

University of Vermont

UVM ScholarWorks

College of Nursing and Health Sciences Doctor
of Nursing Practice (DNP) Project Publications

College of Nursing and Health Sciences

2022

Care Coordination and Empowerment in People with Type 2 Diabetes

Erik M. Wilson
University of Vermont

Follow this and additional works at: <https://scholarworks.uvm.edu/cnhsdnp>



Part of the [Family Practice Nursing Commons](#), [Geriatric Nursing Commons](#), and the [Public Health and Community Nursing Commons](#)

Recommended Citation

Wilson, Erik M., "Care Coordination and Empowerment in People with Type 2 Diabetes" (2022). *College of Nursing and Health Sciences Doctor of Nursing Practice (DNP) Project Publications*. 109.
<https://scholarworks.uvm.edu/cnhsdnp/109>

This Project is brought to you for free and open access by the College of Nursing and Health Sciences at UVM ScholarWorks. It has been accepted for inclusion in College of Nursing and Health Sciences Doctor of Nursing Practice (DNP) Project Publications by an authorized administrator of UVM ScholarWorks. For more information, please contact schwyrks@uvm.edu.

Care Coordination and Empowerment in People with Type 2 Diabetes

Erik Wilson RN, MSN CNL(c)

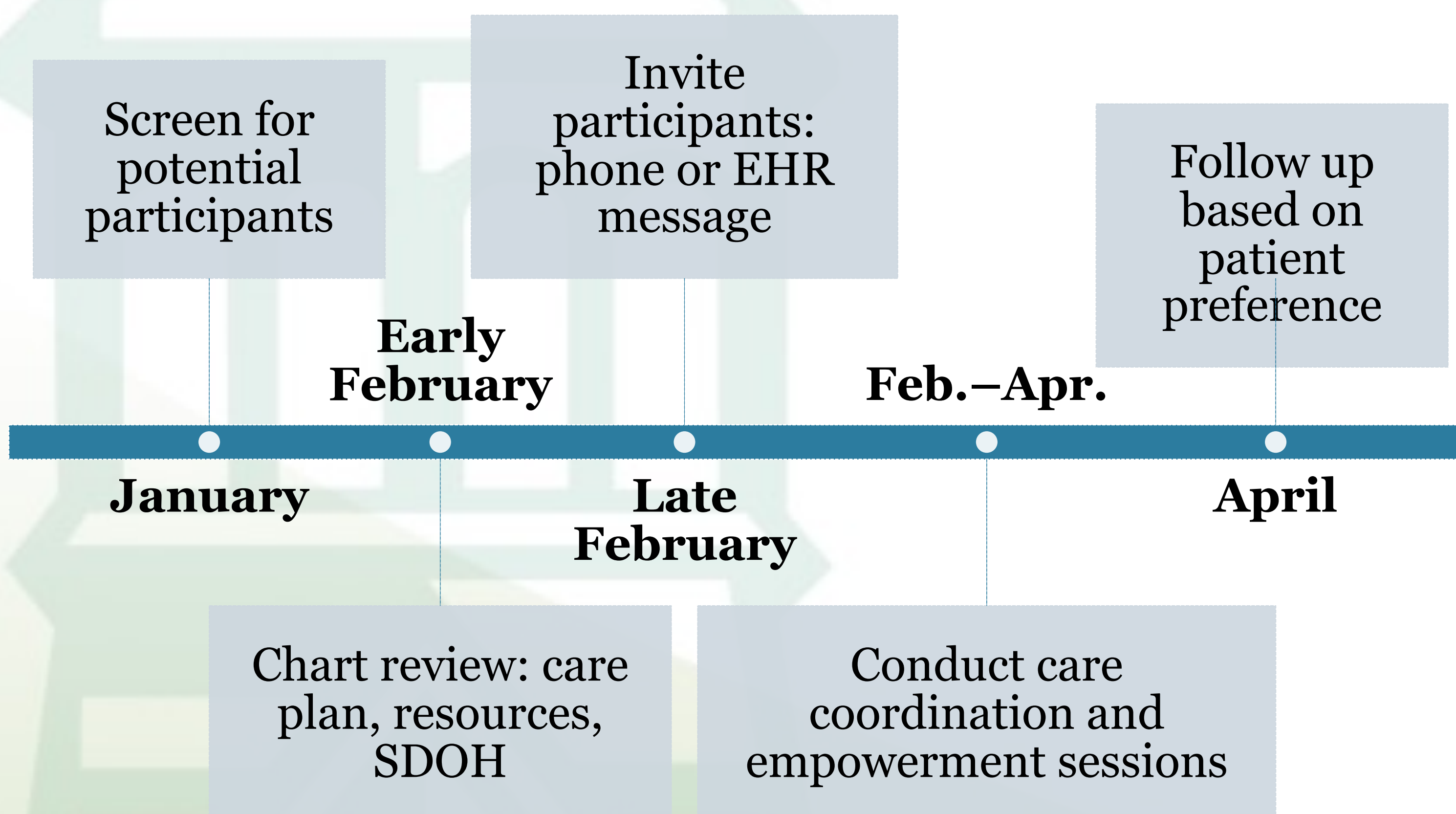
Faculty Advisor: Carol Buck-Rolland EdD, APRN, PNP

