Linking Academic and Clinical Missions: UC Davis' Integrated AHC

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Abstract

Academic health centers (AHCs) rely on cross-subsidization of education and research programs by the clinical enterprise, but this is becoming more challenging as clinical reimbursements decline. These new realities provide an important opportunity to reevaluate the relationships between medical schools and academic medical centers.

The authors examine the benefits of their ongoing commitment to create a fully integrated AHC at the University of California (UC) Davis, discussing strategies that serve as catalysts for continued growth. They explore how investments of proceeds from the clinical enterprise directly enhance educational and research initiatives, which, in turn, increase the success of patient-care programs. This has created a cycle of excellence that leads to an enhanced reputation for the entire health system.

One strategy involves using clinical margins to "prime the pump" in anticipation of major research initiatives, resulting in rapid increases in external research funding and academic recognition. In turn, this facilitates recruitment of high-quality faculty and staff, improving the ability to deliver expert clinical care. The overall enhanced institutional reputation positions both the clinical and academic programs for further success.

The authors posit that such approaches require executive-level commitment to a single strategic vision, unified leadership, and collaborative financial and operational decision making. Adopting such changes is not without challenges, which are discussed, but the authors suggest that an integrated AHC fosters optimized operations, enhanced reputation, and stronger performance across all mission areas. They also provide examples of how the UC Davis Health System has thus attracted philanthropists and investments from the private sector.

Acad Med. 2008; 83:809–815.

Defining the optimal organizational structure to link the academic and clinical care missions of the 21st-century academic health center (AHC) is a well-documented challenge.[1–4] AHCs have long relied on cross-subsidization of education and research programs by the clinical enterprise, but this is becoming more challenging as clinical reimbursements decline.[5,6] This new reality provides an opportunity to reevaluate relationships between medical schools and academic medical centers.[1,4] Some have posited that relationships between the two might tend to become more fluid and loose because of financial instabilities and incongruous leadership structures.[7] Others have offered and undertaken solutions such as the creation of medical school "service lines"[5] or creating a joint institute to support education and research.[8] Ultimately, though, two basic models predominate: the fully integrated model with all functions within an AHC reporting to a single entity, or the split/splintered model in which the academic and clinical operations are managed by separate groups.[9] At the University of California (UC) Davis, the adoption of the former, an AHC-wide commitment to a model of full integration, has resulted in an efficient, cost-effective, and reputation-enhancing foundation for quality and success by embracing the role of the clinical enterprise in funding key research and educational objectives to advance institutional goals.

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Today, our integrated AHC encompasses the academic medical center (hospital and clinics), school of medicine (SOM), and faculty practice group under the leadership of the vice chancellor/dean and a joint leadership team of the hospital chief executive officer (CEO), two SOM executive associate deans, the health system chief financial officer, and the health system chief information officer (Figure 1). In addition, the dean of a new school of nursing will soon join this team.

The UC Davis Health System: A 40-Year Journey

The UC Davis SOM opened just over 40 years ago, with its original academic home on the main Davis, California campus. Founding Dean C. John Tupper envisioned a new teaching hospital also in Davis, but financial constraints and a failed 1970 bond issue ultimately led to the realization of an alternative in 1978: the transfer of ownership and operation of the Sacramento County Hospital to create the UC Davis Medical Center in Sacramento, 15 miles east of Davis.

Under the leadership of subsequently appointed deans and hospital directors, both the school and the medical center grew in concert. The health sciences complex on the Davis campus served as a major site for research and the home for

