

**SHAPING AND SUSTAINING MINNESOTA'S HEALTH:
A NEW COVENANT TO GUIDE
HEALTH EDUCATION, RESEARCH, AND OUTREACH**



AcademicHealthCenter
UNIVERSITY OF MINNESOTA

**A STRATEGIC VISION FOR
THE ACADEMIC HEALTH CENTER
UNIVERSITY OF MINNESOTA**

JUNE 19, 2000 DRAFT

FOR DISCUSSION PURPOSES ONLY

**Shaping and Sustaining Minnesota's Health:
A New Covenant to Guide Health Education, Research, and Outreach**

Executive Summary

Minnesota's 150-year commitment to the health and well-being of its residents and communities has propelled a quality of life that is second to none. The University of Minnesota Academic Health Center (AHC) and its constituent disciplines have played a vital role over the years in building on this essential value. It is the sole institution in the state capable of steadfastly transforming cutting edge health research into innovative clinical and community applications, professional education, and public outreach. It has been central in sustaining Minnesota's vision of itself as one of the healthiest places in the nation and the world in which to live, work, and play.

Today the acceleration of dramatic changes in health research, scientific and technological tools, the economics of health, and the education of health professionals have brought Minnesota and the AHC to an unprecedented crossroads. Never has there been more promise and potential for growing and sustaining a healthy Minnesota. Yet never has there been more peril in our capacity to deliver on the promise. Minnesota faces shortages of key health professionals. It confronts the necessity of finding new ways to sustain an increasingly complex, indispensable health research enterprise. It encounters an urgency to educate health professionals for an increasingly complex scientific, multidisciplinary, and economic environment. And it faces more than ever the need to build resourceful links among the basic, clinical, and population sciences.

Despite these uncertainties, AHC faculty and staff remain sure of Minnesotans' fundamental commitment to their future collective health and well-being. To assure that future, we offer in this document a vision to sustain and grow Minnesota's health, to reduce the uncertainty of rapid change, and to assure that the state maintains its deserved reputation for health innovation and quality.

Many of the forces that have converged to bring Minnesota to this crossroads are national and even global in scope. Some are beyond the control of Minnesota alone. But in the context of this shifting health environment, we contend that shaping the future of Minnesota's personal and community health is within our capacity as a state. What is needed now is a *New Covenant* to provide the vision and to reaffirm our mutual commitment to the state's health.

This pact between the University and the state should guide research in the health sciences, its transformation into clinical and population applications, the education of future health professionals and scientists, and public outreach. Outlined herein, this *New Covenant* seeks to frame these elements as Minnesota's investment that will significantly shape and uphold the health and well-being of all Minnesotans now and in the future.

Our vision is composed of seven principal elements:

1. Create and prepare the new health professionals for Minnesota

The future of Minnesota's health rests with our health professional students. With rapid change the norm, the next generation of health professionals will require new skills, knowledge, and competencies. We propose to bring a new orientation to health professional education at Minnesota that:

- Emphasizes skills and competencies across the health professions and the development of a truly team approach to personal and community health.
- Prepares health professionals to be flexible, adaptive, and have a full range of skills and competencies from basic to clinical to the population sciences.
- Places greater emphasis on health promotion and disease prevention in the education of all our health professionals.
- Prepares our students to be life-long learners and supports the life-long learning of working health professionals.
- Trains our students in truly community settings where the majority of health professionals spend their professional lives. We propose to develop rural and urban community health laboratories for the training of health professionals and the development of new models of health promotion and care.
- Expands enrollments to address Minnesota's worsening workforce shortfalls.
- Recruits and trains the next generation of academic health science faculty.

2. Sustain the vitality and excellence of Minnesota's health research

The synergy between research, the education of health professionals, the promotion of health and delivery of care is fundamental to the work of the AHC and reflects in an absolute sense the nature and goals of the academic health center.

The gaps between the bench, bedside, and the community are widening; and the need for increased clinical, translational, and applied research to bridge these gaps is critical. Continued investments in basic research, a core component of the vitality of the AHC, are also required. The health of our society is critically dependent on an increased emphasis on disease prevention, sanitation, ecological sensitivity, and personal life styles. These too must be emphasized in our research as well as education and service.

