OUTCOMES-DRIVEN
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The Role of CHWs in Addressing Diabetes

Table of Contents

About MHP Salud 3

Introduction 3

Who are CHWs? 4

What is Diabetes? 4

Diabetes Symptoms 6

Screening and Diagnosing Diabetes 7

Recommendations for Diabetes Prevention and Management 8

CHW Roles in Addressing Diabetes 10

CHW-Led Interventions Addressing Type 2 Diabetes 14

The Value of CHWs in Diabetes Prevention and Management 15

CHW Testimonial 17

Resources 18

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About MHP Salud

MHP Salud is a national nonprofit organization with 35 years of experience developing, implementing, and evaluating community-based, culturally tailored Community Health Worker (CHW) programs and promoting the CHW profession through training and consultation services. MHP Salud's mission is to implement CHW programs to empower underserved Latino communities and promote the CHW model nationally as a culturally appropriate strategy to improve health.

Introduction

According to a 2020 report released by the Centers for Disease Control and Prevention (CDC), diabetes cases are still increasing in the United States; 34.2 million, or 10.5% of the US population, has diabetes and another 88 million Americans have prediabetes.[1] Prediabetes, if not treated, often results in Type 2 diabetes. Diabetes was the 7th leading cause of death in the United States in 2015 and has been identified as a contributing factor for other causes of deaths.[2,3] In the same year, nearly 1 in 4 adults living with diabetes were unaware of having the condition.[2] Community Health Worker (CHWs) are uniquely qualified to support individuals with diabetes; CHW interventions have demonstrated success in improving health outcomes among individuals diagnosed with diabetes and support at-risk individuals to prevent the development of the condition.

The purpose of this guide is to assist health centers and partners in identifying the roles of CHWs in addressing diabetes. This guide will provide access to information that will facilitate the identification of CHWs in their Health Centers, and their roles in addressing diabetes self-management and prevention in their communities.

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1. "National Diabetes Statistics Report 2020. Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 2020, https://www.cdc.gov/diabetes/library/features/diabetes-stat-report.html.
2. ""Deaths and Cost." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 20 Feb. 2018, https://www.cdc.gov/media/releases/2017/p0718-diabetes-report.html
3. "Fast Stats - Leading Causes of Death." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm.

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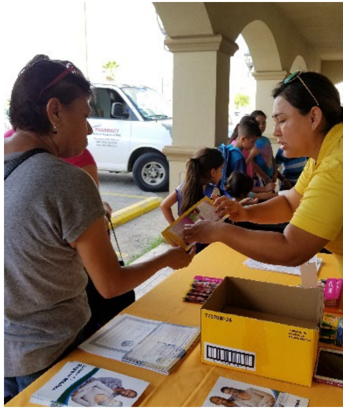
Who are CHWs?



CHWs, also known as *Promotores(as) de Salud*, are frontline public health workers who are trusted liaisons between the individual and health care and social services. CHWs can serve as intermediaries between health services and the community to facilitate access to services and improve the quality and cultural competence of service delivery.[1] Due to their close understanding of and trust from the communities they serve, CHWs can be particularly successful champions for patients with diabetes, helping them overcome the challenges they may face in managing their blood sugar levels.

CHWs are known by a variety of titles. Please refer to the list below to identify staff performing duties that may align with the CHW profession:

I. Community Health Specialist
II. Community/Lay Health Advisor
III. Community Outreach Worker
IV. Community/Patient Health Navigator
V. Community Wellness Advocate
VI. Family Resources Coordinator
VII. Health Ambassador
VIII. Health (or Community Health) Advocate
IX. Health Educator
X. Healthcare Specialist
XI. Home Visitor
XII. Outreach and Enrollment Specialist
XIII. Outreach Referral Worker
XIV. Parent Educator
XV. Patient Care Coordinator/Worker
XVI. Patient Resource Coordinator
XVII. Peer Advocate
XVIII. Peer Educator
XIX. Peer Wellness Specialist
XX. *Promotor(a) de Salud* (2)

1. "Community Health Workers." American Public Health Association, https://www.apha.org/apha-communities/member-sections/community-health-workers.
2. "Reporting of Community Health Workers in the Uniform Data System." *MHP Salud*, https://mhpsalud.org/portfolio/reporting-community-health-workers-uniform-data-system/.

