The Role of Community Health Workers in Improving Diabetes Outcomes

Background of CHW Utilization

- 2009-Position Statement by AADE advocated use of CHW to improve diabetes prevention and management
- Literature reviews show utilization of CHWs led to decrease in A1C results which were sustained beyond 12 month period
- AADE Guidelines for the Practice of Diabetes Education list skills that can easily be performed by CHWs
- CHWs can be utilized to promote the AADE’s 7 self-care behaviors in their interactions with patients

What is the Southeastern Diabetes Initiative (SEDI) Project?

The primary objectives of the project were to:

- Improve health outcomes for high risk patients with diabetes
- Reduce Medicare and Medicaid costs
Why Was Mingo County Chosen?

• According to the CDC, incidence of diabetes in Mingo County is 13.2% as compared to 12% in WV and 9.3% nationally.
• Mingo County ranks 53 out of 55 counties in health outcomes and health factors.
• 18% of the population is uninsured.
• 27% of the population smokes

Robert Wood Johnson County Health Rankings, 2016
CDC, 2014

Why Was Mingo County Chosen?

• 27% of the population rate their health as poor or fair
• 41% of Mingo County residents are obese
• 41% of the residents are inactive
• Most importantly, Mingo County had an active Diabetes Coalition which had been previously successful in obtaining grant funding

Robert Wood Johnson County Health Rankings, 2016

Clinical Team

• Principal Investigator (part-time)
• Medical Director (consultant)
• 3 Mid-level Providers (part-time-2 CDEs)
• Clinical Team Leader (RN/CDE)
• Licensed Clinical Social Worker
• Community Health Workers

Principal Investigator

• Midlevel Provider who devoted at least 16 hours week to project
• Main responsibility was coordination of data collection, maintaining security and integrity of the data
• Made home visits for intake and scheduled follow ups as well as visits when clients were having specific issues with diabetes control
• Participated in clinical care conferences weekly with clinical team
• Discussed client cases with PCPs as needed

Medical Director

• Was available as a consultant for various issues related to the research project
• Participated in community advisory board meetings
• Referred patients from his private practice into program

What Was the Structure of the SEDI Team?

• Project Director
• Clinical Team
• IT Officer

Medical Director

• Was available as a consultant for various issues related to the research project
• Participated in community advisory board meetings
• Referred patients from his private practice into program
Mid-Level Providers

• 3 mid-level providers were employed part time for intakes and regular follow up visits
• 2 of the 3 mid-level providers were certified CDEs as well
• Were responsible for assessment of the patient, data collection and assisting patients in goal setting
• Were also utilized for home visits regarding medical issues such as elevated BP, upper respiratory infection, diabetic ulcers, etc.

Community Health Workers

• 3 full-time and 1 part-time Community Health Workers were employed
• They were responsible for following 162 patients during the course of the 2 year project
• CHW were eyes and ears of clinical team
• CHW were able to identify key issues that impacted glycemic control
• The bond of trust between the patient and CHW was crucial in empowering patients to improve glycemic control

Clinical Team Leader

• RN/CDE with years of DSME and wound care experience
• Coordinated scheduling of home visits for CHW and mid-level providers
• Communicated with CHWs while they were in field, addressing many issues that arose related to their care
• Communicated daily with PI and PCPs regarding patient issues

How Did the Clinical Team Function?

Intake performed by mid-level provider and treatment plan/goals developed
Client assigned to CHW for weekly visits, which might be in patient home or in office (patient preference)
Weekly care conference held by clinical team to discuss client progress
Key problems/medication adjustments are communicated by either clinical coordinator or mid-level practitioner to the PCP for input

Licensed Clinical Social Worker

• Assisted patients in enrolling in patient assistance programs to obtain needed meds
• Made home visits for patients dealing with mental health or social issues
• Connected patients with available community resources
• Participated in weekly care conferences

Educational Preparation of the CHWs

• Educational preparation for this position was CNA
• Our team was made up of one CNA, 2 LPNs and 1 part-time LPN
• CHWs received additional training in DSME and chronic disease state management before patients were enrolled in the project
• Education was ongoing in the weekly patient care conferences
Role of CHWs in Promoting the 7 Self-Care Behaviors

- Healthy Eating
- Being Active
- Monitoring
- Taking Medication
- Problem Solving
- Reducing Risks
- Healthy Coping

Healthy Eating

- Meal planning and carb counting skills
  - May involve “pantry” carb counting
  -Referral to DSME classes
- Identification of food insecurity issues
  - Linking patients to local food banks/Farmer’s Market/Community garden
  - Identification of need for social worker visit

Healthy Eating

- Our idea of a bowl of oatmeal

Landon: Healthy Eating

- 76 year old grandfather who was also providing care for 2 teenage grandsons
- CHW encouraged enrollment in DSME program initially
- CHW connected pt to various community programs
  - Senior Citizens exercise program
  - Community Garden
  - Cooking Matters Class

