The challenges are organizational not just clinical

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Summary   Contemporary hospitals fall far short in applying both state-of-the art clinical knowledge and management practices of known effectiveness. Organization and management practices in hospitals are shaped by four factors: their conflicting missions, a distinctive and largely professional workforce, demanding external environments, and a complex day-to-day task environment. This article identifies two critical organizing challenges that hospitals face: organizational learning and implementing effective high involvement management practices. It discusses how findings from organizational research, including articles in this special issue, identify solutions to the problems underlying these challenges. Copyright © 2006 John Wiley & Sons, Ltd.

Healthcare organizations (HCOs) worldwide manifest striking fragmentation and turbulence that impede their capacity to provide quality care, improve patient safety, and retain the skilled professionals critical to both (Institute of Medicine, 2003). This special issue focuses on hospitals, where the most acutely ill patients are treated and the greatest portion of health care costs accrues. Hospitals are the most varied of enterprises from the rural facility run by a solo self-employed physician to the complex health system with services spanning continents via subsidiary facilities and specialty practices. The articles in the special issue underscore the difficulties that hospitals face in managing core processes. Organizational practices of known effectiveness are underutilized, from socialization, coordination, and communication to leadership development and organizational learning. The result is serious shortcomings in efficiency, safety, and reliability.

The HCO experience indicates that organizing practices essential to effective organizations aren't necessarily easy to implement. Such basic features of organizing as clear communication, shared goals and effective problem solving are made exceptionally difficult by the complexity of hospitals and their environments. To study healthcare organizations is to come face-to-face with the basic challenges of organizing under the most difficult of circumstances. Viewing contemporary healthcare through the

lens of organizational science also creates the opportunity to unsettle some seemingly settled issues. The issues we refer to include the authority and power caregivers wield over each other and the ways clinical care givers are socialized (or not). Investigating such HCO conventions through an organizational lens raises critical questions regarding the ways care delivery operates, how caregivers organize their work and relate to each other, and the resultant consequences for patients and healthcare organizations.

This article first details the contextual features of hospitals, including their organizational missions, workforce dynamics, and forces operating in their external and task environments. We then turn to the organizing challenges these features give rise to: organizational learning, especially about and from errors, and implementing organizational and management practices of known effectiveness. In describing these organizing challenges we address how organizational research generally, and articles in this special issue in particular, provide evidence of effective ways to improve HCO organizing.

The Context of Healthcare Organizations

Variations are everywhere

> John Wennberg, creator of *Dartmouth Atlas of Health Care*,on clinical practices in the United States (Mullan, 2004; 73)

Healthcare is the largest sector in the economy (15 per cent of the U.S. GDP; 9.9 per cent of Canada GDP; and 7.7 per cent of UK GDP; Reinhardt, Hussey, & Anderson, 2004) employing a sizable proportion of the workforce in the developed world. Some 9.9 per cent of all employed American civilians work in healthcare or allied settings (US Department of Health and Human Services, 2005). Healthcare is widely distributed across rural and urban areas, a distribution matched only perhaps by the postal service and Wal Mart. Utilization of HCO services is steadily increasing as populations age. The average age of inpatients in 1970 in the U.S. was 40.7 years with 20 per cent of all inpatients 65 years of age or over. In 2002, the average age had increased to 52.1 years with 38 per cent of inpatients being 65 years of age or over. During 2002–2004, there were an average of 1 billion visits to physician offices and hospital outpatient departments and 33.7 million discharges of inpatients (US Department of Health and Human Services, 2005). In consequence, research findings pertaining to HCOs apply to a substantial cross-section of the economy and everyday individual experience.

Simple explanations for the challenges in contemporary HCOs have proved elusive. Einstein cautioned us to make things as simple as possible, but not simpler. Yet, simplicity and parsimony aren't the same. Simplicity means uncombined, while parsimony means the least complex effective explanation for an observation. Several distinctive elements contribute to HCO organizing difficulties—from the professions providing HCO core services to complex HCO missions. Yet, each offers limited insight when considered separately. It is their co-occurrence and combinational effects that provide parsimony, if not simplicity, and are this article's subject. Healthcare faces a broad spectrum of challenges, clinical (e.g., the growing threat of antimicrobial resistant microorganisms that blunt the effectiveness of antibiotic treatments; Levy & O'Brien, 2005), financial (e.g., growing costs; Krugman & Wells, 2006), and legal (e.g., malpractice litigation that encourages the practice of defensive medicine; Mello, Studdert, DesRoches, & Peugh, 2004). Our focus is on the organizational issues that challenge HCOs in their own right and, in addition, diminish the capabilities of these organizations to deal effectively with other challenges.

In reflecting on HCO context we seek answers to several questions. What predisposes HCOs to have difficulty solving their organizing problems? What makes managing the interdependencies among HCO subunits so challenging? Why are the linkages between HCO hierarchical levels so weak?