To sustain the vitality and excellence of our research requires us to:

- Hire additional faculty and insure the research time of our top quality health scientists.
- Invest in high quality research space and equipment.
- Assure that resources are available to support evolving areas of research interest.
- Assure that disciplinary excellence is the sine qua non for hiring, promotion, and retention and for allocation of resources.

3. Expedite the dissemination and application of new knowledge into the promotion of health and delivery of health care in Minnesota

- Foster the development of the state's economy through sustaining a healthy work force and developing new products and services.
- Serve as an objective source of information for policy-makers and an advocate on health policy.
- Disseminate our new knowledge through outreach and technical assistance.

4. Develop and provide new models of health promotion and care for Minnesota

- Develop and incubate novel interdisciplinary models of health promotion and care, with a particular focus on the prevention, treatment, and management of chronic disease.
- Build strong, integrated, multi-specialty practices supported by cutting-edge bench-to-bedside-to-community research.
- Enhance Fairview-University Medical Center as a world-class flagship center.
- Expand and strengthen our affiliations with all of the state's health providers to sustain our world-class education and research programs.

5. Reduce health disparities in Minnesota and address the needs of the state's diverse populations

- Increase the diversity of our faculty, student body, and administrative staff. Give our students the skills to care for and promote the health of individuals from diverse ethnic, cultural, and racial backgrounds. Conduct research on the impact of racial, ethnic, and cultural differences in the experiences of illness, responses to treatment, and promotion of health.
- Expand our initiatives to provide students with experience in rural and ethnically diverse communities. Support research that focuses on the unique problems of underserved populations in rural and urban Minnesota. Develop and disseminate new models of health promotion and care.

6. Use information technology to transform how we educate, conduct research, and provide service to individuals and communities in Minnesota

- Integrate information technology into the education of our students to make possible learning "anywhere, anytime" and enable working health professionals to pursue lifelong learning in health and health sciences.
- Develop health information tools for working health professionals to make the latest scientific information readily accessible and useable.
- Develop a comprehensive database on the health and health work force of Minnesota to enhance health promotion and care, enable research, and facilitate public policy making.

7. Build a culture of service and accountability to Minnesota

- Build a community of academic health professionals through a common vision, shared values, mutual respect, recognition of our dependence on each other, and a commitment to service.

Funding for Health Professional Education and Research

As part of the new covenant, we must establish a new agreement on funding of health professional education and research. The covenant that has existed between society and its institutions of health education and research has served it well. As its product, we have the finest system of sophisticated education, research, health promotion and care in the world. But the grounds on which that covenant was based are crumbling and there is need for a new covenant. The rise of managed care and the decline in state and federal funding have created a serious, long-term, worsening financial crisis for health professional education in Minnesota and nationally. Clinical income earned by AHC faculty can no longer be the primary source of support for health professional education or contribute significantly to research infrastructure.

A new agreement between the state, federal, and health care sectors must be forged for funding of health professional education and research. Otherwise, we will not only see a failure to move ahead with a changing society and the remarkable advances in the health sciences, we will see a deterioration of our present system and an inability to meet our land-grant mission.

The Process

In October 1999, the Faculty Consultative Committee of the Academic Health Center, recognizing the need for a critical self-examination, mandated that such a review be undertaken. Shortly thereafter, Senior Vice President Frank Cerra in his annual State of the AHC address framed this review in the form of six defining questions. These were:

1. What is our role in the health of Minnesotans - our land grant mission?
2. What is our vision for the health professionals we educate and train?
3. How will we achieve a top rank in research performance?
4. How are we going to be a leader in health care delivery?
5. How do we exploit the technology of the electronic age?
6. How do we develop a culture of service and accountability, in both internal and external relations, with an environment of good communication and consultative decision making?

A faculty task force was formed to carry out this mandate and, during a five-month period, met to examine and debate these questions. The process was endorsed by the Board of Regents, and a regential subcommittee, chaired by Regent Maureen Reed, was set up to participate in the process. In the initial phase, faculty committees addressed the questions from an individual collegiate perspective. In the final phase, each of the above questions was discussed and analyzed by a multi-collegiate faculty committee. Their individual reports are appended and the report that follows is a summary.

WHAT IS OUR ROLE IN THE HEALTH OF MINNESOTANS – OUR LAND GRANT MISSION?

