 diabetes in a lifestyle change program. Offers guides for program staff and motivational modules designed to keep diabetes program participants engaged.

Organization(s): National Diabetes Prevention Program, Centers for Disease Control and Prevention (CDC)

Implementation Challenges

Rural communities may experience challenges when implementing diabetes prevention and management programs.

- **Poor adherence to self-management** – Rural programs involving diabetes self-management approaches rely on the patient to perform monitoring and management tasks. For the program to be effective, patients must learn the skills and techniques necessary to manage diabetes at home. Rural programs can encourage adherence to diabetes self-management strategies through motivational interviewing, structured but limited goal setting, and participation in self-management education and self-efficacy programs.
- **Travel distance and lack of transportation** – Many rural residents experience long travel distances or a lack of reliable transportation. This can make it difficult to access healthcare services or attend scheduled appointments or events. Coordinating transportation can help participants remain involved in the diabetes program. Holding meetings in central locations, for example local public health departments or community centers, can also help to eliminate transportation barriers. Mobile clinics can also be used to make a diabetes program more accessible.
- **Limited funding and resources** – Finding adequate funding and resources to support program implementation is a common challenge in rural areas. Rural organizations can seek funding for diabetes programs through grants, partnerships, reimbursement, or existing programs. Planning is important for estimating costs to support program implementation, evaluation, and sustainability.
- **Technology barriers** – Technology used to support diabetes programs, such as computers, telemedicine services, or electronic medical record systems, can be costly and require specific expertise. Supporting the ongoing costs associated with technology is a common challenge for rural communities.

For more information on challenges rural community health programs may experience, see Common Implementation Challenges in the Rural Community Health Toolkit.

Resources to Learn More

Elements of Successful Rural Diabetes Management Programs

Document

Examines how local innovations implemented by rural diabetes management programs overcame the key challenges of the rural setting and provided effective disease management.

Author(s): Fraser, R., Skinner, A.M., & Mueller, K.J.

Organization(s): Rural Policy Research Institute, RUPRI Center for Rural Health Policy Analysis

Date: 2006

Module 5: Evaluation Considerations for Rural Diabetes Programs

Rural communities can use evaluation as a tool to assess the quality, cost, effectiveness, and impact of a diabetes prevention and management program. Evaluation can also be used as a tool to gather information throughout program implementation, to determine if program objectives are being met, and to identify areas for improvement. Sharing evaluation findings can promote program transparency and accountability, increase community support and program sustainability, and inform policy decisions.

This module discusses evaluation considerations for rural diabetes programs. For detailed information on program evaluation, see Evaluating Rural Programs in the Rural Community Health Toolkit and Conducting Rural Health Research, Needs Assessments, and Program Evaluations topic guide.

In this module:

- Evaluation Considerations
- Evaluation Types
- Data Collection Strategies
- Measures for Evaluating Diabetes Programs

Evaluation Considerations

Evaluation requires thoughtful planning and implementation. It is important to develop a plan for evaluation before the diabetes program begins. An evaluation plan will outline a strategy for tracking the program's progress towards achieving its goals — specifying what, how, when, and from whom information will be gathered. An evaluation plan will include the evaluation questions that will be answered and will also describe how evaluation findings will be shared. Some diabetes programs have used the Center for Disease Control and Prevention's (CDC) Framework for Program Evaluation to guide evaluation planning and implementation. For detailed information on developing an evaluation plan, see Evaluation Planning in the Rural Community Health Toolkit.

Engaging stakeholders is an important step in any evaluation. Stakeholders are the people involved or affected by the evaluation and include:

- Individuals directly served or affected by the diabetes program, including patients and family members
- Those directly involved in program implementation, including program staff, administrators, volunteers, partners, and community groups
- Entities who provide financial support to the diabetes program and may have specific requirements for evaluation
- Universities or independent researchers who may support evaluation efforts or have an interest in evaluation results

Engaging stakeholders will help ensure the evaluation addresses important questions and that the findings from the evaluation will be useful.

