Synergistic relationship between pharmacy leadership development and pharmacy service innovation

THOMAS S. THIELKE

Am J Health-Syst Pharm. 2010; 67:815-20

I want to thank the Northeastern University School of Pharmacy for the honor of being named the 2008 John W. Webb award recipient. This award, dedicated to an individual who exemplified hospital pharmacy leadership, is very important to me personally, since leadership development has been the focus of my career in health-system pharmacy administration. I have had the privilege of being a member of the pharmacy and hospital administrative leadership team of the University of Wisconsin Hospital and Clinics (UWHC) for the past 39 years.

I would not be standing here today if it were not for the residents whom I have mentored. These residents, plus the 46 pharmacy department managers, many of who were past administrative residents, have been responsible for the development and implementation of all the innovative pharmacy services at UWHC. I would also not be standing here without the complete support of my wife, Ruth, throughout my pharmacy career.

My presentation today focuses on the premise that there is a synergistic relationship between the development of a hospital pharmacy administration master of science (M.S.) degree/residency program and the development of exemplary and innovative hospital pharmacy services. Over the years, the program has broadened its scope to health-system pharmacy and has placed more emphasis on leadership development rather than management training. Since the establishment of the program, the goal of the pharmacy service has been to be 5–10 years ahead of the current state of hospital pharmacy practice in the United States.

The combined M.S. in hospital pharmacy and administrative residency program was started in 1962 at UWHC by Winston Durant, the director of pharmacy at the time. In 1964, the objective of the M.S. residency program was to “train future hospital pharmacy administrators of medium to large hospitals through a combined academic and hospital pharmacy residency program.”

In 1967, Durant and Zilz 1 published their vision for the department of pharmacy, which stated that “The pharmacist must assume complete responsibility for all medications from the time of selection through the time of administration.” This early vision statement described pharmacists’ responsibilities as follows:

- View all medication orders as written by the physician,
- Review patient medication therapy,
- Prepare and identify the ultimate dosage form of the medication for administration,
- Ensure that the medication is administered properly (right patient, drug, dose, route, and time), and
- Oversee selection, procurement, and storage of all medications.
When this vision was presented, I did not realize how important it would be in setting the stage for the development of innovative pharmacy services at UWHC.

In the summer of 1966, Durant presented his 10-year plan for pharmacy services at UWHC to his management team and pharmacy residents. I was a summer intern at the time, and I was invited to attend. Everyone present was thoroughly impressed with his “out of the box” ideas. No one at the time believed that all of his ideas could ever come to fruition. I was so excited at the end of the evening that I applied to the M.S./M.D. residency program the very next day. The following is a list of some of the major components of the 10-year plan, all of which were implemented by 1975.

- Design and implement a unit dose drug distribution system for all 800 inpatient beds.
- Implement an i.v. admixture service covering all inpatient nursing units, including all intensive care beds.
- Implement a decentralized clinical pharmacist service covering all inpatient nursing units from 6:30 a.m. until 11:00 p.m. seven days per week. Each pharmacist will cover 60–80 inpatients.
- Implement a pharmacy-coordinated technician medication administration program: Pharmacy technicians would administer all scheduled oral, rectal, subcutaneous, and intramuscular medications two shifts per day, seven days per week.
- Implement a dedicated pharmacy minicomputer system to manage all medication orders, medication distribution, and medication administration for all inpatients.
- The pharmacy department will take over management for central supply, materials reprocessing, and hospital purchasing.

