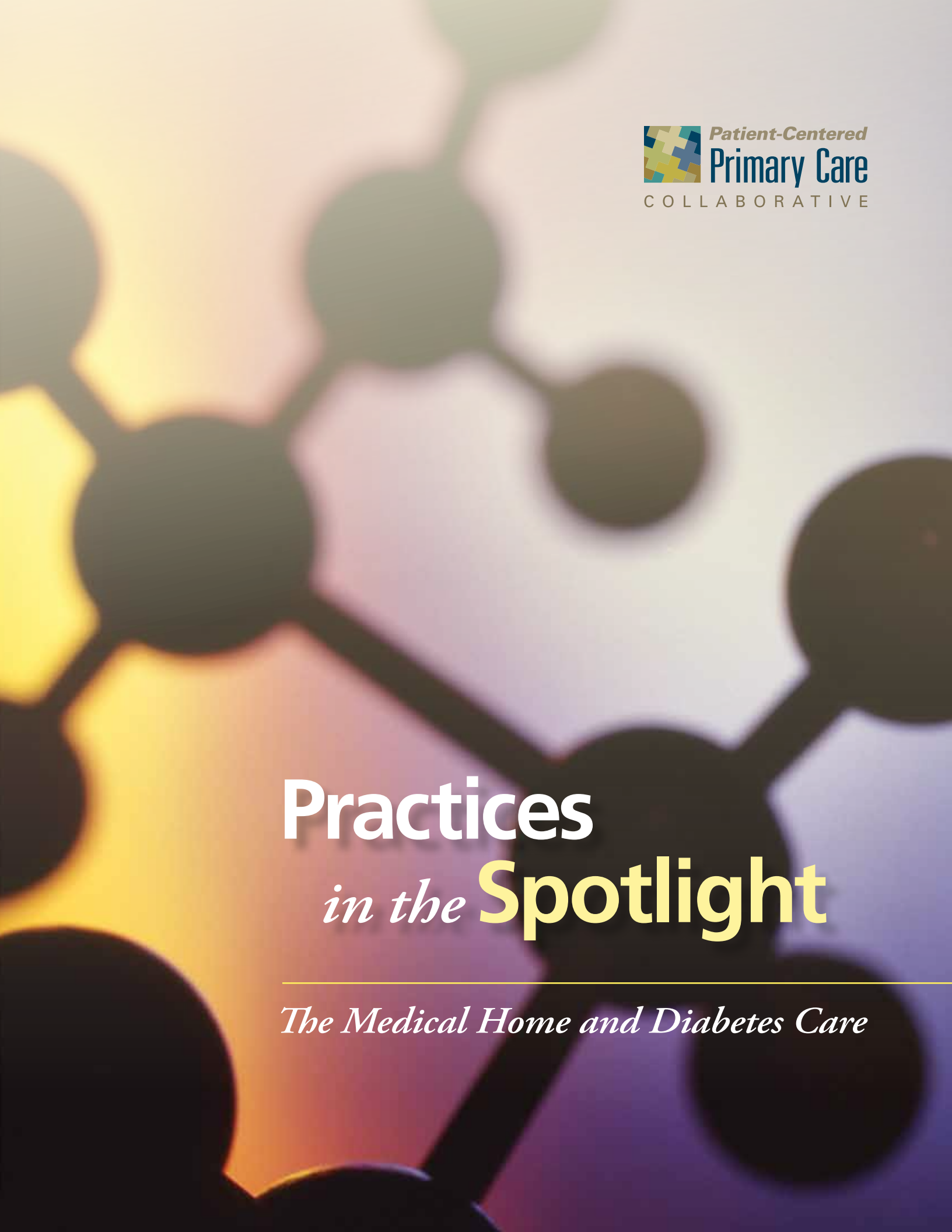

Practices *in the* Spotlight

The Medical Home and Diabetes Care

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Screening Survey available at www.pcpcc.net

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Director of Medical Affairs
Healthcare Services Strategic Initiatives at the Joslin Diabetes Center

Donna Tomky, MSN, RN, C-ANP, CDE, F.A.A.D.E.
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Katherine H. Capps
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Section I | Introduction

Dear Colleagues:

The PCPCC is an open forum where health care stakeholders freely communicate and work together to improve the future of the American health system. It works with a broad array of stakeholder organizations and individuals who share the belief that the patient centered medical home (PCMH) offers a model for transforming the health system.

Since its inception, the PCPCC has recognized the value of the PCMH as an environment for potential excellence in chronic care management. Many of the early PCMH pilot programs selected monitoring of diabetes care in particular as a benchmark of a project's ability to both improve care outcomes and lower costs. As the case studies included in this report demonstrate, there is tremendous potential for the medical home, properly implemented, to have a positive impact on diabetes management for this growing segment of our population and to reduce racial and ethnic disparities in care that have historically prevailed.

It is important to note that improvements in diabetes care do not arise simply by providing more contacts between a patient and a primary care provider. Achieving the benefits of primary care requires a systematic approach that both improves the services provided and more effectively integrates care coordination with other providers, as well as effective use of health IT and other elements of the medical home. It requires a whole-patient orientation to care, especially with the high incidence of co-morbid conditions that often accompany diabetes. An excellent program of diabetes care will not succeed if it doesn't assess the intersecting social, financial, clinical and emotional needs of the patient and coordinate care accordingly.

Improved management of diabetes holds the promise for all stakeholders in the PCPCC, from employers and public payers seeking value in their chronic care program dollars spent, to providers, insurers and consumers of care who benefit from improved care coordination and reduced hospitalizations from exacerbations of the condition. By laying out a framework that illustrates the intersection of the Joint Principles of the Patient Centered Medical Home and known successful diabetes interventions and clinical program measures, everyone can learn from and apply the lessons offered by the innovators featured in this document.

The report has three core elements: (1) A macro-environmental overview of the problem, (2) Case examples, and (3) Summary of responses from select practices in the spotlight.

We hope you find these efforts to engage consumers and patients in medical home evolution to be useful, effective and inspiring.

Sincerely,

John B. Crosby, JD
PCPCC Chair and
Executive Director of the
American Osteopathic Association

Paul Grundy, MD, M.P.H.
PCPCC President and
IBM's Global Director of Healthcare
Transformation

Edwina Rogers
PCPCC Executive Director

Section I | Overview of the Problem

Diabetes comes from the Greek word for *siphon;* the name is attributed to first century Greek physician Aretaeus. For centuries, physicians determined whether patients had diabetes by sampling their urine; sweet-tasting urine indicated diabetes mellitus (or "honeyed" diabetes).[1]

Diabetes and the PCMH: A brief overview

The care of individuals with diabetes—in particular, those with diabetes mellitus (type 2 diabetes)—provides one of the best opportunities to illustrate the promise of the patient centered medical home.

A patient centered medical home, or PCMH, is a team-based model of care led by a personal physician who provides high levels of care, access and communication, care coordination and integration, and makes quality and safety hallmarks of the practice. Numerous demonstration and pilot programs across the nation have shown that, properly deployed, the medical home model can improve outcomes and lower costs.[2]

The management of diabetes in the medical home model has been strongly influenced by the Chronic Care Model;[3] that framework has been shown to yield better overall health in the treatment of chronic disease and lower long-term costs.[4, 5]

Successful diabetes programs have included elements of the medical home; even if the term itself has not been used, meaningful partnerships have been built between individual patients, their families and their personal physicians. The evidence demonstrates that proper management of diabetes can reduce the risk of complications; well-designed care coordination interventions, delivered to the right individuals, can improve patient, provider and payer outcomes. The literature provides many such examples.[6, 7]

The precedent has been set and, as the cases studies later in this document show, the future holds tremendous potential for diabetes management within the medical home framework.

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[1] Garabed Eknoyan G., Nagy J. "A history of diabetes mellitus or how a disease of the kidneys evolved into a kidney disease." Advances in chronic kidney disease. 1 April 2005 (volume 12 issue 2 Pages 223-229 DOI: 10.1053/j.ackd.2005.01.002).

[2] Grumbach K., Grundy P. "Outcomes of Implementing Patient Centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States." Patient-Centered Primary Care Collaborative. Updated Nov, 16, 2010. (http://www.pcpcc.net/content/pcmh-outcome-evidence-quality).

[3] Coleman K, Austin BT, Brach C, Wagner EH. "Evidence on the Chronic Care Model in the new millennium." Health Aff (Millwood). 2009 Jan-Feb;28(1):75-85.

[4] Huang E. S., et al. "The Cost-Effectiveness of Improving Diabetes Care in U.S. Federally Qualified Community Health Centers." Health Services Research, May 16, 2007.

[5] Calvo A., et al. "A Comprehensive Health Home: Using The Expanded Care Model of the Collaboratives—Implications of Convergence of the Chronic Care Model, Planned Care Model And Patient-Centered Medical Home Model." Disparity Reducing Advances Project of the Institute for Alternative Futures November 2008 (http://www.altfutures.org/draproject/pdfs/Report_08_05_ComprehensiveHealthHome_UsingExpandedCareModelCollaboratives.pdf).

[6] Grumbach K., Grundy P. "Outcomes of Implementing Patient Centered Medical Home Interventions: A Review of the Evidence from Prospective Evaluation Studies in the United States." Patient-Centered Primary Care Collaborative. Updated Nov, 16, 2010. (http://www.pcpcc.net/content/pcmh-outcome-evidence-quality).

[7] Carroll, John. "Lessons Learned in Building The Patient-Centered Medical Home." Managed Care, August 2010 (http://www.managedcaremag.com/archives/1008/1008.medicalhome.html).

Joint Principles

Introduction

The Patient-Centered Medical Home (PCMH) is an approach to providing comprehensive primary care for children, youth and adults. The PCMH is a health care setting that facilitates partnerships between individual patients, and their personal physicians, and when appropriate, the patient's family. The American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Physicians (ACP), American Osteopathic Association (AOA), representing approximately 333,000 physicians, have developed the following joint principles to describe the characteristics of the PCMH.

Principles

- **Personal physician**—each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.
- **Physician directed medical practice**—the personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.
- **Whole person orientation**—the personal physician is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life; acute care; chronic care; preventive services; and end of life care.
- **Care is coordinated and/or integrated** across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange and other means to assure that patients get the indicated care when and where they need and want it in a culturally and linguistically appropriate manner.
- **Quality and safety** are hallmarks of the medical home:
  - —Practices advocate for their patients to support the attainment of optimal, patient-centered outcomes that are defined by a care planning process driven by a compassionate, robust partnership between physicians, patients, and the patient's family.
  - —Evidence-based medicine and clinical decision-support tools guide decision making.
  - — Physicians in the practice accept accountability for continuous quality improvement through voluntary engagement in performance measurement and improvement.
  - —Patients actively participate in decision making and feedback is sought to ensure patients' expectations are being met.
  - —Information technology is utilized appropriately to support optimal patient care, performance measurement, patient education, and enhanced communication.
  - —Practices go through a voluntary recognition process by an appropriate non-governmental entity to demonstrate that they have the capabilities to provide patient-centered services consistent with the medical home model.
  - —Patients and families participate in quality improvement activities at the practice level.
- **Enhanced access** to care is available through systems such as open scheduling, expanded hours and new Joint Principles options for communication between patients, their personal physician, and practice staff.
- **Payment** appropriately recognizes the added value provided to patients who have a patient-centered medical home. The payment structure should be based on the following framework:
  - —It should reflect the value of physician and nonphysician staff patient-centered care management work that falls outside of the face-to-face visit.
  - —It should pay for services associated with coordination of care both within a given practice and between consultants, ancillary providers, and community resources.
  - —It should support adoption and use of health information technology for quality improvement.
  - —It should support provision of enhanced communication access such as secure e-mail and telephone consultation.
  - —It should recognize the value of physician work associated with remote monitoring of clinical data using technology.
  - —It should allow for separate fee-for-service payments for face-to-face visits. (Payments for care management services that fall outside of the face-to-face visit, as described above, should not result in a reduction in the payments for face-to-face visits.)
  - —It should recognize case mix differences in the patient population being treated within the practice.
  - —It should allow physicians to share in savings from reduced hospitalizations associated with physician-guided care management in the office setting.
  - —It should allow for additional payments for achieving measurable and continuous quality improvements.

Prevalence and scope

Diabetes is the seventh leading cause of death in the United States. It costs $174 billion annually, including $116 billion in direct medical expenses, according to the Centers for Disease Control and Prevention.[8]

Other sources suggest the costs is higher: A study published in *Health Affairs* found that, factoring in direct and indirect costs, the cost of diabetes and prediabetes was approximately $218 billion in 2007.[9]

In January 2011, the CDC announced that nearly 26 million Americans—one in 12—have diabetes. The CDC estimates 79 million U.S. adults have prediabetes. [10] Approximately 1.9 million people aged 20 years or older were newly diagnosed with diabetes in 2010 in the United States, the CDC reported.

In 2008, nearly one in five hospitalizations were related to patients with diabetes, totaling over 7.7 million stays and $83 billion in hospital costs.[11]

Diabetes affects 8.3 percent of Americans of all ages, and 11.3 percent of adults aged 20 and older, according to the CDC's most current numbers. About 27 percent of those with diabetes—7 million Americans—do not know they have the disease. Prediabetes may affect as many as 35 percent of those 20 and older.

A CDC SNAPSHOT OF DIABETES

Age 20 years or older: 25.6 million, or 11.3 percent of all people in this age group, have diabetes.

Age 60 years or older: 10.9 million, or 26.9 percent of all people in this age group, have diabetes.

Men: 13.0 million, or 11.8 percent of all men aged 20 years or older, have diabetes.

Women: 12.6 million, or 10.8 percent of all women aged 20 years or older, have diabetes.

Non-Hispanic whites: 15.7 million, or 10.2 percent of all non-Hispanic whites aged 20 years or older, have diabetes.

Non-Hispanic blacks: 4.9 million, or 18.7 percent of all non-Hispanic blacks aged 20 years or older, have diabetes.

Source: Centers for Disease Control and Prevention 2011 National Diabetes Fact Sheet (http://www.cdc.gov/diabetes/pubs/estimates11.htm)

CDC projects that as many as one in three U.S. adults could have diabetes by 2050 if current trends continue.

Moreover, a March 2011 paper published in the *New England Journal of Medicine* found that, in addition to vascular disease, diabetes is associated with substantial premature death from several cancers, infectious diseases, external causes, intentional self-harm and degenerative disorders, independent of several major risk factors.[12]

While prevalent and readily treatable, diabetes is not adequately treated. Nearly 90 percent of U.S. adult diabetics—more than 16 million adults aged 35 and older—have ineffective treatment of blood sugar, blood

[8] Centers for Disease Control and Prevention. 2011 National Diabetes Fact Sheet Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Contro and Prevention, 2008. (http://www.cdc.gov/diabetes/pubs/estimates11.htm)

[9] Dall TM et al, The Economic Burden of Diabetes, Health Affairs, 29 (2), 2010 (http://content.healthaffairs.org/content/early/2010/01/14/hlthaff.2009.0155.abstract).

[10] Centers for Disease Control and Prevention. 2011 National Diabetes Fact Sheet Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2008. (http://www.cdc.gov/diabetes/pubs/estimates11.htm).

[11] Fraze, T., H.J. Jiang and J. Burgess. Hospital stays for patients with diabetes, 2008. Healthcare Cost and Utilization Project, Agency for Healthcare Research and Quality Statistical Brief #93 (http://www.hcup-us.ahrq.gov/reports/statbriefs/sb93.pdf).

[12] The Emerging Risk Factors Collaboration. "Diabetes Mellitus, Fasting Glucose, and Risk of Cause-Specific Death "NEJM 364:9, March 3, 2011, p 829-841 (http://www.nejm.org/doi/full/10.1056/NEJMoa1008862).

pressure and cholesterol, according to researchers at the Institute for Health Metrics and Evaluation at the University of Washington.[13]

Challenges: Racial, ethnic disparities

Challenges abound in addressing diabetes. Among the most difficult are racial and ethnic disparities. Racial and ethnic minorities continue to have higher rates of diabetes after adjusting for population age differences. For adults, diabetes rates were 16.1 percent for American Indians/ Alaska natives, 12.6 percent for blacks, 11.8 percent for Hispanics, 8.4 percent for Asian-Americans and 7.1 percent for non-Hispanic whites.[14]

A 2009 study delved into some of the reasons for the disparity and found that depression and missing medication doses were more strongly associated with poor control of blood pressure, blood glucose and cholesterol among blacks than among whites.[15] Researchers found that black patients were more likely than white patients to report each of 10 different reasons for missing medication doses, suggesting that "interventions targeted at black patients will need to simultaneously address multiple obstacles to adherence."[16]

At least one study suggests such disparity may be attributable to the physician. Black patients treated for diabetes had worse outcomes than whites seen by the same clinicians at a large group practice in Massachusetts.[17] Even controlling for sociodemographic factors, most of the disparity was strongly driven by individual physician activity, researchers reported.

A medical home approach to diabetes management may mitigate some of these issues. Research suggests that a medical home-based approach may hold the most promise for addressing racial, cultural and ethnic disparities. [18, 19, 20, 21] It is important to note, however, that merely increasing access to primary care may not be enough to overcome those disparities in care quality and outcomes.[22]

Speaking their language: Literacy and numeracy issues

Literacy and numeracy skills can present barriers as well.

One study, published in 2007, found that one-quarter of diabetic adults with heart failure have limited literacy. When adjusted for education, the association is no longer statistically significant; nevertheless, the researchers concluded that providers need to realize many patients

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[13] Gakidou E., et al. "Management of diabetes and associated cardiovascular risk factors in seven countries: a comparison of data from national health examination surveys," Bulletin of the World Health Organization March 2011 (http://www.who.int/bulletin/volumes/89/3/10-080820.pdf ; http://www.healthmetricsandevaluation.org/news-events/news-release-most-diabetics-us-and-six-other-countries-ineffectively-treated-diabetes).

[14] ibid.

[15] Duru O.K. et al., "Identifying Risk Factor for Racial Disparities in Diabetes Outcomes: The Translating Research Into Action for Diabetes (TRIAD) Study." Medical Care; 2009 June; Vol. 47; No. 6; 700-6. (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2743318).

[16] ibid.

[17] Sequist T, et al "Physician performance and racial disparities in diabetes mellitus care" Arch Intern Med 2008; 168: 1145-1151. (http://archinte.ama-assn.org/cgi/content/short/168/11/1145)

[18] Beal A., et al. "Closing the Divide: How Medical Homes Promote Equity in Health Care: Results From The Commonwealth Fund 2006 Health Care Quality Survey." The Commonwealth Fund, June 2007.

[19] Beal A., et al. "Latino access to the patient-centered medical home," J Gen Intern Med, 2009 Nov;24 Suppl 3:514-20.

[20] Karliner L. S., et al. "Do Professional Interpreters Improve Clinical Care for Patients with Limited English Proficiency? A Systematic Review of the Literature," Health Services Research, April 2007,42:2.

[21] Ngo-Metzger Q, et al. "Providing high-quality care for limited English proficient patients: the importance of language concordance and interpreter use." J Gen Intern Med, Nov 2007;22 Suppl 2:324-30.

