

January 2008
State of the Academic Health Center
Fulfilling the Vision: Breaking New Ground
Imagination Fuels Innovation

Welcome to the annual State of the Academic Health Center.

I've been thinking a lot lately about imagination – about that fuel that is critical to the success of an academic health center like ours.

Every day here remains compelling and interesting because of the imagination I experience in the people and issues walking into my office. So I wonder - what is it that sparks the minds of men and women here to say “why not?” Why are we so truly driven to discover a better way to improve health, to enhance health, or to recapture health for the patients we serve? And is it my imagination, or have I truly begun to witness the impact of a profound cultural shift here in the University's Academic Health Center?

So while we pause to reflect today, I'd ask that you sit back in your seats, and think about imagination, too. And while you're thinking, I will share with you some of the remarkable accomplishments of the year past, and provide an overview of the future we face together.

Let me start by saying – Congratulations - to all of you. Each of you should feel a profound sense of accomplishment for having survived and thrived this year. It has been a difficult year in many respects. The competition is tough for research dollars. We are beginning to deliver new models of education that require extra work from all of us. And we are beginning to feel the impact of a larger population of aging Minnesotans that are demanding greater access to our graduates in all disciplines. In many respects, this year was characterized aptly by the tragic bridge collapse – it was a shock to the collective system of our community that continues to be felt.

Yet as I stand here and look at you, I feel a great wave of confidence for the competence here. I see the faculty who are transforming the education of our students to match the expectations of their professions. I see the scientists and researchers who are competing successfully for scarce federal research money. I see the talented staff members who are renovating buildings, who are transforming financial systems, who are raising much needed funds, who are securing our computer systems, and who are telling our stories. Congratulations to all of you.

(Change slide - AHC Archives home page)

As you may know, I'm investing the funds from my McKnight Presidential Leadership Chair into the AHC History Project. We've hired an archivist, Erik Moore, and he'll soon be joined by a new faculty member. This work provides an excellent context for much of the work taking place today.

For example, 120 years ago - in 1888 - the University established its first health professional school – the College of Medicine. As noted in James Gray’s remarkable history of the University, admissions standards were a bit different – Just a high school diploma and you were admitted automatically. Or, if a student could accomplish the list on the PowerPoint then they were in - “write an acceptable English composition of two hundred words, translate a prose passage from Latin, French, German, or one of the Scandinavian languages, pass an examination in elementary algebra, plane geometry, or botany, and another examination in elementary physics”.

However, our relationship with the legislature was there from the beginning, as President Northrop said then –

“If the **generosity of the state** shall prove to be such as to enable the regents to locate a Medical Department on the campus and **equip an institution as it ought to be equipped**, there is no reason why the institution should not become a most important part of the University and one of the most desirable institutions in the country’.

One hundred and ten years later – or a little less than 10 years ago, we re-examined our health sciences mission for the future – to ensure we were serving our role as the state’s land grant university. The result – involving public input, a Regents’ subcommittee, and significant work of the faculty - was a strong focused statement of our mission – to “educate the next generation of health professionals who can improve the health of our communities, who will discover and deliver new treatments and cures, and enhance the economic vitality of our health industries”.

Also contained within that June, 2000 document is a very powerful concept. Here’s what it says:

“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.”

In its original definition, a steward is someone who takes responsibility for someone else’s belongings - and it involves “the careful and responsible management of something entrusted to one’s care.”

This appears to be what our Minnesota public sees as our role. We see it in those 2000 Strategic Vision documents and – it is reflected in a different manner through the annual University opinion poll.

Every year, our colleagues in University Relations conduct an opinion poll that gauges how we’re doing as an institution. One of the regular questions involves the Medical School – The Medical School is a proxy for all the health sciences. We ask, “Is it important that the University have a world-class medical school”, and then we ask “How are we doing at ensuring the medical school at the University is world class?” And of all the things Minnesotans see as important tasks for the University, and that we are performing well, ensuring there’s a world class medical school for Minnesota ranks at the top of the list.

