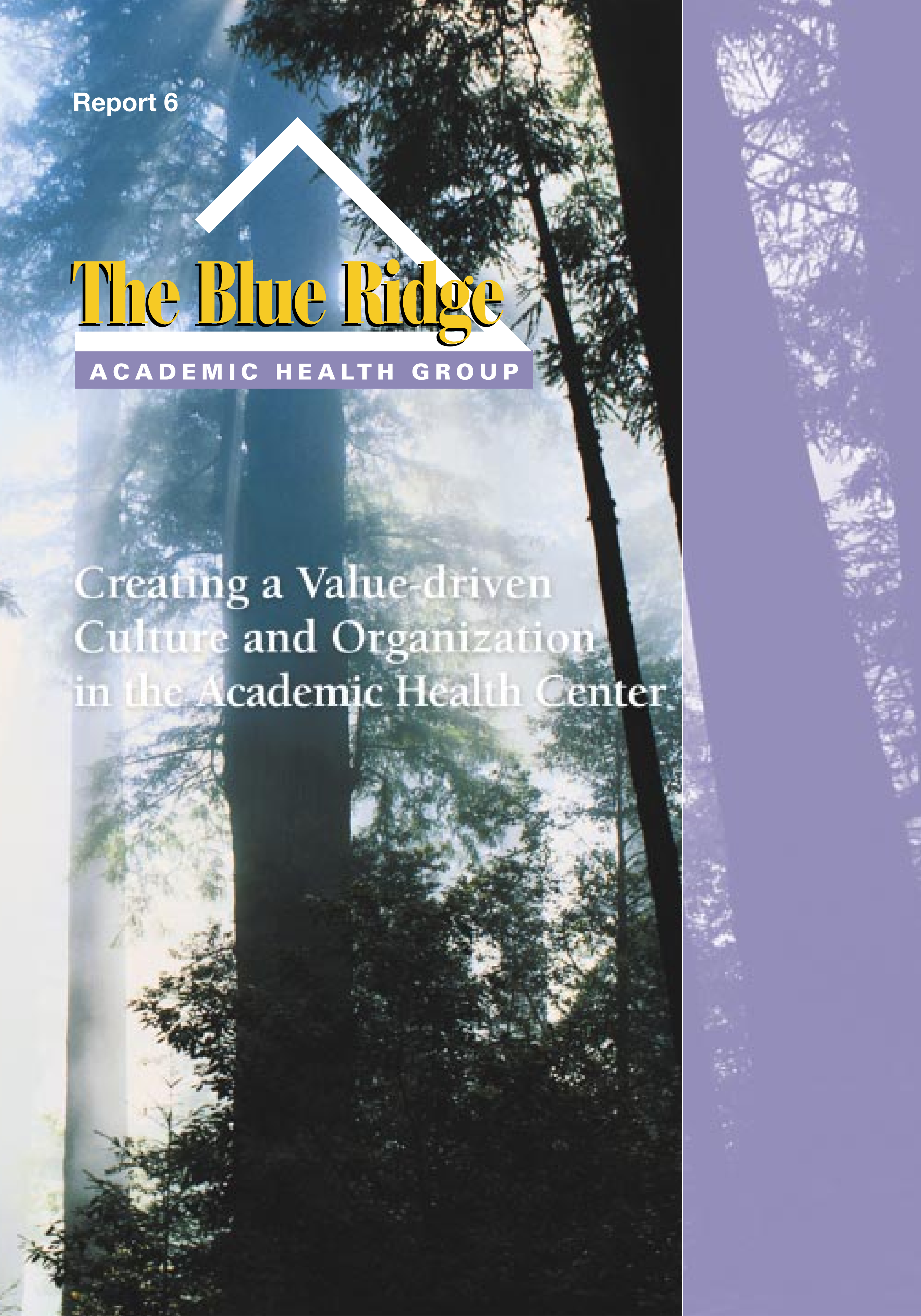
Report 6

The Blue Ridge
ACADEMIC HEALTH GROUP

Creating a Value-driven Culture and Organization in the Academic Health Center



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Creating a Value-driven Culture and Organization in the Academic Health Center is the sixth in a series of reports by the Blue Ridge Academic Health Group. The recommendations and opinions expressed in this report represent those of the Blue Ridge Academic Health Group and are not official opinions of the University of Virginia. This report is not intended to be relied upon as a substitute for specific legal or business advice.

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The Blue Ridge
Academic Health Group

Report 6

Creating a Value-driven Culture and Organization in the Academic Health Center

The Blue Ridge Academic Health Group

Mission

The Blue Ridge Academic Health Group seeks to take a societal view of health and health care needs and to identify recommendations for academic health centers (AHCs) to help create greater value for society. The Blue Ridge Group also recommends public policies to enable AHCs to accomplish these ends.

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The University of Virginia and Cap Gemini Ernst & Young, U.S. LLC founded the Blue Ridge Academic Health Group in 1997.

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Introduction

> What is new and significant must always be connected with old roots, the truly vital roots that are chosen with great care from the ones that merely survive.
>
> – Béla Bartók, Composer

A Four-Point Agenda

The academic physician, academic medicine, and the health professions in general are in the midst of an extended period of organizational and professional turbulence. Beginning with the explosive growth of managed care in the 1980s, the relatively closed, professionally self-regulated health services sector has been pushed into a more classically competitive marketplace (Blue Ridge Academic Health Group, 1998b). The 1990s brought additional impetus for change with shifting public policy, changing demographics, increasing consumerism, and the growing influence of information technologies (Blue Ridge Academic Health Group, 2000a and 2001). Now, at the turn of the new century, there is renewed public concern with deficiencies and inconsistencies in the quality of health care delivery services.

The health care sector is clearly laboring under the strains of this changing and demanding environment. The new marketplace is squeezing the financial resources and compensation available to health providers and organizations. Societal needs, expectations, and aspirations for the health care system have changed and are growing. Academic health centers (AHCs), in particular, continue to face great challenges in adapting their multiple service and academic missions to changing societal, financial, and service requirements.

AHCs have adopted measures to improve service, cut costs, and increase productivity. They are learning how to do more with less. They have also worked to develop new capabilities and revenue streams in an attempt to shore-up strained academic and clinical resources. These efforts increase the service and performance expectations for faculty and staff who find it increasingly difficult to pursue research and teaching goals. In almost every aspect of the changing health care environment, strategies for competitiveness and fiscal discipline have been in contest with long-established

organizational structures, processes, norms, values, and traditions of the health professions. The ensuing conflicts have been difficult to manage. As a result, AHCs are experiencing significant internal turmoil. Faculty morale and loyalty to the academic institution are being affected. Traditional AHC organizational structures and management solutions are fast becoming insufficient, if not obsolete.

In the face of this difficult environment, AHCs must address cultural and organizational barriers to professional and institutional success in the health system of the 21st century. They must update their missions and organizations and adopt new approaches to supporting and motivating their staff. To do so, the Blue Ridge Group believes that AHCs must pursue a four-point agenda:

- **Mission Renewal and Realignment** – AHCs must renew and, where necessary, realign their goals, values, and missions to meet societal needs and aspirations.
- **Organizational Innovation** – AHCs must restructure and realign their organizations to enable optimal performance and support updated missions and goals.
- **Personnel Management** – AHCs also must adopt new human resources and management systems necessary to support today's knowledge workers.
- **Cultural Reform** – AHCs and the health professions together must address and realign some important aspects of traditional academic and professional culture.

The Blue Ridge Academic Health Group

The Blue Ridge Academic Health Group (Blue Ridge Group) studies and reports on issues of fundamental importance to improving our health care system and to enhancing the ability of the academic health center (AHC) to sustain optimal progress in health and health care through sound research – both basic and applied – and health professions education. Five previous reports have described opportunities to improve AHC performance in a changed health care environment and to leverage AHC resources in achieving threshold improvements in health system access, quality, and cost. The Blue Ridge Group has provided guidance on improving management, strengthening financial performance, enhancing leadership, developing knowledge management and Internet-based capabilities, and developing a more rational, comprehensive, and affordable health care system (Blue Ridge Academic Health Group 1998a; 1998b; 2000a; 2000b; 2001). In this, its sixth report, the Blue Ridge Group considers the need for academic health centers to address the cultural and organizational barriers to professional, staff, and institutional success in a value-driven health system.

Exhibit 1:

Recommendations

Mission Renewal and Realignment

- AHCs, organized medicine, and the health professions should renew and, where necessary, realign their goals, values, and missions to better address societal needs and aspirations for our health care system.

Organizational Innovation

- AHCs should develop and implement organizational innovations and programs that enable faculty and staff to achieve societal health care needs and to create a value-driven health care system.

Enabling Knowledge Workers

- To enhance value-creation, motivate performance, and improve quality and outcomes, AHCs must develop a new understanding of knowledge workers and the types of organizational systems and processes required to manage and lead them. AHCs should commit to ongoing leadership, professional, and staff development as an integral part of each mission.

- AHCs should develop new and improved human resource capabilities that enable routine performance appraisals, identification of new talent, cultivation of skills, and mentoring of faculty and staff.

Overcoming Cultural Barriers

- AHCs and health professional organizations should actively work to reform their cultures and archetypes of desirable behavior.

- AHCs should supplement the culture of the independent investigator with a culture that supports demonstrated ability to establish and be a significant contributor to, or leader of, fruitful and meaningful collaborations and teams.

- AHCs should supplant the traditional ideal of the “triple threat” with one that emphasizes:

    - Excellence in scholarship and/or achievement in one or more of the core academic mission areas: student-centered education, discovery-centered research, or care-centered research or innovation.

    - Excellence in achievement and/or leadership in the core service mission: patient-centered care.

    - Excellence in achievement and/or leadership in community, professional, and institutional service in measurably meeting societal needs and aspirations for our health care system.

- AHCs should replace the archetype of the ego-centric, authoritarian, or otherwise organizationally dysfunctional personality and pursue creation of a new cultural standard that values the stellar, brilliant individual with a strong personality who leads collective change, inspires confidence, and motivates performance among peers, other knowledge workers, and staff.

Aligning with Societal Needs

For more than half a century, AHCs and the medical profession have provided vital roots of leadership in the progress of health care, in biomedical and behavioral science, in the education of health professionals and scientists, and in service to the community. Yet the intense focus on hospital-based research, training, and care, combined with proliferating technology, resulted in a very expensive system that was not meeting important health needs of millions of citizens. Despite many impressive achievements, significant flaws and inequities still exist in safety, quality, cost, and access. At the end of the 20th century, more than 40 million Americans lacked health insurance. Access to and quality of health care varied widely across regions, populations, and localities. The health of the population, as measured by variables such as life expectancy and infant mortality, lag behind most industrialized countries (Rice, 1994). Two recent reports from the Institute of Medicine (IOM) identified significant problems with patient safety and the quality and consistency of health care delivery (IOM, 1999 and 2001).

The Balanced Budget Act of 1997, stripping more than $100 billion in payments and subsidies out of the health care system over five years, was a watershed event in public policy towards health care providers and the rising costs of health care. The fact that some monies have recently been restored does not change the basic picture. It is increasingly difficult to maintain public sympathy over such issues as reduced reimbursements, declining revenues, and increased administrative and regulatory burdens, when headlines focus on issues relating to problems with clinical trials, lapses in medical record security, or any other performance problems.

Despite the intrusion of market forces into the health sector, there is still an understanding that health care is a special service. Not only do health care services depend on trust between the patient and health professional, but they also generate a public good in the form of a healthy, productive society. AHCs are beneficiaries of substantial public investment and they play a unique role in the nation's health infrastructure. They have a particular responsibility to assure that they understand and are meeting the public's needs.

AHCs and the health professions must ask whether their missions, values, and goals are well aligned with those of society. The IOM has provided indispensable guidance for mission realignment and for moving towards the type of value-driven health system that the Blue Ridge Group advocates (see Exhibit 2) (Blue Ridge Academic Health Group, 1998b).

