HDPulse An Ecosystem of Health Disparities and Specific Populations Health Resources

# Intervention IP-113: Implementing Diabetes Group Visits in Midwestern Community Health Centers to Improve Diabetes Outcomes among Disadvantaged Patients

The Diabetes MESSAGES: Medical Care, Education, Social Support and Goal-setting to Empower Self-Management intervention used group visits and text messaging to improve access to and utilization of diabetes care in community health centers across the Midwest. Group visits involved an individual medical visit with a provider; group diabetes education; group social support; and goal setting. Text messaging ran concurrently with the group visits and focused on self-management and disease education. Patients who attended group visits improved their glucose control.

## Overview

**Purpose of Intervention:**

To implement a replicable diabetes group visit program at the regional level to improve healthcare utilization among persons with diabetes

**Intervention Type:**

Advanced — *Pilot, demonstration or feasibility interventions with adequate methodological rigor that have demonstrated short-term or long-term positive effects on one or more targeted outcomes to improve minority health and/or health disparities through quantitative measures; Studies have a comparison group and are published in a peer-review journal.*

## Intervention Details

**Intervention was Primarily Driven, Led, or Managed by:**

Both Community and Academic/Clinical Researchers

**Citations:**


- Baig, Arshiya A., et al. "Cluster Randomized Trial of Diabetes Group Visits in Community Health Centers across the Midwest." Journal of Health Care for the Poor and Underserved, vol. 35 no. 3, 2024, p. 27-46. Project MUSE, https://muse.jhu.edu/article/933280.
  Relevance: Main Intervention
- Naik AG, Staab E, Li J, Siddiqui S, Wan W, Schaefer CT, Campbell A, Quinn M, Baig AA. Factors related to recruitment and retention of patients into diabetes group visits in Federally Qualified Health Centers. Journal of evaluation in clinical practice. 2023 Feb;29(1):146-157. Epub 2022 Aug 15.
  Relevance: Evaluations and Assessments

- Dinh T, Staab EM, Nuñez D, Zhu M, Wan W, Schaefer CT, Campbell A, Quinn M, Baig AA. Evaluating Effects of Virtual Diabetes Group Visits in Community Health Centers During the COVID-19 Pandemic. Journal of patient experience. 2023 Sep 7;10:23743735231199822. doi: 10.1177/23743735231199822. eCollection 2023.
  Relevance: Evaluations and Assessments

**Adaptation of Another Research-based Intervention:**

No

## Contact Information

**Primary Contact Affiliation:**

The University of Chicago

**Intervention URL:**

https://voices.uchicago.edu/diabetesgvtoolkit/

# Results

**Intentions**

**Improve minority health or the health of other populations with health disparities (e.g. rural populations, populations with low SES)**

**Intervention Primary Outcome:**

Improve diabetes processes of care; knowledge, attitudes, and skills for diabetes self-management; clinical outcomes; and health care utilization for patients participating in the diabetes group visit program.

**Intervention Secondary Outcome:**

The diabetes group visit program is available for dissemination among and use by health centers and health care providers at the local, state, and national levels.

**Key Findings:**

The five-year cluster randomized trial was conducted to test the impact of diabetes group visits on patient outcomes in community health centers in the Midwest. The academic team from University of Chicago partnered with the Midwest Clinicians' Network (MWCN). The cluster randomized controlled study recruited adults with diabetes mellitus with glycosylated hemoglobin, A1C greater than or equal to eight percent: 75 intervention and 120 usual care. Group visit patients completed a six-month program. Primary outcome was A1C change from baseline to 12 months. Participants improved their A1C by 0.38%–0.40% with no difference across arms (p=.63). Group visit patients improved their diabetes social support, knowledge, and distress and were more likely to receive guideline-based care compared with control. Group visit patients with anxiety or depression were more likely to have a visit with behavioral health compared with usual care (p=.02).

**Statistical Method Used:**

Compared baseline characteristics between the intervention and usual care groups using generalized estimating equations (GEE) using the identity link function for continuous variables and the log/log/cumulative logit link function for binary/ordinal/multinomial variables, respectively. We also used linear mixed models (LMMs) and generalized linear mixed models (GLMMs) to model repeated measures over time and to test effects of time, intervention, and interaction between time and intervention.

## Evaluations and Assessments

**Were Any of the Following Assessments Conducted (Economic Evaluation, Needs Assessment, Process Evaluation)?:**

No

# Demographic and Implementation Description

**Diseases, Disorders, or Conditions:**

Type 2 Diabetes

**Race/Ethnicity:**

African American or Black, American Indian or Alaska Native, Asian, Hispanic or Latino, White, Unspecified

**Populations with Health Disparities:**

People with Lower Socioeconomic Status (SES), Racial and Ethnic Minority Populations, Underserved Rural Communities

**Age:**

Middle-Aged Adults (40 - 64 years)

## Socio-demographics / Population Characteristics

**Community Type:**

Rural, Urban / Inner City

**Other Populations with Health Disparities:**

Unspecified

**Geographic Location:**

Illinois, Indiana, Elkhart, Lake, Iowa, Des Moines, Sioux, Minnesota, Missouri, St. Louis, Nebraska, Sioux, Wisconsin, Milwaukee