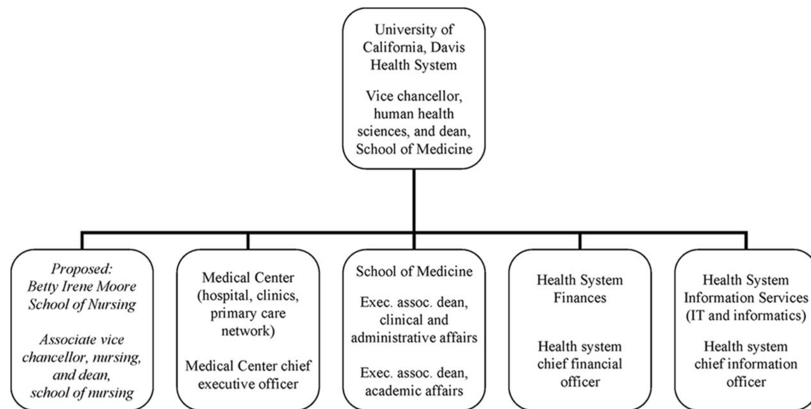

Figure 1 Fully integrated academic health center organizational structure and leadership at the University of California–Davis Health System.

the first two years of medical education. Simultaneously, the medical center on the Sacramento campus underwent dramatic expansion, attracting increasing numbers of clinicians and serving as a regional safety-net hospital and as a provider of state-of-the-art clinical care. Over time, the number of Sacramento-based clinicians grew, and increasing numbers of new researchers gravitated toward the 140-acre health sciences campus in Sacramento.

In the mid-1990s, the dean and the hospital CEO recognized the value of integration and enhanced their culture of cooperative leadership by agreeing to formally unite the school and the medical center as a single-named entity: UC Davis Health System (UCDHS). Together, they created a master plan to grow the Sacramento campus and fulfill the original vision of colocating a hospital and medical school, including plans for a new medical education building in Sacramento as home to all four years of medical student education (opened 2006). In addition, their coordinated, dual leadership led to the construction of a number of new research buildings on the Sacramento campus, as well as centers for telemedicine, cancer programs, and neurodevelopmental research.

By 2004, an opportunity to further the process of integration emerged when the dean and the hospital director announced near-simultaneous retirement plans. The university leadership endorsed a new organizational structure, creating a single position—vice chancellor of human health sciences and dean of the medical school—to lead a team of executives who oversee all of the health system's academic, clinical, and business areas, with each executive assuming responsibility for institution-wide success.

In sum, the field of human health sciences at UC Davis grew from an SOM with no clinical facility, to a school and a hospital with cooperative but separate leadership, to a fully integrated AHC encompassing the SOM, the medical center, the faculty practice plan, and, soon, the Betty Irene Moore School of Nursing. Under this model of full integration, UCDHS has experienced accelerated growth, with

- strong clinical and financial performance in a highly competitive managed care environment,
- research rankings rising more quickly than ever before,
- breakthrough innovations in education with support across stakeholder groups, and
- overall growth in community awareness and support of the health system and its goals.

UC Davis has embraced the model of an integrated AHC as the most cost-effective, productive, and reputation-enhancing foundation for success. This model builds logically on the long-standing collaboration between the SOM and the medical center, which has evolved progressively since the 1970s. The culture shifts have not always been easy, but the successes reinforce our commitment to a fully integrated approach. We believe that this evolution has been—and will continue to be—central to achieving our clinical and academic goals.

Integration Leverages Resources to Advance Both Clinical and Academic Missions

The transition to a fully integrated health system has allowed effective resource allocation to advance both the clinical and academic missions at UC Davis.

Nonduplication of service/support units

Schools of medicine and teaching hospitals require many of the same service and support units. With the initial moves toward integration a decade ago, we began identifying efficiencies that could be attained by eliminating duplicitous hospital and school units and building stronger, leaner teams to drive clinical and academic endeavors.

One example has been the integration of our school and hospital public relations offices, responsible for public, community, and government affairs. These employees now provide services for the health system as a whole, acting as representatives and advocates for both the academic and clinical programs. This has ensured a unified message to constituents and a single point of contact for media, community members, government, and regulatory officials. In tandem, our community-based advisory groups and councils also adapted this unified message and now provide input and ambassadorship to benefit the entire AHC.

A second example is our consolidated human resources department, which now serves both the SOM and the medical center staff. Through it, we are able to staff more efficiently and provide a single location for all employees to receive orientation, counseling, and benefit information, avoiding confusion from conflicting policies or unnecessary dual outreach between the school and medical center.

