The Future of Health-System Pharmacy: Opportunities and Challenges in Practice Model Change

William A. Zellmer

Context for the Future of Health-System Pharmacy

This article discusses the broad context in which the future of health-system pharmacy is evolving, the imperatives for pharmacy practice model reform, a national initiative to improve the practice model in health-system pharmacy, and interpretation of these topics for pharmacy practice transformation in the Commonwealth of Virginia. Many factors outside of health-system pharmacy will greatly affect this sector of the profession in the coming years. It is important to understand these external forces and factor them into planning for the future. Among the most important of these forces are the national economy, national politics, national debt, global megatrends, health care reform, and trends in the development and use of medicines.

NATIONAL ECONOMY

It is likely that the United States will experience an extended period of lean years economically. We are still recovering from gross mismanagement in the financial sector of the economy, unemployment is high, and the airwaves are filled daily with news about the debt of the national government. This suggests that any potential new public initiatives, including those in the health arena, will have low priority. There will likely be a great deal of skepticism about any federal “grand scheme” to tackle intractable problems of any type.

NATIONAL POLITICS

Party control of the two houses of Congress is divided, and there are sharp divisions within each of the two major political parties about national priorities. It sometimes seems as though our national elected officials are blind to the national interest and motivated primarily by what might create an advantage in the next election. These dynamics carry over to state governments, resulting in widespread cynicism about any governmental approach to dealing with important issues, including those in health care.

NATIONAL DEBT

Within the various proposals to curtail the debt of the federal government, a common theme is to limit the rate of growth in Medicare spending. The methods under discussion for achieving this goal include reducing hospital payments, reforming physician payment formulas, increasing beneficiary premiums, raising the beneficiary eligibility...
age, and capturing rebates on outpatient prescription medicines. Politicians commonly attack their opponents for whatever their stances are on Medicare reform. Although it is undeniable that reforms are needed in Medicare financing, we still are at the stage of politicians talking past each other on this issue.

GLOBAL MEGATRENDS

This broad category of external factors—which will have a bearing on health-system pharmacists—includes the fight against international terrorism (which saps national resources), economic globalization and the ascendency of countries such as China and Brazil (which may diminish the worldwide stature of the United States), and population growth and population shifts (which contribute to climate change, shortages of food and water, and immense challenges in providing health care services). These trends reinforce the thought that the resources available for health care in the United States will be substantially more limited than in the past.

HEALTH CARE REFORM

Although some parts of the health reform law of 2010 have begun to be implemented, legislative and court challenges make it uncertain whether the program as a whole will be sustained. The law focuses largely on expanding access to insurance coverage; it leaves for another day comprehensive approaches to controlling costs and answering “the $640 billion question,” which refers to the amount that could be saved annually if all hospitals and physicians followed best practices of those who deliver high-quality care at a cost of 20% less than the national average.¹

The nation faces a policy dilemma related to whether competition or collaboration should be encouraged in health care delivery. Growing marketplace concentration among insurers, hospitals, pharmacy benefit management companies, and pharmaceutical companies explains in part why health care costs are rising faster than the cost of everything else. Nevertheless, many health policy experts believe that the best way to deliver affordable quality care is through integrated delivery organizations (such as the Mayo Clinic or Kaiser Permanente) that coordinate physician and hospital care within one organization and take on some of the risk that is typically borne by insurers.²

MEDICATION USE

Medication use will become increasingly complex, and significant issues relating to the safety and value of medicines will continue to be beyond the direct reach of governmental agencies. For many years, health-system pharmacy has defined its mission in terms of patient safety and the appropriate use of medicines.³ The need for an expert in this facet of health care is not likely to diminish.

Implications for Health-System Pharmacy

The economic and political trends in the United States most likely will translate into payment cutbacks to hospitals, expanded mandates to report performance on quality measures, pressure to improve operational efficiency and the value of services, increased focus on patient-centered care, more team-based care (including a growing role for hospitalists), increased attention toward improving patient satisfaction, and a higher degree of integration across the range of care settings. In this milieu, pharmacy departments will have an immense opportunity to help improve patient care and institutional sustainability by redoubling their longstanding efforts to move pharmacists away from order-fulfillment and product-preparation functions and into drug therapy management. To achieve this shift, we must increase the role of well-trained technicians and aggressively utilize cutting-edge technology.