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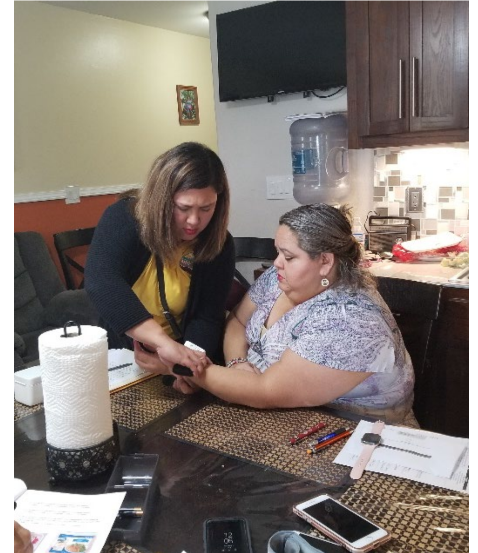
What is Diabetes?

Diabetes is a chronic health condition that impacts how the body uses food for energy by breaking down blood sugar, also known as glucose. The pancreas produces a type of hormone called insulin which enables the body to use glucose as energy. When an individual has diabetes, insulin does not work as intended within the body; the body is either not able to produce insulin, or the body produces insulin but is not able to use it effectively. Therefore, blood sugar stays in the bloodstream which can lead to many negative health effects such as kidney disease, vision loss, and/or nerve damage, among others.[1]



There are different types of diabetes: type 1 diabetes, type 2 diabetes, gestational diabetes, and pre-diabetes.

Type 1 Diabetes

About 5-10% of all diabetes cases are type 1.[1] This type of diabetes is caused when the immune system that normally protects the body begins destroying cells within the pancreas. This leaves the body unable to make enough insulin and, therefore, insulin intake is needed daily to survive.[2] Type 1 diabetes is usually diagnosed in children, teens, and young adults.

Type 2 Diabetes

About 90-95% of individuals with diabetes have type 2.[1] With this type of diabetes, the body produces insulin but is unable to effectively use it. The ineffective use of insulin causes blood sugar levels to elevate.[1] This type of diabetes develops over many years, and it is usually diagnosed in adults. Recently, however, the diagnosis among children, teens, and young adults is increasing.

Gestational Diabetes

This type of diabetes develops during pregnancy among women who did not have diabetes before. Gestational diabetes increases the risk of the mother developing diabetes in the

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future and experiencing complications with her pregnancy. Additionally, infants born to mothers with gestational diabetes are at a higher risk for developing health problems and obesity later in life.

Pre-Diabetes

approximately 88 million American adults—more than 1 in 3—have prediabetes. Of those with prediabetes, more than 80% don't know they have it.[3] With pre-diabetes, blood sugar levels are higher than normal but have not reached the level to be diagnosed with type 2 diabetes.[1] Pre-diabetes represents A1C levels from 5.7 to 6.4% or 100mg/dl to 125 mg/dl fasting plasma glucose.[4] This condition indicates that an individual is at risk for developing type 2 diabetes. If lasting lifestyle changes are made pre-diabetes can be reversed.[5]

Diabetes Symptoms

Diabetes symptoms may vary depending on the blood sugar level. For some individuals with pre-diabetes or type 2 diabetes, symptoms may initially be light or may be nonexistent. On the other hand, for those with type 1 diabetes symptoms tend to develop suddenly and be more severe.[6]

The following are common signs and symptoms of type 1 and type 2 diabetes:

- Frequent Urination
- Excessive thirst
- Increased hunger
- Extreme fatigue
- Blurry vision
- Tingling, pain, or numbness in the hands/feet (type 2)
- Dry skin
- Irritability
- Excessive and frequent weight loss
- Slow healing sores[6,7]

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Screening and Diagnosing Diabetes

Symptoms of diabetes (pre-diabetes, type 2, and gestational) appear gradually or may not be existent; thus, the reason for screening. The American Diabetes Association (ADA) has recommended that the following people be screened for diabetes:

- **Individuals of any age with a body mass index (BMI) higher than 25 (23 for Asian-Americans)** with additional risk factors such as: high blood pressure, abnormal cholesterol levels, a sedentary lifestyle, a history of polycystic ovary syndrome or heart disease, and/or a family history of diabetes.
- **Individuals older than 45 years old** are advised to have a blood sugar screening every three years to monitor glucose levels and assess their risk for developing type 2 diabetes.
- **Any woman, regardless of age, who has had gestational diabetes** is advised to have a blood sugar screening every three years to monitor glucose levels and assess her risk for developing type 2 diabetes.
- **Individuals diagnosed with pre-diabetes** are advised to have blood sugar tests every year.[6]

