University of Manitoba Faculty of Dentistry Strategic Plan Progress Report

“Drive for Top Five and Nine Pillars of Innovation”

Introduction:

Four years ago, the University of Manitoba Faculty Of Dentistry celebrated its 50th Anniversary by launching an innovative five-year strategic plan based on a “Drive to the Top Five”. Very simply stated, the Faculty desired to be regarded as one of the top five dental schools in North America within five years. Historically, the Faculty enjoyed a solid reputation as one of the best dental schools in Canada but was relatively unknown in the United States. It is generally accepted that dental schools in North America provide the highest quality and most sophisticated dental education in the world. Thus, it is important to be seen as one of the best in North America. There is no credible objective measure for ranking schools of dentistry; however, there is an even stronger and more beneficial barometer of status. The opinion of peer institutions and stakeholders within and outside the dental community means much more than any published rankings; perception of the dental school and the image that it generates are the key components to determination of position relative to competitors.

After four years, the Faculty is well on its way to becoming a “top five” institution and has already made significant progress toward that goal.

The “Drive to the Top Five” has been based on the strategic plan which is being executed through a visibility/marketing component and the “Nine Pillars of Innovation” that represent expansion of existing areas of strength or first-of-their kind programs/initiatives that do not exist in any other dental school. When fully implemented, these nine initiatives will provide a distinct competitive advantage for the Faculty of Dentistry.

Benefits of Becoming a “Top Five” Institution:

As the Faculty has approached “top five” status, it has become much easier to recruit and maintain the best faculty, support staff, and students. Additionally, it has been much easier to obtain financial support from proud alumni, industry, government, foundations, and stakeholders. All benefactors desire to align themselves with excellence and significant accomplishments. Put simply, “everyone likes a winner”. The enhanced reputation of the institution has also facilitated successful research grant applications, support of government and professional organizations for new initiatives, and increased stature of the University, the city of Winnipeg, and the province of Manitoba.

The Faculty of Dentistry has become a valuable community resource for policy makers, healthcare practitioners, and the public they serve. The Faculty is currently regarded as the epicenter of intellectual thought, research and discovery, and an unmatched dental education and training program. A Manitoba dental graduate is viewed as a product of a state-of-the-art education and a practitioner capable of effective community leadership, comprehensive inter-professional healthcare management, and application of the latest advances in science and modern technologies to patient care. The Faculty is “a place where the action is”, a place one desires to come to for a stimulating and satisfying career, first-rate education/training, or opportunities to do new things not possible in other dental schools or academic environments.

Plan for Achieving “Top Five” Status Within Five Years:
• Visibility Component
  
o Marketing/Branding (new uniform logo and presentation templates)
o Public Relations (increase media exposure and stakeholder communications)
o National/International Leadership (faculty as officers/committee members)
o External Presence (faculty as invited experts/presenters/reviewers)
o Alumni Affairs and Continuing Education (increase and improve events/programming)

• Pillars of Innovation
  
o International Centre for Oral-Systemic Health
o Centre for Community Oral Health
o Centre for Children’s Oral Health
o Imaging Centre
o Centre for Implant Dentistry
o Virtual Simulation and Electronic Digital Curriculum
o Practice Management Program
o Head/Neck Pain and Sleep Disorders Program
o Oral Biology Research

Plan Details and Progress:

• Visibility Component
  
o Marketing/Branding

In order to generate a heightened sense of institutional pride and positive morale, the Faculty and community stakeholders were asked to participate in the development and selection of a new logo and slogan for the Faculty of Dentistry. These were officially launched in January of 2008 and are being used in various formats for all promotional materials, communications, and presentations. This provides a uniform and easily recognized “brand” for the Faculty enhancing visibility, awareness and external image. The logos and templates have been well received and of special note, they highlight the School of Dental Hygiene as a major part of the Faculty of Dentistry. Overall awareness of the Faculty has increased dramatically in North America at local, national, and international meetings as well as in peer institutions.