Health-system pharmacists should want to move in this direction not only to help their institutions survive but because of the professional imperative/obligation to use their talents optimally and apply their expertise in the areas of greatest patient need.

Today’s pharmacy graduates are different from those a generation ago. They are more educated and have had more life experiences (many have earned a degree in another field before beginning pharmacy studies), and they have been specifically educated to help people make the best use of medicines. Also, a growing number of pharmacy graduates are pursuing residency training.⁴ These trends create an important strength in pharmacy, presenting an opportunity for pharmacists in hospitals and other health systems to rise above the traditional boundaries of this sector of the profession.

American Society of Health-System Pharmacists Pharmacy Practice Model Initiative

Based on their sense of (1) the professional imperative for pharmacists to assume more responsibility for medication-related outcomes and (2) the sustainability imperative facing hospitals and health systems, leaders of the American Society of Health-System Pharmacists (ASHP) and the ASHP Research and Education Foundation launched the Pharmacy Practice Model Initiative (PPMI) in 2008. The goal of the PPMI is to encourage pharmacy leaders to examine how they deploy their resources—pharmacist time, technician time, and technology—to ensure that the efforts of the pharmacy department are well aligned with the most urgent needs of patients and institutions.

A major milestone in this initiative was the PPMI Summit conducted in Dallas, Texas, in November 2010.⁵ The Summit
brought together 150 leading thinkers in health-system pharmacy practice to identify key beliefs and assumptions about the future and to issue recommendations on how to position the pharmacy enterprise to optimize its contributions to patient care and institutional sustainability.

The PPMI Summit

Speakers at the Dallas Summit expressed a strong sense of urgency about the need to respond boldly in reforming the pharmacy practice model. Doing so will require practice leaders to face a number of issues that have tended to be “untouchable” in the past, such as the leadership vacuum in clinical practice, cultural and competency divides between clinical and traditional practitioners, pharmacists’ deficiencies in people skills, and the limited role of technicians. There was general agreement at the Summit that practice leaders also need to (1) commit to serving high-order needs in helping patients make the best use of medicines, (2) move from pharmacy-centric to patient-centric thinking about the mission of the pharmacy enterprise, and (3) assume responsibility for medication-related outcomes while contributing to the work of patient care teams.

Through their consensus-building work, Summit participants expressed powerful messages to a number of audiences. For example, the message to health-system executives could be summarized as:

We understand the challenges facing hospitals and health systems. We are working on our part of the solution to these challenges, including improved quality, safety, and value in the use of medicines and more efficient drug product distribution. In turn, we need from you investments in a number of areas, including technology and staff training and development.

In order to understand the recommendations of the Summit, it is helpful to examine some of the key assumptions and beliefs that conference participants expressed about the future environment that will face health-system pharmacy (Table 1). In the aggregate, these assumptions and beliefs portray conditions in which the status quo will not be sustainable—an environment of substantial opportunities and challenges for this sector of pharmacy.

A review of some of the consensus recommendations of the Summit (Table 2) gives a sense of the boldness of leadership that participants believe will be required to ensure a self-directed future for health-system pharmacy.

Debates of the Summit

A number of issues important to the future of health-system pharmacy were discussed thoroughly at the Summit, including the role of technicians and technology and whether clinical pharmacists should provide services to all patients in the hospital. With respect to technicians, the implicit conclusion was, “Don’t dither! Make an assertive plan for expanding technician responsibility.” Regarding the use of technology, the conferees agreed that pharmacy departments need to “get in the game—now”; there are significant disadvantages to waiting for “perfect” technology solutions because a better system always will be under development.