**Socio-Economic Status:**

Low SES

## Research Framework

| | | Levels of Influence | | | |
|---|---|---|---|---|---|
| | | **Individual** | **Interpersonal** | **Community** | **Societal** |
| **Determinant Types** | **Biological** | ✔ | ✔ | ✔ | |
| | **Behavioral** | ✔ | ✔ | ✔ | |
| | **Physical / Built Environment** | ✔ | ✔ | ✔ | |
| | **Sociocultural Environment** | ✔ | ✔ | ✔ | |
| | **Health Care System** | ✔ | ✔ | ✔ | ✔ |

## Community Involvement

The community's role in different areas of the Intervention (Choices are "No Role", "Participation", and "Leadership"):

**Design:**

Participation

**Dissemination:**

Participation

**Evaluation:**

No Role

**Implementation:**

Participation

**Outreach:**

Participation

**Planning :**

Participation

**Recruitment:**

Participation

**Sustainability:**

Participation

# Characteristics and Implementation

**Intervention Focus Area:**

Behavior Change, Patient-Clinician Communication, Quality Improvement or Organizational Change

**Disease Continuum:**

Tertiary Prevention

**Delivery Setting:**

Clinic / Health Care Facility

**Mode of Delivery:**

In-person, Online/e-Health, m-Health (mobile)

**Who delivered the Intervention?:**

Health Educator, Healthcare Professional (Physician, Nurse, Technician)

## Conceptual Framework

**Intervention Theory:**

None

**Intervention Framework:**

None

## Implementation

**Intervention Study Design:**

Cluster Randomized Controlled Trial

**Targeted Intervention Sample Size:**

195

**Actual Intervention Sample Size:**

195

**Start Year:**

2018

**End Year:**

2019

## Intervention Exposures

**Duration of Intervention/How Long it Lasted:**

4-6 months

**Frequency of Intervention Delivery:**

Monthly

**Number of Sessions/Meetings/Visits/Interactions:**

5-6 Sessions

**Average Length of Each Session/Meeting/Visit/Interaction:**

1-2 Hours

**Format of Delivery:**

Group (e.g. Community leaders)

**Highest Reading Level of Intervention Materials Provided to Participants:**

Grade 6-7

# Impact, Lessons, Components

**Produced an impact or change beyond the primary or secondary outcome:**

No

**Essential Aspects for Success:**

It would be helpful to have customization options for patients, including choosing topics of interest and most convenient times to attend group visits. Additional functionality such as direct communication, automatic appointment reminders, and other language options would be useful.

## Lessons Learned

**Key Lessons Learned and/or Things That Could be Changed or Done Differently:**

Having a multidisciplinary team; having strong leadership support; being flexible and prepared to make adjustments to workflow as needed; gathering patient feedback in order to tailor the content of the group visits to their interests and needs; using the group format to enhance goal setting and tracking; accounts should be set up per patient rather than per phone number, especially in the health center setting where patients change numbers often; more lead time may be needed for set up.

## Insights Gained During Implementation

| Insight Category | Insight Description |
|---|---|
| Training / Technical Assistance | Community health center staff were trained on core components for the GVs but tailored their curricula to their patients and resources. |
| Recruitment | Many patients were contacted but not interested in enrolling in the program. Some patients had baseline A1Cs that were below eight percent likely due to repeat testing done closer to the intervention period which came after the recruitment A1Cs were initially identified. |

## Intervention Components

**Intervention Has Multiple Components:**

Yes

**Assessed Each Unique Contribution:**

Yes

# Products, Materials, and Funding

**Expertise, Partnerships, and Funding Sources**

| | Used for Implementation | Needed for Sustainability |
|---|---|---|
| **Expertise** | | |
| **Clinical Care** | Yes | Yes |
| **Health Education / Health Literacy** | Yes | Yes |
| **Patient Navigation** | Yes | Yes |
| **Technology** | Yes | Yes |
| **Research/Data science** | Yes | Yes |
| **Partnerships** | | |
| **Health care facilities (local clinics)** | Yes | Yes |
| **Funding Sources** | | |
| **Public funding (e.g., federal, state or local government)** | Yes | Unknown |

## Product/Material/Tools

| | Tailored For Language | Language(s) if other than English | Material |
|---|---|---|---|
| **Outreach/Recruitment Tools** | | | |
| Recruitment and engagement materials | Yes | Spanish | https://voices.uchicago.edu/diabetesgvtoolkit/resources/recruitment-enrollment/ |
| **Participant Educational Tools** | | | |
| What are group visits? | No | | https://voices.uchicago.edu/diabetesgvtoolkit/what-are-gvs/ |
| **Measurement Tools** | | | |
| N/A | No | | Information about measurement tools was not available. |

## Implementation Materials and Products

| | Material |
|---|---|
| **Implementation/Delivery Materials** | |
| Guidebooks/Workbooks/Participant Manual | https://voices.uchicago.edu/diabetesgvtoolkit/ |
| **Implementation/Output Materials** | |
| No Implementation/Output Materials provided. | |

## Articles Related to Submitted Intervention

| | Article |
|---|---|
| **Reports/Monographs** | |
| No Reports/Monographs provided. | |
| **Additional Articles** | |
| Methodology | https://pubmed.ncbi.nlm.nih.gov/35971210/ |
| Evaluation | https://pubmed.ncbi.nlm.nih.gov/36925842/ |
| Evaluation | https://pubmed.ncbi.nlm.nih.gov/37693188/ |