The answer to this question forms the foundation for the vision for the Academic Health Center, and sets the stage for all of the defining questions that follow in this report. It is succinctly defined in the following quote:

“...the practical needs of people can be best met by an academic institution when the applied and the specific are intimately connected to the fundamental and liberal studies in curricular programs and to the search for basic knowledge in research programs. Service or outreach roles should grow from an institution’s strength in teaching and research. Outreach should be viewed as a bridge between the institution and the community and must be as well connected on one end to the university’s core teaching and research activities as it is on the other to the needs of the community.” Land Grant Mission Revisited (Kenneth H. Keller, 1989)

There is a delicate balance between strictly honoring the land grant mission and the other academic responsibilities that have evolved over the past 150 years as a legitimate aspect of the role of the academy. This balance must be honored, but must also be continually adjusted to adapt to the needs of a rapidly changing society.

Stewardship

We are stewards of the state’s health. Our stewardship includes the promotion of health, the prevention of illness and disease, and its diagnosis and treatment. It encompasses both personal and communal health and the health of both humans and animals. The Academic Health Center has four roles:

1. Educate health professionals
2. Generate and disseminate new knowledge
3. Provide health care services in support of our education and research missions
4. Promote the health of the state.

Educate health professionals

The University of Minnesota is the primary educator of health professionals in the state. We are responsible for assuring that current and future health professionals have the necessary competencies, knowledge and skills to meet the changing health needs of our state and nation. We are also responsible for monitoring the workforce for shortages, surpluses and maldistribution of health practitioners and to take leadership regarding a comprehensive plan to assure that Minnesota has sufficient health professionals to meet its needs. The AHC works with undergraduate colleges, primary and secondary schools, and the community to interest and prepare students to enter our health professional schools. On the other hand, it is unrealistic for the University of Minnesota to educate all health professionals for the state. We must enter into partnerships with the community and other

educational and training institutions. Ultimately, however, we are the stewards of this responsibility.

An aging population, the prevalence of chronic diseases and an increasingly diverse and often underserved population have confronted the AHC with a new set of challenges in terms of how we educate our health professionals.

Generate and disseminate new knowledge

The quality and magnitude of research within the AHC is one of the distinguishing features that separate the University of Minnesota from other institutions of higher learning. Viable research programs within the AHC are crucial to the health of the citizens of Minnesota and to the health of our state economy. The AHC has a rich history of advancing health, professional practice, and care delivery through innovations in health strategy and policy, medical techniques and procedures, and product/service development. These efforts have often fostered a partnership with the private sector resulting in new businesses, employment opportunities, and significant contributions to the local and state economy. The University of Minnesota, without question, is one of the major contributing forces to the state's economy.

- The AHC needs to expedite the transition of the new knowledge created at the University into the actual promotion of health and delivery of health care.
- The AHC must insure that there is a fair balance in research, education, and service/practice responsibilities of the faculty such that all of these may comprise the faculty obligation.
- The AHC must encourage research to test new and different innovative multi-disciplinary team models of health promotion and care.
- The AHC can no longer be expected to subsidize professional and graduate education programs with funding from clinical practice and/or research programs as it has in the past; other avenues of support must be identified.
- The AHC must monitor and regularly assess the health status of Minnesotans and the nature and effectiveness of health care.
- The AHC must lead the way in applied and clinical research aimed at examining the role of racial, ethnic, and cultural factors in the promotion of health, experience of illness, and response to treatment.

Provide health care services to support our education and research missions

The provision of health care by the AHC is a vital component of our mission through which our faculty can educate health care professionals and conduct clinical and translational research. In this regard, the AHC provides health care solely to facilitate our land-grant mandate and to facilitate the financing of our educational and research missions. The AHC is uniquely equipped to provide certain kinds of primary, secondary, tertiary and quaternary health care. When clinical care is provided, it must be performed as efficiently and effectively as in the community.