> The real cure can come only out of changes in national policy and priorities when the American public has had enough of this uncontrolled chaos we call our health care system.
>
> – Halie Debas,M.D.,
> Dean UCSF

Exhibit 2:
The Value-Driven Health System

A value-driven health system is grounded in the principle that a healthy population is a paramount social good. It is a health system that promotes the health of individuals and the population by providing incentives to health care providers, payors, communities, and states to improve population health status and reward cost-effective health management. Two kinds of incentives exist within a value-driven health system. First, there are incentives for individual citizens (patients), health care professionals, health delivery organizations, payors, and communities to seek and maintain health. Health insurance premiums, reimbursement rates, and grants to communities can all be structured to reward behaviors and strategies that advance health. Second, providers compete on the basis of quality and efficiency for populations to manage (where quality is defined in terms of health of the community or region as well as health of individuals). To do so, however, requires a fully insured population (universal coverage) so that population health management strategies can be implemented.

In its report, *Crossing the Quality Chasm: A New Health System for the 21st Century,* the IOM surveyed the broader landscape of quality issues in health care and found a large gap between the promise and the realities of the health care system (IOM, 2001). Describing the last quarter of the 20th century as the "era of Brownian motion in health care," the report suggests that this tumultuous period of "mergers, acquisitions and affiliations" has produced a great deal of organizational turmoil but little in the way of significant or lasting improvements in either the quality of health care or in the health status and outcomes for the population. A central message is that care delivery in the future must be constructed on three pillars: scientific evidence, well-designed systems, and patient-centered care.

One of the most important findings is that our existing systems of care are inadequate given the complexity of modern health care and the growth in the health sciences knowledge base. Health professionals cannot provide high quality care in a delivery system with deficient processes, inadequate information systems, and unmanaged change to the point of turmoil. In a manner akin to many of our past recommendations, the IOM described our health system as lacking clarity of purpose, commonality of interests, and the shared values necessary to guide the various constituents of the health care system – from patients to health professionals to policy makers – towards system-wide improvement.

The IOM proposed a national agenda that includes the adoption of a "national statement of purpose" (see Exhibit 3) and a set of six "aims," or target areas, for improvements in health care systems. The Blue Ridge Group strongly endorses this effort and the set of proposed aims, which prescribe that health care should be (IOM 2001, p. 6):

- **Safe** – Avoiding injuries to patients from the care that is intended to help them.
- **Effective** – Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and overuse, respectively).
- **Patient-centered** – Providing care that is respectful and responsive to individual patient preferences and needs and ensuring that patient values guide all clinical decisions.
- **Timely** – Reducing waits and sometimes harmful delays for both those who receive and those who give care.

- **Efficient** – Avoiding waste, including waste of equipment, supplies, ideas, and energy.
- **Equitable** – Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socio-economic status.

The Blue Ridge Group believes the statement of purpose reflects societal aspirations for our nation's health care system with which AHCs and the health professions should seek to align their missions and goals.

These aims can also serve as consensus drivers for a value-driven health care system that provides universal coverage through a combination of public and private mechanisms. With universal coverage, health care organizations can be incentivized to manage and improve the care of individuals and populations through the development of effective, evidence-based systems. Research suggests that huge gains in economic value could be achieved for society by the systematic population-based application of even modest advances in treatment of common diseases (Murphy and Topel, 1999). AHCs can unleash their reserves of creativity to catalyze the development of new population health management strategies, drive competition to develop better ways to measure and reward quality and efficacy of care, and create more value for the health care dollar.

Towards this end, the IOM has articulated clear and powerful goals that AHCs, health professionals, and the public can embrace. By focusing the public policy spotlight on the inadequacy of existing delivery systems and system goals, and in building on the knowledge, skills, and dedication of the healing professions, the IOM has provided an important rallying point for the health care system and for AHCs and health professionals as they seek to refine their missions and build a value-driven health care system.

While the six IOM aims are directed at the health care delivery system, they also have implications for AHC research and education domains. The research agenda can support the emerging health system by focusing on issues such as the continued development of quality metrics and development of protocols to reduce variation in the disease management process. Moreover, AHCs need to work across disciplines and professions to align the size, content, and structure of their educational programs with the distribution of health professionals needed in the 21st century health system.

Exhibit 3:

Statement of Purpose for the Health Care System

All health care organizations, professional groups, private, and public purchasers should adopt as their explicit purpose to continually reduce the burden of illness, injury, and disability, and to improve the health and functioning of the people of the United States (IOM, 2001, p. 39).

Mission Renewal and Realignment Recommendation and Action Steps

Recommendation

- AHCs, organized medicine, and the health professions should renew and, where necessary, realign their goals, values, and missions to better address societal needs and aspirations for our health care system.

Action Steps

- AHCs should adopt and advocate the societal needs and aspirations articulated by the Institute of Medicine in its report, *Crossing the Quality Chasm: A New Health System for the 21st Century.* These include the need for a health care system that is safe, effective, patient-centered, timely, efficient, and equitable.
- AHCs should adopt and advocate the goal of transitioning our national health care system to a value-driven model of universal coverage and population health management through a combination of public and private mechanisms, as recommended by the Blue Ridge Group in its 1998 report, *Promoting Value and Expanded Coverage: Good Health is Good Business.*

Reform with Change

The AHC, like all provider organizations, seeks to adopt competitive practices and the fiscal discipline to compete in the medical marketplace. At the same time, AHCs must provide an environment that encourages people to pursue quality, foster creativity, promote discovery, and nurture future health professionals, scientists, and educators. AHCs have had limited success in achieving this balance, in part because traditional AHC organizational structures and management approaches are unable to meet contemporary challenges.

AHCs and teaching hospitals have employed a variety of organizational and personnel management strategies to improve their competitiveness and fulfill academic and service obligations. Organizational strategies have included vertical and/or horizontal integration of clinical units and departments, large institutional and hospital mergers, acquisition and development of primary care “feeder” practices, aggressive cost reductions at owned or affiliated hospitals, various forms of administrative process consolidation, reorganization of care processes and policies, expansion of outpatient capacity, and improvements in information technology and organizational communications. In some instances, they even became insurers through creation of health care plans. Personnel management strategies have included various forms of individual and clinical unit productivity goals and incentivization schemes tied to salaries and bonuses, departmental and hospital discretionary funds, dean’s funds and dean’s taxes (Task Force on Academic Health Centers, 2000).

Some AHCs have experimented with, and adopted, a “mission management” approach to organizational and personnel management. With this approach, AHCs attempt to develop systems appropriate for organizing work and managing personnel within each separate mission: research, education, patient care and, sometimes, community service (Bulger et al., 1999). A great deal of work has gone into creating new metrics for guiding and evaluating faculty performance (D’Alessandri et al., 2000; Sussman et al., 2001).

A major and unintended consequence of these new organizational and management initiatives is that faculty are buffeted by shifting and sometimes conflicting professional and institutional expectations and responsibilities. Traditional areas of faculty responsibility, authority, and autonomy are being circumscribed (McKinlay and Arches, 1985; Eisenberg, 1999). Unable to devote sufficient time or effort to research, teaching, or professional self-development – goals and activities that are fundamental to their professional identity and personal values – many faculty, especially clinical faculty, feel devalued and disillusioned (Kataria, 1998). Recently published research confirms that clinical faculty satisfaction is below that of other medical school faculty (Blumenthal et al., 2001). Many question whether academic values and missions are being replaced wholesale by “corporate” values (Blake, 1996; Relman, 1994). One respected commentator has suggested that medical schools are neglecting their university missions and appear to be regressing towards the proprietary school model that was the subject of Abraham Flexner's scathing report on the status of medical schools in 1910 (Ludmerer, 1999).

Further, despite these and other ambitious initiatives, a substantial number of AHCs continue to struggle to maintain operating margins. A report to the Commonwealth Fund Task Force on Academic Health Centers found in the year 2000 that 14 of 17 research-intensive AHCs experienced either an operating loss, a bond downgrade, or a negative bond rating (Weisman and MacDonald, 2001). This seriously affects the financial strength of AHCs and limits the traditional utilization of clinical revenues to cross-subsidize education, research, and administrative costs within the AHC and throughout the university.

It has become increasingly clear that many strategies being employed by AHCs, including most "mission management" strategies, are designed primarily to improve the efficiency and effectiveness of traditional systems rather than to define new ones. This is a typical response that a leading medical sociologist has aptly identified as the pursuit of "reform without change" (Bloom, 1988). The process of reform without change is likely a major reason why, after years of various implementations, most AHCs continue to experience turmoil and uneven progress in balancing missions and achieving goals.

One of the many tests of leadership in this new environment, following on the need to revisit and realign values and missions, is to lead necessary organizational change. Once again, the IOM report, *Crossing the Quality Chasm,* provides important guidance.

In articulating the growing public and professional dissatisfaction with the status, trajectory, and priorities of the health care system, the *Crossing the Quality Chasm* report reaches a conclusion at once bold and yet almost intuitively obvious by now to professionals and the public alike:

"The current care systems cannot do the job. Trying harder will not work. Changing systems of care will." (IOM, 2001)

This is a pivotal conclusion in the public dialogue concerning our health care system: The quality of health care and access that Americans deserve and desire cannot be achieved by driving higher productivity in existing systems of care – or by further consolidating, streamlining, or expanding these systems. Instead, new systems must be designed.

"Health care has safety and quality problems because it relies on outmoded systems of work. Poor designs set the workforce up to fail, regardless of how hard they try. If we want safer, higher-quality care, we will need to have redesigned systems of care, including the use of information technology to support clinical and administrative processes." (IOM, 2001)

It is vitally important that AHCs (and all other organizations involved in health delivery) take the measure of this assertion. It is likely that many existing organizational structures within AHCs – their schools, clinics, and hospitals – are inadequate. The ability of health professionals and the health care system to perform to their potential depends upon the development of more appropriate organizational, informational, and related systems.

This, of course, does not make the existing organizations and processes easy to redesign or to replace. But difficult or not, reform **with** change is imperative.

Barriers to Change

One of the fundamental impediments to optimal performance within AHCs is the organization of faculty in traditional, discipline-based departments. Whether seen as an accident of history or as a rational development within 20th century medical and academic structures, it is clear that the traditional departmental organization is often a barrier to the achievement of 21st century missions and goals.

On the clinical side, the departmental structure reflects training regimens regulated by well-established specialty certification boards that grew as new technologies and discoveries in biomedical science encouraged the proliferation of subspecialties. Clinical departments evolved as faculty-centered structures designed to promote traditional faculty and professional values, priorities, and rewards. In the majority of medical schools, and certainly in those considered to be (or striving to be) elite, departmental "silos" have long served as mechanisms to ensure freedom of inquiry and protected time for reflection, research, and related academic activities.

Autonomy and authority are primary values that have permeated the entire profession. Historically, non-academic physicians carried and structured these values into their work environments by setting up solo or small, single specialty group practices, setting their own hours and career goals, developing informal patient referral networks, and establishing individual hospital privileges and affiliations. For both academic and non-academic physicians, often their most meaningful institutional ties have been to their professional (usually medical or surgical specialty) organizations.

On the basic science side, the departmental structure has served very much the same functions. AHC and medical school basic science departments developed along classical divisions dating back to the origins of the biomedical and behavioral sciences: first chemistry, biology, and the physical sciences, and later proliferating into subspecialties, including microbiology and molecular genetics, cell biology, neurobiology, molecular pharmacology, pathology, biomedical statistics, biomedical engineering, and most recently, genetics.

These basic science departments too, evolved as structures designed to promote traditional values, priorities, and rewards. Individual creativity and achievement in research, including success in winning extramural research funding, have been most highly valued and rewarded.

The middle of the 20th century until the early 1980s was an era of expanding health care expenditures, increasing rates of fee-for-service reimbursement, and relatively robust federal and philanthropic funding for basic science research. It was also an era when both basic and clinical sciences developed largely through differentiation and sub-specialization. It can be argued that the traditional faculty-centered departmental structure was a rational and effective organization by which biomedical science and medicine could make significant strides in such an era.

But both the game and the playing field have now changed.

In clinical care, we have already characterized the most disruptive changes. Public policy and market dynamics have forced all providers and provider organizations to become far more market-centered. In health care, as in other service industries, the market demands quality services at a competitive price. This requires that service organizations have an entrepreneurial and competitive spirit, and demonstrate their ability to meet customer (here patient and increasingly purchaser) needs.

