Dalhousie University Faculty of Medicine

Institutional Self-Study Report

2009 CACMS/LCME Accreditation
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INTRODUCTION

The Faculty of Medicine

The Faculty of Medicine, Dalhousie University, was founded in 1868 and has built upon a proud heritage to serve the Maritime region of Canada with excellence and innovation in education, research and support of clinical care delivery. Increasingly, our global initiatives are recognized as part of meeting a broader social accountability mandate. Nearly as old as confederation itself, the Dalhousie Faculty of Medicine was one of the first in North America to admit women, to create a continuing medical education program for practicing physicians and to emphasize and include communication skills and humanities in medical teaching. The Faculty of Medicine initiated the first medical informatics program in Canada and supported the development of robotic tele-mentoring of brain surgery and of internet-based, remotely controlled, robotic on-ward visitation and monitoring of patients. Adaptation, growth and innovation remain hallmarks of the Dalhousie Faculty of Medicine as it continues to respond to regional health care and health promotion needs.

Recent funding support for increased enrolment has led to 102 students admitted in September 2008 to the four-year undergraduate curriculum, which is heavily based on problem based learning (case oriented problem stimulated -- COPS) and significant learning in clinical settings from earliest stages to more intensive engagement with patients during the clerkship years. Along with the 391 students now in the undergraduate medical education program are also 482 residents in 51 accredited postgraduate programs and approximately 270 postgraduate science students in MSc and PhD programs. Faculty oversee more than $50 million per year in external research funding. The Faculty is in an exciting phase of enrolment expansion, physical infrastructure renewal and expansion, curriculum enhancement, faculty development and administrative reorganization.

Changes since the last accreditation review

In the eight years since our most recent CACMS/LCME accreditation self-study and site visit, substantial changes, improvements and expansion have occurred within our undergraduate medical education program. An extensive review of our third and fourth year clerkship programs occurred in 2005/06 and implementation of key recommendations followed, including altered opportunities for clinical training in several specialties or subspecialties along with more focused preparation for local and national examinations. We have introduced new elements of faculty development and training of teachers as well as enhanced orientation programs for all new faculty. Changes in committee structure within the Faculty and the introduction of a Multiple Mini Interview (MMI) assessment format during admissions have been positive changes. Although an important component within the undergraduate medical education curriculum over the last two decades, there is more recently further emphasis on regional and rural training opportunities while introducing new curricular elements that emphasize cultural diversity. Our internationally acclaimed medical humanities program has expanded in areas ranging from curriculum adjustments to extensive extracurricular and elective opportunities. Opportunities to directly engage in global health issues have been introduced through electives and through opportunities woven into the existing curriculum. Innovative approaches to interprofessional learning opportunities have been introduced and evaluated with ongoing attempts to substantially enhance intra-professional learning in collaborative care environments.
Through extensive faculty, student and community engagement, the Faculty of Medicine’s strategic vision and mission were reviewed and revised with an overarching strategic goal to improve the health of our maritime community. These strategic goals will be addressed through various implementation strategies that relate to the education delivered and the research undertaken, serving to influence and continually improve the delivery of patient care. New and revitalized academic and administrative leadership is evident at all levels with appointment of a new dean, substantial new recruitments with the resulting development of a strong and integrated team of associate and assistant deans, complete renewal of the heads/chairs in all 21 basic science and clinical departments, as well renewal of directors or heads of most academic and clinical divisions. External to the Faculty of Medicine and essential to the partnerships needed within the University and with the major teaching hospitals, all primary vice presidents the university with whom we most extensively interact are relatively new and the CEOs and most vice presidents of our affiliated health centers have been appointed in the last five years.

Communications, engagement and support for our students were substantially enhanced when the Admissions and Student Affairs Office became a separate entity from the Undergraduate Medical Education Office under the leadership of an Assistant Dean. Increased efforts continue to be made to maximize interaction with students and the Office of the Dean, including quarterly luncheons with medical students, Dean and Associate Deans and support for key student events and activities. This has led to a stronger level of connection with the medical student executive and participation of medical students within the governance structures of the Faculty through student membership on standing and ad hoc committees of the Faculty of Medicine. Student performance in national exams has improved dramatically and our students are at or near the top of reported percentages for students receiving their primary choices in residency matching. Substantial effort has been directed to better preparedness of aboriginal communities for academic entry. Along with expanded faculty development opportunities, we have enhanced the recognition of excellence in our faculty and staff through awards, dinners, congratulatory communications and personalized notes or e-mails. Relationship building has resulted in greater trust, shared planning and collaboration with many of our supporters and stakeholders, including our alumni, the greater University, affiliated health centers, government departments and agencies, and the broader community. These positive relationships have benefited all parties.

Our research environment has been enhanced, due to the ongoing emphasis and proven success of collaboration and interdisciplinary approaches in our environment. This approach has been supplemented by a rapid expansion of endowed chairs, support of clinician scientists, programs to broaden supports to graduate students, exponential growth and effectiveness of our cancer research groupings, a major increase in research support through our endowed faculty-based foundation, and repeated recognition through international comparisons by Scientist Magazine. Construction of the long awaited Life Sciences Research Institute building as a home for our internationally renowned Brain Repair Center and highly productive and competitive lipid and bioactive molecules research group, each with emphasis on support of translational research, is now underway.

While not optimally realized yet, we have substantially improved the financial support for the academic operations of the Faculty of Medicine. Direct and vigorous engagement with academic funding plans for clinical departments has resulted in substantial enhancement components for education, research and administration along with major components of health care delivery, all funded primarily through new resources from the Nova Scotia Department of Health. Collaborations among those responsible for the delivery and the funding of expanded undergraduate enrollment (along with nursing and other allied health professions) are being extended to planning for a new educational facility focused on interprofessional programs which will bring together learning opportunities through sophisticated simulations, learning resources and technical skills development in the context of a Learning commons®.
Substantial University base salary increments have not been matched by an equivalent increase in operational dollars but new revenue lines associated with enrolment expansion have greatly facilitated maintenance of the baseline and introduction of new initiatives. Of particular note, we have maintained a “freeze” on tuition fees for the last two years and anticipate doing so for the next two. In addition, students identified as Nova Scotia residents receive further direct assistance for tuition relief from the provincial government. Restructuring and expansion of support of the Undergraduate Medical Education Office management and infrastructure have been possible. While we have experienced turnover in senior leadership in our undergraduate program, there is stability, optimism and commitment to continual improvements in an already strong program.

Broad engagement in the self-study process has led the task force to conclude that we are in a strong position to move forward with identified new initiatives and future opportunities with a dedicated faculty and administrative engagement. This opportunity to examine our policies, plans and operations will lead us to further improvements.

Our Self Study Process

The Institutional Self Study Task Force (ISSTF) was named in the Fall of 2007 by Dean Cook. The Task Force membership included junior and senior faculty members from clinical and basic science departments, medical students, and senior administration from both the Faculty of Medicine and Dalhousie University. The ISSTF was co-chaired by Dr. Doug Sinclair, Associate Dean, Continuing Medical Education and Ms. Susan Spence Wach, Associate Dean, Health Systems and Policy. The mandate of the ISSTF was to review, analyze and report through the resulting self-study report on the Faculty of Medicine in relation to its provision of the undergraduate medical education program and as guided by the LCME/CACMS accreditation standards framework. To maximize input for the self study process, the ISSTF engaged existing committee and departmental meeting structures for purposes of reviewing the critical elements of the undergraduate medical education program and related accreditation standards. The ISSTF members were assigned to attend various departmental and committee meetings where specific accreditation standards and/or facets of the undergraduate medical education program were discussed.

Another key approach of the self study process was assigning specific accreditation standard(s) to each member of the ISSTF for which they were responsible to seek input and gather data. This information was then shared with all ISSTF members throughout the self study process and was the basis upon which the self study report was developed.

Following initial completion of the medical education database, the ISSTF met monthly beginning in November 2007 to September 2008. ISSTF members attended meetings with representatives of administration, faculty, the student body, and other constituents of the Faculty of Medicine. These included:

Basic Science Department Heads
Clinical Department Heads
Council of Associate/Assistant Deans
Faculty Council
Curriculum Committee
Unit & Component Heads

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Unit Chairs
Postgraduate Medical Education Committee
Continuing Medical Education Advisory Committee
Division of Medical Education Advisory Committee
Medical Research Committee

A representative of the Institutional Self Study Task Force attended a regular departmental meeting of each of the following Academic Departments:

- Anatomy & Neurobiology
- Pediatrics
- Biochemistry & Molecular Biology
- Pharmacology
- Bioethics
- Microbiology & Immunology
- Biomedical Engineering
- Obstetrics & Gynaecology
- Community Health & Epidemiology
- Physiology & Biophysics
- Family Medicine
- Psychiatry
- Emergency Medicine
- Radiation Oncology
- Medicine
- Surgery
- Pathology
- Urology

Selected accreditation standards were also discussed at two Faculty meetings in January and February 2008. There were also meetings with targeted members of the Faculty of Medicine which included:

- Basic science faculty members who are in the first five years of their academic appointment with the Faculty of Medicine;
- Clinical faculty members who are in the first five years of their academic appointment with the Faculty of Medicine; and,
- Administrative staff who are in the first five years of their employment within the Faculty of Medicine.
- Medical education faculty members in the Department of Medicine

A meeting was also held with the Dean and Associate Dean, Research within the Faculty of Health Professions.

These meetings proved to be highly valuable for the collection and review of perspectives and data about the Faculty of Medicine’s strengths and areas of improvement and in defining strategies to ensure strengths are maintained, continuous improvements are pursued and problems are addressed.

A website was developed for the self study process which included a “Standard of the Week” section. This section featured an accreditation standard and faculty members were invited to provide response from the perspective of how we address the standard and whether there are opportunities for improvement and change. The website also provided an efficient communication vehicle to keep Faculty informed of the overall accreditation process.

The ISSTF also developed and conducted an on-line survey of all faculty again using the accreditation standards as the foundation upon which the survey questions were developed. It also carefully considered the results of the students’ survey, which was separately conducted by the medical students.
The above approach provided broad and rich input to the self-study process which was overseen by the ISSTF and to the resulting self-study report. The final faculty self-study and the student self-study reports will be distributed widely at the time of submission to stimulate on-going review and action.

CONCERNS IDENTIFIED IN 2002 -- SUMMARY OF PROGRESS

In 2002, the Faculty of Medicine at Dalhousie University was granted full accreditation for a seven-year term. Areas of institutional strength were highlighted. The review process also identified the following areas of partial or substantial noncompliance with accreditation standards where actions were necessary. With these identifiers, we provide below summaries of our responses through follow-up reports and briefly describe the current status (more detailed attention to the latter is included elsewhere in the self-study and in the Dean’s response). While ideal outcomes in each of these key areas have not been fully or uniformly achieved, we believe that all are being addressed in an ongoing basis and substantial improvements have been realized.

