

June 8, 2023

Bree Collaborative Diabetes Work Group

1. Team-based care

https://diabetesjournals.org/care/article/46/Supplement_1/S68/148055/5-Facilitating-Positive-Health-Behaviors-and-Well

- a. Evidence search and appraisal indicates that “non-medical prescribers can deliver comparable outcomes for systolic blood pressure, glycated hemoglobin, low-density lipoprotein, medication adherence, patient satisfaction, and health-related quality of life.” (citation 2). These results apply to veterans in a rural setting, and indigent Spanish-speaking patients (citations 3, 4, and 13).
- b. Savings of up to 30-40% could be captured by using non-MD health care providers for outcomes noted above. (see below)

How much does a Primary Care Physician make in Seattle, WA? The average Primary Care Physician salary in Seattle, WA is **\$222,134** as of May 25, 2023.

<https://www.salary.com/research/salary/recruiting/primary-care-physician-salary/seattle-wa>

How much does a Clinical Pharmacist make in Seattle, WA? The average Clinical Pharmacist salary in Seattle, WA is **\$155,321** as of May 25, 2023

<https://www.salary.com/research/salary/benchmark/clinical-pharmacist-salary/seattle-wa>

How much does a Primary Care Nurse Practitioner (NP) make in Seattle, WA? The average Primary Care Nurse Practitioner (NP) salary in Seattle, WA is **\$133,790** as of May 25, 2023

<https://www.salary.com/research/salary/alternate/primary-care-nurse-practitioner-np-salary/seattle-wa>

Math $\$222,134 - \$155,321 = \$66,813 / \$222,134 = 30\%$ reduction in cost, CP vs. MD

$\$222,134 - \$133,790 = \$88,344 / \$222,134 = 39.7\%$ reduction in cost, NP vs. MD

- c. At least two organizations offer certification for non-MD diabetes practitioners

- 1) Certification Board for Diabetes Care and Education

[CDCES Discipline Requirement - CBDCE](#)

- 2) Association of Diabetes Care and Education Specialists

https://www.diabeteseducator.org/education/certification/bc_adm

Action item regarding diabetes care team:

2. Medical home

Definition per AHRQ:

<https://www.ahrq.gov/ncepcr/research/care-coordination/pcmh/define.html>

Data on the benefit on care delivered via a patient-centered medical home is positive but less conclusive. (citations 7-10).

Action item regarding medical home:

3. Diabetes medications (A-level evidence for efficacy from ADA guideline)

Comment: the benefit of these drugs has been predetermined by the ADA. Is preauthorization necessary?

The following information is regarding medications from ADA Guidelines Section 10, Cardiovascular Disease and Risk Management:

10.2 All people with hypertension and diabetes should monitor their blood pressure at home. **A**

10.9 Treatment for hypertension should include drug classes demonstrated to reduce cardiovascular events in people with diabetes. **A** ACE inhibitors or angiotensin receptor blockers are recommended first-line therapy for hypertension in people with diabetes and coronary artery disease. **A**

10.13 Individuals with hypertension who are not meeting blood pressure targets on three classes of antihypertensive medications (including a diuretic) should be considered for mineralocorticoid receptor antagonist therapy. **A**

10.18 For people with diabetes aged 40–75 years without atherosclerotic cardiovascular disease, use moderate-intensity statin therapy in addition to lifestyle therapy. **A**

10.30 In individuals with atherosclerotic cardiovascular disease or other cardiovascular risk factors on a statin with controlled LDL cholesterol but elevated triglycerides (135–499 mg/dL), the addition of icosapentethyl can be considered to reduce cardiovascular risk. **A**

10.33 Use aspirin therapy (75–162 mg/day) as a secondary prevention strategy in those with diabetes and a history of atherosclerotic cardiovascular disease. **A**

10.35 Dual antiplatelet therapy (with low-dose aspirin and a P2Y12 inhibitor) is reasonable for a year after an acute coronary syndrome and may have benefits beyond this period. **A**

10.37 Combination therapy with aspirin plus low-dose rivaroxaban should be considered for individuals with stable coronary and/or peripheral artery disease and low bleeding risk to prevent major adverse limb and cardiovascular events. **A**

10.38 Aspirin therapy (75–162 mg/day) may be considered as a primary prevention strategy in those with diabetes who are at increased cardiovascular risk, after a comprehensive discussion with the patient on the benefits versus the comparable increased risk of bleeding. **A**

10.41 Among people with type 2 diabetes who have established atherosclerotic cardiovascular disease or established kidney disease, a sodium–glucose cotransporter 2 inhibitor or glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular disease benefit (Table 10.3B and Table 10.3C) is recommended as part of the comprehensive cardiovascular risk reduction and/or glucose-lowering regimens. **A**

10.41a In people with type 2 diabetes and established atherosclerotic cardiovascular disease, multiple atherosclerotic cardiovascular disease risk factors, or diabetic kidney disease, a sodium–glucose cotransporter 2 inhibitor with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events and/or heart failure hospitalization. **A**