So how did the state come to see the University's Academic Health Center as the steward of the state's health?

I believe it has to do with all of you – fundamentally, you do what you say you're going to do, and then we regularly demonstrate that we're performing as promised.

Of course, there's both an upside – and downside – to the strong expectations that come with being the steward of the state's health. Our faculty have earned significant respect for their work – but when anything goes wrong in health or health care in the state – then, the public sometimes see it as our fault – or our responsibility.

So what's wrong with this picture? We educate two thirds of all the health professionals for Minnesota –yet, our progressive state in the upper Midwest continues to have too many counties and areas designated as medically underserved areas. And this is not just an issue for Greater Minnesota. Here are the shortages for primary care throughout the state

Again, don't think this is merely an issue for Greater Minnesota. Here are the shortages in the Minneapolis/St. Paul metropolitan area.

What are we doing to address these health professional shortages? One answer is contained in this 2008 Update of the University's role in educating Minnesota's health professions workforce. The workforce report, as we call it, takes a look at the impact of the creative programs we've designed to encourage the professionals we educate to serve the regions that need them most. It also shows the impact of the state's tobacco dollar investments since the year 2000.

Here is a summary of those class size changes: (slide)

Our largest entering class size today is in the School of Public Health – 357 students, a 93 percent increase in the past seven years. The School of Nursing adds 325 students each year in its degree programs, up nearly 37 percent, while the Medical School's entering class has grown 10 percent to 241. Dentistry has also increased 10 percent to 95 students, the College of Veterinary Medicine has increased 18 percent to 90 students per entering class, and Pharmacy shows a 56 percent increase with its expansion to Duluth and a class totaling 162 students.

All told - for the core programs of the University's Health Sciences schools – we've experienced a 39 percent increase in class size in the last seven years due in part to the state's investment, but mostly to a lot of hard work by you, our faculty. And these numbers don't include the growth in our programs in clinical lab sciences, occupational therapy, dental hygiene, physical therapy, and mortuary science.

A quick side note - This year, our mortuary science program marks its Centennial. This program – ably led by Michael LuBrant, and housed in the Medical School, produces 86 percent of all the morticians or funeral directors in Minnesota. So chances are, we'll all be touched by this program in the end.

I'd like to shift for a moment to focus on primary care and family medicine. We saw the maps and remember the large blocks of color showing where shortages exist. The concerns in Minnesota are not unique to this state – national trends show a decline in graduates deciding to practice in primary care. And then there are the factors influencing where our graduates choose to practice.

We know that if we recruit from Minnesota, educate in Minnesota, and provide residency opportunities in Minnesota, our state has a better chance of retaining these graduates in Minnesota. Cost of the degree program – and the amount of debt incurred - determines where a student chooses to practice – and what specialty a student chooses. Closely related are other economic considerations – for some, it's more economical to live and practice in a rural area. For others, they're concerned about the income opportunities in small towns. And then there are the lifestyle aspirations – the desire for family time, for leisure time, or a reduction of hours worked. We can't forget the spouse - where can a husband or wife find work? And finally, there are geographic aspirations – some choose to live on Lake Superior –some choose the prairie – some choose to leave the state, because they've always wanted to live in Florida. Those are the types of things that affect graduating physicians – and more so in Generations X, Y – and is it now Z?

Speaking of our next generation students, this slide comes from a faculty member with his finger on the pulse of how students want to experience education, or learn, today.

Core Expectation – We Educate the Next Generation

Yes – the transformation of health professional education is underway in all of our schools. We know we're educating the next generation – and we understand better than before exactly what that means. Our students today expect to acquire knowledge in ways many of us could never imagine. I went to school expecting to sit in large halls, listen to lectures, and take notes that I would study and then demonstrate what I had learned on tests.

This is not true today. Students seek experiential education, hands-on knowledge acquisition, opportunities to work with students in other health disciplines – a great strength here - and a learning environment where faculty are part of the team as more of a guide in the educational journey. And students want access to coursework on-line and any time.