There are multiple tests to screen for diabetes such as: Glycated hemoglobin (A1C) test, Random blood sugar test, Fasting blood sugar test, and Oral glucose tolerance test. (4). The most common of these tests is the A1C test, which provides an indication of the average blood sugar levels for the past two to three months; it is used to diagnose pre-diabetes and diabetes as well as monitor the control of a patient's diabetes. The test selected by a medical provider will depend on the individual's medical history or situation.

A diabetes diagnosis has to be given by a medical provider. The diagnosis criteria for each of the above screening test is as follows:

A1C Test [4]

Result	A1C
Normal	less than 5.7%
Prediabetes	5.7% to 6.4%
Diabetes	6.5% or higher

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Fasting Blood Sugar Test [4]

Result	Fasting Blood Sugar
Normal	less than 100 mg/dl
Prediabetes	100 mg/dl to 125 mg/dl
Diabetes	126 mg/dl or higher

Oral Glucose Tolerance Test [4]

Result	Oral; Glucose Tolerance Test (OGTT)
Normal	less than 140 mg/dl
Prediabetes	140 mg/dl to 199 mg/dl
Diabetes	200 mg/dl or higher

Recommendations for Diabetes Prevention and Management

The following section provides an overview of recommendations for an individual to maintain healthy blood sugar levels. These recommendations are used by individuals to prevent the onset of diabetes, or, for those with diabetes, to maintain healthy blood sugar levels and manage their condition.

Nutrition: Eating habits are important in preventing and controlling diabetes. Some basic recommendations are consuming healthy portions including foods low in saturated fats and sugar, whole grain carbohydrates, vegetables, and fruits.[8]

Helpful Resources:

- ADA Nutrition Overview
- NIH NIDDK Diabetes Diet, Eating, & Physical Activity

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Physical activity: Physical activity can aid in controlling blood sugar, weight, blood pressure, and cholesterol and can prevent heart disease and nerve damage. Physical activity of moderate-to-vigorous intensity (e.g. brisk walking, dancing, swimming, cycling) is recommended for at least 30 minutes 5 or more days per week.[8]

Helpful Resources:
- CDC Diabetes Get Active!
- NIH NIDDK Diabetes Dieting, Eating & Physical Activity

Medications & Healthcare providers: Visiting healthcare providers regularly and adhering to advice and prescribed medications will support the prevention and control of diabetes. It is recommended for individuals with diagnosed diabetes to take medications exactly as prescribed, in both dose and frequency.[8]

Helpful Resources:
- CDC Diabetes and You: All Medicines Matter!
- NIH NIDDK Insulin, Medicines, & Other Diabetes Treatments

Smoking Cessation: Smoking regularly may increase the body's resistance to insulin, resulting in higher blood sugar levels.[9] Healthcare providers can assist patients in finding a smoking cessation program that will aid patients in not using cigarettes and other tobacco products or e-cigarettes.[8]

Helpful Resources:
- CDC Tips From Former Smokers
- CDC Smoking and Diabetes

Managing Diabetes and Preventing Complications: There are many potential complications related with diabetes. Examples of complications include: heart disease, eye disease, nerve damage, kidney disease, gum disease, blood circulation problems, foot sores, delayed digestion, sexual dysfunction, and depression. Maintaining normal blood sugar levels and seeing a healthcare provider on a regular basis will help in recognizing and preventing complications.[8]

Helpful Resources:
- National Diabetes Prevention Program Requirements for CDC Recognition
- NIH NIDDK Managing Diabetes