10.41b In people with type 2 diabetes and established atherosclerotic cardiovascular disease or multiple risk factors for atherosclerotic cardiovascular disease, a glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events. **A**

10.41c In people with type 2 diabetes and established atherosclerotic cardiovascular disease or multiple risk factors for atherosclerotic cardiovascular disease, combined therapy with a sodium–glucose cotransporter 2 inhibitor with demonstrated cardiovascular benefit and a glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular benefit may be considered for additive reduction in the risk of adverse cardiovascular and kidney events. **A**

10.42a In people with type 2 diabetes and established heart failure with either preserved or reduced ejection fraction, a sodium–glucose cotransporter 2 inhibitor with proven benefit in this patient population is recommended to reduce risk of worsening heart failure and cardiovascular death. **A**

10.42b In people with type 2 diabetes and established heart failure with either preserved or reduced ejection fraction, a sodium–glucose cotransporter 2 inhibitor with proven benefit in this patient population is recommended to improve symptoms, physical limitations, and quality of life. **A**

10.43 For people with type 2 diabetes and chronic kidney disease with albuminuria treated with maximum tolerated doses of ACE inhibitor or angiotensin receptor blocker, addition of finerenone is recommended to improve cardiovascular outcomes and reduce the risk of chronic kidney disease progression. **A**

10.46 Treatment of individuals with heart failure with reduced ejection fraction should include a b-blocker with proven cardiovascular out- comes benefit, unless otherwise contraindicated. **A**

4. Sources: evidence search and appraisal of topic areas selected by work group:

Methods

To date we have met for 18 ½ hours, searched English language citations and have appraised approximately 350 papers to date, first screening titles, then reviewing abstracts in detail to assess relevance of population, study size and duration, methods, and consistency across studies. We read selected papers in detail to clarify ambiguous issues. We used the SORT methodology for evidence appraisal. ADA guidelines (which include evidence appraisal) are taken as an authoritative standard. Our priorities were based on 1) our work group’s five key themes and 2) the Impact/Effort Matrix.

Findings

1. Team-based care and empanelment, including care for underserved populations

a. Citation 2. Weeks, et al. ***Non-medical prescribing versus medical prescribing for acute and chronic disease management in primary and secondary care.*** Cochrane Database Syst Rev. 2016

The meta-analysis included “46 studies (37,337 participants); non-medical prescribing was undertaken by nurses in 26 studies and pharmacists in 20 studies. In 45 studies non-medical prescribing as a component of care was compared with usual care medical prescribing.

Authors conclude that “non-medical prescribers can deliver comparable outcomes for systolic blood pressure, glycated hemoglobin, low-density lipoprotein, medication adherence, patient satisfaction, and health-related quality of life.”

b. Citation 4. Sullivan, et al. ***Effect of Clinical Pharmacist Intervention on Hemoglobin A1C Reduction in Veteran Patients with Type 2 Diabetes in a Rural Setting.***

The retrospective chart review included 86 veterans managed in a rural setting by a clinical pharmacist. Patients served as their own controls.

In a rural setting, diabetes care delivered by a pharmacist resulted in significant improvements in diabetes control, BP, and lipids.

c. Citation 5. Leal, et al. ***Improving quality of care in diabetes through a comprehensive pharmacist-based disease management program.***

In this retrospective study of 199 patients in a federally qualified health center, the population was comprised mostly of indigent, Spanish speaking patients with type 2 diabetes. Patients served as their own controls. A bi-lingual PharmD was the primary care provider for the patient's diabetes, hypertension and hyperlipidemia. Patients were followed for 274 plus or minus 141 days.

In this population of indigent, Spanish speaking patients, care delivered by a pharmacist was associated with significant improvements in diabetes control, lipids, and BP.

d. Citation 6. Houle, et al. ***Effect of a pharmacist-managed hypertension program on health system costs: an evaluation of the Study of Cardiovascular Risk Intervention by Pharmacists-Hypertension (SCRIP-HTN).***

This paper used an economic model based on a Canadian study (Study of Cardiovascular Risk Intervention by Pharmacists-Hypertension). The study randomized 227 patients with diabetes and uncontrolled hypertension to pharmacist-nurse intervention every 6 weeks or a control group. Improvement in BP in the experimental group was used in an economic model to predict 1-year savings related avoiding cardiovascular events.

Authors concluded that use of pharmacist-nurse interventions to avoid predicted cardiovascular events made this model cost effective in the Canadian health care system.

e. Citation 7. Henderson, et al. ***Systematic Review of the Frequency of Registered Dietitian-Nutritionist Intervention in the Primary Care Setting for Diabetes Self-Management Education for Patients with Type II Diabetes.***

This systematic review suggests that compared to usual care, more frequent contact with a registered dietitian/nutritionist is associated with improved diabetes control.