Once the evaluation is completed, program leaders should share findings with stakeholders. There are many ways to share evaluation findings, and programs commonly summarize results in an evaluation report. Any evaluation report or product should include results that will be interesting and useful for the identified stakeholder groups. For more information on dissemination strategies for diabetes programs, see Module 7.

Resources to Learn More

The National Diabetes Education Program Evaluation Framework: How to Design an Evaluation of a Multifaceted Public Health Education Program

Document

Describes how the National Diabetes Education Program applied the CDC's Framework for Program Evaluation in Public Health to assess key program processes and outcomes of multifaceted health communications programs.

Author(s): Gallivan, J., Greenberg, R., & Brown, C.

Citation: *Preventing Chronic Disease*, 5(4), A134

Date: 10/2008

Evaluation Types

Several types of evaluation can be used to assess diabetes prevention and management programs. Each type of evaluation serves a different purpose, and the most appropriate type of evaluation depends on the stage of program implementation. For a detailed overview of different evaluation designs and frameworks, see Evaluation Design in the Rural Community Health Toolkit.

Common types of evaluations used to assess diabetes programs include:

- **Formative evaluation** – Assesses the feasibility and appropriateness of the program, usually focusing on program materials and procedures. Formative evaluation provides information that can be used to improve the program, either before it is fully implemented or in early phases of implementation.
  Example: Barriers and facilitators to program effectiveness and adoption.
- **Process evaluation** – Assesses the extent to which program activities have been implemented as planned. Process evaluation can be conducted periodically during program implementation and provides information on the types, quantity, and quality of activities or services provided.
  Example: Strengths and weaknesses with program recruitment or the referral process.
- **Outcome evaluation** – Measures the program's effect on the target population. Outcome evaluation provides information on how well the program achieved its intended short- and long-term goals.
  Example: Reduction in weight or HbA1c among program participants.
- **Impact evaluation** – Measures the long-term results of the program. Impact evaluation provides information on the broad impact of the program, including whether it achieved its intended results and assessing any unintended results.
  Example: Decrease in diabetes incidence in the population.
- **Economic (cost-benefit) evaluation** – Compares the cost of a program to its benefits. Information collected is used to support continued program operations, or to compare it with other projects or programs.
  Example: Cost savings realized through use of community health workers or care managers.

Formative evaluation and process evaluation are conducted during program implementation, while outcome evaluation, impact evaluation, and economic evaluation are conducted after full implementation, once programs are established.

Resources to Learn More

Advancing the Science of Quality Improvement Research and Evaluation: Diabetes Initiative

Document

Presents an example of an evaluation of the Diabetes Initiative, a 30-month, multi-site program to improve diabetes self-management, demonstrating how to design and conduct an evaluation specific to diabetes self-management programs.

Organization(s): Robert Wood Johnson Foundation

Data Collection Strategies

Evaluating diabetes prevention and management programs involves gathering appropriate data. Diabetes programs will collect different types of data and may use a range of data collection strategies. The types of data that will be collected and how they will be collected depend on the specific evaluation questions being addressed and the type of evaluation being conducted. Most evaluations will draw on both qualitative and quantitative data sources. Using a mixed-methods approach can provide the most comprehensive information to answer specific evaluation questions.

Data collection strategies also differ depending on the stage of program development or implementation. Process evaluations, for example, consider how the diabetes program is being implemented. Data collection for process evaluations may focus on tracking attendance of participants, involvement of staff and partners, implementation of program activities, or reach and appropriateness of program materials. The types of information gathered for process evaluations may include data about individual program participants and their opinions and satisfaction with the program, staff perceptions of program implementation, and program participation.

Outcome evaluations, which assess the effects of the diabetes program, require different data. Data collection for outcome evaluations may focus on tracking changes in participants' knowledge, attitudes, and behaviors. The types of information gathered for outcome evaluations may include quantitative (numeric) data or qualitative (descriptive) data. Examples of quantitative data collection strategies include extracting data from existing sources, such as electronic health records or other clinical data, as well as conducting surveys or questionnaires, which can be administered by telephone, mail, or internet. Examples of qualitative data collection strategies include interviews, focus groups, and open-ended survey questions. Observational data, which uses standardized procedures to record behaviors, situations, and events, and can be quantitative or qualitative.