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1. "Learn about Diabetes." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, https://www.cdc.gov/diabetes/basics/diabetes.html
2. *Type 1 Diabetes*. NIDDK NIH, https://www.niddk.nih.gov/health-information/diabetes/overview/what-is-diabetes/type-1-diabetes
3. *Prediabetes - Your Chance to Prevent Type 2 Diabetes.* Centers for Disease Control and Prevention, https://www.cdc.gov/diabetes/basics/prediabetes.html
4. *Diagnosis*. American Diabetes Association, https://www.diabetes.org/a1c/diagnosis
5. What Is Prediabetes? Here's What You Need to Know." Endocrine Web, https://www.endocrineweb.com/conditions/pre-diabetes/pre-diabetes.
6. "Diabetes." Mayo Clinic, Mayo Foundation for Medical Education and Research, https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444.
7. "Diabetes." *Mayo Clinic*, Mayo Foundation for Medical Education and Research, https://www.mayoclinic.org/diseases-conditions/diabetes/symptoms-causes/syc-20371444
8. "Understanding and Addressing Diabetes in Your Community: A Quick Guide for CHWs." *MHP Salud*, https://mhpsalud.org/portfolio/understanding-addressing-diabetes-community-quick-guide-chws/
9. "Living with Diabetes." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, https://www.cdc.gov/diabetes/managing/index.html
10. Arnaud Chiolero, David Faeh, Fred Paccaud, Jacques Cornuz, Consequences of smoking for body weight, body fat distribution, and insulin resistance, *The American Journal of Clinical Nutrition*, Volume 87, Issue 4, April 2008, Pages 801–809, https://doi.org/10.1093/ajcn/87.4.801

CHW Roles in Addressing Diabetes

CHWs encompass a wide variety of specific roles and titles, and while their primary role may be linking vulnerable populations and the health care system, additional roles may include cultural mediation, culturally appropriate education, care coordination, case management, and systems navigation, coaching and social support, advocacy, capacity building, and outreach. Through these roles, CHWs offer support to patients with diabetes and/or at risk of developing diabetes in a culturally appropriate manner.

The table below provides an overview of the different CHW roles and sub-roles. Each role and sub-role are accompanied by real-life examples that may be used in diabetes interventions.

CHW Roles	Sub-Roles	Examples/Relation to Diabetes
Cultural Mediation	➔ Navigating health and social service systems ➔ Addressing community and cultural norms ➔ Increasing health literacy and cross-cultural communication	➔ Address community perspectives and/or misconceptions on diabetes medications and management. ➔ Explain how medical processes, such as medical appointments, work in the U.S. Immigrant patients may be accustomed to walk-in medical services and may, therefore, miss their appointments.
Culturally Appropriate Education	➔ Health promotion, disease prevention, and health condition	➔ Motivate and support healthy behavior change using culturally appropriate educational methods.

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	management	For example, some cultures and religious groups cannot partake in dance, such as Zumba, as a form of physical activity, while others might prefer it. ➔ Use a variety of educational methods to reach patients from various cultural backgrounds. For example, when CHWs work with patients to improve eating habits, they must be familiar with traditional cultural dishes and healthy replacements their patients will actually use.
Care Coordination, Case Management, and Systems Navigation	➔ Making health referrals and providing follow-up ➔ Helping address barriers to services	➔ Help patients schedule appointments and check insurance coverage. ➔ Provide assistance with application completion and procurement of documents for services needed. For example, helping patients enroll to health insurance. ➔ Provide assistance care coordination. For example, planning transportation to and from appointments, etc. ➔ Maintain constant communication with patients with diabetes to support tracking health outcomes. For example, CHWs visiting the patient to monitor blood sugar levels regularly.
Coaching and Social Support	➔ Motivating people to access healthcare ➔ Supporting behavior change ➔ Facilitating support groups and informal counseling	➔ Help patients see their health as a priority. For example, in many cultures, women are the caregivers of others and not used to taking care of themselves. ➔ Help patients set culturally appropriate SMART (specific, measurable, achievable, relevant, time-bound) health goals ➔ Provide social support and listen to patients' concerns. For example, oftentimes immigrants, may feel socially isolated and CHWs can provide companionship and help

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		motivate patients to manage diabetes.
Non-Health Referrals	➔ Referring individuals to community support agencies	➔ Provide domestic violence referrals. For example, if someone is in a violent relationship, they are likely unable to monitor their diabetes. ➔ Provide financial assistance referrals. For example, if someone is struggling to afford rent or their mortgage, they are unlikely to be able to pay for medical services, medicine, or healthy food. ➔ Refer patients to legal aid to receive assistance with legal matters. For example, if a patient is experiencing legal issues the stress caused could reflect on their health.
Advocacy	➔ Identifying community needs and resources ➔ Advocating for individual clients and communities	➔ Advocate for healthier options in their community. For example, petitioning for local supermarket with healthy food options or adding lighting to local park to increase security. ➔ Supporting patients advocate for themselves with health care providers when they have differing ideas for their treatment. ➔ Attend medical appointments with patients. For example, accompanying patients to ensure that their doctor is conducting the appropriate examinations, such as foot exams, at every visit and referring to perform eye exams annually. ➔ Helping a patient advocate for themselves with health care providers if/when they disagree with a treatment recommendation.
Building Capacity	➔ Building individual and community capacity ➔ Training with CHW peers and among networks	➔ Encourage patients with diabetes to identify and use available resources to meet their needs and health goals. For example, showing patients how to locate and utilize information regarding local health