[22] Goodman DC, et al. Regional and Racial Variation in Primary Care and the Quality of Care among Medicare Beneficiaries. Dartmouth Institute for Health Policy (2010).

have limitations in dealing with written materials. "Understanding the extent of limited literacy among adults with chronic diseases can lead to enhanced efforts to improve patients' knowledge and skills and ultimately, may improve the outcomes of their disease management." [23]

"We began to see literacy as where the rubber hits the road with patient-centered practices. We needed to focus on health literacy to move the needle."

—PATRICIA JUSTIS, MA, MEDICAL HOME QUALITY IMPROVEMENT PROJECTS MANAGER, WASHINGTON STATE DEPARTMENT OF HEALTH

Another study, also published in 2007, found that although low health literacy was significantly associated with worse glycemic control and poorer disease knowledge in patients with type 2 diabetes, there was no significant relationship with their readiness to take action in disease management.[24]

Poor numeracy skills are common in patients with diabetes and are associated with worse perceived self-efficacy and fewer self-management behaviors—and may be associated with possibly poorer glycemic control, according to research published in 2008.[25]

The medical home, in theory at least, has the potential to address these problems. A paper that was part of a 2009 Institute of Medicine paper, *Toward Health Equity and Patient-Centeredness: Integrating Health Literacy, Disparities Reduction, and Quality Improvement (Workshop Summary),* stated:

> **Conceptually, patient-centered care includes attention to patients' health literacy, cultural context, and language preferences. However, considering these issues separately may emphasize their importance to patient-centered quality improvement efforts. Such efforts have the potential to reduce disparities by raising health literacy levels and targeting both the interpersonal (e.g., patient—provider) and health care system levels.**[26]

Ideally, in a medical home, patients get the care they need in a culturally and linguistically appropriate manner. A fundamental aspect of patient-centered care is self-management and self-efficacy. The approach enhances the capability of consumers and patients to be informed and increasingly literate about their health and their medical conditions. In a well-functioning medical home, patients and clinicians work together to improve disease self-management; this includes a focus on health literacy—providing easily understood graphs, charts and handouts. [27]

[23] Laramee AS, Morris N, Littenberg B. "Relationship of literacy and heart failure in adults with diabetes." BMC Health Serv Res. 2007 Jul 2;7:98. (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1914051/).

[24] Powell CK, Hill EG, Clancy DE. "The relationship between health literacy and diabetes knowledge and readiness to take health actions." Diabetes Educ. 2007 Jan-Feb;33(1):144-51. (http://www.ncbi.nlm.nih.gov/pubmed/17272800).

[25] Cavanaugh K, Huizinga MM, et al. "Association of numeracy and diabetes control." Ann Intern Med. 2008 May 20;148(10):737-46. (http://www.ncbi.nlm.nih.gov/pubmed/18490687).

[26] Beach, Mary Catherine. "Patient-Centeredness as an Indicator Of Quality" Toward Health Equity and Patient-Centeredness: Integrating Health Literacy, Disparities Reduction, and Quality Improvement: Workshop Summary. Institute of Medicine (US) Forum on the Science of Health Care Quality Improvement and Implementation; Institute of Medicine (US) Roundtable on Health Disparities; Institute of Medicine (US) Roundtable on Health Literacy. Washington (DC): National Academies Press (US); 2009. http://www.ncbi.nlm.nih.gov/books/NBK37530/.

[27] Meaningful Connections: A Resource Guide for Using Health IT to Support the Patient Centered Medical Home. Patient-Centered Primary Care Collaborative. (http://www.pcpcc.net/files/cehia_mc.pdf).

TEAM APPROACH, PATIENT ENGAGEMENT

In a continuing medical education module about diabetes in the medical home, Davida Kruger, a certified nurse practitioner from the division of endocrinology at the Henry Ford Health System in Detroit, talked about the role of patient engagement. "We've put signs in our office that say, 'Take off your shoes, and if you need assistance, please ask,' because that serves as a trigger to say to the patient that there's something important about looking at your feet, and it's also for the physician or the other providers to say, 'The patient doesn't have their shoes on so before I leave the room, I need to talk to that patient about foot care and take a look at their feet.'"

The team can have an effect on people with diabetes "every step of the way" and the team approach helps ensure the patient is receiving comprehensive diabetes care. "The patient is always the head of that team," says Kruger. "I don't go home with my patients at night, which is probably a good thing, but they need to know how to manage their diabetes when they walk out the door.'"[28]

Evolving team: Diabetes educators and pharmacists

The team approach to care is, of course, an essential element of the medical home. But long before the medical home concept gained prominence, the collaborative team approach had been part of the accepted approach to chronic disease, including diabetes. It is a fundamental part of the American Diabetes Association's standards of care: "People with diabetes should receive medical care from a physician-coordinated team. Such teams may include, but are not limited to, physicians, nurse practitioners, physician's assistants, nurses, dietitians, pharmacists, and mental health professionals with expertise and a special interest in diabetes. It is essential in this collaborative and integrated team approach that individuals with diabetes assume an active role in their care."[29]

As Edward Wagner wrote in *BMJ* in 2000, "Successful chronic disease interventions usually involve a coordinated multidisciplinary care team."[30] He provided the evidence to support it. [31, 32, 33, 34] Wagner could have been talking about diabetes in the medical home context when he wrote the following: "Chronically ill patients will benefit from a care team that includes skilled clinicians and educators who have both clinical skills and self management support skills and population managers who understand team function and public health principles and approaches."[35]

Both the American Diabetes Association and the American Association of Diabetes Educators endorsed team management as the ideal model for the delivery of

[28] Meneghini, L, et al. "Guideline Adherence Improves Diabetes Care" CME/CE; Medscape Education Diabetes & Endocrinology transcript (http://www.medscape.org/viewarticle/733364_transcript).

[29] Standards of Medical Care in Diabetes—2010 Diabetes Care January 2010 vol. 33 no. Supplement 1 S11-S61. (http://care.diabetesjournals.org/content/33/Supplement_1/S11.full).

[30] Wagner EH. The role of patient care teams in chronic disease management. BMJ. 2000;320:569-572. (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117605/).

[31] Calkins E, Boult C, Wagner EH, Pacala J, editors. New ways to care for older people. New York: Springer; 1998.

[32] Wagner EH, Austin BT, von Korff M. Organizing care for patients with chronic illness. Milbank Q. 1996;74:511–544. (http://www.ncbi.nlm.nih.gov/pubmed/8941260).

[33] Wagner EH. Chronic disease management: what will it take to improve care for chronic illness? Effective Clin Pract. 1998;1(1):2–4.

[34] Wagner EH, Davis C, Schaefer J, Von Korff M, Austin B. A survey of leading chronic disease management programs: are they consistent with the literature? *Manage Care* Q 1997(3);56-66.

[35] Wagner EH. The role of patient care teams in chronic disease management. BMJ. 2000;320:569-572. (http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1117605/).

diabetes care in the early 1990s.[36] A 1998 *Diabetes Spectrum* paper concluded as follows: "Ongoing treatment of diabetes by a multidisciplinary team is feasible and facilitates the achievement of treatment goals that will result in the development of fewer long-term diabetic complications. Achieving these goals does not seem possible using traditional models of care. There is no excuse for delay. We must transform team care from an abstract concept to a common practice."[37]

The team approach articulated in the PCMH model fulfills this need.

"Hudson River Healthcare invests in ongoing, structured staff training in clinical as well as interpersonal skills so every worker, at every level, is a partner in improving patient care."

—PAUL KAYE, MD, VICE PRESIDENT FOR PRACTICE TRANSFORMATION, HUDSON RIVER HEALTHCARE

As the shortage of primary care physicians increases along with the number of Americans with chronic diseases, the need for an expanded primary care team becomes increasingly acute. Diabetes educators—as will become evident in the case studies to follow—play an increasingly important role in the medical home. Those "with a broad clinical range can be pioneers in these new and exciting models of patient care intended to improve chronic disease care and prevention," Patrick J. O'Connor, MD, M.P.H., and JoAnn M. Sperl-Hillen, MD, observed in *Diabetes Spectrum*.[38]

Pharmacists, too, are playing an increasing role. A 2008 study found that a community pharmacist and nurse team, working collaboratively with patients and primary care physicians, can improve clinical outcomes for diabetes patients with hypertension.[39]

A study in the December 2010 *Annals of Pharmacotherapy* reported that integrating pharmacist-led management of type 2 diabetes into safety net clinics with the patient centered medical home model improves clinical outcomes.[40]

A 2010 *Health Affairs* article on the role of the pharmacist in the medical home featured several diabetes-management successes.[41] Among them: the oft-cited Asheville Project. In 1996, the city of Asheville, N.C. launched a project in which community-based pharmacists met with patients to provide care management for diabetes, asthma, hypertension and high cholesterol.[42] Not only did outcomes improve, but the return on investment was 4:1 for the diabetes program. [43, 44]

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[36] Bayless, M., Martin C. "The Team Approach to Intensive Diabetes Management," Diabetes Spectrum, Volume 11 Number 1, 1998, pp33-37. http://journal.diabetes.org/diabetesspectrum/98v11n1/pg33.htm.

[37] ibid.

[38] O'Connor, P. Sperl-Hillen, J. "The Role of Diabetes Educators in the Medical Home." Diabetes Spectrum, March 20, 2009 vol. 22 no. 2 124-126. (http://spectrum.diabetesjournals.org/content/22/2/124.full).

[39] McLean DL, et al. "A Randomized Trial of the Effect of Community Pharmacist and Nurse Care on Improving Blood Pressure Management in Patients With Diabetes Mellitus." Arch Intern Med. 2008;168(21):2355-2361. (http://archinte.ama-assn.org/cgi/content/full/168/21/2355).

[40] Johnson KA, Chen S, Cheng IN, Lou M, Gregerson P, Blieden C, Baron M, McCombs J. "The impact of clinical pharmacy services integrated into medical homes on diabetes-related clinical outcomes." Ann Pharmacother. 2010 Dec;44(12):1877-86. (http://www.theannals.com/content/vol44/issue12/).

[41] Smith M, Bates DW, Bodenheimer T, Cleary PD. "Why Pharmacists Belong In The Medical Home. Health Aff May 2010 29:5906-913. (http://content.healthaffairs.org/content/29/5/906.full).

[42] The Asheville Project. (http://www.theashevilleproject.net/home).

[43] Cranor CW, Bunting BA, Christensen DB. "The Asheville Project: long-term clinical and economic outcomes of a community pharmacy diabetes care program." J Am Pharm Assoc. 2003;43:173–84.

[44] Bunting BA, Smith BH, Sutherland SE. "The Asheville Project: clinical and economic outcomes of a community-based long-term medication therapy management program for hypertension and dyslipidemia." J Am Pharm Assoc. 2008;48:23–31.

Employer efforts abound

A significant aspect of the Asheville program is that it was *employer*-based: It was an effort by the city, a self-insured employer, to provide education and personal oversight for employees with chronic conditions, including diabetes. Given the cost of diabetes, employers have long been seeking—and often finding—innovative ways to help employees prevent and manage their diabetes. Many of these programs not only help employees lead healthier lives; they also can reduce or control health care costs, improve productivity and/or reduce absenteeism.[45, 46, 47]

Although stand-alone disease-management programs have proven to be successful in a variety of settings and with a variety of populations,[48, 49, 50] a more recent focus has been the development and deployment of comprehensive and integrated approaches that can lead to even greater impact. These integrated and comprehensive population health management programs recognize the critical importance of the alignment and integration with primary care, whether in the form of PCMH or otherwise, and have developed innovative approaches to sharing information about their patients with physicians that (1) are invaluable in providing the best care possible, (2) instrumental in achieving optimal outcomes of care, and (3) would be unavailable to physicians in the absence of these programs. [51, 52, 53]

Coordination plays a crucial role. A 2010 report from the Dartmouth Atlas Project[54] shows that neither a higher amount of primary care services, nor making sure patients routinely see a primary care clinician will, by itself, guarantee a patient will receive recommended care or experience a better outcome.[55] Achieving the benefits of primary care is likely to require both improving the services provided by primary care clinicians and more effective integration and coordination with other providers, the researchers suggest.

> "We strive for unhurried visits. Regardless of whether it's a diabetes or acute problem, we strive for 30-minute visits, and that's at the heart of the change to whole-person orientation. And it's change for the better."
>
> —RAYMOND J. ZASTROW, MD,
> CHIEF MEDICAL OFFICER, QUADMED

[45] Diabetes and Cardiovascular Disease; Diabetes at Work. (http://www.diabetesatwork.org/DiabetesResources/RelevantArticles.cfm).

[46] Diabetes Prevention and Control; Diabetes at Work. (http://www.diabetesatwork.org/GettingStarted/DiabetesControl.cfm).

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PCMH by any other name

Since 2000, there has been substantial improvement in diabetes care, and (citing the TRANSLATE trial[56]) a 2009 *Diabetes Spectrum* piece observed that these national improvements reflect better diabetes care in primary care practices.[57] They represent a move from the fragmented, carved-out approach to diabetes management to one that embraces the elements of the patient centered medical home.

One excellent example among many is HealthPartners Medical Group, a Minneapolis-based, not-for-profit integrated health care system. After implementing a medical home in 2004, the group reported a 129 percent increase in patients receiving optimal diabetes care. HealthPartners' approach includes care teams, improved care coordination, patient engagement, standardized workflows and the integration of health IT. [58, 59, 60]

The evidence is clear: The PCMH framework can offer a platform for more effective management of diabetes. (See Appendix B for a crosswalk of the principles of the PCMH and diabetes care delivery.) The physician-led team approach can improve outcomes and—especially as we will see in the case examples to follow—involve patients in their own health care. Team members partner with patients to help them manage their diabetes and to connect them with the resources they need to do so. In the medical home, patients have expanded access to care and options for communication with their care team—access and communication that addresses them where they are culturally and linguistically, thus overcoming a significant barrier to better outcomes. Education, counseling and motivation are delivered in a language (literally and figuratively) the patient understands. Likewise, the whole-person orientation means that the effort isn't just directed at blood glucose levels—or even the disease itself—but to the entire person and his or her caregivers. In a well-functioning patient centered medical home, care is coordinated, facilitated by health information technology; registries not only help keep track of patients coming into the practice, but those who are not—and who would otherwise fall through the cracks.

Reimbursement may not have caught up to the other elements of the PCMH, but increasingly payers recognize the added value provided to patients who have a medical home or that operate as part of various pilot projects. And many of the successful pilots have been launched by insurers. For example, in 2009, BlueCross BlueShield of South Carolina and BlueChoice Health Plan partnered with a medical group, Palmetto Primary Care Physicians, in a PCMH program targeting patients with diabetes.[61] Such programs have managed to not only improve results but also bend the cost curve .[62]

Patient centered medical homes are demonstrating success in managing diabetes—and successful diabetes

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programs include elements of the medical home. [63, 64] As the data demonstrate—and as the following case studies show—the PCMH model can transform diabetes management.

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Section I | Methodology

Where does diabetes care fit within the context of the patient centered medical home? And how are exemplary practices working to ensure that elements of the medical home are working in tandem with recognized best practices in diabetes care? What differentiates care in a patient centered medical home from diabetes care in practices that have merely attained recognition for chronic illness management?

The process for answering those questions began by developing a crosswalk of the Joint Principles for the Patient Centered Medical Home with two common diabetes measurement sets—the Centers for Disease Control's clinical measures for diabetes care[65] and the National Committee for Quality Assurance's measures for its Diabetes Recognition Program.[66] This crosswalk took the Joint Principles as a starting point, and then delved deeper into key areas for diabetes care: use of evidence-based medicine and clinical decision-support tools to guide decision making; use of information technology to support optimal patient care, performance measurement, patient education and enhanced communication; voluntary recognition to demonstrate the capabilities to provide patient-centered care; and payment structures that support the added value of the medical home. (See Appendix A for the complete crosswalk.)

This crosswalk was used by Health2 Resources to develop a 29-question web-based survey for practices actively involved in diabetes patient care, which queried information ranging from diabetes self-education for patients, to diabetes care measures used, participation in pilot programs and use of community resources. The non-scientific survey was used for screening purposes only, and was fielded over a two-week period to a variety of practices: Large and small providers; primary care and multi-specialty practices; community-based, academic, employer-based programs; and even statewide initiatives responded. The 127 responses received were then filtered for aspects of "medical home-ness," such as access to care, care coordination services and use of health IT to support quality improvement efforts.

After further qualitative analysis, 20 practices were selected for the spotlight based solely on their survey responses. Of those, 10 practices were selected for in-depth interviews designed to illuminate elements of diabetes care that closely aligned with the principles of the medical home.

The 10 case examples that follow delve selectively into those medical home-centric elements at which these practices excel. It bears noting that space and focus preclude this report from exhaustively reporting how each of these practices meets every element of the patient centered medical home; the case examples are designed to offer detail of those select elements that may be most enlightening to other practices eager to improve their own diabetes care within the context of the medical home. By design, this report includes the survey results from all 20 spotlighted practices (including the case examples) to offer a greater breadth of information in addition to the depth provided in the case examples.

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Section II | Expert Practices in the Spotlight

Time and again, the question from the field, where practitioners are striving to implement the medical home, is "tell us more about how this is all operationalized." Primary care physicians making the move from theory to practice need staff- and workflow-oriented details: How does the team function on a day-to-day basis? In what ways are you using data? Who is empowered to do patient education, and what materials do you use?

The following case examples are by no means exhaustive of the robust responses we received to our query of practices that are actively advancing diabetes care within the medical home model. While selecting the practices for the spotlight, we paid particular attention to inclusion of employer- and state-sponsored programs, as well as federally qualified health centers; however, the reader will note that we also include academic primary care, multi-specialty and a wide range of practice sizes. The goal was to offer a qualitative snapshot, as opposed to a quantitative review of the numbers.

The examples are representative of a range of practice types to offer a breadth of experience. They are voiced by the program leaders themselves so you can see what is top-of-mind for those who are on the ground, doing the work. We asked interviewees, many of whom had practices that embrace every element of the medical home, to prioritize which elements drove the success of their programs; for the most part, those priority elements drive the content of each case example. While space and time limit these narratives, we hope they offer enough granularity to clearly illustrate those key elements, and to capture some answers to the questions most important to the reader.

Success Elements: Lessons Learned

Each of the practices profiled is unique, and many of their successes and lessons are context-specific. Nevertheless, some overarching themes emerged. We have identified five:

1 In diabetes care, the team as a whole is stronger than the sum of its parts. Working with the patient to set specific goals, educators, behavioral health professionals, promotoras, pharmacists, nurses and other members of the primary care clinician-led team play essential roles in the practices highlighted on the following pages.

2 Information technology is essential to support optimal care. The use of patient registries in particular to identify and track patients in their care process was identified as a bottom-line essential for population-based diabetes care management. Successful practices know who their patients with diabetes are, and regularly mine the data to ensure they receive the care they need.

3 Enhanced access to care opens doors. This may take a variety of forms, but it is a key aspect of successful practices. From group visits and on-site integration of services, to open scheduling and expanded hours, these practices are reducing barriers to access for their patients.