Mission: Multiple and Potentially Conflicting

To deliver care that is safe, effective, patient-centered, timely, efficient and equitable are the core objectives of a healthcare system as spelled out by the Institute of Medicine, the healthcare advisory group affiliated with the U.S. Congress (Institute of Medicine, 2001, pp. 5–6). Nonetheless, most hospital missions are broader than the IOM's list, meaning that their missions' complexity and scope exceed those of other comparably-sized enterprises in other industries. Hospital missions combine varying emphases on clinical care, community service and outreach, teaching (e.g., physicians, nurses, pharmacists and other care providers), research, profits, and, in some cases, religious values. Multiple missions can be mutually reinforcing. A university's hospital's educational initiatives can fuel both its research and clinical care. They also can conflict as in the case of religious institutions that need to reconcile beliefs about the acceptability of certain medical procedures with advances in treatment science and patient expectations. Combining multiple missions in a mutually supportive fashion is critical to the sustained effectiveness of HCOs.

How well hospitals achieve their missions must be assessed using multiple dimensions. Although there is deep disagreement about what it will take to improve performance in hospital patient care, teaching, community service, and cost effectiveness, there is striking consensus that on every count performance needs improvement. Consider safety. Depending on which estimate is used, anywhere from 15 000 to 98 000 patients in the U.S. are estimated to die as a result of avoidable mistakes in routine care delivery (Institute of Medicine, 1999). It is reasonable to assume that near misses, those errors that potentially or actually harmed patients without causing death, occur at a discomfortingly higher rate (Ramanujam, 2003; Ramanujam & Goodman, 2003). Similarly, patients increasingly acquire costly-to-treat and potentially life threatening illnesses during a hospital stay (Center for Disease Control, 2004). Timely access to care, the ability of patients to see their preferred providers when they need to, remains a distant vision. Typical are delays of many months for an appointment with a provider, wait times of over an hour for a scheduled appointment, and repeated phone calls to have a question answered or to obtain test results (Murray & Berwick, 2003). Urgent cases may get in but timelinesss and access difficulties mean that preventive care takes a backseat to treating the acutely ill. Exacerbating the challenges of multiple conflicting missions are influence attempts by the highly differentiated HCO constituents who challenge hospital efforts to reconcile competing demands.

The Workforce: Multiple Professions Socialized Elsewhere

The core of hospital staff is comprised of professionals. Physicians, nurses, and pharmacists are required in healthcare organizations by law, accreditation, and custom. A hospital cannot function without at least one physician and/or a licensed nurse. A clinical practice requires licensed professionals to legally offer its services. Long-term care facilities may rely largely on aides and unlicensed care givers but their care must be overseen by a physician or a registered nurse. The socialization of HCO professionals occurs pre-employment (see Hoff, Pohl, & Bartfield, this issue; Garman, Leach, & Spector, this issue). So

dominant are institutionalized pre-employment processes that many HCOs attempt little or no socialization of their own workforce. Weak organization-based socialization means that individuals can have as many different professional practices and care-giving behaviors as the institutions that educated them. One wag described a hospital CEO as a foster parent who has adopted fully formed adults committed to different religions. Physicians socialized by other physicians may have little shared understanding regarding how to relate to nurses, therapists, administrators or other hospital employees. The result is strong professional identification and weak organizational identification (Meyer, Allen, & Smith, 1993). Individual physicians frequently provide their services to several hospitals concurrently, further weakening their attachment to any one. Nurse turnover and resultant reliance on traveling nurses, temps, and float nurses coincide with similar weakening of the HCO-worker relationship. Consequently, HCO leaders who themselves receive little if any leadership development (McAlearney, this issue) face great difficulty in effectively influencing their workforce.

Workforce issues are further complicated by the ways HCOs have responded to the nursing shortage and cost cutting pressures. Many hospitals have turned to immigrant labor and temporary workers to fulfill various nursing functions (Dugger, 2006). In organizations broadly, reliance on immigrant labor tends to result in more hierarchical forms of control (Bailey & Sandy, 1999). Similarly, use of temporary staff (e.g., registry nurses) leads to lower worker involvement in decision making, limited investments in their training, and erosion of practices that would otherwise create shared information and common experience (Wells, Kochan, & Smith, 1991; Rousseau & Libuser, 1997). A classic case of one solution creating another problem: increasing reliance upon immigrant and temporary labor further reduces the quality of the hospital's work environment and its collective problem solving capacity.

External Environment: Complex With Multiple Stakeholders

HCOs face an especially complex environment. Multiple external constituencies compete to influence how hospitals execute their missions, deliver patient care, and manage their workforce, including federal and state governments, accreditation agencies, professional associations representing physicians, nurses, and pharmacists, educational institutions, insurance companies, employers of every kind and size who offer healthcare benefits to their employees, pharmaceutical companies, malpractice lawyers, medical researchers, patient advocacy groups, and the media. And each constituency actively engages in influencing HCO policy and practice. The stakes are high: American healthcare spending in 2003 was nearly $1.7 trillion; spending more on healthcare than most other developed countries (with per capita expenditures 244 per cent higher than the United Kingdom and 180 per cent higher than Canada; Reinhardt, Hussey, & Anderson, 2004). These cost increases have generated greater demands for control over within-hospital activities on the part of consumers, governments, and the healthcare professions. Patients and their families, healthcare professionals, third party payers (e.g., insurance companies, health maintenance organizations, and government), and regulators often have divergent interests, yet all have reason to seek influence because of the critical contributions hospitals make to the prevailing economy and quality of life.