Few would disagree that, while some departments are adapting better to the demands of the market than others, taken together, clinical departments of AHC medical schools have been reluctant change agents. Departments were not designed to enable more than relatively ad hoc and contingent forms of cross-department or cross-disciplinary cooperation in either their service or their academic missions. Despite significant efforts to integrate many administrative functions within integrated faculty practice plans, clinical departments continue to pose barriers to improving clinical operations and implementing delivery innovations. As a result, the marketplace (and by proxy, usually the medical school dean) is causing unprecedented stress on the departmental structure by asking it to pursue goals and undertake functions for which it is not designed. More than one commentator has remarked that the clinical department chair's job is becoming almost untenable (Korn, 1996; Aschenbrener, 1998).

In the basic sciences, the causes of stress on the departmental structure are of somewhat different origin. It is largely the progress of science itself that has begun to break down previous divisions between disciplines. The convergence of biomedical science around the methods of cellular and molecular biology has made these methods relatively ubiquitous. Therefore, over the last decade, the importance of departmental affiliation in differentiating basic science faculty has diminished. Departments are becoming more alike in the questions being addressed, in the science being applied, and in the training being provided. Also serving to loosen these structures are collaborative service laboratories needed to perform analyses such as high-end computation. Even though academic advancement still requires investigators to demonstrate independence and originality, cross-disciplinary and cross-departmental collaboration have become routine, if not necessary, for successful work.

Yet, while academic departments are under great strain, they continue to have relevance and to serve important functions in structuring and protecting the academic life of faculty, in education, and in the organization and administration of many other institutional goals. And many external systems and structures remain in place that make departmental divisions still important. Among these are academic and professional societies and journals, as well as public and private research funding agencies, many of which still look to support work initiated within specified disciplines by individual investigators.

The challenge for AHCs, therefore, is to develop new organizational arrangements, systems, and processes that can:

- Draw from and strengthen important academic and administrative roles traditionally played by the departments; and
- Overcome departmental barriers and enable the appropriate organization of faculty to meet pressing new missions and goals.

A survey of such efforts suggests some principles and approaches that can guide leaders in the effort to reform with change.

Change in Research

The Program in Biological Sciences (PIBS) at the University of California San Francisco (UCSF) Medical School represents one approach to reforming organizations around research. The PIBS was created in 1985 to leverage the methodological convergence in the basic biological sciences. UCSF concluded that progress might best be achieved through programs rather than departments. The goal was a new organization that would not replace the departmental structure, but overlay it with a research and training organization that would enable faculty and students to easily cross departmental boundaries to pursue work and collaboration. The PIBS has been very successful and UCSF is currently developing an entirely new biomedical sciences campus and pursuing clinical reorganization initiatives based on this model.

Extrapolating from this effort, the principles most important to the success of this model appear to have been to:

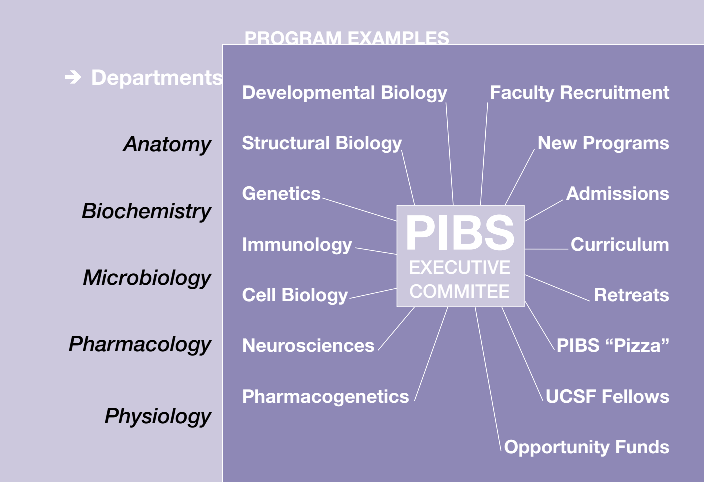
- Ensure the integrity and continuing viability of individual basic science departments by preserving their roles in the administration of research and education programs; and
- Create a new mechanism through which departments can align their interests and optimize their resource utilization and performance in the pursuit of common goals.

This was accomplished by a strategy that included:

- Strong leadership in building a consensus among chairs and departments for the need and opportunity to pursue such a model;
- Establishing an organizing mechanism – the PIBS Executive Committee – made up of all basic science chairs and elected faculty members;
- Centralizing faculty recruitment, admissions, curricular, and core facilities responsibilities largely with the PIBS Executive Committee;
- Securing departmental control over their full-time employees or FTEs, space, appointments, and promotions; and
- Making each department the home of one or more research or graduate program, so that multidisciplinary research and graduate training programs continued to be administered by individual departments as a resource for all departments.

The result is an organizational structure that reinforces mutual incentives and reciprocal responsibilities (see Figure 1). It is a model that enables faculty to cooperate to achieve common and converging goals. It allows for small new teams of talent to develop new programs and projects that can function as new “businesses” within the larger organizations. The important roles of the departmental structure are maintained for faculty. Department chairs are empowered to address both departmental and broader institutional goals. Students have access to the entire basic science faculty for research and doctoral work. But larger perspectives are possible and new “micro-organizations” can also form and flourish.

Figure 1:
Anatomy of PIBS


PROGRAM EXAMPLES
➔ Departments
Anatomy
Biochemistry
Microbiology
Pharmacology
Physiology
PIBS
EXECUTIVE
COMMITEE
Developmental Biology
Structural Biology
Genetics
Immunology
Cell Biology
Neurosciences
Pharmacogenetics
Faculty Recruitment
New Programs
Admissions
Curriculum
Retreats
PIBS “Pizza”
UCSF Fellows
Opportunity Funds

Change in Clinical Care

In clinical care, there has been progress in developing new organizations and systems that cross departmental barriers. These primarily involve the development of “centers” for either disease- or demographic-specific care. Many AHCs, community hospitals, and other providers have developed specialized centers for cross-disciplinary, comprehensive care. These include spine, diabetes, eye, mental health, and cancer centers, as well as children’s, women’s, and geriatric health centers and others. There is growing consensus in the provider community that such centers offer a more patient-centered environment than the traditional multi-site, multi-department approach.

Also becoming more widely understood is the prevalence and impact of chronic disease on population health status and on health care costs. Chronic conditions affect almost half the population and account for a majority of health care costs (Hoffman et al., 1996). Both professionals and the public are increasingly aware of the inadequacy of fragmented and episodic care for the management and treatment of chronic illness or disability (Wagner, 2000). The recent Medical Expenditure Panel Survey (MEPS) of the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics identified fifteen common chronic conditions as the leading causes of morbidity and mortality in the nation. These include: cancer, diabetes, emphysema, high cholesterol, HIV/AIDS, hypertension, ischemic heart disease, stroke, arthritis, asthma, gall bladder disease, stomach ulcers, back problems, Alzheimer’s disease and other dementias, and depression and anxiety disorders (MEPS, 2000).

Within AHCs, by far the most well developed centers for multidisciplinary care are the comprehensive cancer centers. The best of these, particularly those that have achieved National Cancer Institute (NCI) comprehensive cancer center designation, are examples of what it is possible to achieve within the AHC environment – and **only** within that environment.

These centers combine the best in advanced care, research, and training. They bring together expertise from many disciplines, including medicine and surgery, nursing, nutrition, rehabilitation, and others. They also bring together a wide range of diagnostic and treatment resources. They enable faculty and staff to develop systematic approaches to particular diseases and customized approaches to individual patients. Teams of care providers and staff routinely organize and re-organize to meet various demands and to pursue new courses of research, treatment, or training. Patients are accommodated and their families are supported by facilities and services centrally and conveniently located. At their best, they allow new subgroups to develop and pursue new ideas coming from research efforts discovered within or external to the organization.

These centers are vitally important to progress in the diagnosis and treatment of cancer nationwide. They are prime examples of patient-centered health services and a compelling model for similar efforts around other chronic diseases. They are a leading paradigm for how AHCs can be the foundation for progress across their multiple missions in research, education, and care. The most innovative centers are constantly looking to leverage new ideas and technologies, such as the Internet, to further improve patient management and research activities. Yet comprehensive centers like these are not yet the standard approach for delivering complex care. Why?

The most important factors normally described are limited federal funding and payor reimbursement systems that do not recognize or reward collaborative care. Regardless of other issues and barriers, the inability to fund the creation of such centers or to receive appropriate payment for health services provided within them, severely limit the capacity of health professionals and organizations to develop the coordinated systems of care they know would better serve their patients. It is time to break down these barriers. And, it is time for AHCs to lead the way in suggesting and pressing for specific policies and reforms that will address these barriers.

The existing organization of AHC providers and health services in departmental units is insufficient for the task of organizing and delivering comprehensive disease-focused, patient-centered care. And although the departmental model may be viable for episodic care, that model cannot support the transition to a value-driven health system that includes population health management.

It is imperative, therefore, that AHC and health professions leadership come together to forge, embrace, and aggressively advocate a new leadership agenda. The *Crossing the Quality Chasm* report strongly urges major health system stakeholders to adopt the fifteen leading chronic conditions identified by the MEPS as “priority conditions” around which to focus efforts to re-organize the health system. The Blue Ridge Group supports that recommendation.

A new leadership agenda must aggressively pursue the expansion of federal support for the establishment of patient- and disease-centered efforts. It must also pursue reform in public and private reimbursement systems. Payments must be aligned with desired practices and outcomes so that health professionals and provider organizations can transition to more functional structures and organizations.

Finally, a new leadership agenda must support a dramatic increase in our capacity to assess, measure, and improve quality and outcomes in health care. We now know that discovery of new treatments is not the cure. Research has shown that valuable innovations require, on average, seventeen years before they are picked up and generally applied (Balas, 2001). Even then, substantial variations in performance persist. Strong advocacy must be undertaken to generate the federal funding resources that can support new research on quality and outcomes metrics and the development and application of information technology needed to measure quality and assure improvement in managing outcomes.

Change in Education

The educational and training missions within the AHC are no less in need of organizational redesign. Even though the medical school has long been the organizational center of the AHC, starting with the Flexner report of 1910, medical schools have been regularly criticized for allowing their education programs to take a back seat to other missions. In the decades following the establishment of federal funding for research through the National Institutes of Health (NIH) and other agencies, medical schools have been criticized for valuing faculty contributions (and funding support) in research over contributions towards medical student educational goals. In more recent years, they were criticized for valuing contributions (revenue generation) in clinical care over educational service (Ludmerer, 1999).

It is not surprising that educational programs might take a back seat to other mission imperatives. There have been strong financial incentives for medical schools to encourage and reward faculty achievement in research and productivity in clinical care. Significant programs for funding of biomedical research are provided through the federal government, philanthropies, and the private sector. Clinical revenues, in particular, have been used to cross-subsidize the costs of medical education. Very few such financial resources, public or private, have ever existed for the direct support or incentivization of teaching.

A sudden flood of new funding would not be enough to address the need for educational reforms. As it has in the other mission areas, the faculty-centered departmental structure has defined and increasingly limited educational innovation.

Until some significant reforms undertaken in the last decade of the 20th century, most medical school curricula were organized into two to three years of large lecture courses in the biological sciences followed by one to two years of clinical rotations. This structure enabled the vast majority of faculty to avoid any teaching obligations, and for those with such duties or aspirations, to teach only one to two courses per year. Many “teaching” faculty taught (and many continue to present) only one or two lectures per semester or per year, with many clinical teaching duties handled by “voluntary faculty” preceptors in the community.

Nevertheless, a critical mass of extremely dedicated teachers developed in all schools. Though sometimes held in less esteem by research-driven colleagues and passed over for promotion, they have managed to structure supportive learning environments. Often spurred by the national accrediting body, the Liaison Committee on Medical Education (LCME), medical schools have devoted the resources necessary to meet and exceed traditional professional standards.