The beginning premise in discussions of the provision of drug therapy management services was that hospitals (because of limited resources) will need to establish priorities by patient-service area. However, Summit participants objected to that approach, proclaiming that all patients merit the services of pharmacists, and that the complexity of care (not where patients are located in a hospital) should dictate who receives the services of a pharmacist.

Current Practice Models in Hospitals

In recent annual hospital pharmacy surveys, the ASHP has asked about the philosophy and future direction of pharmacist deployment in a hospital’s pharmacy practice model. Three choices for response were given in these surveys: drug-distribution centered (“mostly distributive pharmacists with limited clinical services”), patient-centered integrated (“clinical generalist model with limited differentiation of roles [nearly all pharmacists have distributive and clinical responsibilities]”), and clinical-specialist centered (“separate

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<tr>
<th>Table 1. Key Assumptions and Beliefs Related to the Future of Health-System Pharmacy Expressed by Participants in the American Society of Health-System Pharmacists Pharmacy Practice Model Summit (November 2010)*</th>
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<td>1. There is opportunity to significantly advance the health and well-being of patients in hospitals and health systems by changing how pharmacists, pharmacy technicians, and technology resources are deployed.</td>
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<td>2. Within the next few years, financial pressures on hospitals and health systems will force them to pursue significant changes in how their pharmacy resources are used.</td>
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<td>3. In the next 5-10 years, hospital and health-system executives and medical staff leaders will expect pharmacists to help ensure compliance with quality-of-care standards.</td>
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<td>4. In most hospitals and health systems, improvements in technology will be required for pharmacy departments to achieve optimal deployment of pharmacist and pharmacy technician resources.</td>
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<td>5. Pharmacy technicians who have appropriate education, training, and credentials could be used much more extensively to free pharmacists from drug-distribution activities.</td>
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distributive and clinical specialist roles”). Results in 2009 showed that about 65% of hospitals use a patient-centered, integrated pharmacy practice model, 24% use a drug-distribution-centered model, and 11% use a clinical-specialist centered model. Nearly 84% of survey respondents indicated that the integrated model was their future direction.

The following ASHP data, which show the percentage of hospitals in which particular features of the medication-use process are present, offer insight into the magnitude of gaps between current reality and the preferred future.

- Technicians fill, pharmacists check unit doses (82%),
- Pharmacists have authority for product selection and dosing (65%),
- Medication reconciliation process that works well (57%),
- Complete electronic medical record (EMR) (8%),
- Partial EMR (51%),
- Computerized prescriber order entry with clinical decision support (19%),
- Bar code-assisted medication administration (35%),
- Smart infusion pumps (65%),
- Pharmacists practice in primary care clinics (18%).

Projections from ASHP data indicate that the following percentages of hospital patients in the United States receive the indicated service from pharmacists:

- Dosage-adjustment consultation (10%),
- Pharmacokinetic consultation (8%),
- Anticoagulation consultation (8%),
- Antibiotic consultation (7%).

Hospital pharmacists face an immense challenge in closing the gap in providing basic facets of drug therapy management to all patients.

### Recap of Summit

Three big signals to health-system pharmacy practice leaders came out of the Summit:

1. Be bold in planning for the transformation of the pharmacy enterprise. Do this in partnership with the entire pharmacy department staff; make it a collaborative process. If pharmacists do not decide what their future practice model will be, others will decide for them.
2. Reach out internally; get administrators, physicians, nurses, and others on board with pharmacy plans to contribute to the sustainability of the institution.
3. Reach out externally; ensure that other institutions in the region or state are sharing information and supporting one another in the process of transforming the pharmacy practice model.