Both the health care community, and health industries that employ our graduates, have expectations of our educational programs. They want professionals who are truly prepared for practice today, in a variety of settings and who approach change with great skill and flexibility. Ironically, change is the one constant in health care that requires significant skill in innovation – and yes, here's imagination again. With health care delivery systems that are flawed and probably broken, part of our job is to educate the health care leaders of tomorrow who can imagine a better way to steward the state's health.

And that is what the public expects – well-educated, prepared health leaders experienced in working in interdisciplinary teams, who imagine a better model of health care delivery, and who have the operational skills to develop that system.

What are we doing to meet those educational expectations from our students and our public?

We've invested in the core tools that are transforming education including simulation, and other learning technologies. For example – you should experience the new School of Dentistry Simulation Clinic. As Dean Patrick Lloyd puts it, this simulation clinic provides dental education designed for students raised in the digital era. It represents the results of a full fledged partnership with funding through 3M, through alumni and faculty, and with reallocated University dollars.

The results of that partnership are featured in the University's excellent Driven to Discover campaign. Here's our Dean of Dentistry in action:

(play ad)

Simulation technology is expanding in our other disciplines, with much of the planned investment involving the Interprofessional Education and Resource Center, led by Jane Miller. She is joined in her work by talented faculty like Rob Sweet with the knowledge and skills to – again – imagine the use of gaming technology, and virtual reality as a critical tool for educating our future nurses, pharmacists, physicians, and others.

For students seeking 24 – 7 – 365 access to courses, we have a number of examples of transformed curriculum throughout the schools of the Academic Health Center. An outstanding example resides in the School of Public Health – the Center for Public Health Education and Outreach, led by Debra Olson, the associate dean for public health practice education. These online courses serve as a critical resource for thousands of public health professionals throughout Minnesota, the region, and the world. These courses offer certification in whole new areas, like planning for pandemics and training for emergency response. These are truly innovative.

And we're investing in the development of an on-line learning platform to support statewide learning through our Center for Allied Health Programs. The Center has a strong presence on the Rochester campus, and an affiliation with Winona State University. The goal is to expand programs in clinical laboratory sciences and occupational therapy to meet growing needs for those professionals before adding additional degree options, and performance sites to the Center.

These transformations are taking place within a new learning environment in higher education – as I said before, it is less about lecture, and more about learners - a significant shift in our mental models. Another element of that shift is the continued drive to interdisciplinary or interprofessional curriculum. Much of this shift has been “academically organic”, meaning it is the result of faculty creativity following the lead of student interest.

In addition, the new Center for Interprofessional Education, led by Gwen Halaas, is working to coordinate and develop interprofessional courses in priority areas such as leadership and teambuilding, health informatics, and health promotion.

Another significant shift in the health sciences mental model has been unfolding for the past decade or so. It involves the partnerships we have developed with the community clinical sites that serve our students. Every year, I sign nearly 2,000 affiliation agreements that involve every corner of Minnesota. In each of those clinics, hospitals, and offices, our students learn side by side with community pharmacists, nurses, physicians, veterinarians, dentists, and others. We rely on those community partners to ensure our graduates are prepared for practice.

One of those clinical education sites that is gaining attention is close to home – it is the University of Minnesota Physicians’ clinic known as Smiley’s. You should see the new clinic space just off Hiawatha Avenue and 28th Street. Their family medicine residency program is pioneering the new “medical home” model that moves care well beyond medical needs into other areas of a patient’s life affecting health – truly an integrated, interprofessional model of care delivery based in family medicine that owes much to residency director Jen Welsh.

Core expectation: Discovery leads to Better Health

Another of the core expectations of our Academic Health Center involves research and discovery. Fundamentally the public expects the University of Minnesota to be “Driven to Discover” – just as the ads say – but here, they expect those discoveries to lead to better health.