As a result of these and other consolidations of support units, we realize significant cost savings by not unnecessarily duplicating services. We also avoid competition between school and hospital units for staff and resources because integrated units work together on behalf of the entire AHC. In such an environment, collaborative ideas and solutions are naturally encouraged and rewarded. Moreover, team members understand that their performance will be evaluated on collective success, so they

avoid behaviors that might advance one unit at the expense of another.

Cross-mission capital and technology investments

Currently, UCDHS has $573 million in capital projects underway, with more than half of the funding slated to come from patient revenues. A unified, collaborative mindset is absolutely critical to our ability to fund high-priority projects. For example, when a new education building was deemed necessary to meet Liaison Committee on Medical Education accreditation requirements, we were able to quickly respond by directing AHC revenues (generated largely from clinical programs) to complete the $42 million project. Clinical enterprise leaders in our health system understand how such investments help ensure the academic reputation of UCDHS and the ability to attract the most qualified students, trainees, and faculty, who, in turn, advance clinical quality, excellence in patient care, and financial success. In other words, integration allowed an option that would not have been easy to navigate or negotiate at a school in a nonintegrated AHC.

Similarly, our solicitation of bids for an electronic medical record (EMR), another major capital investment, provided an important example of cross-mission decision making. We emphasized to prospective vendors that the EMR would need to nimbly serve clinical and also research purposes. As a result, we expect our EMR not only to facilitate optimal patient care but to help identify prospective patients for clinical trials and create a data repository from which deidentified data can be mined for research studies. Importantly, this holistic approach secured the broadest-possible "buy-in" of faculty and staff across a broad range of clinical and academic programs for the EMR project.

Also, when looking to purchase expensive imaging equipment, we assessed how well it met the needs of clinicians and researchers. As a result, imaging experts from across the system made joint recommendations for equipment purchases in the medical center and the imaging research center. In addition, the infrastructure and staff needed to support this equipment was closely coordinated, avoiding duplication, inefficiencies, and unnecessary costs.

Unified financial planning

The creation of a unified AHC necessitated a fundamental shift in financial management. The appointment of a single chief financial officer reflected the critical premise that all financial decisions should benefit UCDHS as a whole and that success would be determined by system-wide performance. As a result, our funding priorities are based on cross-mission priorities, and we quickly dismiss suggestions that would benefit either the SOM or the medical center at the other's expense.

A key example of this is our joint contract-negotiation strategy. Recognizing that payors were frequently attempting to force acceptance of contracts that were advantageous to the medical center but that severely limited faculty practice plan income, we developed a single negotiation strategy designed to maximize total reimbursement to the health system. Consequently, an experienced UCDHS negotiator now represents all units, and contract reimbursement rates have remained competitive. This approach is widely endorsed both by the medical center and by SOM physicians.

Faculty and staff excellence and performance

Integration has been an effective magnet for recruiting and retaining high-caliber faculty and staff. Faculty recruits are attracted to UCDHS by the opportunity to work in an integrated system where their clinical and academic efforts will be equitably supported by a unified leadership and where their patient care, education, and research efforts will be grounded in a single strategic vision. Further, clinical staff are drawn to the medical center because of the opportunity to interact with trainees and help advance—and participate in—research trials located in the hospital and clinics.

We have also coordinated training programs across UCDHS in areas such as ethics and communications skills. In addition to the efficiencies inherent in this approach, faculty and staff have commented that the joint training allows SOM and hospital employees to interact and benefit from their shared knowledge and experience. Similarly, patient-care simulation training in our Center for Virtual Care is conducted for teams of faculty, staff, students, and community emergency responders. Built with dollars from the clinical enterprise, this asset advances both our academic and clinical missions and has attracted significant philanthropic support.

Joint staff development activities have also proven effective. For example, we have recently initiated a monthly forum of administrative managers across UCDHS. By bringing together the managers from all academic and clinical units, we have observed unique innovation sharing and joint planning activities that advance our overall mission. Furthermore, hospital-based managers now frequently cite accomplishments of our academicians as points of pride for UCDHS, and vice versa.

