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Abstract: The changing organization, financing, and priorities of the U.S. health care system are creating new imperatives for employers, health care insurers, hospitals, and especially interprofessional health care practitioners. The Patient Protection and Affordable Care Act (ACA) of 2010 was created with the aim of decreasing overall health care cost, improving access to health care, and improving health care quality, while including provisions that support coordinated health care practitioner collaboration within the system. This coordinated collaboration among health professions has the potential to provide comprehensive, population-based, cost-effective, and high-quality patient care and a new emphasis on health promotion, wellness, and disease prevention. This commentary will describe the role of the ACA in facilitating these health care system changes and opportunities for pharmacists and other health care professionals to be a part of this change due to implementation of provisions within the ACA.

Key words: Affordable Care Act, health care reform, pharmacists, health care innovation, health care system, health care costs, medication therapy management.

The improvement of the U.S. health care system for the poor and underserved is an important issue given the prevalence of health disparities between rich and poor in this country. Even when access to health care is not a barrier, the health status of low-income residents of the U.S. is below that of other U.S. sub-populations. Therefore, an improved health care system where there is more collaboration between health care providers, where non-prescribing health care providers can work at the top of their license,* and where there is a focus on quality is desperately needed. The Patient Protection and Affordable Care Act (ACA) of 2010 may just bring about these needed changes to the health care system.

The ACA was created with the goals of decreasing health care cost, improving

**Working at the top of one's license* means providing *all* services for which one has the education and ability, and that are within one's scope of practice. Specific to this commentary, having pharmacists provide medication therapy management (MTM) services in the hospital setting, or as part of an accountable care organization or patient-centered medical home, as well as using MTM and other pharmacist services such as adherence counseling and patient follow-up to decrease readmissions, are examples of pharmacists working at the top of a pharmacist's license.

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access to health care, and improving health care quality.[1] All three of these goals will provide tremendous benefit to the poor and underserved, but the most important to this population may be the goal of improved health care quality. In fact, there are several provisions within the ACA that provide opportunities for pharmacists and other health care professionals to practice collaboratively as members of a health care team to improve the quality of health care provided to patients.

The Sections of the ACA that include provisions related to these types of quality improvement are: Section 3021—Center for Medicare and Medicaid Innovation; Section 3024—Participation in independence at home demonstration program; Section 3025—Hospital readmissions reduction program; Section 3026—Community-based care transition program; Section 3502—Participation on community health teams to support patient centered medical homes; and Section 3503—Perform medications management services. These sections provide considerable opportunity for the expansion of roles of various health care professionals such as pharmacists, nurse practitioners, behavioral health workers, dieticians, and social workers.

Reducing Hospital Admissions

Inpatient hospital care, due to its cost, is a major concern and focus. According to the American Hospital Association in 2010 there were 5,754 regional hospitals in the U.S. a total of 942,000 hospital beds, and 36,915,331 admissions (approximately one in 10 Americans).[2] Many of these patients were later readmitted. In the Medicare population alone, of the 10 million patients who were discharged from the hospital, 20% of them were readmitted within 30 days.[3] A study by Jencks and colleagues found a 30-day readmission rate of nearly 20% for Medicare patients, and that the cost of unplanned readmissions cost fee-for-service Medicare was over $17 billion in 2004.[4] In 2010, this 30-day readmission rate for Medicare patients remained unchanged at 20%.[3] In the Medicaid population, Jiang and Wier reported that in 2007 about 10% of non-obstetric Medicaid patients aged 21 to 64 years had at least one readmission within 30 days. [5] These readmissions greatly increase the cost to the health care system, and clearly must be addressed. Currently high readmission rates and related increased health care costs within the U.S. population lend force to this concern with decreasing hospital readmissions.

Historically, reducing hospital readmission rates were of little concern to the bottom line of hospitals, since they were paid for each readmission. However, Section 3025 of the ACA includes a provision whereby CMS will reduce payments to hospitals that have 30-day readmission rates that are too high.[1] In fact, the major focus of sections 3024, 3025, and 3026 is the reduction of hospital readmissions.