Resources to Learn More

Diabetes Initiative: Resources - Assessment Materials, Forms & Instruments
Website
Offers a variety of resources for use in clinical and community-based diabetes programs including patient documentation and assessment forms, program enrollment and evaluation tools, and staff assessment survey instruments.
Organization(s): Robert Wood Johnson Foundation

Research and Evaluation Tools

Website

Provides links to assessment tools in English, Spanish, and French that can be used free-of-charge for program evaluation needs. Includes diabetes-specific scales for obtaining data from program patients.

Organization(s): Self-Management Resource Center

Road to Health Toolkit: Evaluation Guide

Document

Provides evaluation guidance for community health workers (CHWs) implementing the Road to Health Toolkit, an outreach program to help people prevent or delay type 2 diabetes. Offers examples as aids in assessing program process and outcomes.

Organization(s): National Diabetes Education Program (NDEP), Centers for Disease Control and Prevention (CDC)

Date: 2022

Evaluation Measures

Evaluation measures, also called evaluation indicators, provide specific information on whether a program is achieving its goals. For general information on evaluation measures, see Evaluation Measures in the Rural Community Health Toolkit.

Rural communities implementing diabetes programs should use measures that provide information addressing progress towards specific program goals. The most appropriate measures for evaluating a diabetes program will depend on the program model, type of evaluation, data collection strategies, and other considerations. Common measures include:

Participant Data

- Demographic information of participants or the target population (gender, race, ethnicity, age, educational attainment, income)
- Biological markers (height, weight, body mass index, blood pressure, cholesterol, HbA1c)
- Medical history (medication use, provider visits, hospitalizations)
- Present health status (glucose control, complications, social support systems including family and peers)

Program Processes

- Program enrollment rate
- Program completion rate
- Program implementation costs
- Number and type of program materials and resources produced
- Use of program materials and resources among participants
- Number of appropriate referrals
- Number and type of program activities or sessions convened
- Program staffing (staff ratios, qualifications, training)

Health Outcomes

- Changes in HbA1c values
- Changes in blood pressure values
- Changes in weight
- Changes in body mass index
- Changes in cholesterol levels (LDL and HDL)
- Variability in random blood glucose testing
- Changes in quality of life and well-being
- Changes in psychological health

- Changes in health status
- Changes in obesity rates
- Complications rate (renal failure, retinopathy)
- Changes in mortality rates (diabetes-related and all causes)

Other Outcomes

- Environmental and contextual factors (living situation, social support, cultural influences, community resources)
- Changes in diabetes knowledge, attitudes, and beliefs (screening benefits and guidelines, risk behaviors)
- Changes in lifestyle, self-management practices, and diabetes skills (glucose monitoring, dietary intake, physical activity, foot care)
- Changes in behavioral intentions
- Changes in self-efficacy
- Changes in medication usage and adherence
- Participant satisfaction with program sessions or meetings
- Patient satisfaction with care
- Changes in diabetes screening rates
- Changes in overall healthcare use and costs
- Overall healthcare cost savings
- Provider behaviors (prescribing, referrals, communication, patient education)

Resources to Learn More

Patient Self-Management Support Programs: An Evaluation

Document

Examines the factors identified from interviews with experts and a literature review for consideration when selecting chronically ill patient self-management support programs. Discussion of key findings covers evaluations of program models and measures used to determine effectiveness. Recommendations are offered for developing a self-management program.

Organization(s): RAND Health and the Agency for Healthcare Research and Quality

Date: 11/2007

Module 6: Funding and Sustainability of Rural Diabetes Programs

Shifting health priorities, changes in local economies, and unpredictable availability of funding sources are common issues facing diabetes programs and require careful sustainability planning for success.