Our students arrive here anticipating remarkable opportunities to work alongside renowned researchers of all types. Our faculty tell us they see the University as distinguished by its opportunities to work in interdisciplinary teams, across boundaries in pursuit of new knowledge. And the public? For the most part, the public cares little about disciplines or crossing disciplines – they’re simply interested in the results. They are proud of the discoveries of the past – the pacemaker, Blood and Marrow Transplantation, the impact of the Mediterranean Diet. And today, they are eager to hear of new discoveries in research.

But these discoveries rely on a wide range of partnerships to be successful. First are funding partnerships.

Again, thanks to investment by the state from tobacco dollars, we have been able to provide seed funding for interdisciplinary research developed through the imaginative innovation of Mark Paller, our Assistant Vice President for Research. What Mark has done – with little notice – is develop an integrated portfolio of research grant programs to enable scientists and faculty to work with each other to answer health’s greatest questions. The results have been remarkable. With Mark’s leadership, our schools’ associate deans of research have identified the most promising interdisciplinary projects, invested wisely – and demonstrate a return on that investment that is nearly unbelievable - ranging from 200 to 500 percent.

Those grants have done much to ensure that we remain competitive for NIH funding in this new Roadmap world. As science becomes Big – and knowledge crosses boundaries – universities like ours are truly positioned for success.

I want to make the point that we've maintained that funding focus despite the historic 15 percent cut in the University's state allocation in 2003. It is critical that we continue to distinguish our potential for strength in these large interdisciplinary research projects. Remember, the fastest growing portfolio of NIH awards is in these interdisciplinary programs.

I also want to make the point that as important as interdisciplinary work is, it cannot take place without strong disciplines. Substantial investments have been made there, as well. In fact, the investments in disciplinary and interdisciplinary areas work with each other to create new disciplines. I view neuroscience and the Institute of Translational Neuroscience as an example, as is the new University investment in Interdisciplinary Informatics.

What I have learned from you – in our compelling and interesting discussions over the years - is that investment at the right time in the right researchers for the right projects has a profound impact on our institution. Last year, I announced our interest in funding discoveries through corridors of science and discovery. The idea is that discovery is fueled by the friction of interaction that can take place – across disciplines, from basic to clinical science -- within virtual corridors where new ideas are supported through philanthropy or other types of funding as well as administrative support seeking regulatory approval and appropriate oversight.

Since last year's announcement, I have heard from a number of faculty with new ideas for jump starting collaborative, corridor-based research. This is the model that has encouraged Karen Ashe's work and her connection to the Stroke Group, or the engagement of Dave Bernhlohr and his proteomics team, and there's the remarkable impact of the College of Pharmacy and Dean Marilyn Speedie's foresight in recruiting the expertise represented by Gunda Georg and her Institute for Therapeutics Discovery and Development. Gunda's presence promises a big impact for the Cancer Center and its new director, Doug Yee. Doug, by the way, broke new ground this year by working with the College of Veterinary Medicine in hiring Jaime Modiano – this PhD veterinarian will drive new knowledge in comparative oncology. We've moved into an era of unprecedented interdisciplinarity – if that's really a word – for partnerships in research discovery that will serve the university well in the coming decades.

This type of coordinated research activity surrounding defined corridors of research provides the framework for the funding we will seek in the future as well. As we focus on areas of private or philanthropic funding need with our talented colleagues in the Minnesota Medical Foundation, and the University Foundation, we will target those corridors for new dollars.

Of course, I expect change in our corridors. It has happened before, and will happen in the future – the areas of faculty interest will morph as science moves forward, taking faculty interest with it. However, I believe that this corridors

approach gives us the context we need for a successful future. Through corridors, we can ensure we have the infrastructure in place to support all of you and to keep your work leaping forward.

For the next generation of discovery to retain the successful legacy of this University, we again will seek a partnership with the state and others that results in much needed space for research. Within the past several weeks we have opened 717 Delaware Street that provides critical – and remarkable - space for our clinical research enterprise, as well as other key programs of the Academic Health Center.

