

ACCP COMMENTARY

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Optimal Medication Therapy Prescribing and Management: Meeting Patients' Needs in an Evolving Health Care System

American College of Clinical Pharmacy

Barbara J. Zarowitz, Pharm.D., William Miller, Pharm.D., Dennis Helling, Pharm.D.,
Jean Nappi, Pharm.D., Barbara Wells, Pharm.D., and Milap Nahata, Pharm.D.

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Address reprint requests to the American College of Clinical Pharmacy, 13000 W. 87th St. Parkway, Suite 100, Lenexa, KS 66215; e-mail: accp@accp.com; or download from <http://www.accp.com>

Abstract

Evolving health care environments present opportunities and challenges for clinical pharmacists to become increasingly more pivotally integrated as critical members of interprofessional care teams. Optimal medication therapy prescribing and management is best characterized as a process that results in safe, effective, efficient, and culturally sensitive medication ordering, order fulfillment, administration, and monitoring, which achieves desired clinical outcomes for a specific patient. Bringing together the knowledge, skill, and perspectives of an interprofessional team of physicians, nurses, physician assistants, nurse practitioners, pharmacists, and others where appropriate provides the expertise and synergy to optimize medication therapy decisions, educate patients, implement and monitor medication therapy, enhance adherence, and achieve and measure quality clinical outcomes. Although there are well-defined barriers to overcome, the Task Force envisions optimal medication therapy prescribing and management functions ideally to occur in health care settings with adequate resources to deliver high-quality care. In the presence of financial pressure, safeguards should be developed between practice activities and economic/accounting procedures to mitigate conflicts of interest that could otherwise occur in drug product selection and overuse. In the future, clinical pharmacists will participate prospectively as essential full-time members of interprofessional care teams. Although it is anticipated that pharmacists will be embraced in these roles in all managed care and government-based systems, virtual or remote participation in medication therapy management may remedy access to pharmacists in settings and locales where they cannot be physically present or where economic models necessitate virtual care delivery.

Introduction and Task Force Charge

This commentary examines a range of issues that will affect the important goal of ensuring that optimal medication therapy prescribing and management will meet patients' needs and the expectations and demands of the evolving health care system in the United States. In particular, this commentary explores issues and implications for the range of current and potential roles of pharmacists in contributing to optimal medication use.

The 2009 Presidential Task Force was given the following charge by ACCP President John Murphy:

The task force is asked to develop a commentary articulating its vision for the pharmacist's ultimate role in patient-specific drug therapy decision-making. Will it evolve to the point of routine clinical pharmacist prescriptive authority (i.e., progression from current CDTM models to a physician diagnostician–pharmacist prescriber model)? Do you expect different scenarios to emerge? Finally, in light of the IOM's condemnation of the current health care system what might be the most effective use of pharmacists in the future? The Task Force was also asked to address the issue: "Should the pharmacy profession seek mechanisms to separate the clinical practice component from product ownership and distribution?" And if so, how?

This commentary is being developed as the U.S. Congress and the Obama administration engage in wide-ranging and comprehensive legislative proposals and policy discussions seeking to "reform" the U.S. health care delivery system. Among the many vexing policy issues facing the nation is considerable concern about the worsening shortage of primary care health care professionals who are available and willing to serve

a growing population—increasingly characterized by an expanding elderly demographic cohort and an important shift from an acute to chronic diseases burden—in ways that improve the quality and outcomes of care while helping to manage escalating health care costs for patients and payers more effectively.

The Task Force believes that the meaningful integration and use of pharmacists as health care providers within interprofessional teams can help address these considerable challenges. Changes in care delivery processes that focus on and truly optimize the appropriate, safe, and economic use of medications are an essential component of any successful health care delivery system reform effort, and pharmacists are prepared by education, training, and professional commitment to assume additional responsibility and accountability for providing quality health care as collaborating members of interprofessional teams.