4 Whole-person orientation and patient engagement go hand in hand. Recognizing that people with diabetes often have co-morbid clinical conditions, financial concerns, social and cultural barriers and emotional and mental health needs, many of the practices work hard to connect patients to a range of community resources. Whether using motivational interviewing or actively seeking behavior change opportunities, there is a strong recognition that health is not just the absence of disease, but whole-person wellness. Moreover, the patient is fully engaged as part of the process; many of those profiled strongly reject notions of "compliance" or even "adherence" as terminology to describe their approach to patient care.

5 Care coordination is a role and a responsibility. The "who" and the "how" may vary by practice, but a common element throughout is that a member of the team, aided by health IT, is responsible for coordinating a patient's care.

Hudson River HealthCare

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Recognition/programs

- NCQA-recognized Level 3 Medical Home
- Supporting Excellence-Hudson Health Plan

Practice Overview

Hudson River HealthCare (HRHC) is a network of 16 federally qualified community health centers located across six counties in New York's Hudson Valley. Some 70 physicians work with the adult diabetes patients in the practice, supported by four nurse practitioners, two physician assistants, 16 RNs, 35 LPNs, 35 medical assistants (MAs), five certified diabetes educators, six nutritionists and about 25 community health workers called Patient Care Partners. The practice provides care for more than 3,400 adult patients with diabetes.

HRHC participated in HRSA's Health Disparities Collaborative from its inception, and served as a pilot site for projects on prevention and planned care for all patients. Its Diabetes Collaborative program, in place since 2000, was structured using learning and improvement models from the Institute for Health Improvement and the Wagner Chronic Care Model.

PCMH Success Element: Care is coordinated and/or integrated; whole person orientation

» *Patient Care Partners navigate care*

As a federally qualified health center, HRHC is required to produce a population-based needs assessment and health plan on an annual basis. The practice is oriented to regularly analyze data and play a responsible role in the health of the community. "That's the discipline that comes with being part of a community health center," said Paul Kaye, MD, vice president for practice transformation for Hudson River HealthCare.

This safety net provider reaches deep into the community not only to understand its needs, but also to meet them. The majority of its board is composed of health center users, and three members on that board are very actively involved in the diabetes program. "There's nothing like having members of the governing board as part of your diabetes program to get it straight," Kaye said.

One way HRHC meets the needs of its patients is through activation of Patient Care Partners, community health workers who have diabetes themselves or are trained to help navigate patients through the health system. "They are also cultural brokers who help us provide appropriate services," Kaye said. "They're one of the most effective tools we have."

Patient Care Partners are empowered to coordinate care; they run registry reports, make referrals for eye exams and respond to patients' real-world needs. "They are part of the community, so when a patient doesn't follow through with something, they know the real score. They know the neighborhood, so when [patients] don't come to an appointment, they know where they live," he said. That familiarity with culture and customs extends to the migrant farm worker population; Patient Care Partners help people on site in their temporary camps.

HRHC proactively assesses every patient to uncover preference around literacy, barriers to learning and social barriers, in addition to family history. The Patient Education Assessment Survey is administered to every patient every other year, more often if there is a major medical change.

In its diabetes education, HRHC uses Conversation Maps as a means to reach people with language and literacy barriers. A team of 10 educators in the practice is trained to use these table-top visual aids as a conversation-style method of diabetes education. The materials were

developed by the American Diabetes Association in partnership with Healthy Interactions Inc. and Merck & Co., Inc. and cover topics such as healthy eating and monitoring glucose results. HRHC also partners with other community organizations for education days, featuring individuals with diabetes who are well-known cooks in the area so they can demonstrate nutritional (and delicious) food preparation.

"We are really tapping into community resources through that. It makes sense, since it's the kind of food they know and want to eat," Kaye said. "We are part of our community, we hire from our community and we are conscious of the fact that staff should reflect the community. They know about the people they live with and the place they serve."

PCMH Success Element: Physician directed, team-based care

» *Life coordination for the most vulnerable patients*

For patients identified with the highest HbA1c, a nurse care coordinator does intensive case management. HRHC received a New York State HEAL 10 grant to hire the seasoned, bi-lingual nurse, who is trained in the Johns Hopkins Guided Care program. Over the six months of her work thus far, the overall HbA1c score in this high-risk population—including the homeless—has dropped an average of a point and a half. Across the practice, HRHC has documented that 87.57 percent of diabetics had HbA1c testing in 2010.

"It's all about really understanding the needs of complex patients and meeting all of their needs. Sometimes it has nothing to do with their insulin dose," Kaye said. "You have to get to know their lives in an intense way in order to help them. It's really about life coordination."

The Diabetes Collaborative paves the way for patient adherence by giving patients with diabetes priority for accessing preventive dental visits and offering many on-site services, including behavioral health. Alerts in the electronic health record prompt preventive care as well as diabetes-specific interventions. Depression screenings are universally performed, as are smoking status assessments.

An on-site podiatrist sees patients with diabetes for preventive foot care. Clinicians often refer patients to HRHC's dieticians. "With our system of care, there are different layers," explained Kathy Brieger, RDCDE, CDE and diabetes operations director. "The RN helps the provider with clinical support, but the Patient Care Partner can help them get a ride to the drug store."

PCMH Success Element: Payment appropriately recognizes the added value

» *Measuring, changing and improving care*

HRHC participates in an innovative pay-for-performance program sponsored by Hudson Health Plan. Hudson's Supporting Excellence program differs from the pay-for-performance programs of other health plans because most Hudson bonuses are patient-centered, paying on a "piece rate"—per patient—and not solely based on a practice's hitting overall benchmarks. The insurer also shares claims data to help providers identify patients who may need intervention. Diabetes performance measures remain a smaller part of the incentive program, rewarding providers based on their ranking using New York State's QARR measures—similar to HEDIS measures—across five activities and five outcomes.

Early involvement in health and quality improvement projects prepared HRHC by setting a framework for continuous quality improvement. Brieger develops organizational strategic aims and measures, and each site can see how it measures up on a monthly basis. For instance, HbA1c measures are reported to each practice site by individual provider, so everyone can compare how they are performing against others in the practice.

"Our providers understand performance improvement, that you need to measure something, change it and then measure it again," she said. HRHC invests in ongoing, structured staff training in clinical as well as interpersonal skills so every worker, at every level, is a partner in improving patient care. "Giving people the competency and skills to do things right is a priority," Kaye said. "We are truly patient-centered, and try to be responsive to the needs of our patients. I work for my patients. They are the boss."

Pine Medical Group PC

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Recognition/programs:

- NCQA-recognized Level 3 Medical Home
- Priority Health pay for performance
- Blue Cross Blue Shield (physician group incentive program managed by Medical Advantage Group)

Practice overview

Pine Medical Group (PMG) is a multi-specialty group medical home that launched its diabetes education program in 2009, when PMG brought in a diabetes educator from the local hospital to see its patients. The initiative increased the hospital's education program by 200 percent. Of the PMG patients participating in the effort, HbA1c levels dropped by one percentage point over the course of a year. It has achieved Level 3 PPC-PCMH from the NCQA.

The practice has 1,504 diabetes patients; of those, there are 264 active patients at highest risk (not managed by diabetic endocrinology or dialysis).

The practice includes 19 physicians, two nurse practitioners, four RNs (three of whom are care managers/coaches), 17 medical assistants and a patient advocate. PMG uses a certified diabetes educator from its affiliated hospital. PMG's office is open until the last patient leaves at night, and it also has Saturday hours. The doctors handle their own inpatient work, and they answer their cell phones.

Priority Health and Blue Cross Blue Shield of Michigan sponsor pay-for-performance programs.

PCMH Success Elements: Whole person orientation; quality and safety are hallmarks

» *Targeted diabetes educator*

The practice is proactive in screening asymptomatic patients for type 2 diabetes, conducting blood glucose tests on a regular and routine basis as part of an initial patient visit or annual physical exam. Using the registry, a care manager runs a report, identifying the diabetes population and stratifying the individual patients into one of three "zones" based on HbA1c: red (over 9), yellow (over 8) and green (8 or lower). All diabetes patients are monitored on a monthly basis by the care manager for needed intervention based on HbA1c reports generated. Patients in the red and yellow zones are targeted for care management and additional education, said Bobbie Miller, RN, PMG's care/quality manager.

Once a patient is screened and identified, he or she is invited to participate in the education program. Those in the yellow and red zones are specifically targeted for the three-hour class. The program is run by a diabetes educator from the local hospital, and Pine Medical Group provides the space. The education program is part of the planned appointment. "We physically take patients from their visit with the doctor and walk them to the educator," said Miller.

Miller and her colleagues also work with patients one-on-one within the practice. The educational programs, delivered in a variety of ways, led to drops in HbA1c of one full percentage point from baseline in one year, reported Miller and Marjorie Young, program administrator.

Education is a larger, team effort. The three-hour class is just one program, one part of the picture, said Miller. The educator does a great job, said Young, but notes the RN care managers are more vested and connect with the patient as an individual. She has no official measurements yet, but both outcomes and satisfaction seem to be increasing as patients work with the care manager.

Patients visit with the care manager after their doctor's visit. Often, they haven't processed what the doctor has

told them, or they have questions they forgot—or were afraid—to ask, Miller explained. So she or one of her colleagues reviews the visit, answers the questions and makes sure the patient understands his or her medications. The physician provides the initial medication information, which is reinforced by the care manager.

The care manager never assumes the patient is clear on anything until she or he is able to explain to the care manager what the care manager has explained to the patient (the "teach back" method). This offers an opportunity to informally assess both the patient's understanding of diabetes and the patient's level of literacy. "I have them read something in the context of the two of us going over a topic together," said Miller. If the care manager identifies comprehension problems, she tailors the discussion and the materials accordingly.

Most material is at a fifth grade reading level, but she can customize it, including providing pictorial meal plans. It is an individualized approach. "I work with them until I'm satisfied they understand," Miller said.

PCMH Success Elements: Whole person orientation; quality and safety are hallmarks

» *Accountability and action plans*

Once the questions are answered, the care manager and patient jointly develop an action plan. They discuss the doctor's goal, but the focus here is on the patient.

"If we set it too high, there's no point in doing it," Miller said. So a plan may include something simple, such as 10 minutes of exercise done five days a week.

The plan is in writing; the patient and the practice each get a copy. This makes the patient not only accountable to herself, but to the care manager. "People want to ignore chronic disease," Miller said. "However, once they have a nurse health coach on their team, that changes. I've had people say to me, 'I feel I can be accountable to you, therefore I'm going to lose these five pounds.'"

Patients receive a report card with each visit—all their labs and numbers, and the dates of their last exams. They also receive their list of goals and the date/time of their next appointment. "We follow up by phone as needed and desired," said Miller. This interaction is guided by the patient. "They get to call the shots on this, with a lot of encouragement and help."

She is seeing improvement because of the patients' relationship with the care manager. "It gives adherence a little kick."

PCMH Success Elements: Physician directed, team-based care; enhanced access to care

» *Patient advocate makes connections*

The patient advocate is a woman from the community who works with patients to connect them to resources. She is trained in-house and attends insurance and human resources seminars. Her core role includes helping people get on Medicaid, and /or filling out charity applications for patients to enable them to take advantage of the practice's sliding payment scale—the use of which, as an added bonus, enabled many of the physicians to receive loan repayments, Young noted.

The advocate also helps patients find free or reduced-cost medications, food clinics and inexpensive glucose strips. If the patient's need is something that can be addressed immediately, the care manager handles it at the visit. For more extensive needs, the patient advocate steps in.

In addition, the practice is still realizing results from going through the medical home recognition process. "It forced us to look at our procedures, to make them concrete, make them uniform."

— MARJORIE YOUNG, ADMINISTRATOR, PINE MEDICAL GROUP PC

PCMH Success Elements: Whole person orientation; quality and safety are hallmarks

» *Process improvement and reporting*

Young pointed out that the practice has hit its pay-for-performance benchmarks for Priority Health and it has improved quality across the board—not just in diabetes. "We have doubled what we are going to get this year based on increases in quality," she said.

One reason: "We report very well." One person is dedicated to entering data. "If you report what you are doing, it is amazing how well everyone does," said Young.

In addition, the practice is still realizing results from going through the medical home recognition process. "It forced us to look at our procedures, to make them concrete, make them uniform," Young said. The practice conducts frequent patient surveys. "They have given us a lot of insight into what we need to change, what processes were too cumbersome," Young reported.

PMG has just started measuring outcomes for the diabetes program, and the preliminary results are positive. There is no before and after data on the diabetes effort in particular; the practice was already a medical home, explains Young. It has had excellent results with chronic conditions before and after implementing the diabetes education program. However, Miller and Young reported a tangible improvement in patient satisfaction as well as the aforementioned drop in HbA1c levels. "Patient satisfaction has been a big outcome on this," said Miller.

Presbyterian Medical Group

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Recognition/programs

- NCQA-recognized Level 1 Medical Home for one site; multisite application pending
- Presbyterian Medical Group Quality Incentive Plan, called "PMG QIP"
- Presbyterian Health Plan PCMH Incentive Funding

Practice overview

Presbyterian Medical Group (PMG) is an Albuquerque-based not-for- profit integrated health system that employs 66.5 (full time equivalent) primary care physicians in central New Mexico who care for approximately 14,391 patients with diabetes. The physician directs the extended care team, which includes (as expressed in FTEs) 14.2 nurse practitioners, two physician assistants, 57.9 registered nurses (28.1 clinical support, 9.8 clinic managers, 20 care managers), 36.9 LPNs, three certified diabetic educators, 8.8 pharmacist clinicians, 55.7 medical assistants, 9.2 integrated behaviorists, 70.6 clerical workers and a promotora.

Pre-visit planning for all patients is done by the primary nurse or medical assistant. That team member expands the Epic electronic health record schedule to review the reason for visit, prints the physician's appointment schedule and prints the disease registry visit planner for all patients with diabetes. Based on the reason for the visit, he or she ensures all necessary test results and/or consultation reports are on the medical record, flagged and ready for the visit. The team member reviews the visit planner and leaves provider preparations in the chart for diabetes management needs. Finally, he or she huddles with the physician each morning to review the schedule and patient preparation recommendations.

Pay-for-performance incentives include a medical group-funded quality incentive plan and an insurance company-sponsored PCMH quality incentive plan. PMG has achieved NCQA Level 1 recognition for one site. A multi-site application is pending, and PMG expects to achieve Level 3.

Because of the high incidence of diabetes in PMG's patient population, the disease was a key focus of its PCMH efforts. Through the use of an expanded care team, nurse care managers, a disease registry, pre-visit planning, alternative venues of care including group visits and telephone appointments, and provider payment incentives, PMG has been able to improve HbA1c, blood pressure and LDL cholesterol control in its diabetic population.

PCMH Success Elements: Physician directed, team-based care; quality and safety are hallmarks

» *Population management—minding the gaps*

Each month, the RN care managers run a report on the diabetes patients in their provider's panel and proactively reach out to those who are overdue for labs or need follow-up. For example, the care manager would schedule any of the following if needed:

- **Provider appointment:** Patient requires a face-to-face visit for diabetes follow-up and has not been seen in three months. Labs can also be ordered and the patient contacted over the phone without an appointment if appropriate.
- **Telephone appointment:** Patient requires follow up for recent treatment changes.
- **Behaviorist:** Patient needs additional psycho-social support for behavior modification or psychiatric comorbidity.
- **Group visits:** Diabetes uncontrolled, needs diabetes education, change in therapy or might benefit from group interaction.

- **Ophthalmologist referral:** Last retinal eye exam longer than 12 months.
- **Podiatry referral:** Foot exam indicates need for additional treatment/intervention.
- **Nutritionist/dietician appointment:** Diabetes uncontrolled, patient's need for additional nutrition education identified.
- **Case management:** Patient needs community services.

"We have protocols established for diabetes patients," which through the help of pre-visit planning are followed even if the patients with diabetes present for a different concern, said Darcie Robran-Marquez, MD, M.B.A., PMG's medical director for primary care. For instance, if a patient comes in for a sore throat he or she receives the diabetic care or interventions needed as well.

New Mexico is one of the few states that licenses pharmacist clinicians—pharmacists who receive additional training in certain disease states and have prescriptive authority. They are particularly helpful in managing diabetes and cardiovascular disease."

—DARCIE ROBRAN-MARQUEZ, MD, M.B.A., MEDICAL DIRECTOR PRIMARY CARE, PRESBYTERIAN MEDICAL GROUP

PCMH Success Elements: Whole person orientation, enhanced access to care

» *Promotoras help address barriers to care*

PMG's PCMH pilot practice uses promotoras, or lay community health care workers who promote better health habits in their communities. The promotoras go through a certification process much like medical assistants, she explained. They serve as liaisons between the community and the clinical team. Promotoras are available for education services and home visits, and they can help connect patients to community resources.

Many of the PCMH pilot practice patients speak Spanish as a primary language; the promotoras do as well, so they can speak to those patients in their own language, in their own homes, asking whether they were able to get their medications, if they have questions about diabetes and, if needed, help coordinate access to community resources.

The ability to identify barriers to care is particularly important in this population, she noted. "Patients are not adherent—not because they don't *want* to be, but because they can't afford to be." The patient population has a high poverty rate, and many are uninsured.

PCMH Success Elements: Whole person orientation, quality and safety are hallmarks

» *Group visits drive engagement and self-management*

Group visits were piloted at one of 10 PMG clinics starting July 2009, and this mode of care is currently being spread to all primary care sites. Patients with uncontrolled diabetes, those who need additional education or other assistance and those who would benefit from group interaction are referred to the group sessions.

The physician is part of the group, but does not stay the entire length of the visit, which is approximately two hours. Other team members involved in the visit include the certified diabetes educator, behaviorist and nutritionist. Caregivers, especially those who prepare meals or give insulin shots, are encouraged to participate.

Mutual support is a strong component, Robran-Marquez said. When asked "what did you like best about the group visit" on post-visit surveys, the overwhelming response often includes the knowledge shared by other members of the group. One patient commented, "Just having these classes helps me understand what I am going through, and not alone—others too!"

The mutual support has resulted in increased medication, diet and exercise adherence for many patients. "It's a completely different kind of care than you would just get sitting in front of your provider. We have a lot of these

stories about how these support groups made a difference in patient care," she said.

The data reflect that, Robran-Marquez reported. Patient satisfaction, patients' perception of their ability to manage their disease and achieve their diabetic goals, and quality outcomes have increased for those participating in group visits.

PCMH Success Elements: Care is coordinated and/or integrated; quality and safety are hallmarks

» *Integration drives coordination*

Care coordination is easier for PMG than for many other practices because PMG is part of an integrated delivery system that includes a health plan, hospital delivery system and medical group composed of both primary care and specialists.

For health plan members, case management is done in coordination with both medical group and health plan clinical staff. Referrals are made through the medical group to the health plan, or high utilizers can be identified by the health plan.

"As members of a large integrated system, we also work with endocrinologists in the medical group for patients that need this level of care," Robran-Marquez said. Behaviorists are part of each primary care clinic. They help relieve some of the psychiatrists' patient load, but they also serve as extensions of the primary care physician. Additionally, New Mexico is one of the few states that licenses pharmacist clinicians—pharmacists who receive additional training in certain disease states and have prescriptive authority. They are particularly helpful in managing diabetes and cardiovascular disease, she said.

