The Patient-Centered MEDICAL HOME

The Dietitian's Role in This Healthcare Model That Improves Diabetes Outcomes

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With the advent of healthcare reform, new models of healthcare delivery are evolving. Emerging as one of the fastest growing and most promising is the patient-centered medical home (PCMH).

Researchers have found that diabetes can be successfully managed within a PCMH environment. They say this model can improve outcome measures that enable patients to live longer, healthier lives.[1] Historically, diabetes care has revolved around a patient-centered approach, self-management, patient empowerment, and team-based care[1]—concepts that match the PCMH model. The difference is that the PCMH focuses more on the coordination of care among various healthcare practitioners who share patient information with one another. Experts agree that diabetes care provides an excellent example of how the PCMH model works in practical terms, as it's designed to improve processes and reduce overall healthcare costs.

Diabetes is one of the most costly chronic diseases in the United States. In 2007, diabetes had an economic impact of $174 billion. Of this, $58 billion was due to lost workdays, restricted activity, and disability. Moreover, approximately one of every five healthcare dollars in the United States is spent caring for someone with diagnosed diabetes.[2]

This article will discuss the PCMH, how it can improve diabetes management and primary healthcare in general, the important role RDs can play in this model of care, and the necessary skills dietitians need to successfully compete in this ever-changing healthcare environment.

The PCMH

The PCMH isn't a house, hospital, or other building and shouldn't be confused with home health or home care.[3] It's a comprehensive, evidence-based healthcare delivery model that's also considered one of the most promising systems to improve patient outcomes, increase access to care, and decrease healthcare costs.[4]

In this model, patients have 24-hour access to their healthcare providers; are able to schedule same-day appointments online; have access to their care providers between visits; and are no longer responsible for coordinating their care and calling

for referrals and lab results. Instead, their physician leads a team of individuals who collectively take responsibility for the patient's care.

The PCMH is designed to strengthen the clinician-patient relationship by replacing episodic care with coordinated care and enabling a long-term healing relationship. Patients receive care when and where they need it, when and where they want it, and in a culturally and linguistically appropriate manner.[5]

With the advent of reforms, such care will no longer be the exception but the rule. The PCMH and other new models of healthcare delivery improve clinical outcomes, patient and team-member satisfaction and, ultimately, reduce the cost of healthcare. And RDs will be key members of the team, working as case managers, training staff on self-management support, and coordinating shared medical visits. A well-prepared dietitian will be in a position to play a vital role in this care-delivery model.

The term "medical home" was introduced by the American Academy of Pediatrics (AAP) in 1967 and was initially described as a central location for archiving a child's medical records.[1] In a 2002 policy statement, the AAP proposed a new model of practice to include the following characteristics: a patient-centered team approach; elimination of barriers to access; advanced information systems, including an electronic medical record (EMR); redesigned, more functional offices; a focus on quality and outcomes; and enhanced practice finance.[6]

Also in 2002, the chronic care model (CCM) was introduced as a method of patient care, an important precursor to the development of the PCMH. The CCM model elements include clinical information systems, decision support, delivery system design, self-management support, and community and organizational leadership. The CCM's goal is to empower an informed, activated patient who will have a productive interaction with a prepared, proactive practice team. When implemented, the elements of this model have been shown to improve the quality and cost-effectiveness of care for patients with chronic diseases such as diabetes or asthma.[7]

In 2007, the American Academy of Family Physicians, the AAP, the American College of Physicians, and the American Osteopathic Association developed the "Joint Principles of the Patient-Centered Medical Home" to describe the characteristics of the PCMH.[8] Under the joint principles, which were adopted by the American Medical Association in 2008, the PCMH is responsible for arranging, coordinating, and providing enhanced access to patient care through the use of health information technology, EMRs, open scheduling, expanded hours, and a greater variety of communication options between patients, physicians, and staff.[3]

The joint principles of the PCMH, as defined by the Patient Centered Primary Care Collaborative, include the following[8]:

- **Patients have a personal physician.** "Each patient has an ongoing relationship with a personal physician trained to provide first contact, continuous, and comprehensive care."
- **Medical practices are physician directed.** "The personal physician leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients."
- **There is a whole-person orientation.** "The personal physician is responsible for providing for all the patient's healthcare needs or taking responsibility for appropriately arranging care with other qualified professionals."
- **Care is coordinated and/or integrated** "across all elements of the complex healthcare system (eg, subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community."
- **Quality and safety are assured.** A care planning process informs healthcare decisions based on scientific evidence; performance measures are implemented; patients participate in decision making; information technology is used to support patient care; and practices undergo a voluntary recognition process by a nongovernmental entity.
- **Access is enhanced.** Patients have access to "open scheduling, expanded hours, and new options for communication between patients, their personal physician, and practice staff."
- **Payment is in alignment** with the added value of having a PCMH.

Primary Care Leading the Way

The growing trend toward a PCMH is, at least in part, in response to a crisis in primary care: There are fewer available primary care providers as a result of fewer physicians choosing careers as general practitioners.[9] Many primary care physicians feel overworked and undercompensated. The hours are long; the paperwork is burdensome; and doctors have a large patient load.

What's also accelerating the move toward a PCMH model is an increase in professional society endorsements, the availability of National Committee for Quality Assurance (NCQA) certification, and the hope that the PCMH model will empower primary care toward better quality care while reducing costs.[1] Between 2008 and the end of 2011, more than 16,000 clinicians at more than 3,300 practice sites across the country earned PCMH recognition from NCQA.[10]

The PCMH enables patients to plan an office visit and have in place everything they need before the appointment. Lab results and consultation reports from other providers are collected and available to the team before the patient arrives at the office. This means the team can be proactive and interact with the patient in a "planned visit," during which time comorbidities can be addressed systematically, in a consistent, timely manner.[1]

Diabetes and the PCMH

In an April 2011 study published in ***Diabetes Care***, researchers collected information on eight PCMH pilot programs from around the country that reported process and outcome measures in diabetes care. They found that the healthcare delivery model improved hemoglobin A1c measures, blood pressure, and LDL

cholesterol levels—the key predictors of mortality and morbidity associated with diabetes—and reduced inpatient and emergency department admissions.[1] The eight PCMH initiatives took place in large healthcare facilities in several states, including North Carolina and Pennsylvania, and involved more than 1,200 medical practices, 4,000 physicians, and 10,000 patients (see Table 1).

Currently, more than 40 medical home demonstrations that track quality measures in diabetes are under way nationally. And while no randomized trials have been conducted on the effectiveness of the PCMH in diabetes management, "the eight Medical Home initiatives reported provide encouraging 'before and after' results to support the PCMH as a viable mechanism to improve the quality and costs of diabetes care," the study authors wrote.

Where Is the PCMH Used?

The majority of PCMH demonstrations have been conducted in large multicenter facilities; however, primary care practices, regardless of their size, population, configuration, electronic capabilities, or location, can meet criteria to receive PCMH recognition from the NCQA. In fact, the NCQA has three levels of PCMH recognition that allow diverse practices to meet the requirements as long as they meet basic elements, such as having access during office hours, using data for population management, engaging in care management, supporting the self-care process, employing referral tracking and follow-up, and implementing continuous quality improvement.[10]

Unlike the current fee-for-service system that bases reimbursement on the number of patients seen, the service provided, or resources used, the PCMH model pays for the work of coordinating care in addition to delivering it. Physicians operating in the PCMH share in savings from reduced hospitalizations and may receive payments for achieving measurable and continuous quality improvements. These longer-term monetary incentives may encourage physician participation.[3]

However, transitioning to a PCMH model can involve challenges, particularly for smaller practices. The PCMH is associated with additional work and initial costs. For example, the per-patient cost of an EMR is higher for smaller practices than larger ones. Also, a small practice may not have enough patients with specific conditions to efficiently use the time and expertise of a specialist such as a diabetes educator.[5]