1. Curriculum Committee not recognized in organizational chart. (IS-4)

The Curriculum Committee is now a Standing Committee of Faculty, with terms of reference and membership composition defined. The Associate Dean also provides input into potential membership to help balance the needs of the Committee. These changes formed part of a revised organizational structure, which was approved by Faculty Council and Faculty and subsequently posted on DalMedix (the Faculty of Medicine’s intranet site). The terms of reference have recently been revised and now include a faculty member from New Brunswick. This is particularly important as the Dalhousie Medical Education Program in New Brunswick is developed; further, there are learners in New Brunswick presently for required clinical rotations, so this is a welcome revision.

In addition to creating the appropriate placing in the organizational structure, there has been considerable work to clarify and strengthen the Curriculum Committee. The Curriculum Committee (COPS Committee) is being revitalized, as there had been poor membership attendance in 2005/2006. In addition to the modified terms of reference, and the membership noted above, the Chairs of the two Progress Committees have been added, as well as the Chairs of the Unit and Component head and Clerkship Committees. Lastly, two members from outside of the Faculty of Medicine, with faculty positions within Dalhousie University, participate as non-voting members.

Reviews of other components of our administrative structure have been approved by Faculty Council and the organizational chart for the Faculty of Medicine has been updated.

2. Residents not acquainted with clerkship objectives or prepared for their role as teachers and evaluators. (ED 24)

As noted in the self-study report and database, there is now active and systematic preparation of residents for their roles as teachers and evaluators in several departments and through the Postgraduate Medical Education Office. Following the earlier accreditation report, the Program Directors for Postgraduate Medical Education discussed the Report and developed a plan to distribute objectives to
residents on core rotations. There has been success with this approach as seen in the reports of all the major clerkships.

Several additional approaches have offered residents support in their roles as teachers and evaluators. First, the Division of Medical Education provides educational sessions regularly to several departments/divisions on request. These have included Pediatrics, Psychiatry, Family Medicine, Radiation Oncology, Otolaryngology, and Palliative Care, Medicine, Neurosurgery, among others in recent months. Second, some departments, including Surgery, Medicine and Emergency Medicine offer internally-based educational sessions for their residents to prepare them as educators. Third, the Division of Medical Education offers opportunities to all residents, including the Stanford Faculty Development series and a four-week medical education elective that includes a mandatory component where residents participate as co-tutors in COPS sessions; residents are also welcome at any other Faculty Development event. Finally and most recently, in keeping with preparing residents for the scholar role, the Postgraduate Medical Education Office has scheduled sessions for the entire resident groups in years PGY1 and for senior residents. These sessions provide an opportunity to introduce the broad educational objectives for undergraduate medical education.

3. Several courses, clerkships have little formative evaluation. (ED 30/31)

Immediately following the Accreditation report, meetings and discussions were held with the Unit heads and Clerkship chairs to review best practices, to determine the challenges to providing mid-unit or mid-rotation feedback, and to develop solutions. All clerkships must complete mid-rotation evaluation forms (in-term evaluation reports; ITERs), if the duration of the clerkship is longer than three weeks. In the year 1 and 2 units, all students receive mid-unit evaluations on their tutorial performance.

These processes and expectations were promoted through development sessions with pre-clinical and clinical faculty. Course and clerkship directors now work more effectively with the UME office to ensure student difficulties are identified and that remediation plans are implemented in a timely manner.

The detailed review of our entire clerkship program conducted in 2004/05 included attention to evaluation components associated with modifications to our programming.

4. Ambiguity in terms of reference for year committees, and Unit Directors not able to evaluate appropriateness of content coverage. Ambiguity and inconsistency in the mechanisms of decision making.

These issues have been addressed in several ways. The terms of reference and the membership of both the Unit and Component Heads’ (Unit Heads) and Clerkship committees have been revised and formalized. The Unit Heads’ Committee was chaired by the Head of the Division of Medical Education for about 4 years. Currently, it is chaired by a Unit Head, with educational support and membership from the Division of Medical Education. The Director of Curriculum now chairs the Clerkship Committee. To ensure alignment with the Curriculum Committee, the Chairs of those two committees will be members of the Curriculum Committee.

Two major recent actions will continue to address this issue. The first is the uploading of our curriculum information to CURRmit, the AAMC’s curriculum management tool. The second is the mapping of our curriculum to the Medical Council of Canada’s (MCC) objectives; now accomplished.
this will serve as the framework for our curriculum map. This allows us to locate where, how and when various knowledge and skills are addressed in the curriculum. In addition to the MCC objectives, Faculty of Medicine objectives will be mapped in the same way.

The mechanisms of decision making have been clarified through the new terms of reference. All curriculum changes must be approved by the Curriculum Committee. Management and process decisions may be proposed by the Year Committees but must be ratified by the Curriculum Committee.

The policy for management of curriculum changes as approved by Faculty Council is posted and options available for proposed additions or changes are open to students and faculty. Meetings of these committees are held monthly throughout the academic year.

5. **Students in New Brunswick campus do not receive similar structured academic/ personal/financial aid counseling.** *(ED 44)*

For many years, all medical students have spent time in rotations at the Halifax campus and have been made aware of availability and access to counseling services. Therefore, it did not seem necessary to duplicate these services in New Brunswick. However, to improve the linkage and access for students, liaison between Assistant Dean of Admissions and Student Affairs in Halifax and the Assistant Dean for New Brunswick was established. In the past few years, students have ‘commuted’ between campuses and do not spend the whole year at the same site; therefore, they are only physically separated from resource and services for limited time. DalMedix provides 24-hour / 7 days a week access to information and resources for medical students on all sites. We recognize that support and access to services are critical to all students, regardless of location, and have planned for this appropriately as the Medical Education Program in New Brunswick is developed and as our students are increasingly dispersed to varied learning sites.

6. **Faculty needs to provide students with coordinated financial aid, debt management counseling. No effective system to help students navigate the complexities of financial aid and debt management.** *(MS 23)*

Three actions immediately followed the previous accreditation site visit. The Office of Student Affairs undertook a review of financial aid programs with the Assistant Director of Finance. Second, the role of MD Management in providing confidential, on-site financial counseling to medical students was reviewed. Lastly, an effort was made to strengthen the liaison between the Assistant Dean for NB and Assistant Dean for Admissions and Student Affairs. Subsequently MD Management submitted a curriculum for financial management. A Student debt load survey was planned.

7. **Medical School must have a formal program aimed at preventing inappropriate behaviour of faculty or students. No policies and procedures specific to the Medical School with regard to student mistreatment, no education to prevent inappropriate behaviour.** *(MS 32)*

In response, the Medical School formally adopted the existing University policy, which was brought to Faculty Council for approval. The approved policy was posted on DalMedix and students and faculty were advised of the approved policy. In the last two years, a more systematic approach to promotion and assessment of professional behaviour has been developed. A Working Group on professionalism developed a position statement on professionalism with wide Faculty input; this was
subsequently approved in principle by Faculty Council. A revised Professionalism Committee, now a standing committee of Faculty with a new chair, is currently developing detailed policies and implementation processes for review and approval by Faculty Council and Faculty.

8. **Relationship between Medical Student Advisor and the Assistant Dean for Admissions & Student Affairs. (Area of Transition).**

In response to this concern, discussions were held with the Student Advisor and the Assistant Dean for Admissions and Student Affairs regarding individual roles. Both administration and students believe that there is a need for both student support roles as well as access to confidential counseling that may not come to broader institutional attention.

Major structural realignment now addresses this important issue. Management and responsibility for the student support and advocacy components is distinct from that of academic advising. Students can be referred to the Student Affairs Office by the Undergraduate Medical Education Office, the Progress Committees or the Unit Heads for personal counseling; students also can arrange appointments for advice and advocacy in a confidential environment.

These enhanced support services are further supplemented by a confidential “Student Advisor” program completely separate from both the Undergraduate Medical Education Office and the Office of Admissions and Student Affairs. In addition, a PIETA program where students from each of the four years act as identifiers and advisers is connected to four area family physicians with no direct connection to the medical schools administration.

Each of these student support programs is broadly advertised including prominence in the Dalhousie Medical Student Society Handbook, DalMedix and the Faculty of Medicine web page.

9. **Medical School’s financial status and prospects: financial sufficiency and stability of the Medical School are an area of transition. (Area of Transition)**

A funding report was submitted to the Nova Scotia Government Deputy Ministers of Health and Education in November, 2002. This report served to increase awareness of the funding requirements for the medical school and improved the understanding of the cost of medical education. This report was followed up with further analysis and dialogue with the Nova Scotia Government and a subsequent approval of eight additional medical admissions positions at a substantially higher cost per position. The funding from the provincial Government for these new positions flows directly to the Faculty of Medicine and has been instrumental in addressing both faculty and staffing requirements as well as improvements in infrastructure for the support of the delivery of medical education. A further enrolment increase with associated funding increases also resulted from a contract agreement with the Canadian Armed Forces; through this contract, full funding is received for up to two medical students who are members of the Canadian Military.

A significant step in providing stability in the Medical School funding has resulted through the funding of the majority of academic clinical departments through academic funding plans (AFPs). In 1995, a provincial steering group including a representative from the Faculty of Medicine reviewed and revised the AFP model. Each “Academic Funding Plan” is now structured to define a specific academic portion of each AFP (ranging from 15 to 40%, depending on the history and academic activity of the
department) is designated for academic activities. In all AFPs negotiated under the newest model, the Faculty of Medicine is a funding contributor and full member of “all-parties” discussions. Significantly, the Provincial Government funds the clinical portion of these plans but also provides the majority of funds on the academic enrichment element of each plan. This has been a highly positive development in helping to better identify the funding required to support the academic mission of clinical departments. Further, the provincial Department of Health now funds and acknowledges the significant contribution that these academic departments make to medical education.

Tuition increases have also been adjusted for international undergraduate medical education students associated with the Faculty of Medicine’s contract with the International Medical University in Malaysia. The total fee paid by these students now more closely aligns the full cost of their training.

In June, 2008, the Nova Scotia Government approved the addition of 10 new medical seats per year. Eight seats are allocated at a first year level and two seats are devoted to international medical graduates who are admitted to the third year of the undergraduate medical education program through a dedicated admissions process, including the recently instituted MMI interview element of admission assessment.

All of the above elements have served to increase the funding base for the medical school. Since 2004, we have maintained a balanced budget position each year. In addition, rigorous and consistent guidelines are in place for the management of surplus or deficit that may result at departmental or unit levels. The overall fiscal management process has brought improved accountability, transparency and stability to the financial base of the medical school. The evidence of this is demonstrated by the Faculty of Medicine reporting slight surpluses in year end results.

