With total health insurance costs at approximately 17% of the US Gross Domestic Product, a rapid growth rate, rising rates of chronic diseases, such as diabetes, and an aging population, changing the dynamics—the fundamental drivers—of the US healthcare is key. The 2010 Census estimates 16.3% of Americans do not have health insurance, and that the percentage of people with employment-based health insurance decreased from 56.1% in 2009 to 55.3% in 2010. The employment picture is also weak. In 2010, 16.2% of the US population was either unemployed, had temporarily given up searching for a job, or was working part-time while looking for full-time employment. A national survey of employer-based health insurance showed that average premiums for family coverage in 2011 totaled $15,073 (9% higher than in 2010), with employer contributions of $10,944 and employee contributions of $4129.

In addition, the United States faces strong headwinds from the weakness of the international economy, a financially led downturn that tends to last longer and be deeper than other recessions, and hyperpartisan politics. The need for accessible, affordable health insurance will be even greater in 2014 than it is now.

Ms Collins is President, America’s Health, Oak Hill, VA.
This article reviews the current shortages in primary care physicians (PCPs) and other healthcare professionals that must be greatly ameliorated before the major expansion of the US health insurance system in 2014, when the Patient Protection and Affordable Care Act (ACA) provides health insurance alternatives to individuals and to businesses with 50 or more employees. The article also discusses several examples of transformative initiatives in the US healthcare system that have been shown to improve the quality and lower the cost of care. Figure 1 depicts the key ways in which the US healthcare system may need to move forward to meet these challenges.7,11

**The Challenges of the Current PCP Shortages**

The United States is currently facing shortages in physicians and other healthcare professionals that are needed to provide care in the PCP office setting. A December 2010 Council on Graduate Medical Education report estimated that there were 242,500 PCPs in the United States in 2010, and almost 25% (55,000) of them aged ≥ 56 years.12

The average compensation for PCPs is approximately only 55% that of other medical specialties, leading to a cumulative lifetime net income gap of approximately $3.5 million for the individual PCP.12 This essentially results from the resource-based relative value system (RBRVS) on which the Medicare fee-for-service (FFS) schedule payments are based.

A likely unintended consequence of the RBRVS is a bias toward viewing skill in terms of expertise in conducting a specialized procedure as opposed to professional time, as well as expertise in making a correct diagnosis by differentiating among multiple potential conditions, or improving chronic conditions that are typically associated with increased morbidity and cost. The Medicare FFS schedule is used not only in Medicare; it also influences managed care organization (MCO) and Medicaid physician reimbursement payment amounts.

A closely related challenge is the very low percentage of medical school students who are choosing to go into primary care. A related challenge is that approximately 59 million Americans, almost one fifth of the US population, live in areas with health professional shortages.13

Shortages in a number of other primary care health-care professionals exist, notably with nurses—the single largest provider group in the United States.14,15 A minority of nurses are employed in the ambulatory care and in public and community care settings.14

Many healthcare professional shortage areas in the United States are in rural and inner-city areas, where the population is medically underserved. State-by-state and county data are available on the US Department of Health and Human Services website.16 Rural areas may be unable to financially support a PCP’s practice,12 and there may be other practice challenges and lifestyle issues. Solutions may well require innovations in current practices (as discussed below).

Inner-city areas present their own challenges, and
until the ACA’s enactment, Medicaid’s low payment rates may well have created significant disincentives. In a telephone interview on October 8, 2011, with Michael Collins, MD, an internist with 30 years of experience in primarily treating commercial and Medicare patients, as well as inner-city Medicaid patients, he commented on the greater complexity and the number of medical problems his Medicaid beneficiaries have, including an increased incidence of serious mental illness.