The 1970s were the era of development of clinical pharmacy services. It is important to point out that these services were developed and implemented for all patients. All inpatient decentralized pharmacists provided the services 16 hours per day, seven days per week. These services included medication histories and discharge consultation, pharmacokinetic monitoring, and a pharmacy-coordinated medication administration program. To support these programs, a dedicated
<table>
<thead>
<tr>
<th>Year</th>
<th>UWHC Pharmacy Innovations</th>
<th>Research Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>I.V. admixture</td>
<td>Cost–benefit study of i.v. admixture services</td>
</tr>
<tr>
<td></td>
<td>Unit dose</td>
<td>Error rates and cost–benefit study of unit dose</td>
</tr>
<tr>
<td></td>
<td>Pharmacists decentralized to patient care units (all except pediatrics)</td>
<td>Effects of pharmacists working in patient care area</td>
</tr>
<tr>
<td></td>
<td>24-hour pharmacy service</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>Pharmacy took responsibility for central supply and purchasing</td>
<td>Reorganization of work functions in central supply and materials reprocessing</td>
</tr>
<tr>
<td>1970s</td>
<td>Patients’ medication history taken by pharmacists</td>
<td>Evaluation of pharmacists’ role in conducting medication histories</td>
</tr>
<tr>
<td></td>
<td>Medication discharge counseling by pharmacists</td>
<td>Evaluation of the role of a pharmacist providing discharge medication counseling</td>
</tr>
<tr>
<td></td>
<td>Pharmacokinetic monitoring by pharmacists</td>
<td>Implementing and evaluating the pharmacist’s role in pharmacokinetic monitoring</td>
</tr>
<tr>
<td></td>
<td>Pharmacy-coordinated medication administration program</td>
<td>Evaluate the cost–benefit of pharmacy technicians administering scheduled medications</td>
</tr>
<tr>
<td></td>
<td>Implementation of a dedicated pharmacy computer system</td>
<td>Evaluating the benefits of implementing a dedicated pharmacy computer system</td>
</tr>
<tr>
<td></td>
<td>Implementation of a community pharmacy in the Student Health Services</td>
<td>Cost–benefit study of a community pharmacy in the Student Health Services</td>
</tr>
<tr>
<td>1980s</td>
<td>Pharmacy technician medication order entry</td>
<td>Evaluate the cost–benefit of pharmacy technicians entering all medication orders into the computer system</td>
</tr>
<tr>
<td></td>
<td>Implementation of a dedicated ambulatory clinic pharmacy service</td>
<td>Evaluate the cost–benefit of dedicated clinical pharmacists in specialty service clinics</td>
</tr>
<tr>
<td></td>
<td>Pharmacist patient care rounds</td>
<td>Evaluate the role of the pharmacist in patient care rounds</td>
</tr>
<tr>
<td></td>
<td>Pharmacist service in a psychiatric facility</td>
<td>Evaluate the cost–benefit of a comprehensive pharmacy service in a psychiatric facility</td>
</tr>
<tr>
<td></td>
<td>Pharmacy service for an HMO</td>
<td>Evaluate a hospital-based PBM service for an HMO</td>
</tr>
<tr>
<td></td>
<td>Implementation of a prescription mail-order service</td>
<td>Develop quality standards for a hospital-pharmacy-based prescription mail-order service</td>
</tr>
<tr>
<td>1990s</td>
<td>Implementation of robotic inpatient dispensing technology</td>
<td>Evaluation of cost–benefit of implementation of robotic dispensing technology</td>
</tr>
<tr>
<td></td>
<td>Implementation of a pharmaceutical research center</td>
<td>Evaluation of benefits of a pharmacy-dedicated investigational drug service</td>
</tr>
<tr>
<td></td>
<td>Implementation of a comprehensive decentralized pharmacy technician program</td>
<td>Work redesign through reengineering decentralized pharmacy technician roles</td>
</tr>
<tr>
<td></td>
<td>Implementation of a BCMA program</td>
<td>Evaluation of benefits of a BCMA program</td>
</tr>
<tr>
<td></td>
<td>Implementation of a health plan drug benefit design service</td>
<td>Evaluation of cost–benefit of a health plan drug benefit design service</td>
</tr>
<tr>
<td></td>
<td>Implementation of a clinic-based automated medication dispensing system</td>
<td>Evaluation of the benefits of a clinic-based automated medication dispensing system</td>
</tr>
<tr>
<td>2000s</td>
<td>Implementation of a robotic courier system</td>
<td>Evaluation of a robotic courier system (ROI)</td>
</tr>
<tr>
<td></td>
<td>Implementation of an automated medication carousel system</td>
<td>Evaluation of the cost–benefit of a medication carousel system</td>
</tr>
<tr>
<td></td>
<td>Implementation of a robotic medication envelope system</td>
<td>Evaluation of cost–benefit of a robotic medication envelope system</td>
</tr>
<tr>
<td></td>
<td>Development of a productivity and financial reporting system for 10 retail pharmacies</td>
<td>Evaluation of the impact of implementing a productivity system for community pharmacies</td>
</tr>
<tr>
<td></td>
<td>Implementation of a smart pump technology</td>
<td>Evaluation of the cost–benefit (ROI) of smart i.v. pumps</td>
</tr>
<tr>
<td></td>
<td>Purchase of 5 community pharmacies from another health system</td>
<td>Development of a business plan for purchase of 5 community pharmacies and integration into existing 10 community pharmacies</td>
</tr>
<tr>
<td></td>
<td>Implementation of a tech-check-tech program for cart fill</td>
<td>Development of a tech-check-tech program and achievement of state board approval</td>
</tr>
</tbody>
</table>

*UWHC = University of Wisconsin Hospital and Clinics, HMO = health maintenance organization, PBM = prescription benefit management, BCMA = bar-code-assisted medication administration, ROI = return on investment.*
pharmacy minicomputer system was implemented. The resident research projects during this period centered on the role of pharmacists in providing these clinical services to justify their presence to the medical staff and hospital administration. During this time, the residency developed two tracks: one for residents who aspired to be directors of pharmacy and one for residents who wanted to be clinical managers. This track system continued for eight years.