o Public Relations

A full-time public relations officer was hired in August of 2007 and has provided media exposure and effective communications for all aspects of Faculty operations and initiatives (internal/external events and activities, alumni relations, fundraising, continuing education, newsletters, reports, web pages, and press releases). All Faculty activities, programs, and accomplishments are being aggressively marketed, promoted, and communicated to internal/external stakeholders and constituencies with a new format emphasizing approaches that capture the interest and imagination of target audiences. This has resulted in increased awareness and engagement from all stakeholders and has created new stakeholders outside of the traditional dental community. Media exposure (television, radio, print) has increased over 800% and continues to increase annually as news organizations, professional organizations,
government, and industry regard the Faculty as a source for credible information and effective communication within the broad area of oral health.

- **National/International Leadership**

  Faculty and support staff has been encouraged to aggressively pursue positions of leadership in their communities, professional organizations, and academic areas of interest. Increased release time has been provided to support these activities, funding has been reallocated within the operations budget to cover travel costs associated with such activities, and all individuals are being appropriately recognized for their efforts. The Faculty is now regarded as a source of key opinion leaders, expertise, and influence securing a reputation as a respected national and international contributor to administration and innovation within the broad areas of research, teaching/learning, and professional/community service.

- **External Presence**

  Faculty and support staff has been encouraged to aggressively pursue positions of prominence in academic and professional meetings, symposia, and workshops within their areas of academic interest and/or expertise. Administrative support, funding, and release time have been provided so that “cutting-edge” information and presentation materials can be produced. Additionally, funding has been reallocated within the operations budget to cover travel costs associated with such activities and all individuals are being appropriately recognized for their efforts. The Faculty is already regarded as a source of academic leadership and has secured a reputation as a respected national and international contributor to the agenda for dental education and research. The Faculty initiated a reception at the annual American Dental Education Association meeting dedicated to highlighting current issues in dental education and this remains the only institutionally-sponsored reception of its kind.

- **Alumni Affairs and Continuing Education**

  The alumni affairs and continuing education activities for the Faculty have significantly increased in magnitude and scope resulting in improved services for alumni and the larger professional community. Alumni are experiencing increased quantity and quality of communications, events, and services. In addition, alumni are feeling a closer connection to the Faculty as evidenced by fundraising totals that have grown by at least 300% each year since the start of the “Drive for Top Five”.

  The continuing education portfolio has expanded to include electronic/web-based learning environments and “on-demand” programming in addition to the traditional lecture and “hands-on” program formats. International partnerships have been established to deliver programs to new target audiences and constituencies. Additionally, inter-professional programming that brings together healthcare professionals in new ways to address comprehensive patient management and the role of oral health in overall health has been added to the portfolio. The Faculty is now regarded as a rich resource for life-long learning and a place where professionals from all healthcare disciplines look for the latest information, practice models, and translation of new science/technologies to patient care. These initiatives extend the reach of continuing education programming to new national and international markets creating significant visibility and positive image.
• Pillars of Innovation

  o International Centre for Oral-Systemic Health

Launched in January of 2008, this Centre represents the first such centre in the world dedicated to the linkages between oral health and systemic health through:

1) advancing the science of oral-systemic medicine;
2) developing new areas of research focus around the biomedical mechanisms responsible for the linkages;
3) designing innovative inter-professional models of care based on current evidence and best practices;
4) evaluating the public health impact of new models of care that involve multidirectional screening and referral; and
5) establishing inter-professional continuing education teams appropriate for various target audiences.

The Centre is inter-professional in all aspects of education/training, research, and patient care and has already become known as a credible source of expertise and information regarding oral-systemic linkages and new approaches to public health and wellness based on reduction of oral inflammation. The Canadian Dental Association, CTV News, Web MD, and the dental industry rely on the Centre for expert opinion, analysis of the latest scientific information and discovery, and key opinion leaders/speakers for workshops, symposia, and national/international conferences. It has been a significant source of visibility for the Faculty and University of Manitoba.