Third party payers

Substantial influence is wielded by third party payers where healthcare is privatized as in the United States, as opposed to government sponsored as in Canada and the UK. Private health insurance in the United States pays a significant portion of healthcare costs, 36 per cent. The combined total paid public

sources such as Medicare is 45 per cent (Strunk, Ginsburg, & Cookson, 2005). Third party payers exert tremendous influence over the practices hospitals engage in. They have sponsored the majority (71 per cent) of pay for performance program, reimbursing physicians and hospitals based on their adherence to efficiency and quality guidelines (BlueCross BlueShield Association, 2006; p. 43). The data that third party payers provide HCOs influence their practices through feedback on cost effectiveness. Importantly, the data health plans provide are the most common quality of care information available to physicians; exceeding that from all other sources (BlueCross BlueShield Association, 2006; p. 31), demonstrating HCO dependence upon third party payers for information regarding their own processes and performance.

Consumers: Households and employers

Countries differ regarding whether their hospitals face market competition. Competition has put customer satisfaction high on the priority list of contemporary hospitals in the United States as consumers exercise choice with regard to caregivers and hospitals. In making these decisions, patients and their families are to some extent better informed consumers than ever before with the internet emerging as a primary source of health information (in a recent study, 69 per cent of consumers identified the internet as one of their primary sources of health information compared to 59 per cent who mentioned their personal physician; BlueCross Blue Shield, 2006). Nonetheless, as a function of third party payers, the public remains largely out of touch with the true cost of health services. We note that national health services provide health care in Canada and the UK, making competitive forces less relevant to hospital administration and interactions with consumers.

A key premise underlying consumer-oriented healthcare is that patients or their families are sufficiently informed to participate in care-related decisions. When it comes to something as basic as the cost of treatment, however, American consumers consistently underestimate actual costs by at least half (e.g., estimate and actual average costs of hip replacement are $10 639 vs. $25 000), while they, on average, can estimate the price of a new Honda Accord to within $300 (BlueCross Blue Shield, 2006). Costs per case are a major issue for HCO financial performance (Alexander, Weiner & Griffin, this issue), particularly given what third party-payers are willing to reimburse.

Private sector employers are the primary purchasers of health insurance in the United States through benefits provided to their workers. Controlling healthcare costs has become the number one employee benefit priority for contemporary American employers (BlueCross Blue Shield, 2006). Healthcare spending as a share of total employee compensation was 8.3 per cent in 2003 up from 7 per cent in 1998. However, employer-offered health benefits have declined steadily since 2000 accompanied by large increases in employee premiums (up by 73 per cent between 2000 and 2005). In just 5 years the portion of American employees offering health benefits to workers declined 9 per cent to 60 per cent in 2005 (Blue Cross Blue Shield, p. 65) reflecting the broader trend of benefit reduction and greater risk transfer from firms to workers (Rousseau, 2006). How HCOs are managed thus has substantial downstream implications for the workforce and the firms that employ them.

Government

Governments are increasingly under pressure to respond to what is commonly termed 'the healthcare crisis' (Krugman & Wells, 2006). For example, government expenditures as a percent of total health costs increased in the U.S. from 31 per cent in 1987 to 38 per cent in 2003. Efforts to regulate costs via government intervention in healthcare practices have largely take the form of reimbursement limitations. In the UK, National Health Service enforces practices deemed as 'evidenced based' by

requiring practitioners to adhere to care guidelines provided by the Cochrane Collaboration, imposing considerable constraint on physician discretion. In the United States, the Institute of Medicine has issued several reports, used by professional associations comprised of caregivers to lobby for changes in HCO practices.

Professional associations

Organizations representing a single professional group (e.g., medical and nursing associations, private clinical practices) attempt to exert influence over HCOs on behalf of their members. Nursing as a profession is increasingly organized to lobby for regulations that reduce patient/nurse ratios (e.g., Safe Patient Legislation promoted by Michigan Nurses Association, Merx, 2006). The professions have been active in promoting initiatives that can affect hospital policies, endorsing policy-oriented reports (e.g., Institute of Medicine guidelines, 1999, 2001, 2003) as well as lobbying legislatures with regard to professional licensing (e.g., nursing associations have fought to prohibit emergency medical technicans from administering injections, a nursing prerogative). The dynamics within each profession, medical, nursing, and administrative, unfold inside hospitals too in the multiple hierarchies that shape day-to-day activities, reifying occupational cultures and impeding in-hospital socialization.