Section 3024 includes funding for demonstration programs to test a payment incentive and service delivery model that utilizes physician and nurse practitioner directed home-based primary care teams designed to reduce expenditures and improve health outcomes in the provision of items and services. The goals of these demonstration programs are to reduce preventable hospitalizations, prevent hospital readmissions, reduce emergency room visits, and improve health outcomes commensurate with the beneficiaries' stage of chronic illness. These goals are to be attained through the

provision of comprehensive, coordinated, continuous, and accessible care to high-need populations at home and coordinating health care across all treatment settings.[1]

Section 3025 initiated the hospital readmission reduction program, and as of October 2012 Center for Medicaid and Medicare Services began to reduce payments to hospitals that have high numbers of patients readmitted. Therefore, hospitals must now focus on appropriate transitions and coordination of care and on the care given to patients post discharge.[1] What this means for patients is that hospitals will need to implement programs that provide better care for patients during their hospital admission and also provide post discharge care for patients so that they are less likely to be readmitted. These programs are likely to include coordination of care programs where the hospital works to ensure patients have a primary care provider (PCP), ensures that a medication reconciliation and medication counseling is carried out before discharge, and ensures the patients discharge summary and discharge medication list is communicated to the PCP.

Continuity of Care

To help hospitals with the care transitions process, Section 3026 provides funding for eligible entities that furnish improved care transition services to high-risk Medicare beneficiaries. These entities can either be hospitals that have high readmission rates or community-based organizations.

The focus on decreasing hospital readmission rates increases opportunities and expectations for pharmacists, nurse case managers, and social workers to improve patient transitions to the next level of care. Pharmacists are positioned to use their expert medication knowledge in several ways to help address the readmission problem. At discharge, hospital-based pharmacists can conduct a patient-centered and systematic medication reconciliation that includes reconciling the discharge orders with the medications and doses patients were taking while admitted; checking to make sure all of discharge medications are indicated, effective, safe, and convenient for the patients; educating patients to make sure they understand how to take the medications; providing medication adherence counseling, and providing the patient with an accurate list of the medications the patient will be taking after discharge. These pharmacists could also coordinate care with the patient's primary care provider, by sending them a copy of the patient's discharge summary and discharge medication list. About two weeks post-discharge, the hospital-based pharmacists can contact patients to assess the effectiveness of medications, any noted side effects, and any problems with medication adherence. If medication-related problems are identified, these pharmacists can collaborate with prescribers by recommending and getting approval for necessary changes to the patient's medication regimens. Nurse case managers can provide longer-term follow-up with patients to help them manage multiple issues related to their chronic disease states. Social workers can provide much-needed focus on social issues that can have negative effects on the patients' overall health. While physicians clearly play a role in addressing readmission rates, there are increasing concerns over the physician shortage, predicted by the American Medical Colleges Association, of 62,900 by the year 2015.[6] To address this predicted physician manpower shortage, an improved and expanded utilization of health professionals, including pharmacists, is indicated.

Medication Therapy Management

Indeed, ACA provides more opportunities for pharmacists to improve the health of patients than just addressing high hospital readmission rates. Sections 3502 and 3503 support pharmacist participation as part of the patient-centered medical home team and broader access to pharmacist-provided patient medication therapy management (MTM) services. These medication therapy management services can improve the quality of care and reduce the overall cost of care to patients with chronic diseases.[7–12] Chronic disease lies behind the costliest 1% of patients who consume 20% of health care spending. This 1% represents older patients with chronic maladies such as hypertension, diabetes, and cardiac problems that are treated and managed primarily with medication therapy.

Unfortunately, MTM is not well understood by patients or primary care providers. The Center for Medicaid and Medicare Services (CMS) describes MTM as drug therapy management programs that have two primary goals: (1) to ensure that drugs are used appropriately in order to optimize therapeutic outcomes through improved medication use and (2) to reduce the risk of adverse events.[13] Medication therapy management services were more broadly described in the 2006 Current Procedural Terminology (CPT) as face-to-face assessment and intervention by a pharmacist to optimize the response to medications or to manage treatment-related medication interactions or complications.[14,15] What both definitions have in common is that MTM is focused on improving the use of and reducing the risk of medications. Pharmacists are the obvious choice to be the primary provider of MTM given their extensive drug knowledge and years of experience providing MTM. Pharmacist-provided medication therapy management services have been shown to improve patient health outcomes and decrease overall health care costs for patients with chronic diseases.[7–12] In the 2011 Report to the U.S. Surgeon General. Rear Admiral Scott Giberson and colleagues state, "Expanding the role of pharmacists is supported by evidence-based outcomes and existing innovative practice models. The benefits translate into improved consumer outcomes that support many tenets of health reform—enhanced access and quality of care, cost-effectiveness and patient safety."[12[p.11]] This report cites over 100 refereed articles that document that value of pharmacists-provided services within the health care system.[12]