Promote the health of the state:

- **Serving as an advocate on health policy:** The AHC is uniquely positioned to monitor the health status of Minnesotans and to evaluate how their health needs are being met. It can serve as an objective source of information for policy-makers and as an advocate on health policy.
- **Providing assistance and advice:** The AHC, with its extraordinary breadth of expertise, can provide valuable technical assistance and advice to communities and organizations across the state. Appropriate reimbursement for these services is necessary.
- **Reducing health disparities and addressing the needs of the state's diverse populations:** The AHC has a special responsibility for helping reduce health disparities in the state and ensuring the promotion of health and provision of care in rural Minnesota and in the state's diverse ethnic communities. We need to continue to support initiatives providing students with experience in rural and ethnically diverse communities, in developing new models of health promotion and care, and in conducting research that focuses on the unique problems of underserved populations in rural and urban Minnesota. We need also to increase the diversity of our faculty, student body, and administrative staff and to teach our students the skills to care for and promote the health of individuals from diverse ethnic, cultural, and racial backgrounds.

WHAT IS OUR VISION FOR THE HEALTH PROFESSIONALS WE EDUCATE AND TRAIN?

To guarantee all residents a future of high quality personal and community health, Minnesota needs a *new covenant* for health professional education. This new covenant must frame health professional education in Minnesota as an investment that will significantly shape the quality of life in this state. This new vision of health professional education includes the following elements:

Stabilize funding

The rise of managed care and the decline in state and federal funding have created a serious, long-term, worsening financial crisis for health professional education in Minnesota and the nation. Clinical income earned by AHC faculty and our dental students can no longer cover the cost of health professional education or common research infrastructure. A new agreement between the state, federal, and health care sectors must be forged for funding of health professional education. Without such a pact, health professional education in Minnesota will remain in peril.

Expand enrollments to address Minnesota's workforce shortages

Recent projections show worsening shortfalls for health professionals over the next decade in Minnesota and nationally. Serious shortfalls are developing for pharmacists, nurses, and dentists. There continues to be a shortfall of primary care physicians, particular in Greater Minnesota and for underserved urban populations. There is growing evidence of a shortage of certain medical specialists and sub-specialists. To meet these needs, AHC schools and colleges must increase enrollments to assure that Minnesotans will have continued access to health care and prevention.

Develop multidisciplinary health professional education

As the evidence-base for health and prevention grows more complex and interconnected, it not only drives promising new applications for the health of patients and communities, but also alters traditional disciplinary boundaries in the health sciences. Just as health and health care must be viewed as a multidisciplinary effort, the education of health professionals must be equally multidisciplinary.

We propose an orientation to health professional education at Minnesota that emphasizes skills and competencies across the health professions and the development of a truly team approach to personal and community health. While disciplinary rigor clearly must be maintained, cross-collegiate education must become an integral part of the education of our health professional students.

This will require us to:

- Develop and teach a team approach to personal and community health. We need to rethink a common core of basic, clinical, and population sciences for health professionals, and implement cross-cutting curricular initiatives across the health professions. Wherever possible, the teaching of basic science should take place across collegiate boundaries.
- Engage the community to help define the changing competencies, knowledge, and skills needed by health professionals.
- Continually rethink and revamp our curricula. With rapid change the norm, the next generation of health professionals must be flexible, adaptive, and have skills and competencies in the full range of health and prevention from basic to clinical to population science. Health promotion and disease prevention must play a more prominent role in the education of all health professionals. Of particular importance, health professionals must be taught the skills to care for and promote the health of individuals from diverse ethnic, cultural, and racial backgrounds.
- Continue moving our clinical and field education to truly community settings, where the majority of health professionals will spend their professional lives. We also propose the development of rural and urban community health laboratories to provide the settings for disciplinary as well as multidisciplinary team training of health care professionals and for development of new models of health promotion and care.
- Continue development of technology-enhanced learning to facilitate “anywhere, anytime” learning for our students.

Rethink continuing education and invest in lifelong learning

The rapid acceleration of scientific knowledge requires a new orientation toward learning that is fluid and adaptive. In addition to specialized areas of health knowledge, the orientation of lifelong learning opportunities should be toward a bench-bedside-community interdisciplinary nexus. The AHC can serve to coordinate and facilitate lifelong learning and continuing education efforts across the AHC, including investments in information technology that will permit learning for health practitioners to occur “anywhere, anytime.”