The research agenda of the Centre has continued to evolve and expand with initial seed projects leading to more extensive collaborations and partnerships. Currently, an innovative multi-institutional study evaluating the contribution of oral inflammation to vascular complications after elective surgery is taking place within the Faculty of Medicine. This study has the potential to redefine conventional approaches to preparing patients for elective surgical procedures and could have a significant impact on post-surgical morbidity.

  o Centre for Community Oral Health

The Centre for Community Oral Health is a long-standing source of pride and achievement for the Faculty. It is internationally recognized for its highly developed infrastructure that serves urban poor, rural, First Nations, elderly, and other underserved populations at high risk for oral disease. The expertise of the practitioners and staff, the amount of services provided, and the valuable training experience for students are the most significant aspects of the Centre.

The Centre has made significant improvements to its model of operations that ensure financial sustainability going forward. As a result, some programs and services were eliminated. Thus, there is still a huge unmet need within the province and the Faculty will continue to seek additional support for the Centre from government and the community in order to further improve the quality of life for underserved populations throughout the province. The Centre will work with its partners to continue to redesign program infrastructure to become more efficient and provide programs that meet the evolving needs of the underserved population in Manitoba.
Centre for Children’s Oral Health

The most distressing and frustrating problems within the provincial healthcare system revolve around access to care and preventive care for underserved children. Children living in urban poor communities, First Nations communities, and rural areas are suffering from poor dental health at a rate 10 times higher than the rest of the childhood population. Current approaches and solutions have been ineffective and it is time to think in new ways and to develop new partnerships to address the issues.

In July of 2011, after years of careful planning and development, the Faculty launched a first-of-its-kind graduate program in Pediatric Dentistry. The program represents a new model for partnership between the Winnipeg Regional Health Authority, the Health Sciences Centre, and the Faculty of Dentistry/University. A new full-time clinical pediatric dental specialist position was provided by the WRHA, the HSC agreed to complete renovations of clinical space, and the Faculty developed a new financial model for patient revenue that covers the cost of facility renovations and provides program sustainability going forward.

The program is unique in its emphasis on rural and underserved cultures including formal coursework throughout various university departments related to underserved communities, effective communications, and innovative approaches to public health and prevention in these communities. The Masters level program includes a community-based research project as part of an entire third-year placement in a rural/underserved community. The program is designed to produce graduates who will spend a large amount of time in these communities.

It is anticipated that this graduate program will provide support for healthcare improvement efforts through its research/service components and serve as an epicenter of intellectual thought, additional expertise, and manpower dedicated to the efforts. Additionally, it will serve as a nucleus for international best practices that can be applied to new models for prevention/intervention and will meet a critical need within the province. The program will also establish the Faculty as an international leader in children’s oral health issues. It is likely that solutions developed here will have applications locally, nationally, and in other parts of the world.

Imaging Centre

Advances in imaging technology provide the potential for improved diagnostics and outcomes of surgical procedures, especially with regard to temporomandibular joint disorders, orthognathic reconstruction, oral cancer, and implant dentistry. The new CT Scan methodologies and digital radiography equipment (Cone Beam CT, Digital Pan-Ceph and Digital X-Ray) are essential for the Faculty to maintain modern education and training programs as well as high-quality patient services.

After two years of planning, identification of a corporate partner, and completing a unique community-based fundraising campaign, the Faculty launched the “Ross McIntyre Digital Imaging Centre” (Powered by Kodak) in January of 2011. The comprehensive digital imaging capabilities and movement toward full electronic health records sets the Faculty apart from most other dental schools. The Imaging Centre not only serves patients of the Faculty and contributes to the research
mission of the Faculty, but will also provide a valuable community service as a
destination of referral for practicing dentists throughout the Province.