Sustainability is important to address early in the planning and implementation stages of diabetes prevention and management programs. This module discusses the importance of planning for sustainability, key sustainability strategies, and potential funders. For a general overview of how to plan for the sustainability of your program, see Planning for Funding and Sustainability in the Rural Community Health Toolkit.

In this module:

- Importance of Planning for Sustainability
- Sustainability Strategies
- Rural Diabetes Intervention Program Funders

Importance of Planning for Sustainability

A diabetes program is more likely to continue uninterrupted when sustainability is considered early on in the planning process. Program planners from the Diabetes Initiative of the Robert Wood Johnson Foundation (RWJF) reported that "thinking about sustainability too late" was a key threat to successfully maintaining program operations. Rural programs planning for long-term sustainability should consider strategies for supporting program staff, resources, and partnerships. These strategies should be determined from the outset of program design and implementation.

The sustainability of diabetes programs often depends on the value individuals and organizations see in the program and the support they are willing to commit to ongoing operations. Program planners may need to justify continued investment in diabetes programs by sharing information that demonstrates how investments in prevention and management can benefit the community — for example, by leading to improved health outcomes and decreased healthcare utilization. Evaluation activities can help gather information that demonstrates a program's value. For example, evaluation can be used to track progress on process and outcome measures for diabetes prevention and management programs. The Centers for Disease Control and Prevention (CDC) provides a seven-part guide for building the business case for diabetes self-management education and support.

Key questions rural programs should consider when planning for sustainability include:

- What strategies will be used to obtain input and buy-in from community and stakeholder organizations?
- What are the appropriate evaluation measures for assessing program outcomes or return on investment?
- Who are the potential funders of program operations?
- What are long- and short-term sustainability strategies to achieve program goals?
- What kinds of financial, staff, and in-kind resources are necessary for sustained program success?
- How can we document and share information on program success and progress? What results are program funders most interested in learning?
- How can we share results of program success in a way that resonates with funders?
- What are potential challenges to success and potential solutions to overcome these issues?

Rural diabetes program leaders may benefit from additional information about engaging in sustainability planning from other Rural Health Information Hub topic-specific toolkits:

- Care Coordination Toolkit
- Community Health Workers Toolkit
- Health Promotion and Disease Prevention Toolkit
- Telehealth Toolkit

Resources to Learn More

Diabetes Prevention Lifestyle Change Program: The Business Case for Inclusion as a Covered Health Benefit

Document

Describes findings from the implementation of the Diabetes Prevention Lifestyle Change Program (DPLCP), an employee sponsored lifestyle intervention program to prevent or delay the onset of type 2 diabetes in people with or at risk for prediabetes through dietary changes and increased physical activity. Discusses the reasons why offering DPLCP to their employees is good for the company as well as the employees by improving health outcomes, reducing loss of work days, and decreasing healthcare costs.

Organization(s): Florida Health Care Coalition

Date: 1/2015

Sustainability Strategies

There are several strategies for sustaining diabetes prevention and management programs. The Rural Community Health Toolkit provides general information on sustainability in the following sections: Sustainability Strategies.

Strengthening Partnerships

Community partners play an important role in supporting the sustainability of rural diabetes programs. In some rural communities, partners provide in-kind resources, such as transportation to and from diabetes education classes, or physical space for program activities. Sustainability also depends on the ability of rural diabetes programs to continually engage new patients or participants. Building strong relationships with social services agencies, senior centers, community-based organizations, schools, and other community-serving institutions can help maintain steady referrals to program services.

Sustainable Funding Models

Time-limited grants may provide funding for initial investments in resources and staff and for ongoing support of program operations. However, many successful diabetes prevention and management programs also leverage payment and reimbursement from insurers to sustain program services.