Joint interactions with community constituencies

A cross-mission approach has also ensured greater success of our community-wide initiatives. A good example is our young Center for Reducing Health Disparities (the Center), which serves as a hub for a diverse network of faculty, staff, students, and community leaders. The Center provides a home for research projects aimed at identifying and reducing health disparities. In addition, the Center's staff provides expertise to help employees deliver culturally appropriate care for the highly diverse population served in our clinical facilities. Through this integrated approach, the Center has attracted major grant funding, and its staff has grown significantly while enhancing all the mission areas.

Reduction of non-value-added tensions between AHC "silos"

Importantly, our integrated AHC is designed to diminish the tensions between "silos," especially the SOM and the medical center, whose counterparts in nonintegrated systems often experience considerable disagreements, leadership clashes, and noncooperation. Traditional funding paradigms have created disparities in the financial resources generally available to schools of medicine compared with their affiliated teaching hospitals, and consequent disparities in power. In nonintegrated models, this can escalate to discouraging, nonproductive

interactions and, sometimes, crisis situations. As a single entity, we have been able to embrace collaboration and focus on decisions that facilitate true advances for the patients, students, research fields, and communities we serve. We also believe this frees us to focus more of our energy and resources to address the many external challenges facing medicine—especially academic medicine—today.

Strategies Facilitated by Integration

In our fully integrated AHC, we have identified a number of new—and occasionally unexpected—strategies that further strengthen the ties between the clinical and academic enterprises while supporting the cycle of system-wide growth and quality (Figure 2).

"Priming the pump": Use of clinical dollars to advance research

With relatively small upfront investments of money generated by clinical programs, AHCs can prime the pump for major future research grants.[10] For example, in 2003, UCDHS identified the need for enhanced infrastructure to support clinical and translational research. With $1 million from clinical revenues, we established the Clinical/Translational Research Investigator Services Program (CRISP) to serve as the physical home for all such research, as well as faculty training and career development. When the NIH's plan for Clinical and Translational Science Awards (CTSAs) was announced, the CRISP had already explored barriers and tested solutions. We believe the CRISP served as an important pilot program, paving the way for us to receive a CTSA in the first round of awards.

Also, with the passage of Proposition 71 in California, which provides $3 billion for stem cell research, UCDHS saw an opportunity to expand its regenerative medicine research programs. First, we invested health system dollars to recruit new faculty leaders and jumpstart their research programs. Second, and notably, we realized that priming the pump could involve not only transfer of dollars but also, in this case, transfer of space. With the implementation of the EMR, one of our large hospital record-storage facilities became vacant. Through cross-mission planning, we were able to quickly develop a plan to repurpose the space for new stem cell laboratories and compete for a portion of the public funds.

The ability to anticipate and nimbly move "priming dollars" has paid off, as reflected by the rise of annual direct research funding at UCDHS, from $55 million to $148 million between 2000 and 2008, and an increase in NIH research funding ranking, from 62nd in 2001 to 42nd in 2007 (Figure 3).

Below are three additional areas in which investment of funds generated by clinical margins positioned UCDHS to more effectively compete for research funding.

- *Telemedicine.* More than a decade ago, we saw significant potential in our small coalition of academic experts in telemedicine and our rural community hospital partners. Therefore, funds from the clinical enterprise were used to establish a baseline $2 million annual investment for new telehealth technologies and to help build three telemedicine sites in rural areas of Northern California. Since then, our Center for Health Technology has grown to more than 80 sites, attracting over $36 million in research funding.
- *Cancer programs.* In the 1990s, we identified cancer research as a major focus area for our AHC. Clinical dollars were earmarked to recruit outstanding cancer experts and establish their research programs. This initial funding has reaped a large return on investment as our cancer center has achieved National Cancer Institute designation and currently serves as the hub for more than $80 million in cancer-related research funding.
- *Neurodevelopmental disorders.* In response to community advocacy, UCDHS partnered with the state of California to create an institute, Medical Investigation of Neurodevelopmental Disorders (M.I.N.D.), to investigate autism and other neurodevelopmental disorders. Clinical enterprise dollars were used to help build and provide operational support for the new facility that combines research and clinical facilities. This has allowed us to recruit and retain top investigators to lead critical research programs, such as our new Neurotherapeutics Research Institute, which is supported by a recent $21 million NIH grant.