Task Environment: Complex, Ambiguous, Dynamic, and Local

The day-to-day HCO task environment is characterized by increasing specialization. For instance, what was previously referred to as 'general practice' was redefined in 1969 to create the specialty of family medicine. Subsequently, primary care internal medicine and general pediatrics became new specialties (Moore & Showstack, 2003). Increasingly, primary care is seen as including obstetrics and gynecology because they are often the patient's first contact with the healthcare system. What general practitioners used to provide previously is now the purview of a differentiated class of providers from family physicians and general pediatricians to nurse practitioners. 'Playing the game of specialization. . .led family practice into competitive subspecialization' (Stevens, 2001) quoted in Moore and Showastack, 2003, p 245). Yet with growing specialization, care providers along the continuum of care are increasingly interdependent. As a result the capacity to communicate effectively through these multiple handoffs is critical for patient care quality and organizational efficiency (Institute of Medicine, 2003).

Clinical practices are subject to simultaneous demands for standardization as well as flexibility. Prevailing HCO ideology places high value on evidence-based guidelines, that is, systematically developed practice specifications to assist practitioner and patient decisions about appropriate care for specific clinical circumstances (Institute of Medicine, 2001). The rate at which new randomized control studies, the gold standard of evidence, report such practices is steadily on the increase. By some estimates, the number of published randomized controlled experiments in medical practice exceed a million (Sackett & Rosenberg, 1995; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Such practices are now codified by on-line communities that make stipulations regarding appropriate practice available to clinical care givers as well as the general public (e.g., Cochrane Collaborative, www.cochrane.org). A colleague of ours notes that he goes on-line after an appointment with his physician to check whether the Cochrane recommends the same treatment. The public now is in a position to demand treatments formerly viewed to be at their care giver's discretion.

If effectiveness means using evidence-based practices proven to enhance treatment outcomes, then HCOs fall far short. By most estimates healthcare providers follow evidence-based guidelines only 40–80 per cent of the time depending on the specific condition. (Institute of Medicine, 2001; McGlynn, Asch, Adams, et al., 2003) Equally, if effectiveness is viewed as avoiding practices with adverse outcomes, HCOs also fail, as exemplified by widespread routine prescribing of antibiotics before confirming the presence of an infection, a major source of the 'silent epidemic' of anti-microbial resistance (Levy & O'Brien, 2005). HCOs thus are highly variable in their use of practices of known effectiveness through use and mis-use of practices yielding dysfunctional outcomes. Moreover, use of such guidelines can have negative implications for the financial health of HCOs (Alexander et al., this issue) raising as yet unresolved issues regarding the trade-offs between care quality and financial performance.

Despite the push for standardization, medicine is also highly localized. Flexibility, particularly in the face of variations in patient conditions, necessitates reliance on clinical judgment made on the scene to determine appropriate patient care. A patient may present unique features that call for an adaptive response. Moreover, wide dissemination of healthcare information makes caregivers cognizant of potential exceptions, interactions, and other unintended consequences from standard treatment. Such complexities necessitate local flexibility in determining appropriate care, while adding to the variability that makes evaluating successful performance difficult.

The existence of excellent units in otherwise ordinary or even substandard hospitals is not unusual. The concept of a 'micro-system of care'—the small units of work that actually provide the care that the patient experiences (e.g., triage in the emergency department, respiratory therapy conducted in a patient's suite in medical unit)—has emerged as the preferred organizational unit for planning interventions and improving performance (Nelson et al., 2002; Nelson, Batalden, & Homa, 2003). The performance of a given hospital may be less than ideal but some of its services or departments may function quite well, an example of the performance paradox, where excellent units exist in otherwise less effective organizations (Goodman, 2001).

Implications

Features of contemporary hospitals' missions, external environment and workforce combine to amplify the administrative complexity of their day-to-day tasks. Contentious and conflicting missions and environmental forces lead to fragmented and dynamic internal conditions as hospitals react to an array of disjointed and seemingly mutually inconsistent pressures. A workforce operating from a host of robust subcultures rooted in pre-organizational education poses extreme challenges when care quality and hospital performance depend on effective communication, coordination and learning.

We have detailed features of HCO context to help in addressing several questions regarding ways of organizing contemporary healthcare delivery. Now recall our three questions: What predisposes HCOs to have difficulty solving their organizing problems? What makes managing the interdependencies among HCO subunits so challenging? Why are the linkages between HCO hierarchical levels so weak?

To the first question, our analysis suggests that it is their fundamental pluralism that makes HCO organizing so difficult. Everything comes in multiples: missions, hierarchies, cultures, and constituencies. The organizational basics of communication, goal setting and coordination can be implemented effectively only when the many robust mindsets and interests are somehow reconciled or reformulated.