Many private and public insurers cover services related to diabetes education, case management, and treatment. However, eligibility criteria for coverage differ across payers and states. Rural program planners may need to investigate local, state, and national policies for coverage of diabetes prevention and management activities to understand their options for billing and reimbursement:

- The Centers for Disease Control and Prevention (CDC)'s Diabetes Self-Management Education and Support (DSMES) Toolkit provides key resources for reimbursement and sustainability, including guidance for Federally Qualified Health Centers.
- The Policy Surveillance Program offers an interactive map of health insurance coverage laws for diabetes self-management education and training.

Assessing the health insurance coverage among the community or patient population may help rural communities understand potential options for payment and reimbursement:

- **Medicaid** – While coverage varies from state to state, Medicaid programs typically offer coverage for diabetes medication, equipment, education (such as nutritional therapy), and self-management services. States are also exploring a range of other strategies to address diabetes, such as using Section 1115 Medicaid Demonstration Waivers to test new and innovative approaches to better serve Medicaid enrollees with diabetes. For instance, the Brazos Valley Care Coordination Program, which offered home visiting services to rural patients with diabetes, was funded by a Section 1115 Medicaid Waiver.
- **Medicare** – Medicare covers a range of services related to diabetes care and control. For example, Medicare covers prevention services for organizations that are enrolled in the Medicare Diabetes Prevention Program.
- **Commercial/private insurers** – Many commercial or private insurers offer coverage for services related to diabetes prevention and management. For example, in 43 states, private insurance companies are required to cover diabetes self-management education and training for enrollees.

Many private and public payers are testing alternative payment models, in which providers receive incentives to decrease healthcare costs, increase healthcare quality, and improve health outcomes. Requirements for receiving incentives could involve diabetes prevention and management, such as demonstrating a decreased rate of diabetes-related hospitalizations for the patient population:

- Arkansas Medicaid, the Arkansas Department of Human Services, Arkansas Blue Cross and Blue Shield, and QualChoice of Arkansas are participating in the Arkansas Health Care Payment Improvement Initiative. As part of the initiative, Arkansas is implementing a Patient-Centered Medical Home (PCMH) Program, which rewards providers for offering comprehensive and coordinated care.
- Rural communities may also fund diabetes services through Medicare and Medicaid Accountable Care Organizations (ACOs), which refer to groups of hospitals and providers who work together to provide coordinated care.

Leveraging Telehealth Capabilities

Many rural communities offer telehealth services for diabetes self-management services and education. There are many considerations for reimbursement for telehealth services. The American Diabetes Association also has information about changes in Medicaid and Medicare reimbursement policy for diabetes-related telehealth during the COVID-19 national pandemic.

Working with Policymakers and Payers

To achieve a sustainable funding stream for diabetes prevention and management services, rural communities may need to work with policymakers and payers to make changes in coverage for diabetes programs. The National Diabetes Prevention Program (National DPP) Coverage Toolkit provides strategies for increasing reimbursement for National DPP activities, including approaching commercial health plans and engaging state legislatures to advocate for Medicaid coverage.

Resources to Learn More

Successful Sustainability of Diabetes Self-Management Programs

Document

Discusses effective sustainability strategies identified from a study of 14 sites involved in a diabetes self-management grant program funded through the Diabetes Initiative, a national program of the Robert Wood Johnson Foundation.

Organization(s): Robert Wood Johnson Foundation

Date: 2009

Engaging Health Care Providers to Scale and Sustain the National Diabetes Prevention Program

Document

Describes the sustainability efforts of PartnerSHIP 4 Health (PS4H), a coalition of rural counties in west central Minnesota that engaged healthcare providers and community partners to provide the National Diabetes Prevention Program (NDPP) to community members.

Organization(s): National Association of County and City Health Officials (NACCHO)

Community Health Workers Sustainability

Website

Lists resources that provide strategies supporting the sustainability of community health workers (CHW) in diabetes prevention and management programs.

Organization(s): Centers for Disease Control and Prevention (CDC)

Early Results of States' Efforts to Support, Scale, and Sustain the National Diabetes Prevention Program

Document

Discusses the activities, facilitators, and barriers to sustaining the National DPP for the prevention and delay of the onset of type 2 diabetes, as identified by program funded states during the first 3 years of a 5 year funding period.