In the late 1980s and early 1990s, a medical educational reform movement swept medical schools. Medical education, characterized by the large lecture format and minimal interaction with faculty, was subject to much critique. Molecular biology was changing and vastly expanding the knowledge base. Medical practice was changing as the new market-driven environment began to impinge on the organization of care. Gender and cultural issues in the delivery of care grew more prominent. It was no longer enough for medical students to learn primarily through memorization and recitation. They had to become problem solvers.

The new model developed and adopted by many schools was the small group seminar and problem format. Many large lecture classes were replaced, or more often, augmented by small group seminars, journal clubs, and problem-solving sessions. The basic science curriculum was redesigned to reflect the cross-disciplinary convergence around the new methods of molecular biology and genetics. Students also were offered courses on medical ethics, medical economics, and other relevant topics. New clinical rotations were added in non-traditional outpatient and ambulatory settings. Deans and department chairs were creating flexible teaching funds and working to adjust promotion criteria that would weigh teaching contributions more heavily.

Just as faculties and departments were pledging a renewal of support for the teaching mission, the market and public policy tide turned and resources began to tighten. Deans and departments now faced the prospect of having to fulfill significantly increased commitments of faculty time and departmental resources to the teaching mission at a time when they faced increased clinical demands and the reduction of departmental financial resources.

While new curricula are being implemented to favorable reviews in AHCs around the nation, the increased expectations and resource requirements have heightened the strains within and between departments. Clinical departments and faculty are affected more than those in the basic sciences. Departments trying to fulfill teaching obligations press faculty to teach. Clinical faculty who like to teach, increasingly are pressed to generate revenues and meet clinical productivity goals and measures. Most departments struggle with even minimal teaching time and resource requirements. Many clinical faculty argue that they should be separately compensated for time away from the clinic.

Once again, the limitations of the departmental structure are implicated in the problem of meeting mission goals in this new era. That traditional departmental structures would have difficulty with the educational mission might seem surprising. It should not. The educational mission must draw on the same constellation of inter- and cross-disciplinary resources as the other missions. Institutional expectations, environmental factors, faculty commitments, and departmental priorities and resources are not aligned. Department chairs, individually or collectively, do not have the real or organizational resources to meet the demands of this new environment.

Aligning the teaching function with the research and care missions within the imperatives of the current environment can only be achieved with the proper organization of faculty and resources. As with the other missions, this requires mechanisms for cross-disciplinary and inter-departmental cooperation and reciprocation.

A great many efforts are underway within AHCs as well as among professional and industry associations to develop rational responses. Most AHCs have developed special departmental or institutional teaching funds to provide awards and bonus incentives for faculty teaching. Many have developed salary adjustment and other compensation formulas based upon the relative valuation of teaching and other mission fulfillment activities (Rouan and Wones, 1999; Sussman et al., 2001). At the same time, the drop in medical school applicants and the shifting distribution of students seeking post-graduate training is causing increased reflection within the various specialties as they too look at their “market” of consumers. While many of these approaches are extremely laudable and quite sophisticated, most are progeny of the “reform without change” approach. Most will fail because they are aimed at reforming the processes of a structure that can no longer support its function.

Real and necessary change will require more. At UCSF, a novel program to support teaching is the Academy of Medical Educators. The Academy is an interdepartmental network of master teachers who are selected by a peer review process. Membership in the Academy is a special honor that can be supported by a five year endowed chair. The Academy has been replicated in at least one other AHC and others are studying it.

The advantage of this approach is that a new organization is being created and populated by master teachers who will represent the best in educational commitment throughout the organization. The Academy’s effectiveness will, however, depend on how it is organized and developed. If the Academy develops simply as a faculty-centered network of gifted and dedicated teachers, this approach could turn out to be simply another form of incentive and reward system, or a new institutional mandate competing with traditional departments for resources. These outcomes would signal a reform without change.

To be a reform with change, the Academy will have to develop into an organization that involves departmental leadership and that has the power to effect the marshalling and reorganization of some departmental functions and resources into cooperative programs structured to achieve student-centered educational goals.

Organizational Innovation Recommendation and Action Steps

Recommendation

- AHCs should develop and implement organizational innovations and programs that enable faculty and staff to achieve societal health care needs and to create a value-driven health care system.

Action Steps

- AHC leadership should adopt the fifteen leading chronic conditions identified by the MEPS as "priority conditions" around which to focus organizational reform efforts.

- AHC and other provider health systems should support the development of comprehensive disease- and/or demographic-centers of care on the model of the NCI Comprehensive Cancer Center designation.

- AHCs should systematically review the roles of existing academic departmental structures and develop new organizational approaches to managing the barriers they pose to clinical, research, and education/training programs.

- AHCs should pursue changes in public and private payment systems that will eliminate payment barriers and disincentives for providers and provider organizations transitioning to practice in such new structures and organizations.

- AHCs should seek federal and other sources of support for needed research and the development of quality and outcomes measures and the application of information technology to quality and outcomes management improvements.

- AHCs should lead efforts to demonstrate the value of organizational restructuring on health care and health status.

Optimizing Performance

For more than a century, social scientists, and more recently, business management experts, have studied the effects of organizational change and dislocation and have developed sophisticated models of process and personnel management. French sociologist Emile Durkheim laid the foundation for this work at the turn of the 20th century. Durkheim wrote a pathbreaking treatise on a major and growing fact of modern societies, the phenomenon of suicide. He described a new schematic of causes of suicide in modern societies and introduced, among others, the concept of “anomic suicide” (Durkheim, 1966). Durkheim described anomie as a condition of personal dislocation and anxiety often caused when social conditions (usually social or economic upheaval) cause individuals or classes of individuals to lose their sense of the importance or value of their contributions to society. Traditional values and definitions of success are called into question. New values and normative expectations are not yet well defined and may be years or decades from full social articulation and codification. As a result, affected individuals or classes of individuals essentially lose their way. They lose their motivation. They lose the frame of reference necessary to solve problems, or even define success. They become discouraged and disillusioned. At the extreme, they commit suicide. In an earlier work, *The Division of Labor in Society*, Durkheim identified anomie as a problem inherent to the ever-changing, increasingly complex division of labor and fragmentation of traditional communities in modern societies (Durkheim, 1964). He went on to suggest that a critical role for society, including leaders in government, industries, and all professions, was to develop common goals (based on humane values) and systems by which affected individuals and groups could renew and sustain the motivation to understand and contribute in times of significant change (Blue Ridge Academic Health Group, 2000).

The principle academic resource of a university is its faculty.

– James J. Duderstadt,
A University for the 21st Century, 2000

Through successive waves of technological, organizational, and marketplace changes during the 20th century, most industries, companies, governments, and organizations of any significance have developed in-house human resource and organizational management capabilities. Catalyzing, organizing, and responding to the many human resource challenges of change has become a significant core competency; however, neither the medical profession nor universities and their academic health centers have kept pace with the development of such capacities. Academic faculty, especially AHC faculty, have pursued academic and service functions in a relatively protected, self-regulated, and unchanging environment. They have operated with relative autonomy in host institutions under well-established and stable systems of academic and professional conduct, expectations, and goals.

With the changed health care environment, universities and their AHCs can no longer operate as simply host institutions. They are now like other large and complex organizations that must support and manage system-wide change involving large numbers of professionals and staff. AHCs must quickly learn, and incorporate as a core organizational competence, the art and science of managing the "knowledge worker" (see Exhibit 4).

Exhibit 4:

The Knowledge Worker

"An ever-growing percentage of people are 'knowledge workers': information and knowledge are both the raw material of their labor and its product ... It's not only that more people do knowledge work; also increasing is the knowledge *content* of all work, whether it's agricultural, blue collar, clerical, or professional. A physician today, armed with antibiotics, magnetic-resonance images, and microsurgical techniques brings far more knowledge to his work than his pre-World-War-II predecessors, whose principal tools were boiling water and a kindly manner."
From *Intellectual Capital: The New Wealth of Organizations,* T.A. Stewart, 1997, p. 41.

The university and the AHC are the paradigmatic employers and creators of knowledge workers. Most of the organizational structures within these institutions, including the traditional departments, have been extremely well adapted for knowledge work. Two distinguishing characteristics of these professionals are that they are self-directed and motivated, provided they have an opportunity to apply their knowledge effectively. Unlike manual laborers or other "directed" workers, they expect their work to be defined not by its quantity or its costs, but by its results (Drucker, 1996). They are best employed and managed as "associates" rather than "subordinates" – the way a conductor directs an orchestra. Following Durkheim's early observations, contemporary research confirms that if knowledge workers are mismanaged and lose their sense of being effective within an organization, they will lose direction and motivation.

Drucker identifies six factors for organizations and professionals to consider as they seek to strengthen knowledge worker productivity (Drucker, 1999, p. 142):

- Knowledge worker productivity demands that we ask the question: "What is the task?"
- It demands that we impose the responsibility for their productivity on the individual workers themselves. Knowledge workers have to manage themselves. They **have** to have **autonomy**.
- Continuing innovation has to be part of the work, the task, and the responsibility of knowledge workers.
- Knowledge work requires continuous learning on the part of the knowledge worker, and equally continuous teaching on the part of the knowledge worker.
- Productivity of the knowledge worker is not – at least not primarily – a matter of the **quantity** of output. **Quality** is at least as important.
- Finally, knowledge worker productivity requires that the knowledge worker is both seen and treated as an "asset" rather than a "cost." It requires that knowledge workers **want** to work for the organization, in preference to all other opportunities.

Drucker starts with the question; "What is the task?" because, unlike manual work, where the task is given and obvious, in knowledge work, the task often is not obvious to anyone except the relevant knowledge workers. Having responsibility for defining the tasks, including how the work should be done, enables and motivates knowledge workers to take responsibility for structuring effective solutions.

While at first blush, this might seem somewhat utopian or unrealistic, there are innumerable examples of knowledge workers assuming such responsibility with great success (Drucker, 1999). However, it might be enough to contemplate the differences in productivity and motivation between a clinical faculty member in a department for whom significantly higher clinical output targets have been set, and a clinical faculty in a comprehensive cancer center setting faced with the same new goals.

In general, faculty measured against departmental productivity targets will likely be less motivated than those working in a more comprehensive clinical care setting. A faculty member in the first situation will have few choices but to see more patients. She or he will have little chance of affecting the goals or defining the "task," and is reduced to reacting as a subordinate, rather than engaging as an associate. A faculty member in the second situation will have better opportunities to work with colleagues and teams to define the task and to refine work processes and/or resource utilization to achieve institutional goals. She or he will be able to redefine the task in order to achieve higher quality outputs that can affect financial performance. The faculty member treated (however inadvertently or indirectly) as a subordinate will not perform as well as the faculty member able to engage and define the task as an associate and team member.

Clarifying Expectations

Virtually all AHC faculty and staff are knowledge workers. Management of AHC faculty is legendary in its difficulty. Even before the era of market-driven change, it was often sardonically described as “herding cats.” Now, however, the sardonic grins have disappeared and a new sense of urgency in managing these particular knowledge workers has taken its place. Many AHCs have embarked on comprehensive programs designed to bring new management discipline and performance expectations to their faculties (e.g., University of Alabama at Birmingham and Washington University) (Blue Ridge Academic Health Group, 1998a). Most AHCs have worked to redefine faculty and staff performance goals and metrics and realign them with changing environmental and organizational missions and expectations.

For instance, more than five years ago, the Baylor College of Medicine initiated a process of faculty evaluation. The effort stemmed from a strategic plan initiated out of the realization that the organization had to understand and then change and adapt to new market conditions in all three missions. Vitally important to this effort has been the development of new standards and metrics by which faculty can calibrate their expectations and contributions – and by which those contributions can be measured, assessed, adjusted, and rewarded. Critical to this entire process has been the gathering and organizing of data from and about all aspects of patient care, education, and research.

Important lessons can be gleaned from Baylor’s effort about how a change process affects those directly involved. One lesson is that the very process of collecting data can itself be a significant change and cause significant stress within the organization. Data collection is not a value-neutral process. It is an activity that signals and represents important information about how missions, values, and goals are being (or are likely to be) redefined. Every new bit of data requested and collected is likely to signal implications for the roles and expectations of those from, or about, whom the data is collected or provided.