To the second question, we point to the reciprocal coordination that the delivery of patient care entails (e.g., Thompson, 1967). This most complex form of coordination is necessary to effectively manage the numerous handoffs along the continuum of care. Yet HCO subunits are plagued with

chronic coordination problems and inter-unit conflict. Simpler coordination problems might be resolved by routine processes (as per the case of sequential coordination in assembly lines), and slightly more complicated problems by planning (Thompson, 1967). But the micro-systems of care giving, even when locally effective, typically do a poor job of managing complex across-boundary coordination involving different hierarchies and occupations. Leadership and staff cooperation might otherwise be possible mechanisms promoting complex coordination, but HCO coordination often cannot be achieved in these ways. HCO leaders are often weak, lacking the necessary endorsement from would-be followers reluctant to support someone from another occupational group. Many HCO staff are transient with limited organizational ties and few shared experiences (e.g., co-training) upon which to build the capacity to work better together. Moreover, information systems are often local in nature and not effectively used to coordinate across units. Thus, HCOs lack appropriate supports for reciprocal coordination and the nature of their work often makes simpler forms of coordination ineffective.

Lastly in response to the third question, we attribute much of the weak linkages across hierarchical levels to HCO segmentation by level and lack of linkage mechanisms. HCO executives attend to financial performance, while lower levels engage in care giving and support activities, serving fundamentally different missions, and interacting with (and paying attention to) distinctly different constituencies. Firms better integrated across levels (cf. Goodman, 2001) share common motivations (supported by overlapping goals and reward systems), common socialization (via a personnel pipeline from lower-to senior levels and shared training and community-building experiences), and two-way communication channels (supported by mutual trust). These organizing features are not characteristic of the typical hospital today.

Organizing Implications of HCO Features

Grocery stores have better technology than doctors.
   Helen Burstin, M.D., M.P.H
   Agency for Healthcare Research and Quality Center

When asked to name an enterprise that HCOs could best learn safe practices from, an expert on patient safety replied, 'UPS' the global mail delivery firm known for its reliable service and innovative employee relationships (Karsh, 2003). This remark is at odds with the reality of contemporary healthcare, which falls short both in organizational learning from experience as well as in applying management practices of known effectiveness. Together these organizational difficulties make it difficult for pockets of subunit excellence in HCOs to spillover and inform the improvement of the larger whole. These conditions impede efforts to transfer learning across levels and between micro-systems. Unable to understand, or perhaps even to recognize, where a part of the organization has succeeded, hospital leadership and staff look outside their organization for solutions even as they find it difficult to implement these solutions.

Overcoming Difficulties in Learning

Hospitals have a limited track record in adopting and sustaining organizational improvements and innovations (Institute of Medicine, 2003). The legal ramifications of gathering systematic performance information leads to data distortion, and limits availability of valid and reliable data on patient safety,

staffing adequacy, or organizational processes, practices, and improvements. Short-staffing among nurses and other professional care givers reduces their ability to spend time trying to solve problems, to explore alternative solutions, or to reflect on and share their learning with others (Institute of Medicine, 2003). In effect, learning-to-learn is an uncommon HCO collective capability.

The predominant response in HCOs to performance problems, near misses, and other deviations from desired practices is silence, particularly when the actor responsible for the error is from a high status professional group. Nembhard and Edmonson (this issue) discuss the importance of HCO leader inclusiveness, via words and deeds to invite and appreciate others' contributions, to forming a climate of psychological safety promoting quality improvement. Hoff and colleagues (this issue) describe the reluctance of medical residents to question senior physicians for fear of appearing ignorant. Blatt, Christianson, Sutcliffe, and Rosenthal (this issue) conclude that sense-making is especially complicated in healthcare because actors become aware of reliability lapses either only after consequences have occurred or simultaneously with them. As a result, the choice to speak up rather than remain silent becomes especially difficult.

We ourselves have observed nurses hesitate to directly challenge a physician's medication order they believe incorrect, instead going indirectly through their manager, a pharmacist, or saying nothing at all. Silence can be functional in circumstances where a pre-established routine is followed rather than raise conflict between caregivers regarding how best to proceed, if evidence suggests that the routine is the most effective form of treatment. However, this is not typically the case. Silence is further exacerbated in healthcare both because of status differences inhibiting direct communication and the common attribution that errors are due to personal failings rather than systemic issues.

Learning is also difficult because of the way HCO errors are categorized. A near miss may not be coded as an error (Tamuz & Thomas, this issue) depriving caregivers and their managers of accurate information regarding the adequacy of their work practices for keeping patients safe. The quality of the information itself is also a concern. Data on medication or surgical errors and accidental deaths in healthcare are typically quoted without a denominator. Raw frequencies are reported without comparative information on base rates. In contrast, reporting medication errors as a percentage of all drug doses (each opportunity for error) would allow both for comparison over time as well as with other industries. Although the percentage of medication errors per all drug doses might still seem relatively small, nonetheless most industries would find that rate an unacceptable if not alarming performance.