Author(s): Mensa-Wilmot, Y., Bowen, S., & Rutledge, S., et al.

Citation: Preventing Chronic Disease, 14, E130

Date: 12/2017

Rural Diabetes Intervention Program Funders

Rural diabetes prevention and management programs are supported by a variety of public and private sources of funding or more time-limited grants and contracts. Potential funders for rural communities include entities at the national, regional, and state level. This may include government agencies, foundations, associations, and organizations that offer resources and funding for diabetes prevention and management programs. Awareness of available funding opportunities is critical for successful sustainability planning.

To review potential funders, see Funders of Rural Programs in the Rural Community Health Toolkit. RHIhub's Online Library also provides a list of active and inactive diabetes funding opportunities. More information about building relationships with philanthropies can be found in A Guide to Working with Rural Philanthropy.

Examples of Federal Agencies that Support Rural Diabetes Programs

- Multiple grant programs of the Federal Office of Rural Health Policy (FORHP) within the Health Resources and Services Administration (HRSA) provide funding for rural programs focused on diabetes. For example, many federal grantees of the Delta States Rural Development Grant Program and the Rural Health Outreach Grant Program are addressing risk factors of and treatment for diabetes.
- The National Institute of Diabetes and Digestive and Kidney Diseases within the National Institutes of Health (NIH) is a key funder of diabetes research.
- The Centers for Disease Control and Prevention (CDC) offers funding for diabetes prevention and management programs through the National Center for Chronic Disease Prevention and Health Promotion, including the Division of Diabetes Translation.
- The Indian Health Service (IHS) funds IHS, Tribal, and Urban Indian Health Programs to support diabetes prevention and management programs among American Indian and Alaska Native populations through the Special Diabetes Program for Indians.

National Associations that Support Rural Diabetes Programs

- The American Diabetes Association funds research programs, community-based programs, and interventions focused on specific topic areas, such as cardiovascular disease comorbidities.
- The National Recreation and Park Association funds chronic disease management programs that focus on promoting physical activity.

Examples of State Agencies that Support Rural Diabetes Programs

State agencies, including departments of health and public health, have funded rural diabetes programs. Rural communities may investigate agencies at the local, county, regional, and state level for available opportunities, such as grant programs focused on chronic disease management or disparities. Examples of state agencies that have funded rural diabetes programs include:

- The Colorado Department of Public Health & Environment's Health Disparities Grant Program
- The Minnesota Department of Health's Eliminating Health Disparities Initiative
- The Tennessee Department of Health's Project Diabetes

Examples of Foundations that Support Rural Diabetes Programs

- The Foundation for the Mid South helps address diabetes in rural Arkansas, Louisiana, and Mississippi.
- The Elevance Health Foundation supports diverse community health programs, such as diabetes self-management programs in rural Kentucky.
- The Helmsley Charitable Trust funds programs focused on improving outcomes for people with type 1 diabetes and preventing and delaying type 1 diabetes.

Module 7: Dissemination Strategies for Rural Diabetes Programs

Dissemination refers to sharing information and materials with a specific audience. Sharing information and resources from rural diabetes programs can help other rural organizations learn what works. Informing stakeholders about the program can help build and maintain relationships, credibility, and local support and buy-in from the community. Examples of stakeholders include individuals both within and outside of the program, including those at the local, state, and national levels. The best way to share information depends on the intended audience.

For detailed information on how to share your program's results, see Disseminating Best Practices in the Rural Community Health Toolkit.

In this module:

- Dissemination Audiences
- Methods of Dissemination
- Using and Sharing Results

Dissemination Audiences

When implementing a rural diabetes program, it is important to share information and resources about the program with different audiences. This may include information on program successes and results, based on program evaluation findings, and resources or materials developed to support program activities and services. Sharing information broadly can help others learn what works, build and maintain program relationships, increase credibility, and increase community support for the program.