It is therefore important to manage the data collection process as carefully as any other aspect of the change process. Affected faculty and staff must be incorporated into, and informed of, the change process, beginning with the definition of relevant parameters, data needs, and data collection processes. Baylor has also addressed faculty concerns by ensuring that individual faculty data remains confidential between faculty and chairs, with only departmental-level data shared with deans or the board.

The Baylor initiative has led to the development of a sophisticated set of financial metrics used to measure effort, contribution and success in each mission area (see Appendix 1 for an in-depth description of these metrics). These and similar measures have been developed by other AHCs, many with the assistance of consulting firms, like Cap Gemini Ernst and Young (CGE&Y). These metrics are necessary and important tools that promote alignment of faculty and staff efforts with new market realities.

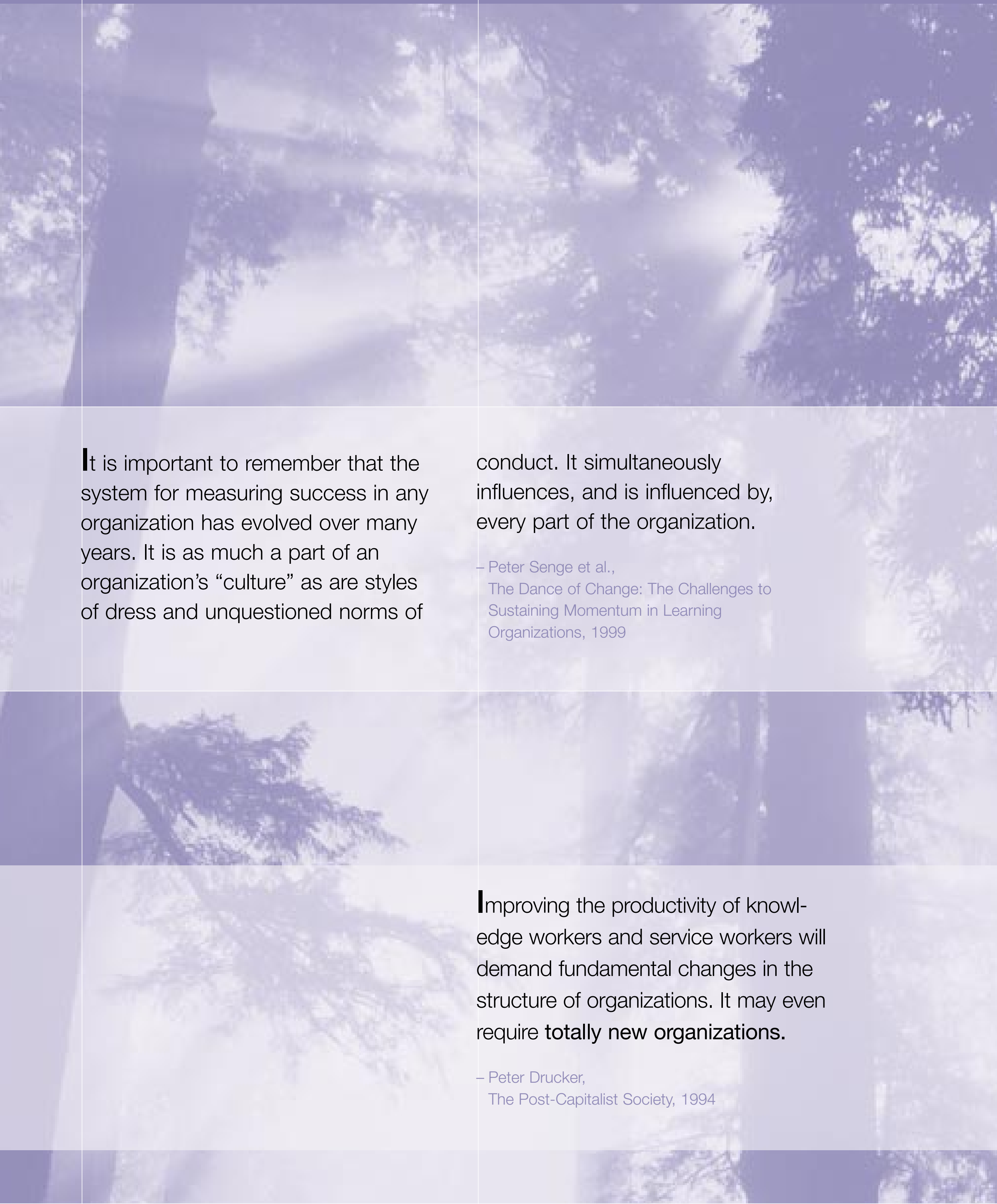
Nevertheless, despite a great deal of faculty participation in the development of such metrics, Baylor and all other AHCs report significant faculty dissatisfaction with them. Although still early in the process, common complaints are that they epitomize the "commoditization" of health care and diminish the status and role of the health professional in the care process (Johns and Niparko, 1996). While they quantify and enable measurement (often for the first time) of faculty and staff productivity and its financial impact, these measures may be limited by what they measure accurately as much as by what they do not measure accurately. Most difficult to assess are measures of the quality and outcomes of faculty and staff effort along each mission focus.

For faculty, professionals, and knowledge workers in general, who have high and very specialized levels of expertise and knowledge, judgments and measurements of quality are usually the most important metrics. Admittedly hard to quantify, they are nevertheless routinely acknowledged and measured by peer respect and esteem. AHC management and productivity enhancement measures that fail to adequately develop and factor-in quality metrics, however, may be fated to fail. Most are likely to be only minimally effective in orchestrating the change and performance required. Baylor has taken the position that there are core metrics that help chairs and deans to lead and manage, recognizing that certain individual contributions are best assessed qualitatively by the relevant chair or supervisor (Garson, 1999).

Measuring Quality and Outcomes

In clinical care, quality and outcomes measures incorporated for faculty evaluation are often limited to patient satisfaction surveys. These are helpful and useful, but are only a first step in capturing, quantifying, and measuring the quality and outcomes of care. Since quality and outcomes are what matter most to the knowledge worker, it is absolutely critical that such measures become integral and primary in faculty commitment and evaluation metrics. The first report of the Blue Ridge Group provides sample recommended performance measures for AHCs that include measurements of quality, innovation, and societal value (Blue Ridge Academic Health Group, 1998a).

Understanding that the current status of development of such metrics is universally acknowledged to be rudimentary, how can this problem be addressed? The first step, as Drucker suggests, is to ask the question: "What is the task?" If the task is to understand how to measure and evaluate quality and outcomes of clinical care, then



It is important to remember that the system for measuring success in any organization has evolved over many years. It is as much a part of an organization's "culture" as are styles of dress and unquestioned norms of conduct. It simultaneously influences, and is influenced by, every part of the organization.

– Peter Senge et al.,
The Dance of Change: The Challenges to Sustaining Momentum in Learning Organizations, 1999

Improving the productivity of knowledge workers and service workers will demand fundamental changes in the structure of organizations. It may even require **totally new organizations.**

– Peter Drucker,
The Post-Capitalist Society, 1994

who is in the best position to answer that question? Primarily, (though not exclusively) it is the clinical care professional.

The second step is to give the responsibility of answering this question to the clinicians. When asked what quality is, clinicians often respond, “I don’t know how to explain it, but I know it when I see it.” If they are not motivated to go beyond that explanation, then their clear knowledge of what constitutes quality will remain within the knowledge base shared by their relatively small group of professional peers. If, however, these clinicians are teamed with other knowledge workers who are experts at developing metrics for intangible measures, progress can surely be made. As simple as this might sound, these two steps have yet to be taken seriously. They should be.

In research, quality and outcomes metrics are better grounded. They are embedded within the peer-review process that serves as the foundation for awarding research support to investigators. There is also, within each field of research and scholarship, a hierarchy of journals, invited lectures, and other forms of “publication” that assess contributions along the hierarchy. This is a firm foundation, though more can be done.

For instance, over many years in Great Britain, a complex bibliometrics algorithm has been developed and continually refined, which assigns weighted values to all professional publications. This effectively creates a hierarchical ranking based on reputation. The publishing record of individual scientists and faculty in the universities is tracked and weighted by these metrics and can be accessed for the purposes of evaluating the quality of scientific work of candidates for promotion and hiring.

Though understandably difficult to calibrate precisely and subject to some debate, there is growing interest in the adoption of this, and related quality metrics in the United States (Holmes et al., 2000). Since scientists, too, will claim to know quality when they see it, efforts to quantify and make such knowledge accessible seem a reasonable and important project to shore-up a new focus on knowledge-worker support and management.

Equally important is the acceleration and expansion of quality and outcomes metrics for teaching faculty. A variety of metrics exist, including, but not limited to, student evaluations, peer review through observation and review of pedagogical methods, performance of students on standardized tests, and scholarly contributions in the field and in the development of pedagogical methods.

Yet, broadly accepted standards by which to measure relative strengths of faculty in teaching are lacking (Blumenthal, 1997). This gap exists because teachers face a moving target. Student populations change over time and present different learning needs. Content requirements are constantly evolving and new technologies create new pedagogical opportunities. Moreover, comparisons across disciplines are complicated. Different subjects, departments, and schools attract students with differing abilities, motivations, demographics, prior preparation, and experience. Additionally, the development of standardized metrics is impeded by limitations on access to needed data.

For instance, a leading researcher and his collaborators, conducting research on training outcomes and quality, asked all specialty certification boards for data on their board certification examination pass rates. All but one specialty board declined or failed to provide this information. Analysis of what limited information was obtained raises a range of important questions about training outcomes that, among other things, could aid in developing quality and outcomes metrics that could be applied to evaluating, designing, and improving clinical training (Blumenthal et al., 2001). In education, as in clinical care and research, significant progress in developing quality and outcomes data and metrics is both possible and essential.

AHC, academic society, and health professions leadership must become the leading advocates for the development of quality and outcomes metrics in every mission area. Renewed federal funding for research and development of such metrics is essential. The full cooperation of all academic, professional, and institutional stakeholders in accommodating such research and development is also essential. For example, all certifying boards should publish their board pass rate data by program, as has been the policy of the American Board of Internal Medicine since 1996.

Bringing Good Things to Life

We spend all our time on people. The day we screw up the people thing, this company is over.
Jack Welch, CEO, GE

The General Electric Company (GE) is a global corporation with dozens of enterprises in hundreds of locations around the world (Lynch, 2001). During Jack Welch's 30 year tenure as Chairman and CEO, GE grew from a $28 billion to a $130 billion company. The vast majority of GE's 350,000 person workforce consists of knowledge workers, some of whom are dedicated research scientists, engineers, and high technology professionals. The challenge of managing this large, diverse, international workforce is daunting. While much about the GE situation is not directly analogous or applicable to AHCs today, there are a number of knowledge worker management practices and policies that deserve emulation.

GE considers its dedication to "People, Processes and Performance" as key to its success. These three elements are driven through the organization by a strong leadership process that continuously evaluates, articulates, and then reinforces organizational priorities and values. The organization is defined by the need to constantly drive change so that it is always seeking and creating new growth opportunities. Change is driven through a combination of organizational structures and processes built around:

- Hiring great people
- Creating a performance culture
- Linking results with rewards
- Demanding shared values
- Believing everyone counts

Professional and leadership development are primary functions of the organization and new talent is constantly sought after and aggressively recruited. Continuous learning, performance appraisal, and feedback mechanisms are built into the work schedule and process. These activities occur at every level of the organization. Major milestone meetings are scheduled up to a year in advance and attendance is mandatory. This embedded management process also serves as a way to connect people throughout the organization and for continuous communication "bottom-up and top-down."