The 1980s were an era of moving outside the walls of the pharmacy inpatient service as well as expanding clinical services. The clinical services included pharmacy technician order entry to free the clinical pharmacists from this function and patient care rounds by pharmacists. The service expansion outside of inpatient care included dedicated pharmacy services in ambulatory care clinics, a health maintenance organization, and a psychiatric care facility. A prescription mail service pharmacy was also established during this time. The resident research projects centered on the cost benefit of providing these services.

The 1990s were an era of implementation of new technology. By the end of the decade, the UWHC pharmacy department had established itself as a national leader in the development and implementation of drug distribution, dispensing, and administration technology. This included inpatient robotic dispensing technologies, outpatient clinic dispensing technology, and a bar-code-assisted medication administration system. The department continued to expand to other areas by establishing a pharmaceutical research center and health plan prescription benefit management (PBM) program. Residents’ research projects centered primarily on the cost–benefit justification of the three new technologies, as well as the benefits of implementing a comprehensive investigational drug services, a health plan PBM service, and a complete redesign and expansion of the role of decentralized pharmacy technicians.

The innovations of the first decade of the 21st century continued with implementation of smart-pump technology, a robotic courier system, an automated medication carousel system, and a medication envelope dispensing system. During the past few years of this decade, the hospital purchased an electronic medical record system, and the department was deeply involved in the implementation of a medication management system module, a patient-monitoring module, and computerized prescriber order entry. The pharmacy department also implemented a new community pharmacy computer system to support its 16 community pharmacies. The resident research projects primarily focused on the cost–benefit analysis of these new technologies as well as a business plan justifying the purchase of 5 community pharmacies from a physician practice group to expand the network from 11 to 16 pharmacies.

The success of the UWHC pharmacy services over the past five decades was a function of leadership succession planning—comprehensive strategic planning with a common vision, a hospital pharmacy administration, and the M.S./residency program.

**M.S. program curriculum development**

An important component of the two-year M.S./residency program was the M.S. program under the graduate school in the University of Wisconsin school of pharmacy. The director of pharmacy at UWHC was a member of the graduate studies committee of the graduate school programs in the school of pharmacy. The development and revision of the curriculum were delegated to the director of pharmacy and the resident advisory committee overseeing the program.

Every two years the curriculum was evaluated, and one or two new courses were added and others deleted based on the changing roles of health-system pharmacy managers and the new skills required to be more successful in their roles. Many of these changes followed the eras of service implementation.

During the late 1960s, three new courses were added to support the original courses of the department: Clinical Pharmacy, Computer Programming, and Biostatistics. During the 1970s, courses such as Advanced Clinical Pharmacy, Anatomy, Physiological Chemistry, Patient Monitoring (from the nursing school), Communications (interviewing techniques), and Human Resource Management were added to support the clinical movement.

During the 1980s, courses such as Organizational Behavior, Legal Issues in Health Care, Drug Literature Evaluation, Health Care Accounting, Health Economics, and Marketing Management were added. These were primarily offered in the Health Care Administration Program. These courses supported the expanded role of pharmacists outside the inpatient walls.

During the 1990s, courses such as Advanced Health-System Management, Epidemiology, Quality and Productivity Improvement, Technology Assessment, and Determinants of Population Health were added, most of which were taught in the business, engineering, and public health schools.

During the 2000s, courses such as Pharmacy Informatics, Medication Safety, Sociotechnical Design Systems, Organizational Design, and Leadership Effectiveness, which were taught in the business, engineering, and pharmacy schools, were added. These courses supported the ever-expanding role of the pharmacy director within Health Systems.

