COMMENTARIES

Restructuring pharmacy departments for survival

HERMAN L. LAZARUS AND W. JACK DUNCAN

Am J Hosp Pharm. 1994; 51:2827-31

The structure of the pharmacy department typically mirrors the structure of the parent hospital: Both are hierarchical, and decision-making occurs from the top down. The hierarchical structure values efficiency and order more than effectiveness and change. In other words, this structure is a "control" concept that values doing things "correctly"—upholding the operating integrity of the organization. It assumes that small spans of control and multiple reporting levels will prevent errors and keep costs in line. However, if advocates of quality have taught us one thing, it is that increasing the number of inspectors is not the means to these ends. The key is recruiting smart and motivated people, making sure that they are well trained and that they understand what is expected of them, and then letting them do their jobs. Workers in such an environment still make mistakes (just as they do in closely controlled hierarchies), but they learn and grow professionally. One fundamental difference between a professional organization and a machine bureaucracy is that a professional organization assumes that its people are already well trained. The professional organization buys into a value system that is based on service to others; hospitals must adopt this philosophy if they want to build genuine integrity into the organization.[1]

Pharmacy's place in the hospital structure

Pharmacy directors are often more experienced and may be paid more than the junior-level administrators to whom they report. Other structures in which the pharmacy department has equal status with other departments, such as surgery and nursing, have been described,[2,3] but we do not believe that the answer is a simple overhaul of reporting lines. A good organizational structure must begin with in-depth planning, and frequent re-evaluation and adjustment are necessary. Also, "load-bearing" elements of an organization must be carefully identified and separated from the "nice-to-have" units.

Goldsmith[4] warned hospitals that if they are to survive the current storm, they will have to collaborate closely with their medical staffs. The pharmacy department represents one of the pivotal points for the hospital at this important interface.

Currently, many hospitals are compartmentalized, with small staffs reporting through some channel or set of channels. As a result, policies in each area may differ widely. The influence of the pharmacy and therapeutics (P&T) committee is diluted because each area is more or less free to interpret policy in light of local situations. Productivity and efficiency are likely to suffer as a result of the inability to share staff resources.

True, the pharmacist's first commitment is to the patient's interests; however, through a properly functioning P&T committee, the hospital's interests can be served as well by promoting optimal drug therapy and reducing costs.

While pharmacy needs autonomy to maintain its professional integrity, the integrity of the hospital requires a degree of economic and administrative leadership. Decentralization, in moderation, can increase innovation and effectiveness by empowering health care professionals, but excessive decentralization can eliminate the very professionalism we are seeking to energize. The choice between centralization and decentralization has, and always will be, a matter of managerial judgment. Centralization of scheduling, training and development, purchasing, and so forth, along with decentralization of professional practice, is an appropriate part of the professional bureaucracy and avoids

HERMAN L. LAZARUS, M.S., is Director of Pharmacy, University of Alabama Hospital, University of Alabama at Birmingham (UAB), and Associate Professor of Pharmacy Practice, School of Pharmacy, Samford University, Birmingham. W. JACK DUNCAN, PH.D., is Professor and University Scholar, Graduate School of Management and Professor of Health Care Organization and Policy; and Senior Scholar, Lister Hill Center for Health Policy, School of Public Health, UAB.

Address reprint requests to Mr. Lazarus at the Department of Pharmacy, University of Alabama Hospital, University of Alabama at Birmingham, 619 South 19th Street, Birmingham, AL 35235.

An earlier version of this article was presented in connection with Mr. Lazarus's designation as the ninth John W. Webb Visiting Professor in Hospital Pharmacy in the College of Pharmacy and Allied Health Professions, Northeastern University, Boston, MA, October 14, 1993.

both the constraints of rigid bureaucracy and the inefficiencies of anarchy.

One problem facing pharmacy is its inconsistency with respect to the preferred organizational structure, as well as confusion over how the department is viewed by others in the organization. For example, in a telephone survey conducted by ASHP and Health Concepts, Inc.,[5] 85% of senior executives viewed pharmacy directors as effective or very effective in management and communication; 62% viewed the pharmacy as a clinical service.

Raiford et al.[6] reported that therapeutic drug monitoring and medication counseling were considered by hospital administrators to be important functions for the pharmacy department. Of the almost 500 administrators responding to the survey, 61% indicated that the pharmacy was "grouped with clinical departments," although some hospitals had no grouping of clinical or support departments.