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		events. ➔ Build patient's self-efficiency and self-efficacy. For example, teaching patients how to check and monitor their own blood sugar levels.
Needs Assessments and Environmental Scans	➔ Conduct community needs assessments ➔ Conduct patient needs assessments	➔ Conduct assessments to identify the needs of the community. For example, connecting with people living with diabetes and identifying their specific needs to develop effective programs and/or initiatives. ➔ Conduct environmental scans to identify and catalog the community services and resources relevant to chronic disease management and prevention
Outreach	➔ Meet people/patients where they are by building relationships based on listening, trust, and respect ➔ Establish and maintain relationships with community organizations to provide patients with access to social resources.	➔ Conduct community outreach. For example, establishing local gathering spaces to encourage individuals to access health and social services. ➔ Recruit patients for health programs or interventions. For example, recruiting potential participants to participate in diabetes management educational sessions. ➔ Increase the visibility of a health center or CHW service within the community. For example, participating in community health fairs and local events.
Evaluation	➔ Collect data ➔ Provide culturally appropriate insight to data interpretation ➔ Share results and findings with the community	➔ Collect pre/post-test data, conduct interviews, and other data about diabetes to demonstrate program effectiveness. ➔ Assist an organization or research team to better understand data trends. For example, CHWs may be aware of external factors affecting diabetes patients' participation in educational classes or programs.

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CHW-Led Interventions Addressing Type 2 Diabetes

CHWs are often the bridge between the community and health and social services. The following section provides examples of how CHWs have worked in interventions addressing type 2 diabetes.

- **Improvements in blood glucose or hemoglobin A1C (A1C) levels:** One of the most commonly reported positive health outcomes in CHW-led interventions is the improvement or stabilization of A1C levels. Culturally appropriate CHW-led interventions with Latinos and other immigrant groups were found to have lasting significant effects on lowering A1C levels.[1,2,3,4,6,8]
- **Lifestyle changes and behavior change:** Multiple studies show that CHW-led diabetes interventions encourage healthy behavior changes among participants including increasing the likelihood of reading food labels to promote healthy eating and engaging in physical activity.[4,5,8]
- **Increased knowledge:** Various studies demonstrate the value of CHW-led interventions in improving diabetes outcomes among participants and increasing knowledge about their condition and its management.[3,4,6,9,10]
- **Improved overall mental and physical health**: CHW-led diabetes interventions have consistently shown to be effective in improving the overall physical and mental health among participants. Getting a diabetes diagnosis and the journey to manage the condition can cause distress among patients and negatively affect their mental health. Various studies show that CHWs have helped patients significantly decrease their diabetes distress.[5,7,9,10] CHWs have also been shown to significantly increase diabetes support.[3] CHW-led interventions have also been shown to improve the physical health of participants including: improved levels of systolic and diastolic blood pressure, cholesterol, and triglycerides, as well as helping participants achieve a healthy weight and BMI.[4,10]
- **Higher self-efficacy:** Self-efficacy is the confidence an individual has in their ability to control their behaviors; it is important in facilitating behavior change and diabetes control. Multiple studies have indicated that CHW-led interventions significantly increase participants' confidence in their ability to manage their diabetes.[3,11,12]