Another challenge to the PCMH specific to diabetes care is the availability of diabetes educators. Sandra Burke, PhD, ANP, BC-ADM, CDE, FAADE, president of the American Association of Diabetes Educators (AADE), says there's a limited number of qualified diabetes educators in the country, particularly in areas

Table 1 Eight Demonstrations of the Patient-Centered Medical Home Model

Demonstration	Start	Size	Improvements
Community Care of North Carolina	1998	1,200 practices; 3,000 physicians	Hemoglobin A1c, blood pressure, and cholesterol were above the National Committee for Quality Assurance (NCQA) target benchmarks. Reduction in emergency department and inpatient admissions and reduction in outpatient and pharmacy utilization.
Geisinger Health System	2006	25 outpatient practice sites; 110 physicians	Improvements in the diabetic bundle (nine evidence-based quality indicators of diabetes care); reduction in inpatient admissions and total medical costs.
Pennsylvania Chronic Care Initiative	2008	102 practices; 518 physicians	A1c, blood pressure, and LDL cholesterol control improved in the first year.
Rhode Island Chronic Care Sustainability Initiative	2008	13 practices; 53 physicians	Improvements in A1c documentation, blood pressure control, and smoking advice documentation six months after beginning the initiative.
Group Health Cooperative Medical Home Pilot	2007	One clinic serving 9,200 adult patients	Improvement in the composite quality score in the first and second year. Improved patient satisfaction, reduced emergency department and inpatient admissions; return of $1.50 for every dollar invested in the PCMH after 21 months.
Health Partners Medical Group, Minneapolis	2002	50 clinics; 600 physicians	A1c, blood pressure, LDL cholesterol, aspirin use, and tobacco cessation improved. Reductions in inpatient admissions and readmission; clinic cost savings.
Colorado PCMH Pilot	2009	17 practices	A1c, LDL cholesterol, and blood pressure control; all measures above NCQA quality benchmarks, including tobacco cessation and depression screening. Reduced emergency department and inpatient admission; improved patient satisfaction; improved healthcare worker satisfaction.
The PCMH National Demonstration Project	2006	36 practices	Improvements in chronic illness care quality. No improvements in patient experience; practice coaches helpful in adopting more medical home features.

— Table adapted from reference 1

where the disease is prevalent such as in the "diabetes belt," a swath across the southeastern United States where people are more likely to have the disease.

Moreover, Teresa L. Pearson, MS, RN, CDE, FAADE, director of clinical consulting at Halleland Habicht Consulting, LLC in Minneapolis, says there may be a "little bit of turf protection" as practices transition to team-based care. Care providers at all levels and disciplines are accustomed to doing their work autonomously. Having to share information, communicate about coordinated care, and allow access to information that formerly might have been proprietary can be an initial challenge. However, in every case Pearson has observed, team members agree "they would never go back to the way it was" before becoming a PCMH.

Shared Medical Visits

Shared medical appointments (SMAs), which are often part of the PCMH model, are an effective way to provide care and education. In an SMA, also known as a group visit, multiple patients are seen as a group for follow-up or routine care.

A study published in 2012 in the ***Journal of the American Academy of Nurse Practitioners*** observed 37 patients with diabetes and hypertension who participated in SMAs for four months. At the end of the study period, researchers measured changes in patients' self-managing behaviors, including exercise and goal-setting activity. On average, systolic blood pressure was reduced 30 mm Hg; A1c was reduced 0.25%; and LDL cholesterol was lowered by 4 mg/dL. Their average exercise time increased by 86 minutes per week. Ninety-seven percent of participants reported achieving or almost achieving measurable self-care goals. And 95% of participants rated the group visits as excellent or very good.

This study indicates that SMAs are effective in changing the outcomes for patients with chronic conditions such as diabetes and hypertension.

