

# KNOWLEDGE: THE REAL BUSINESS OF HEALTH CARE

By Gregory D. Nelson

**The foundation of medicine is knowledge—information gathered, interpreted, and applied in a timely manner.** Its success hinges on how that information is perceived and transmitted from one provider to another across a continuum of settings. Health care could easily be a prototype industry for the Information Age, except for one thing: Its current practice is normally administered by methods derived from industrial operations—operations in which the flow of sensitive information is subordinated to the patient's swift passage through a series of discrete production and management steps along a clinical pathway. Clinical errors, elevated risks, higher costs, and diminished outcomes often result; however, an emerging health care management strategy, explicitly focused on capturing and transmitting clinically useful knowledge in today's integrated health care delivery system setting, promises to yield significantly higher levels of patient progress and satisfaction as well as lower costs to providers. But its success requires that employment criteria for health care workers expand to include specific competencies affecting their behavior—key interpersonal skills for which few health care organizations (HCOs) now either screen or train.

## **An Elusive Balance**

There are many precedents for today's reform of America's health care into a leaner, and arguably meaner, system of delivery. Medicine is, after all, only the latest in a long series of industry wide restructuring campaigns reaching back to the late 1970s. The nation's manufacturing, travel, retail, and communications sectors have already reinvented themselves several times over. Health care delivery—fueled by third-party payer demands, standardized by uniform treatment protocols, and transformed by clinical advances—now is finding a way through its own transition. A soul-searching exploration is under way to find the elusive balance between effective personalized service and a commodity driven by the imperatives of cost reduction and quality improvement.

Along the way health care leaders and others involved in the administration of medical services have learned from others' mistakes and drawn freely from management models pioneered in the commercial sector. Reengineering, redesign, total quality management, Statistical Process Control, and a host of related disciplines have all found homes in the health care industry. There, they are typically focused on minimizing patients' steps and their associated costs along the institution's administrative and clinical processes by consolidating, eliminating, or hastening their passage. On the surface the industrial approach seemed to be working. Smaller staffs, fewer steps, higher productivity, and shorter stays are now the rule. The manufacturing model appears to fit HCOs better than imagined as recently as 10 years ago. But in several key respects, health care dynamics are distinctive and fundamentally unlike those on the factory floor.

## **The Quintessential Knowledge Industry**

In health care, perhaps more than in any other service business, the industry's core product is knowledge—the knowledge derived not only from published research but from diagnosing and treating patients whose personal attributes and health histories are highly individualistic. The clinical accumulation of knowledge results from a process distinctly unlike that of manufacturing. In manufacturing, consistency from unit to unit can be assumed. Achieving uniformity from one cereal box to another requires only modest increments of knowledge. But health care is inherently individual in its application. And generating comparable clinical outcomes in different patients requires detailed knowledge about each individual case.

The application of industrial management methods to HCOs exacerbates that difference. The industrial model, in its single-minded emphasis on eliminating nonessential tasks and consolidating functions, largely overlooks an important parallel process that lies at the heart of successful treatment—the accumulation and faithful transmission of patient-specific knowledge for the caregiver to act upon. Consider the normal course of diagnosis and therapy. Each step along the way, beginning with a patient's

initial visit to a primary care physician and continuing through final resolution, yields new information and new insights. Each step follows a classic scientific model of learning: a complaint, the patient’s history, a physical exam, test results, responses to prescriptions, and further analyses by specialists, each adding new pieces to the puzzle that holds the key to diagnosis and treatment.

### Lost Information

In most hospital settings the information developed as patients progress through their protocol of tests, examinations, and interviews is assumed to be captured and passed along in a timely and comprehensive fashion. But in the daily routine of applied medicine, as experienced practitioners realize, it seldom is. Knowledge of the patient is typically incremental, fragmented, and redundant. The relay of those findings from patient to generalist to specialist to support staff often seems capricious, reflecting the personal communication styles and inclinations of physicians, nurses, and support technicians. Mistakes and missed opportunities—including some with fatal consequences—can and do occur as a result. Patient-sensitive knowledge gets lost because the flow of clinically relevant information follows a different route than the flow of the clinical process. The clinical pathway is defined by specific tasks and finite data points, narrowing its focus as it progresses. The accumulation of knowledge, on the other hand, normally follows a nonlinear path, expanding in scope as it flows. This potential for further erosion of patient information grows exponentially as the patient moves from ambulatory to acute care, and then to home care settings.

The apparent detachment of the patient’s clinical pathway from that of the information gathered by the treatment team related to his or her health leads to practical as well as philosophical consequences. The current practice of focusing on the steps of a pathway, in lieu of ensuring that clinicians have the most timely, accurate and relevant information is a major gap. That is, most HCOs manage to the clinical pathway and assume that cumulative knowledge is simply another output of the process. However, several significant differences exist (see figure below) between the clinical process and team-based knowledge transfer; furthermore, the potential erosion or enhancement of important information correlates directly to clinical outcomes.