10. **Faculty does not track performance or career choices of students after graduation. The outcome measures collected on graduating students are insufficient to assess the quality and effectiveness of the Undergraduate Medical Education program. (ED 47)**

Several actions were taken in this area. Development of a Graduate Survey for graduates of five years previous was initiated by the Division of Medical Education and funding sources were identified (i.e., Dalhousie Medical Alumni Association). Around that time, the Mission Review Committee (since disbanded) developed a plan of follow up. In the fall of 2006, a survey was administered as described in the self-study database. We are planning to follow our graduates into residency, and survey their program Directors at the end of PGY1. To do so, we have received the agreement from the University of Calgary to administer a questionnaire that they developed and validated for this purpose.

We also have engaged in a more rigorous use of the national CAPER database to extract and analyze more information pertaining to our graduates. Further, we are engaged in more post-graduation follow-up of our graduating students who have transferred here from the International Medical University of Malaysia.
11. **Faculty not able to achieve its goals for student diversity (Aboriginals and Afro-Canadians); no evidence the School has policies and practices to address the standard. MS-8**

An agreement has been signed with the federal government to offer an enhancement program for Aboriginal students to undertake a post-baccalaureate program to enhance success in application to medicine and dentistry at Dalhousie. It should be noted, however, that privacy legislation prevents us from accessing complete information about a student’s ethnicity.

Regular visits to Afro-Canadian community schools by Medical School representatives to promote post-secondary education opportunities have been occurring for approximately 5 years.

Our admissions guidelines include preferential consideration on a non-competitive basis with the general pool for two Aboriginal and/or Afro-Canadian applicants if minimum admissions requirements are met and if these applicants “self-identify” for consideration within this category.

In our environment, we experience significant limitations to mandatory collection and release of details of our students’ ethnic backgrounds as dictated by Nova Scotia Privacy and Freedom of Information Legislation. To the extent that we can reliably analyze cultural and ethnic background of our applicants and students, it is our judgment that our student population is a reasonable reflection of the ethnic patterns of the Maritime Provinces. As noted, we are engaged in programs to promote post-secondary education opportunities in Afro-Canadian and aboriginal communities. Further, 10% of the entry class coming from outside the Maritime Region and the six third-year entry students from the International Medical University in Malaysia annually contribute to a broader base of diversity and exposure for all students. Similarly, the two new positions in third-year for international medical graduates expand the diversity pool.

We have new initiatives and programs designed to build cultural competency among health-care educators, along with direct attempts to enhance availability of bursaries and scholarships for students from a diverse spectrum of economic backgrounds. Enhanced global health programs are now in place to allow student exposure and experience in Tanzania and South Africa, provided through a robust International Health Electives Program that includes extensive preparation and training prior to departure. We also provide opportunity for undergraduate medical students from various countries to participate here in a Summer Institute in Medical English Program. We developed a targeted initiative to provide academic counseling, mentoring and exposure to health sciences for aboriginal students who express interest in the medical profession. We are actively engaged in national initiatives to devise and promote curriculum content that promote diversity and sensitivity and in recruitment strategies for aboriginal youth.
I. INSTITUTIONAL SETTING

A. Governance and Administration

1. Describe how institutional priorities are set. Evaluate the success of institutional planning efforts and discuss how planning has contributed to the accomplishment of the school’s academic purpose, research prospects, and goals of the clinical enterprise.

The Faculty of Medicine completed a strategic planning process in 2007 that involved broad and comprehensive consultation with both internal and external groups. All members of the Faculty (including staff, trainees and faculty members) were involved in a series of town hall meetings, web-based feedback and individual contacts with members of the Strategic Planning Committee to guide the process. Moreover, the planning process engaged members of the community including business and political leaders. As a result of this process, the Faculty has recognized the need to more effectively engage and serve our Maritime communities. The Faculty is committed to enhancing research capacity and international competitiveness and directing resources toward building capacity in early intervention research. This broad strategy will not only equip our researchers with the facilities and resources to utilize cutting-edge technologies, but will directly benefit our community by developing research approaches to support health promotion and early detection. We will continue to highlight the need to gain insights into the disease process, manage late-stage disease and define more effective therapeutic strategies.

The success of planning efforts are demonstrated through support and funding for expansion of the medical school enrolment including the approval for development of a medical education program in the province of New Brunswick (a key strategic goal), and the continued improvements in infrastructure which support delivery of education and research.

2. Evaluate the role of the governance structure in the administrative functioning of the medical school. Is the governance structure appropriate for an institution of this size and characteristics? Are there appropriate safeguards in place to prevent conflict of interest and do these safeguards work? Describe any situations that require review by or approval of the governing board (board of trustees) of the school or university prior to taking action.

The governance structure in relation to the administrative functions of the medical school reflect a decanal leadership team which spans all major facets of its mission and responsibilities (undergraduate, admissions and student services, postgraduate, continuing medical education, research, policy and operations). To ensure the governance structure remains responsive to the administrative requirements for the Faculty of Medicine, reviews are undertaken in conjunction with recruitments to the associate dean positions.

Current terms of reference for governance in the Faculty of Medicine assign considerable authority and responsibility to Faculty as the governing body for determining policy on academic matters and for formulating plans for academic development, all within the rules and regulations of the University Senate. In reality, meetings of full Faculty have increasingly become a less effective forum for discussion and approval as it frequently difficult to achieve quorum; accordingly, many decisions are ratified at the level of the elected Faculty Council. While key approvals are being achieved within approved policies with no significant delay to ongoing activities, it seems timely to revisit this level of faculty governance in the future.
The Faculty of Medicine operates within a University-wide policy to prevent and manage conflict of interest. The policy, established in 2002, provides a mechanism to identify and address potential and actual conflicts of interest. The policy promotes recognition, disclosure and resolution of conflicts of interest. Its proactive and practical application has been demonstrated to help prevent personal interests from influencing decisions.

Review and approval by the University Board of Governors or designates in the University’s senior administration are required for contracts and permanent appointments within the University. Policies exist to define the levels of authority and decision making. A recent University policy introduced in the fall of 2008 serves to devolve more authority to the Faculty level.

3. **Evaluate the relationship of the medical school to the university and clinical affiliates with respect to:**
   a. **The effectiveness of the interactions between medical school administration and university administration.**
   b. **The cohesiveness of the leadership among medical school administration, health sciences center administration, and the administration of major clinical affiliates.**

Excellent relationships have been developed among and between the medical school administration, the University and clinical affiliates.

Regular meetings occur between the Dean and the Vice President (Academic and Provost) and the President of the University. Both of these senior administrators have been highly supportive of the Faculty of Medicine, particularly in supporting capital projects such as the Life Sciences Research Institute, the Brain Repair Center, and the Health Policy Research Center. Further, they have promoted new funding arrangements for the faculty through AFP packages and, more recently, have provided excellent support and input as the medical school addressed development of a new medical education program in New Brunswick.

The Dean is a member of the Board of Directors at the Capital District Health Authority and the IWK Health Center, the two major affiliated Health Science Centres in the Halifax area. The Dean has been involved in strategic planning and key search committees for both of these major teaching institutions. Regular meetings are scheduled with the CEOs (at least every three months) and more frequently with key Vice Presidents.

Regular meetings are held with clinical and basic science department heads to provide a venue for communication and discussion of current and emerging issues. These are scheduled to be bi-monthly but are held more frequently as needed.

Excellent working relationships are maintained among the Deans of Medicine, Dentistry and Health Professions with progressive, collaborative projects underway in education and research. Access to the office of the Deputy Minister and Minister of Health is exceptionally open.
4. **Assess the organizational stability and effectiveness of the medical school administration (dean, dean’s staff). Has personnel turnover affected medical school planning or operations? Are the number and types of medical school administrators (assistant/associate deans, other dean's staff) appropriate for efficient and effective medical school administration?**

The current Dean of the Faculty of Medicine has a background in biochemistry research. He has been an active member of the Department of Pediatrics for 32 years and thus has an excellent understanding of the clinical and educational mandates of the Faculty of Medicine. Dr. Cook has led the development of a new strategic plan for the Faculty of Medicine, strengthened the distributed education model and the recent expansion of the medical school in New Brunswick and Nova Scotia. The Dean’s Office staff are highly capable and committed. Little turnover in key staff positions has occurred outside of that resulting from some reorganization.

The resignation of our Associate Dean for Undergraduate Medical Education in August, 2008 has been addressed with the initial appointment of Dr. Karen Mann, a highly capable and experienced interim leader. We have quickly initiated an internal search process to identify a new, permanent Associate Dean and we expect this to be finalized by the time of the site visit.

The Council of Associate/Assistant Deans, the chief advisory group for the Dean, meets on a weekly basis with the Dean as Chair. This working committee provides problem solving advice for issues of the day as well as long term strategic perspectives.

The numbers and assignments of Associate Deans and Directors seem appropriate to the responsibilities, roles, and size of our Faculty of Medicine. Most individuals in these roles are not full time (ranging from 30% to 100%) and often manage several competing responsibilities; however, they are productive and show commitment to moving their areas ahead, as well as to managing them well. A new position of Senior Associate Dean of Regional and Rural Medical Education has just been developed to assist the senior management of the faculty to support and expand the distributed education model throughout the Maritimes. Recruitment for this position is now underway.

Basic Science Department Heads and Clinical Department Heads meet monthly with the Dean as Chair. Clinical Department Heads have combined responsibilities for both academic and clinical leadership to ensure alignment between the academic health centres and the Faculty of Medicine. Over the last eight years, new leaders in all of the basic science and clinical departments have brought new vision and energy to the faculty.

The survey/search process has been redesigned over the past two years under the leadership of Susan Spence Wach, Associate Dean for Health Systems and Policy. Processes have been streamlined, timelines imposed, and departmental members added to the search component. Feedback on these new changes has been positive.

In addition in 2006/07, a major strategic planning initiative was undertaken, led jointly by Dr. Gerry Johnston, Associate Dean for Research and Ms. Susan Spence Wach, Associate Dean, Health Systems and Policy. This process involved Faculty widely, including leadership of all departments, and this supports enhances the environment for collaboration and working toward joint goals.
B. Academic Environment

5. Evaluate the graduate program(s) in basic sciences, including involved departments, numbers and quality of graduate students, quality of coursework, adequacy of financial support, and overall contribution to the missions and goals of the medical school. Describe the mechanisms for reviewing the quality of the graduate program(s) in basic sciences and comment on their effectiveness. Assess whether the graduate programs have an impact (positive or negative) on medical student education.

The Faculty of Medicine is home to a large cohort of graduate students (appropriately 270) and postdoctoral fellows (approximately 100). Each of our five basic science departments as well as the Departments of Community Health & Epidemiology, Biomedical Engineering and Pathology have graduate programs. Many graduates enter Medical School and conduct research throughout their medical education.