Background

The Imperative for Optimal Medication Use Outcomes, Quality, and Safety

During the past decade, the clinical consequences and economic costs of medication misuse and medication-related problems, including patient nonadherence and suboptimal therapeutic outcomes, have become more fully recognized by clinicians, policy-makers, and health care economists. The transformational changes in health care caused by the dramatic shifts from acute to chronic care and from hospital to ambulatory care services have contributed substantially to this recognition. When combined with the explosive growth in the number and complexity of available prescription medications, the

challenges and problems arising from the current disjointed medication therapy prescribing and management “system” should be no surprise.

At the same time, the beneficial impact of pharmacists’ clinical services in addressing these problems and achieving improved medication use quality, safety, and outcomes has become more fully appreciated.^{1,2} Pharmacists possess substantial education, knowledge, and skills in the clinical application of medications in the care of patients, and they are among the most readily accessible of all health care professionals. These factors position pharmacists to serve patients and other health care providers in optimizing medication use, reducing/preventing medication-related problems, and improving health outcomes by providing medication therapy management (MTM) and other pharmaceutical care services, as well as certain health promotion, wellness education, and disease prevention services.

To address these problems and challenges, the pharmacy profession has engaged in structured, strategic discussions involving its various professional associations and related organizations to state a vision for pharmacy practice that addresses both the value and promise of a system of care that seeks to achieve optimal medication use through more effective use of pharmacists in patient care delivery. The Joint Commission of Pharmacy Practitioners (JCPP) Vision Statement for 2015, adopted in 2005, states that “Pharmacists will have the authority and autonomy to manage medication therapy and will be accountable for patients’ therapeutic outcomes.” Moreover, the Vision Statement of JCPP states that, “As experts regarding medication use, pharmacists will be responsible for [the] rational use of medications, including the measurement and assurance of medication therapy outcomes.”³

Among other health care professions, any similar vision for optimal medication therapy prescribing and management remains essentially undescribed. As noted by ACCP in a statement to the Institute of Medicine Committee on Identifying and Preventing Medication Errors in 2005:

Substantial change in provider responsibilities, care processes, and the systems and procedures that constitute the current medication use process must occur if meaningful improvement in the quality of medication use, including the prevention of avoidable medication errors, is to be achieved.⁴

However, this is not to say that other health care professions do not appreciate the challenges of ensuring optimal medication therapy prescribing and management. For example, the Association of American Medical Colleges report from the Medical School Objectives Projects in 2008 stated a consensus among conference participants that

Graduating medical students, residents in training, and practicing physicians lacked understanding and training in pharmacotherapy and rational prescribing. Participants felt that the situation would grow more dire as the genomic revolution made personalized medicine a reality, and as more powerful and targeted therapeutic agents reach the market.⁵

The Institute of Medicine has further noted that

Because of the immense variety and complexity of medications now available ... the pharmacist has become an essential resource ... and thus access to his or her expertise must be possible at all times.⁶

Whether as the health care professional primarily responsible for medication therapy prescribing and management, as the individual in charge of evaluating the medication

prescribing decisions of other professionals while providing medication dispensing services to patients, or as a collaborative member of an interprofessional team, pharmacists have a responsibility to ensure optimal pharmacotherapeutic outcomes. That is, consistent with the JCPP Vision Statement, pharmacists will be responsible for:

- Direct patient care services that assist patients in achieving effective and safe medication therapy outcomes;
- Supervise systems that provide safe, accurate and efficient medication distribution; and,
- Provide services and products that promote wellness, disease prevention, and health improvement.^{3,4}

Description of Optimal Medication Therapy Prescribing and Management

The Task Force believes that optimal medication therapy prescribing and management is best characterized as a *process* that results in safe, effective, efficient, and culturally sensitive medication ordering, order fulfillment, administration, and monitoring, which in turn achieve the desired clinical outcomes for a specific patient. This process begins with identifying what the patient needs, embraces sound principles of patient-centric care, and then strives to deliver cost-effective and safe therapeutic outcomes. The step of issuing the prescription order can be accomplished in various ways (i.e., within interprofessional models of care, with standardized protocols, or, as currently seen most commonly, by an individual licensed health care provider). Medication ordering, however, should be viewed as only one component of an effective medication therapy prescribing and management process.