"Using PCMH principles of a physician-led care team and alternative venues of care, PMG providers have been able to improve the quality of care for their diabetic patients using care coordination," she said.

QuadMed

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Recognition/programs

- Value-Based Employee Benefit Program, Well You! for Diabetes

Practice Overview

QuadMed is an employer-owned on-site primary care clinic that provides care for employees of client companies in 11 clinic locations. Since 2007, its Well You! For Diabetes program has offered zero-dollar co-pays for diabetic medications and supplies to patients who opt into the value-based benefit program and meet specified criteria. Some 350 of 550 patients with diabetes identified on QuadMed's patient panel currently participate in the program. The practice offers a full range of primary care services to all employees and spouses enrolled by its employer sponsors. The population is served by 30 physicians, five nurse practitioners, 10 physician assistants, six RNs, 13 LPNs, 15 medical assistants, two certified diabetes educators and four nutritionists. All employees enrolled in the diabetes program are also required to participate in the on-site Lean You! wellness program, which emphasizes healthy diet and exercise. Those enrolled save an average of $540 per year in out-of-pocket costs.

QuadMed was launched in 1990 by QuadGraphics and initially served only the company's employees and their spouses, bringing primary care services to employees where they worked in an effort to improve quality and eliminate excess costs. Over the years, other employers have also contracted to use QuadMed Services and embraced QuadMed's high-touch approach and emphasis on whole-patient care. As an employer-owned clinic, QuadMed has not sought NCQA PPC-PCMH recognition status. However, it does operate as a medical home for employees and their spouses and demonstrates key aspects of medical home-ness, including an empowered model of primary care with a whole-person orientation and strong population health management activities.

PCMH Success Element: Physician directed, team-based care

» *Balance program benefits with accountability*

The approach QuadMed takes to the diabetes program is to balance the benefits to the employee—elimination of out-of-pocket expense—with accountability.

"They have to have four 'touches' a year with our certified diabetes educator, and two of those are in-person (for local employees). She forms an interpersonal relationship with the patients," said Raymond J. Zastrow, MD, QuadMed's chief medical officer. Participants are also required to see their primary care physician (whether it is a QuadMed physician or a community physician) or an endocrinologist each year. Patients must also:

- Fill prescriptions and take medications regularly
- Have four HbA1cs performed annually
- Maintain an HbA1c level less than 7.0 after the sixth month of participation
- Have an LDL cholesterol check performed annually (with an LDL level less than 100 after the second measured LDL)
- Achieve a systolic blood pressure lower than 130 and a diastolic blood pressure lower than 80
- Have a urine microalbumin performed annually
- Have a dilated eye exam performed annually
- Have a diabetic foot exam performed annually
- Have a dental exam performed annually
- Exercise 30 minutes three times a week
- Stop smoking
- Reduce weight to below 27 body mass index or lose 10 percent body weight in the first year's participation and every year thereafter until 27 BMI has been reached

(insulin-dependent diabetes mellitus or Type 1 is excluded from this requirement)

Diane Collelo, RN-CDE and the diabetes program manager, is a diabetic herself. "People really bond to her," Zastrow said. Collelo travels to the QuadMed locations to spend time with enrollees in the program and do face-to-face counseling. Other team members in the program offer dietary counseling, and on-site fitness centers are also part of the employer-driven model. "We do it all ourselves," Zastrow said.

PCMH Success Element: Whole person orientation

» *Unhurried visits, change for the better*

Well You! is a natural outgrowth of the holistic approach to the overall wellness program. Lean You! offers employees a significant discount off their health insurance premium for following specified wellness steps, such as an annual physical that includes diabetes screening. An employee and spouse can earn up to $400 per year in savings for participating in the program, which emphasizes primary care (they can see their own physicians or the QuadMed clinicians). "At a minimum, we are screening for diabetes, hypertension, hyperlipdemia, and counseling for diet and exercise, plus other screenings that are required for age, gender or family history," Zastrow said.

"We strive for unhurried visits," he added. "Regardless of whether it's diabetes or an acute problem, we strive for 30-minute visits and that's at the heart of the change to whole-person orientation. And it's change for the better."

PCMH Success Element: Quality and safety are hallmarks

» *Mine data, isolate gaps, address them*

QuadMed uses a single prevention form within its electronic medical record to track prevention activity. "It's designed to be a memory jog for the physicians and mid-level clinicians who do these exams, and then credit is given to the individual patient," he said. QuadMed also uses a proactive inter-visit workflow mechanism to call out care gaps for its diabetes enrollees. "Without the zero-dollar co-pay, this would be impossible," Zastrow said. "To really provide patient-centered care for these patients, we have to mine the data between visits, isolate the gaps and address them."

Finding those gaps and coordinating care is accomplished by Collelo and a staff RN who use the patient registry and EHR tools to address program adherence. For example, if patients get behind on HbA1c testing, they appear at the top of the search screen for that criterion. The quality team writes a secure message or makes a phone call to patients to remind them to get the tests.

"In the aggregate, if someone has fallen behind on their blood work or physical exams, and it's documented, then we can add these issues and come up with a score," Zastrow said. "We are working on coming up with a rules-based score, our 'diabetometer.' If too many care gaps exist and the patient starts to slide, Diane can lift the (free diabetes supplies and medications) benefit. She has only done that about a dozen times for people, and most of them come back within the end of six months, express remorse and ask to work with us again."

PCMH Success Element: Enhanced Access to Care

» *On-site care that emphasizes whole-patient health*

QuadMed's on-site location and the employer-driven philosophy to pay now for primary care in order to reduce costs in the long run underscore the Well You! program's value proposition. Managers allow employees to visit the clinic during work hours; since QuadMed has been in place for more than 20 years, it has become part of the

> "We are working on coming up with a rules-based score, our 'diabetometer.' "
>
> —RAYMOND J. ZASTROW, MD, CHIEF MEDICAL OFFICER

company culture. QuadMed practices open-access scheduling, bringing a comprehensive viewpoint to every visit. "That allows us to really take care of the patient's health," Zastrow said. "We find that when people have superior care during the work week, our providers get very few nighttime or weekend calls."

Taking the time to "touch" each patient multiple times over the course of the year is an investment that is worth the effort, he said. "You have to carve out time for a program like this. You have to develop a conscious design around workflows—inter-visit workflow as well as visit workflow—and care gap mining," he said. "And you need to have the EHR and a disease registry. You can't operate this kind of program, with the adherence requirements, using file cards in a manila folder."

Southeast Texas Medical Associates (SETMA) LLC

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Recognition/Programs:

- Joslin Diabetes Center Affiliate
- NCQA Diabetes Recognition Program
- NCQA-recognized Level 3 Medical Home
- Accreditation Association for Ambulatory Health Care Medical Home recognition

Practice Overview

Southeast Texas Medical Associates (SETMA) is a multi-specialty medical practice with four clinical locations in Beaumont, Texas. Its diabetes management program, in place since 2000, serves 7,232 patients. It is directed by 24 physicians and 14 nurse practitioners, and supported by 13 RNs, 26 LPNs, seven medical assistants, a certified diabetes educator, two nutritionists and two physical therapists.

The progress towards excellence in diabetes care began with adoption of a custom diabetes disease management tool in 2000. In 2004, the practice received recognition by the American Diabetes Association as a certified diabetes self-management educator. SETMA extended its diabetes expertise with the addition of a practice endocrinologist in 2006. In 2009, the adoption of COGNOS Business Intelligence data mining software allowed SETMA to audit populations of patients, and to understand and compare the processes and outcomes of care delivered to all of its patients, tracking data by ethnicity, gender, socioeconomic standing and other categories. This dedication to quality measurement and improvement earned SETMA an affiliation with the Joslin Diabetes Center, the renowned research and clinical care organization affiliated with Harvard Medical School, in 2010.

PCMH Success Element: Quality and safety are hallmarks

Anticipating the complexity of 21st century health care, SETMA adopted a system-wide health information technology system in 1998 with an eye toward supporting quality improvement efforts in a cost-effective manner. When asked to identify his practice's top success elements, SETMA CEO James L. Holly, MD, referenced the value of the customized disease management tool and electronic medical record that actively support SETMA's quality improvement program.

> SETMA's "Seven Stations for Success" is a formalization of the idea that a patient is "in charge of his or her own health care 8,760 hours a year."
>
> —JAMES L. HOLLY, MD, CEO, SOUTHEAST TEXAS MEDICAL ASSOCIATES (SETMA) LLC

"After three months of using the EMR, we realized that it is too expensive and too hard to use, if all we get from it is the ability to document a patient encounter," Holly said. "We wanted to bring to bear upon every patient evaluation what is known about a condition in order to improve quality outcomes." By building customized disease management tools that tap into clinical data, SETMA improved patient HbA1c results. Improvement for HbA1cs across the practice was .36 percent in the first year, and SETMA has seen consistent improvement year over year for more than a decade. From 2000 to 2010, the mean HbA1c was reduced from 7.8 percent to 6.54 percent. The standard deviation for all patients with HbA1c went from 1.98 to 1.2. SETMA's goal is a standard deviation of 0.8.

SETMA's Model of Care begins with tracking of provider performance in real time on more than 200 quality metrics on every patient seen every day. Then SETMA audits each provider's performance on all patients seen each day. Third, SETMA analyzes the audit data through COGNOS BI tools to look for leverage points to improve population care. The fourth step is the public reporting of provider performance by provider name. From these four steps, SETMA designs quality improvement initiatives.

Perhaps the most unique aspect of SETMA's Model of Care is its transparency. SETMA gives all patients the results of their quality-metric audit at the end of each visit. In January 2010, SETMA began publicly reporting more than 200 quality metrics (including those related to diabetes care) by individual provider name. The numbers are updated on the SETMA website on a quarterly basis, but providers can see their individual data every day in the COGNOS system and compare it to their colleagues.

"Every doctor in America believes they are doing a good job, but typically the data is not as good as they think," Holly said. "It's amazing how clinical inertia in SETMA has changed because of public accountability. We believe that the piece missing in quality metrics analysis is public reporting. Across the country, there are eight different diabetes quality metric sets, and we track all of them because they are all different. There is not a bad element in any of them, but we are encouraging that the different organizations harmonize their metrics with the metrics of others. Until you are tracking performance at the point of care, and until you give providers the ability to see how they perform, and until you publicly report that performance, it's not enough."

The quality tracking, auditing, analysis and reporting are ultimately aimed at improvement in care. SETMA's current goal is to successfully treat all patients with diabetes to goal and to sustain its having achieved the elimination of ethnic disparities in diabetes care. This year SETMA has an aggressive plan for intervening in the care of Caucasians and African-Americans in the practice who are not controlled.

PCMH Success Elements: Care Coordination; Patient Engagement in Decision-Making; Feedback and Quality Improvement Activities

Because diabetes education is a crucial element to better health, SETMA equips patients with tools for successful self-management. SETMA's "Seven Stations for Success" is a formalization of the idea that a patient is "in charge of his or her own health care 8,760 hours a year," Holly said. The stations emphasize the medical home principles of partnering in care and in comprehensive and coordinated care.

The Seven Stations are posted in the hallway of SETMA's diabetes clinic. Then each station is posted in numerical order corresponding to how a patient typically moves through a routine diabetes visit. The first station addresses self-monitoring of blood glucose where the patient downloads their glucose monitor log. This station prompts patients to ask the diabetes educator to help create a plan for finding patterns in blood glucose readings. The second station is where the patient's point-of-service HbA1c is measured and the patient is reminded of the benefits of keeping the HbA1c reading below 7.

Station three reminds the patient of his or her responsibility to lose weight, exercise and stop smoking. SETMA provides a calculation of the patient's basal metabolism rate, body mass index and disease risk of their current weight at each appointment. A personalized exercise program is presented, along with an assessment of their use of or exposure to tobacco smoke. Station four points the patient to medical nutrition therapy and diabetes self-management education. Station five reminds patients that they work in partnership with their physician to set goals, determine risks for complications and plan for preventing complications.

Station six focuses on coordinating referrals for other elements of diabetes care—from scheduling visits for diabetes education, dilated eye exams, nephrology care and physical therapy to coordinating needed resources. A practice director of care coordination and nurse care coordinators are tasked solely with keeping in touch with patients to ensure all care needs are met. "If they find

patients who can't afford medications, then we pay for it," Holly said. The SETMA Foundation, formed in 2007, is a separate non-profit organization, partially funded by the practice partners but also accepting contributions from outside entities, that pays for unmet patient needs. "We are seeing transformative change with that," Holly said. In 2009 and 2010, the partners gave a total of $1,000,000 to the Foundation.

Station seven's message is posted to the back of the door, and is the final visual reminder for patients leaving the practice. It is entitled, "You are Home: SETMA is YOUR Medical Home," and advises patients that they can communicate with their primary care provider during a visit, with a phone call, by email or letter. It also reminds the patient not to leave the clinic until they are confident that they are prepared to manage their care until their next visit or contact with their health care team.

The baton represents the patient's plan of care and the treatment plan, or the instrument through which responsibility for care is transferred to the patient.

"That's part of passing the baton to the patient," Holly said, referring to another visual he uses with patients, the hand-to-hand passing of a runner's relay baton. The baton represents the patient's plan of care and the treatment plan, or the instrument through which responsibility for care is transferred to the patient.

The Seven Stations for Success draw heavily from the learnings SETMA has taken from its Joslin Diabetes Center affiliation. The idea for patient education going forward is to change patient behavior by demonstrating clearly that a small change on the patient's part can make a big difference in his or her health.

"We know what our patients' risks are, and so if we change the elements of those risk calculations, how will that change their result? We are now able to tell patients what their current status is, and can show them how to improve their health by changing each of the elements—the percentage of risk change if they just stop smoking, or just improve blood pressure. Then we put it into the treatment plan," he said. "It's the baton we use for passing responsibility back to the patient. If we're not engaging, empowering, enabling them to care for themselves with that knowledge—that baton—then they're going to lose the race."

Thomas Jefferson University

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Recognition/programs:

- NCQA-recognized Level 3 Medical Home
- Pennsylvania Chronic Care Initiative—Southeast Pennsylvania (multi-payer PCMH initiative)

Practice Overview

The Department of Family and Community Medicine at Thomas Jefferson University (DFCM) is a large academic family medicine group practice, integrating residency and faculty practice. The practice serves some 1,750 patients who meet the state's criteria for diabetes chronic care services, and some 250 are enrolled in the practice's patient self-education program. The program is staffed by 30 physicians, 27 medical residents and six fellows, as well as four ambulatory care nurse practitioners, two inpatient palliative care nurse practitioners, six RNs, 23 non-certified medical assistants, a certified diabetes educator, a nutritionist and an embedded pharmacist.

DFCM is one of 32 physician practices to become part of the Pennsylvania Chronic Care Initiative, a three-year medical home pilot initiated by Governor Ed Rendell in 2008 that calls for implementing the chronic care model in all primary care practices across the state. The Southeast Region model offers providers incentives for reaching NCQA Medical Home recognition status (the amount differs for each level); insurers who are part of the effort pay a per-member, per-month payment as well.

PCMH Success Element: Quality and safety are hallmarks

» *Making health IT, clinical support tools work for quality improvement*

Implementation of an Allscripts electronic medical record system overlapped with DFCM's transformation to a medical home. The enterprise-wide system is web-based and allows every discipline within the large academic practice the ability to see charts, notes and medical lists in real time. However, availability of information was in and of itself not a silver bullet for improving quality.

"When we first started, the analytics for quality reporting were terrible," said Richard Wender, MD, chairman of the Department of Family and Community Medicine at Thomas Jefferson University. "It was very difficult to get actionable, patient-specific data to help manage patients." DFCM hired an individual to re-work the system for patient reporting, and as a result the information has become useful for driving improvement.

"Every month we have reports showing very robust process and outcomes measures, for every diabetic in the practice, and to help us make sure each one is assigned to a single primary care doctor," Wender said. "In addition to this rolled-up data, every doctor gets a list of every diabetic patient they are assigned, with every piece of data on it relative to their care measures. Last night I was updating my list, seeing every care gap and making calls for my patients." To further identify care gaps, DFCM pays residents to work the lists and do patient outreach to not only improve performance on diabetes care measures, but also for cancer screening and vaccinations to fill out the total chronic care picture.

DFCM hired a quality improvement nurse and masters-degree trained professional to use the data to improve population health management and help the practice meet quality metrics. "That is how we are reinvesting the dollars from the state of Pennsylvania that we have earned through the chronic care management program—in quality improvement," Wender said.

PCMH Success Element: Physician directed, team-based care

» *Group visits re-designed to DISH*

DFCM initiated the group visit concept for diabetes education in 2005, but with only limited success. The once-monthly meetings combined individual face-to-face sessions with a physician with a group education format. While some physicians in the practice actively referred patients to the program, it had only limited appeal to patients and physicians.

But the potential was there to improve. With financial support from a Health Research and Services Administration residency training grant, the practice re-designed the group visit in 2008 and created the Diabetes Information and Support for Your Health (DISH) program. The DISH interprofessional team includes a certified diabetes educator, medical assistants, residents, attending physicians, medical students, an occupational therapist, the quality improvement coordinator and a pharmacist. DISH meetings are held each Friday of the month, rotating through four standard topic areas. The regular schedule is one that patients and providers can easily remember. The team holds pre- and post-group visit meetings, and weekly tallies of what was accomplished are circulated practice-wide. Each patient works with team members to create an individual action plan. Education material is structured to align with the American Association of Diabetes Educators 7 Self-Care Behaviors curriculum.

"We were relying on physician recommendations before, but now we've used our quality outreach to identify patients who should come to DISH, and we're calling and writing them to invite them," Wender said. "We have some patients who come every week, and now we are training them as peer counselors."

Although DISH reaches many of the most culturally and financially at-risk patients in the practice, an evaluation of program outcomes has revealed a decline in HbA1c values of 76.9% among this group compared to 54.3% among non-DISH patients with diabetes, as well as greater improvements in LDL levels and reductions in high blood pressure.

"I have one patient that I've been seeing for years, and he had never committed to exercise. He went to a couple of DISH sessions and changed his diet, started to exercise, and got his HbA1c down to 6.1. It just shows that to do this work well requires a team, a lot of energy and a lot of time," Wender said.

PCMH Success Element: Whole person orientation, enhanced access to care

» *Services available when and where patients need them*

Many of DFCM's patients come from low income neighborhoods in Philadelphia. To enhance access, the practice was an early adopter of open-access scheduling. But it was difficult to align the concept with the medical home principle of linking patients with a single primary care physician to manage care, because residents and attending physicians are only available certain days of the week. Now the practice schedules residents with regular days in and out of the practice as an effort to ensure patients can develop a trusting relationship with a single provider. DFCM also implemented Care Now, a critical access program designed to keep patients out of the emergency room by offering walk-in care. It is staffed daily with clinicians who rotate through the service (including the department chair). "It's probably the best thing we've done for access, because we're open three nights a week, a fourth night once a month, and Saturdays," Wender said. Care Now emphasizes whole-person care, assessing prevention and screening needs in addition to acute care. "And we take orphans this way," he added. "If a new patient comes in through Care Now, the provider is expected to become that patient's regular provider."