Potential audiences may be within and outside of the organization implementing the program. Program partners often play a key role in disseminating program information. Audiences to consider for dissemination of rural diabetes program information include:

- Program participants and patients
- Community members who may be at risk of diabetes
- Patients' parents, guardians, other family members, and friends
- Program staff
- Partner organizations
- Program funders
- Healthcare providers and referring agencies
- Pharmacists
- Local and state government agencies, such as public health departments
- Local schools, including superintendents and staff (principals, nurses, teachers, counselors, coaches)
- Faith-based organizations
- Researchers and universities
- Other local and regional organizations

Dissemination Methods

Rural programs addressing diabetes should share program results, such as outcomes, successes, and lessons learned. For example, patients, healthcare providers, pharmacists, partners, and other program stakeholders may want to learn more about program successes and lessons learned. It may also be helpful to share information more broadly — within the community, across the state, or with other jurisdictions.

Many rural programs share information through personal relationships. This includes personal relationships, both within and external to the organization. To reach the broadest audience, however, it is important to also disseminate information at the state and national level. Doing so can help other organizations learn what works.

The National Diabetes Prevention Program funded state and local health departments to implement strategies to prevent type 2 diabetes. To share success stories from their program, the Montana Department of Public Health and Human Services produced videos, including videos featuring people who lived in rural areas and participated in the program via telehealth.

Common dissemination methods include:

- Seminars and workshops, including webinars
- Policy or research briefs
- Face-to-face meetings
- Press releases
- Social media
- News media
- Published research in academic journals

For an overview of common dissemination methods, see Methods of Dissemination in the Rural Community Health Toolkit.

Resources to Learn More

Local Health Department Use of Twitter to Disseminate Diabetes Information
Document
Discusses how local health departments are successfully using social media as a way to educate and inform their community about diabetes.
Author(s): Harris, J.K., Mueller, N.L., Snider, D., & Haire-Joshu, D.
Citation: Preventing Chronic Disease, 10, 120215
Date: 5/2013

Translating Diabetes Prevention Programs: Implications for Dissemination and Policy

Document

Commentary examines in detail a community-based translational study of the Diabetes Prevention Program (DPP) and the implications of DPP studies for public policy.

Author(s): Katula, J.A., Blackwell, C.S., Rosenberger, E.L., & Goff, D.C.

Citation: North Carolina Medical Journal, 72(5), 405-408

Date: 10/2011

Using and Sharing Results

It is important to consider appropriate audiences and methods for disseminating information about rural diabetes programs. Other important considerations when sharing program results include:

- **Consider the audience and select a communication strategy.** Tailor reports of findings to different audiences; ensure results are clear, concise, and culturally relevant.
- **Determine important information to include.** Useful contextual information for evaluation findings includes background and purpose, evaluation methods, findings, conclusions, and recommendations.
- **Present meaningful information effectively.** Use graphics, charts, and tables to present data and avoid technical jargon and acronyms to make writing easier to understand. It may also be useful to include meaningful anecdotal narratives, data, and details.
- **Be upfront about strengths and limitations.** Include the strengths and limitations of the evaluation as well as the advantages and disadvantages of the results and recommendations.
- **Present findings creatively.** Use a variety of techniques to convey results including short video presentations, newsletters, audio segments, websites, or making presentations to select groups or community partners. Federal Office of Rural Health Policy (FORHP) grantees (see Module 3) often present on their findings to other rural communities as well as at state and national conferences.

About this Toolkit

Toolkit Development

The *Rural Diabetes Prevention and Management Toolkit* was first published on 8/15/2016 and last reviewed on 9/23/2020.

Toolkits are developed based on a review of FORHP grantees' applications, foundation-funded projects, and an extensive literature review, to identify evidence-based and promising models. Programs featured in the toolkit are interviewed to provide insights about their work and guidance for other rural communities interested in undertaking a similar project.

Credits

This toolkit was produced by the NORC Walsh Center for Rural Health Analysis, in partnership with the University of Minnesota's Rural Health Research Center, and in collaboration with the Rural Health Information Hub (RHIhub).

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