Characteristics of Optimal Medication Therapy Prescribing and Management

Optimal medication therapy prescribing and management depends on the availability, use, and understanding of a wide range of patient-specific information, including medical and medication history, physical and cognitive function assessments, diagnosis, risk factors, presence of comorbid conditions, clinical features, laboratory tests and procedures, monitoring parameters, the patient's belief system, and financial and insurance coverage information. The process should be influenced by best evidence/practices and based on knowledge of pathophysiology, pharmacology (including pharmacokinetics and pharmacodynamics), pharmacotherapy, other therapeutic modalities, pharmacogenomics, pharmacoeconomics, quality-of-life issues, principles of patient safety, and ethical/legal considerations.⁷ Medication therapy plans should be developed on the basis of prioritized treatment goals in a manner consistent with the individualized, patient-centric objectives articulated by the Institute of Medicine.⁶

Because of the many important factors to be considered, optimal medication therapy prescribing and management now requires the expertise of many health care professionals practicing in an interprofessional model of care as advocated by the Institute of Medicine and National Academies of Practice.⁸⁻¹⁰ The time is clearly past, if it ever really existed, for writing a prescription order and expecting that a quality outcome will inevitably be achieved. Table 1 summarizes the basic framework for a system of optimal medication therapy prescribing and management.

Bringing together the knowledge, skills, and perspectives of an interprofessional team of physicians, nurses, physician assistants, nurse practitioners, pharmacists, and others, when appropriate, provides the expertise and synergy to optimize medication therapy decisions, educate patients, implement and monitor medication therapy, enhance adherence, and achieve and measure quality clinical outcomes.

Barriers to Improvement in Medication Therapy Prescribing and Management

At present, several barriers to optimal medication therapy prescribing and management exist, irrespective of the health care professional's practice setting. Suboptimal therapeutic outcomes can result from inadequate, compromised, or erroneous decision-making by the prescriber.

The lack of integrated and shared electronic medical records and computerized order entry systems is an obstacle to effectively gathering and disseminating patient-specific information. In the absence of a computerized order entry system, medication errors occur more frequently.¹¹

Limited access to medical information, technology (including automation), and the Internet are barriers in some health care settings, including rural areas, where these applications could improve medication therapy decisions. Many health care settings (e.g., long-term care facilities) have relatively limited access to the Internet and other technologies known to improve the safety of medication use, particularly during transitions of care.

The patient's inability to afford (or unwillingness to pay) the cost of medications or some component of the drug costs (e.g., copayment) results in adverse or failed

outcomes because of changes in drug therapy or lack of access to medications altogether.¹²⁻¹⁴ Coverage of medications by prescription drug plans must also be considered during the prescribing process.

Despite the requirement by the Centers for Medicare and Medicaid Services for MTM services under Medicare Part D, there is an opportunity to collaborate within and outside the profession to improve outcomes associated with MTM. Most prescription drug plans and Medicare Advantage programs have focused their program goals on cost-reduction and surrogate process measures, such as the number of outbound calls, interventions conducted, and medication therapy issues identified, rather than seeking to document improvements in clinical outcome measures.¹⁵ As a result, although payment for MTM is, in theory, an example of payment for cognitive services that pharmacists may access, improved quality of health outcomes have not yet been thoroughly demonstrated or adequately studied. Opportunities exist to enlist the broader support of physicians, nurses, physician assistants, nurse practitioners, and pharmacists to assist those under Part D plans in improving the outcomes associated with MTM programs. However, as presently configured by prescription benefit managers and Part D payers, MTM programs have not been adequately implemented or assessed with respect to their impact on the quality or cost of drug therapy.¹⁶

Outside the Medicare Part D benefit, the provision of MTM for beneficiaries covered by other payers, such as Medicaid and non-Part D commercial third-party and private payers, is inadequately structured to facilitate the implementation of MTM within the existing compensation models. In addition, most business models, such as those within chain or independent pharmacies or large physician group practices, do not supply

the opportunity (time, physical setting, or support) for health care professionals to provide comprehensive MTM services.