To further identify care gaps, DFCM pays residents to work the lists and do patient outreach.

A behavioral health program recently embedded into the practice has turned into a valuable access-enhancing

partnership. Delaware Valley Professional Services, a behavioral health provider, has rented space within the DFCM facility, with an understanding that they see every patient referred to them from the DFCM practice—no matter what the insurance coverage—for at least an initial visit and appropriate referral to the patient's covered carrier.

"What makes this partnership so wonderful is that behavioral health services in Philadelphia are desperately fragmented," Wender said. "Almost every insurer in the state has a different network of behavioral health professionals they use." Prior to the partnership, Wender said clinicians found it difficult to consistently make patient referrals to covered behavioral health providers.

"This partnership has allowed us to send a lot more patients for behavioral health care, and it has eliminated the stigma because patients can come to our offices for care," he said. Delaware Valley Professional Services coordinates care with DFCM's department of psychiatry and routinely conducts depression screenings. "This is a great service to our patients. We think that behavioral health should be included in the medical home, and can be a big part of its success."

Creating a true medical home practice is a journey, Wender emphasized.

"That is true for any organization," he said. "You have to keep your eye on what you're trying to achieve, and keep going. Don't get discouraged. It's hard work."

TriHealth-Queen City Physicians

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Recognition/Programs

- NCQA-recognized Level 3 Medical Home
- NCQA Diabetes Recognition Program
- Bridges to Excellence Diabetes Care Link
- Cincinnati Aligning Forces for Quality (Cincinnati AF4Q)

Practice Overview

Queen City Physicians (QCP) is a primary care practice operating at four pediatric locations and four adult medicine offices located in the Cincinnati area. Its diabetes program was initiated in 2008. There are approximately 3,500 adult diabetes patients in the practice, and nearly 2,000 AF4Q (Aligning Forces for Quality) defined diabetes patients for public reporting. The adult medicine team managing diabetes includes 16 physicians, three nurse practitioners, four licensed practical nurses/super LPNs and 36 medical assistants, as well as a registered dietician and an advanced diabetic educator who is a pharmacist (PharmD).

QCP is part of Cincinnati's AF4Q, a project supported by the Robert Wood Johnson Foundation that brings together health care stakeholders to spur significant and measurable improvement in the status of the population through collaborative leadership. The initiative identified diabetes as its initial condition of focus.

PCMH Success Element: Quality and safety are hallmarks

» *Data warehouse for screening and tracking*

The practice is affiliated with Tri-Health, an integrated network of hospitals, physician practices and other providers serving greater Cincinnati. QCP's electronic medical record feeds a clinical data warehouse developed by TriHealth, which the practice uses to track diabetic patients. The clinical data is extracted using either a billing code (from the practice management platform) or from lab tests to identify diabetic patients that come from the electronic medical record. The data warehouse produces a daily snapshot of patients by category of adherence to diabetes quality indicators. Super LPNs use the data to monitor and coordinate care, and to identify and stratify diabetic patients.

"At the core, physicians have to know which patients are not reaching their goals, because you can't make progress one patient at a time if you don't know who you're missing," said Pamela Coyle-Toerner, M.H.H.A., chief executive officer and administrator, QCP. "Our clinical data warehouse has been that list for us. It keeps everybody focused."

> The clinical data warehouse measures the progress of diabetic patients in multiple measures.

The clinical data warehouse measures the progress of diabetic patients in multiple measures. "I know whether the patient's HbA1c is to goal," she said. "I can see all the patients in the practice who have an HbA1c greater than 9. And if they haven't been in to the office within a certain timeline, they are going to fall into that list we treat aggressively from a management perspective."

PCMH Success Elements: Enhanced access to care; physician directed, team-based care

» *Services "ride the circuit"*

Because QCP operates in multiple locations, key diabetes services and equipment "ride the circuit," Coyle-Toerner said. For example, the practice owns a retinal scanner, which it moves systematically through

each of the four adult practice sites. This eases scheduling of the annual screening; QCP's staff knows when the equipment will be at their own practice site, and schedule accordingly.

Intensive education with a pharmacist is another service that "rides the circuit." Since late 2009 QCP has contracted with a pharmacist to work with patients that have high HbA1c results in an effort to reduce those levels. The pharmacist travels to visit patients in their physician offices and has handled more than 400 referrals to date. Improvements have been measureable: Average HbA1cs among those patients have dropped by 1.71 points, and there has also been a significant increase in "good" cholesterol values.

> We've never blinded our information that we share within the practice, so the physicians know where their numbers are in relation to everyone else. And no one wants to be at the bottom of the list.
>
> —PAMELA COYLE-TOERNER, M.H.H.A., CEO AND ADMINISTRATOR TRIHEALTH-QUEEN CITY PHYSICIANS

"That's where we've made some great inroads, and where our work is strongest," Coyle-Toerner said. "It's been a very well received program, with everyone keeping an eye on the ball to make referrals."

A registered dietician also makes the circuit. QCP tracks the number of referrals made by each physician, injecting a competitive element to see who is identifying eligible patients and getting them the services they need.

"The QCP family is that team of people that we try to move from site to site, as needed," Coyle-Toerner said. "The pharmacist has a schedule that is fluid enough to go to the patients, rather than make the patients come to her. Their home is where they see their primary care physician, so we try to go where the patients need us."

PCMH Success Element: Care is coordinated and/or integrated

» *A cadre of "Super MAs"*

In 2008, QCP began using "Super MAs"—additionally trained medical assistants—and Super LPNs who work with physicians to enhance care coordination and quality improvement efforts. The practice recently added a new coordinator who will standardize training and add more structure to the program.

The Super MAs and LPNs review the daily clinical data snapshot to identify patients who are not meeting diabetes care targets. They make follow-up phone calls to patients, work to streamline referrals to the pharmacist or dietician and ensure preventive testing occurs.

To enhance access to care, the practice keeps a master list of community resources for Super MAs and LPNs to coordinate patient needs. It is updated regularly. "It's an effort to make sure everyone is aware of changes that have occurred," Coyle-Toerner said. "Everybody has to get on board. The Super MAs and LPNs keep up with the changes so they can offer transportation to appointments and other services."

PCMH Success Element: Payment appropriately recognizes the added value

» *Measurement, reporting and pay-for-performance*

QCP has used an electronic health record for a decade, and can leverage health data for measurement and reporting. The practice is one of three selected nationally by Humana to be part of a patient centered medical home pilot, which collects and evaluates clinical cost, efficiency, patient experience, provider experience and patient-centeredness measures. The pay-for-performance program has earned incentives for QCP because the system saw overall savings over the past two years. QCP is also involved in the Cincinnati AF4Q initiative, which brings in Humana, Anthem, United HealthCare and select area employers as payers that reward the practice on

a per-patient, per-month basis for participating in a patient centered medical home pilot.

These initiatives, as well as funding the practice earned from a grant from the Bethesda Foundation for meeting NCQA PPC-PCMH Level 3 status, were important elements for making the diabetic program self-sustaining. "The Super MAs and LPNs were additional staffing. Moving in this direction is what we are all trying to do in primary care—the medical home is one of the last hopes we have to keep internists and family medicine physicians on the front lines in adult care, and keep them happy," Coyle-Toerner said. "One way to help is revenue enhancement, another way is to make their lives and practice easier by taking some of the administrative burden from them and getting more resources involved."

Coyle-Toerner said that a key success factor is the willingness of QCP physicians to be transparent in reporting, and to look at patient data with an eye toward change. "They have never questioned someone looking over their shoulder and asking 'why.' We've never blinded our information that we share within the practice, so the physicians know where their numbers are in relation to everyone else. And no one wants to be at the bottom of the list. We've always published the numbers, and that has kept everyone's eye on the ball."

Washington Patient-Centered Medical Home Collaborative Chronic Disease Health Improvement Unit

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Recognition/Programs:

- The Washington Patient-Centered Medical Home Collaborative's Chronic Disease Health Improvement Unit

Practice Overview

The Washington Patient-Centered Medical Home Collaborative (WPCMHC) is a statewide initiative that assists 32 enrolled practices with their efforts to improve their patients' chronic disease health. The Collaborative's Chronic Disease Health Improvement Unit came into being as a result of legislation passed in 2008 providing funding of $1.3 million through December 2011 to establish a patient centered medical home in primary care, using the Collaborative's model to improve care of chronic diseases. The funding was never appropriated, but the program was nevertheless launched.

This is an integrated effort with internal chronic disease programs as well as external stakeholders. It is an offshoot of the Healthcare Workgroup of the state's Office of Community Wellness and Prevention, formed to include input from several chronic disease programs (including but not limited to diabetes) to assist in planning, designing and implementing the WPCMHC.

The clinics in the collaborative serve approximately 750,000 patients, many of whom have chronic diseases, including diabetes.

The two-year programs include classes, webinars, workshops, planning sessions and presentations from successful medical homes. Most of the resources used are available online. (http://www.doh.wa.gov/cfh/MH-Coll/LS-1-day1.htm and http://www.doh.wa.gov/cfh/MH-Coll/participants.htm)

The Collaborative reports year-one improvements in patient outcomes and process measures, such as better HbA1c and cholesterol levels, as well as in blood pressure control and nephropathy screening. Smoking assessment and cessation have shown improvements also.

The effort focuses on eight key themes:

- engaged leadership
- quality improvement strategy
- patient-centered interactions
- organized, evidence-based care
- continuous and team-based healing relationships
- enhanced access
- population management
- care coordination

Helping clinics to improve medical home elements resulted in significant improvements in diabetes care, said Patricia Justis, MA, health services consultant, the program's quality improvement projects manager. She attributes it to the focus on patient relationships. "They are really going to the true heart of teamwork, patient-centeredness...and that's paid off dividends."

PCMH Success Element: Physician directed, team-based care; care is coordinated and/or integrated

» *Process: A multitude of approaches, collaborators*

"We came up with a lot of different strategies to address diabetes," said Francisco A. Arias-Reyes, quality improvement coach for the Chronic Disease Health Improve-

ment Unit. Developing partnerships was crucial. Among them: the Washington Academy Family Physicians, which was working with the Improving Performance in Practice program.

Care coordination is a core element of the program. Ed Wagner, the father of the chronic care model, is on their faculty. As with other PCMH elements, the approach varies by practice, but in terms of philosophy, WPCMHC views it as a function rather than a role. Some practices have modified existing job descriptions, some have reconfigured their staffs. But the expectation, Arias-Reyes said, is that someone in each practice will be responsible for care coordination and integration.

The core goals were to improve patient experience, clinical outcomes and provider satisfaction. Arias-Reyes and Justis wanted to measure cost and utilization, but lacked the funding for an external evaluation.

However, the Puget Sound Health Alliance and the Health Care Authority are planning a multi-payer demonstration project that will involve teams at several of the participating practices. It will focus on reimbursement and utilization, Justis said.

PCMH Success Element: Care is coordinated and/or integrated

» *Building teams, identifying champions*

The WPCMHC promotes the team approach and teaches medical practices to use it. The Collaborative is measuring provider-staff satisfaction and doing site visits, where its staff observes how clinics implement this approach, and provides them with feedback.

Practice teams include front desk staff, medical assistants, nurses, social workers, diabetes educators, mental health personnel, pharmacists, dental personnel, care coordinators, etc. Among the 32 practices in the Collaborative, the teams vary in their backgrounds, but the core concepts of care coordination are maintained throughout.

WPCMHC asked each practice to identify a core team of three: a clinical champion, a day-to-day leader and a senior leader (who, in smaller practices, may be the clinical champion).

PCMH Success Element: Whole person orientation

» *Literacy as the linchpin*

The program includes training in health literacy and the connection between health literacy and health outcomes. "We began to see literacy as where the rubber hits the road with patient-centered practices. We needed to focus on health literacy to move the needle," Justis said. The Collaborative received a small grant from the Aetna Foundation and used that to pay a stipend to clinicians who met seven core deliverables, including this one: "Write an organizational policy for patient-centered health literacy that defines an approach to patient education team performance expectations and a standard for patient education materials."

PCMH Success Element: Quality and safety are hallmarks

» *Patient screening and population health*

Different practices have different approaches for identifying and tracking diabetes, but all have registries and all focus on identifying patients with HbA1c greater than 9 and bringing the number down. "We asked clinics to practice and embed their current best practices," said Arias-Reyes. They were expected to embed screening in their work flows and to pay attention to American Diabetes Association guidelines.

Moreover, all practices were encouraged to think about patients as an entire panel, not just individuals coming in. Accordingly, all made changes in their screening activities.

PCMH Success Element: Quality and safety are hallmarks; enhanced access to care

» *On-site coaching and education*

Collaborative participant **Mark Reed Healthcare** is a federally qualified rural health clinic that has tried to secure diabetes education on-site for its patients. The clinic made an agreement with the Bold Diabetes Center in Olympia to have Bold's diabetes educator come on-site to provide one-on-one diabetes education. Another participant, **Edmonds Family Medicine,** has instituted disease self-management classes for patients with chronic conditions, including diabetes. Diabetes measures have shown improvement from baseline. Both practices received the aforementioned literacy stipend.

PCMH Success Element: Quality and safety are hallmarks

» *Maximizing MAs, deploying dedicated care manager*

Collaborative participant **Providence St. Peter Family Medicine** has taught their medical assistants a number of diabetes-related skills, including those related to improving care flow and handling group visits. Providence St. Peter has collected data on its innovations in diabetes care and has reported positive results, said Justis.

Collaborative participant **Central Washington Community Health,** a federally qualified community health center, has a dedicated diabetes care nurse manager who does outreach to patients who are not at target with their diabetes care (due for visits, HbA1c greater than 9, ER visit/hospitalization follow up, case management over the phone, etc.). The nurse manager receives an alert from the registry, follows up with these patients and keeps the health care team informed about any actions needed to help them. It appears to be working: Diabetes measures have demonstrated improvement from baseline, Arias-Reyes reported.

PCMH Success Element: Whole person orientation; quality and safety are hallmarks

» *Group visits marry science and support*

Collaborative participant **Family Medicine Southwest Washington** offers group visits for diabetes patients. The visits are monthly and last three hours. Medical assistants check in patients and obtain vital signs, and each patient gets an individual medical visit. The group then comes together for a lecture on one of a range of topics. The goals are to lower HbA1c, LDL, blood pressure and body mass index; to improve access to care; to provide psychosocial support; and to help patients be more adept at self-management. The practice is currently studying whether they are having better outcomes or changes to morbidity/mortality. (Representatives from the practice presented its program as part of the Collaborative's educational program; the slides are here: http://www.doh.wa.gov/cfh/MH-Coll/publications/common/C5.pdf.)

Weslaco Medical Clinic

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Recognition/programs:

- In process: NCQA Medical Home Recognition
- NCQA Diabetes Recognition Program
- Bridges to Excellence Diabetes Care Link

Practice overview

Weslaco Medical Clinic is a primary care practice with a program that focuses on treatment of diabetes. Approximately 90 percent of its patients are Mexican-American, and the entire staff and all the programs are bilingual. The practice serves 3,299 patients, 2,674 of whom have diabetes. The team includes one physician, two nurse practitioners, three medical assistants, one certified diabetes educator and one nutritionist (on loan).

The diabetes quality improvement program launched in 2009. The program was designed to implement diabetes self-management education (DSME) in primary care using the Chronic Care Model (CCM) and shared medical appointments (SMA) to provide evidence-based interventions. The goal: Improve process and measure outcomes.

The practice is in the process of earning NCQA PPC-PCMH recognition; it participates in two pay-for-performance programs related to its diabetes program: NCQA DRP and Bridges to Excellence Care Link.

PCMH Success Element: Whole person orientation

» *Community connections crucial*

The practice refers patients to pharmacies that have inexpensive generics and to labs where they can have an entire panel completed for $20. The home health nurses also have access to various social services organizations and often help connect patients with resources. According to Weslaco's Iris Sanchez, DNP, FNP, although home health nurses can be a valuable resource, they can also be counterproductive to self-management goals because they often do for the patients rather than teaching them how to do for themselves. Weslaco's goal is to help the patient become independent; the use of home health nurses can work against that.

The practice itself also taps into community resources, including diabetes educators from pharmaceutical companies and training resources from the Texas Medical Foundation.

> "One of the things I have learned is that 'exercise' and 'diet' don't work. I don't use those words anymore."
>
> —IRIS SANCHEZ, DNP, FNP, WESLACO MEDICAL CLINIC

PCMH Success Element: Whole person orientation

» *Redefining nutrition and exercise*

The top challenge to patient adherence is the lack of commitment to physical activity and weight management. Because Sanchez's population is largely Mexican-American, adherence to nutrition is difficult because of the foods traditionally consumed in that community. "One of the things I have learned is that 'exercise' and 'diet' don't work. I don't use those words anymore." She encourages them to increase the length of time they do physical activity. (The practice may eventually write prescriptions for it, she said.)

When she discusses eating habits—in particular portion sizes and food choices—she refers to it as medical nutrition therapy. "It changes the perspective," she said. "We're not always successful, but patients learn." Although she

hasn't seen much change in body mass index, other numbers—including cholesterol and HbA1c levels—are improving. Their diabetes is controlled, and their risk of complications—including foot ulcers—has decreased.

PCMH Success Elements: Quality and safety are hallmarks; enhanced access to care

» *Overcoming language, numeracy barriers*

Many of the patients in the practice lack English language proficiency. "Fortunately, all the providers are bilingual so we scheduled Spanish and English classes," said Sanchez. The diabetes self-management education materials from the Texas Diabetes Council help address the linguistic and cultural challenges. The materials (handouts and videos) are current with standards of care, culturally relevant and available in both English and Spanish.

For patients who have low numeracy skills, Weslaco uses literature with pictures or food models to demonstrate portions. Those who require insulin are taught to count the "clicks" on the pens.

PCMH Success Elements: Physician directed, team-based care; quality and safety are hallmarks; enhanced access to care

» *Shared medical appointments transform care delivery*

The practice incorporates the shared medical appointment (SMA) into the regular visit. These provide diabetes self-management education and also function as a support group.

Ninety-minute group appointments are scheduled and all the participating patients gather for the shared medical appointment. At some point during the 90 minutes, each patient is pulled out and sees the physician or the nurse practitioner for the medical visit. Once the patient's medical component is complete, they return to the diabetes class and another is called in for the medical visit. Patients who opt out of the shared medical appointment receive one-on-one education.

Sanchez learned about the SMA concept while pursuing a doctoral degree in nursing. "I am very passionate about providing DSME but needed to implement a structure and process to improve patient outcomes, and I needed to figure out how to do that in the primary care setting." The SMAs were the answer, and they moved from being a school project to a practice transformation.

One of the challenges has been getting patients comfortable enough to participate. Many, especially the older adults, were uncomfortable with the concept (although once they joined they enjoyed it, she reported). Originally, the SMAs were held in a separate room with the door closed. Later, to generate interest, she started holding the visits in the lobby, while the patients were waiting to be seen by the physician or nurse practitioner. Other patients could listen in and learn—and perhaps be intrigued enough to join. No protected patient information is discussed.