Beyond facilities, we are investing in the next generation of technology that enables us to share information across disciplines. The idea behind the University's Interdisciplinary Informatics Initiative is that our future success is dependent on information - and managing knowledge - from multiple sources, across disciplines. This initiative is all about developing both the disciplinary, and service aspects of informatics – it's a solid University commitment.

That is one of the recurring themes of our future – sharing knowledge, exploring that knowledge through the diverse lens of our various disciplines – and then encountering those “Aha” moments through those encounters.

We will need administrative support that enables our ability to work across this institution as well as with many other institutions. Our University research partnership with Mayo Clinic has attracted the attention of other academic health centers across the country – this is what will keep Minnesota on the map of health innovations for the future. The impact of multi-institutional grants for food health and safety, for obesity research, for the tracking of brain responses, and for responding to animal health and avian influenza, and many others, will ensure our relevance for the long term.

Core expectation – University will provide leading edge patient care

The other major expectation from Minnesotans is that our University health professionals will provide leading edge patient care. Many of the Minnesotans who believe the University must retain strength in health sciences have a personal experience with the University clinics or hospital. Just as importantly, the success of our clinical enterprise – the clinics in dentistry, veterinary medicine, and with University of Minnesota Physicians supports the success of our educational and research work. All three are inextricably intertwined and interdependent.

And the impact of our clinical programs is expanding – our College of Pharmacy is successfully moving into the future with its medication management program both in the Twin Cities and in Duluth, under the leadership of Senior Associate Dean Randy Seifert. Our School of Nursing continues to lead the nation with its Doctorate in Nursing Practice, or DNP degree that provides a special emphasis on chronic care delivery – one of the major looming needs of our aging population. Our Medical School with its Med 2010 project will provide clinical experiences to

students earlier in their education. And U-M-Physicians is exploring new models of care delivery in their patient-centered model.

Another quick historic side note – our School of Nursing will celebrate its Centennial next year – and according to James Gray, 1909 was “the first time a program of instruction for nurses had been instituted under the control of a university.”

What is driving the transformation of our clinical enterprise is both environmental and local. Patients have become consumers – and that means they are seeking clinics and hospitals that respond to their needs and interests. At a very basic level, it means we need to upgrade the appearance of our aging clinic spaces which were never designed to accommodate the volume of patients now walking through the doors. The good news is that Fairview’s board has voted to invest the money necessary to design a new clinic building for out-patient care on campus. At the same time, we are watching closely the progress of the central corridor for light rail transportation – currently designed to transit Washington Ave. through the center of campus. Yes, we have concerns that this plan could affect access for our patients, or affect our students and faculty. As designed, the light rail will run above ground down the middle of Washington Avenue. Safety is a serious concern, and the University is encouraging letters to the Metropolitan Council to share those concerns.

Our partners at Fairview are also moving ahead in support of our Academic Pediatric Program and to build a replacement facility for the University of Minnesota Children’s Hospital, Fairview to improve children’s health. The board of the Minnesota Medical Foundation has voted to assist with a major fundraising effort to support the Pediatrics Program. A bold move.

Our relationship with Fairview remains the pioneering partnership that defines our institution. Our success is intertwined with Fairview’s when it comes to our University of Minnesota Medical Center, Fairview. I do continue to believe that “Clinical excellence remains the path to academic prominence in 2008.”

Our clinical excellence also is demonstrated through our many partnerships and relationships with systems throughout the state. As new knowledge and new treatments and cures are developed within our academic health center, relationships with all systems are the key to sharing those results in the service of better health. Again, our stewardship role dictates that knowledge to improve health be shared as broadly and widely as possible.

Breaking New Ground

Breaking new ground is what happens when innovation is fueled by imagination. This is not a new concept at the University of Minnesota. But sometimes it’s important to remind ourselves of the innovation surrounding us.

In the 120 years since the Board of Regents established the Department of Medicine consisting of the College of Medicine and Surgery, College of Homeopathic Medicine and Surgery, and the College of Dentistry, our colleges

and schools have evolved greatly. In addition to our six core disciplines that have helped define and refine their professions, the University has been at the forefront of recognizing emerging bodies of knowledge.