Secondary Advisor: Teresa Cahill-Griffin DNP, RN

Introduction

- ❖ Greater than 1 in 7 adults in United States diagnosed with Type 2 Diabetes¹
- ❖ Diabetes prevalence projected to increase to 1 in 3 by 2050²
- ❖ Management of Diabetes cost \$327 billion in 2017, or 1 in 4 healthcare dollars³
- ❖ Primarily self-managed based on provider recommendations⁴
- ❖ Care coordination and empowerment are effective methods increase to patient self-efficacy and correlated with improved long-term outcomes^{4,5}
- ❖ Aligned with Accountable Care Organization (ACO) and Value Based Care goals promoting prevention⁶

Project Timeline/Methods



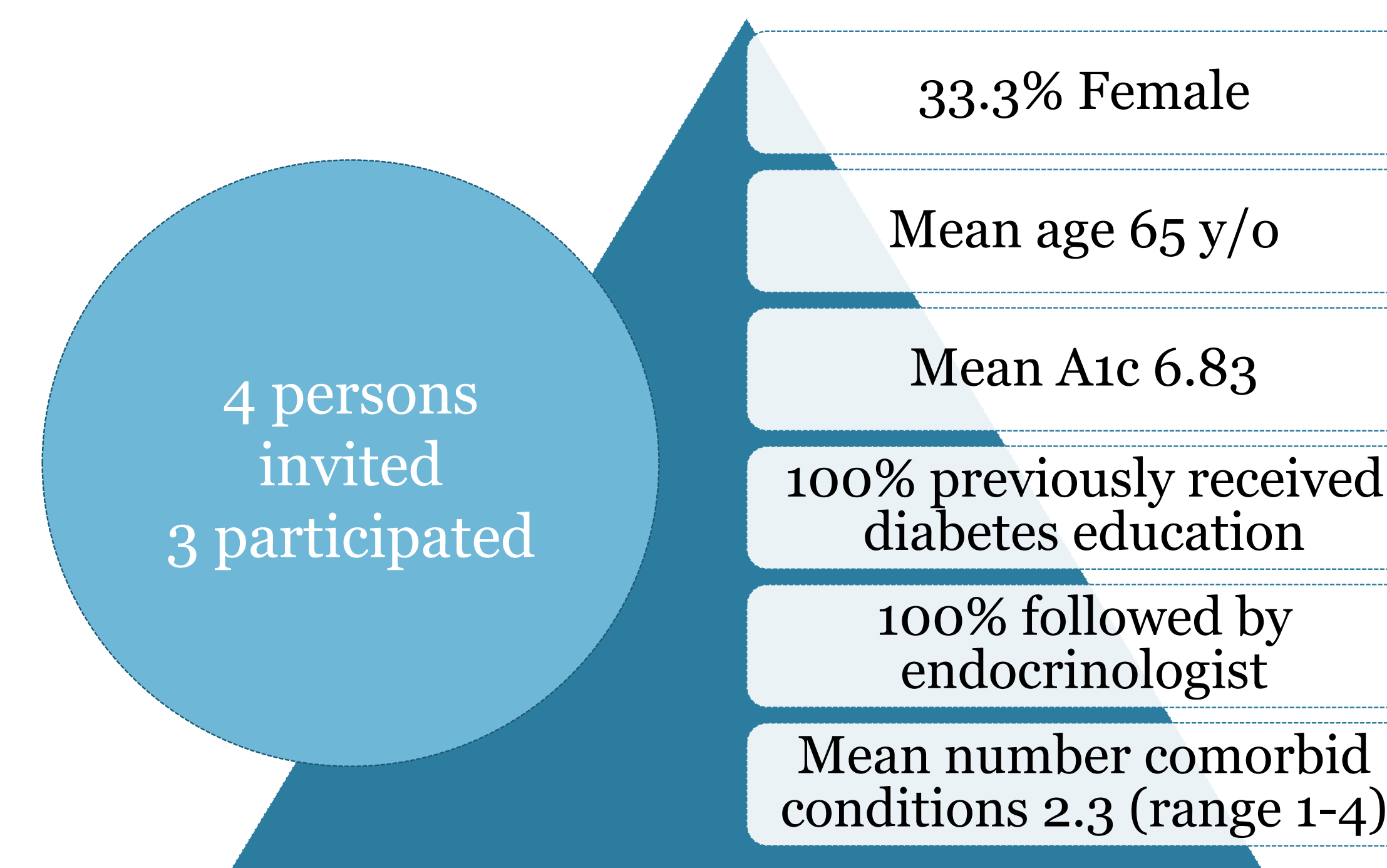
Measures

- ❖ Participant screening based on: ACO attribution, Type 2 diabetes diagnosis, HA1c, age, upcoming PCP visit
- ❖ Diabetes Empowerment Scale Short Form (DES-SF)
- ❖ Measure of higher-order self-efficacy correlated with successful clinical or educational intervention⁷
- ❖ Likert-Scale ranging from 1, strongly disagree, to 5, strongly agree
- ❖ Coded to 3 unique subscales

Specific AIMS

1. 60% of patients will accept invitation for care coordination, educational session and complete DES-SF survey
2. Increase self-perception of diabetes management by 20% as measured by changes in DES-SF from initial baseline interview to conclusion of pilot program

Participant Demographics



DES-SF Results

Subscale	Pre-intervention mean	Post-intervention mean	Difference in means	% change
Managing the psychosocial aspects of diabetes	4.75 (+/-0.62)	4.92 (+/- 0.29)	0.29	3.89
Assessing dissatisfaction and readiness for change	4.17 (+/-0.98)	4.67 (+/- 0.52)	0.52	10.72
Setting and achieving diabetes goals	5 (+/-0)	5 (+/- 0)	-	-
Overall composite	4.67 (+/- 0.7)	4.88 (+/- 0.34)	0.21	4.27

Interpretation

- ❖ 75% participation rate indicates this service is desired by and accessible to participants
- ❖ High baseline empowerment, 19 of 24 survey questions rated as “5”, strongly agree, potentially impacted by:
 - ❖ Patient Centered Medical Home & ACO
 - ❖ Diabetes educator on site
 - ❖ Endocrinologist following
- ❖ 4.27% overall and 10.72% improvement in “assessing dissatisfaction and readiness for change” subscale demonstrates educational effectiveness