Actively recruit and train the next generation of academic health science faculty

The AHC must mount a major initiative to recruit and train the next generation of academic health scientists. The AHC must encourage and support collegiate efforts, such as the MD/PhD program in the Medical School, and coordinate intercollegiate programs such as the joint programs of Public Health and the Medical School. With a significant number of the faculty prepared to retire in the next several years and a shrinking national work force, we and other academic health centers will soon face a serious faculty shortage.

HOW WILL WE ACHIEVE A TOP RANK IN RESEARCH PERFORMANCE?

The AHC has a history of excellence in many disciplines including cardiovascular disease, cancer, immunology, neuroscience, and infectious disease. However, the AHC is losing ground to competing institutions in the research arena. The Medical School has undergone the most serious loss. While the success rate for sponsored research proposals over a five year period, from 1993-1998, has remained at a high and respectable level, the total number of proposals submitted has declined by 11%. During this period there has been an 18% loss of tenured and tenure track faculty. Thus, there has been a substantial decrease in total research dollars brought into the AHC. In addition, we have not been able to take advantage of the substantial increases in NIH research funding.

Several factors contribute to this loss of standing. Teaching, patient care, and administrative activities are competing with research efforts for the already over-committed time of our faculty members. The AHC faculty is not growing as fast as the faculties of competing institutions, and may be losing its ability to retain top researchers. Faculty attrition is a concern to many departments in both maintaining research excellence and in attracting new talent.

Poor communication between the colleges of the AHC and administrative barriers limit interdisciplinary efforts. The current reward system lacks adequate incentives for research productivity and must focus more on quality. In addition to the loss of standing, the decrease in research dollars for the support of clinical and translational research increases the constantly widening gap between the advances in basic biomedical science and the actual delivery of health care. High quality biomedical research must increase.

While the main focus of concern has been the Medical School, the proposed solutions are equally applicable and valuable for all of the colleges of the AHC:

- **Insure the research time of the AHC's existing high quality health-scientists.** In particular, the AHC must create a funding mechanism that will relieve clinician scientists of their dependence on clinical revenue.
- **Hire additional faculty, in particular research-oriented clinicians.** To be competitive, the AHC will need to supplement startup funds for highly selected new hires.
- **Establish a small administrative unit to facilitate research,** including promoting intercollegiate communication, interdisciplinary research projects, and funding opportunities and assisting with the preparation of grant applications and navigation of the regulatory maze. The current grant program designed to encourage intercollegiate research efforts should be continued.

HOW ARE WE GOING TO BE A LEADER IN HEALTH CARE DELIVERY?

The provision of health care is central to the Academic Health Center's mission. It is the basis for much of our research and education and currently provides a critical portion of our funding, in particular for the Medical School, School of Dentistry, and College of Veterinary Medicine. Changes in the health care marketplace, with intense competition for patients, profound cost pressures, and greatly reduced reimbursements are threatening the viability of our clinical practice and the education and research supported by it.

Build strong, integrated, multi-specialty practices supported by cutting-edge bench-to-bedside research

We need to be leaders in understanding causality and prevention, in developing new therapies as well as new prevention and health promotion strategies, in providing care and documenting clinical effectiveness, in conducting outcomes research, and in providing care to racially, ethnically, and culturally diverse populations. Our practice should complement and collaborate with the excellent health promotion and clinical care provided in the community.

Develop and incubate novel interdisciplinary models of health promotion and care, particularly models focused on chronic disease

One of the unique opportunities we have, as a comprehensive academic health center, is to develop model programs focused on new interdisciplinary approaches to the prevention, care and management of chronic disease. Chronic diseases account for nearly three-fourths of the health care costs in the United States today. Due, in part, to the aging of the population, the prevalence of chronic disease is increasing dramatically in Minnesota and nationally. Chronic disease prevention, care and management require the development of new delivery models.

As one of the nation's most comprehensive academic health centers, we can draw upon our strengths in chronic disease to develop models of interdisciplinary prevention, management and care that maximize the contributions of all disciplines, improve the quality of life for patients, extend the continuum of care, and reduce cost. The models would initially focus on one or two chronic diseases. Once developed and tested, the models could be shared with other health providers in Minnesota and nationally.

Invest in our clinical practices

Our clinical practices require significant reinvestments from clinical revenues to improve business practices, facilities, and patient support and to provide for strategic program development. We need to own and manage our own clinics in facilities that are efficient and convenient to our patients and faculty. We need a core of outstanding clinical faculty and strong partnerships with providers throughout the state to sustain our clinical practices.