**Leadership principles: UWHC pharmacy department**

Over the past five decades, the
UWHC Pharmacy Department Management Team has developed several key principles of success. These principles have been used as the basis for the training of the residents and managers of the department. They have become the foundation for the successful implementation of the department’s programs and services. These principles are as follows:

- Annual strategic planning process involving all levels of employees every year from 1966 to the present,
- Use of selected external consultants and futurists to continuously evaluate overall pharmacy services at UWHC,
- Dedication to lifelong learning for all staff,
- Active and sustained participation in professional organizations by all staff,
- Excellence in what we do, always striving to improve,
- Promotion of risk taking and innovation,
- Development of sustained mentoring for current residents and managers as well as past residents,
- Understanding that true success takes significant effort,
- Provision of a broad scope of services to all patients,
- All pharmacists have significant clinical roles, not just a few specialists,
- A manager is only as good as the people who work with him or her,
- Dedication to the vision, mission, and values of the pharmacy department and UWHC, and
- Succession planning for department directors, managers, and preceptors.

Succession planning has been a key element for success at UWHC. There have been only four pharmacy directors from 1959 through 2009. Each director selected a replacement several years before retirement or a change in positions and served as a mentor to prepare the individual for the post of director of pharmacy. All management positions in the pharmacy department are filled through a similar process. The vast majority of resident graduates are placed in another hospital after graduation through a career counseling process. When a manager leaves due to a promotion, past exemplary residents who have been out of the program for 3–4 years are recruited to come back to UWHC to take the position, which becomes a stepping stone to a future director position. This has created a culture of sustained manager excellence in all management positions over the past 40 years.

Leadership skills required for a high-performance pharmacy practice

In December 2004, an article was published in AJHP by five authors who had over 140 combined years of experience in health-system pharmacy leadership positions. Two of the five authors were past pharmacy directors at UWHC. They described the leadership skills they believed were essential for a high-performance pharmacy practice, noting that there was documented synergy between great leadership and high-performance pharmacy practice. The skills described included:

- Creation of a vision that is adopted by all department personnel,
- Core personal values that extend to an individual’s professional life,
- Ability to develop relationships across the organization,
- Lifelong learning,
- Develop spheres of influence across the organization (positioning in the organization),
- Ability to take risks and be an opportunist,
- Transferring knowledge across the department and the hospital,
- Successful work–life balance, and
- Succession planning.

All of these skills are part of the manager and residency training program at UWHC.

Desired leadership qualities shared by past Webb award recipients

In preparation for this Webb lecture, several past Webb Award winners’ presentations were reviewed. Billy Woodward noted that pharmacy leaders must build a core of professionals, stand on principles, continue learning, harness technology and innovation, balance fiscal realities and patient care, study heroes and associate with winners, and mentors. Karol Wollenburg identified the following key elements of pharmacy leaders: define and communicate organizational vision, lead by example, develop relationships, be a team builder, foster innovation, develop talent, and celebrate and reward. Bill Zellmer noted that pharmacy leaders continue to refine an inspiring shared vision for pharmacy, do not give up on professionalism, persistently seek opportunities to align practice with health care needs, and tell people about pockets of excellence in pharmacy practice. Finally, David Kvac noted that pharmacy leaders must have a personal vision and organizational and financial responsibilities, be innovative, pursue personal development and succession planning, and position within the organization as a chief pharmacy officer.

There is a great deal of similarity between the skills and principles listed by these four pharmacy leaders and the leadership principles adopted by the UWHC department of pharmacy.

Outcome measures of success

The original premise of this lecture was that there is a synergistic relationship between pharmacy leadership development and pharmacy service innovation.

Let’s look at the pharmacy department at UWHC which has had a sustained level of pharmacy leadership in place over the past 50 years. Several years ago, ASHP published
the goals for health-system pharmacy departments to attain by 2015. The UWHC pharmacy department met all of these goals by 2008. Three years ago, the high-performance pharmacy dimensions of health-system pharmacy practice were published in *AJHP*, which included 69 different elements of practice in hospitals and health systems that needed to be in place to be considered a high-performance pharmacy service. All of these elements were implemented at UWHC as of 2008.

In 2007, the UWHC Administrative Residency program received the first ASHP Residency Program Excellence Award. In addition to this award, all of our past residents have made significant contributions to several hundred hospitals and health systems. The cultivation of pride and professionalism that Durant instilled 50 years ago in the department of pharmacy at UWHC is still alive and strong today. The shared vision, commitment, and loyalty of past residents and current pharmacy staff continue to be a foundation of success.

Recently an article by Ed Catmull, president of Pixar and Disney Animation Studios, was published in the *Harvard Business Review*. In this article, Catmull described some reasons for Disney’s success, which I believe also describes the success of the UWHC department of pharmacy. He said that “When continued change and reinvention are the norm in a department or organization, and technology and creativity are together, magical things happen.”

I have been searching for excellence in leadership transformation. I believe I have found it in the pharmacy department of UWHC.

References