> The most valuable asset of a 21st Century institution, whether business or non-business, will be its knowledge workers and their productivity.
>
> – Peter F. Drucker,
> Management Challenges for
> the 21st Century, 1999

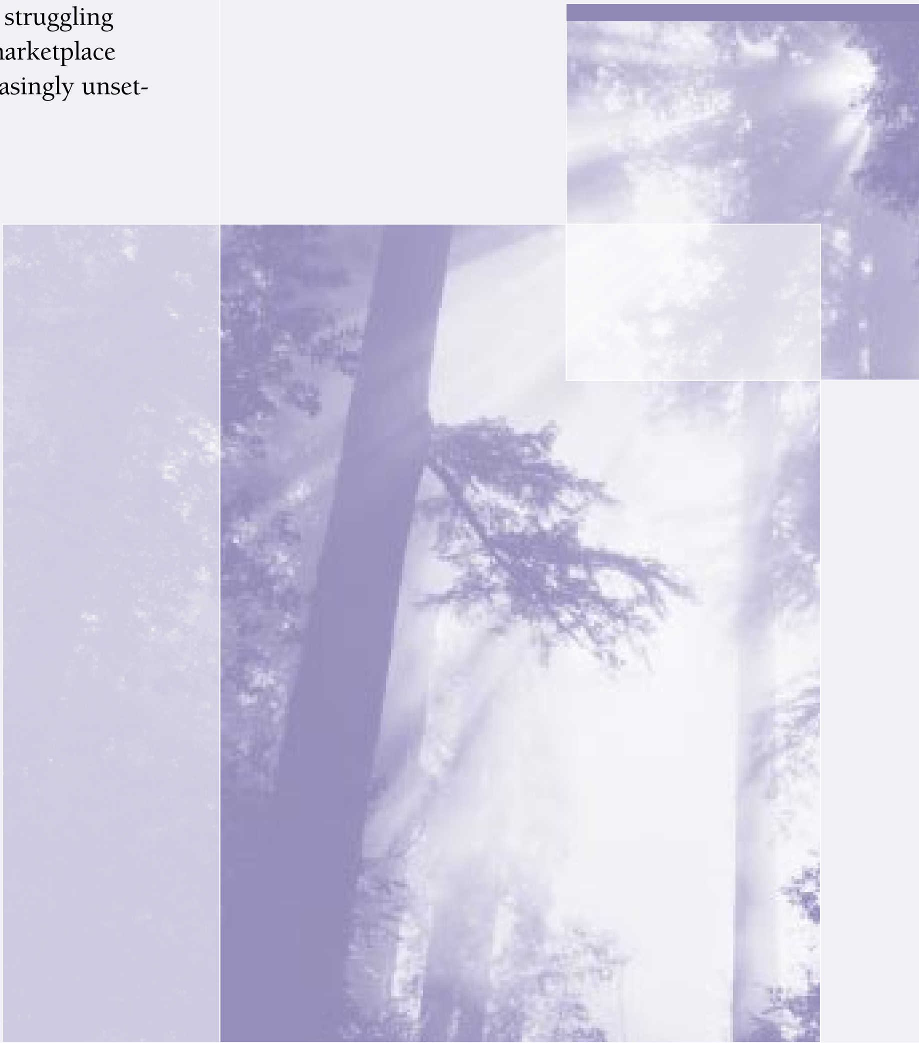
Critically important to their enterprise is that everyone in the organization knows exactly what is expected of them, which metrics are being used, and why, and how they are measuring up. People are put at risk and held accountable for certain commitments and they share amply in the rewards for reaching the objectives. High-level performance is generously rewarded through pay and promotions. Continuous feedback and learning, and ongoing evaluation create highly motivated people with the tools to meet and exceed expectations. Collegiality, flexibility, the ability to work with and motivate others and to make good decisions are all highly valued and rewarded. People are regularly moved and promoted and new teams are created to meet new opportunities.

Since GE puts such significant resources into developing the capabilities of its people, it is also keenly aware of the cost of losing those people, whether to competitors or to unrelated industries. Therefore, GE makes what some might consider extraordinary efforts to ensure that the feedback loop runs in all directions and that its people feel like they and their families matter in the organization. Special programs, gifts, dedicated services, and communications all play an important role in building a relationship not just to the worker, but to the person.

No doubt, this is a high intensity environment. The pressure to perform, to dedicate oneself to the organization's values and goals, to meet and exceed objectives, is unrelenting. Individuals have to work hard to balance competition and collegiality, and personal and professional obligations. Nevertheless, employee retention is extremely high and people are seldom summarily dismissed. The ongoing evaluative process enables the organization to identify issues or areas in need of improvement early, so that individuals have the opportunity to work on them and improve.

While the goals and some of the values at a global corporation like GE may not align completely with those of an AHC, the need to manage and motivate knowledge workers is highly analogous. The GE example illustrates how it is possible, with the appropriate organizational structures and personnel management policies and processes, to motivate extraordinarily large and diverse organizations of knowledge workers to maintain high levels of performance. It also illustrates how dedicating organizational resources to the development of people can sustain motivation even when policies or processes sometimes fall short.

In the AHC, and in universities more generally, there is nothing like this level of resource commitment or organizational focus for the purpose of supporting faculty and staff in their professional development and in their work. For the healing professions to attract and retain the best and the brightest in the future, it has no alternative but to adopt many of these proven methods. The example of GE and hundreds of other companies and organizations offer a clear example for AHCs now struggling with the imperatives of the marketplace and with motivating an increasingly unsettled knowledge workforce.



Recommendation

- To enhance value-creation, motivate performance, and improve quality and outcomes, AHCs must develop a new understanding of knowledge workers and the types of organizational systems and processes required to manage and lead them. AHCs should commit to ongoing leadership, professional, and staff development as an integral part of each mission.

Action Steps

- AHCs should build upon proven leadership and management approaches and human resources development programs, like those of GE, that align with the way highly skilled knowledge workers are properly supported and motivated.

- AHCs should re-evaluate accepted measures of performance and value on an ongoing basis, and identify ways to enable faculty to better manage their roles, responsibilities, and expectations. AHCs must develop more sophisticated measures of value creation to guide the organization, direction, and evaluation of institutional and personnel performance.

- AHCs should ensure that all faculty and staff in management and supervisory positions are provided training and support in the delivery of regular performance feedback and the development and mentoring of professionals.

Recommendation

- AHCs should develop new and improved human resource capabilities that enable routine performance appraisals, identification of new talent, cultivation of skills, and mentoring of faculty and staff.

Action Steps

- AHCs should experiment with policies that motivate faculty through the distribution of risk and reward.

- AHCs should develop enhanced tools for measuring performance of the system and individuals (i.e., metrics) to promote accountability.

- National organizations, such as the Association of American Medical Colleges (AAMC), Association of Academic Health Centers (AHC), or Institute of Medicine (IOM) should conduct or sponsor studies of enhanced Human Resources capabilities and infrastructure for AHCs.

Developing New Archetypes

A final critical dimension of the AHC and health professional organization that must be reformed and realigned is the culture of the organization. The AHC and the medical profession have traditionally been supported by three cultural archetypes.

The first is the ideal of the independent and original investigator. For the doctoral degree and for academic and professional advancement, the individual candidate must demonstrate independence of thought and originality of achievement. The training of students and career trajectory of faculty are effectively defined by the requirement to distinguish oneself and one's work from that which preceded it and to show originality relative to the work of one's peers.

The second archetype is the "triple threat" faculty physician. This is a high energy individual who is a great clinician, a solid, if not brilliant, investigator, and an inspiring teacher and mentor. The triple threat has long served as both an ideal and an idol by which clinical faculty or physician scientists could calibrate their efforts and by which their contributions could be valued and measured for the purposes of career advancement and academic promotion.

The third archetype, less universally admired, but nevertheless widely accepted and cultivated within academia (and academic medicine in particular), has been the strong, independent, charismatic, egocentric, and often authoritarian or highly maverick personality. These characteristics are often associated with legendary figures in the history of medicine akin to Bobby Knight or Woody Hayes of college coaching fame. The indomitable personality is one whose combination of brilliance and independence of thought and eccentric (or worse) behavior are not tolerated or compatible with most organizations or institutions. In academia the combination has been, not only tolerated, but often rewarded by a series of increasingly senior and prestigious appointments at a succession of leading universities.

Each of these three academic archetypes, like the organization and management systems they support, is under considerable strain. How these archetypes are addressed will determine a great deal about the viability of the change in the AHC and professional organization.

> Culture is not something that you manipulate easily. Attempts to grab it and twist it into a new shape never work. Culture changes only after you have successfully altered people's actions, after the new behavior produces some group benefit for a period of time, and after people see the connection between the new actions and the performance improvement.
>
> – John P. Kotter,
> Leading Change, 1996

The first archetype, independence and originality, is being tested by both internal and external factors. Internally, as we have described, the methodologies of science, and perhaps of important clinical and educational processes, are converging. Faculty seek out collaborators across the entire spectrum of research, clinical care, and educational programming. Externally, public and private funds are increasingly seeking to maximize return on investment by choosing to support work that can draw on multidisciplinary sources of expertise. More and more progress in science, medicine, and education is occurring as a result of cross-disciplinary and cross-institutional collaboration, whether episodic or long-term and continuous. External factors also include market-based pressures that drive the need to reduce costs and create efficiencies in each mission area, including the need to maximize sharing of core facilities, instruments, and other critical resources, as well as knowledge.

Clearly, progress in science, care, and education will continue to require independence and originality. So this underpinning cannot be allowed to crumble; however, it is also clear that teamwork and collaboration are, and increasingly will be, vital to scientific progress. It is therefore necessary to reform the archetype so that it holds up both the development of the independent and original investigator, and the demonstrated ability to work collaboratively.

Internal and external forces are also challenging the second archetype, the triple threat (Pellegrin and Arana, 1998). Increasingly, as people of diverse backgrounds and interests began to fill out medical schools and faculties, the grounds for promotion and advancement broadened and became more flexible. New thinking has challenged the conventional view of scholarship and has contributed to the development of a more sophisticated understanding of the value of several forms of scholarly activity (Boyer, 1990; Angstadt et al., 1998; Nora et al., 2000). At the same time, AHCs and medical schools have developed along a variety of paths, with different emphasis on clinical care, education, or research. The relative value or importance of these characteristics and contributions now vary by institution and by department within institutions. Consideration of academic advancement normally depends upon excellence in at least one mission area and substantial contributions in another.

The external forces threatening the triple threat archetype have been even more daunting than the internal forces. As the market-driven environment imposes itself on the AHC and health care, the necessary focus on faculty productivity and revenue generation has undermined this gold standard. Administrators and faculty alike face the increasing realization that the triple threat no longer serves as a realistic standard by which to measure the value of clinical faculty. For increasing numbers of clinical faculty, clinical productivity, in particular, is becoming a de-facto proxy for the value of their contributions as faculty members.

Nevertheless, the existing departmental structures and their policies largely have yet to incorporate this new reality. Department chairs, deans, and peers continue to send mixed and conflicting messages about standards for faculty performance. Tenure and promotion standards, particularly at the elite, research-centered AHCs, overwhelmingly retain the traditional triple threat as an evaluative gold standard. Yet, specialization in one mission area with substantial expertise and contributions in another is becoming the new real standard. This new model is more compatible with the progress of science and medicine and with the likelihood of ongoing success within academic and professional organizations.

While still representative of the highest attainment in the minds of some, the traditional triple threat is becoming more like an ideal than a real standard for the vast majority of faculty and schools. AHCs and the health professions should cultivate a new triple threat valued and rewarded for:

- Excellence in scholarship and/or achievement in one or more of the core academic mission areas: student-centered education, discovery-centered research, or care-centered research or innovation.
- Excellence in achievement and/or leadership in the core service mission: patient-centered care.
- Excellence in achievement and/or leadership in community, professional, and institutional service to measurably meet societal needs and aspirations for our health care system.

A triple threat built on standards like these would be a worthy successor to the former ideal.

> The academy takes great pride in functioning as a creative anarchy.
>
> – James J. Duderstadt,
> A University for the 21st Century, 2000

The final archetype, ego-centrism with independence of behavior, is also under severe stress. Internally, deans and senior administrators, not to mention departmental and other affected faculty, increasingly worry about the extent to which intense competition among AHCs to recruit stellar individuals is both costly and, in many cases, extremely disruptive. Recruitment packages can run into millions of dollars in commitments. Recruiting high profile individuals and providing them with outsized and bountiful resources, can be disruptive to departments and even to whole institutions. Very often, appointments of stellar individuals to chairmanships and institute directorships have been made without regard to the leadership or managerial capabilities of the individual. Five years later, the return on this investment can end suddenly as the star is recruited away by a new high bidder. Meanwhile, rising stars within the organization leave, or are recruited away, to pursue other opportunities.