HCOs have been slow to change. Studies show that it takes an average of 17 years for research findings to be translated into practice (Balas, 2003). This seems to be the case even when the finding appears to be low-cost and easy to implement; for instance, 7 years after it was first reported that that antibiotics were effective in treating ulcers, only 10 per cent of relevant physicians reported doing so (Millenson, 1997). Healthcare organizations appear to be even slower in adopting practices from other industries. Take the case of the Malcolm Baldridge Quality award, set up in 1987, but not awarded to a healthcare organization until 2002. Hospitals are only now beginning to use techniques for predicting and managing the supply and demand for their services that other industries have been using for decades. The speed of technology adoption in core processes is also slow (Ramanujam, Keyser, & Sirio, 2005). Although computerized physician order entry technology has been available for over a decade, fewer than 5 per cent of American hospitals have implemented it (Doolan & Bates, 2002). Similarly, information technology is underutilized in managing the continuum of care. For most patients, medical records cannot be accessed by their multiple care providers. One result is that triage nurses in emergency rooms often rely on the patients or family members for obtaining medical histories. Consistent with the performance paradox we described above, moreover, efforts to transfer best practices from one HCO micro-system to another aren't typically very successful. An effective practice in one ICU may not be successfully adopted in another 300 feet down the hall. Consistent with

the complex HCO context, in each and every case there are several reasons—legal, operational, financial, and clinical—for the slow pace of change.

Organizational disorder, the unresolved conflicts arising from multiple interdependent professions and competing constituencies, underlies a care delivery process that is often poorly coordinated and lacks transparent flows of information in the handoff of clients/patients between caregivers (Marks, this issue). In contrast to modes of performance in manufacturing, financial services, and other modern industries, healthcare services often lack standardization of practices permitting learning and process improvements. Consequently, this limited capacity to learn yields high rates of infections, medication errors, and inefficiency in patient/client services.

An array of factors combine to create the disorder witnessed in contemporary hospitals. Over-reliance on occupational hierarchies and under-use of teams impact how critical decisions are made. Measuring and monitoring unit or hospital-wide performance or improvements have proven difficult, compounded by pluralist disagreement on goals and how to measure them. It is not unusual for hospitals and healthcare systems to use identical metrics to assess two different and to some extent incompatible goals: A goal to increase error reporting and another goal to decrease errors are often measured by the same measure of error incidence (Ramanujam, Keyser, & Sirio, 2005). Failure to examine behaviors in the context of errors (e.g., the number of different staff members who report errors or the variety of follow up actions taken in response to an error report) means that neither hospital staff nor managers know whether their efforts to deal with medical errors are working. Many factors contribute to these problems, which can be grouped together under a common cause, the failure of HCOs to implement contemporary managerial and organizational practices of known effectiveness.

Failure to Implement Contemporary Organizational Practices

In contrast to other service industries and in the manufacturing sector, HCOs have low adoption rates of such contemporary management techniques such as teamwork, enhanced staff and managerial competencies to better execute clinical and organizational practices, dedicated structures to promote patient safety, and feedback and redesign in implementing change initiatives.

Teams

Team structures where workers commit to work collaboratively are the basic units of effective organizing where work is highly interdependent and timeframes are tight (Goodman, Ravlin, & Schminke, 1987). In consequence, many decisions formerly in the domain of high level managers have migrated to appropriately structured teams. For teams to work effectively, responsibility and authority must be clearly delineated and communicated. The involvement processes that workplace transformation requires place authority and responsibility in appropriately composed teams. Since authority often cannot be neatly packaged, teams can make some decisions only with information and input from others. They may make decisions that involve organizational resources and need approval from the management team or teams in other departments or specialties. Multiple teams may have to make a decision jointly with a clear escalation point when problems cannot be resolved. Team structures in healthcare have been effectively implemented by gaining commitment for collaboration across multiple hierarchies and using common training to promote mutual trust and shared goals (e.g., Morey et al., 2002; Weisman, Gordon, Cassard, Bergner, & Wong, 1993). In such situations, members

can learn to replace norms of silence with constructive feedback. Though teams in HCOs are few and far between, they have been successful where fully adopted.

Greater attention to the continuum of care, rather than limited to one's job or unit, is an important consequence of the team approach in HCOs. The team works together to complete a whole product (e.g., an automobile in manufacturing or a healthy resident in a long-term care home). Participants take responsibility to improve the quality of the whole product rather than being concerned only with quality problems that arise from their own tasks (Bailey & Sandy, 1999, p. 52). This more holistic view of the care giving process leads to greater interactions on the part of care giving team members with individuals outside the facility and greater member commitment to excellence. Accomplishing this requires a greater flow of information across units to promote shared perspectives, more effective real-time decision making, and better joint planning. The fact that multiple specialties are involved across the care continuum necessitates richer information flow to identify problem sources in a manner allowing them to be remedied.

