Cardiometabolic Health in 2014: Clinical and Economic Implications

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The high clinical and economic burdens associated with cardiometabolic conditions, including cardiovascular disease, diabetes, and obesity, in the United States present ongoing challenges for patients, providers, payers, drug manufacturers, and the entire healthcare system. Heart disease continues to lead the morbidity and mortality trends in the United States, with diabetes lagging not far behind, especially when factoring in individuals with prediabetes. Also, the number of obese Americans, especially among the younger population, continues to rise, despite efforts by healthcare professionals and the federal government to increase awareness of the risks associated with excess weight.

The numbers associated with cardiometabolic conditions in the United States are staggering. In 2011, 76.4 million patients in the United States had hypertension, 16.3 million had chronic heart disease, 7 million had stroke, and 5.7 million had heart failure—all directly increasing the mortality risk from heart disease. In 2007, the estimated total cost associated with diabetes in the United States was $174 billion. In 2008, the estimated total cost for obesity was $147 billion. And in 2010, the US healthcare system spent $272.5 billion in direct costs on the treatment of patients with cardiovascular disease. Yet, these numbers pale in comparison to the current projections of $818.1 billion that the United States will likely spend by 2030 for the treatment of cardiovascular disease, or the $957 billion projected to be spent on obesity by 2030. These figures may be enough of an incentive to encourage the pharmaceutical industry and the federal government to devote increasing resources and efforts on innovative therapies for the promotion of cardiometabolic health in the United States and potentially worldwide.

This issue of American Health & Drug Benefits includes important contributions to the medical literature in cardiometabolic health, highlighting the need for new strategies to address the ever-growing clinical and economic conundrums associated with cardiovascular disease, diabetes, and obesity in the United States, and the need to improve compliance with clinical guidelines.

Tran and colleagues analyze the implications of the 2013 guidelines issued by the American College of Cardiology and the American Heart Association (ACC/AHA) for the treatment of high blood cholesterol, which present a paradigm change in the approach to the prevention of heart disease. Using real-world claims data, the authors project that the new ACC/AHA recommendations will have a significant impact on the use of cholesterol-lowering medications: nearly 25% more patients in the United States are expected to be starting statin therapy in the next 3 years. Furthermore, they calculated that this 25% increase in statin use would be accompanied by a 68% reduction in nonstatin prescriptions for patients with elevated cholesterol.

Despite the wealth of treatment options for heart disease and diabetes, heart disease remains the leading cause of disease-related mortality in the United States, and less than 50% of patients with diabetes reach the American Diabetes Association’s glyemic goal of hemoglobin A1c <7%. Advances in the search for biomarkers and in personalized medicine may help to better understand the biologically and genetically based risk factors for cardiometabolic complications. A barrier in the treatment of obesity is overcoming the issue of lifestyle behavior as the main cause of this condition and accepting it as a medical condition with a unique pathophysiology.

The economic outlook for cardiometabolic conditions is as dire as the clinical picture. In 2007, the estimated total cost associated with diabetes in the United States was $174 billion. In 2008, the estimated total cost for obesity was $147 billion. And in 2010, the US healthcare system spent $272.5 billion in direct costs on the treatment of patients with cardiovascular disease. Yet, these numbers pale in comparison to the current projections of $818.1 billion that the United States will likely spend by 2030 for the treatment of cardiovascular disease, or the $957 billion projected to be spent on obesity by 2030. These figures may be enough of an incentive to encourage the pharmaceutical industry and the federal government to devote increasing resources and efforts on innovative therapies for the promotion of cardiometabolic health in the United States and potentially worldwide.
Cai and colleagues investigated the level of adherence to anticoagulation guidelines in the real world using claims data from a large national database. The current clinical guidelines recommend the early initiation of warfarin with parenteral anticoagulation therapy for the treatment of patients with acute venous thromboembolism (VTE) and for the prevention of VTE recurrence, which is especially high in the early months of an acute event. Although acute VTE is associated with a high mortality risk and long-term complications, Cai and colleagues found that many patients are not managed according to the current treatment guidelines. In their study, only 25% of the 4403 patients with acute VTE received warfarin on the same day as initiating parenteral anticoagulant therapy, and more than 50% of patients received warfarin 3 days after initiating parenteral anticoagulant therapy. This research points to a gap in patient care that could result in unnecessary morbidity and mortality in this high-risk patient population.

Finally, Miller and colleagues review the efforts in drug development to address the diabetes challenge. They review the evidence for new drug classes for the treatment of patients with type 2 diabetes, including drugs that were recently approved by the US Food and Drug Administration (FDA) or drugs that are currently in development. The authors focus on the new class of sodium glucose cotransporter-2 inhibitors and the new glucagon-like peptide-1 agents, as well as a few other recently approved drugs.

Although 14 classes of drugs are currently available for the treatment of type 2 diabetes mellitus, Miller and colleagues show that in 2011, almost 15% of patients with type 2 diabetes were not taking a medication for their disease. This lack of patient adherence, says Bourret in his accompanying Stakeholder Perspective, remains a major barrier to proper glycemic control. It is also likely the reason that the majority of the new oral drug classes recently approved by the FDA or that are in development include once-daily agents, which potentially could improve adherence. In addition, the new injections entering the market, according to Miller and colleagues, are now offered in a pen format, again with the goal of improving adherence.

Perhaps most important, according to Miller and colleagues, the new agents entering the market or being developed for the treatment of patients with diabetes are either weight-friendly or can induce weight loss, an important aspect in diabetes management. The new drugs are also associated with a lower risk for hypoglycemia; considering the mean total cost of $17,564 per hypoglycemic episode requiring hospitalization, this can be a meaningful improvement to the healthcare system as a whole, Miller and colleagues note.

With the rise in life expectancy and the aging of the US population, as well as the growing number of obese patients, the unsustainable clinical and economic predicament of cardiometabolic conditions can be expected to persist, requiring new solutions. The sample of articles assembled in this issue provides insight into some of the challenges facing all healthcare stakeholders—providers, payers, researchers, drug developers, and policymakers—and the need for heightened innovation in the search for new and improved solutions. Applying the implications from health economics research and personalized medicine into patient care may open new opportunities to improve the clinical and economic outcomes in cardiometabolic health.

We invite all readers to submit comments, critiques, and letters related to the topics discussed in this issue at www.AHDBonline.com.

References