Transforming the US PCP workforce will require significant changes. The ACA includes a number of measures to support PCPs. The funding levels in the ACA for these priorities—such as $1.5 billion for the National Health Services Corps—are reasonable and in all likelihood may be cost-saving, by averting increasing morbidity and hospitalization levels in the United States. In 2 separate telephone interviews conducted on September 21, 2011, with Virginia L. Hood, MD, President of the American College of Physicians (ACP), and with Glen R. Stream, MD, MBA, FAAP, President of the American Academy of Family Physicians, they both expressed strong support for the ACA. Dr Hood and Dr Stream are both concerned that hyperpartisan politics in Washington, DC, as well as concerns about

### Table 1: Provisions in the Healthcare Reform Law Related to Primary Care

<table>
<thead>
<tr>
<th>Topic</th>
<th>PPACA Provisions</th>
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| Preventive services | • Provide incentives for Medicare and Medicaid beneficiaries to complete behavior modification programs  
 |                   | • Require qualified health plans to cover, without cost-sharing, preventive services rated A or B by the US Preventive Services Task Force |
| Wellness programs | • Provide grants for up to 5 years to small employers that establish wellness programs  
 |                   | • Permit employers to offer employees rewards—premium discounts, cost-sharing waivers, or benefits that would not otherwise have been provided—of up to 30% of the cost of coverage for participating in a wellness program and meeting certain health standards |
| Workforce        | • Establish a multistakeholder workforce advisory committee to develop a national workforce strategy  
 |                   | • Increase graduate medical education (GME) training positions, with priority given to primary care and general surgery, and states with the lowest resident physician-to-population ratios  
 |                   | • Increase flexibility in GME funding to promote training in outpatient settings and increase residency programs in rural and underserved areas  
 |                   | • Establish federally funded health centers that include primary care residency programs  
 |                   | • Increase workforce supply and support healthcare professional training via scholarships and loans  
 |                   | • Provide state grants to providers in medically underserved areas  
 |                   | • Train and recruit providers to serve in rural areas  
 |                   | • Establish a public health workforce loan repayment program  
 |                   | • Increase funding for nursing education, training programs, loan repayment and retention grants, and career ladder creation  
 |                   | • Provide grants to employ and train family nurse practitioners who provide primary care in federally qualified health centers and nurse-managed clinics  
 |                   | • Support development of training programs that focus on primary care models, such as medical homes, team management of chronic disease, and integration of physical and mental health services |

PPACA indicates Patient Protection and Affordable Care Act.  
the deficit, may derail the funding needed for these key initiatives to support primary care, which are very likely to reduce, or at least restrain, the growth of healthcare costs in the United States.

Dr Hood noted that the Workforce Advisory Committee has not yet met, and funding for a number of other initiatives to support a strengthened PCP-based system has either not been provided or has been relatively low. Furthermore, the number of PCP slots at residency programs, which has not changed since 1997, is particularly problematic, according to Dr Hood. And Dr Stream suggested that scholarships are a more powerful incentive than debt forgiveness to draw medical students into primary care.

Given the current intense Republican opposition to “Obamacare,” various national polls showing ambivalence toward the ACA, uncertainties related to potential Supreme Court action on the ACA, and the hyperpartisanship in Washington, it may be valuable to bring forth a separate new bill that focuses solely on key primary care–related provisions in the ACA, as identified in Table 1, for which bipartisan support can be expected.

**Initiatives to Strengthen Primary Care**

The politics surrounding the Federal Emergency Management Agency (FEMA) expenditures in the wake of multiple unexpected natural disasters, and the passage of a bill to fund FEMA in late September 2011 with bipartisan support, suggests this as a possibility. Strengthening of the PCP model, which is desperately needed, and quickly, is currently being held hostage to politics: there is a strong likelihood that this situation will continue, given the current political environment.

**Tax Incentives**

Considering strong negative feelings toward Obamacare and congressional concern about any spending increases, Donald B. Marron, Director of the Urban-Brookings Tax Policy Center, in an interview conducted on September 14, 2011, discussed alternative strategies for providing tax credits for PCPs and training. “People do respond to tax credits,” Mr Marron commented, noting that there would have to be identifiers recognizable by the Internal Revenue Service for program qualification.