For example, our Center for Bioethics – established in 1985 – was one of the first of its kind in the nation. Its leader, Jeff Kahn, has continued to push the development of a recognized curriculum – and this month, the AHC Dean’s Council has approved the forwarding of a master’s degree program in bioethics – another first for the University.

Our Center for Spirituality and Healing is a groundbreaking program as well. Established in 1995, it was among the early academic programs to explore the role of complementary medicine in the pursuit of health. Under the leadership of Mary Jo Kreitzer, it continues to break ground as one of the first centers to receive NIH funding for research into those alternative therapies.

And in case you missed another first from this past May – the University of Minnesota established the first endowed chair in sexual health in the nation – congratulations to Eli Coleman.

Our history – again – provides a lens to the future. This photo was taken in 1958 when Nursing’s Katharine Densford and Medicine’s Neal Gault helped re-establish health sciences in South Korea. Today, our health sciences programs are still in demand from India to Iceland and Belgium to Peru. It’s time to fully develop our Global Health Center to provide institutional support for those relationships.

Health is global, and that means we must be, too.

Our schools also are breaking new ground – the joint program through the College of Veterinary Medicine and the School of Public Health offers a Masters in Public Health to students pursuing a Doctorate in Veterinary Medicine. This D-V-M / M-P-H degree has taken on added value in our post 9-11 world.

In a world where true innovation happens where the disciplines touch, this University is distinguished by the creative connections among the disciplines that are leading to recognized innovation.

The University’s investment in Informatics is one example, as is our Institute for Therapeutics Discovery and Development. Under Gunda Georg’s leadership and Vadim Gurevich’s drive, it is quickly making a name for itself among faculty and industry as an asset to the effective translation of science into new treatments.

We await word on our application for the \$66 million NIH Clinical and Translational Science Award. But in the meantime, our Office of Clinical Research through the energy of Jas Ahluwalia continues to pursue an integrated model of research collaboration by bringing together our disparate resources under one consolidated administrative structure.

I hope you're hearing the repeating theme throughout this discussion – the success of this University's Academic Health Center is the result of our innovative faculty who are fueled by imagination. It is your drive. It is your energy. It is your engagement with the vision that makes our mission live.

On behalf of the administrators and staff here today, I can share our work plan for the next few years in partnership with a Regents' work group.

- We will work to achieve a commitment for the net increase in faculty hires we need each year to fuel our projected gain in research productivity.
- We are dedicated to achieving success in the transformation of our culture into a learning environment.
- We are working to ensure there is a strategic alignment of goals among the Medical School, UMPHysicians, and Fairview.
- We are committed to finalizing the plan for the new clinic and new facility for the University of Minnesota Children's Hospital, Fairview
- And, we are working with the legislature and our colleagues in University Services to secure the plan for our biomedical research building program, including funding for expansion of the Center for Magnetic Resonance Research.

Right now – we're moving forward on the next building to rise along the academic corridor near McGuire and the CMRR. In fact, I have something to share with all of you – a virtual groundbreaking – that is being shown today even earlier than we'd planned.

(play video..)

Now - back to the concept of imagination. Here we sit within one of the most comprehensive Universities in the nation - from colleges of agriculture, liberal arts, business and law – we are here as representatives of the health sciences school. Dentists learning alongside nurses, and pharmacists, and veterinarians working with physicians, and all in regular contact with one of the nation's top schools of public health. Just imagine the impact we can have.

We remain stewards of the public's health in 2008 – and we continue to break new ground in driving forward the meaning of that stewardship. We are here to improve the health of the state and the nation. We are here to educate and truly prepare the next generation of health professionals. We are here to ensure that those future generations understand that health care is about our patients and communities – it's not about us. And that through service – through stewardship – we will find the true meaning of purpose that's at the core of health professional education, research, and clinical care.