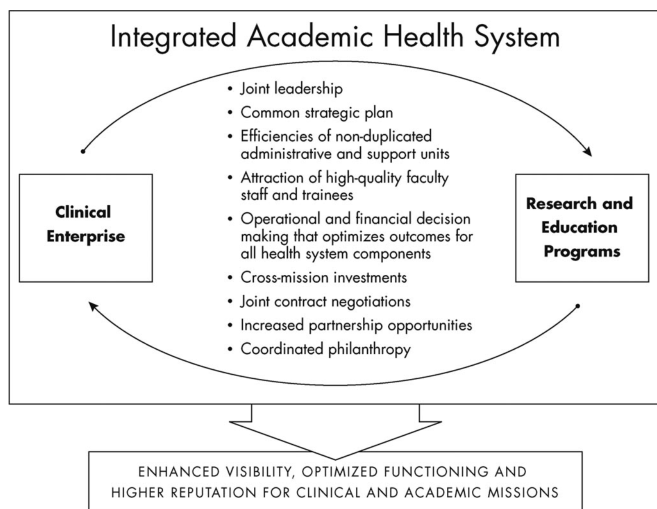

Figure 2 Clinical enterprise and academic program integration facilitates a cycle of growth and excellence, which enhances the reputation of University of California–Davis Health System patient care and academic programs.

Enhanced academic reputation leads to further success of clinical programs

The investment of clinical dollars towards the academic missions benefits research and education, which, in turn, elevates the clinical enterprise (see Figure 2). At UCDHS, it is well recognized that the aura of academic contributions and reputation enhances the appeal of our clinical programs for patients who want access to expert clinicians and state-of-the-art therapies. This reciprocal relationship can be demonstrated by considering the same three areas:

- *Telemedicine.* Our success in telemedicine research has brought significant attention to our telehealth programs, allowing rapid expansion of

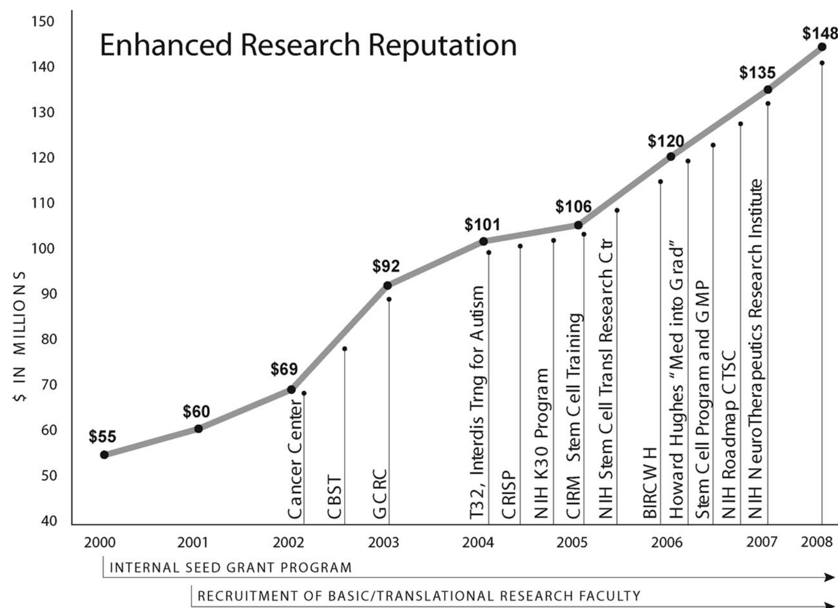

Figure 3 Clinical care dollars help "prime the pump" for increased research success at the University of California–Davis Health System. CBST, National Science Foundation Center for Biophotonics Science and Technology; GCRC, General Clinical Research Centers; CRISP, Clinical/Translational Research Investigator Services Program; CIRM, California Institute for Regenerative Medicine; BIRCWH, Building Interdisciplinary Research Careers in Women's Health; GMP, Good Manufacturing Practices facility; CTSC, National Institutes of Health Clinical and Translational Science Center.