Increasing the level of tax credit (ie, financial incentives) for PCPs working with identifiable underserved populations may be a successful strategy. To encourage medical school students and residents to join primary care, another strategy could be to have costs associated with medical school training for PCPs depreciated through income tax credits, with the depreciation schedule’s structure developed in such a way that it strongly incentivizes students and residents.

Particularly because years in residency are rigorous and have low pay, accelerated depreciation could provide a strong incentive to choose primary care. Safeguards, such as a 5-year commitment to work primarily with Medicaid or patients in underserved areas, would of course need to be put into place. These are some strategies that deserve to be further explored in line with Mr Marron’s suggestions.

**Patient-Centered Medical Home**

Among the different ongoing initiatives aimed at improving the quality and reducing the cost of healthcare in the United States, one that stands out is the patient-centered medical home (PCMH). In his interview, Dr Stream commented that various articles published in peer-reviewed journals demonstrate that PCMHs improve the quality of patient care.18-20 Both Dr Stream and Dr Hood discussed the importance of the PCMH as a multidisciplinary team effort that includes not only PCPs but other healthcare providers as well.

Dr Stream used the imagery of a football team, where the PCP is the quarterback, but the team as a whole and individual members of the team have considerable flexibility in their activities, always working toward the goals of improved patient care and better outcomes. In different practices, effective models, and which healthcare providers should be involved, vary significantly.

**Nurses in Primary Care**

In an interview conducted on September 29, 2011, with Peter McMenamin, PhD, Senior Policy Fellow of the American Nursing Association, Dr McMenamin discussed the value of advanced practice nurses (APNs) and physician assistants (PAs) as physician extenders who can prescribe medications. APNs and PAs receive substantial training related to pharmaceuticals, an important fact because of the importance of drugs and the issue of patient adherence in improving outcomes in chronic diseases. Dr McMenamin pointed out, however, that there is “substantial variation between states in terms of APNs’ scope of practice,” with greater restrictions in Southern states. Many PAs work with surgeons or other specialists; therefore, potentially the growth of this profession may not have as strong an impact on primary care.

Additional healthcare professionals that can be valuable in developing the care-provider team include registered nurses, licensed practical nurses (LPNs), case managers, health coaches, and medical assistants. By reviewing multiple cases and coordinating care, case managers can work to ensure delivery of high-quality care and improved outcomes. Health coaches can help to work through particular problems or focus on and achieve specific goals.
In his interview, Dr Collins commented that high-quality, well-trained medical assistants can be extremely helpful in taking a thorough medical history, which includes understanding patient stress levels. Stress can make medical conditions worse or even lead to the false appearance of a medical condition when the cause is simply very high stress. In addition, he noted that medical assistants’ salaries are significantly lower than those of other healthcare professionals, making it cost-effective for them to spend time with patients.

A 2011 Institute of Medicine report highlights the critical need for more nurses. Increasing the number of nurses in PCP offices is key to the success of the PCMH model. In his interview, Dr McMenamin noted that there is a shortage of nursing faculty. He also pointed out the issue of faculty aging, which creates additional challenges in educating registered nurses and APNs. He commented that APNs can play multiple roles in the PCMH model, including seeing patients, developing coordinated health plans, and acting as case managers. APNs receive substantial training related to pharmaceuticals and have prescribing authority in all 50 states.

**Physician Assistants in Primary Care**

In an interview conducted on September 9, 2011, with Robert Wooten, PA-C, President of the American Association of Physician Assistants, Mr Wooten said that PAs can play a substantial role in primary care, and in addition to the approximately 150 PA programs that currently exist, about 40 new programs are preparing for credentialing. According to the 2010 Census, there were more than 83,000 PAs in the United States in 2010. Mr Wooten added that PAs can undertake many of the traditional roles of PCPs, which can be particularly valuable in rural and other areas when PCPs are unavailable, or in roles such as case management or professional activities associated with medication management, which is essential for successfully managing patients with chronic conditions.