- **Invest in additional high quality research space and equipment.** The AHC is currently over 200,000 square feet short of research space. In addition, many of our research facilities are outdated and in need of major renovation or replacement. Major investments in high-quality research space and core equipment are needed to remain competitive for external research funds, to retain our most productive faculty, and to facilitate the recruitment of top candidates.
- **Assure that disciplinary excellence is the sine qua non for hiring, promotion, retention, and allocation of resources.** The AHC must advocate the use of high quality metrics for such collegiate decisions.
- **Assure that appropriate resources are available to support evolving areas of research interest.** Working together, faculty and administration must to be sure that critical resources are available as areas of faculty research interests evolve -- that we have the necessary faculty, staff, facilities, equipment, and technology to support these evolving areas.

Improve service to our patients and referring practitioners

We, and our Fairview partner, must renew our commitment to developing a culture of service to patients and referring practitioners and to investing in the infrastructure that it requires: from improved parking and clinical facilities to better patient scheduling, enhanced patient services, better communication, staff training, and other critical service elements expected by our patients.

Enhance and sustain Fairview-University Medical Center as a world-class, flagship center

Education and research at a world-class hospital and health system is a way of thinking and a way of doing and must be integrated into both its long-term vision and daily life. Clinical education and research require flexible and dedicated resources, including facilities, ancillary services, an effective clinical/academic interface, and financial support.

A world-class academic health center and its clinical practice are distinguished by the ability to deliver the latest health care technology in a cost-effective, patient friendly, quality-driven manner; vibrant educational programs; and a national and international reputation of the institution and its practitioners. A world-class, flagship hospital and health system must understand the education and research process and be able to link education and research with health care as a differentiating feature of the system that provides additional value to the patient.

Expand and strengthen our affiliations with all of the state's health providers

To build and sustain world-class academic health programs in medicine, dentistry, nursing, pharmacy, public health, veterinary medicine, and allied health sciences, requires strong affiliations with health providers across the state. We need to expand and strengthen these affiliations in order for us to have sufficient, high-quality sites for the education and training of our students and for the conduct of research.

HOW DO WE EXPLOIT THE TECHNOLOGY OF THE ELECTRONIC AGE?

The emergence of new information technologies provides an unprecedented means for rethinking and fundamentally transforming how we educate, conduct research, and provide service to individuals and communities.

These new technologies will make possible learning “anywhere, anytime” and will enable health professionals and the public to pursue lifelong learning in health and health sciences. They will make available to health professionals the evidence base for health wherever and whenever it is needed. They will facilitate research and open new fields of discovery. They will provide new means for promoting health and for diagnosing, preventing, treating, and monitoring illnesses and disease. They will enable us to better assess the health status of Minnesota and its communities and to empower communities and individuals to improve their health.

Shift the focus of the University’s technology investments from administrative systems to our education, research, and service programs

To have any meaningful impact, there must be significant investments in infrastructure, applications, and the hiring of professionals to develop, administer and run the technology. The technology has to be done well and first versions should be high quality. Applications, whenever possible, need to be AHC-wide to leverage their benefits and cost. We also need to invest in faculty development and student training to develop their expertise and skills in informatics and to maximize use of the new technologies.

Establish an AHC Digital Development Institute

The institute will facilitate the maximal use of existing digital tools and to facilitate the introduction and/or the development of new tools for the advancement of teaching, research and service within the AHC. It must be furnished with the structure, resources and mandate to accomplish its goals that should include making us a top-ranked research institution, providing models of healthcare delivery, and assistance in educating the future health care professionals of this state. We support a “hub and spokes” model for the institute, with the “hub” being centrally placed, with central support resources including personnel and specialized equipment, and the “spokes” reaching into and calling upon the expertise in the constituent colleges and units of the AHC.

We also need to create a central steering group to lead and coordinate the AHC-wide aspects of present technology development and usage. The AHC, through the central steering group, should pursue an IAIMS (Integrated Advanced Information Management System) initiative to be funded by the National Library of Medicine for both planning and implementation of AHC-wide initiatives.