Although the Faculty does not provide direct funding for our graduate students, the Faculty recognizes the positive impact that graduate students have on the medical school environment and has created a number of supports for this group. Notably, the Faculty, through the Medical Research and Development Office (MRDO) of the Associate Dean, Research, hosts an annual Graduate Research Day during which the research of all graduate students is profiled. The MRDO has appointed an Assistant Dean (Graduate and Postdoctoral Studies) to respond to the needs of our graduate students (as well as other research trainees). To this end, the Faculty has created support programs to provide trainees with the professional skills that are so important for success in an academic career. The Faculty has been central in establishing an innovative, novel program termed the Integrated Health Research Training Partnership (IHRTP) that encompasses the three health Faculties (Medicine, Health Professions and Dentistry) as well as our two teaching hospitals, (Capital Health and IWK). The IHRTP program provides workshops to develop skills including effective poster and oral presentations, writing a successful grant application, managing a research program and dealing with personnel, financial management and career planning.

The IHRTP program also serves undergraduate medical students, providing them with access to the same necessary research skills development. These workshops provide opportunities for medical students, graduate students and residents to interact and build bridges that are so necessary to allow multidisciplinary collaborations to evolve and to translate fundamental research into clinical practice and health policy.

The quality of our graduate offerings is assessed during each annual or five-year academic review for Departments within the Faculty of Medicine. For those departments with graduate programs, the Faculty of Graduate Studies provides a committee member on the five-year survey team to assess the quality of the graduate program and the research environment for our graduate students.

6. Evaluate the impact of residency training programs and continuing medical education activities on the education of medical students. Describe any anticipated changes in graduate medical education programs (numbers of residents, shifts in sites used for training) that may affect the education of medical students.

The Faculty of Medicine has extensive postgraduate and continuing education programs, with Associate Deans in both areas. At the weekly meetings of the Associate Deans, alignment of programs is ensured by ongoing discussions with the Undergraduate Associate Dean and Assistant Dean for Admissions and Student Affairs. Postgraduate Residents train extensively in settings with Med 3 and 4 students present and have a defined and important role in their education. During their medical education...
electives, residents are also involved in small group tutoring for Med I and Med II students. As noted in the self-study database, significant efforts are made to provide and enhance residents’ teaching skills.

Over the past three decades, increasing numbers of students have completed core clerkship experiences at locations throughout New Brunswick. In some settings, residents there are part of the Dalhousie Postgraduate Medical Education Program and are able to participate in some of the sessions for residents as teachers. As the Medical Education program in New Brunswick is implemented (first entry of students anticipated in 2010) Faculty development activities are under development, and will include opportunities for residents. As expansion of undergraduate enrolment has been negotiated and implemented, commitment to additional postgraduate residency positions to parallel this increase has been achieved. As we develop this phase of expansion more fully, new training opportunities for residents outside the Halifax area are anticipated.

Continuing Medical Education (CME) programs are open for attendance by medical students and residents with no registration fee. When students are in community rotations they may attend the Community Hospital program or the Videoconference program, planned and implemented by the CME office throughout Nova Scotia. The influence of Continuing Education is also seen as students can observe their teachers as role models as life long learners.

7. Evaluate research activities of the faculty as a whole, including areas of emphasis, level of commitment, quality, and quantity, in the context of the school’s missions and goals.

The Faculty of Medicine has four major areas of research emphasis: cardiovascular, cancer, infection and immunity, and neuroscience. As outlined above, the Faculty recently adopted a more cross-cutting strategy to develop and emphasize early intervention. To support this initiative, we have dedicated a Tier II Canada Research Chair to the area of early intervention and are currently seeking proposals from departments and research groups to access this chair. Each area of emphasis has demonstrated significant capacity either through capture of operating grants from national agencies or infrastructure grants such as CFI (Canada Foundation for Innovation). Moreover, the Faculty (in collaboration with the QEII Foundation, the IWK Foundation, the Dalhousie Medical Research Foundation and local charities) has recently established several endowed research chairs. Notably, the Faculty now boasts 12 endowed chairs filled by a talented group of investigators (Breast Cancer – David Hoskin; Cancer Population Research – Louise Parker; Cancer Outcomes – Eva Grunfeld; Epilepsy – Michael Esser; Adolescent Mental Health – Stan Kutcher; Cancer – Patrick Lee; Alzheimer’s – Ken Rockwood; Autism – Susan Bryson; Internal Medicine – Donald Weaver; Surgical Oncology – Geoff Porter; Psychosis – Paul Tibbo; Ophthalmology – Bal Chauhan). All of these investigators have been provided with appropriate resources of space and (for basic scientists) tenure-track positions. Seven new endowed chairs are under development.

Increasingly, the Faculty of Medicine is developing initiatives that support our strategic plan to develop research expertise that engages our communities and build collaborative bridges with our colleagues in both the university and hospitals.

8. Assess the adequacy of the resources (equipment, space, graduate students) for research. Evaluate any trends in the amount of intramural support for research and the level of assistance available to faculty members in securing extramural support.

The Faculty of Medicine increasingly has become constrained by limited space for development of research and the new Life Sciences Research Institute (LSRI) building now under construction is the first significant new space in over 40 years. Nevertheless, we look forward to the finalization of the LSRI
that will be connected to the Tupper Building and will house new and established investigators working on aspects of brain repair as well as lipid biochemistry. Moreover, the new space will allow for an expanded and enhanced animal care facility. Further, it will be enhanced by a recently announced, adjacent provincially sponsored incubator facility to promote translation and commercialization of our research. Over the past few years, the Faculty of Medicine has also mobilized resources to retrofit over one-third of the Tupper Building and has created space to house core facilities.

The MRDO relies on limited funds to support research and has made a deliberate decision to direct the bulk of resources to bridge funding and to the establishment and maintenance of core facilities. Due to limitations in capacity to provide direct operating support for research through an intramural competition, this important opportunity was eliminated this year. Intramural funds are still available to faculty members associated with the Health Centers and the Dalhousie Medical Research Foundation provides a single competitive ‘new investigator’ award of $50,000.

In addition to bridge funding and support for core facilities, the MRDO sponsors regular workshops (now under the IHRTP) to allow faculty and trainee mentoring and to help with peer review of grant applications, opportunities to build better communication skills and advice on career development. MDRO also supports the assembly of large infrastructure and personnel applications to agencies such as AIF, CFI and CIHR.

9. Assess the impact of research activities on the education of medical students, including opportunities for medical students to participate in research.

The strategic plan of the Faculty of Medicine highlights our research environment. In addition to exposure to teachers who are involved in research, all students have the opportunity to pursue research activities within the undergraduate curriculum, mainly through the electives program. Forty to fifty percent of our students present their research nationally or internationally. Others take the opportunity to present their research locally. Recently, students have been encouraged to engage in research in medical education, and to develop research and case reports within the community. Elective experiences have been developed that allow students to combine a clinical elective and, under their supervising clinician, to explore a question of interest to the field that has a Humanities basis.

The MRDO supports medical student research in several ways. An annual Undergraduate Health Research Day profiles undergraduate medical research and is now open to other health professionals in the spirit of providing opportunities for interprofessional interactions. We also provide mentoring for our undergraduates in areas such as grantsmanship and communication skills. The MRDO provides funding to support summer research activities of undergraduate students (in general we find funding for over one-third of the class). As part of this summer program, a series of workshops that exposes our undergraduates to issues relevant to conducting research is provided. We also take personal interest in aligning undergraduates with appropriate summer research opportunities.

A study of the factors encouraging or hindering medical student involvement in research is underway. The joint investigators are a medical student, the MRDO and the Division of Medical Education.
10. Comment on opportunities for students to participate in community service activities, and the extent to which such activities are incorporated into medical student education.

Voluntary involvement in the community has always been a major component of student activities. The majority of students participate in “the Everest Project”, targeted to and interacting with students in Grade 4. Students have expressed the wish that participation in this highly successful project become mandatory. As a collective, undergraduate medical students engage in approximately 10 community-based projects and fundraisers annually, most of which are sponsored or sanctioned by the Dalhousie Medical Student Society.

As noted in the database, each student in the second year of Medical School is required to complete a community placement experience (approximately 20 hours) as part of their Population Health, Community Service, and Critical Thinking Unit (PHCSCT). Alternate weeks in the 31-week schedule have been protected for community service commitments. The placements provide students with first hand experiences to: a) increase their understanding and sensitivity to the broader determinants of health; b) increase their understanding of the role that community service organizations play in addressing population health issues, and the challenges they face in doing so; and, c) provide opportunities for students to learn about the needs, experiences and issues facing diverse populations through direct interaction with clients and community service providers.

It is also our goal that the placements benefit the community service organization, and serve as a vehicle for building relationships between the Faculty of Medicine and the organization.

For their placement, students are expected to provide work that is consistent with the procedures, mission and needs of the organization. Students function as “volunteers” (even though their participation is not really voluntary) and are instructed that placements offer the opportunity to achieve the placement objectives using resourcefulness and initiative. Student experiences are integrated into the tutorial discussions. Organizations provide an evaluation of each student’s participation. Participating organizations receive a $100 honorarium for each student.

II. EDUCATIONAL PROGRAM FOR THE MD DEGREE

A. Educational Objectives

1. Describe the level of understanding of the school-wide objectives for the educational program among administrators, faculty members, students, and others in the medical education community. Do these objectives serve as effective guides for educational program planning, and for student and program evaluation?

The Education Program objectives for the Faculty of Medicine, Dalhousie University are broad and form the foundation for all courses. They were originally developed in 1986, and have been reviewed thoroughly at each review and revision of the curriculum. The objectives are available to students on the University and Faculty websites, and in the documents that describe the program, including the University Calendar. These overarching goals have led the design of our problem-based hybrid curriculum since 1992. In fact, a major motivation for change was to bring our curriculum into line with our objectives.
Notwithstanding their durability, it appears that the objectives are not as widely known across the Faculty and among residents as we would wish (see survey data and summaries). When faculty members speak of the COPS curriculum, they are well aware of the major overarching goal of the Program goal to develop independent learners.

The objectives of the Program are enacted in the program design. However, they may be implemented more implicitly than explicitly and therefore need to be highlighted more. Having said this, the objectives for individual courses and units are better understood by individual Faculty directly responsible for delivery of the educational program. Certainly at the Unit level, the objectives are part of the review that is conducted by the COPS Committee Members.

The objectives of the Program have guided evaluations of program outcomes, both within the school and in our review of outcome data.