No other major clinical service has such diversity in its reporting arrangements as pharmacy. The 1992 ASHP national survey revealed that 21% of pharmacy directors report with operations departments, 43% report with clinical departments, and 28% report separately to the chief executive officer (CEO) or chief operating officer (COO).[7] The percentage of pharmacy directors who reported to the CEO diminished as bed size increased—a not unexpected finding. However, the percentage of directors who reported with clinical units increased with bed size, and reached 65% in the largest hospital category. In some institutions, the pharmacy director reports to the chief nurse.

An alarming possibility

Pharmacists should be aware that at some institutions there are plans to incorporate pharmacy into nursing. Sherer[8] made a case for using the unit nurse as the total care manager. Other areas that "will report to nursing five years from now" included hospital quality assurance, laboratory, radiology, and risk management. According to Sherer, 12.6% of pharmacy departments already report to nursing. Sherer projects that, within five years, one quarter of hospitals will have pathology and radiology reporting to nursing and one third of hospitals will have pharmacy so reporting.

Nursing is an important customer of pharmacy. Ponder the expectations that nursing has of pharmacy and weigh them against those of physicians or patients. To have pharmacy report to nursing is to emphasize our necessary material-handling function—our technical chores—at the expense of the array of cognitive services we offer to promote therapeutics, to support physicians, and to serve patients directly. Of all the illogical reporting arrangements for pharmacy, this one has the potential to be the most devastating.

Ameliorating the situation is the side-by-side organization of pharmacy with the medical staff in many hospitals. One can easily classify the P&T committee (or its chairman) as the counterpart of the COO on the "other side" of the organization. The committee reports to the chief of staff (or the staff medical president), who is the counterpart of the hospital's CEO. Service chiefs report to the chief of staff, and major clinical units (pharmacy, radiology, nursing, pathology) are expected to perform and report in a manner consistent with this arrangement.

Reasons for a change

While it is unlikely that a new approach to planning and structure by any clinical service will result in a redesign of the corporate parent, illogical organization of America's hospitals in no way excuses inadequacy on the part of America's pharmacy leadership. Reasons to review and redesign not only pharmacy departments but pharmacy practice abound. At the Hilton Head conference in 1985, the two highest-ranked barriers to appropriate service to our patients were the lack of an agreed-upon philosophy of practice and the lack of consensus over what the standard of practice should be.[9] Failure to develop these basics is, to a great extent, a reflection of our inadequate communication within and among practice groups.

A culture in which health professionals care for patients under conditions of trust must be nurtured in the hospital. Stoeckle and Reiser[10] went so far as to assert that the eclipse of practitioners' authority in hospitals endangers the assertion of professional values in the formation of the mission and policy of the hospitals. "Essentially," wrote these authors, "the hospital contains two cultures, the professional and the corporate, which differ in the values that direct medical care."

Professional values are directed mainly at the care of the individual patient and focus on trust-building behaviors, such as eliciting personal concerns, exercising technical competence, acting on a commitment to the best possible therapy, and responding to patients' suffering and needs. In contrast, corporate values are directed mainly at the collective needs of inpatients, are future oriented (to sustain the ability to meet the needs of patients yet to come), and focus on strategies that ensure institutional survival (e.g., measures aimed at fiscal responsibility and operating efficiency).

The rapidly changing environment of the health care industry is yet another compelling reason for reviewing our structure. Many have commented on the excessive number of levels of management, and we have pointed out that problem here as it relates to hospital structure. Among the "opportunity areas" frequently cited by the armies of consultants now at work in institutions is the multiplicity of managerial levels. The respect shown for pharmacy leaders with job titles like associate director, assistant director, supervisor, and manager has plummeted. As hospitals and other businesses seek to lower costs through downsizing,

often the first target has been these midlevel managerial positions.

Pharmacy managers need to examine their departments and realize that some staff reduction may be indicated. It is important to recall that today's organizations grew during the years of cost-based, retrospective reimbursement. They produced things of great value but now may have to adapt to the new environment. We should not fear to examine the layers of bureaucracy in pharmacy departments. It is possible that many midlevel managers have exceeded their areas of responsibility and that their titles have not kept up with their responsibilities.

On the other hand, no good administrator should allow committed, growing, productive leaders to be terminated unnecessarily. Simply because we know that reductions in staffing are a priority for cost cutters (both inside and outside the organization) does not mean that our analyses should not be thoughtful. We owe our managers, patients, and payers no less.