Dietitians' Role in the PCMH Model

According to a survey conducted by the Academy of Nutrition and Dietetics (the Academy), RDs have had minimal experience working in a PCMH environment. The Academy encourages RDs to become proactive and assertive in overcoming any barriers to their involvement and to advocate for RD services to be included in the PCMH model.[3]

"RDs may need more specialized credentials," says Sylvia A. Escott-Stump, MA, RD, LDN, past president of the Academy. She says RDs can't just be generalists if they're to remain competitive in the changing healthcare environment. They must also make strategic use of the skills they already use in their own practices.

"RDs have strong management and business operation skills and could work as case managers in the PCMH," Escott-Stump says.

A prime example is Cecilia Sauter, MS, RD, CDE, project manager at the University of Michigan Health System in Ann Arbor. She's responsible for implementing the PCMH in 18 centers and is the self-management trainer for all the allied healthcare providers in the system. It may seem an unusual role for a dietitian and diabetes educator, but "dietitians need to think out of the box," Sauter says.

Sauter describes the process of a PCMH visit at the University of Michigan Health System as very fascinating: "When the patient comes in with chronic disease [such as diabetes or asthma] you start with a primary visit," she says. A medical assistant [MA] completes the lab work and checks the patient's medication. A patient registry is used to "identify gaps in needs. Does the patient need an eye exam, mammography, or foot exam?"

The MA starts a conversation with the patient about self-management goals. "They will ask the patient, 'How did it go with the last goal? I see you were going to walk once a week,'" Sauter says. Then the MA gives the completed medication list to the physician who addresses the patient's larger concerns. "Everything is completed when [the doctor] sees the patient. If there were gaps in care, that would be taken care of [before the doctor got involved]," Sauter adds.

Next, the doctor determines whether patient education is required. A nurse is available to start the patient on insulin if needed. The doctor writes referrals to the dietitian for medical nutrition therapy, which is provided in the clinic and can be coordinated based on the patient's availability.

Diabetes Educators' Role in the PCMH Model

The way a diabetes care team works can overlap effectively with the PCMH model. Diabetes educators work with other team members to provide evidence-based, patient-centered care. They facilitate patients' effective self-management of diabetes and encourage them to adhere to recommended behavior changes.

To participate in PCMHs, the AADE encourages its members to become key players on the medical home team, develop a working knowledge of the PCMH concept, articulate and demonstrate the important contribution that educators can and should make as part of the medical home care team, help people with diabetes and their caregivers understand the medical home concept and how the diabetes educator is an essential member of the care team, and conduct research and evaluation on the importance of the diabetes educator in the PCMH.[11]

Diabetes educators must "advocate for the role of the diabetes educator in this kind of coordinated care environment," Burke says. "In doing so, we're advocating for the patient to get the best person possible to provide the care they need."

It's also the AADE's position that all diabetes educators should work toward receiving formal certification, which can help them become more respected, sought-after members of

the PCMH team. "The diabetes educators' role in the PCMH will depend on their skill level," Burke says. The AADE's 2009 practice guidelines delineate the roles and responsibilities of five levels of diabetes education providers as follows: Level 1, non-healthcare professional; Level 2, healthcare professional non-diabetes educator; Level 3, non-credentialed diabetes educator; Level 4, credentialed diabetes educator; and Level 5, advanced level diabetes educator/clinical manager (see Table 2).

RDs who aren't credentialed as diabetes educators are categorized as level 3 educators. They may provide instruction for insulin injection, dosing, and medication side effects in addition to nutrition counseling.

Level 4 educators are RDs who are credentialed as CDEs—those who've met the academic, professional, and experiential requirements of the National Certification Board for Diabetes Educators. They may perform clinical assessments, including relevant lab values, food/drug interactions, diabetes-specific medication use, and psychosocial adjustment. Someone who's credentialed as both an RD and CDE can make medical nutrition therapy-related diagnoses as well.