our distance facilities and attracting additional patients to this and other clinical services. With documented high levels of patient and provider satisfaction with telemedicine care, the program has now grown to provide more than 3,200 consultations every year throughout the state, generating significant additional revenues to the clinical enterprise. In addition, our researchers played important consultative roles during the passage of a state proposition that will provide approximately $35 million to our institution to build a new telemedicine resource center, facilitating the provision of clinical services to additional sites and, thus, further increasing clinical revenues.

- *Cancer programs.* NCI designation status has positioned UCDHS as the major hub of cancer care services for inland Northern California. Today, the cancer center cares for more than 9,000 patients a year at our Sacramento campus and at two regional cancer centers, generating significant revenues and allowing access to cutting-edge therapies for patients across our region.
- *Neurodevelopmental disorders.* The research success of our M.I.N.D. neurodevelopmental disorders institute has attracted leading global teams of researchers and clinicians who work together to help patients with autism, Fragile X, Tourette syndrome, and other disorders. This has led to breakthrough discoveries such as Fragile-X-associated tremor/ataxia syndrome, an underdiagnosed condition affecting older men.[11] These experts are available to provide clinical assessments, attracting patients to UCDHS from across the country.

Joint strategic planning

In the early years, first SOM and then, later, medical center strategies were often initiated separately, with coordination occurring predominantly in the implementation phase. With the establishment of the integrated AHC, the dean and the hospital director met regularly to jointly define the strategic vision. In 2003 and 2004, a major strategic planning initiative brought together leaders from across the health system's hospital, school, and faculty practice plan. Together, they agreed on a unified mission and vision statement, guiding principles, and specific focus areas (cancer, neuroscience, infectious disease, and vascular). Each focus area spanned clinical and academic missions and identified implementation strategies to grow our patient care, research, education, and community engagement missions in parallel. As one example, in vascular medicine, a decision was made to design research and clinical vascular programs that complemented and supported each other. This resulted in a consensus decision to invest in a new vascular center and to simultaneously recruit faculty leaders with research expertise in this field.

This collaborative approach to strategic planning ensures that innovative ideas from all components of the health system are incorporated into one formal strategic plan and that staff from all academic, clinical care, and administrative units understand their role in implementing the plan. It also encourages diverse perspectives, thus synergizing our strategies in nonconflicting ways and securing system-wide buy-in.

Cross-mission planning with external partners

Our integrated AHC model at UCDHS also allows for enhanced flexibility and success in nurturing external clinical care and academic partnerships. For example, our close partnership with the Northern California Veterans Affairs Health Care System has expanded from shared education programs to a successful joint application for a general clinical research center, coordinated hiring of faculty to provide clinical services, and sharing of basic research facilities. Similar cross-mission partnerships facilitated by integration include strategic partnerships with the Northern California Shriners Hospital for Children, the David Grant Medical Center at Travis Air Force Base, and our extensive community hospital network. This rural hospital network, established by hospital leadership as a clinical service partnership, has grown to encompass clinical research sites and an innovative program (PRIME-Rural) that leverages the telemedicine network to train medical students at these rural centers of excellence.

Cross-mission philanthropy

Cross-mission fund-raising has become the norm for UCDHS because we have realized that donors are often interested in supporting both clinical and academic programs. For example, early in the development of our Sacramento campus, Oracle Corporation CEO Larry Ellison

gave a multimillion-dollar gift to name our ambulatory care facility while also endowing faculty chairs and providing funds for our orthopedics research laboratory.

