Transforming the University

**Preliminary Report of the
Knowledge Management Technology Task Force**

Submitted on behalf of the Task Force by:

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I. Executive Summary

The *charge* of the Knowledge Management Technology Task Force is predicated on the fact that health professional education and care delivery are undergoing rapid digitization. This transformation is accompanied by a shift from a teaching to a learning model in education and closer coupling of health professional education and care delivery. These changes necessitate envisioning how, over the next five years, we will use electronic technology in education and health service delivery to provide outstanding and cutting-edge academic programs and practice.

The *purpose* of developing a knowledge management plan is to identify the steps the Academic Health Center can take to create a system that will ensure that students, faculty, and staff acquire and use lifelong and continuous learning capabilities to allow them to optimally engage in today's environment of information abundance.

Our *vision* for a U of M health sciences knowledge management system is comprised of the elements listed below.

- An increasingly diverse body of students, who will understand their own learning styles
- An increasingly diverse faculty, who will adopt a diversity of teaching approaches to the range of students' learning styles
- A curriculum with geographic and temporal flexibility
- Learning environments that will be content-rich, media-rich, and interactive
- An electronic knowledgebase that will facilitate exchange of ideas and collaboration
- Curricula that will be shared interprofessionally
- Leadership in interprofessional learning and application
- The design, development, and validation of novel educational tools and programs supported by technology that will be used around the world.

A *guiding principle* of this vision is that *a knowledge management system is founded upon outcomes-based learning stemming from sound pedagogy and research.* This principle resulted in a broadening of the original task force charge from one focused on knowledge management *technology* to one focused upon a knowledge management *system* in which technology plays a critical supporting role.

The *deliverable* generated by the Knowledge Management Task Force is a plan for an Academic Health Center knowledge management system that is supported by technology, is continually assessed, and is delivered within a culture comprised of specific, supportive features. The key components of that system are listed below. (They are also graphically represented on page 5.)

- A knowledge management system integrated into learner-centered health professions curricula, in which students, faculty, and staff will demonstrate leadership and continuous learning capabilities in the roles of *health practitioner, educator/ communicator, manager,* and *researcher*.

- A knowledge management system infrastructure comprised of the following building blocks: *expertise, technology tools and systems, access and connectivity, and continuous learning and improvement.*

- A knowledge management system in which the outcomes are to:
  - *Design, develop, and distribute information*
  - *Collect, store, organize, and provide access to data and information*
  - *Collaborate, communicate, and implement an interprofessional approach*
  - *Maximize learning.*

Members of the Knowledge Management Task Force

Debra Olson, Co-chair, School of Public Health; Linda Perkowski, Co-chair, Medical School; Judith Buchanan, School of Dentistry; Don Connelly, Medical School; Connie Delaney, School of Nursing; John Fetrow, College of Veterinary Medicine; Richard Hoffman, Medical School (Duluth); Kristin Janke, College of Pharmacy; Linda Jorn, Digital Media Center; Jane Miller, AHC Office of Education; Mark Summers, Medical School (Duluth); Rob Sweet, Medical School; Billie Wahlstrom, Office of the Exec. VP and Provost; Linda Watson, Health Sciences Libraries; Jennifer Cieslak (Staff), Office of the SVP for Health Sciences; Mark Engebretson (Staff), AHC Office of Communications; Janet Shanedling (Staff), AHC Office of Education; Scott Smith (Staff), AHC Office of Education; Angie Sonquist (Staff), Office of the SVP for Health Sciences.

Significant contributions were also made by colleagues and contributing members Peg Brown, AHC Classroom Services; Ed Deegan, AHC Administrative Information Systems (AIS); Bernie Gulachek, Office of Information Technology (OIT); and Beth Johnson, AHC AIS.

The members of the task force represent a wide array of professional practice and disciplines, including specific expertise in health informatics, technology-enhanced learning, simulation, library science, instructional design, as well as clinical practice. A number of the task force members have been affiliated with the University of Minnesota for fewer than two years, and were, therefore, able to contribute knowledge of other academic institutions and best practices in the area of knowledge management.

Recommendations of the Task Force

The key recommendations and definitions of the task force are listed below. Additional recommendations follow each of the specific charges.

- Based upon the conceptual framework, the task force developed the following concise definition of knowledge management:

  Creating, identifying, capturing, and distributing the right knowledge to the right people at the right time, in the right form, putting that information into action in ways that improve individual and community health.

- A Knowledge Management Executive Committee (KMEC) should be established under the AHC Assistant VP for Education to oversee the design, development, implementation, and ongoing assessment of the knowledge management system. That committee will:
  - Be comprised of U of M faculty, staff, and students, representatives of the Minnesota health-service industry and community, and liaisons to other appropriate U of M technology units
  - Have both the responsibility as well as authority to oversee the AHC knowledge management system.

- The knowledge management system will be implemented AHC-wide and will be integrated with other U of M enterprise-wide systems.

- An initial step will be to conduct a systematic "gap analysis" between the knowledge management system needs (expertise, technology tools and systems, access and connectivity, and continuous learning and improvement) and current available resources, and put in place a mechanism to carry out such an analysis and assessment on a regular basis. The goal is to maximize existing resources in AHC schools and colleges and in the University in general. The purpose of the gap analysis is to explore the level to which current resources could be deployed more efficiently and collaboratively as a seamless system across the AHC. The outcome of the gap analysis will be to identify current assets, identify what additional resources are needed to fill the gaps, and ensure that the technology tools and systems, and the expertise are delivered as an integrated system in support of the Knowledge Management vision.

Broader Themes Outside Scope of Task Force inquiry

The task force deliberated on a number of important areas related to knowledge management that might be dealt with in other venues at other times:

- A culture of commitment to a learner-centered enterprise from the uppermost levels of the AHC, each health sciences school/college, and the University must be fostered to support and reward students, faculty, and staff for their active engagement with the health sciences knowledge management system.
- A system of incentives, rewards, and acknowledgment must be implemented that will match and support the use of the knowledge management system by students, faculty, and staff that is institutionalized through and beyond the traditional academic structures.
- The AHC should take a national leadership role in researching and reporting upon the outcomes of a health sciences knowledge management system.
- Attention in the near term should be focused upon defining and developing an interprofessional health sciences core curriculum.

- Focus should also be placed upon defining the interface between knowledge management as it applies to education and knowledge management as it applies to research and the delivery of health services.

Recommendations for Future Areas of Effort

1. The plan outlined in this report should be used as the input for a gap analysis necessary to determine components that need to be acquired or purchased for the development and implementation of the AHC knowledge management system. That gap analysis should include an environmental scan throughout the entire U of M, as well as national (and global) research into best-practice institutions implementing health sciences knowledge management systems.

2. Based upon that gap analysis, a long-term financial plan should be developed and implemented to maintain a self-sustaining knowledge management system.