Administrative costs account for nearly one fourth of the total cost of operating hospitals.[11] By comparison, drugs charged to patients account for 2.9% of hospital costs, and pharmacy costs account for another 1.5%. Similarly, a study of Pennsylvania hospitals by Shulkin et al.[12] showed that administrative costs rose 90% during eight years, compared with 29% in service departments, which included pharmacy. The more regulated the area, the higher was the increase in costs. Such data support the presumption by some researchers that management is bloated and provide us with all the more reason to review the structure of our departments with an eye toward capitalizing on opportunity.

Reorganizing realistically: Our experience

The organizational plan of which we have been a part was designed in 1970 by two very bright, dedicated, and forward-thinking individuals. It has served us well, but who among us would deny that almost everything in pharmacy practice administration has changed in the 24 years that have followed?

As the 1960s ended, we were just beginning to articulate the concept of clinical practice. Most of our efforts were directed at gaining control of an out-of-control drug distribution system. Our professional culture was different then, of course. Practitioners were paid largely by the hour, and our discourse was about jobs, not practice. Reimbursement was cost driven, and growth in resources was achievable if it could be justified. There was little union between practice and education. We officially referred to our technical and supportive staff members as "subprofessionals." Specialization in our practice was a new idea and lacked universal support.

As good as that organizational structure may have been in 1970, and as many times as it has been updated, new thinking was required as our professional practice and culture changed. Organizations were by necessity becoming leaner. Management had to be examined with a view toward the possible elimination of some levels. Empowerment of and decision making by the lowest echelons were becoming realities, not just subjects of discussion. Our culture expected as much, and the formal organization needed to reflect it.

Notwithstanding our criticism of the use of outside experts by hospitals, we realized that we needed the assistance of a consultant. This was a correct decision and a fortunate one.

We have been a highly successful organization, having experienced remarkable growth in size and complexity over the past two decades. We asked the consultant to help us not because we were in trouble and did not know what to do but because we have been successful and feared the Icarus paradox.[13] Recall that Icarus soared so high that, as he approached the sun, the wax on the feathers of his powerful wings melted, and he plunged to his death.

The consultant solicited the opinions about pharmacy held by 50 key stakeholders—members of the medical and nursing staffs, hospital administrators, customers, and others. The results were enlightening and encouraging, as well as a bit disturbing. Others in the organization saw us (the pharmacists) as (1) highly committed, with a genuine concern for patients; (2) having high credibility with the medical staff; (3) willing to try new things, such as experimental teams that promised higher-quality, more cost-effective care; (4) having a leadership that had historically encouraged delegation; and (5) providing decentralized services that facilitated rapid and customized responses to the needs of patients and the medical staff. Our weaknesses were viewed as (1) communication problems within and between practice groups; (2) a confusing hierarchy, with diverse supervisory titles; (3) conflict between centralized and satellite pharmacy operations; (4) a degree of "turfism"; and (5) the tardy entrance of the pharmacy into strategic decision-making by the hospital.

The stakeholders also pointed out opportunities and threats that should be recognized in light of our strengths and weaknesses. For example, they believed that the rapid technological advances in health care are creating an unusual opportunity for pharmacy practitioners to influence the development of drug therapies even more. They noted that the future lies in outpatient services and said that hospital pharmacy should devote itself to becoming a major player in that area. They also perceived great threats. Cost-containment pressures, they said, will continue to make pharmacy a primary target of administrative cost-cutting programs. These programs will likely be attended by efforts to reduce the autonomy and operating flexibility of the pharmacy department. And significant increases in budgets will be increasingly hard to accomplish, even as the demand for services will continue to increase.

Despite the risk of slowing things down by involving

too many people, we developed an internal task force (six pharmacists and one technician) to look at the results of the stakeholder interviews and work with the consultant as a "reality check" on his thinking and recommendations. The results were surprising. We identified and analyzed 24 possible organizational structures, ranging from the barely different to radical redirections. We also identified more than a dozen closely related issues of organizational culture that could not and should not be separated from organizational structure.

The task force members were encouraged to discuss their deliberations freely with colleagues and to solicit input. Again, the results were unexpected. The practitioners understood the implications and risks of organizational redesign far better than we had appreciated. Reactions ranged from the cautious to the enthusiastic. All our colleagues were excited about the opportunity to influence the future direction of the organization.

The new structure we settled on is diagrammed in Figure 1. Each division operates as a semiautonomous unit. These divisions are called professional practice units. Others, because of the practical necessity of centralizing certain functions, are supportive of the practice units. We realize that this configuration is not the final solution to the problem of departmental hospital reorganization, but it is a beginning. Our structure will change further, and we will redefine our operations. But our people will be challenged to give the new structure a chance, and our leadership will be required to allow employees to "fail forward" and in so doing to learn from experience and commit themselves to not repeating mistakes.