Although the difference in pay is not nearly as monetarily large as between PCPs and specialists, the issue of pay disparities between specialties also affects PAs. However, more than 30% of PAs choose primary care—the largest specialty they select—and they certainly are an important contribution to the primary care workforce.

**PCMH’s Success in Managing Chronic Conditions: TEAMcare**

It is well known that chronic disease is an enormous driver of healthcare costs in the United States. Diabetes, which is frequently associated with high blood pressure and/or hypercholesterolemia, is exploding, both in terms of the number and severity of patients with diabetes, as well as treatment costs. Figure 2 provides projections about the number of patients with diabetes and the cost burden to the US healthcare in 2033, if, as a society and as individuals, we do not substantially change course.

An excellent example of the PCMH in action—albeit within the context of a closed-staff model HMO—is TEAMcare’s work with patients who had depression and diabetes (the majority of patients) and/or cardiovascular disease. Table 2 presents 12-month data from the TEAMcare study.

In a September 9, 2011, discussion with Elizabeth H.B. Lin, MD, MPH, a family physician and researcher with Group Health Research Institute in Seattle, WA, about what can explain why TEAMcare was so successful with such challenging disease states, she noted the importance of identifying and treating depression first, so that patients can become more active as partners in managing their disease. Dr Lin also said that despite the social stigma of depression, there is a very well-validated instrument, the Patient Health Questionnaire (PHQ-9) with which to measure it. Typically, depression in patients with comorbidities has been overlooked to focus on hypoglycemia, systolic blood pressure, or low-density lipoprotein levels.

Dr Lin explained that the TEAMcare approach is truly multidisciplinary. Teams include PCPs, nurse case
managers, and consultant psychiatrists, as needed. The team can be expanded to include PAs, LPNs, medical assistants, and clinical pharmacists. Another notable component of this approach, according to Dr. Lin, is the concept of “treat to target,” in which the patient is involved in selecting the target (eg, weight vs exercise) and the specific clinical goal. Creating personal connections between patients and members of their healthcare team is important, and this is potentially one of the factors in TEAMcare’s (and the PCMH’s) success.23

**Changing Patient Behavior: The Ochsner Health System Model**

In a September 12, 2011, telephone interview, with Patrick J. Quinlan, MD, Chief Executive Officer at Ochsner Health System, one of America’s top integrated health systems, Dr. Quinlan stressed the importance of not accepting the US current high health burden as inevitable. “The first step is to reduce the disease load to prevent what’s preventable, since about 50% of the disease burden is related to lifestyle factors,” and to moderate what is not, Dr. Quinlan said. He noted the importance of caring about one’s own health and taking personal responsibility for it. Dr. Quinlan also highlighted the importance of the primary care model and of a team-based strategy, which could potentially include social supports such as family members, groups, or others who could help patients in maintaining healthy choices, such as weight loss, smoking cessation, and exercise. He reinforced the importance of direct personal support, noting that telephonic support alone is a poor substitute.

Dr. Quinlan further addressed employers’ shared interest in effective wellness programs. When asked what helped motivate people’s behavior the most, Dr. Quinlan replied “a pedometer.” Ochsner Health System uses Virgin HealthMiles, an employee wellness program in which employees use a pedometer to record their steps and periodically measure their blood pressure, weight, body fat, and body mass index at kiosks located throughout the 13,000-employee Ochsner system.24 Employees can measure their progress, and data are uploaded to a central system.

Dorothy Cain, RN, the system coordinator at Ochsner, commented in a September 28, 2011, interview on the high employee participation rate (87%), adding that daily activity and accountability are important to the program’s success. Successful program participants can significantly reduce their health insurance premiums for the following year, according to Ms. Cain. This is logistically easier for Ochsner, and it also benefits employees, because premiums and employer contributions have been rising significantly faster than wages. It also avoids the sales tax that cash or gift card rewards incur, she said. Ms. Cain discussed the importance of upper-management commitment to wellness, noting that with the unsustainable rise in healthcare costs, this shift is in fact occurring.