At a time when high workload is a key source of caregiver stress (Institute of Medicine, 2003), it is important to note that this expansion of their coordination activities can help streamline caregivers' workload. A case in point, Morey et al. (2002) studied a redesign of an emergency department in which physicians, nurses, and technicians participated. Following training in teamwork, problem solving, communication, planning and workload management, a team structure led to reduced clinical errors in comparison with a control group of emergency departments and increased staff satisfaction, without change in the level of workload staff experienced. Similarly, Weisman and her colleagues report that the registered nurses at Johns Hopkins Hospital entered into a formal arrangement with the hospital to assume responsibility as a group for provision of 24 hour nursing care on the unit for a period of a year in exchange for the right to manage themselves. An organizing committee of registered nurses and a nurse manager staffed units themselves, without recourse to agency or float pool personnel to improve patient care continuity and unit cost savings (Weisman et al., 1993). These shared goals were reinforced by a compensation system where nurses' salaries were upgraded 10 per cent over base pay to compensate for foregone overtime earnings. Gain sharing based on unit cost sharing was paid out yearly, with hospital-nurse shares negotiated yearly as part of an agreement, and the within unit-allocation determined by the nurses themselves (p. 382). Nurse satisfaction and retention were improved by this system.

Deeper and expanded competencies

Increased staff and manager competence is a necessary condition of successful transformation. Critical skills include both process improvement and interpersonal skills needed for conflict management, negotiation, and representing the group's concerns to others. Caregivers must be able to interpret and respond to performance indicators not only from patients but also regarding their work unit and the larger organization's outcomes. Technological supports are important to enabling these new skills such that performance depends more on caregiver knowledge and creativity rather than his or her physical strength and stamina (Carayon, Alvarado, & Hundt, 2003).

Explicit goal setting

Effective motivation systems promoting patient safety within and across work units entail a set or combination of mutually reinforcing goals, metrics, incentives, and feedback, promoting shared expectations across all units and levels. Moreover, their goals tend to combine performance associated with an individual's own job, the team or unit in which this person belongs, and also the larger

organization. Edmondson (1996) reports that health care environments with tacit boundaries imposed by professional group or rank are more likely to reduce the amount of information shared, including feedback regarding performance problems. Effective healthcare transformation involves a shift in focus to multilevel goals, creating shared expectations not only within the unit but across units and the larger organization. Similarly, unit-level agreement on the importance of monitoring and reporting medication errors and near misses is critical in encouraging error reporting such that unit members can learn from their mistakes (Edmondson, 1996). In particular, in units with shared goals of increasing error detection and reporting to promote patient safety, members may be more willing to report errors involving themselves as well as others.

Dedicated structures for patient safety

Critical and recurrent organization problems commonly require special organizational arrangements dedicated to resolving them. Tamuz and Thomas (this issue) argues that dedicated structures are needed to focus attention on patient safety by gathering relevant data and support patient safety. Such structures, supported by multilevel attention to safety, make it more likely that members of different work groups (e.g., pharmacists, nurses, doctors) will candidly share information regarding performance problems they have observed.

Feedback and redesign

On-going feedback and redesign within and across teams promotes effective change initiatives, including those targeting improved safety and quality (Nembhard & Edmondson, this issue). Essential to the process of transformation is team review of its performance against multiple metrics provided by the unit's stake holders (e.g., patients, families, other units in the facility). This process requires both assessing performance indicators and providing the team with periodic feedback.

Feedback alone cannot improve performance. It is how work groups respond to the feedback that matters. Team performance reviews improve performance by developing solutions to problems and redesigning approaches to work. Successful implementation is not a one-shot deal: Few changes in complex organizations work perfectly when first introduced. Virtually all changes require modification over-time to achieve optimum results. On-going monitoring, feedback, and redesign are needed to create and sustain effective change (Goodman, 2001).

Many hospitals face counter-indicators impeding successful change. First, where trust is absent, caregivers faced with change will be less likely to believe what leadership says and more likely to doubt that change is undertaken for constructive reasons (e.g., promoting patient care quality, professional development; Rousseau & Tijoriwala, 1999). Relatedly, members often doubt that leadership has sufficient commitment or political power to persist with implementation over time (Rousseau & Tijoriwala, 1999); one reason why nurses in some successful changes have demanded that HCO administration sign a contract to support the proposed change once it is launched (Weisman et al., 1993). There is a third impediment of successful change: the absence of organizational thinking in the way HCO members and stakeholders approach change efforts.

HCO members don't think 'Organizationally'

Acting upon the evidence provided in this special issue and by organizational researchers more generally requires a critical shift in the way HCO members and stakeholders think about performance

problems. Problems as diverse as medication errors or coordination difficulties are not commonly viewed as *organizational*. The prevailing understanding within HCOs is that caregivers act as they do because of personal motives and skills and that organizational factors play little or no role in either caregiver behavior or the patient outcomes they achieve. The IOM report 'To error is human' was a breakthrough in 2001 in that it challenged the notion that individual care givers are solely responsible for errors made in patient care. It attributed much of the increased rate of medication and other medical errors to systematic factors such as short-staffing, interruptions, and other causes arising from the HCO environment. Nonetheless, recognizing problems in hospitals as having an organizational basis (i.e., requiring a collective rather than individual solution) flies in the face of occupational culture and professional education in HCOs.