CMS Innovation Grants

Finally, Section 3021 of the ACA outlines the creation of the Center for Medicare and Medicaid Innovation (CMMI).[1] The purpose of this Center is to test payment and delivery models in populations where improvement in care and a decrease in avoidable health care expenditures are needed. The payment and delivery models that are shown to be effective in a smaller population would then be expanded to larger populations and larger geographical areas.

In November 2011, CMMI released a request for proposals (RFP) called *Health Care Innovation Challenge*. The focus of the RFP was to fund studies that involve "compelling new models of service delivery/payment improvements that hold the promise of delivering the three-part aim of better health, better health care, and lower costs through

improved quality for Medicare, Medicaid, and Children's' Health Insurance Program (CHIP) enrollees.[16[p.1]] In June of 2012, CMS announced that CMMI had awarded funding to a total of 107 grant proposals that are intended to result in a total health care savings of $1.9 billion over the next three years.[17] These health care savings are based on the estimated three-year health care cost savings that applicants were required to include in their grant applications.

The breadth of the 107 funded projects is apparent in the fact that every state in the U.S. is involved in one or more of the projects.[15] Additionally, the projects include partnerships and collaborations among physicians, pharmacists, nurse practitioners, physician assistants, registered nurses, licensed practical nurses, pharmacy technicians, medical assistants, dieticians, care coordinators, community health navigators, community health workers, social workers, dentists, dental hygienists, patient navigators, psychiatrists, mental health therapists, physical therapists, and occupational therapists. What is also evident from the 107 funded projects is that they represent a wide spectrum of collaboration between hospitals, health systems, insurers, and health care providers. A full list of the projects and cost savings estimates can be found on the CMS CMMI Website.[17]

Project SAFEMED

An example of a funded project that includes a large partnership involving organizations and health care workers is Project SAFEMED,[17] which is being led by The University of Tennessee Health Science Center, in partnership with Methodist LeBonheur Health care's Methodist North Hospital and Methodist South Hospital, United Health care, BlueCross BlueShield and its BlueCare Medicaid plan, Southwest Tennessee Community College, the Tennessee Pharmacists Association, and the Bluff City, Bin Sina, and Memphis Medical Societies. The project will use hospital-based teams of community health pharmacists, nurse practitioners, community health pharmacy technicians, and licensed practical nurse outreach workers based in outpatient centers, along with primary care physicians and local pharmacies to provide comprehensive patient medication management. The goals of the project are to reduce unnecessary prescription drug utilization, prevent adverse drug events, with a resultant reduction of patient morbidity and mortality, avoidable hospital admissions/re-admissions, and overall health care costs, while improving medication adherence, disease management, and overall patient health. These goals will be accomplished, in part, by having the pharmacist review, verify, and update the patient's home medication list upon admission, so that the hospitalist or the patients PCP will have an accurate account of the patient's current medications as well as the patient's three month medication adherence status. During the hospital stay the advanced nurse practitioner will educate the patient on their chronic disease states. The community health pharmacist will conduct a review of the patient's medications and assess whether all of the patient's medications are indicated, effective, safe, and most convenient for the patient to take. If any problems are identified during this review, the pharmacist will make recommendations for changes to the prescriber providing hospital care. At discharge the pharmacist will educate the patient on the medications they will be taking after discharge.