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1. “What Is Prediabetes? Here's What You Need to Know.” EndocrineWeb, https://www.endocrineweb.com/conditions/pre-diabetes/pre-diabetes
2. Pérez-Escamilla, Rafael, et al. “Impact of a Community Health Workers–Led Structured Program on Blood Glucose Control Among Latinos With Type 2 Diabetes: The DIALBEST Trial.” *Diabetes Care*, American Diabetes Association, 1 Feb. 2015, https://care.diabetesjournals.org/content/38/2/197.
3. Campos, Mendez, et al. “Effectiveness of a Community Health Worker-Led Diabetes Intervention among Older and Younger Latino Participants: Results from a Randomized Controlled Trial.” MDPI, Multidisciplinary Digital Publishing Institute, 2 Aug. 2018, https://www.mdpi.com/2308-3417/3/3/47.
4. Islam, Nadia, S., et al. “A Culturally Tailored Community Health Worker Intervention Leads to Improvement in Patient-Centered Outcomes for Immigrant Patients With Type 2 Diabetes.” Clinical Diabetes, American Diabetes Association, 1 Apr. 2018, https://clinical.diabetesjournals.org/content/36/2/100.full.
5. Kollannoor-Samuel, Grace, et al. “The American Journal of Public Health (AJPH) from the American Public Health Association (APHA) Publications.” American Public Health Association (APHA) Publications, 6 May 2016, https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2016.303091
6. Creamer, J., et al. “Culturally Appropriate Health Education for Type 2 Diabetes in Ethnic Minority Groups: an Updated Cochrane Review of Randomized Controlled Trials.” *Wiley Online Library*, John Wiley & Sons, Ltd (10.1111), 7 Sept. 2015, https://onlinelibrary.wiley.com/doi/abs/10.1111/dme.12865
7. Wagner, Julie Ann, et al. “A Randomized, Controlled Trial of a Stress Management Intervention for Latinos with Type 2 Diabetes Delivered by Community Health Workers: Outcomes for Psychological Wellbeing, Glycemic Control, and Cortisol.” *Diabetes Research and Clinical Practice*, Elsevier, 4 Aug. 2016, https://www.sciencedirect.com/science/article/abs/pii/S016882271630300Xpok
8. Rothschild, Steven K, et al. “Mexican American Trial of Community Health Workers: a Randomized Controlled Trial of a Community Health Worker Intervention for Mexican Americans with Type 2 Diabetes Mellitus.” American Journal of Public Health, American Public Health Association, Aug. 2014, https://pubmed.ncbi.nlm.nih.gov/23947316/
9. Wagner, Julie, et al. “Community Health Workers Assisting Latinos Manage Stress and Diabetes (CALMS-D): Rationale, Intervention Design, Implementation, and Process Outcomes.” Translational Behavioral Medicine, Springer US, Dec. 2015, https://pubmed.ncbi.nlm.nih.gov/26622914/
10. Trump, L. J., & Mendenhall, T. J. (2017). Community health workers in diabetes care: A systematic review of randomized controlled trials. Families, Systems, & Health, https://psycnet.apa.org/doiLanding?doi=10.1037%2Ffsh0000283
11. Matthew F. Bouchonville, Brant W. Hager, Jessica B. Kirk, Clifford R. Qualls, and Sanjeev Arora (*2018*) ENDO ECHO IMPROVES PRIMARY CARE PROVIDER AND COMMUNITY HEALTH WORKER SELF-EFFICACY IN COMPLEX DIABETES MANAGEMENT IN MEDICALLY UNDERSERVED COMMUNITIES. Endocrine Practice: January 2018, Vol. 24, No. 1, pp. 40-46. https://journals.aace.com/doi/full/10.4158/EP-2017-0079
12. Kane, Erin P,. et al. “Improving Diabetes Care and Outcomes with Community Health Workers.” Academic.oup.com, Family Practice, Oct. 2016, https://doi.org/10.1093/fampra/cmw055

The Value of CHWs in Diabetes Prevention and Management

The following section demonstrates the value of CHWs in targeting diabetes. CHWs are an effective workforce addressing CHWs are an effective workforce addressing the “Quadruple Aim” of healthcare: improving the patient experience of care, improving health outcomes, reducing the overall cost of care, and improving clinical experience.[1] Their impact has been well-documented in scientific literature and shows positive health outcomes related to CHW-led diabetes interventions.

