Leading Change for Breakthroughs in Health

A Report from the University of Minnesota Academic Health Center

AcademicHealthCenter
University of Minnesota
Leading change for breakthroughs—that’s what we do at the Academic Health Center. In our six schools and colleges, we strive for breakthroughs in education, in discovering treatments, in promoting community health, in contributing to the economy of this state.

LEADING CHANGE TAKES ONE TO THE EDGE, AND THAT’S NOT ALWAYS A COMFORTABLE PLACE. Leading change means making difficult decisions. Leading the way for breakthroughs requires us to choose one approach over another, to invest in our areas of strength, and to seek avenues most likely to deliver on our promise to the people of Minnesota. That promise continues to be: to prepare the new health professionals who improve the health of communities, discover and deliver new treatments and cures, and strengthen Minnesota’s health-care economy.

THE STATE’S SUPPORT OF THE UNIVERSITY HAS DROPPED. This promise is based on a solid covenant with Minnesotans themselves. That covenant, however, requires adequate financial support from Minnesota. Thirty years ago—in 1971—Minnesotans invested 8 cents of every tax dollar in the University of Minnesota. Today, the University’s share of every tax dollar is less than 4 cents. Our parents invested twice as much of each tax dollar on our future as we are investing in our children’s by supporting the University.

PROGRAMS ARE UNDER SCRUTINY ACROSS THE AHC AND THE UNIVERSITY. Cuts in state support for the University, including the recent 11 percent cut, have provoked change, too. We are in the midst of a University-wide re-examination of our core missions. In the AHC schools and colleges, the Medical School is among the first to make public the impact of such re-examination, with reviews of allied health programs such as occupational therapy.

We are leaders and will continue to innovate to assure Minnesota is served by dentists, pharmacists, physicians, advanced practice and research nurses, public health practitioners, and veterinarians.

We also will collaborate with health-care leaders and our partners in health education to assure that Minnesota’s other health needs are addressed. Given fiscal realities, however, we cannot do it all and we cannot do it alone.

In recent years, partners in education and care, in the private sector, and in state government have joined us to invest in new faculty and facilities that have expanded the reach and strength of our health professional programs. With this investment, we can continue to lead change.

TO CONTINUE TO LEAD CHANGE IN HEALTH, WE NEED THE STATE’S HELP. With the help of our partners and the support of the state, we can continue to be pioneers leading change in health professions education, research, and outreach and care. I believe this is what you expect of us.

Sincerely,

Frank B. Cerra, M.D.
Senior Vice President for Health Sciences
IN THE LABORATORIES OF THE ACADEMIC HEALTH CENTER, researchers discover new knowledge and make breakthroughs that will improve the health of Minnesota families and communities in the future.

MANY RECOGNIZE THE VALUE OF THIS RESEARCH. Some help underwrite it. With $10 million from the William W. and Nadine M. McGuire Foundation, a significant contribution from the College of Pharmacy, and funding provided by the state of Minnesota, University scientists gained much-needed new research space: The Translational Research Facility. The TRF, pictured here, opens in summer 2005. The building is designed to promote collaboration. Within its walls, researchers will translate advances in basic science (why does this cell not work?) into medical cures and treatments (what drug or device would improve it?). The building represents future benefits for our state.

THE FUTURE OF THE STATE ALSO RELIES ON INVESTMENTS IN EDUCATION. At the AHC, we educate Minnesota’s next generation of dentists, nurses, physicians, pharmacists, public health practitioners, and veterinarians. Some 70 percent of Minnesota’s health professionals are AHC alumni. Too often, however, we teach these future health leaders in outdated environments. Most AHC classrooms are 25 years old and never improved. Some are downright dismal, as the photo to the right shows.

WE CANNOT EDUCATE TOMORROW’S HEALTH PROFESSIONALS IN YESTERDAY’S CLASSROOMS. We must prepare them well for the challenges of the century ahead.

RENOVATING TEACHING FACILITIES AT THE ACADEMIC HEALTH CENTER is one part of the University’s bonding request to the Legislature. The University will contribute $5.8 million; the state’s portion will be $11.6 million. The funding will renovate existing, inadequate teaching facilities throughout the AHC, including Mayo Auditorium, the Pomeroy Student and Alumni Center (in the old Dairy Barn), and classrooms and instructional labs.

Too often we teach future health professionals in outdated environments.
Health care is increasingly competitive. In order to ensure the best care, education, and research for Minnesota families and University students, the Academic Health Center needs to recruit and retain the best people. In 2005, the AHC will seek a new head for The Cancer Center and a new, visionary leader for clinical research.