The certified diabetes educator discusses insulin and medications in general, but the physician and nurse practitioners discuss the individualized insulin and medication regimen with each patient during the routine medical encounters. "A qualified and competent diabetes educator is a must. CDEs are in short supply but there are a lot of health care professionals who can conduct DSME if properly educated and trained," Sanchez said.

Providing the 90-minute visit that includes both the individual meeting with the physician and the educational component gives patients "one-stop shop" in a familiar location. The practice has seen significant improvements. Those participating in the SMAs had similar outcomes regarding improvements in HbA1c, self-management skills and satisfaction compared to studies presented in the literature, she reported. Sanchez submitted a paper on her results which will appear this spring in *The Diabetes Educator.*

According to the data, 65 percent of patients maintained a blood pressure below 130/80 between the first and second visit. The estimated percentage of patients maintaining blood pressure below 130/80 between the second

HbA1c Measures	1st measurement	2nd measurement	3rd measurement
Average HbA1c	7.95 percent	7.48 percent	7.51 percent
Patients with repeat HbA1c value	N/A	59 (84 percent)	22 (31 percent)
Patient with HbA1c < 7	22 (31 percent)	24 (41 percent)	7 (32 percent)
Patient with HbA1c < 9	55 (79 percent)	52 (88 percent)	19 (86 percent)
Patients with a decrease in HbA1c	N/A	34 (58 percent)	12 (55 percent)

and third visit was 82 percent, and 76 percent between the first and third visit.

The table above describes HbA1c averages, percentage of patients who had repeat HbA1c measures, percentage of patients with HbA1c below 7 and below 9, and the percentage of patients who had a decrease in HbA1c between measures after the intervention.

The practice electronic medical record has helped with the process, she reported; it "allows us to keep track of screenings done and needed, making the flow of the SMAs a lot smoother than they were in the beginning."

Westminster Medical Clinic

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Recognition/programs:

- NCQA-recognized Level 3 Medical Home
- NCQA Diabetes Recognition Program
- Bridges to Excellence Diabetes Care Link

Practice overview

Westminster Medical Clinic (WMC) is a three-physician primary care practice operating at a single location in suburban Denver. It treats approximately 250 patients with diabetes; its diabetes care/diabetes quality improvement program was launched in 2003, based on the chronic care model. The clinic received NCQA recognition in diabetes in 2006 and 2009. Its staff includes two physician assistants, one registered nurse, five medical assistants, one part-time psychotherapist and a patient centered medical home manager.

The clinical outcomes from the program have been significant. From Jan. 31, 2010 to Jan. 31, 2011, the percentage of active patients whose most recent HbA1c level was over 9 dropped from 27 percent to 14 percent. The practice has earned Level 3 NCQA medical home recognition, and it participates in two pay-for-performance programs: NCQA DRP and Bridges to Excellence Diabetes Care Link.

PCMH Success Element: Quality and safety are hallmarks

» *Home blood pressure monitoring yields results*

WMC adopted the 2008 American Heart Association (AHA) guidelines on home blood pressure monitoring[67] in order to improve the accuracy and reliability of blood pressure measurements. Patients are trained, according to those guidelines, on the proper technique of blood pressure measurement and home monitoring protocol.

Such monitoring is not typically done, despite being part of the AHA guidelines, said WMC's R. Scott Hammond, MD, F.A.A.F.P. "It's shameful that physicians are dropping the ball."

Using a cuff attached to a portable monitor, blood pressure is measured approximately 20 times over a week—at least two readings in the morning and two readings in the evening; the readings are then averaged. The patient can either email it to the practice, or bring the record to the next visit. This gives the team a better understanding of the actual blood pressure level.

"We are aggressive about getting good data," he said. "Our blood pressure control is pretty good. I think we could do better." About 49 percent of his patients with diabetes maintain blood pressure rates under 130/80. In their cardiovascular population, they have 87 percent of patients at goal.

PCMH Success Element: Quality and safety are hallmarks

» *Diabetes University takes gradual, deliberate approach to education*

WMC's Diabetes University is an internal, opt-in diabetes education program directed by a physician assistant. It covers 13 items that follow the American Diabetes Association recommendations for self-management.[68]

[67] Pickering et al. "Call to action on use and reimbursement for home blood pressure monitoring: executive summary: a joint scientific statement from the American Heart Association, American Society Of Hypertension, and Preventive Cardiovascular Nurses Association." Hypertension. 2008 Jul;52(1):1-9. http://hyper.ahajournals.org/cgi/reprint/HYPERTENSIONAHA.107.189011

[68] American Diabetes Association. Standards of Medical Care in Diabetes. Diabetes Care January 2010 vol. 33 no. Supplement 1 S11-S61

Patients move through this program at their own pace and do not proceed until they demonstrate competency in each section.

The philosophy underlying it is that diabetic teaching is generally ineffective over a six-week period. So the practice decided to stretch out diabetic teaching over years after basic information and education have been discussed. Doing it over years makes it more likely to "stick," he said.

The session occurs during a regular visit and is generally managed by the physician assistant. A key component is the "teach back" approach: The patient needs to be able to verbalize the appropriate knowledge in order to move on. It's stepwise, but it's not necessarily linear. The order of topics discussed varies depending on each patient's needs and interests, and the physician assistant uses a flow sheet to ensure all topics are covered.

PCMH Success Elements: Quality and safety are hallmarks, whole person approach

» *Engagement in self-management support*

In 2003, the practice adopted the Wagner Chronic Disease Model. It still uses those self-management engagement tools, even for patients who choose not to participate in Diabetes University.

"If you ask a patient 'what's your goal,' you are likely to get an empty stare," said Hammond. "But if you offer 10 goals and ask which ones the patients want to work on, they will check off some of them. Those are what we work on." The entire visit is directed at behavior change, addressing barriers and depressive issues, he said.

A self-management support checklist allows a provider to follow a protocol (Ask, Advise, Assess, Assist and Arrange). Throughout its practice, WMC has integrated motivational interviewing techniques and uses patient education tools to identify and strategize self-improvement goals, he said.

He rejects the notion of adherence. Patients are very good at doing exactly what they think is important. If they're not adhering to the program, it's because they don't recognize the value of change or they have other barriers, Hammond said. "The challenge in changing anybody's behavior is that ... living healthy in an unhealthy society is nearly impossible unless you take full account of your disease."

Language matters, he said. "We classify it as a terrorist disease." The language of prevention and surveillance fits both terrorism and disease management, and patients understand that. "You cannot care more about the patients' diabetes than they do," he warned. "It's challenging. How do you fight a multibillion dollar economy that makes people sick? Our economy is built on promoting poor health."

> A key component is the "teach back" approach: The patient needs to be able to verbalize the appropriate knowledge in order to move on.
>
> — R. SCOTT HAMMOND, MD, F.A.A.F.P., WESTMINSTER MEDICAL CLINIC

PCMH Success Element: Care is coordinated and/or integrated

» *At home in the medical neighborhood*

The practice has a medical neighborhood compact that outlines mutual responsibility and accountability with its specialists in line with an American College of Physicians' recently published position paper.[69] "We also developed a system to exchange information with our hospital to ensure medical records follow our patients and we receive records after discharge. We call our patients within 48 hours after discharge to reconcile

[69] The Patient Centered Medical Home Neighbor: The Interface of the Patient Centered Medical Home with Specialty/Subspecialty Practices; American College of Physicians 2010 (http://www.acponline.org/advocacy/where_we_stand/policy/pcmh_neighbors.pdf)

"If you ask a patient 'what's your goal,' you are likely to get an empty stare."

— R. SCOTT HAMMOND, MD, F.A.A.F.P., WESTMINSTER MEDICAL CLINIC

meds, create a care plan and schedule follow-up appointments," Hammond explained.

The practice also provides a brochure for the patient, explaining the medical neighborhood and why they are being referred, and the specialists provide expedited access to the practice's patients—no longer than a two-week wait for routine appointments. "They can't be a neighbor unless they do that," he said.

WMC also developed a system to exchange information with its hospital to ensure medical records follow the patients; it receives records after discharge. "It took a couple of months to get the program in place," said Hammond.

PCMH Success Elements: Quality and safety are hallmarks; care is coordinated and/or integrated

» *Patient registry plays role in all aspects of care*

Hammond was adamant. "If you don't have a registry, you are not a PCMH and can't take care of patients." WMC makes extensive use of its registry in all aspects of care.

- **Preparation:** A medical assistant reviews the patient's chart prior to the visit to ensure evidence-based guidelines are met. The medical assistant is prepared to complete necessary tests, immunizations or referrals during the visit using standing orders.
- **Point of care:** Evidence-based diabetes management guidelines are integrated at point-of care. Templates assist providers in providing comprehensive care during the visit. The provider conducts the visit and sends the follow-up plan to the medical assistant to place in a tickler system to recall the patient or perform future tests.
- **Population health:** The registry allows the team to identify outliers. "When we stopped calling people back in, they stopped coming back in. These things actually do work," he said.
- **Metrics:** Quality and performance measures are reviewed monthly through registry queries to provide population management. The registry ensures use of evidence-based guidelines and monitors performance of the practice team and physician.

PCMH Success Elements: Quality and safety are hallmarks; care is coordinated and/or integrated

» *Standardization drives quality*

The standardized approach predates the shift to the medical home; it's part of the practice's interaction with the Chronic Care Model. Standardizing clinical documentation took a long time, he said. But entering data "in the same place in the same format is essential to being able to access that data. We are uncompromising about that." So everyone in the practice uses the same processes and protocols. Each medical assistant can quickly switch from one doctor to another efficiently.

"Everyone at WMC has one thing in their heads: They want it to be the best practice," he said. That's the goal, but put to measureable format, it doesn't always happen. It comes down to unlearning some habits and coping skills that are counterproductive. Any small practice can do it, Hammond said. "We're just like other small practices, and we did it."

» Crozer Keystone FMRP

Respondent:
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Type of Organization:
Hospital-based clinic

Program Title:
Pennsylvania Improving Performance in Practice Chronic Care Initiative (PA IPIP CCI)

Date Started:
May 2008

Brief Description:
PA IPIP CCI grant for three years (through May 2011). Continuing with the CMS APC Grant starting in 2011 for three more years (through 2014)

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; Insurance company-sponsored program; SEPA IBC PCMH Care Management program.

Team Approach:
Primary care physician assigned to manage patients' diabetes care; RN case manager on site assigned to all disease management patients risk-stratified. Health IT system registry alerting all staff to disease management patients. Disease management report cards given during each patient encounter and updated by the clinical staff at every visit. Standing orders/protocols for all aspects of disease management care for clinical staff and RN case manager. All providers receive individual disease management patient data for management/improvement.

Whole Person Care:
Full spectrum management provided—inpatient, outpatient, nursing home and home visit care. Behavioral science faculty on site for immediate access. Clinical pharmacist on site for disease management and medication management. RN case manager responsible for coordinating specialist care and services for disease management patients.

Care Coordination:
Full-time RN case manager coordinates all disease management care for patients.

Who Does Care Coordination:
RN case manager, behavioral science faculty, clinical pharmacist.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; LDL control; smoking status; nephropathy assessment; flu and pneumovax vaccinations; frequency of diabetes self-management education or training; self-management goals; ASA/ACE/ARB/statin medication adherence.

Quality Improvement Efforts:
Each disease management measure is "assigned" to a team in the office and improvement is achieved through Plan-Do-Study-Act cycles. Monthly IPIP data is reported and compared to national and state trends. IPIP coaching is ongoing.

Outcomes:
All process and outcome disease management measures have improved significantly with many measures at goal. Our performance has stood out amongst the other SEPA

practices and the other 180 Pennsylvania practices in the CCI Collaborative.

Patient Engagement:
Regular self-management support goals are set and reviewed with patients. Disease management report cards are given to patients at every visit. Disease Management group visits and nutrition classes are given on a regular basis.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT functions used:
- Patient registry
- Clinical decision support
- Provider performance measurement

Access to Care:
Open scheduling; patient portal.

» Essex Internal Medicine

Respondent:
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Type of Organization:
Physician primary care practice

Program Title:
My Diabetes Program

Date Started:
2004

Brief Description:
Use of registry software to continuously identify and manage patients with diabetes. Goal reinforcement; self management support; use of diabetes nurse educators; use of medical assistants to carry out population management routines.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
In process of NCQA Medical Home recognition

Team Approach:
Primary care physician assigned to manage patients' diabetes care.

Whole Person Care:
We are busy arranging care with other qualified professionals across the care continuum—acute, chronic, and preventive and end-of-life care.

Care Coordination:
We are a small practice with three physicians and care for 400 patients with diabetes. We work together and have daily huddles to address the needs of patients who need the most help.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment, flu vaccination; frequency of diabetes self-management education or training; LDL levels; composite measures (blood pressure, HbA1c and LDL).

Quality Improvement Efforts:
Measure, review results, set goals, create action plan and then repeat the process.

Outcomes:
HbA1c < 7.0 in 78% of patients (year-end 2010). Steady improvement since 2004 in this and other measures.

Patient Engagement:
We talk and we listen.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance reporting
- Personal health record

Access to Care:
Open scheduling; expanded hours; electronic scheduling; personal health record; patient portal; email access to provider; use of community health worker or peers.

» Gateway Medical Associates

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Type of Organization:
Physician primary care practice

Program Title:
Sugar Busters

Date Started:
2010

Brief Description:
We are tracking 10 diabetic quality measures with special emphasis on three measures: goal setting, micro-albumins and foot exams. Our medical assistants (MAs) are very involved in choosing the measures for special emphasis, directing patient education and reviewing monthly reports of our progress. Our primary care group has six locations. We started the improvement with two doctors in each of the two largest practices and are now working to spread the improvement to additional doctors and practice locations. Working with patients to set goals has been surprisingly successful in affecting overall outcomes.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
In process of NCQA Medical Home recognition; insurance company-sponsored program; Independence Blue Cross pay-for-performance

Team Approach:
Primary care physician assigned to manage patients' diabetes care. Every day, the front desk staff runs a report that gives the names of patients with diabetes who have appointments the following day. Front staff then prints a graph for each diabetes patient that shows which items of diabetic care are missing and gives these graphs to the nursing assistants. Nursing assistants complete the items that are in their purview: foot exams, collecting micro-albumins, assisting patients in setting goals, collecting information on eye exams, finding reports of labs done in other locations such as the Veterans Administration, adding immunizations, etc. The nursing assistants add this information to the graph printed by the front staff, so the doctor and patients know what needs to be worked on during that visit. We are now working on the same process for our walk-in patients.

Whole Person Care:
We see our own patients in the nearby hospital and have interfaces with four other hospitals, so we know when our patients are admitted or seen in the emergency room. All emergency room patients are called and scheduled for an appointment within one week. Hospital discharges are scheduled for follow up within 14 days, sooner if needed. We receive discharge summaries the day of discharge, which are reviewed to determine how urgently a visit is needed. One of our physicians goes to three nursing homes. We have close relationships with physicians who work in other nursing homes and regularly communicate with them. Two of our doctors are hospice medical directors and can facilitate inpatient or outpatient hospice care. We have close relationships with specialists and can facilitate appointments quickly when needed. We encourage our specialists to get reports to us quickly, so we know of any medicine changes or other recommendations. Our office has open, same-day appointments as well as walk-in hours six days a week, so that acute problems can be handled promptly.

Care Coordination:
Our EMR generates patient summaries that can be faxed or hand-carried to specialists and hospitals.

Insulin initiation and adjustment:
Diabetes educator in the hospital outpatient building and our medical assistants.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c

control; blood pressure control; smoking status; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training; LDL under 100; setting a self-management goal.

Quality Improvement Efforts:
Set goals for the three measure of focus and have a large poster that shows monthly improvement.

Outcomes:
Foot exams and patient goals are established for over 60% of our diabetes patients.

Patient Engagement:
Asking open-ended questions so they will chose a goal that is relevant for them.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	
Performance measurement	√
Patient education	
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Provider performance measurement
- Patient registry
- Health information exchange with other providers

Access to Care:
Open scheduling; expanded hours; patient portal; email access to provider; follow up to make sure all patients with recent

» Hudson Headwaters Health Network

Respondent:
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Type of Organization:
Federally Qualified Health Center/Safety Net Provider

Date Started:
2009

Brief Description:
In 2009 we embarked on a journey of transformation with the end goal of achieving NCQA Diabetes Recognition. The process included adopting evidence-based treatment guidelines, initiating pre-visit planning, developing a disease management program and establishing a chronic condition support group. Along the way we empowered all levels of staff to be part of the patient's care team. In April 2010 we achieved recognition and took our program to the next step with the implementation of an electronic medical record that incorporated our diabetes flow sheets and a quality measurement section based upon our goals and measurements to maintain recognition.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
In process of NCQA Medical Home recognition; NCQA DRP

Team Approach:
Primary care physician assigned to manage patients' diabetes care. Patient goals are set by the PCMH provider and documented on the patient's diabetes flow sheet. Through pre-visit planning, staff identifies patients who are not at goal. RNs provide educational information to patients not at goal. Patients who meet specified criteria are referred to care management. Care managers have delegated order ability to refer to certified diabetes educators (CDEs) and other self-management support resources.

Care Coordination:
We have a care management program staffed by RNs.

Who Does Care Coordination:
RNs, clinical social worker and PharmD

Insulin initiation and adjustment:
CDE or RN

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	
Tracking and reporting for pay-for-performance	
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient risk stratification
- Clinical decision support
- Online patient education portal

Access to Care:
Patient portal; electronic appointments.

» Hudson River HealthCare

Respondent:
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Type of Organization:
Federally Qualified Health Center/Safety Net Provider

Program Title:
Diabetes Collaborative

Date Started:
2000

Brief Description:
Our organization participated in HRSA's Health Disparities Collaboratives from their inception until the program was discontinued. In addition to being one of the early teams to focus on diabetes, we served as a pilot site for projects on Prevention and Planned Care for all patients. The Diabetes Collaborative used the Learning and Improvement models from Institute for Healthcare Improvement and the Wagner Chronic Care Model as an organizing framework. Using registry tools, self management support, development of point of care testing, and culturally appropriate diabetes education, we improved our rates of testing and control.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; Insurance company-sponsored program; Supporting Excellence-Hudson Health Plan

Team Approach:
Primary care physician assigned to manage patients' diabetes care. Support staff queries registries to identify patients in need of call back. A diabetes nurse practitioner provides periodic extended visits to patients in poor control. Patients in need of weight management are referred to both nutritionists and on-site self-help classes.

Whole Person Care:
Diabetes patients have priority for accessing preventive dental visits. Alerts in EHR prompt general preventive care as well as diabetes-specific interventions. Depression screening using PHQ-2 tool is universally done, as is smoking status assessment. Podiatry services are available on site, and the podiatrist sees patients with diabetes for preventive foot care.

Care Coordination:
Referrals for eye exams are coordinated by the Patient Care Partner, as well as specialty referral. We allow tracking of referrals to completion. On-site behavioral health services are available when indicated by PHQ-2 screening, provider referral or patient choice. Cardiology consultation is provided on site at some locations.