2. **Comment on the extent to which school-wide educational objectives are linked to physician competencies expected by the medical profession and the public. Summarize results from any associated outcome measures that demonstrate how well students are being prepared for the next stage of their training.**

In the past year, the undergraduate medicine office has taken the step of mapping our curriculum to the objectives of the Medical Council of Canada, including presenting clinical situations, and the objectives related to communication, collaboration, legal, ethical and organizational aspects of medicine (CLEO). Also, the Association of Faculties of Medicine of Canada has identified competence levels for procedural skills in undergraduate medical education. These have also been mapped to be used in curriculum development. This mapping is an essential bridge to assure that our school-wide objectives continue to be translated into a curriculum that is relevant to practice and meets expected standards. An additional step has been to frame the clerkship evaluation form, now standardized across all clerkship experiences, to include the CanMEDS roles (2005) developed by the Royal College of Physicians and Surgeons of Canada to guide postgraduate medical education. This creates an additional link for students and faculty with the next stage of the students’ education and training and is consistent with the principles described in our strategic plan document as applicable to all students, faculty, and staff. Within the last year, the College of Family Physicians of Canada has undertaken to incorporate the four principles of Family Medicine with the CanMEDS roles as a guide for their educational programs.

While recognizing that there are limitations in drawing conclusions from comparisons based on national Medical Council of Canada examinations, we are pleased that there has been a consistent improvement in individual and collective test scores for students from our program. For example as shown below, the last three years have shown results for the majority of test scores in the MCC QE Part I to be within the top half (several in the top quartile) compared to those from the other 15 medical schools being tested.
MCC QE Part I Exam Results

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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</thead>
<tbody>
<tr>
<td>Pass Rate Rank (16 schools)</td>
<td>8</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total Exam Rank (16 schools)</td>
<td>14</td>
<td>6</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Scores in Top Quartile (of 10 scores)</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Scores in Top Half (of 10 scores)</td>
<td>4</td>
<td>9</td>
<td>3</td>
<td>8</td>
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</tbody>
</table>

Our MD graduates consistently are at or near the top of the percentage receiving their first choice in the Canadian residency matching service (CaRMS) for area of specialization and program of study. As shown below, approximately 44% of Dalhousie MD graduates stay at Dalhousie for their residency training. Also, about 40% (range of 31-51%) of the total graduating class choose Family Medicine as an area for specialty training and practice (compared to under 30% nationally each year).

These measures represent highly encouraging forms of national recognition of the quality of our educational programs and graduating students.

Post-Graduate Career Choices of Dalhousie MD Graduates (CaRMS)

<table>
<thead>
<tr>
<th>Year</th>
<th># Dalhousie MD Graduates</th>
<th>% of Total Dalhousie MD Graduates Training in Dalhousie Programs</th>
<th>% of Dalhousie MD Graduates Training in Family Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>93</td>
<td>43</td>
<td>45</td>
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<tr>
<td>2007</td>
<td>97</td>
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<td>2001</td>
<td>76</td>
<td>52</td>
<td>39</td>
</tr>
<tr>
<td>Mean (8 Years)</td>
<td>--</td>
<td>44</td>
<td>40</td>
</tr>
</tbody>
</table>
3. **Comment on the effectiveness of the mechanisms in place for assuring that all students encounter the specified types of patients/clinical conditions needed for the clinical objectives to be met.**

The organization of undergraduate medical education at Dalhousie University is organized to assure faculty participation and control of the curriculum. The Med I/II Curriculum Committee (Unit and Component Heads) is responsible for the preclinical education of the medical student. This includes basic science, clinical electives, and introduction to the patient contact and communication. The Med III/IV committee (Unit Chairs Committee) is responsible for ensuring the integrity of the clerkship rotation. These two committees report to the COPS curriculum committee to ensure there is a continuity and integrity of the curriculum as a whole.

Our curriculum defines the clinical conditions and patients to be seen in Med I/II and ensures that all students encounter all of these, given the structured nature of the problem based learning curriculum. The structured interactions that students in Med I and Med II have with simulated patients in the Learning Resource Centre (LRC) add to this; LRC exposure for Med I is primarily focused communication skills. The Faculty of Medicine, in collaboration with the Department of Medicine and Capital District Health Authority, has an active Volunteer Patient Program organized and administered by the Learning Research Centre. This program, in addition to an in-patient recruiting program, contributes to a better balance of case-mix for students in Med II. These encounters (9 per year per student) are with patients who have health problems representing the systems they are studying in their PBL curriculum.

In Med III/IV, the curriculum is based on the objectives of each rotation. Each unit chair is responsible through their committee to ensure that the objectives reflect the clinical conditions that students must encounter. All clerkship unit committees meet regularly and have representation from all sites. These committees are further responsible to ensure individual students encounter these clinical conditions and meet the objectives. It appears that the committees focus on this to different degrees but overall seem to address this issue. Variety exists in the approaches to remedying individual gaps in experiences, depending on the different rotation, and less so due to geographical location. Pediatrics, for example, has a web-based patient simulation resource that students access if they do not see a particular clinical condition. Pediatrics also requires a log book of patients seen to allow monitoring of clinical experiences. Log books similarly are kept by students during their Emergency Medicine and Obstetrics and Gynecology rotations. Most rotations supplement their curriculum with primarily didactic core knowledge to address the objectives that may be missed by individual students on different rotations. Examples of this occur in Internal Medicine, Surgery, Family Medicine and Psychiatry.

The development of the curriculum map, to identify where students encounter each of the required content and skill outcomes should assist in providing a template to allow monitoring of student experiences, both at the level of individual clinical rotations and over the full year.

B. **Structure of the Educational Program**

4. **Delineate the mechanisms ensuring that the educational program provides a general professional education that prepares students for all career options in medicine. Cite relevant outcomes indicating success in that preparation.**

Our undergraduate curriculum leading to the MD degree includes all areas deemed essential for informed career choice and to support all choices for further training towards a professional career. A primary goal of our curriculum is that students are well prepared to undertake their next level of learning in supervised practice in any chosen field of medicine. The curriculum design is a major mechanism for
exposing students to various fields of medicine through the cases in the PBL curriculum, and through early exposure to clinical skills teaching and learning in Medicine, Psychiatry and Pediatrics. Many students also choose clinical electives that provide an opportunity to expand on their experience and understand various fields. The Department of Family Medicine has significantly increased the elective opportunities it offers to provide students with early exposure to this specialty.

The Clerkship experience in third year provides students with an introduction to the major disciplines. Within the major clerkship rotations, students may request selective experiences. In the fourth year, elective experiences allow for exploration of additional specialties to build on and expand previous experience and exposure. Students also experience working in tertiary care institutions, as well as small Maritime communities, and thus are able to experience a variety of care models.

With the revision of the Clerkship in 2006/2007, an Emergency Medicine rotation was included for all students, recognizing that this provides excellent learning opportunities and exposure to a broad range of early and undifferentiated illnesses. Similarly, recognizing the demographics of our aging population, a three-week experience in Geriatrics is now part of the fourth year curriculum for all students.

Essential to the success of this preparation is a continual oversight and monitoring of the curriculum and input from experts and respected sources about new areas that deserve consideration. There is also ongoing monitoring to ensure the effectiveness of the experiences and learning opportunities.

5. Discuss the types and sufficiency of educational activities to promote self-directed learning and development of the skills and habits of lifelong learning.

The Faculty of Medicine has as one of its overarching goals that its graduates will “be active independent learners, able to seek out information, to critically analyze it and to apply it to scientific reasoning to the solution of clinical problems.” This goal is embodied in the structure of the curriculum and in the design of several additional activities. The Problem-Based Learning (PBL) model in the first two years of the program facilitates independent study and requires students to be active learners. Students use a clinical reasoning process in their weekly tutorials in the pre-clinical curriculum. In the process, students develop and rank hypotheses, identify the learning issues arising from their patient case, seek out the appropriate information, and apply it to the case to resolve related learning issues. They are evaluated by their tutors on this process with written feedback at the end of each Unit. Mid-unit feedback is also given. In the clerkship, students are expected to learn and review around the patients under their care. This requires self-directed learning.

In addition to this general approach to learning in this program, specific Units emphasize these requirements as described in the database.

Clinical Epidemiology and Critical Thinking (CECT)

Students develop skills in critical appraisal of primary source literature. A mastery-based approach is taken to the curriculum design, with the cases evolving in content over the course. Literature searching is addressed. Evaluation is based upon a satisfactory group assessment comprising a self-assessment, assessment of peers, and assessment by the tutor, and the successful completion of an end-of-
term critical appraisal paper. The emphasis on self assessment, and early learning of these skills is essential to self-directed learning.

According to the Medical Students’ survey, the teaching of biostatistics does not achieve its goals; a minority of students in any of the four medical school classes rate themselves as able to use statistics as a basis for evidence-based medicine. Students in the clinical years (Med III and Med IV) are more likely than those in Med I and Med II to feel prepared to incorporate evidence-based medicine into their practice. This seems to improve as students acquire an understanding of what the effective practice of medicine requires.

Population Health, Community Service and Critical Thinking (PHCSCT)

This Unit is an extension of first year CECT and further develops critical appraisal skills by exploring the principles and practices of Population Health.

Electives

Electives allow the student to independently design, participate in, and evaluate a project dealing with some aspect of human illness. The emphasis in the first two years is on establishing a firm foundation for later work by acquiring fundamental skills in concisely defining a problem, searching the literature effectively to assess current knowledge, collecting reliable data where applicable, and reporting the entire process, with an analysis of results and clearly written presentation of conclusions and speculations where appropriate. Electives in the clinical years allow students to define areas of interest, and to set the own learning objectives to be achieved. To further promote this process, a requirement that students write a reflective evaluation of the ways they have met their objectives and how these have contributed to their development has recently been added. This reflection is structured around the CanMEDs roles and adds an important element of self assessment of learning.

Student progress in developing these skills is assessed in their tutorial assessment, as well as during assessment of their clinical performance. These evaluations are used for both formative and summative assessment.

The majority of faculty feels that the curriculum fosters lifelong learning.

6. Evaluate the adequacy of the system for ensuring consistency of educational quality and of student valuation when students learn at alternative sites within a course or clerkship.

Dalhousie has a central model of education in Med I/II and a distributed model in Med III/IV. However, as the COPS curriculum committee retains overall authority for the curriculum, there are equivalent educational and evaluation experiences throughout our curriculum, regardless of location. Evaluation methods provide the most objective element in monitoring this. All students, regardless of site, are evaluated by the same clinical ITER. The evaluators/directors at each site participate in the regularly scheduled clerkship committees to ensure similar evaluation standards based on the core objectives. Each core clerkship has a written MCQ examination and two centrally administered OSCEs are held annually for students in Year 3. These are the same exams for all students on the rotation and the examinations are conducted centrally. The distributed educators also participate as examiners in the OSCEs when they are available.
The assessment of equivalence of educational experience is more difficult but data exist to indicate there is consistency. First, all sites use the same objectives and are of the same length of time. The site directors sit on central department-based clerkship committees. Clerkship directors report that student results on written and OSCE examinations do not vary by sites. Most rotations use tele-education to distribute the ancillary educational experience to all sites. Web-based resources such as the CCLIP program in pediatrics also are utilized to address individual student deficits in experience regardless of site. When this is not possible, such as at the beginning or end of a rotation, all students are brought to Halifax for this exercise. An example of this is the orientation to clerkship and OSCE examinations.