More recently, our success with interdisciplinary team approaches to clinical care (fostered by our integrated health system), combined with our strength in telemedicine research (facilitated by health system investments), attracted a $100 million philanthropic grant for a new school of nursing. The Gordon and Betty Moore Foundation specifically cited this integrated approach in partnering with us to create the Betty Irene Moore School of Nursing.

Unified public image campaigns

Because of integration, we are able to send clearer, more consistent, and more powerful messages to stakeholders by cobranding our school and our medical center as parts of a single health system. By doing so, we efficiently and cost-effectively use our advertising dollars and coordinate distribution of marketing publications. For example, our quarterly magazine reviews UCDHS accomplishments in all mission areas, and readers frequently voice their appreciation for receiving this single, comprehensive update.

The Benefits of Integration for Our AHC's Culture

Overall, we believe that full integration has significantly enhanced the culture created among the 8,000-plus faculty, staff, and students throughout our health system.

At the leadership level, our executive team highly values joint strategies that support successes in all missions. To accomplish this, the UCDHS executive team (Figure 1) meets weekly for a "vice chancellor update." Our agenda typically includes cross-mission decisions requiring input from each executive team member. Additional midweek meetings provide opportunities for formal follow-up and continuous communication. This dialogue ensures that all faculty, staff, and trainees, as well as external constituencies, receive consistent messaging. This, in turn, promotes better understanding of the health system vision, mission, and goals while preventing conflicting decisions and directives from leadership. Furthermore, this team evaluates departmental and unit-level performance in the context of the overall success of the AHC. Consequently, reduced levels of infighting and conflict allow for greater opportunities for growth and a unified voice in confronting external threats and challenges.

This environment facilitates a collective commitment to discovering and sharing evidence-based approaches throughout all of UCDHS's mission areas. Indeed, a broad skill set is available to all of our health system leaders because researchers, clinicians, educators, and managers cross-fertilize their respective ideas, expertise, strengths, and perspectives. We actively highlight this key differentiator in our market and the added value we provide as the region's only AHC.

In sum, we agree with the assessment of others that "an integrated system provides the structure to increase benefits, decrease financial risks, advance scientific progress, and heighten the institution's reputation and trust with the public in a more efficient and organized fashion."[9]

Challenges and Risks

We have outlined many benefits of our integrated AHC, but, as with all change, this evolution has, at times, been challenging. Overall, the worlds of academia and the business of operating a medical center traditionally represent different cultures and often contain divergent incentives and reward systems. Our goal is not to adopt one culture or the other but, rather, to evolve a culture that respects the values of both and optimizes the effectiveness of all employees in achieving our joint missions.

Our process of integration has challenged employees at all levels—administrative leaders, faculty, midlevel managers, and frontline staff—not just to think about their individual units, but to work for the success of all our health system missions. Having usually received their earlier training and/or experience in nonintegrated models, many UCDHS employees are thus being asked to work in a more complex organization than in their previous positions and to grow in new ways. The need to adapt to these expectations has been perceived positively by many employees, but it has caused significant angst for others, and, indeed, some have left UCDHS. As we continue to find new ways to integrate, we have found it to be crucial that all UCDHS leaders and managers give a consistent message of support for all the missions and provide transparent communications about our joint commitment to the integrated model and its benefits. Overall, we increasingly observe that an integrated system is an effective recruiting tool that attracts more dynamic and nimble employees.

Financial concerns have also been, and continue to be, a challenge to adopting a fully integrated AHC model. At our institution, as in most AHCs, the financial revenues generated by hospital services are much greater than funds directly allocated to the SOM. As a result of these externally created financial realities, transferred funds most often flow from the clinical to the academic enterprise. This can result in resentment of those people working predominantly in patient care, who may feel that they would be better off financially if investments were not made in academic programs. Although most hospital-based employees understand the cyclical benefits to the clinical enterprise from such investments (see Figure 2), some still desire to preserve financial "silos." Conversely, some SOM-based employees resent a perceived dependence and/or emphasis on revenue-generating clinical activities. Consistent messaging, coupled with transparent disclosure of the beneficial impact of investing clinical enterprise dollars in academic initiatives, is key to building trust.