Who Does Care Coordination:
Director is an NP, and with a certified diabetes educator (RN) does intensive care coordination for patients with elevated HbA1c. Patient Care Partners coordinate care, run registry reports, six dieticians work with patients on referral.

Clinical Measures Tracked:
Annual dilated eye exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training.

Quality Improvement Efforts:
Reports on measures are generated and distributed to sites, by the chief operating officer of program staff, on a monthly basis. Data is reviewed at site management meetings with senior clinical leadership to discuss tests of change aimed toward improvement. Quality data is used as part of provider compensation—currently on a pass-fail basis. Data is shared between sites transparently so performance is compared.

Outcomes:
HbA1c testing at 88 percent. HbA1c control levels improved over past two years.

Patient Engagement:
As a federally qualified health center, the majority of our governing board is made up of patients, some of whom have diabetes, so feedback is easy! We do evaluations of all diabetic cases and programs to get patient feedback.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Clinical decision support
- Provider performance measurement

Access to Care:
Advanced access scheduling; expanded hours; shared medical appointments; use of community health worker or peers.

» Robert W. Morrow, MD, PC

Respondent:
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Type of Organization:
Physician primary care practice

Program Title:
Diabetes Registry—using a chronic care model and short motivational interviewing

Date Started:
2008

Brief Description:
Our NY Diabetes Coalition [www.NYDC.org] teamed with docsite.com and the Albert Einstein College of Medicine Center for Continuing Medical Education to produce in-person and online training using simulated doctor-patient encounters and commentaries, as well as the installation of an online registry.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
Our practices are in the application process for NCQA Medical Home; NCQA DRP

Team Approach:
Primary care physician assigned to manage patients' diabetes care; registry, standing orders, medical assistant chart pulls/calls.

Whole Person Care:
Using registry and patient-centered visits.

Care Coordination:
Registry and follow up.

Who Does Care Coordination:
Medical assistant with the doctor/nurse practitioner (small practice model).

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; lipids, pneumococcal, ASA, ACE/ARB.

Quality Improvement Efforts:
Quarterly data pull; visit based prompts in chart note prior to visit.

Outcomes:
We should have this publishable soon for 12 practices through NYDC.

Patient Engagement:
We insist on asking "What do you think is happening," and "What are you willing to do?" All of this is on our training materials.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:

- Patient registry
- Clinical decision support
- Provider performance reporting

Access to Care:
Open scheduling; expanded hours.

» Norton Family Practice—Mercy Health Partners

Respondent:
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Type of Organization:
Physician primary care practice

Program Title:
Lakeshore Teamlet Initiative

Date Started:
January 2009

Brief Description:
Based on published material by Thomas Bodenheimer, MD, a "health coach" position was created in our office. An RN was hired to work with one clinical team to improve chronic disease care delivery, starting with diabetes. At a clinical encounter, the health coach takes the history, provides education using accessible language, uses Stanford model techniques to help the patient to identify self-management goals and take ownership of the condition, and to assist the provider with other encounter logistics, such as ordering medications, diagnostics and referrals at the point of care. Between visits, the coach is responsible for reviewing and maintaining the chronic disease registry, contacting patients by phone for educational follow-ups and medical management, and provides assistance for her patients utilizing community resources and patient assistance programs. Through this intervention, we continue to see dramatic and significant results in all diabetes quality metrics.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; insurance company-sponsored program; demonstration or pilot-sponsored program; HMO sponsored pay-for-performance; recipient of Priority Health PCMH grant—

funds used to support Teamlet pilot.

Team Approach:
Primary care physician assigned to manage patients' diabetes care.

Whole Person Care:
Primary care physician and team provide all these aspects. Same day visits for acute care, scheduled planned care visits for chronic disease, active use of registry to ensure preventive measures, hospice care provided through visiting nurse agencies and community partnerships.

Care Coordination:
Health coach arranges all referrals and reviews correspondence received from referrals and hospitals. Coach also works with community agencies, assistance programs, diabetes educators, pharmacies and specialist offices to ensure appropriate care delivery to the individual.

Who Does Care Coordination:
Registered nurse health coach

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training; pneumococcal vaccine, health maintenance exam, use of ACE/ARB.

Quality Improvement Efforts:
Development of numerous medication and disease management protocols, home-grown diabetes "report card," streamlined processes such as proactive chart reviews, lab ordering, daily team huddles and weekly team meetings.

Outcomes:
We have demonstrated significant reductions in HgbA1c, LDL, improved rates of eye exam and nephropathy monitoring. We may also have evidence of reduced emergency department utilization and hospital admissions.

Patient Engagement:
Patient's current test results and quality indicators are reviewed with them, explanations provided, and they are asked to identify areas that are of concern to them, and assisted in selecting appropriate self management goals.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance measurement
- Provider performance reporting

Access to Care:
Expanded hours; electronic scheduling; personal health record.

» Ohio University COM Diabetes Center

Respondent:
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Organization:
Physician primary care practice

Program Title:
Appalachian Regional Health Initiative/ OU-COM Diabetes Center

Date Started:
2006

Brief Description:
We have done a number of programs including NCQA DRP recognition, American Osteopathic Academy-Clinical Assessment program; we have a one-year certified diabetes education program that we complete quality improvement with. We have a physician training program for primary care physicians to gain additional expertise in diabetes management, "Diabetes Fellowship."

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
In process of NCQA Medical Home recognition; NCQA DRP; Bridges to Excellence Care Link; Demonstration or pilot-sponsored program; American Osteopathic Association Clinical Assessment Program. Applying to AADE medical home project.

Team Approach:
We have diabetologists—physicians who have completed primary care training who come for one year to gain expertise in diabetes—this is a one-year post residency program. We also have health psychologists embedded in our office, dieticians, and diabetes educators and an NP who is also an insulin pump trainer.

Whole Person Care:
With diabetologists and our team approach we really try to do this.

Care Coordination:
Currently part of routine care, but we are in the process of developing diabetes care navigators who would become part of the team and will be responsible for this.

Who Does Care Coordination:
Right now it is the physician and NP. In the future we expect it may be the navigator or nurse manager. We are developing team meetings to coordinate care and problem solve.

Teaches Insulin Initiation and Adjustment:
The physician, NP and nurses.

Clinical Measures Tracked:
Annual dilated eye exam, annual foot exam, HbA1c control, blood pressure control, smoking status; glycemic control, nephropathy assessment, flu vaccination; frequency of diabetes self-management education or training; we have done a number of studies on inpatient and outpatient quality of care.

Quality Improvement Efforts:
We are developing the concept of team meetings that will occur weekly-monthly to address these issues.

Outcomes:
We have outcomes in clinical care, and in our disease management education program.

Patient Engagement:
We need to do more of this.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:

- Health information exchange with other providers
- Secure email communication between patients/ provider

Access to Care:

Electronic scheduling; patient portal; email access to provider; developing use of community health worker or peers; we are working on shared medical appointments and open and electronic scheduling.

» Pine Medical Group PC

Respondent:

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Type of Organization:

Multi-specialty group

Date started:

2009

Brief Description:

Brought in a diabetes educator from the hospital to see patients; increased the hospital's program by 200 percent and lowered the HbA1c by one percentage point.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:

NCQA-recognized Level 3 Medical Home; insurance company-sponsored program; Priority Health

Team Approach:

Primary care provider assigned to manage patients' diabetes care; physician, care manager and diabetes educator.

Whole Person Care:

Physician, care management —RNs and LPNs who facilitate these types of issues.

Care Coordination:

Care management appointments and phone follow up.

Who Does Care Coordination:

RN; LPN; physician; diabetes educator.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training.

Quality Improvement Efforts:
Enter data into a registry and present patients with graphs, plans for improvement, etc.

Outcomes:
HbA1c -1 percentage point.

Patient Engagement:
Teach-backs, plan of care done with care manager.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance measurement
- Provider performance reporting

Access to Care:
Open scheduling; expanded hours.

» Presbyterian Medical Group

Respondent:
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Type of Organization:
Integrated health system

Program Title:
Patient Centered Medical Home

Date Started:
2009

Brief Description:
Through the use of an expanded care team, nurse care managers, a disease registry, pre-visit planning, alternative venues of care including group visits and telephone appointments, and provider payment incentives Presbyterian Medical Group (PMG) has been able to improve HbA1c, blood pressure and LDL control in its diabetes patient population.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 1 Medical Home for single site, multisite application pending; Presbyterian Medical Group Quality Incentive Plan (PMG QIP)

Team Approach:
Primary care physician assigned to manage patients' diabetes care; pre-visit planning for all patient visits are done by the primary nurse or medical assistant. Care managers "work" the disease registry and reach out to patients if they are overdue for lab tests, or need follow-up. Pharmacy clinicians and diabetes educators also are available as resources for the patient and physician directing the patient's care.

Whole Person Care:
The care team for diabetes patients can include the patient's provider, care manager, pharmacy clinician, promotora, behaviorist, dietician and diabetes educator. As members of a large integrated system, we also work with endocrinologists in the medical group for patients that need this level of care. Alternative venues of care, such as group visits for our diabetes patients, have also created support groups for this patient population.

Care Coordination:
Care coordination is accomplished through use of the care managers (RNs) and primary nursing staff.

Who Does Care Coordination:
The diabetes care is coordinated by the care manager.

Teaches Insulin Initiation and Adjustment:
Nurse, care manager, pharmacy clinician, provider, or certified diabetes educator (CDE).

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training; LDL control.

Quality Improvement Efforts:
Provider, clinic, service line, and board scorecards all include performance on diabetes measures which are tracked monthly. Determination of critical x's and action plans to improve the diabetes metrics are done on a yearly basis, and performance is monitored monthly through the organization's quality council.

Outcomes:
Increased diabetes bundle compliance, increased percentage of patients with HbA1c in good control, increased ability for patients to self manage their disease. We are also monitoring hospital admissions and readmissions for ambulatory sensitive conditions.

Patient Engagement:
Creation of self-management goals, community outreach (promotoras), and group visits which provide a patient support group.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance reporting
- Clinical decision support

Access to Care:
Open scheduling; expanded hours; electronic scheduling; personal health record; patient portal; shared medical appointments; use of community health worker or peers.

» QuadMed

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Type of Organization:
On-site Primary Care Clinic

Program Title:
Well You for Diabetes

Date Started:
2007

Brief Description:
Well You! For Diabetes Innovative Value-Based Benefit Design launched in 2007. Modeled after the Asheville Project Extension of Lean You!, it features zero-dollar co-pay for most diabetes medicines/supplies; regular visits with diabetes nurse educator. Participants qualify for overall Lean You! Incentivized wellness program by staying compliant with provider visit, medication intake and disease-management guideline requirements. Estimated value was $540 in 2009 for the average participant. Well You! enrollment criteria include medication compliance; fill and take medications regularly (i.e., maintain an unbroken string of medication refills); process measures; visit their physician a minimum of two times annually specifically for diabetes management; contact the program coordinator a minimum of four times annually (at least twice face-to-face for participants living in Wisconsin). More visits will be required if there is a clinical need. Participants must also have four HbA1cs performed annually (one approximately every three months), an annual dilated eye exam, microalbumin test, diabetic foot exam, dental exams. Well You! achievement measures require participants to maintain an HbA1c level less than 7.0 after the sixth month of participation (8.0 for insulin-dependent diabetics); have an LDL cholesterol check performed annually (with an LDL level less than 100 after the second measured LDL); achieve a systolic blood pressure less than 130 and a diastolic blood pressure less than 80; Lean You! weight loss, smoking cessation and exercise program adherence. If the current treating physician deems any program criterion medically inadvisable, patients contact the certified diabetes educator (CDE) to discuss possible alternatives.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
Employer-sponsored, but complying with most NCQA PCMH standards

Team Approach:
Primary care provider assigned to manage patients' diabetes care; we have an RN-CDE at the helm of the program who works closely (one-to-one) with patients and monitors their detailed adherence in a disease registry that connects to our electronic medical record (EMR).

Whole Person Care:
All patients in program must have designated primary care provider.

Care Coordination:
RN-CDE acts as liaison to primary care providers, augmenting their efforts.

Who Does Care Coordination:
Main person is RN-CDE, supported by LPN, dieticians and fitness coordinators.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; dental examination.

Quality Improvement Efforts:
We recently applied the lean "Value Stream Mapping" methodology to our program.

Outcomes:
Participants are 0.5% lower HbA1C than non-participants.

Patient Engagement:
Only informally via patient satisfaction survey tool.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	
Patient self-management	
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	
Tracking and reporting for pay-for-performance	
Tracking and reporting for continuous quality improvement	
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions:
- Clinical decision support
- Provider performance reporting

Access to Care:
Open scheduling; patient portal; email access to provider; electronic appointments.

» Southeast Texas Medical Associates, LLP

Respondent:
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Type of Organization:
Multi-specialty physician group

Program Title:
Joslin Diabetes Center Affiliate at Southeast Texas Medical, LLP

Date Started:
1995

Brief Description:
Disease Management tool 2001; ADA Certified DSME 2004; Recruited endocrinologist 2006; COGNOS Business Intelligence; Public Reporting by provider name 200 Quality metrics 2009; Joslin affiliate 2010 (Harvard Medical School research center) CME and provider training. 2000 mean HbA1c 7.58 and standard deviation 1.98 2010 mean HbA1c 6.54 and standard deviation 1.2.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; NCQA DRP; Practice sponsored

Team Approach:
Primary care physician assigned to manage patients' diabetes care; nurse evaluation, provider plan of care and treatment plan, education, eye care. Seven sets of diabetes quality metrics tracked (NCQA, HEDIS, AQA, PCPI, NQF, PQRI, Joslin).

Whole Person Care:
All of the above and SETMA Foundation providing financial resources.

Care Coordination:
Care Coordination Department receives referrals and coordinates care. Follow-up calls (12 to 30 minutes) from care coordination department.

Who Does Care Coordination:
Nurses (LVN, RN) educators, registered dietician, certified diabetes educator-RN.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; dental examination; frequency of diabetes self-management education or training.

Quality Improvement Efforts:
Ethnic disparities elimination; Seven Stations for Success.

Outcomes:
Reduced standard deviation from 1.98 in 2000 to 1.2 in 2010. Goal is .7. Mean HbA1c from 7.54 in 2000 to 6.64 today.

Patient Engagement:
Glucose self monitoring and dietary monitoring. Risk stratification with "what if" scenarios.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:
- Clinical decision support
- Patient risk stratification
- Provider performance measurement

Access to Care:
Electronic scheduling; personal health record; patient portal; email access to provider.

» Department of Family and Community Medicine, Thomas Jefferson University

Respondent:
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Type of Organization:
Large academic family medicine integrated residency and faculty practice

Program Title:
Pennsylvania Chronic Care Commission—Southeast Pennsylvania

Date Started:
2008

Brief Description:
Patient centered medical home recognition; group visits; population management through outreach; team-based mobilization and care; improved reporting of data through patient registry.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; Pennsylvania Chronic Care Commission; Aetna Bridges Program; Independence Blue Cross and Blue Shield; Keystone Health Plan East pay-for-performance; QIPS program; Keystone Mercy pay-for-performance.

Team Approach:
Interprofessional group visit program; office flow sheets with medical assistants being trained to do foot exams and monitor adherence; quality improvement team (nurse and masters level person who conduct population management and patient outreach); residents involved in monitoring charts and updating and collecting data; letters mailed to patients who are out of adherence.

Whole Person Care:
Embedded mental health workers, embedded PharmD; case management for a small percentage of diabetes patients; some palliative care coordination.

Care Coordination:
Physicians are given a list of their patients and expected to do some outreach, enter data and refer the patient to our Diabetes Information and Support for your Health (DISH) group visit program, to behavioral health, to case management, and/or PharmD.

Who Does Care Coordination:
RN quality coordinator does patient outreach, working with a master's level quality improvement assistant.

Clinical Measures Tracked:
Annual eye exam; annual foot exam; HbA1c control; blood pressure; smoking status; glycemic control; nephropathy; flu vaccination; diabetes self-management education; lipid control.

Quality Improvement Efforts:
Check and report diabetes measures every month; give performance feedback to all clinicians; attend learning collaboratives; send letters to patients to invite them in for care; refer patients to group visits.

Outcomes:
Improvements in all outcomes have been seen

Patient Engagement:
Diabetes Information and Support for your Health (DISH), individual visits

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Health IT Functions Used:
Patient Stratification

Access to Care:
Open scheduling; expanded hours; electronic scheduling; personal health record; electronic appointments; shared medical appointments; use of community health worker or peers.

» TriHealth—Queen City Physicians

Respondent:
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Type of Organization:
Physician primary care practice

Program Title:
Diabetic Care

Date Started:
2008

Brief Description:
Our physician-led team includes the following: MD, certified nurse practitioner, PharmD, registered dietician, super medical assistant (MA)/LPN, and medical assistant. The primary care physician identifies and forwards charts to additional team members as he/she deems appropriate. PharmD and dietician ride the circuit for the four Queen City Physicians (QCP) adult medicine offices to see patients in their primary care physician's office. Additionally, the primary care physician employs the use of a retinal camera that rotates through every office to provide patients easy access to care. Clinical data warehouse reports all diabetes patient progress. Super MA/LPN monitors progress and reaches out with reminders etc. as needed.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; insurance company-sponsored program; demonstration or pilot-sponsored program. Part of the Aligning Forces for Quality (AF4Q) efforts in Cincinnati with a focus on the medical home. Also part of a national demonstration project with Humana. QCP is publicly reporting D5 efforts with the Cincinnati community through AF4Q.

Team Approach:
Primary care physician assigned to manage patients' diabetes care.

Whole Person Care:
QCP's approach is to try to bring as many services as possible directly to the practice site to increase compliance. This is where patients are comfortable and familiar. QCP has also looked for opportunities to increase compliance with preventative services. Area where compliance was lacking was with screening colonoscopies for all patients, not just those with diabetes. QCP reached out to its preferred gastrointestinal specialists and requested block time for scheduling. QCP's super MAs/LPNs reach out to patients who have not done these and schedule and provide prep instructions. Compliance has increased by not leaving it to the patients to get it scheduled.

Care Coordination:
Hospital partner has worked with practice and its electronic medical record (EMR) to extract diabetes patient data into a clinical data warehouse that provides a snapshot daily of patients by category of compliance. It highlights where there is opportunity for improvement (and identifies those patients) and also reports progress that also helps motivate staff. Very dynamic service that updates every 24 hours; super MAs/LPNs use this tool to monitor and coordinate care. Outreach is systematic with this tool.

Who Does Care Coordination:
Super MAs/LPNs.

Teaches Insulin Initiation and Adjustment:
PharmD

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; preventative care.

Quality Improvement Efforts:
QCP part of TriHealth Quality Program as well as part of the Community Public Reporting program focusing on diabetes care. QCP reports annually to both programs. Its physicians' rankings are now part of the community publicly reported numbers that anyone may view at YourHealthMatters.org.

Outcomes:
Our patients with HbA1cs greater than 9 have shown significant improvement with their time spent with our PharmD. These typically have been patients that were either reluctant to try insulin or were not using it as prescribed. With education and time these patients' HbA1cs have dropped significantly.