Study lacks statistics to quantitatively evaluate the study, is restricted to short term studies, and includes only 7 citations.

f. Citation 10. Maeng, et al. ***Can a patient-centered medical home lead to better patient outcomes? The quality implications of Geisinger's ProvenHealth Navigator.***

The authors examined the claims data from Geisinger Health Plan between 2005 and 2009, comparing patient outcomes in clinics that were or were not designated as medical homes.

Study showed a reduced odds ratio of amputation or end renal disease after conversion of usual care to a patient centered medical home.

g. Citation 11. McManus, et al. ***The Patient-centered Medical Home as an Intervention Strategy for Diabetes Mellitus: A Systematic Review of the Literature.***

The search resulted in 596 articles, of which 24 met all the inclusion criteria. Care management resulted in more screenings and better preventive care. Pharmacy-led interventions and technology were associated with positive clinical outcomes, decreased utilization, and cost savings. Most studies reported decreased emergency room visits and less inpatient admissions.

Authors concluded that the quality and strength of the outcomes were largely inconclusive about the overall effectiveness of the PCMH due to lack of universal definitions specific to the PCMH.

h. Citation 9. Kinsell, et al. ***Impacts of Initial Transformation to a Patient-Centered Medical Home on Diabetes Outcomes in Federally Qualified Health Centers in Florida***

Observational cohort study, done from 2010-2012, of 14136 patients receiving care in a federally qualified health center in Florida according to a patient center medical home model. Odds ratio indicated improvement in diabetes control but not statistically effect on BP or BMI.

Authors conclude that transformation to a medical home model in FQHCs appears to improve the health of vulnerable patients with diabetes.

i. Citation 8. Shippee, et al. ***Using Statewide Data on Health Care Quality to Assess the Effect of a Patient-Centered Medical Home (HCH) Initiative on Quality of Care.***

Minnesota's statewide medical home model in Minnesota relies on state-run, adaptive certification and supportive data infrastructure. Measures included optimal quality (meeting all targets) and average quality (number of targets met) for asthma, vascular, and diabetes care; colorectal cancer screening; depression follow-up; and depression remission. Depending on measure and year, the analytic sample included 246,023 - 3,335,994 child and adult patients in 404-651 clinics. Authors produced potential outcomes means and average treatment effects (ATEs).

Authors conclude HCH patients received better quality versus non-HCH patients for most outcomes. For example, the adjusted rate receiving optimal diabetes care was 453.7/1000 adult HCH patients versus 327.2/1000 non-HCH adult patients (ATE = 126.5; P < .001).

j. Citation 13. Kurani, et al. ***Association Between Area-Level Socioeconomic Deprivation and Diabetes Care Quality in US Primary Care Practices.***

To examine the association between area deprivation index (ADI) score and rurality, and optimal diabetes care, this cross-sectional study analyzed the electronic health records of 75 Mayo Clinic sites.

The primary outcome was the attainment of all 5 components of the D5 metric of optimal diabetes care: glycemic control (hemoglobin A1c <8.0%), blood pressure (BP) control (systolic BP <140 mm Hg and diastolic BP <90 mm Hg), lipid control (use of statin therapy according to recommended guidelines), aspirin use (for patients with ischemic vascular disease), and no tobacco use.

This cross-sectional study found that patients living in more deprived and rural areas were significantly less likely to attain high-quality diabetes care compared to those in urban areas.

k. Citation 16. Park, et al. ***Neighborhood Influences on Physical Activity Among Low-Income African American Adults with Type 2 Diabetes Mellitus.***

Data collected through 7 focus groups and 13 interviews.

Authors concluded that reduced safety of local neighborhoods detracted from opportunity for regular exercise.

l. Citation 12. Ray, et al. ***The impact of a pharmacist-driven, collaborative practice on diabetes management in an urban underserved population: a mixed method assessment.***

Observational study of 99 patients in an underserved, urban community managed by a pharmacist driven collaborative team.

There were significant improvements in patient attainment of A1c <9%, ACE Inhibitor/angiotensin receptor blocker and statin use, and tobacco cessation at follow-up (p< .05).

m. Citation 14. Fan, et al. ***Relationship Between Health Literacy and Unintentional and Intentional Medication Nonadherence in Medically Underserved Populations with Type 2 diabetes***

The purpose of this study was to investigate the relationship between health literacy and overall medication nonadherence, unintentional nonadherence, and intentional nonadherence. Cross-sectional study of 208 patients with type 2 diabetes recruited from a primary care clinic. Most patients in the study were low income, publicly insured, and African American, with limited health literacy and a high school/GED education or less.

In multivariable models, limited health literacy was significantly associated with increased unintentional nonadherence but not intentional nonadherence.

n. Citation 15. Taylor, et al. ***Bringing Global Health Home: The Case of Global to Local in King County, Washington.***

Descriptive report describing strategies to support management of chronic disease in underserved communities in Western Washington. **This paper may provide some direction to address health disparities in underserved communities in our state.**