Fulfillment of patients' needs may be inadequately achieved if left to a health care professional practicing in isolation. Broader patient access to the health care team, adequately resourced to fulfill optimal medication therapy prescribing and management, is needed. The emergence of models of care such as the "patient-centered primary care medical home" and the "accountable care organization" suggests a growing appreciation across the health care community for the importance of team-based care in the provision of quality health services. An important feature of both models is the effort to optimize the use of the appropriate skills, knowledge, and time of all members of the interprofessional team. Insufficient education and training in the key knowledge and skills outlined in Table 1 can also contribute to suboptimal therapeutic decision-making and outcomes.

Health Care Settings and Payment Structures for Optimal Medication Therapy Prescribing and Management

The Task Force envisions optimal medication therapy prescribing and management functions to be ideally made by interprofessional teams in health care settings with sufficient resources to deliver high-quality care. Although interprofessional care is most often provided in organized health care settings, group practices that include physicians, nurses, physician assistants, social workers, psychologists, dieticians, and pharmacists have demonstrated their ability to collaboratively provide care for patients. To circumvent the isolation of many practice groups or single-provider scenarios,

physicians and pharmacists can also collaborate to provide optimal prescribing through virtual or community-based linkages, face-to-face meetings, telephone consultation, e-mail, and facsimile to review prescriptions, overall medication therapy, treatment plans, treatment adherence, and therapeutic response for individual patients.

Electronic access to medical, medication, and scientific information is a principal anticipated benefit of the health care reform proposals under consideration. Such access will enable interaction with patients and their information in “virtual” health care settings. These portals of care are anticipated to expand and improve efficiencies and consistency of health care delivery and outcomes in geographic regions where there are shortages of qualified MTM providers.

The Task Force envisions that the most effective health care settings will be those that promote optimal medication therapy prescribing and management as a core function of the practice, rewarding providers on the basis of their achievement of optimal health outcomes. The ideal payment structure will offer coordinated payment for medication and compensation for all health care providers by third parties based on the cost and clinical outcomes of accurate, appropriate medication therapy choices for all medical conditions.

Economic and Payment Model Conflicts of Interest

The traditional economic model of pharmacy practice, in which the pharmacist (or the pharmacy in which the pharmacist practices) is the owner and distributor of medications, can pose a real and/or perceived conflict with the emerging role of the pharmacist as a key member of the team responsible for optimal medication prescribing and management. The Task Force believes that appropriate safeguards are needed to

anticipate and prospectively manage potential economic conflicts of interest that can arise whenever the prescriber is in a situation of perceived conflict involving drug procurement, distribution, or sales.

Pharmacists and other health care professionals involved in medication prescribing and management have ethical and moral obligations to deliver exemplary health care while preserving the ethical standards outlined by the Office of the Inspector General and by their own professions.¹⁷⁻¹⁹ The decision to prescribe a selected drug should be founded on the best clinical evidence, encompassing the framework outlined in Table 1 and guided by ethical standards. Economic decisions regarding medication choices in hospitals and other organized care settings are guided by pharmacy and therapeutics committees, which evaluate the scientific evidence supporting the inclusion and use of cost-effective medications in patient care formularies. In this way, safeguards are developed between practice activities and economic/accounting procedures to mitigate conflicts of interest that could otherwise occur in product selection and overuse. These safeguards generally include carefully crafted written policies and procedures and oversight by appropriate bodies to manage potential conflicts of interest.

These protections, in the form of separation and/or systematic oversight of the processes of medication selection and sales, must be effective whether the prescriber is a physician, nurse practitioner, physician assistant, or pharmacist, irrespective of the organized health care setting.