The most significant issue facing the current healthcare system is the electronic
patient record. Overall, all healthcare disciplines and services are moving toward a
completely “paperless” record system to increase efficiencies, improve
portability/communication, and reduce errors. The graduates of the Faculty will be
prepared to enter a practice world that is digital and based on electronic patient
record/management systems. Thus, it is critical that they be exposed to and gain
experience with these systems during their dental education. The Faculty currently
uses the best and most popular electronic patient record/management system for
dental schools (axiUm) and the components of this system supporting digital
radiography and full “paperless” records are being progressively implemented.
Graduating dental and hygiene students are already being recruited to associate
positions based on this expertise.

Centre for Implant Dentistry

The general idea of a Centre for Implant Dentistry is not new. However, the way in
which this particular Centre fits into the overall curriculum and how it drives the
philosophy of implant dentistry are completely unique. In July of 2010, with the help
of industry support, the Faculty established an implant fellowship to help supervise
state-of-the-art research, educational programs, and practice applications.

The implant curriculum has been significantly expanded so that all students will
have significant experience in implant dentistry prior to graduation. The goal is to
establish the most comprehensive education and clinical training in implant
dentistry for dental students of any dental school in North America. In September of
2011, the Faculty will expand the portfolio of implant experiences to include
implant-supported dentures in partnership with one of its most successful alums
(Dr. Gerald Niznick). This new implant training experience will actually include three
Canadian dental schools with Manitoba as the coordinating school establishing a
national leadership position for the Faculty of Dentistry in this emerging area of
dental practice.

Continuing education within the area of implant dentistry has been significantly
increased as instructors work with the Office of Continuing Professional
Development and industry partners to design a comprehensive array of programs
for practitioners that represent the very best training experiences available. These
include traditional lectures as well as “hands-on” experiences and destination
programs.

Future plans include development of a new graduate program in Prosthodontics
emphasizing implant dentistry and those that enroll in this program will be seeking
to become leaders in this field. They will acquire unique skill sets related to
diagnosis, treatment planning, and coordination of surgical and restorative aspects
of patient care.

Virtual Simulation/Electronic Digital Curriculum and Education Improvements

Recent efforts to address faculty shortages and overcrowded curricula have
attempted to utilize electronic technologies and independent self-directed learning
approaches to reduce faculty teaching time and establish more effective learning
environments for current students. These efforts have failed because the available tools do not represent effective teaching methods or comprehensive curricula. The electronic resource reference tool (Vital Source) is simply an electronic information library and the simulation units (Dent Sim) are basic simulations of dental procedures completely disconnected from the background foundational materials and potential patient applications.

The Faculty of Dentistry has been developing and designing effective adjuncts and supplements to enhance teaching and learning for some time, however, during the “Drive for Top Five” additional instructor time and financial resources have been allocated to this important area. Several instructors have received national and international recognition for their pioneering efforts within MedEdPortal (a new web-based repository for teaching resources and learning objects) and for creation of effective electronic learning environments that utilize existing software (Angel) as well as novel self-directed learning modules.

A new generation of curriculum tools (Virtual Simulation and Electronic Digital Curriculum) is now available within a comprehensive platform of foundational science, space-age simulation with haptic feedback, and student assessment exercises that apply basic principles and operative techniques to patient care. This approach incorporates all existing tools and improves upon the simulation environment by providing tactile sensation and virtual patient scenarios in a true “gaming” environment. The Faculty will continue to make an investment in these new technologies to remain at the forefront of dental education and has already assumed a place of prominence in the scholarly development and dissemination of new teaching resources and approaches. This places the Faculty at the “cutting-edge” of curriculum design and represents a significant competitive advantage for the future.

**Practice Management Program**

The concepts and principles of practice management continue to be the least adequately covered topics in all of dental education. First, it is difficult to blend clinical practice outcomes with appropriate financial and business tools. Second, available curricular time and resources simply do not allow comprehensive presentation of this information. New graduates all too often must learn through their mistakes and the outcome of the associated inefficiencies and lost revenue are manifest in early career stress and delayed community involvement/service.