Our challenge now is to change our organizational culture. We are devoted to this change, too, and have committed resources to making it happen during the next year and a half.

We recognize that to achieve excellence, we need the support of the larger environment, and with this charge into the future we challenge hospital managers to let pharmacy departments do things differently.

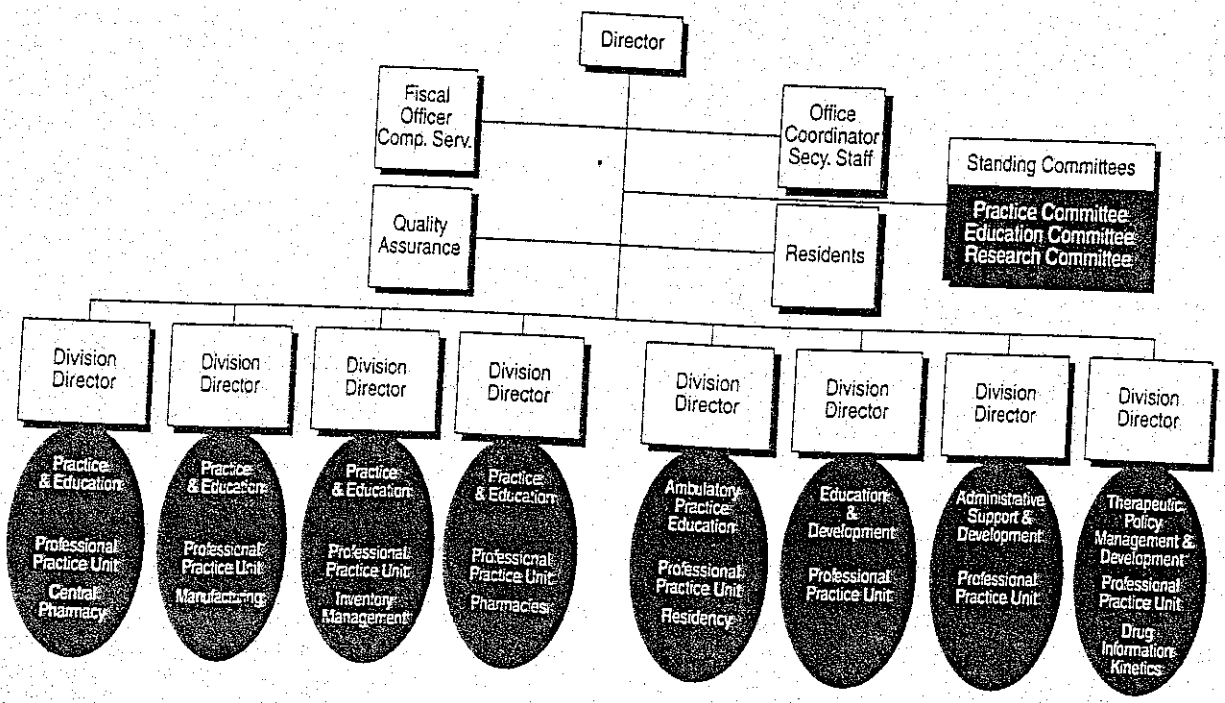
Conclusion

An appropriate organizational structure can do much to recognize, empower, and encourage the growth of practitioners and practice leaders. An appropriate structure also promotes responsibility, accountability, good decision making, and communication with the heads of other clinical services, including nursing. An inappropriate structure will have the opposite effects, leading to dangerous weaknesses in times of change.

References

1. Mintzberg H. The structure of organizations. Englewood Cliffs, NJ: Prentice-Hall; 1979.
2. LeMaistre CA. Enhancing pharmacy's status as a health profession. *Am J Hosp Pharm.* 1989; 46:1006-7.
3. Anderson RW. Strategic planning for clinical services. *Am J Hosp Pharm.* 1986; 43:2169-73.
4. Goldsmith H. A radical prescription for hospitals. *Harv Bus Rev.* 1989; 67:104-11.
5. Anon. Hospital executives give pharmacy directors high marks. *Am J Hosp Pharm.* 1991; 48:1846-7. News.
6. Raiford E, Clark T, Anderson R. Hospital administrators' per-

Figure 1. New organizational chart for the pharmacy department.