**Strategies to Strengthen the PCMH Model**

A number of strategies could help with underserved rural populations. For example, Family Medicine Spokane offers residency and medical school training and participates with other specialties in the Colville, WA (population of approximately 5000 people) rural training track.25 In the interview mentioned earlier with Dr. Stream, he said that in very sparsely populated regions in the Northwest, Midwest, and other areas, an APN could schedule clinic visits several days per week and work with a PCMH to deliver the full spectrum of care needed. A central PCMH base and multiple satellites could cover a very wide geographic area.

Funding the higher level of care, coordination, and case management required in this type of model requires more than an encounter-based payment schedule. Dr. Stream noted that including a care or case management component—a per-member, per-month (PMPM) amount—to pay for the infrastructure needed to establish and operate as a PCMH is important, as is a pay-for-performance component. Dr. Stream commented that current payment mechanisms are typically insufficient for the levels and nature of care needed for patients with chronic conditions.

**Table 2** TEAMcare Select Trial Results at 12 Months

<table>
<thead>
<tr>
<th>Outcome</th>
<th>TEAMcare group, %</th>
<th>Usual care group, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement on Patient Global Improvement scale</td>
<td>45</td>
<td>18</td>
</tr>
<tr>
<td>≥50% decrease in SCL-20 score (depression)</td>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>≥1.0% decrease in glycosylated hemoglobin level from baseline at 12 months (P = .006)</td>
<td>36</td>
<td>19</td>
</tr>
<tr>
<td>≥10-mm Hg decrease in systolic blood pressure from baseline at 12 months (P = .016)</td>
<td>41</td>
<td>25</td>
</tr>
<tr>
<td>Satisfaction with care of diabetes, heart disease, or both</td>
<td>86</td>
<td>70</td>
</tr>
</tbody>
</table>

SCL-20 indicates Symptom Checklist-20.

A number of new healthcare payment models have either been implemented or are being considered. MCOs have greater flexibility in terms of how they pay physicians: a number of MCOs, Medicaid programs, and others are experimenting with new payment systems.

In the interview with Dr Hood, she discussed the example of Vermont’s multipayer Blueprint for Health, for which the 2010 annual report demonstrates very favorable results in terms of reduced hospital admissions for Medicaid patients, as well as reduced costs for hospitalizations and overall care.

Another payment example is the PCMH model created by Community Care of North Carolina (CCNC), which provides care-coordination payments for Medicaid patients. As shown in a study of CCNC’s Medicaid program, which was conducted by Treo Solutions, an independent health analytics company, the program achieved $1.5-billion savings over a 3-year period (from 2007 to 2009) for its Medicaid enrollees.

In an interview conducted on October 5, 2011, with Yul D. Ejnes, MD, FACP, of Coastal Medicine, a primary care practice in Rhode Island that has more than 80 physicians, Dr Ejnes discussed how Blue Cross of Rhode Island—a nonprofit MCO and the state’s largest payer—has contracted with several large practices to develop PCMHs that meet guidelines developed by the ACP several years ago.

According to Dr Ejnes, the practice is reimbursed based on a risk-adjusted PMPM payment amount, a slightly enhanced FFS basis, and performance-based criteria, such as following national guidelines for screening and treatment of patients whose disease characteristics place them at particularly high risk for serious medical events. To expand patients’ access, the practice is also open on Saturdays. Dr Ejnes said that the new payment mechanisms helped pay for salaried nurse case managers who provide care coordination and case management. He commented that these changes made the “practice of medicine more fun, and that [his] time was now freed up to interact with patients.” He also noted the reduced time he had to spend on administrative tasks.