The following are just a few of our world-renowned experts who teach students, make discoveries, and lead change.

**JOHN R. SCHREIBER, M.D.**
Head of the Department of Pediatrics and Ruben-Bentson Chair in Pediatrics

- Most recently professor and chief of the Division of Infectious Diseases and Allergy/Immunology/Rheumatology at Rainbow Babies & Children’s Hospital and Case Western Reserve University School of Medicine in Cleveland
- As Schreiber assumes leadership of the largest clinical pediatric practice in the region, his vision is to achieve role-model status for the department’s education, research, and patient programs

**KENNETH KOENEMAN, M.D.**
Urological Surgical Oncologist and Director, Center for Prostate Cancer

- Nationally recognized expert in prostate cancer treatment, with experience in minimally invasive surgical techniques and research in molecular therapies
- Is leading the way to develop innovative, effective treatments for patients with prostate cancer

**DORIS TAYLOR, PH.D.**
Professor in Physiology, who holds Medtronic Bakken Chair in Cardiovascular Repair

- Is seeking a way to heal heart muscles with cells from other muscles in the body
- Recognized leader in the field of cell and gene therapies, including adult stem cell therapies, for the treatment of cardiovascular disease

**CATHERINE VERFAILLIE, M.D.**
Professor of Medicine and Director of the Stem Cell Institute

- Over the last five years, her laboratory has identified stem cells in the bone marrow of humans, mice, and rats that have much greater potential than previously detected to develop into different types of cells
- Named by *U.S. World and News Report* as one of the 10 innovators of 2001

**LOUIS MANSKY, PH.D.**
Joint appointment in Microbiology (Medical School) and Oral Science (School of Dentistry)

- Investigating the virus that causes AIDS, as well as emerging viruses
- Studying drug resistance in HIV/AIDS
The Academic Health Center leads innovation in health-professional education. For Minnesota, your communities, and your families, we prepare new health-care professionals who base care on evidence, increase safety for patients, and improve health-care systems.

**INNOVATION IN EDUCATION**
- Innovation means taking advantage of the latest technology, whether linking teaching sites, training students using simulated patients, or recording clinical experiences and exams so that students can review their work.
- Innovation includes learning in interprofessional teams, taking advantage of small group settings, and gaining the skills to become life-long learners.
- Innovation calls for collaboration across the country, by working with national associations such as the Institute for Healthcare Improvement.

**IMPROVING HEALTH CARE**
Recently winning one of 12 grants given nationally to improve health professional education were the Academic Health Center and its partners at Fairview-University Medical Center. Together, we are taking part in Achieving Competence Today, a project to bring together students in the health professions with senior management in hospitals to improve care. Along with several top-level staff from Fairview, the ACT grant involves the AHC’s assistant vice president for education, and students and faculty from the School of Nursing, the College of Pharmacy, the health-care administration program, and the Medical School.

**AHC ACCOMPLISHMENTS INCLUDE**
- Addressing rural health workforce issues through Minnesota Area Health Education Centers, now established in northeast and southwest Minnesota.
- Expanding the College of Pharmacy to the Duluth campus, with an orientation to educating pharmacists for Greater Minnesota.
- Dental students learning about rural care through rotations in a Hibbing clinic.
- More than 30 years’ experience with the Rural Physician Associate Program, which educates medical students in small towns across Minnesota.
- A 16-month nursing certificate program for those who already have a baccalaureate degree.
- CLARION, a student-launched case-study competition that aims to improve care through interprofessional teamwork.
- Continuing education for public health officials, from one-day courses to three-week programs, offered through the School of Public Health’s institute.
- Joint-degree programs, such as M.D./Ph.D., M.D./M.P.H., and D.V.M./M.P.H.
TOMORROW’S NEW TREATMENTS ARE BORN FROM TODAY’S RESEARCH BREAKTHROUGHS.
At the University of Minnesota, researchers are collaborating across disciplines and institutions to improve the health of Minnesotans. Discoveries in basic science, which examine life processes at the level of cells and molecules, lead to translational research, where laboratory findings are applied to treat diseases, and if successful to clinical trials, which test treatments’ efficacy and safety. This multi-step research process leads to new treatments and better care.

Examples of our initiatives include:

**MEDICAL SCHOOL** researchers
◆ led a groundbreaking study that showed the drug BiDil could significantly increase survival rates and improve quality of life in African-American patients with heart failure.
◆ developed advances using umbilical cord blood to treat certain diseases in adults.

**SCHOOL OF PUBLIC HEALTH** researchers
◆ target a wide variety of public health issues, including obesity, health care disparities, environmental safety, and tobacco use.
◆ collaborated to receive a $15 million federal homeland security grant as part of the National Center for Food Protection and Defense, to develop ways to protect the nation’s food supply from contamination or terrorist attack.