- ❖ Qualitative results demonstrate a major barrier to diabetes management is access to healthy foods

Limitations

- ❖ Narrow timeframe and selection criteria, low sample size
- ❖ Limited external validity due to nature of quality improvement

Conclusions

- ❖ Participants realized an improvement in diabetes related empowerment following care coordination and education
- ❖ Utilizes full scope of CNL, and sustainable as billable service
- ❖ Empowerment changes correlated with improved long-term diabetes control^{5,8}

Reference

1. Wang L, Li X, Wang Z, et al. Trends in Prevalence of Diabetes and Control of Risk Factors in Diabetes Among US Adults, 1999-2018. *JAMA*. Jun 25 2021;doi:10.1001/jama.2021.9883
2. Boyle JP, Thompson TJ, Gregg EW, Barker LE, Williamson DF. Projection of the year 2050 burden of diabetes in the US adult population: dynamic modeling of incidence, mortality, and prediabetes prevalence. *Popul Health Metr*. Oct 2010;8:29. doi:10.1186/1478-7954-8-29
3. American Diabetes Association. Economic costs of diabetes in the U.S. in 2017. *Diabetes Care*. May 2018;41(5):917-928. doi:10.2337/dci18-0007
4. Dieleman JL, Baral R, Birger M, et al. US spending on personal health care and Diabetes. *Health Promotion Practice*, 18(2), 306-313. <https://doi.org/10.1177/1524839916643705>
5. Chen, Y., Tian, Y., Sun, X., Wang, B., & Huang, X. (2021). Effectiveness of empowerment-based intervention on HbA1c and self-efficacy among cases with type 2 diabetes mellitus. *Medicine*, 100(38), e27353. <https://doi.org/10.1097/MD.00000000000027353>
6. Centers for Medicare and Medicaid Services. (2021). Accountable Care Organizations (ACOs) | CMS. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO>
7. Anderson, R., Funnell, M., Fitzgerald, J. T., & Marrero, D. (2000). The Diabetes Empowerment Scale—A measure of psychosocial self-efficacy. *Diabetes Care*, 23, 739-743. <https://doi.org/10.2337/diacare.23.6.739>
8. Worswick, J., Wayne, S. C., Bennett, R., Fiander, M., Mayhew, A., Weir, M. C., Sullivan, K. J., & Grimshaw, J. M. (2013). Improving quality of care for persons with diabetes: An overview of systematic reviews - what does the evidence tell us? *Systematic Reviews*, 2(1), 26.