Finally, the use of H-1B visas, and potentially changing the H-1B program so that PCPs would not need an employer sponsor, could be another way to increase the number of primary care providers in the United States. In addition, other countries, including Canada, Denmark, the Netherlands, and England, have programs to attract designated, highly skilled workers to their countries. A program like this in the United States could potentially be useful in rural areas, because many countries have substantial rural populations.

Conclusion
There is a great deal to be done in a short time to prepare for the changes in the ACA and to reverse the charging and very destructive drivers of America’s growing healthcare costs. This is something that as Americans working in a business environment and as a country, we cannot afford. Dr Stream expressed optimism that we can turn the situation around thanks to the clear understanding of what is needed to be done, the possibility of robust solutions, and the national sense of urgency. More innovation—particularly with regard to realignment of financial incentives to strengthen primary care and increase the number of PCPs and other healthcare providers who choose or move to primary care—is needed to meet America’s growing healthcare quality and cost challenges.

Author Disclosure Statement
Ms Collins has no conflicts of interest to report.

References
9. Interview with Patrick J. Quinlan, MD, Chief Executive Officer (CEO), Ochon Health System; September 12, 2011.

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9. Interview with Patrick J. Quinlan, MD, Chief Executive Officer (CEO), Ochon Health System; September 12, 2011.
Primary Care Shortages

STAKEHOLDER PERSPECTIVE

Primary Care Shortages: It Is All About the Money After All

MEDICAL DIRECTORS/POLICYMAKERS: As I sat in the examination room, the doctor looked up at me and sighed, “I don’t know how much longer I can keep doing this.” This is not just any doctor; this is my primary care physician (PCP), whom I have known since our days in medical school and even before. He was among the brightest students in our class, and in the early 1970s, when primary care was undergoing a resurgence, he knew from the first day of medical school that he wanted to do family practice. Never wavering from that goal, he became a dedicated family physician and my own physician. As an aging baby boomer, it is a comforting thought to have one’s medical care in the hands of someone who is not only competent, but who also knows my medical history from experience. He continued, “The demands of primary care have increased, the cost of running my practice is spiraling upward, and the amount of administrative work is huge....and I am making less money than I did 10 years ago.” Although this is just one doctor, his words are symptomatic of the impending crisis in primary care.

Those words resonated in my mind when I read Ms Collins’ article in this issue. As Ms Collins notes, almost 25% of the nation’s quarter-million PCPs are aged >55 years. That, coupled with a very low percentage of medical school graduates entering primary care, is a sobering thought. At a time when we have an aging population, when the baby boomers need more care, and when we face the potential for more than 40 million Americans having improved access to care under the Affordable Care Act, we are likely to have a decreasing number of PCPs.

This crisis does not have an easy solution. As Ms Collins notes, PCPs tend to earn about half of what other specialties earn, resulting in a more than $3-million gap in lifetime earnings. It is not difficult to understand that primary care is not a chosen career path by the majority of medical students today. Yet, for the health system to accommodate the growing public care needs, we find ourselves in a dilemma—how do we expand primary care? In this article, Ms Collins explores a number of potential solutions, including adopting the patient-centered medical homes concept, and using nurses and physician assistants to provide primary care.

Yet, any solution that does not address the issue of compensation for PCPs is not likely to be successful. As noted in the article, the current reimbursement systems tend to value procedural and technical skills more than cognitive and interpersonal skills—the 2 essential elements of primary care. Although it is tempting to simply increase payments to PCPs, that is not likely to happen in a system that is struggling to manage cost. We ultimately must find a way to redistribute payments to physicians rather than simply increasing overall spending. This is not likely to be a popular concept for those who may stand to lose in the process: we need creative solutions to physician payment.

A recent article in the Wall Street Journal discusses large insurers that are beginning to address this issue. Aetna, WellPoint, and UnitedHealth are all looking at ways to enhance primary care reimbursement without “breaking the medical bank.” At least this is a start.

Meanwhile, my physician’s words are being heard in primary care offices around the country. We must act now to address this impending crisis, before it deepens.

Gary M. Owens, MD
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