Being Active

- CHWs reinforced info that PCPs had provided to patients about benefits of increasing activity to lower BG, BP and improve lipid status
- Linked patients to available community resources for increasing activity
  - Walk with Ease Programs
  - Local gyms/exercise facilities/Senior Citizens Facilities
  - Safe walking areas in local communities
Being Active

- For pts who were unable to access community facilities, home exercise routines were implemented
- CHWs helped pt set exercise goals
- CHWs also helped pt individualize exercise goals based on other co-morbid conditions
  - Osteoarthritis
  - Neuropathy
  - Retinopathy

Monitoring

- Many patients with uncontrolled diabetes are not testing blood glucose on regular basis
- CHWs encouraged patients to test their BG regularly and reviewed BG logs with pts weekly
- Pts began to identify patterns in glycemic control
  - Impact of certain foods on BG
  - Positive impact of exercise on BG
  - Impact of DM meds on BG level

Rachel: Being Active

- Had recent inadequate DM care due to lack of insurance
- Upon admission to SEDI project, she had Stage III CKD and retinopathy with significant vision loss
- When told she would need insulin to control her diabetes, she refused and states she was ready to die

Monitoring

- Evaluation of monitoring technique was very important role of CHW
- BG logs were reviewed weekly in patient care conferences
- BG logs were faxed to PCPs for input on needed medication/dietary adjustments

Rachel: Being Active

- Due to retinopathy, was unable to drive to any local facilities for exercise
- CHW developed a great rapport with this pt.
- CHW helped pt develop exercise goal of 10 minutes daily 5 days/wk on treadmill
- Pt quickly recognized health benefits of exercise and now walks on treadmill 1 hour daily 4 or more days/week

Monitoring

- Fasting readings only
  - 89
  - 95
  - 96
  - 92
  - 137
  - 71
  - 103
  - 102
  - 178
  - 112
Monitoring

Fasting and PP Readings

- 89 179 276
- 95 288 269
- 96 373 257
- 92 271 290
- 137 197 269
- 71 75 228
- 103 275 257
- 102 209 244
- 178 205 290
- 112 215 277

Taking Medications

Reconciled med list with actual meds in patient's home
Educated pt about process for obtaining refills
Helped pt set up med boxes and reminders to take meds at certain times
Identified financial issues that social worker may be able to assist with
Assessed proper storage of insulin
Assessed injection techniques

Problem Solving

- CHW helped pts problems solve in many areas
  - Meal planning
  - Monitoring
  - Transportation
  - Appropriate treatment of hypoglycemia/hyperglycemia
  - Medication Management

Taking Medications

Don't assume patients remember everything they are told in the office or hospital!!

Clarence "Top Dog"

Pre Program A1C  7.8
Post Program A1C  6.7

Lucy and Samantha: Incorrect Insulin Administration

Pre-Enrollment A1C  12.4
Post Program A1C  6.4
Reducing Risks

- CHW were able to recognize changes in vital signs, patient condition or blood glucose changes
  - Atrial fibrillation
  - DVT
  - Uncontrolled hypertension
  - Abscess/foot ulcers
- Scheduling of eye exams
  - Diabetic foot exams
  - Encouragement to obtain vaccines

Charles
Pre-Program A1C 9.2
Post program A1C 6.0

Zella and Carissa: Healthy Coping
- New eyeglasses improve quality of life

Bob: Healthy Coping
Pre Program A1C 11.4
Post Program A1C 6.3

Healthy Coping
- Provided ongoing diabetes education
- Encouraged physical activity
- Assisted in achievable goal setting
- Encouragement of smoking cessation
- Assessed depression and made appropriate referral
- Linked clients to appropriate community resources

Community Resources For Project
- Lunch Walk Program
- Free Retinopathy Exams
- Quarterly SEDI Project Celebrations
- Transportation Services
- Walk with Ease
- Farmers’ Market
- Community Gardens
- Monthly 5K
- Medication Patient Assistance Programs
Economic Impact of Improved Glycemic Control

A patient who adheres to taking insulin as prescribed saves $6500 a year in health care costs as compared to a patient who is non-compliant with taking prescribed insulin.

If 75 patients have become compliant with taking their insulin, the expected cost savings would be $474,500/year.

--Sokol, 2005

Impact of CHW Program on A1C

• CHW have served a vital role in the implementation of the SEDI project in Mingo County.
• CHW have helped clients feel more in control of their diabetes, resulting in better glycemic control.
• CHW can be a valuable asset in chronic disease state management, often bringing to light barriers patients face in improving or maintaining their health.

Thank You!

Contact Information
Vicki Hatfield, APRN, BC-ADM, CDE
Williamson Health and Wellness Center
184 E. 2nd Ave.
Williamson, WV 25661
(304)236-5902
vickilynnhatfield@hotmail.com

References