ceptions of pharmacy directors. *Am J Hosp Pharm.* 1991; 48:1948-51.
7. Crawford S, Meyers C. ASHP national survey of hospital-based pharmaceutical services—1992. *Am J Hosp Pharm.* 1993; 50:1371-404.
8. Sherer JL. Next steps for nursing. *Hosp Health Networks.* 1993; 26(Aug 20):26-8.
9. Directions for clinical practice in pharmacy. Proceedings of an invitational conference conducted by the ASHP Research and Education Foundation and the American Society of Hospital Pharmacists. *Am J Hosp Pharm.* 1985; 42:1287-91.
10. Stoeckle J, Reiser S. The corporate organization of hospital work: balancing professional and administrative responsibilities. *Ann Intern Med.* 1992; 116:407-13.
11. Woolhandler S, Himmelstein D, Lewontin J. Administrative costs in hospitals. *N Engl J Med.* 1993; 326:400-3.
12. Shulkin D, Hillman A, Cooper W. Reasons for increasing administration costs in hospitals. *Ann Intern Med.* 1993; 119:74-8.
13. Miller D. The Icarus paradox. New York: Harper Collins; 1990.

Should the use of total nutrient admixtures be limited?

JAY M. MIRTALLO

Am J Hosp Pharm. 1994; 51:2831-4

Total nutrient admixtures (TNAs) are a convenient method of delivering fat as an energy source in parenteral nutrition therapy. Many pharmacists have hesitated to use this system, while others fully embrace the concept. Home care pharmacists have been forced to use TNAs to accommodate referrals from hospitals.

In general, the literature has described TNAs in a positive light, leading many institutions to use them.[1,2] However, the technical difficulties in compounding, distributing, and administering TNAs often leave the pharmacist in the uncomfortable position of compounding TNA formulations without having sufficient data on their stability. Information on the compatibility of TNAs with drugs is also limited. Trissel's *Handbook on Injectable Drugs* refers the reader to an appendix to determine the formula of the parenteral nutrient admixture that is being studied for compatibility with a given drug[3]; data on TNAs may easily be confused with data for two-in-one parenteral nutrient admixtures (traditional dextrose plus amino acid solutions).

One could conclude from the recent FDA safety alert on calcium and phosphorus solubility problems in parenteral nutrient admixtures that the use of TNAs should be limited.[4] Since TNAs were involved in the patient fatalities reported in the safety alert, FDA discourages the use of TNAs as a system of parenteral nutrition.

It may be that the complexity of TNAs can be understood and appreciated only by pharmacists. This underscores the importance of our unique knowledge in providing safe and effective total parenteral nutrition. Other members of the nutrition support team may not be able to understand the stability (or instability) of TNAs and, since most of the literature favors TNA use, pharmacists may be pressured into developing a TNA system.

The purpose of this commentary is to give TNAs a reality check. There are problems with this system of parenteral nutrition—problems as basic as whether the current commercially available lipid emulsions are an appropriate energy source and, if so, whether every patient receiving total parenteral nutrition requires fat as an energy source.

Fat: An appropriate energy source?

Fat metabolism is extremely complicated. In most clinical situations favoring the use of TNAs (stress, diabetes mellitus, renal or hepatic failure), fat metabolism is altered and thus the oxidation of fat is impaired. The metabolic fate of intravenous triglycerides is relatively unknown.[5] The high phospholipid content of intravenously administered fats may actually interfere with the action of lipoprotein lipase on the infused triglyceride and the subsequent metabolism of the remnant left after release of the free fatty acids from the triglyceride molecule.[6] The fate of the free fatty acids released by lipoprotein lipase is dependent on the tissue where this reaction occurs. Oxidation of these fats occurs in the muscle, while triglyceride storage occurs in fat tissue.[7] In muscle, free fatty acids are transported into the mitochondria, where they undergo beta-oxidation. Current fat emulsions are predominantly long-chain fatty acids and require carnitine to be transported into the mitochondria.

Carnitine is a sulfur-containing molecule produced in the body from methionine. The amino acid solutions currently used for parenteral nutrition have no carnitine, although they do have all the precursor material required for its endogenous production. There is some evidence that, in stress[8] and with prolonged total parenteral nutrition therapy,[9] a relative deficiency of carnitine may exist; therefore, fat oxidation may not increase in proportion to the amount of fat infused in a

JAY M. MIRTALLO, M.S., FASHP, BCNSP, is Clinical Pharmacist, Nutrition Support, Department of Pharmacy, The Ohio State University Medical Center, and Clinical Associate Professor of Pharmacy, Division of Pharmacy Practice, College of Pharmacy, The Ohio State University, Columbus, OH.

Address reprint requests to Mr. Mirtallo at the Department of Pharmacy (368 DN), The Ohio State University Medical Center, 410 West 10th Avenue, Columbus, OH 43210.