### Clinical Pathway vs. Team-based Knowledge

Concerns tasks, activities, steps	vs.	Concerns communications, interactions, dialogue
Emphasis on patient pathway	vs.	Emphasis on transfer of information
Focus is linear, fragmented, discrete	vs.	Focus is nonlinear, holistic, integrated
Trainable in most employees	vs.	Requires selected competencies
Embedded in technical skill	vs.	Embedded in behavioral skill
Variations focus on improving process steps	vs.	Variations focus on improving skills

The issue raises fundamental questions about management decisions related to quality improvement. For example, if management strategies focused on cumulative knowledge and knowledge transfer, would patient medical records be so widely dispersed and difficult to access? The whereabouts of written documents are frequently uncertain, their custody rules inconsistent under the law. Beyond that, meaningful health care knowledge often is qualitative, and its subjective character is inherently more elusive and harder to document. Even more important, a great deal of the clinically relevant data is informal, and, albeit SOAP notes (Subjective, Objective, Assess, Plan) or similar methods are intended to integrate this data, many offhand comments, subjective impressions, and caregiver intuitions are never

captured or documented at all. Nationwide, health care has been on the trailing edge of computer literacy and use, with a surprising number of HCOs still maintaining their records by hand. Advanced electronic systems, providing real-time, secure access to patient medical record data from virtually any clinic or office, around the clock, might emerge as the model for health record management everywhere. Their significance is likely to grow even more as patient education expands, with increased responsibility for diagnostic information, health care, and personal health maintenance shifting onto the patient in his or her home setting. The significance is the direct relationship between knowledge transfer and the degree to which staff are skilled to communicate that knowledge.

### **The People Dimension**

Perhaps the most important reason that the accumulation and transfer of patient knowledge seems haphazard has to do with the health care staff itself. What actually happens in health care systems is a unique combination of clinical procedures with the personal dynamics of those who work where the knowledge is developed. These individuals differ sharply in their communication skills, analytical abilities and interpersonal skills, and aptitude for working as team members. When knowledge transfer—without gaps—is so critical, individuals must be selected and developed to meet that challenge. Success in these critical areas requires several behavioral competencies—few of which are part of their professional development curricula. In fact, the success of clinical quality improvement as well as competitive advantage in health care depends on how well management strategies focus on these skills directly related to knowledge enhancement and transfer.

Unfortunately, HCOs typically hire their staff based on credentials, technical skills, and work experience. Very few HCOs screen or select for those competencies that determine teamwork and communication potential—qualities that are fundamental to the success of any workplace team and its leadership. Even fewer have strategies for training and development that focus on these competencies.

The absence of training in certain competencies is based on the unproven assumption that an individual either has them or does not. In some instances, including such basic competencies as initiative, judgment, and motivation, that belief is probably right; training is largely ineffective. That's where advanced screening is needed. But other characteristics, such as teamwork, communication, and interpersonal skills, are in fact teachable and show great promise as areas for training and should be the centerpiece of an HCO's business strategy.

These same competencies that affect teamwork and communication are particularly important where flatter organizations and empowering management styles are the norm. And they are critical to creating patient- and family-centered environments in which those services are administered.

Focusing on the people involved in service delivery and on their personal competencies, rather than on the technical process alone, is an approach that has already taken root in a number of industries. In essence, this strategy identifies job-critical traits and motivations as a basis for candidate selection, training, and promotion. For example, personal judgment, teamwork, situational analysis, sensitivity, and sales orientation are among the most frequently targeted traits outside the health industry.

But health care, for the most part, has remained focused on the technical aspects of its mission. The assumption that improved knowledge is a natural outgrowth of improvements in treatment methods is an article of faith—one that is largely without foundation in clinical experience. Timely and faithful transfer of information is perhaps the most sensitive area of health care for which there is no recognized focus of accountability.

### **Capturing Data, Building Knowledge**

The bottom line is that new management strategies are required to successfully fill the knowledge gap. To achieve acceptable levels of consistency, the parameters of knowledge transfer must be aggressively and explicitly defined. They must become as formal a part of each clinical process as the technical aspects of

the tasks themselves. The means with which to achieve that rigor, including both the conceptual tools and electronic hardware, are now at hand.

In health care systems as in politics, ideas have consequences. Adopting a model of cumulative knowledge flow as part of the hospital's administrative procedure is apt to force cultural changes, including some which will not be entirely comfortable. But the gains are likely to more than offset the discomfort.

Across the spectrum of industry, every business strategy has its human components, including such diverse factors as staffing levels, internal support procedures, compensation strategies, supervisory methods, accountability for decision making, customer contact expectations, and more. Each requires an appropriate mix of management strategies to ensure its success. Yet by taking a one-dimension view of its workforce as merely skilled technicians, the medical community has generally trailed private industry. And in doing so, it has failed to adequately prepare staff to manage this challenge.

Patterns of the past, however, are beginning to change. The concurrent needs to reduce cost, increase quality, and improve customer service in health care have created new opportunities for HCOs and clinics to adopt innovative human resource strategies that reinforce their healing mission. Targeting knowledge and the breadth of skills that support knowledge transfer offers a promising place to begin.