Patient Engagement:
Not currently other than feedback we receive from patient satisfaction surveys.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance reporting
- Clinical decision support

Access to care:
New portal in place beginning March 2011.

UMMHC Center for the Advancement of Primary Care (CAPC)

Respondent:

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Type of Organization:

Center for Advancement of Primary Care within an integrated health system.

Program Title:

CAPC Diabetes Collaborative

Date Started:

September 2008

Brief Description:

Institute for Healthcare Improvement learning collaborative-style program targeting diabetes care using the Chronic Care Model. Wave 1: Six primary care practices; three family medicine and three internal medicine; two residency practices; four community practices. Wave 2: Six primary care practices; three internal medicine (one hold over from Wave 1); two family medicine; one medical/pediatrics practice. Wave 3: Five primary care practices; all small (one to three) physician offices; one family medicine and four internal medicine. Wave 4: Two large primary care practices and the Diabetes Center of Excellence; one family medicine and one internal medicine practice; one adult diabetes specialty practice and one pediatric specialty practice.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:

In process for NCQA Medical Home recognition; insurance company-sponsored program; Blue Cross Blue Shield; Harvard Pilgrim Health Plan.

Team Approach:

Primary care physician assigned to manage patients' diabetes care; disease management appointments flagged in schedule which triggers tasks for team; pre-visit labs; distribution of patient education materials at lab, registration and visit; rooming protocol, foot screening, vaccine administration, depression screening, eye exam and dental care reminders; medical care including goal setting; referrals to nutrition and diabetes education and/or group visits.

Whole Person Care:

Registration staff schedules appointments for nutrition and diabetes education; diabetes specialty care; behavioral health is integrated within primary care and provides care for depression and life style changes; several physicians provide coverage to skilled nursing facility as well as hospice.

Care Coordination:

This is sporadic and mostly done at the direction of physician or by the physician. Beginning to address this area. Most practices monitor their registries and follow up on patients overdue for appointments or who are out of range on outcome measures such as HbA1c, LDL and blood pressure.

Clinical Measures Tracked:

Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment, flu vaccination, dental examination, frequency of diabetes self-management education or training; albumin-to-creatinine ration (ACR).

Quality Improvement Efforts:

Each practice has a practice coach working with them weekly on practice redesign and quality improvement during the active collaborative phase and monthly to quarterly contact post-collaborative. Registry is updated and distributed bi-weekly during the active phase and monthly on maintenance phase.

Outcomes:
We have seen significant improvement in process measures (lab testing and immunization rates). We are beginning to see a shift in outcome measures such as a decline in number of patients with HbA1c between 8-9, 9-10 and over 10 and an increase in number of patients with HbA1c in the 7-8; and under 7 range.

Patient Engagement:
Motivational interviewing is offered as part of participation in the collaborative and we encourage practices to include goal setting and follow up as part of routine care.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Clinical decision support
- Online appointment scheduling

Access to Care:
Electronic scheduling; shared medical appointments.

» University Medicine/Chronic Care Sustainability Initiative Rhode Island (CSI RI)

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Type of Organization:
Physician primary care practice

Date Started:
2008

Brief Description:
Our diabetes management occurs in conjunction with our PCMH activities.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; demonstration or pilot-sponsored program, CSI RI

Team Approach:
Primary care physician assigned to manage patients' diabetes care. We use a non-nurse quality assistant to manage our electronic health record (EHR) database to monitor diabetes control; our nurse care manager had been a certified diabetes outpatient educator (CDOE) as well. We have a nutritionist in the office one day per week who is also a CDOE. The medical assistants collect information at the time of the visit about ophthalmologic evaluations, and also do foot neuropathology checks.

Whole Person Care:
Coordination with specialists.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control, blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination;

frequency of diabetes self-management education or training.

Quality Improvement Efforts:
All of these measures are tracked, short cycle Plan-Do-Study-Act cycles are frequently used.

Outcomes:
Improved HbA1c measures noted.

Patient Engagement:
SMG assessments are pretty routine.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Provider performance reporting
- Patient risk stratification

Access to Care:
Expanded hours; electronic scheduling; personal health record.

» University of South Carolina School of Medicine

Respondent:
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Type of Organization:
Hospital-based clinic

Date Started:
2004

Brief Description:
We have participated in several diabetes collaboratives and track quality indicator data monthly and report to providers and practice. We have had a longstanding diabetes quality improvement team, and we have a care manager (beginning 2010) who is actively managing this patient population.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
NCQA-recognized Level 3 Medical Home; NCQA DRP; Insurance company-sponsored program; SC Blue Cross Blue Shield

Team Approach:
Primary care physician assigned to manage patients' diabetes care. Team consists of physician, his/her nurse (this pair always works together), a PharmD for medicine management help, two certified diabetes educators (CDEs) within the practice (they do individual and group visits), a care manager, a behavioral health specialist and a social worker. Care for any given patient is coordinated among these providers as needed, and that is determined/coordinated by the care manager, the nurse and the physician.

Whole Person Care:
We provide whole person care, with care coordination across the continuum, for all of our patients.

Care Coordination:
Care manager coordinates all of their care, including assuring they keep their visits, get all services needed in the office, and referral services. She is aided by the nurse for the patient and their physician.

Who Does Care Coordination:
RN nurse care manager PharmD, CDE.

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training; LDL levels/control.

Quality Improvement Efforts:
Quality improvement team, care coordination, and reporting of outcomes to the providers.

Outcomes:
Significant improvements in all process measures, smaller but growing improvements in outcome measures, especially lowering LDL levels, improving blood pressure control.

Patient Engagement:
Higher risk patients have individual self-management meetings with one of two CDEs. Nursing and physicians do self-management goal setting at each office visit for all patients with diabetes.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Patient risk stratification
- Clinical decision support

Access to Care:
Open scheduling.

» Washington State Department of Health/ WA Patient-Centered Medical Home Collaborative

Respondent:

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Type of Organization:

Public Health Agency

Program Title:

Washington State Diabetes Prevention and Control Program

Date Started:

1999

Brief Description:

More than 150 health care facilities across Washington have participated in one or more Washington State Collaboratives between 1999-2007. All have experienced improved care, healthier patients and increased provider satisfaction. As a result, Washington State 2008 Legislative Session passed House Bill 2549 funding $1.3 million, July 2008-December 2011, to establish a patient centered medical home in primary care using the Collaborative model to improve care of chronic diseases. This is an integrated effort with internal chronic disease programs as well as external stakeholders. The funding was never appropriated, but the program was nevertheless launched. Evaluation of the Medical Home Collaborative will include improvements in health outcomes such as preventative care services, and reduction in overall health system costs. Internally, the Office of Community Wellness and Prevention has formed a Health Care Workgroup to include input from several chronic disease programs to assist in planning, designing and implementing the Medical Home Collaborative. Currently, we have 32 medical practices enrolled in the WAPCMHC and we have seen improvements in patient outcomes and process measures at the end of year one, such as improvements on HbA1c and cholesterol levels, as well as on blood pressure control and nephropathy screening. Smoking assessment and cessation has shown improvements also.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:

In process for NCQA Medical Home recognition (some providers)

Team Approach:

Primary care physician assigned to manage patients' diabetes care. The WAPCMHC promotes and teaches medical practices to use the team approach. We are measuring provider-staff satisfaction and also doing site visits where we observe how clinics implement this approach and provide them with feedback for improvement. At learning sessions, we have workshops and team activities that promote this approach.

Whole Person Care:

Practice Teams include front desk staff, medical assistants, nurses, social workers, diabetes educators, mental health personnel, pharmacists, dental personnel, care coordinators, etc., all working towards offering better coordinated care to their patients with diabetes. Among the 32 practices, the teams vary in their members and backgrounds, but the core concepts of care coordination are maintained.

Care Coordination:

We have seen many of our practices reaching out to community resources such as local specialists, diabetes education programs, etc., to offer an array of services that patients suffering from diabetes need. The practices are also aware of how important it is to have two-way communication with their local resources and many are working to improve this communication.

Who Does Care Coordination:

It depends on how the practice is staffed. Some have diabetes educators, patient navigators, patient advocates, nurses, etc. who fulfill this role; data from diabetes patients can't be analyzed separately from data generated from non-diabetes patients.

Teaches Insulin Initiation and Adjustment:
Certified diabetes educators, nurses or in some cases, the medical provider (ARNP, PA, MD).

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; nephropathy assessment.

Quality Improvement Efforts:
Implementation of medical home has shown improvement in most of our diabetes measures.

Outcomes:
Improvement on HbA1c, cholesterol, blood pressure control, smoke assessment, and screening for nephropathy

Patient Engagement:
Patient Experience Survey

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:
- Patient registry
- Patient risk stratification
- Clinical decision support

Access to Care:
Open scheduling; expanded hours; electronic scheduling; patient portal.

» Weslaco Medical Clinic

Respondent:
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Type of Organization:
Physician primary care practice

Date Started:
2009

Brief Description:
Shared medical appointments were implemented. The process works as follows: 90 minute appointments are scheduled for patients. While patients are participating in the educational component of diabetes self-management, the patients are pulled one by one to be seen by a physician or nurse practitioner for the medical visit. Once the patient's medical component is complete, they return to the diabetes class and another patient is pulled out for the medical encounter. We follow American Diabetes Association (ADA) guidelines for medical management and use the American Association of Diabetes Educators components for education.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:
In process for NCQA Medical Home recognition; NCQA DRP; Bridges to Excellence Care Link.

Team Approach:
We use a physician, a nurse practitioner who is also a certified diabetes educator, and a dietician who is also a certified diabetes educator.

Whole Person Care:
The physician and nurse practitioner.

Care Coordination:
We coordinate care with specialists and ensure there is ongoing communication. We manage preventive screenings, acute and chronic conditions, and discuss advanced directives with our patients. We refer to hospice when necessary. We also provide home visits to patients who are bedbound to try to avoid hospital admissions. We admit patients to the nursing home and follow them as well. We use an electronic health record and have a health maintenance section, which helps us keep track of screenings and tests needed. We also ensure progress notes from consulting physicians are sent to our office appropriately. We meet monthly with home health nurses to discuss patient care. The best practice is the implementation of shared medical appointments, which ensure diabetes self-management education (DSME) is being provided.

Who Does Care Coordination:
Nurse practitioner (CDE)

Clinical Measures Tracked:
Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; LDL; use of aspirin; use of ACE inhibitors.

Quality Improvement Efforts:
We use Plan-Do-Check-Act continuous quality improvement and we use HEDIS measures as a benchmark for our process and outcome measures.

Outcomes:
Our outcomes are above the state and federal HEDIS measures. We found that while there is no statistical significance in LDL, HbA1c, and blood pressure measures, qualitative data from the patients indicates an increase in DSME competence. Our data was accepted for publication in the May/June issue of *The Diabetes Educator.*

Patient Engagement:
We provide patients with the information needed for DSME and then assist them in making food choices. We also inform them of screening and tests needed. We teach them what the expected HbA1c, LDL, and blood pressure results should be and than a yearly eye exam and urine testing for protein should be done.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	√
Enhanced access for appointments, email visits, etc.	
Care coordination with other members of the care team within the practice	√
Care coordination with other providers outside the practice	√
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	√

Top 3 Most Important Health IT Functions Used:

- Patient registry
- Clinical decision support
- Health information exchange with other providers

Access to Care:

Shared medical appointments

» Westminster Medical Clinic

Respondent:

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Type of Organization:

Physician primary care practice

Date Started:

2003

Brief Description:

We have integrated evidence-based disease management guidelines at point-of-care through a team approach and provide self-management engagement through group visits. Quality and performance measures are reviewed monthly through registry queries to provide population management. Team care involves advance utilization of medical assistants through standing orders to ensure timely labs, immunizations, and foot and retinal exams. Templates assist providers in providing comprehensive care during the visit. Monthly group visits provide self-management skills for interested patients. Population management ensures continuous improvement on quality measures.

Medical Home Recognition/Pay-for-Performance/Demonstration or Pilot Affiliation:

NCQA-recognized Level 3 Medical Home; NCQA DRP; Bridges to Excellence Care Link

Team Approach:

Primary care physician assigned to manage patients' diabetes care; medical assistant reviews the patient chart prior to their planned visit to ensure evidence-based guidelines are met. She is prepared for the visit to complete necessary tests, immunizations or referrals. The provider conducts the visit and sends the follow-up plan to the medical assistant (MA) to place in a tickler system to recall the patient or perform future tests. Population management is conducted with a PCMH project

manager pulling data monthly, sending to providers who analyze the data and create a care plan for selected patients that is delegated to the physician assistant or MA for action.

Whole Person Care:

We developed a community resource list of services for all our patients.

Care Coordination:

Our RN has adopted duties as a care coordinator as outlined in a job description with specific policies and protocols to follow. Our practice has a medical neighborhood agreement that outlines mutual responsibility and accountability with our specialists. We developed a system to exchange information with our hospital to ensure medical records follow our patients and we receive records after discharge. We call our patients within 48 hours after discharged to reconcile medications, create a care plan and schedule follow-up appointments.

Who Does Care Coordination:

We are a small practice and cross-train; population management (PCMH project manager), care coordinator, navigator (RN), social worker, navigator, educator (MA) diabetes educator (physician assistant).

Clinical Measures Tracked:

Annual dilated eye exam; annual foot exam; HbA1c control; blood pressure control; smoking status; glycemic control; nephropathy assessment; flu vaccination; frequency of diabetes self-management education or training.

Quality Improvement Efforts:

We select a measure to work on each month. We have reduced our HbA1c > 9% from 26% to 12% over the last 12 months. We increased aspirin use from 14% to 75%. We increased smoking cessation counseling from 9% to 49%.

Outcomes:

257 disease management patients–Dec 2010
Percentage of patients with current HbA1c/LDL = 95%/93%
Percentage patients with nephropathy screening/tobacco use query = 87%/100%
Percentage patients with BP < 130/90 = 49%
Percentage patients with HbA1c >9% = 12%
Percentage of patients with LDL < 100 = 68%
Percentage of patients prescribed a statin = 72%

Patient Engagement:

We have integrated motivational interviewing techniques and use patient education tools to identify and strategize self-improvement goals.

Using Health IT for:	
Patient registry to identify and track patients	√
Clinical decision support	√
Performance measurement	√
Patient education	√
Patient self-management	
Enhanced access for appointments, email visits, etc.	√
Care coordination with other members of the care team within the practice	
Care coordination with other providers outside the practice	
Tracking and reporting for pay-for-performance	√
Tracking and reporting for continuous quality improvement	√
Home monitoring (glucose levels, bp, weight, etc.)	

Top 3 Most Important Health IT Functions Used:

- Patient registry
- Provider performance reporting
- Home monitoring of blood pressure, weight, etc.

Access to Care:

Open scheduling; expanded hours; patient portal; email access to provider; shared medical appointments.

Appendix A | Crosswalk of the Joint Principles of the Patient-Centered Medical Home with Nationally-Recognized Quality Measurement Sets for Diabetes Care

» Joint Principles of the PCMH

Personal physician—each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous and comprehensive care.

Physician directed medical practice—the personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients.

Whole person orientation—the personal physician is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for all stages of life: acute care, chronic care, preventive services and end of life care.

Care is coordinated and/or integrated across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange and other means to ensure patients receive the indicated care when and where they need and want it, in a culturally and linguistically appropriate manner.

Quality and safety are hallmarks of the medical home:

- Practices advocate for their patients to support the attainment of optimal, patient-centered outcomes that are defined by a care planning process driven by a compassionate, robust partnership between physicians, patients and the patient's family.
- Evidence-based medicine and clinical decision-support tools guide decision making.
- Physicians in the practice accept accountability for continuous quality improvement through voluntary engagement in performance measurement and improvement.

Center for Disease Control Diabetes Quality Improvement Project Accountability Measures:
• HbA1c testing and levels
• Lipid testing and low-density lipoprotein (LDL) level
• Blood pressure levels
• Nephropathy assessment
• Eye exam
• Foot exam

NCQA 2009 Diabetes recognition program adult measures	
Clinical Measures	**Criteria**
HbA1c Poor Control > 9.0%	≤ 15% of patients in sample
HbA1c Control > 8.0%	60% of patients in sample
HbA1c Control > 7.0%	40% of patients in sample
Blood Pressure Control ≥ 140/90 mm Hg*	≤ 35% of patients in sample
Blood Pressure Control < 130/80 mm Hg	25% of patients in sample
Eye Examination	60% of patients in sample
Smoking Status and Cessation Advice or Treatment	80% of patients in sample
LDL Control ≥ 130 mg/dl*	≤ 37% of patients in sample
LDL Control < 100 mg/dl	36% of patients in sample
Nephropathy Assessment	80% of patients in sample
Foot Examination	80% of patients in sample

**Denotes poor control*

- Patients actively participate in decision-making and feedback is sought to ensure patients' expectations are being met.
- Information technology is utilized appropriately to support optimal patient care, performance measurement, patient education and enhanced communication.

Health IT Functionalities to Support Diabetes Care[70]
Ability to collect, store, manage and exchange relevant personal health information
Ability of providers, patients and other members of a person's health team to communicate among themselves and in the process of care delivery
Ability to collect, store, measure and report on the processes and outcomes of individual and population performance and quality of care
Ability of providers and their practices to engage in decision support for evidence-based treatments and tests
Ability of consumers and patients to be informed and literate about their health and medical conditions and appropriately self-mange with monitoring and coaching from providers

- Practices go through a voluntary recognition process by an appropriate non-governmental entity to demonstrate they have the capabilities to provide patient-centered services consistent with the medical home model.
  - NCQA's Diabetes Recognition Program
  - State-Sponsored Diabetes Quality Programs
  - Other nationally-recognized clinical diabetes excellence programs
- Patients and families participate in quality improvement activities at the practice level.

Enhanced access to care is available through systems such as open scheduling, expanded hours and new options for communication between patients, their personal physician and practice staff.

Payment appropriately recognizes the added value provided to patients who have a patient centered medical home. The payment structure should be based on the following framework:

- It should reflect the value of physician and non-physician staff patient-centered care management work that falls outside of the face-to-face visit.
- It should pay for services associated with coordination of care both within a given practice and between consultants, ancillary providers and community resources.

[70] "Meaningful Connections: A resource guide for using health IT to support the patient centered medical home." PCPCC, 2009. (http://www.pcpcc.net/content/meaningful-connections)

- It should support adoption and use of health information technology for quality improvement.
- It should support provision of enhanced communication access such as secure e-mail and telephone consultation.
- It should recognize the value of physician work associated with remote monitoring of clinical data using technology.
- It should allow for separate fee-for-service payments for face-to-face visits. (Payments for care management services that fall outside of the face-to-face visit, as described above, should not result in a reduction in the payments for face-to-face visits.)
- It should recognize case mix differences in the patient population being treated within the practice.
- It should allow physicians to share in savings from reduced hospitalizations associated with physician-guided care management in the office setting.
- It should allow for additional payments for achieving measurable and continuous quality improvements.
  - Bridges to Excellence Diabetes Care Link
  - Large health insurance P4P programs
  - Other pay-for-performance demonstration and state and regional pilot programs in the field.

Patient-Centered Primary Care COLLABORATIVE

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