External forces eroding this part of the culture are the same market forces affecting the others. The new environment favors organization and leadership that engenders commonality of purpose and optimal knowledge worker and system performance. Independence and originality of thought, the capacity to create teamwork, inspire loyalty, and manage performance are increasingly prized and rewarded. Ego-centrism, authoritarianism, and independence of behavior are no longer adaptive. They are increasingly counterproductive.

The "Project Professionalism" of the American Board of Internal Medicine (ABIM) is a model of what professional societies can do to promote a new, more adaptive culture for 21st century health care. Established in 1992, the Project developed an enhanced definition of professionalism that has been adopted by the ABIM. It identified eight elements of professionalism to be required of candidates seeking specialty certification: altruism, accountability, excellence, duty, service, honor, integrity, and respect for others. Also identified were seven issues that diminish professionalism, including: abuse of power, arrogance, greed, misrepresentation, impairment, lack of conscientiousness, and conflict of interest. Project Professionalism then developed a program that includes guidelines, forms, and other materials by which graduate medical education program directors and others learn to mentor and assess residents and candidates for certification. The ABIM project is playing an important role in the formal incorporation of humanistic qualities into the components of clinical competency (American Board of Internal Medicine, 2001).

Leadership Development

The General Electric Company and many other enterprises, both large and small, have a very different view of leadership development and succession planning. They believe that routinely bringing in new leadership from the outside, as many enterprises do, is often more disruptive than successful.

At GE, leadership development and succession planning are top priorities. The idea of routinely recruiting top leadership from outside the company is an anathema. Rather, they focus on developing that leadership from within. They recruit individuals with high achievement and leadership potential and then invest years of learning and support to help ensure that they develop it. Individuals sought must be strong and able to demonstrate key attributes: independent thought, ability to manage individuals and inspire performance, and a talent for building successful teams. Individuals displaying arrogance, and the penchant for inspiring resentment, mistrust, jealousy, and other de-motivating behaviors are either educated or weeded out. Leaders are cultivated throughout the organization and are groomed for what they, their supervisors, and their peers determine together are the appropriate leadership positions.

AHCs can no longer afford to reward egocentric and authoritarian personalities, who cannot manage people or processes well. The environment and the organization can no longer support this.

AHCs must build a new cultural archetype that supports stellar, brilliant individuals with strong personalities who can lead change and inspire confidence and performance among knowledge workers and peers. This new cultural archetype can be built by developing a new focus on leadership development and succession planning for key positions throughout the organization, especially department chairs, deans, and other senior administrative and business managers. Recruitment objectives for younger faculty should be revised to include criteria for the identification of potential future leaders. Such internal and occasionally external recruitment policies should be aligned with faculty and staff leadership development programs and integrated into departmental and other administrative unit operations and functions.

External recruitment for high leadership positions need not be discontinued. National and international searches for the best individual or team to fulfill a specific leadership or other significant role are effective. AHCs will, however, likely experience vast improvements in their organizational and leadership capabilities to the extent that such searches increasingly reveal that the best candidates are to be found, because they have been cultivated, within their own institutions.

Overcoming Cultural Barriers
Recommendations and Action Steps

Recommendations

- AHCs and health professional organizations should actively work to reform their cultures and archetypes of desirable behavior.

- AHCs should supplement the culture of the independent investigator with a culture that supports demonstrated ability to establish and be a significant contributor to, or leader of, fruitful and meaningful collaborations and teams.

- AHCs should supplant the traditional ideal of the "triple threat" with one that emphasizes:

  - Excellence in scholarship and/or achievement in one or more of the core academic mission areas: student-centered education, discovery-centered research, or care-centered research or innovation.
  - Excellence in achievement and/or leadership in the core service mission: patient-centered care.
  - Excellence in achievement and/or leadership in community, professional, and institutional service in measurably meeting societal needs and aspirations for our health care system.

- AHCs should replace the archetype of the ego-centric, authoritarian, or otherwise organizationally dysfunctional personality and cultivate a new standard that values the stellar, brilliant individual with a strong personality who leads collective change, inspires confidence, and motivates performance among peers, other knowledge workers, and staff.

Action Steps

- AHCs should establish leadership development and succession planning programs that identify and develop the new leaders in health care and biomedical sciences necessary for creation of a health care system for the 21st century.

- AHCs and health professional societies should adopt, as a model set of professional standards, the elements of the enhanced definition of professionalism developed by the ABIM through its "Project Professionalism."

Conclusion

A new kind of health system is on the horizon. It is the responsibility of the entire health community to make progress toward the health system of the 21st century. Unlocking the promise of the new system will demand new ways of thinking, new modes of working, and new kinds of skills for both professionals and organizations. Optimal performance in the evolving system will require that the external environment support health care organizations through reimbursement and funding mechanisms that reward quality care and create a national health information infrastructure. In turn, health care organizations must support their staff by creating an organizational culture and structure that enable individual and institutional excellence.

The Institute of Medicine has provided a rallying point for the entire health care system and particularly for AHCs and health professionals as they seek to define a sound way forward. By focusing the public policy spotlight on the inadequacy of existing delivery systems and system goals, and in building on the knowledge, skills, and dedication of the healing professions, the IOM has articulated clear and powerful goals that both health professionals and our public can embrace. It is now up to AHCs and their partners within the health community to take tangible steps towards transforming the vision of a 21st century health system into a reality.

The Blue Ridge Group believes that AHCs should begin by assessing their mission, goals, and performance against the goals for the new system. Where gaps exist, there are opportunities for realignment and organizational reforms that seek to truly change organizational performance. AHCs should prepare for forthcoming changes by ensuring that their organizational structures foster flexibility and collaboration. AHC organizational processes should support faculty and staff through clear expectations and robust human resource functions. AHC culture, particularly its archetypes, should be updated to reflect contemporary needs of AHCs and the health community.

The Blue Ridge Group also believes that AHCs should be leaders in building a value-driven health system for the 21st century. This leadership can take a variety of forms. AHCs can lead by example through their organizational change efforts. AHCs can lead by conveying the new vision to audiences throughout the health community. AHCs can help shape the health policy agenda and decisions that will in turn determine how well the external environment supports health organizations and professions in the new system. AHCs can use their research resources to translate the vision into practice by expanding knowledge about what constitutes safe, effective, and efficient care. Equally important, AHCs can help current and future professionals acquire the skills they need to achieve excellent performance consistently.

Absent strong leadership from AHCs and professional societies, the continuing turbulence in health care also threatens the pipeline of bright, idealistic young people willing to choose a career in health care. The pool of medical school applicants and the ratio of applicants to those accepted continue to drop (AAMC, 2001). Nursing and medical technician shortages abound. AHCs need to support organizational and cultural changes with comprehensive reforms in the entire spectrum of health professions education – a subject that the Blue Ridge Group will address in a future report.

The last several decades have been a time of great turbulence and stress for AHCs and health professionals. Now the health community stands at the beginning of a new era, one that could prove to be momentous for the health and history of the nation. It is essential that AHCs not only prepare themselves to succeed in the future environment, but to define it.

About the Blue Ridge Academic Health Group

The Blue Ridge Academic Health Group seeks to take a societal view of health and health care needs and to make recommendations to academic health centers to help them create greater value for society. The Blue Ridge Group also recommends public policies to enable AHCs to accomplish these ends.

Three basic premises underlie this mission. First, health care in the United States is experiencing a series of transformations that ultimately will require new approaches in health care delivery systems, education, and research. Second, the recent upheavals in health care have been largely driven by financial objectives. Yet the potential exists for fundamental changes in health care to improve health and manage costs. Analysis and evaluation of the ongoing evolution in health care delivery must address this impact on the health of individuals and the population, as well as on cost. Third, AHCs play a unique role in the U.S. health care system as they develop, apply, and disseminate knowledge to improve health. In so doing, they assume responsibilities and encounter challenges other health care provider institutions do not bear. As a result, AHCs face greater risks and opportunities as the U.S. health care system continues to evolve.

The Blue Ridge Group was founded in March 1997 by the Virginia Health Policy Center (VHPC) at the University of Virginia and the Health Market Unit leadership at Ernst & Young, LLP (now Cap Gemini Ernst & Young, CGE&Y). Group members were selected to bring together seasoned, active leaders with a broad range of experience in and knowledge of academic health centers in the United States. Other participants are invited to Blue Ridge Group meetings to bring additional expertise or perspectives on a specific topic.

Blue Ridge Group members collectively select the topics to be addressed at annual meetings. Criteria for selection of report topics include relevance to AHCs' operations, consistency with AHCs providing value to society, the likelihood of being able to make specific recommendations that will lead to productive action by AHCs or other organizations, and the ability to frame useful recommendations during two-day meetings.

Before each meeting, an extensive literature review is conducted. During the meeting, participants reflect on emerging trends, share experiences from AHCs, and hear presentations on specific issues. Most of the working session is dedicated to a discussion of what AHCs can and should be doing in a particular area to achieve visible progress, or a discussion of what public and private policy and philanthropic organizations can do to facilitate the efforts of AHCs to fulfill their societal mission. The results of the group's deliberations are presented in brief reports that are disseminated to targeted audiences.

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Dr. Bond is the president of the Burroughs Wellcome Fund. She formerly held a number of research and administrative positions at the Institute of Medicine, National Academy of Sciences; Department of Medical Sciences, Southern Illinois University School of Medicine; and the Biology Department at Chatham College. Dr. Bond also serves on several advisory committees and boards, some of which include the Council of the Institute of Medicine and the National Center for Infectious Diseases, Centers for Disease Control and Prevention. She has authored and co-authored more than 50 publications and reports in science policy.

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Dr. Goldsmith's consulting firm assists a wide range of health care organizations with environmental analysis and strategy development. He is a director of Cerner Corporation, a health care informatics firm, and of Essent Healthcare, a hospital management firm, as well as a member of the Board of Advisors of Burrill and Company, a private merchant bank in biotechnology and health sciences. He is currently an associate professor of medical education at the University of Virginia. He is a former lecturer in the Graduate School of Business at the University of Chicago. He has also lectured on health services management and policy at the Harvard Business School, the Wharton School of Finance, Johns Hopkins, Washington University, and the University of California at Berkeley. Dr. Goldsmith has served as national advisor for health care for Ernst & Young LLP, was director of Planning and Government Affairs at the University of Chicago Medical Center, and special assistant to the dean of the Pritzker School of Medicine. Dr. Goldsmith has written for the *Harvard Business Review* and has been a source for articles on medical technology and health services for *The Wall Street Journal, The New York Times, Business Week, Time,* and other publications. He is a member of the editorial board of *Health Affairs*. He earned his doctorate in Sociology from the University of Chicago in 1973.