Future payment systems are needed that reward the delivery of safe and effective, patient-centered, evidence-based care by efficient interprofessional teams and the achievement of desired clinical, economic, and humanistic outcomes. Professional fee

structures are needed for compensation of cognitive aspects of predisposing prescription review, patient education and consultation, and optimal medication therapy prescribing and management by pharmacists and other prescribers.

The Task Force believes that appropriate safeguards are available and that they should be in place when pharmacists participate as decision-makers regarding product choice. Although a complete separation of product provision functions from clinical decision-maker practice activities may not be necessary, the Task Force encourages broad discussion by both the profession and the health policy community regarding the issue of economic models for pharmacy practice that can support the range of functions contemplated in the JCPP Vision Statement.

Current Roles of Pharmacists in Achieving Optimal Medication Therapy Prescribing and Management

Most pharmacists' practices are collaborative and supportive to other health care professionals who prescribe. In a sense, most pharmacists are involved retroactively, monitoring the consequences of siloed prescribing, rather than working prospectively and collaboratively with physicians to design and execute optimal medication therapy. In addition, pharmacists are integrated successfully into interprofessional teams in many hospitals and other organized health care settings. Selected academic medical centers, ambulatory care clinics, and health care systems employ pharmacists to preserve the integrity of the medication use process, and they have demonstrated the pharmacist's value as pivotal to the achievement of optimal medication therapy outcomes, enhancement of medication safety, and promotion of fiscal responsibility in prescribing.¹

This model of care should be implemented in all such facilities. However, the penetration of these advanced roles of pharmacists into stand-alone private practice settings and community pharmacy remains both rare and random. As a result, only a small percentage of patients benefit fully from the expanded role of pharmacists in the optimal management of medication therapy. Limitations of time and insufficient or inconsistent compensation for clinical services, resources, and other support preclude a fully operational practice model of optimal medication therapy prescribing and management in these less well-penetrated settings of health care delivery.

In moving toward an interprofessional collaborative care model, pharmacy education is striving to fulfill the vision of the American Association of Colleges of Pharmacy Commission to Implement Change in Pharmaceutical Education.²⁰⁻²² In addition, educational models integrating interprofessional education have been proposed by the National Academies of Practice and the Institute of Medicine and endorsed by ACCP.^{8-10,23} Philosophies of interprofessional practice embrace shared health care professional responsibilities for a common goal that will help decrease the professional silos that exist in many health care delivery settings. The Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree include interprofessional education throughout the standards in support of a fully integrated care model.¹⁷

In assessing the current role of pharmacists in optimal medication therapy prescribing and management, the Task Force concludes that:

1. Pharmacists who graduate today with a Pharm.D. degree possess knowledge, skills, and abilities that exceed those needed for functions that are limited solely to the processes of drug distribution and prescription dispensing.
2. Pharmacists have prescriptive and/or MTM authority in an increasing number of health care system settings, private community hospitals, and family medicine and specialized clinics. State-approved collaborative practice laws and regulations allow some forms of prescriptive authority for pharmacists in 46 states. In addition, pharmacists are allowed to prescribe and manage medication therapy under medical staff bylaws and/or privileging systems in many hospitals.
3. Most pharmacists are not substantially involved in either the prescribing process (as part of the health care team or in support of other health care professionals) or the delivery of MTM services outside organized health care systems.

Future Roles of Pharmacists

The Vision Statement of JCPP states that “pharmacists will be the health care professionals responsible for providing patient care that ensures optimal medication therapy outcomes.”³ Future health care systems in hospital and community settings will rely on interprofessional teams, with pharmacists becoming primary care providers together with physicians, nurse practitioners, physician assistants, and other professionals licensed to prescribe and manage medication therapy. The principles outlined in this paper for optimal medication therapy prescribing and management will be adopted by pharmacists, physicians, and other health care professionals.