Most dental schools still teach practice management as a “fourth year experience” that is rushed, superficial, presented to a distracted student body with no practical application, and generally ineffective. As part of the “Drive for Top Five”, the Faculty of Dentistry has developed a blueprint for a comprehensive four-year curriculum that presents information to students at the appropriate time and is coupled to effective practical experiences in the field (offices of student mentors in the community). The Faculty established a unique partnership with industry to pool expertise and develop a unique curriculum that includes the following basic content areas:

1) entrepreneurship and financial planning;
2) opportunities and pitfalls;
3) strategic alliances and joint ventures;
4) small business start-up;
5) personal evaluation;
6) financing and risk management;
7) business plans;  
8) human resources, leadership and team building;  
9) financial productivity;  
10) investing and introducing new and digital products and technologies into clinical practice; and  
11) developing branding and marketing programs.

Thus, the comprehensive curriculum blends educational modules, business tools, analysis of business models, practice valuation tools and financial services. This innovative approach will place the Faculty at the forefront of dental education in this important area and provide new graduates with a competitive advantage. The fourth year of instruction has already been modified to prepare for the curriculum launch and includes a unique partnership with the Asper School of Business where students participate in a competition for developing the best business plan to implement after graduation. The four-year curriculum blueprint is currently being vetted through the curriculum committee and Faculty Council and is targeted for implementation in August of 2012.

In the future, the Faculty plans to expand these efforts to develop a unique comprehensive continuing education program for practicing professionals that includes state-of-the-art online learning environments. The availability of this expertise on site and within the online learning environment will serve as an important resource for the practicing dentists not only in Manitoba, but throughout North America. Manitoba will be seen as the "place to go" for the best education and training in this area.

**o Head and Neck Pain Program**

The Faculty has unique expertise in head/neck pain and temporomandibular disorders, however, the current educational programs need to be more extensive than those in other dental schools. Further, there needs to be a dedicated clinic to support student experiences with this patient population.

As part of the "Drive for Top Five", the Faculty has allocated resources for the development and implementation of a more in-depth and comprehensive undergraduate and graduate curriculum in head/neck pain, TMD, and sleep disorders. The curriculum has already been expanded to include more didactic and clinical experiences in these areas and the first sleep disorders patients have already been seen in the clinic in collaboration with medical colleagues. A dedicated clinic will be developed for comprehensive patient care experiences. Preliminary plans include reconfiguration of the current system for oral diagnosis, screening, emergencies, and treatment planning to allow development of a dedicated space for head/neck pain, TMD, and sleep disorder patients. The goal is to provide the most extensive education and clinical training in head/neck pain and TMD for undergraduate dental students and graduate residents of any dental school in North America.

**o Oral Biology Research**

The Oral Biology Department has a rich history of accomplishments including:  
1) the first ever Department of Oral Biology in the world created through a merger of biomedical science departments  
2) one of the world’s largest repositories of oral pathogens; and
3) international recognition as the premiere location for microbial physiology/immunology and salivary research;

As part of the “Drive for Top Five”, the Faculty heavily invested in facility renovations and recruitment of new researchers to maintain its position of prominence in biomedical research. The basement laboratories were renovated and two new researchers were recruited targeted to areas that complement existing areas of strength providing “niche” foci and competitive advantage. These new individuals have been immediately successful in launching innovative research programs and acquiring external funding.

The Faculty successfully developed partnerships between the Department of Oral Biology and the International Centre for Oral Systemic Health. These partnerships are enabling new investigations of the linkage between oral health and systemic inflammation providing a potential mechanism for the relationship between periodontal disease and many chronic inflammatory diseases such as diabetes, heart disease, and arthritis. Going forward, the Faculty will continue to invest in additional facility renovations and new partnerships between the Department of Oral Biology and other university units that will lead to new knowledge and discovery based on joint research initiatives.