Table 2 Five Levels of Responsibilities for the Certified Diabetes Educator

	Level 3	Level 4	Level 5
Assessment	Assess basic diabetes management skills/knowledge of diabetes and literacy/numeracy; motivation and readiness to learn and make behavior changes; attitude toward learning and preferred learning style; and impact of social, economic, and cultural aspects/circumstances. Identify potential barriers to behavior change, including cognitive and physical limitations, literacy, lack of support systems, and negative cultural influences. Screen for acute and long-term complications.	In addition to level 3 assessment, perform clinical assessment (including relevant lab values) and physical assessment (including signs of malnutrition and anthropometrics). Assess food/drug interactions, use of over-the-counter medications, diabetes-specific and diabetes-related medication use (eg, insulin-to-carb ratios), and psychosocial adjustment (including coping strategies and eating disorders). Make medical nutrition therapy diagnosis.	Same as levels 3 and 4
Goal setting	Guide patient in setting individualized behavioral goals, prioritizing goals based on assessment and preference, and develop success metrics.	Including level 3 criteria, guide patient in developing clinical goals to address needs identified in all areas of the assessment. Use behavior change methodology (motivational interviewing, cognitive therapy, etc) to ensure and influence patient participation in the education process.	Same as levels 3 and 4
Planning	Develop basic plan related to acquiring necessary diabetes management skills based on needs identified in assessment.	Develop educational plans to address behavioral goals established in the goal-setting process and a learning plan to address gaps in knowledge. Plan strategies for addressing barriers identified, and refer to prescriber as needed.	Develop a detailed intervention plan to address both clinical and behavioral goals established in the goal-setting process and a learning plan to address gaps in knowledge. Plan strategies for addressing barriers identified. Follow protocols and/or refer to specialist as needed.
Implementation	Suggest/support diabetes management skills training; offer guidance on accessing care and financial issues (reimbursement). Refer to prescriber or CDE as needed.	Recommend and execute plan; ensure patient has the knowledge, skills, and resources necessary to follow through on the plan. Identify and address barriers that become evident throughout the process.	Same as level 4
Evaluation/ Follow-Up	Reassess cognition of goals and plan, monitor adherence, and refer to prescriber or CDE as needed.	In addition to criteria in level 3, reassess clinical and behavioral goal achievement at each visit, and reassess and revise plan and goals. Monitor adherence to plan.	In addition to criteria in levels 3 and 4, follow protocols and refer to other specialists as appropriate.

— Table adapted from reference 14

Level 5 educators are advanced-level educators and clinical managers who are board certified in advanced diabetes management (BC-ADM). These RDs engage in autonomous assessment, problem identification, planning, implementation, and evaluation of diabetes care. They may function with protocols, depending on the facility and organization policies, bylaws, and clinical privileging; state practice acts; and state occupation supervision regulations.

An Optimistic Future for RDs

Passage of the Patient Protection and Affordable Care Act put the United States on the path of a new healthcare paradigm that may have a tremendous impact on the supply of and demand for dietetics practitioners. It promises to change the way healthcare is delivered.[12] Encouraging results from PCMH pilot demonstrations make it clear that this model will remain a factor in the way healthcare is provided. If RDs are going to remain competitive, it's important for them to understand the PCMH model and how they fit into it.

The epidemic of diabetes persists—its prevalence doubled between 1986 and 2006—and costs the government billions of dollars a year. Research supports the hypothesis that diabetes can be prevented, and the Patient Protection and Affordable Care Act emphasizes preventive care for diabetes.[13] Historically, nurses and dietitians have offered diabetes education. However the role of the diabetes educator has expanded to providers in other disciplines as well as lay health workers.[14] To compete in this environment, RDs may benefit from specialization as a CDE and BC-ADM, certifications that will enable them to be a greater asset to the healthcare team.

As part of the PCMH, RDs holding these credentials will be uniquely qualified to supervise those in the lower levels of competencies, assist patients in developing self-management plans, train PCMH teams on self-management support, coordinate SMAs, and work as case managers. RDs will be on the frontlines of diabetes management.

— Constance Brown-Riggs, MSEd, RD, CDE, CDN, is the national spokesperson for the Academy of Nutrition and Dietetics, specializing in African American Nutrition, and author of *The African American Guide to Living Well With Diabetes* and *Eating Soulfully and Healthfully With Diabetes*.

For references, view this article on our website at www.TodaysDietitian.com.