Each profession may have its own reasons for thinking individually or locally and not organizationally about the problems faced. Physicians may be particularly prone to making individual attributions for performance problems, perhaps one reason why communicating errors involving physicians is often counternormative (Hoff et al., this issue, Blatt et al., this issue). Trained to value evidence-based clinical practice, physicians commonly assume that others behave as they do. At the analysis stage of the National ICU study (Shortell et al., 1992, 1994), the second author recalls the following incident. Data analysis had demonstrated that more specialized ICUs, such as units treating only surgical patients, had lower death rates than their less specialized counterparts. A physician on the team commented 'Medicine is medicine everywhere. Why should specialization matter?' Now, organizational theorists have long described the benefits to work systems and their outcomes from reduced variation in input (in this case patient mix) and specialized work processes promoting learning (e.g., Perrow, 1993). But the value of specialization to improved patient outcomes has not been widely understood by physicians or even administrators trained in management. Differences in performance are often attributed to the people involved instead. The tendency remains to blame the person or in some cases draw stereotypical inferences based on the professions of the actors involved.

An organizing shift to high involvement practices

Thinking organizationally has powerful implications for healthcare organizations. There is emerging agreement among regulators and industry analysts that to protect patients while providing care in an efficient manner requires a radical shift in the way clinical care giving is organized (e.g., Institute of Medicine, 2003). This shift would contain many aspects of the mass changes in manufacturing and service firm practices since the 1980s. In manufacturing for instance a worldwide evolution in organizing principals in manufacturing as the mass production system (which itself replaced the old 'craft' system in the early 20th century), morphed at the end of that century into 'flexible production' (Macduffie & Pil, 1996). This flexible production system has been reinforced by two related forces, the ever greater reliance on workers as the basis of organizational success and expanded trust managers have in their workers (Miles & Creed, 1995). The essence of this work transformation is embodied in the high involvement work system and other innovative ways of organizing pushing more decisions down the organization's hierarchy, increasing worker responsibility for quality control (monitoring safety and taking action to prevent risks to safety or quality), and broadening the knowledge that workers possess regarding the activities of other work groups (e.g., through cross-functional teams). Yet in HCOs particularly in hospitals, staff are treated not as treated as assets, but as cost, and dysfunctional work environments have put managers and staff at odds with each other, leading to record low levels of trust (Institute of Medicine, 2003).

In effect, the successful transformation of healthcare delivery calls for a new HCO logic: developing effective high performance organizations. A certain degree of unlearning is required for those who have worked in the traditional hierarchical health care organizations. HCO staff and leadership need new

expectations of themselves and one another, and without a common understanding of these, new patterns of performance will be difficult to establish (Mohrman & Mohrman, 1997a, 1997b). Transformation requires time, a gradual, cumulative and flexible adaptation of the change process to local conditions and needs. People 'not in the room' when initial changes are launched ultimately also have to change the way the think. Only with time can the competence of change participants and their aspirations for change grow (Mohrman & Mohrman, 1997a).

HCOs today face a challenge similar to that conventional organizations must address to be globally successful: how to better communicate and coordinate across increasingly interdependent units and levels to produce higher caliber performance (Harris, 1994). It is virtually impossible to produce a change that promotes targeted organizational outcomes effectively without attention to linkages across the continuum of patient care, interdependencies between units, and the support provided by the larger HCO (e.g., Goodman, 2001). Thinking organizationally entails recognizing that individual and teams are actors embedded in a larger environment that impacts their behavior and that multiple causes and feedback loops underlie the problems that manifest in HCOs. Developing detailed knowledge regarding the organization itself is critical. It should be apparent from this that a thorough understanding of the workflows, inter-unit relations, and impact of multiple metrics and goals entails a new approach to HCO change. More than just senior leadership needs to be involved in its planning. If change alters workflows its effect upon work content, sequence, timing, and outcomes can only be understood by engaging workers in the process of planning, implementing, and redesigning change. There is both a bottom/up as well as top/down quality to managing linkages because it requires insights and flexibilities on the part of people at many vantage points. Confronting these issues requires a radical shift from a local (concrete and specific) mindset to an organizational (multi-level) way of thinking.

Conclusions

Together articles in this special issue demonstrate how contextual features in hospitals combine to blunt organizational development and socialization efforts; reinforce silence which in turn undermines organizational learning; and render leadership weak and vulnerable to demands of multiple professions seeking to assert control over their own professional practice. HCOs are the perfect storm of organizing difficulties—the challenge of integration in a differentiated world. In this respect, healthcare may be a prophetic industry, revealing the shape of things to come for other sectors of the economy wrestling with emergence of features now endemic in healthcare. The explosion of outsourcing, creating organizations with limited socialization and difficulties in communicating and coordinating among workers from different backgrounds, can mean that more firms in the future will come to resemble HCOs (Rousseau & Libuser, 1997). The gap between clinical and managerial research and actual health care practices mirrors what has been described as the 'knowing-doing gap' (Pfeffer and Sutton, 2000), a challenge all contemporary industries face to varying degrees. In healthcare its contextual complexity makes this gap especially wide. The need to implement effective healthcare *organizing* has become as pressing as the need to implement medical breakthroughs.

Acknowledgements

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