Rethink the role and function of the Biomedical Library

The library is the traditional custodian of archived knowledge and access to it. By extension, in the digital age, the Bio-Medical library could serve as the portal of entry to the information resources of the AHC. The Bio-Medical library could teach informational competency necessary to underwrite student life-long learning and faculty development. And finally the Bio-Medical library, in cooperation with the AHC, could serve as a test-bed and demonstration site for the latest digital and multimedia hardware and software.

Make strategic investments in information technology to facilitate research collaboration and improve our competitiveness in health sciences research

We need to move aggressively in implementing "Internet 2" and its concomitant technologies. We need to develop and implement new technology to redress the current patchy approach to data collecting and to create and manage the large databases required for large-scale epidemiological studies, clinical trials and other research such as genomics. We need to develop new research tools, such as visualization, anatomical mapping, simulation, and model building. We also need to invest in technology to support true data conferencing and better communication between researchers here and at institutions worldwide. This, in turn, will help facilitate the development of incubators around research themes and encourage the advent of the virtual lab.

Develop a comprehensive database on the health and health workforce of Minnesota

Technology can help us take the "pulse" of the health of Minnesotans by gathering, archiving and continuously updating the main parameters of health, in a comprehensive, searchable database. The AHC should work with private and government sector partners such as the Minnesota Department of Health to create such a database that can be used for assessments of the health of Minnesotans, for health promotion and care, for research, and public policy making.

Develop health information tools for working health professionals

We recommend an AHC-wide interdisciplinary initiative to develop information tools for working health professionals that support the bench-to-bedside-to-community nexus of health care and prevention. A continuing problem nation-wide is how the wealth of scientific information can be made accessible and usable to the health professional – or to individuals and communities – when and where it is needed. We recommend establishing an interdisciplinary laboratory, modeled after the MIT Media Lab, that would unite faculty from across the AHC with information scientists and technical staff in developing interdisciplinary information resources to realize the potential of new information technology applied to health. These tools, developed and tested in Minnesota, could become national models.

HOW DO WE DEVELOP A CULTURE OF SERVICE AND ACCOUNTABILITY?

A renewed sense of collegiality, trust, shared values, shared obligations and mutual responsibility, respect, and service begins with development of a common strategic vision and plan by the faculty, administration, and Regents. It requires building a strong sense of community within departments and schools and across the Academic Health Center and the University. It requires that individuals feel supported in their education, research, and service work. It requires that they feel heard, that their input is sought and considered. It requires that performance is objectively assessed and that workloads are fairly assigned and resources fairly allocated. We must:

- **Analyze the resources required for colleges' core teaching, research, and service missions;** allocate sufficient funds to support the core missions; assess the impact of new initiatives on the core missions; clearly delineate performance expectations for core programs, new initiatives, and administrative service units; regularly assess their performance.
- **Develop common policies, procedures, and metrics for evaluating and recognizing performance and for setting salaries;** assure that evaluations are routinely and fairly conducted.
- **Continue the development of our academic administrators;** establish clear performance expectations of academic administrators; routinely evaluate their performance.
- **Better align authority and responsibility;** develop a greater sense of civic responsibility; develop stronger links between individual performance and action and community goals.
- **Continue to strengthen faculty governance** in colleges and departments; encourage greater involvement by AHC faculty in University-wide governance

While objective measures and well-defined administrative procedures are essential in building a community, "real community" comes from developing a common vision, shared values, mutual respect, a recognition of our dependence on each other, and a common commitment to service – to our colleagues, our students, our patients, and the public. It comes from our commitment to fulfilling our land-grant mission as stewards of Minnesota's health.

APPENDICES

The Phase II intercollegiate reports can be found on the web at:
www.ahc.umn.edu/strategicplan.html

The reports include:

1. What is our role in the health of Minnesotans - our land grant mission?
2. What is our vision for the health professionals we educate and train?
3. How will we achieve a top rank in research performance?
4. How are we going to be a leader in health care delivery?
5. How do we exploit the technology of the electronic age?
6. How do we develop a culture of service and accountability?

The Phase I collegiate reports can be found on the web at:
www.ahc.umn.edu/strategicplan.html

School of Dentistry
Medical School – Basic Sciences
Medical School – Clinical Sciences
School of Medicine, Duluth
School of Nursing
College of Pharmacy
School of Public Health
College of Veterinary Medicine