- **Return on Investment (ROI):** Diabetes is an expensive condition for the U.S. healthcare system; in 2017 the total cost of diagnosed diabetes in the U.S. was $327 billion in direct medical costs and $90 billion in lost wages due to reduced productivity among people with diabetes.[2,3] ROI analysis is a method in which a program’s economic impact is determined. CHW programs have shown substantial

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improvement on health outcomes; however, data on financial outcomes is limited. Of the data available, some CHW programs addressing chronic conditions have shown a positive ROI over time. For example, a cost-effectiveness analysis was done on a CHW program targeting Latino individuals in Texas with type 2 diabetes indicating that the intervention was cost-effective, especially for adults with A1C levels of greater than 9%.[4]

- **Reducing Health Disparities:** It is well-documented that health disparities in diabetes persist within the United States among particular groups including racial and ethnic minorities, as well as by gender, geographical location, and educational attainment.[6] American Indian and Alaska Natives (AIAN), African American, and Hispanic populations are experiencing diabetes at higher rates than the White population. Specifically, AIAN populations are more than twice as likely to have a diabetes diagnosis than White Americans.[6] CHWs are uniquely equipped to provide culturally appropriate, tailored interventions to meet the needs of these populations. For example, a 2018 study that investigated a culturally-tailored CHW intervention targeting Bangladeshi immigrants in New York City found decreases in A1C levels and other positive health outcomes.[7] Overall, CHW interventions have been found to be effective across multiple groups by significantly lowering their A1C levels.[3,4,5,6,7]

- **Improved Patient Satisfaction:** CHWs are trusted members of the community who are regularly the point of contact for many individuals searching for information and resources. They have the opportunity to spend more time with patients and ensure that their concerns and needs are being addressed, which not only improves health outcomes, but the perceived quality of the care received. A study targeting uninsured Hispanic patients with uncontrolled diabetes indicated CHW-led diabetes education programs not only improved A1C levels, but also achieved significantly higher patient satisfaction among participants.[5]

- **Improved Clinical Experience:** CHWs bring a skillset and knowledge base to a health care team that is completely different from other team members. They offer a different perspective and new approaches as they search for solutions for their most complex and challenging cases. They are an integral part of the care team to improve patients' health outcomes and service delivery and quality of care. The known CHW impact helps in promoting value, respect, and credibility; which contributes to the strengthening and expansion of the CHW workforce.[10]

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CHW Testimonial

Linda Medrano is a CHW who has worked with MHP Salud for over 8 years. Throughout these years, she has helped the community to learn more about chronic disease prevention and management. As a CHW, Ms. Medrano has witnessed many notable health improvements among program participants. She mentioned, "After attending our first session, participants felt motivated to improve their health and really wanted to continue with the program...talking about the [self-care] was a wake-up call because they did not want an amputation or to lose their eyesight. This motivated them to eat better, count their carbs, and do physical activity."

Ms. Medrano shared a success story about a man that joined the program and was battling depression. His lack of motivation was obvious, he would constantly repeat, "I'm tired and I want to sleep." Ms. Medrano knew she had a big task ahead and continued to push and motivate him to continue through the program. His initial A1C was at 12.9%; after 3 months, it dropped to 7%. By this time, noticeable changes in the man were visible: "He was happier and thanked me for the help and guidance I provided." Upon successful completion of the program and implementing behavior change, his A1C was down to 5%, and he was told by his doctor he no longer needed to take medications. His life changed dramatically. As he expressed, "I am 100% percent a new man. ''Definitely, the work CHWs do is important for diabetes management. As Linda states, "We help them to understand their doctor's language, refer them to needed services, provide knowledge about how to take care of their diabetes and live healthier...people really do not have a lot of knowledge and they think it is the end of the world, but with knowledge they can leave a long life as a [person living with diabetes]."

-Linda Medrano, MHP Salud Community Health Worker

1. What is the Quadruple Aim and What Role Does It Play in Healthcare? https://www.privishealth.com/chronic-care-management/quadruple-aim-role-in-healthcare/
2. "Economic Costs of Diabetes in the U.S. in 2017." Diabetes Care, vol. 41, no. 5, 2018, pp. 917–928., doi:10.2337/dci18-0007. "Economic Costs of Diabetes in the U.S. in 2017." Diabetes Care, American Diabetes Association, 1 May 2018, https://care.diabetesjournals.org/content/41/5/917
3. "The Cost of Diabetes." *The Cost of Diabetes | ADA*, https://www.diabetes.org/resources/statistics/cost-diabetes
4. Brown, H. Shelton, et al. "Cost-Effectiveness Analysis of a Community Health Worker Intervention for Low-Income Hispanic Adults with Diabetes." Preventing Chronic Disease, vol. 9, 2012, doi:10.5888/pcd9.120074. https://www.ncbi.nlm.nih.gov/pubmed/22916995
5. Walton, James W., et al. "Reducing Diabetes Disparities Through the Implementation of a Community Health Worker–Led Diabetes Self-Management Education Program." *Family & Community Health*, vol. 35, no. 2, 2012, pp. 161–171., doi:10.1097/fch.0b013e31824651d3. https://pdfs.semanticscholar.org/a531/748201431b650ef3a26194ef2b33a7a19774.pdf
6. "New CDC Report: More than 100 Million Americans Have Diabetes or Prediabetes." *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, https://www.cdc.gov/media/releases/2017/p0718-diabetes-report.html.
7. Nadia S. Islam, et al. "A Culturally Tailored Community Health Worker Intervention Leads to Improvement in Patient-Centered Outcomes for Immigrant Patients with Type 2 Diabetes." American Diabetes Association, Clinical Diabetes Apr 2018, 36 (2) 100-111; DOI: 10.2337/cd17-0068, https://clinical.diabetesjournals.org/content/36/2/100.full