A student focus group confirmed similar educational experience among sites and rotations outside of Halifax that are greatly valued. The Division of Medical Education runs a comprehensive curriculum to address faculty development in the area of medical education and evaluation. This curriculum is distributed to all sites and is used to help improve all faculty members as medical educators.

Of concern is the apparent lack of knowledge of the objectives of medical students by some on the rotation. This apparent lack of awareness by attending physicians and residents did vary by site but also was a more global problem. As noted elsewhere, initiatives are underway to insure a wider awareness; in several departments, efforts are underway to accomplish this at the clerkship level.

7. **Comment on how well all content areas required for accreditation are addressed in the curriculum.**

The database details that the curriculum incorporates the fundamental principles of medicine and its underlying scientific concepts. Our curriculum allows students to develop skills of critical judgment based on evidence and experience and to develop the ability to use principles and skills wisely in solving problems of health and disease. The design of the curriculum in the first two years supports students in identifying principles and concepts that can be applied in their clinical experience. We have not identified any major gaps in the content areas required for accreditation or for performance on the Medical Council of Canada exams.

The problem-based curriculum is an excellent vehicle for the integration of areas such as diversity and ethical issues. The Curriculum Committee has worked to assist units in incorporating relevant objectives. We recognize and attempt to be responsive to the challenge in balancing the incorporation and integration of many factors relating to health and disease while including the key basic and clinical science concepts that are the foundation for future practice and ongoing professional development and learning. Like other schools, we have experienced the natural tendency of students to gravitate to what they perceive will be tested and what they perceive as the “hard” science. We also have learned that tutors require support to facilitate a balanced integration, as it is not always in their area of expertise. This integration has been achieved quite successfully in the units by providing additional tutor guide support and more structured training.

The continual revision and strengthening of the Population Health unit has allowed students to learn effectively about the social determinants and influences on health and disease, as well as the demands on care, and the function of the health care delivery system.

Since the fall of 2006, there has been an emphasis on more systematic teaching and assessment of professional behaviours and attitudes. A curriculum inventory revealed considerable attention in this area already but that it needs to be made more explicit. The recently-formed Professionalism Committee is...
addressing this. Meanwhile, steps have been taken to revise and strengthen the evaluations of student performance highlighting its importance in facilitating student learning.

Although not yet an Accreditation standard, we have also developed opportunities and required our students to participate in interprofessional learning modules across the four years. New opportunities are being developed in this area, which is supported by the Deans of all three Health Sciences Faculties at Dalhousie.

Students comment favorably on the curriculum. Notably, >80% rate the quality of their basic science and clinical education as very good to excellent in all years. A majority of students in Med I and II view their curriculum as well integrated within a unit and slightly fewer rate the integration across units as very good to excellent. In all years, students rate the quality of group dynamics and of their tutor’s ability as very good to excellent in their tutorial experience. They are less likely to rate the tutorial as highly as a forum for learning, especially in Med II. Several reasons may contribute, including PBL “fatigue” and less time for self-directed study.

8. **Assess the balance between inpatient and ambulatory teaching and the appropriateness of the teaching sites used for required clinical experiences.**

Faculty have expressed concern that opportunities for teaching in inpatient settings are becoming more difficult due to the complexity and illness of patients coupled with shorter stays in some ambulatory cases. Ambulatory teaching is important, but the high volume in most clinics can make teaching difficult, especially for junior learners. The Department of Medicine has an innovative program, utilizing patients with chronic conditions for assessment by students in a separate scheduling setting. This program requires space for teaching/learning that is unavailable in the Learning Resource Centre and is diminishing in Capital Health District Authority.

Notwithstanding these general concerns, all students have a minimum of 6 weeks of Family Medicine experience in ambulatory settings. Additionally, some students have community based-ambulatory experience in the Care of the Elderly rotation.

The sites used for clinical experience are both adequate and appropriate (the student survey supports this). We use a variety of sites, including locations in and outside of Halifax, in the other Maritime Provinces, in community and tertiary care hospitals and in family physicians offices and clinics.

C. **Teaching and Evaluation**

9. **Comment on the adequacy of the supervision of medical students during required clinical experiences. Discuss the effectiveness of efforts to ensure that all individuals who participate in teaching, including resident physicians, graduate students, and volunteer faculty members, are prepared for their teaching responsibilities.**

As noted in the database, the students assigned to the third year clerkship rotate through four twelve-week clerkship experiences. Each 12 week experience is monitored by a Unit Chair and students are assigned to particular services and teaching units. They are supervised in their work by residents and the attending staff. In the Family Medicine experience, students are usually directly supervised by the preceptor to whose practice they are assigned. Feedback is provided at mid-unit and end of unit through standardized evaluation forms.
Efforts have increased to ensure that residents are familiar with the objectives for the undergraduate program. This is explicitly achieved in the Departments of Medicine, Surgery, Family Medicine, Pediatrics and Urology.

There has been a concerted effort to support residents in their role in teaching of medical students and to prepare them for their future careers. These two influences have resulted in a wide range of opportunities for residents to learn and enhance their teaching skills. These are outlined in the self-study database and the summary of progress since the 2002 Accreditation (Point #2) earlier. They include mandatory teaching skills sessions for both junior and senior residents organized by the Postgraduate Medical Education Office, a new addition in 2007/2008. In addition, there are workshops and educational sessions about teaching for residents in the Departments of Pediatrics, Emergency Medicine, Family Medicine, Surgery and several Divisions within the Department of Medicine. Many of these are developed and offered by the Division of Medical Education. For interested residents, a four-week medical education elective has been offered annually for the past five years. This latter program has been noted on the website of the Royal College of Physicians and Surgeons (Canada) as a program of excellence. Beginning in the fall of 2008, the Stanford Faculty Development Program will also be offered to interested residents.

We view all of these activities as capacity building, in that they prepare residents as teachers and also improve the teaching that residents do for each other. They impact the environment as one where teaching is regarded as something one can learn to do well. Teaching in the clinical years is primarily done by Faculty and residents. As noted in the database other faculty and postgraduate students who participate in teaching in the earlier years are also provided with preparation for their roles as tutors.

Prior to the clinical years, students participate in a two-year longitudinal Patient Doctor Unit, where clinical, communication and some procedural skills are taught. Students in small groups are assigned to faculty members or residents. The objectives for the course and an orientation to teaching are provided to these teachers.

There is formal teaching of procedural skills in our Learning Resource Centre. Students there are supervised by physicians and/or nurses who are fully prepared for their teaching and supervisory roles.

10. Evaluate the adequacy of methods used to evaluate student attainment of the objectives of the educational program. How appropriate is the mix of testing and evaluation methods? Do students receive sufficient formative assessment in addition to summative evaluations? Discuss the timeliness of performance feedback to students in the preclinical and clinical years.

Since the last accreditation, the Faculty has worked to steadily improve the quality and mix of evaluation of student achievement.

Various evaluation methods are used to assess student performance in the core domains of knowledge, skills, behaviors and attitudes.

Written examinations, including short answer and MCQ formats, are used throughout the first three years to assess knowledge. Written reports of elective experiences, critical appraisal papers, and case and clinical assessment reports are also used, as well as practical laboratory examinations and project presentations. Skills assessment begins in Med I with the Patient Doctor Unit using a variety of methods, including OSCEs, case reports and project presentations. Behaviors and attitudes are first assessed in
Med I, using video-feedback of communication skills. An OSCE examination is held at the end of Med II to assess student learning in the Patient-Doctor Unit.

Direct observation occurs in tutorials and small group sessions in Patient-Doctor clinical skills, and continues into clerkship through in-training evaluation reports (ITERs) and two OSCE examinations at the mid- and end-points of Phase I Clerkship.

Direct observation is both formative and summative. For example, in the teaching of communication skills, students are videotaped and receive feedback from both their tutor and their peers. In the second year, students participate in ‘case practice’ where they interview simulated patients with health problems related to their current PBL Unit of study. The students receive feedback from the simulated patient.

The Curriculum Committee, a standing committee of Faculty, is responsible for overall curriculum development, including curriculum content, methods of teaching and learning, and evaluation of students for each Unit. The Promotion and Evaluation Regulations outline the required methods of student evaluation for all Units. These regulations are reviewed and approved annually to ensure that they are current, clear and fair.

In 2007, an Evaluation subcommittee of the Curriculum Committee was formed to advise the Curriculum Committee on matters of evaluation. This Committee was asked to review the entire assessment system in the undergraduate program and has worked diligently on this task, drawing on student, faculty and staff experience and expertise.

In the past year, there has been more emphasis on an explicit curricular approach to the systematic teaching and assessment of professionalism. Both the tutorial evaluation form and the clinical evaluation form (ITER) have been revised to reflect that emphasis and to ensure that institutional objectives are being addressed and evaluated.

Faculty development is an important aspect of promoting effective use of our assessment methods. As the new ITER and tutorial evaluation forms are introduced, we anticipate the need for focused faculty development. The revised evaluation forms for tutorial and clerkship experience will also incorporate guidelines and explanation to promote consistency of use as well as a shared understanding by students and faculty of the elements to be assessed.

Examinations in the preclinical years are scheduled on the final day of the Unit, and no learning activities are scheduled on this day. Feedback to students on their performance occurs within 15 working days. In the Medical Students’ survey, students in Med I were less likely than those in other years to perceive that feedback on their performance was timely and adequate. Students in Med I and II have requested that more explanatory feedback on their examination answers and the Evaluation Sub-Committee has supported this request. The optimal way of doing this is being developed.

As previously noted, at the level of the Clerkships, all clerkships must complete mid-rotation evaluation forms (ITERs) if the clerkship is longer than 3 weeks’ duration. In the Med I and Med II units, tutor feedback to students is expected at mid-unit in addition to weekly “check-ins” on the tutorial process.

The faculty survey confirms that the majority of faculty feels that our current system of evaluation adequately measures skills, behaviors and attitudes required in subsequent medical training.
11. Describe the system for ensuring that students have acquired the core clinical skills specified in the school’s educational program objectives. Evaluate its adequacy. Are there any limitations in the school’s ability to ensure that the clinical skills of all students are appropriately assessed?

The faculty of each discipline sets the standards for achievement in their discipline. At least one representative of each discipline sits on the Med I-II committee or the Med III-IV committee and sets standards for their discipline. The Med I-II committee consists of clinical and basic science educators while the Med II-IV committee has more clinical faculty.