### Steps Everyone Can Take

The large number of recommendations from the Practice Model Summit can be overwhelming for any pharmacy department that is not continuously evolving and refining its practice model. However, any department can take two simple steps to begin the process of transitioning from a production-oriented department to a patient-centered department:

**STEP ONE**

Talk inside the department. Make sure every pharmacist and technician understands the context for the pharmacy enterprise, now and in the future, and the imperative for

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<th>Table 2. Selected Recommendations from the ASHP Practice Model Summit (November 2010)*</th>
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<td>1. All patients should have a right to the care of a pharmacist. (Summit participants recognized that resources have to be allocated according to the complexity of patients’ and organizational needs.)</td>
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<td>2. Hospital and health-system pharmacists must be responsible and accountable for patients’ medication-related outcomes.</td>
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<td>3. Every pharmacy department should identify drug therapy management services that should be provided consistently by its pharmacists.</td>
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<td>4. Pharmacist completion of ASHP-accredited residency training or achievement of equivalent experience is essential to pharmacist-provided drug therapy management in optimal pharmacy practice models.</td>
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<td>5. Pharmacists who provide drug therapy management should be certified through the most appropriate Board of Pharmacy Specialties certification process.</td>
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<td>6. In optimal pharmacy practice models:</td>
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<td>a. Pharmacists must have oversight and responsibility for medication distribution.</td>
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<td>b. The role of pharmacists in frontline practice should not be limited to drug distribution and reactive order processing.</td>
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<td>c. Individual pharmacists should not be engaged specifically in drug therapy management without an understanding and responsibility for the medication-use or delivery systems.</td>
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<td>d. Individual pharmacists must accept responsibility for both the clinical and the distributive activities of the pharmacy department.</td>
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<td>e. Clinical specialist positions are necessary to advance practice, education, and research activities.</td>
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<td>7. Sufficient pharmacy resources must be available to safely develop, implement, and maintain technology-related medication-use safety standards.</td>
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<td>8. Uniform national standards should apply to the education and training of pharmacy technicians.</td>
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<td>9. All distributive functions that do not require clinical judgment should be assigned to technicians.</td>
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ASHP = American Society of Health-System Pharmacists.
change. The proceedings of the ASHP Summit\(^6\) will be very helpful in this “discovery” process.

**STEP TWO**

Talk outside the department. Discuss with key physicians, nurses, and administrators the pharmacy staff’s interest in collaborating to find ways to improve medication use in the institution. Begin putting that talk into action.

**Opportunities in the Commonwealth of Virginia**

This state has its own “Virginia Health Reform Initiative,” which was devised by a top-level advisory council appointed by the governor. They identified 28 specific and evidence-based steps that “will move Virginia toward the vision of healthier people, healthier communities, a better health care system, and a stronger economy.”\(^7\) The report discussed the need for the state to increase the capacity of health services delivery by “changing scope of practice laws to permit more health professionals to practice up to the evidenced-based limit of their training.” That statement looks like an unlocked door with a welcome mat in front of it for pharmacy. Who in Virginia pharmacy will step forward and walk through that door?

According to data compiled by the American Hospital Association,\(^14\) of the 87 community hospitals in Virginia, 37% have fewer than 100 beds; 20% of the total are even smaller, with fewer than 50 beds; 34% of all hospitals are located in rural areas. These figures suggest that any strategic plan for health-system pharmacy in the state must take into account smaller institutions and those classified as rural whose resources may be far more limited than those of larger hospitals and those in urban areas.

Most hospitals in Virginia already are a component of a health system (63%) or part of a hospital network (52%),\(^14\) which may bode well for shared learning and collaborative action with respect to the transformation of pharmacy practice.

Any hospital that is part of one of the new accountable care organizations or associated with patient-centered medical homes provides an excellent opportunity for its pharmacists to participate, with administrative support, in continuity-of-care teams designed to minimize transition-of-care mishaps, many of which are associated with medication use.

It is important for all practice leaders who are making positive efforts in practice model reform to tell their stories widely—in their communities and throughout the state. We must act, share, and create a buzz about the many ways that pharmacists are helping patients make the best use of medicines and, in the process, assisting hospitals develop sustainable systems of care.

**Conclusion**

Eleanor Roosevelt said, “The future belongs to those who believe in the beauty of their dreams.” It is a noble dream to imagine that one day it will be common for patients in Virginia hospitals and health systems to say, “There was a pharmacist on the team that cared for me, and that made a big difference in the quality and results of my care.” Fulfillment of this dream is within our grasp.

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**References**