**COLLEGE OF PHARMACY** researchers
◆ were awarded NIH grants to study how genetic differences affect individuals’ reactions to drugs.
◆ study issues of the elderly, such as epilepsy, the cost of drugs, and access to drugs.

**SCHOOL OF NURSING** researchers
◆ lead projects to foster healthy behavior among young people, involving schools, community organizations, and parents.
◆ help elders remain as independent as possible in the community, which helps minimize the costly use of health care and long-term care institutions.

**SCHOOL OF DENTISTRY** researchers
◆ are investigating the role of dental care during pregnancy to improve birth outcomes and uncovering the pathogens responsible for periodontal disease.

**COLLEGE OF VETERINARY MEDICINE** researchers
◆ who study Johne’s disease in cattle and porcine reproductive and respiratory syndrome in swine received the two largest grants ever to be awarded for animal disease research from the United States Department of Agriculture, Cooperative State Research, Education and Extension Service.

**THE CANCER CENTER** researchers
◆ developed a new, noninvasive method using magnetic resonance spectroscopy and imaging for earlier detection and analysis of breast cancer.
◆ investigating tobacco have made important discoveries about the presence of, and effects of, secondhand smoke in nonsmokers.

**UNIVERSITY OF MINNESOTA** researchers
◆ also collaborate with the Mayo Clinic in the Minnesota Partnership for Biotechnology and Medical Genomics. The partnership seeks to position Minnesota as a world leader in biotechnology and medical genomics applications that will result in important new medical discoveries.
How does the Academic Health Center get its revenue?

For every dollar of state funding, the AHC leverages $7 in other funding.

<table>
<thead>
<tr>
<th>Source of Revenue</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Targeted state support for specific programs</td>
<td>$29.2</td>
</tr>
<tr>
<td>(State special)</td>
<td></td>
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<tr>
<td>Indirect cost recovery</td>
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<tr>
<td>(Funds from grantmakers to cover facilities and administration costs)</td>
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<tr>
<td>Philanthropy</td>
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<tr>
<td>Tuition</td>
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<td>State support for general use</td>
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<tr>
<td>(General O &amp; M)</td>
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<tr>
<td>Sponsored projects and research</td>
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<tr>
<td>(Mostly federal grants)</td>
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<tr>
<td>Funds that pass through the AHC to sites that teach students (MERC/PMAP)</td>
<td>$22.7</td>
</tr>
<tr>
<td>Other</td>
<td>$23.0</td>
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<tr>
<td>University of Minnesota Physicians</td>
<td>$166.0</td>
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<tr>
<td>Generated Income (Income from affiliated programs and clinical activities; includes University of Minnesota Physicians* transfers)</td>
<td>$146.1</td>
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</tbody>
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FY 2004, in millions
Total $879 million

The state’s investment in the University’s Academic Health Center leverages both private and federal funds. *University of Minnesota Physicians, an affiliated nonprofit organization, transferred $16.6 million to the Medical School to support research and education.
Leading Change in Care

At the University of Minnesota, future health-care professionals are trained in classrooms, in laboratories, and most importantly, in our clinics and teaching hospitals where patients receive care.

Medical School faculty members belong to University of Minnesota Physicians, through which they practice evidence-based, breakthrough medicine. Known as pioneers in bone-marrow transplant and heart disease treatments, our physician-scientists continue to lead the field in cord blood transplants, minimally invasive surgery, using imaging in neurosurgery, and more.

School of Dentistry clinics treat thousands of patients each year, both on the Twin Cities campus and through community outreach programs serving those in rural communities who have no other access to dental care. Special clinics provide interdisciplinary training and care for people with cleft palate and craniofacial anomalies. In addition, the school’s head and facial pain clinic evaluates and treats patients with complicated pain.

Clinical Trials Also Help Us Advance Care
Here at the University of Minnesota, volunteer patients help clinical researchers to better understand diseases and so improve treatments through more than 2,000 ongoing health-related clinical trials. Heart disease, cancer, diabetes, obesity, cystic fibrosis, inherited diseases, oral diseases, and a host of other maladies that affect you, your family, and your community undergo study at the University’s Academic Health Center.

AN EXCITING FUTURE: THE CLINICAL CAMPUS PLAN
The University of Minnesota, Fairview, and University of Minnesota Physicians recently completed a planning report to revitalize our clinical campus. The report recommends building and renovating our facilities at the University in order to stay competitive, to better prepare future health care professionals, and to continue delivering breakthrough therapies.