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8. Matthew F. Bouchonville, Brant W. Hager, Jessica B. Kirk, Clifford R. Qualls, and Sanjeev Arora (2018) ENDO ECHO IMPROVES PRIMARY CARE PROVIDER AND COMMUNITY HEALTH WORKER SELF-EFFICACY IN COMPLEX DIABETES MANAGEMENT IN MEDICALLY UNDERSERVED COMMUNITIES. Endocrine Practice: January 2018, Vol. 24, No. 1, pp. 40-46. https://journals.aace.com/doi/full/10.4158/EP-2017-0079
9. What Is the Quadruple Aim and What Role Does It Play in Healthcare?Privis Health-Name * - https://www.privishealth.com/chronic-care-management/quadruple-aim-role-in-healthcare/
10. Community Health Worker Clinical Integration Toolkit. (n.d.), https://mhpsalud.org/portfolio/chw-clinical-integration/

Resources

Understanding and Addressing Diabetes in your Community: A Quick Guide for CHWs

Understanding and Addressing Diabetes in your Community: A Quick Guide for CHWs is a resource for CHWs that provides information about diabetes and provides tools that CHWs can use to guide patients with diabetes towards a healthier future. Included with the guide are guidelines on how to manage diabetes and an A1C tracker so patients can track their progress towards their A1C goals. Access resource here (English) and here (Spanish).

Know Your A1C Tool

This bilingual tool can be printed as a pamphlet that participants can use to track their A1C and other biometric data. Access resource here.

Community Health Workers and Diabetes Interventions: A Resource for Program Managers and Administrators

Community Health Workers and Diabetes Interventions: A Resource for Program Managers and Administrators explains the positive impact that CHW-led diabetes interventions can have on individual patients, organizations, and communities. This resource contains links to external resources and MHP Salud's own programmatic approaches to addressing diabetes. Access resource here.

Brief Report: Diabetes and the CHW Model

This report offers an overview of how the CHW model has been used as an intervention and chronic care management approach when it comes to type 2 diabetes. Access this resource here.

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Road to Health - Diabetes Curriculum

Road to Health Toolkit is a free, informational resource for CHWs, nurses, dietitians, and health educators. The overall goal of this toolkit is to share the message that Type 2 diabetes is preventable and can be delayed in high risk groups. This toolkit consists of a user's guide, flipchart, activities guide, quiz, educational posters, training videos, booklets, music, and podcasts. Also included in the toolkit is an evaluation guide. The guide assists in measuring outreach, behavior changes made by participants, and key demographic data. Access resource here (English) and here (Spanish).

Beyond the Road to Health Toolkit

Beyond *the Road to Health Toolkit*, the CDC provides a wide selection of resources and curricula related to diabetes prevention and management. The PreventT2 Curriculum is a 12-month program that promotes lifestyle change through self-efficacy, physical activity, and diet. This curriculum consists of 31 sessions, all available in both English and Spanish. Most of the sessions also include handouts for program participants, which are available in both languages. Access resource here.

National Diabetes Prevention Program (DPP) Coverage Toolkit

This online toolkit was developed to provide information about the mechanics of covering the National Diabetes Prevention Program (National DPP) lifestyle change program, which is a year-long, evidence-based intervention program developed by the CDC. People with pre-diabetes who take part in this structured lifestyle change program can reduce their risk of developing type 2 diabetes by up to 58% (71% for people over 60 years old). Access resource here.

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