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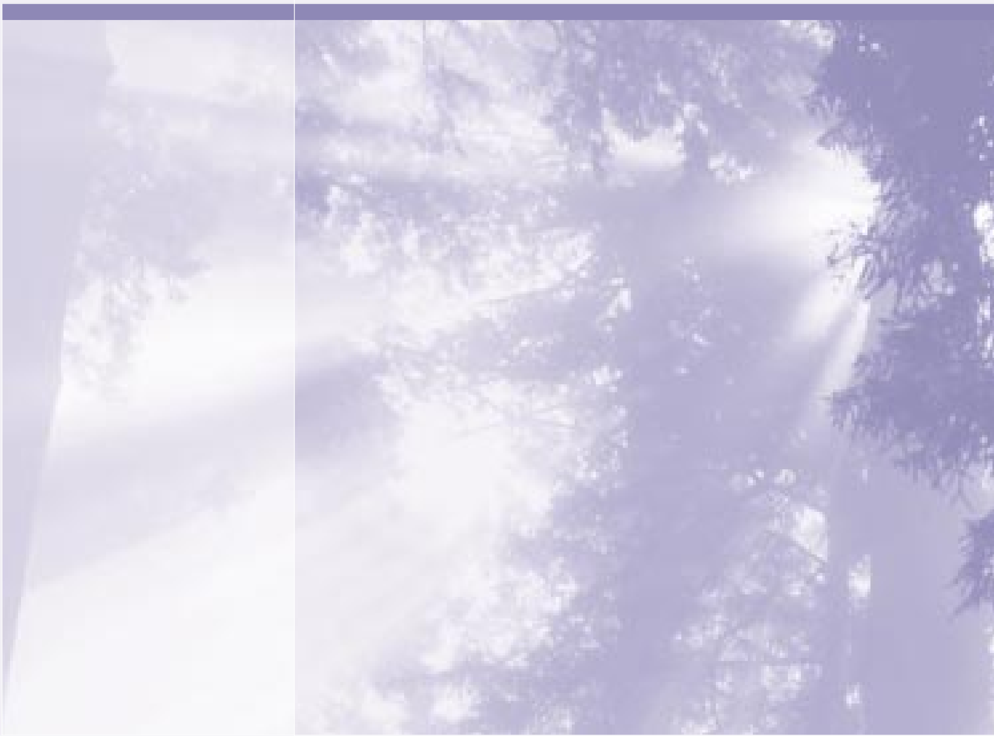

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John Lynch is the vice president, Global Human Resources, for GE Medical Systems, based in Milwaukee, Wisconsin. After graduating from University in Scotland, Mr. Lynch worked in a series of increasingly responsible HR roles for one of the U.K.'s major finance houses for 18 years. He joined GE in 1991 as HR manager for the U.K. Auto Finance business of GE Capital. In 1994, he was promoted to HR leader for GE Capital Retailer Finance – Europe and the following year moved to Stamford, Conneticut as senior HR leader for GE Capital Global Consumer Finance. John was appointed an officer of General Electric Company and took up his current assignment with Medical Systems in May 2001.

Baylor Metrics 2001

Patient Care

1. Private Patient Care RVUs

The RVU (Relative Value Unit) describes how much time and effort a physician spends performing a service: a routine clinic visit is approximately 1 RVU whereas heart surgery receives 30 RVUs. This is a measure of how much activity all physicians perform; the higher the number of RVUs, the more outpatient visits and procedures are performed.

2. Private Patient Care RVUs Per Private Patient Care FTE

This is an efficiency measure, indicating how efficiently physicians spend their time while seeing private patients. The number of RVUs are divided by the number of Full Time Equivalents (FTE) devoted to private patient care (excluding Harris County and the VA hospital). Each physician spends a certain percentage of their time seeing private patients – for example, if he/she spends one day per week out of five, this is 20% or 0.2 FTE. If the number of RVUs is divided by the patient care FTE, this normalizes the patient care activity to what a 100% physician would spend.

The Medical Group Management Association (MGMA) has benchmark data on private practice physicians throughout the U.S. We have chosen this measure as a benchmark for our physicians. For example, if the department of Otolaryngology is greater than 90th percentile for MGMA, this means that Baylor physicians see patients more efficiently than 90% of private otolaryngologists.

3. Private Patient Care Expense Per RVU

This is the expense per service. All department expenses related to private patient care (e.g., physician salary and fringe, staff, supplies, etc.) divided by RVU. Given the different incomes of physicians, the expense per RVU cannot be meaningfully compared across departments. However, the percent change from one year to the next in the same department is a measure of change in resource utilization.

4. Patient Satisfaction – Patient-Physician Relationship

An outpatient survey is administered by telephone quarterly. Seven of the questions relate to the physician (for example: competency, caring, enough time spent with the patient). This number is the overall patient assessment of the physician. The maximum is 100.

5. Patient Satisfaction – Process Of Care

In the same survey, questions are asked about “process,” such as: time to get an appointment, parking, courtesy of the staff, billing. This number is the overall assessment of the process. The maximum is 100.

Research

6. Basic Science Laboratory Grant Dollars Per Basic Science Laboratory Square Foot

This is a measure of the efficiency of use of basic science or “bench” laboratory space. The grant dollars are those used to perform basic science – for the most part those investigations requiring animals, genes, chemicals, microscopes, etc. The total grant dollars (direct dollars to the investigator plus the indirect dollars to the institution) are used. The square feet used are those for investigators’ basic science laboratories and other shared laboratory support space such as cold rooms. Values more then approximately $350 per square foot indicate crowded laboratories.

7. Grant And Contract Dollars Per Research FTE

This is a measure of the productivity of researchers. Both basic research (defined above in #6) and clinical research (generally research on individual patients such as taking blood pressure, giving drugs, or the support of such research, for example by data collection or computer modeling) are included. The number of grant dollars are divided by the number of Full Time Equivalents (FTE) devoted to research. Each researcher spends a certain percentage of their time doing research – for example, if he/she spends three days per week out of five, this is 60% or 0.6 FTE. If the number of grant dollars is divided by the research FTE, this normalizes the research activity to what a 100% researcher would spend. This amount of funding (>$400,000 per Research FTE) implies that, on average for the department, each research faculty member holds more than one grant.

Education

8. Learner Evaluation

Periodically (whether after a single lecture, or after a month with a physician or a year with a mentor), learners (medical students, graduate students, residents, etc.) are given the opportunity to evaluate their teachers. The evaluation form is similar for each type of learning, and each asks the overall evaluation of the teacher on a scale of 1-7 with 7 being the highest. This metric is the average of every evaluation received by faculty in the department.

Finance

9. Budget

Each year, each department submits a budget for the upcoming fiscal year. If, at the end of the year, the actual revenue minus expense (overall – all business segments) exceeded the prediction, the goal was exceeded.

10. Revenue Less Expense > 0

If, at the end of the year, the overall revenue less expense was greater than zero (regardless of the prediction), the goal was exceeded.

Research

1. NIH Grant Dollars Per Tenure Track Faculty

For basic scientists, one important measure of the quality of research is whether the National Institutes of Health is funding that grant. Since basic science departments are made up almost exclusively of individuals performing basic science, it is a goal for each tenure-track faculty member to be funded by the National Institutes of Health. While also true in the clinical departments, there are prestigious funding sources for clinical research that might come from other sources, and so this is not a metric for clinical departments. This amount of funding (>$350,000 per faculty member) implies that, on average for the department, each tenure track investigator holds more than one NIH grant.

2. Basic Science Laboratory Grant Dollars Per Basic Science Laboratory Square Foot

This is a measure of the efficiency of use of basic science or "bench" laboratory space. The grant dollars are those used to perform basic science – for the most part those investigations requiring animals, genes, chemicals, microscopes, etc. The total grant dollars (direct dollars to the investigator plus the indirect dollars to the institution) are used. The square feet used are those for investigators' basic science laboratories and other shared laboratory support space such as cold rooms. Values more then approximately $350 per square foot indicate crowded laboratories.

3. Grant And Contract Dollars Per Research FTE

This is a measure of the productivity of researchers. Both basic research (defined above in #6) and clinical research (generally research on individual patients such as taking blood pressure, giving drugs, or the support of such research, for example by data collection or computer modeling) are included. The number of grant dollars are divided by the number of Full Time Equivalents (FTE) devoted to research. Each researcher spends a certain percentage of their time doing research – for example, if he/she spends three days per week out of five, this is 60% or 0.6 FTE. If the number of grant dollars is divided by the research FTE, this normalizes the research activity to what a 100% researcher would spend. This amount of funding (>$400,000 per Research FTE) implies that, on average for the department, each research faculty member holds more than one grant.

4. Learner Evaluation: Graduate Students and Medical Students

Periodically (whether after a single lecture, or after a month with a physician or a year with a mentor), learners (medical students, graduate students, residents, etc.) are given the opportunity to evaluate their teachers. The evaluation form is similar for each type of learning, and each asks the overall evaluation of the teacher on a scale of 1-7 with 7 being the highest. This metric is the average of every evaluation received by faculty in the department.

Graduate students rate teachers statistically lower than do medical students, hence the separate metrics.

Finance

5. Budget

Each year, each department submits a budget for the upcoming fiscal year. If, at the end of the year, the actual revenue minus expense (overall – all business segments) exceeded the prediction, the goal was exceeded.

6. Revenue Less Expense > 0

If, at the end of the year, the overall revenue less expense was greater than zero (regardless of the prediction), the goal was exceeded.

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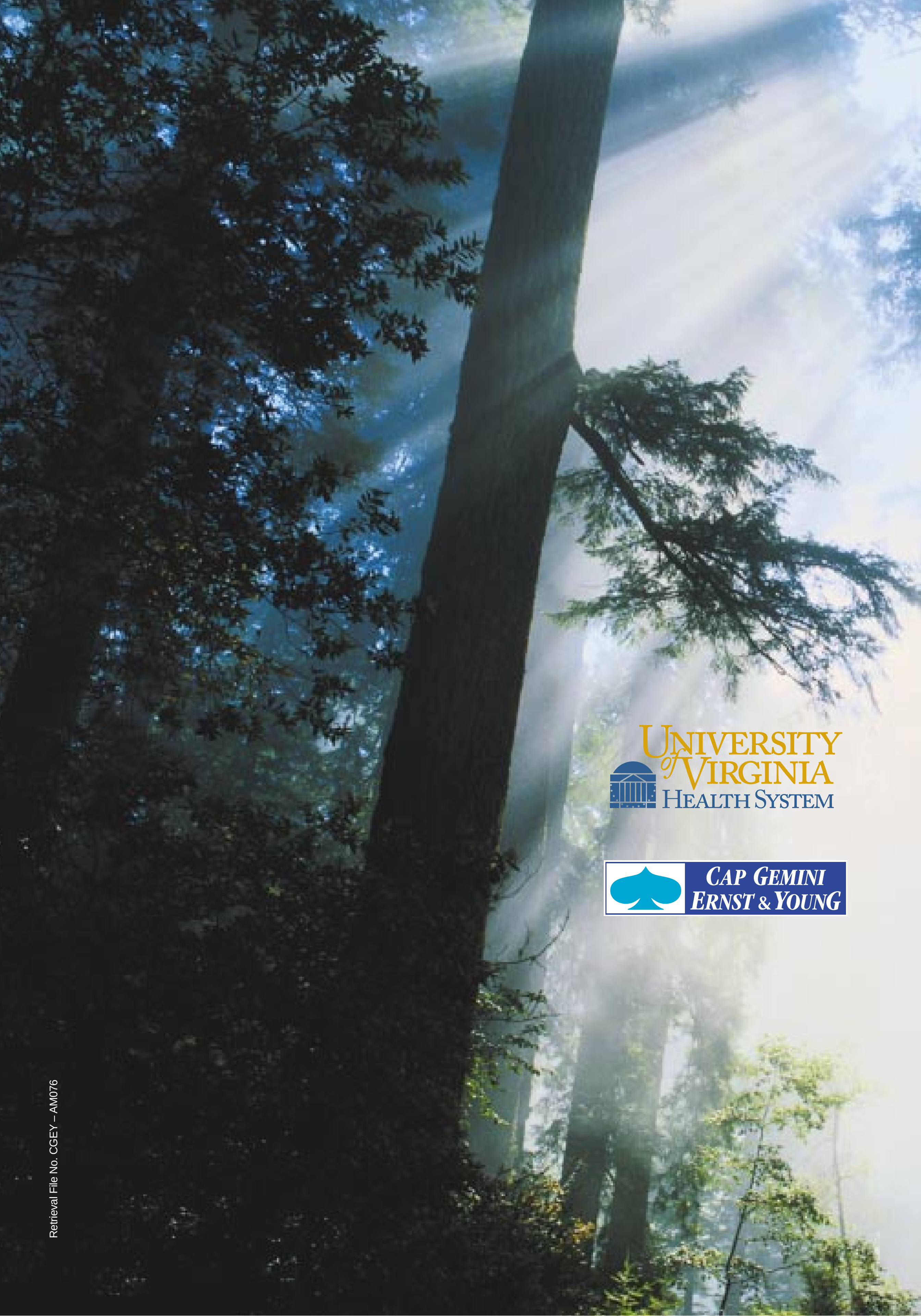

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