All evaluation of student achievement is based on the objectives and standards noted above. As described in the data base, the system of evaluation for students for the first two years is multifaceted. Each unit is evaluated using a written examination based on the learning objectives of the unit and drawing on cases, lectures, laboratory and additional elements of the curriculum. In addition, all students are evaluated on their performance in the tutorial for each Unit. To pass a Unit successfully, students must successfully and independently pass each element of the evaluation, including the tutorial evaluation. The clinical components of the first two years are assessed both formatively at the end of Year I and formally by an OSCE examination at the end of Year II. In some cases, specifically the elective Unit, a written report is required.

As noted above and in the database, students’ achievement of the core clinical skills is adequately assessed. For each clerkship experience in the third year, students are evaluated on their clinical performance at mid-unit and at the end of unit. Each clerkship unit also evaluates knowledge through an end of clerkship written examination, and clinical skills are directly evaluated through two OSCE examinations. The fourth year experience, including Care of the Elderly, is also evaluated. The clerkships have mapped their objectives to the experiences students must have. This ensures that domain is sampled in evaluation.

Evaluation of students beyond assessing skills as medical expert occurs at all stages of our curriculum. The problem-based COPS curriculum stimulates problem solving and clinical reasoning and is evaluated at a mid-point and final evaluation of each COPS unit. Communications skills are further evaluated in the Learning Resource Center. At the end of Med II, an OSCE is conducted to further evaluate problem solving, clinical reasoning and communication skills. In Med III and Med IV these skills are targeted in student evaluations. With the advent of CanMEDS competencies by the RCPSC our faculty are aware of the importance of evaluating these skills.

As noted, there is a systematic process under development to better teach and assess professional behaviors. A Professionalism Committee is working to strengthen teaching and evaluation in this area. Tutorial and clinical evaluation forms have been revised to better guide and facilitate this evaluation.

Students report that they find examinations in most clinical experiences/rotations to be a fair representation of what they have learned and the objectives of the experience. Notable exceptions are Internal Medicine, Surgery and Family Medicine. High percentages of students rate feedback on performance as very good to excellent, with the exception of the Surgery rotation. The Curriculum Committee has recently approved a proposal by the Surgical Clerkship Committee and the Department of Surgery to adopt the NBME Part 2 Surgery exam as the summative exam for our Surgical Clerkship. The proposal was adopted as a pilot project to be reviewed at year end.
D. Curriculum Management

12. Assess the adequacy of mechanisms for managing the curriculum and ensuring a coherent and coordinated curriculum. Do the curriculum as a whole and its component parts undergo regular, systematic review? Provide evidence that the school monitors the content covered in the curriculum to ensure that gaps or unwanted redundancies do not occur. Does the chief academic officer have sufficient resources and authority to assure that the educational program can achieve institutional goals and learning objectives?

During the last accreditation process, the site team identified that the Curriculum Committee was not effectively situated or represented in the Faculty’s organizational chart. Since that time, the Committee has been made a Standing Committee of Faculty to which members are nominated and elected. The Committee’s terms of reference (included in the Faculty of Medicine’s governance document) indicate its mandate, responsibility and authority to manage the curriculum centrally. The Committee functions well to make curriculum decisions and to ensure regular review of courses and schedules. The Committee undertakes review of the various units and clerkships comprising the curriculum. This is done by subsets of Committee members and then presented to the Committee as a whole. Recommendations for improvement are made to the Unit or Course Chair. In addition to meetings with the Course Chairs, the reviews include student evaluation of the Units and Clerkship experiences.
Despite these changes, one-third of respondents to the Faculty survey either did not agree or had no opinion about whether the Curriculum committee operated effectively. Although the Associate Dean for Undergraduate Medical Education, who chairs the Curriculum Committee, provides regular updates at Faculty Meetings and the Council of Associate/Assistant Deans, this suggests broader knowledge of the management structure for curricular design and coordination is necessary.

When more broad ranging reviews of the curriculum are warranted, e.g. the Clerkship, these are generally undertaken by a specially constituted Task Force representing the expertise and stakeholders needed. The results of this review are presented to the Curriculum Committee. Similarly, a recent decision to be more systematic about the teaching and assessment of professionalism led to a committee which reports to the Associate Dean as chair of the Curriculum Committee.

Two other Committees are extremely important in the management and oversight of the Curriculum. These are the Unit and Component Heads’ committee, comprised of the leads for the various Units in Years I and II, and the Unit Chairs Committee, comprised of the Chairs of the Clerkship experiences (Unit Chairs). The mandates of these committees are similar in that they are a forum for monitoring and managing the curriculum. They also make recommendations to the Curriculum Committee regarding required changes. These Chairs of these Committees are appointed by the Associate Dean.

Over the past few years, it has become apparent that the mechanisms for communication between those two committees and the Curriculum Committee have not been consistently effective. This has led to the revision of the Committees’ Terms of Reference to have the chairs of those Committees on the Curriculum Committee. The Chairs of the Progress Committees for Years I and II, and Years III and IV are also members of the Curriculum Committee. This provides a feedback loop to the Curriculum Committee and ensures that issues are raised and addressed there. The composition of the committee also helps to mitigate the issue of committee members who join the committee with little knowledge of the overall curriculum.

Student representation on the Curriculum Committee is highly valued; students (one per each educational year, and the Vice President for Medical Education of the Student Society) play an active an important role in raising and addressing issues and in helping to shape the curriculum and its policies. Students are regular attendees and committed contributors.

Both the Curriculum Committee and the Year Committees have representation from the Division of Medical Education and draw on this expertise. When decisions about additions or revisions to the Curriculum are made, there is an opportunity for input regarding the appropriateness of teaching methods. Recently, an Evaluation Subcommittee was formed and it reports to the Curriculum Committee. Through this Committee, expertise regarding the selection of appropriate evaluation strategies can be brought to the discussions of these topics.

The recent work done on our Curriculum map moves us significantly towards a more systematic identification of where certain aspects of the curriculum are taught and learned, and will help in identifying unwanted redundancies and gaps.

The availability of faculty for teaching varies between departments and can be influenced by individual departmental practice plans. In basic science departments particularly, new faculty members are often recruited mainly for research potential and there is pressure on faculty to focus on and be productive in their research. PBL is a labor-intensive form of teaching. The faculty survey confirms that only a minority feel a sufficient faculty members are available to meet the educational needs of the medical school.
Electives are occasionally turned down in Family Medicine due to limited resources at community physician level.

Faculty contributions to teaching are determined at the departmental level. The Undergraduate Medical Education program has been able to maintain the required commitment to medical school education; however, pressures do exist for departments across the Faculty of Medicine. For clinical departments, alternative funding plans (AFPs) influence their ability to commit to undergraduate medical student education. Basic science departments have competing educational commitments in the Faculties of Dentistry, Health Professions, Science and Graduate Studies. Tutor recruitment and tutor preparation, including orientation workshops and weekly tutor meetings are a challenge for Undergraduate Medical Education as tutors have many other commitments. Unit Heads may lack sufficient protected time for case writing and examination preparation. Clerkship directors also have minimal protected time, but there have been improvements in this area, most notably in the Departments of Family Medicine and Psychiatry. Traditionally, clerkship education has occurred primarily in Metro Halifax by members of clinical departments with AFPs in place or with other financial affiliation with the Faculty of Medicine. As more teaching moves beyond these borders, Undergraduate Medical Education continues to receiving increasing numbers of inquiries regarding equivalent rewards and recognition. Clinical clerkship preceptors who are members of a Faculty of Medicine clinical department in other health regions are not typically included in AFPs. These preceptors are usually fee-for-service remunerated for their patient care responsibilities and generally do not participate in group practice plans that support direct remuneration for teaching activities.

13. **Judge the effectiveness of curriculum planning at your institution. Describe efforts to ensure that there is appropriate participation in planning and that resources needed to carry out the plans will be available. How effective are the procedures to rectify any problems identified in the curriculum, and in individual courses and clerkships? Describe and evaluate, and provide illustrative examples.**

Curriculum planning occurs at several levels, as indicated in the database. Overall responsibility and oversight is the mandate of the Curriculum Committee. This overarching Committee sets overall principles and parameters for the curriculum, the length of each Unit/clerkship, and the broad design elements such as the number of lectures, scheduling and number of cases. The Curriculum Committee must approve all course plans, and any major changes to the content and/or process of a unit. Major changes may occur following recommendations from a special review or Task Force. These changes are approved by the Curriculum Committee and each Unit is responsible for making the resulting adjustments.

At the level of individual units and clerkships rotations, the objectives for each unit are set by the faculty involved, using as a guide the standards for their respective disciplines. These objectives and the resulting curriculum are reviewed yearly by the Unit and Clerkship Committees drawing on their experience, student performance in meeting the objectives, feedback from students on the course, and recommendations arising from the Curriculum Committee’s review.

Where curriculum planning involves all Units and clerkship rotations, the year Committees (Unit and Component Heads, and Clerkship Chairs) discuss changes and improvements and how to incorporate them. Incorporation of Ethics objectives into the cases in Years I and II is one example. The Unit Heads Committee discusses potential approaches and concerns. Similar discussions occurred in considering more explicit teaching and assessment of professionalism.
An additional method of planning and change may occur when COPS cases are reviewed to determine what teaching/learning occurs for a particular topic and to suggest where gaps may be addressed. Examples of this have included professionalism, humanities or global health awareness.

Recently, we have been addressing ways to improve on the variability identified in writing the objectives for each of the Units, particularly in Med I and Med II. The Unit and Component Heads addressed this initially by having a session led by the University Centre for Teaching and Learning to discuss current best practice in objective writing. A working group has been formed to develop guidelines for objective writing to assist the Unit Heads. More detailed assistance will be available. This will ultimately strengthen the curriculum planning process as the objectives and the intended outcomes will be more clearly stated.

Two additional illustrative examples highlight the effectiveness of our curriculum planning. A review of the problem-based learning cases revealed that the ages of the patients in the cases was biased toward younger patients, (for example, a young patient with myocardial infarction), rather than ages that reflected the predominant occurrence of the condition in the population. When brought to the attention of the Curriculum Committee, changes were undertaken. Similarly, another review identified an important “hidden curriculum” issue i.e., that implied that all mistakes made in the cases were by family doctors. This example also illustrates the role of students in curriculum planning, as it was students who initially brought this to the attention of the curriculum managers. The Curriculum Committee engaged a student to conduct a thorough review and confirmed this bias. This led to the Department of Family Medicine offering to assist Unit Heads to make the required changes in the cases identified. This illustrates the advantage of student involvement in the Curriculum Committee reviews and their ability to bring the student lens to the curriculum. Collectively, we can better understand now the learned and the taught curriculum may vary from the formal stated curriculum and objectives.