The Task Force believes that, in the future, pharmacists will collaboratively practice with physicians and other health care providers to prescribe and manage medication therapy in organized health care settings. Future health care systems in hospital and community settings are anticipated to emphasize disease prevention and wellness together with health care outcomes (clinical, humanistic, and economic), be evidence-based and technologically driven, rely on interprofessional care, and be cost-effective. Provided that pharmacists in these expanded roles have acquired appropriate training and certification, the Task Force believes that in the future the following will occur:

1. Pharmacists will be identified as essential full-time members on all interprofessional health care teams in which pharmacotherapy is an important treatment modality.
2. Pharmacists will participate prospectively rather than retrospectively and be involved in the management and oversight of all medication therapy.
3. Pharmacists will interact virtually with other patient care teams and have the authority to prospectively recommend appropriate medication therapy in patient care settings and locales where they cannot be present physically.
4. Pharmacists will be employed in all managed care or government-based systems to prospectively review, oversee, and manage medication therapy in collaboration with other providers. Substantial growth in the number of pharmacists responsible for medication therapy will become commonplace in these settings.
5. The extent to which prescribing by pharmacists will increase in private fee-for-service settings is less clear. The Task Force is certain that changes in the health care delivery system will occur in the United States, but it is unclear how the models now

under consideration will affect pharmacy dispensing as well as payment for clinical services including medication prescribing, MTM, disease prevention, wellness, and other services provided by pharmacists. The Task Force believes that a key factor affecting the significance of pharmacists' roles as a primary care providers in the future will be cost-effectiveness—and the cost-effectiveness of using pharmacists as primary care providers versus physicians, nurse practitioners, and physician assistants. Another factor that will restrict the future role of pharmacists as primary care providers is the limited education and training of pharmacists in physical diagnosis to prepare them to function in independent roles as primary care providers. The Task Force believes it is more realistic to expect that the future role of pharmacists as providers of patient care will be more limited and focused on disease state or drug-specific management under collaborative practice agreements with physicians.

6. Cost-effective ambulatory care systems will be developed, allowing pharmacists to virtually or directly interact with other patient care providers to recommend or manage medication therapy for private as well as organized ambulatory care systems.

Future models of health care financing will require cost-effective delivery systems that emphasize patient care outcomes, disease prevention, and wellness. Medication dispensing systems in all health care settings must be cost-effective. Fewer pharmacists, more technicians, and more automation will be used to provide safe and cost-effective medication order fulfillment and distribution.

Conclusions and Recommendations to Foster and Preserve Optimal Medication Therapy Prescribing and Management

Pharmacy continues to evolve as a clinical profession. Many physicians, nurses, and other health care professionals and administrators in hospitals and other organized care settings clearly understand the value that pharmacists bring to interprofessional teams and patient care. The issue in hospitals, physician group practices, ambulatory clinics, and long-term care today is less about whether pharmacists should be essential members of interprofessional teams and more about how the inclusion of pharmacists on patient care teams can be structured and financed.

The Task Force believes that the value of pharmacists as clinicians and primary care providers will continue to evolve positively in a wide range of health care settings. Just as all 50 states now have laws or regulations that allow pharmacists to provide immunizations, the Task Force envisions that all states will eventually authorize pharmacists, working collaboratively with physicians, to prescribe medications. The Task Force also envisions that pharmacists' scope of practice will expand as state and federal laws and regulations enable them to function within teams of primary care providers to deliver professional services that optimize the effective and safe use of medications.