Post-discharge care will also be provided. A licensed practical nurse (LPN) and community health pharmacy technician will visit the patient's home within 72 hours of discharge and assess any disease state or medication issues. If concerns are noted, the advanced practice nurse (APN) and community health pharmacists will be contacted *via* Skype or cell phone so they can discuss the concerns with the patient and then contact the patient's PCP to get them resolved or to make an appointment for the patient to see his or her PCP. The patient will also receive similar follow-up care *via* a monthly phone call for nine months. Through the use of this education and problem identification and resolution process of Project SAFEMED, potential problems will be identified and dealt with before they result in an emergency department visit or subsequent hospital re-admission. The additional medication-related care of the hospital-based community health pharmacist should be instrumental in early identification of adverse drug events and medication adherence issues that are likely to lead to re-admission.

Although all of the funding for the Health Care Innovation Challenge has been awarded, there will be more CMMI funding available for projects that seek to revitalize the health care system through innovative interprofessional health care team approaches. Additionally, the expected results of many of these projects may well lead to expansion of these health care team approaches to various levels of patient care with best practices being implemented nationwide.

Challenges to be Faced

As previously mentioned, the ACA provides multiple opportunities for hospital pharmacists to improve patient health outcomes and reduce hospital readmissions by becoming a more integral part of the health care team. In addition, community pharmacists and ambulatory care pharmacists have the opportunity to provide medication therapy management services as part of an accountable care organization (ACO) or a patient-centered medical home (PCMH). But, there are challenges to the full utilization of hospital, community and ambulatory care pharmacists. The two biggest challenges are staffing and funding. Pharmacists who currently work in these settings already have a full workload, therefore, additional pharmacists must be hired to perform these additional duties. Fortunately, finding the additional pharmacists to step into these new roles will not be that difficult. The Pharmacist Manpower Project's Aggregate Demand Index of 3.26* shows that current amount of pharmacists in the workforce is meeting the current demand.[18] In addition, pharmacy schools continue to produce large numbers of pharmacy graduates.[19] There are currently 124 colleges/schools of pharmacy and a total enrollment of nearly 59,000 students. Even with the loss of practicing pharmacists due to retirement, there will be a large surplus of newly graduating pharmacists who can step into the traditional pharmacist positions as the more experienced pharmacists move into the new medication therapy management roles within hospitals, ACO's and PCMH's. Funding for these new positions will also be a challenge, however, the CMS

*The Demand Index goes from a low of 1 (High Surplus) to a high of 5 (High Demand). An index of 3 indicates that demand is in balance with supply.

innovation grants are all testing new payment modalities so that the innovative care has a mechanism in place to provide funding after the grant has ended.

In conclusion, over time, the benefits of these interprofessional health care collaborations that include pharmacists should result in benefits for patients that include but are not limited to improved care by increasing coordination of services (especially for complex problems); integration of health care for a wide range of problems and needs; empowerment of patients to function as active partners in their care; and serving patients of diverse cultural backgrounds. For health care professionals, health care reform, by promoting interprofessional health care teams, can facilitate a shift in emphasis from acute, episodic care to long-term preventive care; enable the practitioner to learn new skills and approaches; encourage innovation; allow providers to focus on individual areas of expertise; and increase professional satisfaction. At the health-systems level, potential benefits include more efficient delivery of care; maximization of resources and facilities; decreased burden on acute-care facilities as a result of increased preventive care; and facilitation of continuous quality improvement efforts.

When fully enacted and funded, ACA has the potential to greatly improve the quality of health care in the United States, lower overall health care costs, and improve patient access to care for the population at large and for the poor and underserved specifically. Additionally, the ACA will provide tremendous opportunities and expectations for pharmacists and other health care professionals to improve and expand new roles within the health care systems where they can have a more direct impact on improving the health of poor and underserved patients. The ACA will change the current health care system considerably. With these changes comes opportunity for health care professionals, health systems and insurers to improve the critical aspects of patient access, cost, and quality for the U.S. health care enterprise. However, although the U.S. Supreme Court ruled the individual mandate was not unconstitutional,[20] it is unclear whether ACA will stand as is and continue to receive funding, or if legislators will be successful in defunding or removing certain parts of the ACA

However, regardless of the ultimate configuration of the health care systems based on the impact and implementation of ACA, the health care reform train for all Americans has left the station. Indeed, the *status quo* has already changed and an improved health care system is on the horizon.

Notes

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