A major risk is the unpredictably of clinical revenues, because a decline would affect all of the missions in our integrated model. Of special concern are the many financial uncertainties caused by heated debates on health care reform and declining Medicare and indigent care reimbursements. These revenues are essential for funding our academic plans, and reliance on this uncertain funding poses obvious challenges. Other risks include the possibility of new laws and regulations, especially unfunded mandates, which could require retention of additional patient-care dollars in the clinical enterprise.

The flattening of the NIH budget is another concern, as well as unexpected

scientific developments that could change research funding for facility, faculty, or programmatic needs. In addition, a change in the commitment of our partners could disrupt current strategies. Although each of these risks is very real, we believe that an integrated model will allow us to respond most rapidly and efficiently to funding disruptions regardless of whether they originate in research, education, or patient care.

An additional challenge has been that regulatory and accrediting agencies often have requirements that were developed for application to a nonintegrated AHC model. For example, we are frequently asked for financial information specific to the SOM or the medical center, and it can be difficult to explain the "single pot" approach. This is especially true for defining the finances of joint support units such as advancement, public relations, human resources, and others. Careful explanation of our resource-allocation model and accounting system has been helpful and necessary.

A new challenge—and a wonderful opportunity—for UC Davis will be to incorporate the new Betty Irene Moore School of Nursing into UCDHS. Once again, we must make decisions regarding how to integrate and build new cultural bridges. For example, new nursing faculty will soon interact with hospital-based staff nurses. Also, new interprofessional academic programs will be created between the SOM and the nursing school. Finally, new nursing-centric employees will form teams with existing employees, who will be asked to grow and adapt to meet new needs. We believe that the collaborative culture fostered by integration will be an asset in this process, but we also recognize that our employees will, once again, be asked to "stretch" and think in new ways in response to this exciting new phase of growth.

Thus, changing an institution's organizational structure is not the end goal but, rather, a reflection of an ongoing process of team building. We have learned that confronting silos and engendering trust must remain a continuous focus, because external threats and changes can cause anxiety and have the potential to result in reversion to traditional, territorial attitudes. Unified leadership and collective celebration of success are keys to the acceptance of the move to a fully integrated AHC.

We realize that the process of integration will be continuous and that we must be open to ongoing refinements and changes as health care and medicine change. Nonetheless, the following lessons learned have emerged as guiding principles that define the changing specifics of optimal function as an integrated AHC:

- A unified vision endorsed by leadership and embraced by faculty and staff is critical;
- Leadership must model and endorse decision making based on AHC-wide perspectives;
- Integration of organizational structure should be formally articulated to maximize benefits;
- Joint strategic planning is key to achieving "buy-in" from all constituencies;
- Comprehensive financial management is essential because a single "bottom line" drives behaviors that support an integrated organization;
- Infrastructure and resource allocation should respond to needs, not sources of funding;
- Performance evaluations and incentives must parallel expectations of an integrated AHC model;
- Constant communication is required to change and maintain culture that supports integration; and
- Community and other external constituencies respond well to coordinated marketing and messaging.

Conclusion

The collaborative culture and ongoing evolution towards a fully integrated AHC model have positioned UC Davis to grow both its academic and clinical missions. The institutional journey is ongoing, and we continue to explore the best ways to use the integrated model to maximize success. Keys to this success have been integration across all missions, unified leadership committed to joint strategic planning, strengthened infrastructure to support clinical and academic programs, and strong community and partner support. Although AHCs continue to employ a variety of relationships between their clinical and academic functions, we believe that the operational, financial, and cultural benefits of a fully integrated AHC are increasingly clear. By linking our academic and clinical missions through a common vision and integrated strategies, excellence in both has been more fully realized.

Acknowledgments

The authors thank Ann Bonham, PhD, executive associate dean for academic affairs, University of California–Davis School of Medicine, for the original design of Figure 3.

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