To secure the position of pharmacists as patient care providers, the profession should pursue the following recommendations:

1. Obtain government and widespread private sector recognition of pharmacists as providers of patient care.

2. Encourage pharmacists to obtain national provider identification numbers to facilitate government and widespread private sector billing for the patient care services they provide.
3. Obtain legislative or regulatory authority for medication therapy prescribing and management by credentialed pharmacists in all health care settings.
4. Foster and encourage an appropriate credentialing framework for pharmacists to prescribe medications and manage medication therapy based on qualifications in addition to licensure as a pharmacist.
5. Encourage Board of Pharmacy Specialties certification of pharmacists within recognized specialty areas in anticipation that such certification will be a requirement for pharmacists who are involved in medication therapy prescribing and management.
6. Support the completion of at least 1 year of postgraduate residency education and training by new graduates as an essential credential to participate in medication therapy prescribing and management processes.
7. Support the development of effective safeguards that will anticipate and prospectively manage the potential economic conflicts of interest related to the separation of drug product ownership and sales from any prescribing functions that pharmacists may be authorized to perform in the same practice/patient care setting.

Summary

The Task Force envisions an improved health care delivery system in which pharmacists are the medication experts within interprofessional teams of providers in most health care settings. Pharmacists will be directly responsible for optimal medication therapy prescribing and management in many practice settings. The societal roles of

pharmacists as patient care providers will be determined in large measure by the best and most affordable care options for patients and payers.

The future of pharmacists will be driven by their demonstrated value as health care professionals, support from other health care providers and administrators, and acceptance by public and private health benefit programs, plans, and managers.

Pharmacists must continue to document and advocate to those outside the profession that optimal medication prescribing and management by qualified pharmacists in interprofessional models of care improves clinical outcomes, enhances patient quality of life, and promotes economic efficiency and cost-effectiveness.

Staff Addendum to the Report of the 2009 ACCP Presidential Task Force

After the work of the 2009 Presidential Task Force is completed, and during the process of staff editorial review and final approval of the report by the ACCP Board of Regents, two events relevant to the issues raised in the section of the Task Force report titled “Economic and Payment Model Conflicts of Interest” occurred. These events are included and described as follows to provide additional perspective:

- In February 2010, the American Society of Consultant Pharmacists (ASCP) revised its existing position statement on “separation of consultant pharmacists and long-term care pharmacy providers.” ASCP’s policy is now that “consultant pharmacists who serve long-term care facilities should be independent of the long-term care pharmacy that provides medications to residents of the facility.”²⁴

- In March 2010, Congress passed and President Obama signed into law health care reform legislation (P.L. 111-148) that includes authorization for the Secretary of Health and Human Services (HHS) to establish grant programs for the implementation of medication management programs in the treatment of chronic diseases. Among the provisions of this law is a required report to Congress from the HHS Secretary regarding the effectiveness of such “pharmacist-provided” medication management programs. The report must include an evaluation of “the extent to which participating pharmacists who maintain a dispensing role have a conflict of interest in the provision of MTM services....”²⁵

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Table 1. Basic Framework Underlying Optimal Medication Therapy Prescribing and Management

- Collection, assimilation, and evaluation of patient-specific information including, but not limited to, the following:
 - Medical, social, and medication history
 - Physical assessment
 - Diagnoses
 - Laboratory and other diagnostic tests
 - Cognitive and physical functioning
 - Belief system
 - Health literacy
 - Health care system access, including drug insurance
- Knowledge of best available evidence applicable to the specific patient
- Development of a therapeutic plan based on integration of knowledge of various relevant principles of:
 - Pathophysiology
 - Pharmacotherapy
 - Pharmacokinetics, including therapeutic drug monitoring
 - Pharmacodynamics
 - Pharmacogenomics
 - Pharmacoeconomics
 - Quality-of-life issues
 - Patient safety
 - Patient education principles and methods
 - Monitoring parameters
 - Effectiveness and achievement of desired health outcomes
 - Technology
 - Ethical/legal considerations
 - Drug coverage considerations by payers
- Collaboration and communication with the interprofessional team throughout the treatment and decision-making process

2009 ACCP Presidential Task Force:

Barbara J. Zarowitz, Chair (1995–1996 President)

Dennis K. Helling (1987–1988 President)

William A. Miller (1985–1986 President)

Milap C. Nahata (1991–1992 President)

Jean M. Nappi (1994–1995 President)

Barbara G. Wells (2004–2005 President)