14. How does the curriculum committee assure that students have sufficient time for learning? Evaluate the workload and balance between education and service in the clinical years, as well as the effectiveness of the mechanisms used to monitor student duty hours. Do students receive sufficient formal teaching during their clinical clerkships?

A major goal of our curriculum, and one that seems widely understood by our faculty, is the need to develop skills in self-directed learning. Most faculty members also recognize that this takes time. The original learning schedule for the COPS curriculum allowed for significant periods of unscheduled time for learners to research their learning objectives and to read around patients encountered in the clinical setting.

Despite the best intentions of planners and teachers, we have struggled to keep adequate time for self-study in the students’ schedule. This has been a particular challenge in Year II. A major strength of our curriculum is the innovative ‘case practice’ experience that occurs in Year II. Three times yearly, all students have the opportunity to interview and receive feedback from trained Standardized Patients in the LRC. These patients simulate a condition that relates to the Unit under study (for example, cardiovascular or respiratory) and provide feedback to students on their history taking and communication skills. The students rate this experience very highly. This is an example of continuing tensions between providing excellent educational experience and providing adequate unscheduled time.

Overall, the majority of medical students believe that the curriculum does not provide adequate time for independent study or for personal time. This particular problem for Med I students may be partly explained by PBL being a new experience for them. The curriculum schedule does not allow for a period
of review prior to exams. A slight majority of Med II students believe there is sufficient time for these activities.

From a call point of view, students follow the residents’ schedules and are given permission to leave at noon the next day. We are supportive of this. In the near future, there may be a change in the residency schedule and this has been discussed at the Unit Chairs meeting. There is a good balance and awareness of service and learning in all of the clerkships.

Time commitment of medical students especially in the clerkship years will be addressed with each Clerkship Director when they meet for their reviews in the summer and fall 2008. The Office of Student Affairs is available if students are feeling fatigued or have other extenuating circumstances that prevent them from fulfilling their required daily activities. Students can also request time off for special occasions such as weddings and funerals. A Time-off policy and an Extended Leave policy are under review. Clerkship Directors are concerned that students not be released from short rotations unless they are presenting research papers. In the past two years, there has been stricter adherence to these policies, especially the number of days students can be relieved from their clerkship clinical duties.

15. For schools that operate geographically separate campuses, evaluate the effectiveness of mechanisms to assure that educational quality and student services are consistent across sites.

At the time of writing, we do not have geographically separate campuses. Although our students have some experiences in other sites, all evaluations, course planning and implementation are overseen centrally.

The Faculty of Medicine has advised LCME and CACMS that we have government approval for the implementation of an undergraduate medical education program through a “branch campus” in the Province of New Brunswick with a formal agreement signed on June 10, 2008. We expect to begin the first class of 30 New Brunswick students in September 2010. Support for the operation of the program at all levels will be in place and will be fully sufficient to meet our projected needs. Once complete, this component of our undergraduate medical education located in New Brunswick will consist of 120 students across all four years of study.

In its response, LCME and CACMS determined that the adequacy of resources for the class size increase and the plan for an additional campus would be reviewed in depth during the current full survey visit scheduled for February, 2009. The Faculty of Medicine is submitting the required “Template for Reporting New/Expanded Campuses” with the Medical Education database and Institutional Self-Study to the survey team and to the CACMS and LCME Secretariat offices.

E. Evaluation of Program Effectiveness

16. Describe the evidence indicating that institutional objectives are being achieved by your students.

The overarching Faculty of Medicine educational goals for all undergraduate medical education students aim to help ensure every medical student by the end of their four years are:
1. Active, independent learners, able to seek out information, to critically analyze it and to apply it to scientific reasoning to the solution of clinical problems and to use the changing technology of information processing; and

2. To help ensure each student possesses a strong foundation of knowledge, skills, value and attitudes required for the pursuit of a postgraduate medical education program and for life-long learning. This will include the ability to:

   - Identify, evaluate and help resolve health problems in individual patients, to help patients adjust to their condition and to make efficient use of available resources for these purposes. In so doing the student will utilize appropriate aspects of basic, clinical, behavioral and social sciences;
   - Educate patients and others in the promotion of health and the prevention of disease;
   - Take into consideration the personal needs of each patient, as well as the family and social environment, when managing clinical problems.
   - Work effectively as a member of a team that includes physicians, other health professionals and community agencies;
   - Participate in peer review activities and respond positively to constructive criticisms;
   - Contribute to the development and success of health care programs and institutions; and to
   - Appreciate the fundamental contribution to research to the evolution of medicine.

These institutional educational goals are woven throughout the curriculum across all four years of the program. The evidence of meeting these goals is demonstrated in formalized outcomes from internal examinations, performance assessments of clinical skills, student evaluations of courses and clerkships; student advancement rate; assessment of student specialty choice and student success in matching to desired residency programs. The Medical Council of Canada results Parts 1 and 2 are the key external measure by which the above objectives are being met by our students (as described in the table in Section II, 2 which describes the MCC QE Part I exam results). As noted below in question 17, further work will be undertaken to increase data for tracking our graduates.

17. Discuss how information about your students and graduates is used to evaluate and improve the educational program.

The Medical School collects and uses a variety of measures to evaluate program effectiveness including: results of MCC Parts 1 and 2; student scores on internally developed examinations; performance based assessments of clinical skills; student evaluations of courses and clerkships; student advancement rate; student specialty choice and success in achieving matching to desired programs.

Information regarding student advancement rates and their performance on internal examinations is reviewed at the respective Progress Committee meetings. General feedback is returned to the Units, either directly or through the UME office. Student evaluations of units, although challenging to collect, are utilized directly by the Unit or Clerkship Chair, as well as by the Curriculum committee in its ongoing review.
After a few years’ lapse, due to limited resources, we instituted a five-year follow up of graduates in the past year. The survey was conducted by email primarily, with mailed administration to those with no email contact. The low 21% response rate limits the usefulness of the information. This survey will be revised and re-administered. The survey results and report are attached as Appendix II.

We have not followed our graduates into residency beyond collecting information on their choices and ability to be successfully matched with programs of their choice. However, we have the opportunity, with the permission of the University of Calgary, to administer a validated survey they have used at the time when their residents have completed PGY1. The survey is to be sent to the Program directors of all programs to which our residents have been matched. Respondents are asked to rate resident performance compared to other residents at a similar level in their program. We are currently planning for this to occur in the spring of 2009.

III. MEDICAL STUDENTS

A. Admissions

1. Critically review the process of recruitment and selection of medical students, and evaluate the results of that process. Is the size of the applicant pool appropriate for the established class size, both in terms of number and quality? How do you validate your selection criteria?

   All indicators suggest that the admissions process is working well. The size of the applicant pool is sufficient: more than 600 apply, 300 are invited for interview and 90 (98 as of September, 2008) are selected. The average GPA of successful applicants exceeds the minimum required for application (3.3 minimum required; 3.8 is average for past 5 years). The average MCAT score required for application is 24; however, the average score for successful applicants is 28 (range 24-40). The selection criteria are reviewed annually by the Admission committee. Published research guides significant changes in the process we have developed.

   In 2008, our standard interview was replaced with multi-mini interview (MMI), as developed and studied at McMaster University. We have good collaboration with other universities in that McMaster University supported our implementation of the MMI. MMI scores have been validated by statistical analysis.

2. Evaluate the number of students of all types (medical students, residents, visiting medical students, graduate students in basic sciences, etc.) in relation to the constellation of resources available for teaching (number of faculty members, space, clinical facilities, patients, educational resources, student services, etc.).

   The desired enrolment expansion of undergraduate medical students has been accompanied by a number of significant upgrades and renovations within the learning and student support areas. A major renovation and upgrade was made to the anatomy and histology teaching lab in 2006. This renovation provided expansion of space to accommodate increased numbers of students and provided upgrades to facilities, equipment and technology. In addition a new anatomy resource room was established where self directed learning can occur. This centre includes models, specimens and computer access to on-line resources. This area is adjacent to the anatomy teaching lab.
Upgrades in all tutorial rooms has occurred over the past two years. This has included new furnishings, internet access with a large screen wall-mounted monitor, new flooring and painting. Two additional tutorial rooms were developed in the summer of 2008 to accommodate the increase in the first year class size.

Minor modifications have been made to the lecture theatres over recent years and this is currently a major focus for renovations in anticipation of the 2010 start-up of the Dalhousie Medical Education Program in New Brunswick when high quality video-conferencing capabilities will be a necessity in a selected number of lecture theatres and meeting/teaching rooms.

A major flood in 2007 in the building that houses the Learning Resource Centre resulted in extensive repairs and renovations including new flooring and painting. Given these considerable renovations, the Centre was then also substantially upgraded with new equipment and furnishings provided in all clinical teaching rooms.

Considerable resources also have been devoted to improve meetings spaces, current video-conferencing facilities in the MedIT Department, and lecture theatres, most notably the lecture theatre on the third floor of the Tupper Medical Building. The work currently being completed for the eating area in the Tupper Building complex will also serve to increase spaces for informal interactions among students, faculty and staff.

The investment and upgrades in current buildings has been substantial but it is acknowledged that we are currently at the maximum capacity for most of these facilities. A government announcement is anticipated for development of a new education building on the campus housing the Faculty of Medicine, Dentistry and Health Professions. This building would considerably alleviate capacity pressures (especially given that lecture theatres are shared among a number of health profession programs), provide increased numbers of state of the art lecture theatres and will also enable the relocation of the Learning Resource Centre, (now a 10 minute walk) to the central medical and health profession campus.

The availability of adequate clinical teaching facilities remains a challenge especially in our major tertiary care teaching hospital. The Capital District Health Authority is fully aware of pressures on teaching space and a comprehensive assessment of all teaching spaces in the hospital complex was undertaken in 2006/2007. This assessment provides helpful data in the master plan site redevelopment work Capital Health is currently undertaking.

In terms of the number of supporting faculty and key administrative support staff, we have been able to maintain and/or refill all positions vacated due to retirements or resignations. In most clinical departments the total clinician complement has appreciably increased and all appointments carry a requirement for some level of academic contribution.

Thus, the level of supporting infrastructure, faculty complement and student supports has not only been maintained at a level to meet the needs of all types of students but also has been expanded and improved upon in several areas.

3. Describe your goals for gender, racial, cultural, and economic diversity of students. How well have they been accomplished? Are there student recruitment and support programs and professional role models appropriate for the school’s diversity goals?

The mandate of Dalhousie University Faculty of Medicine is to provide medical education for Maritime residents. The school preferentially selects applicants with Maritime residency status, assigning
nine seats per year for non-Maritime Canadians. The latter class members contribute an important level of diversity in terms of general life experience and background but generally do not significantly alter overall racial and cultural diversity of the total class profile.

Related to enrollment as a reflection of regional ethnic, cultural and racial diversity, the Maritime population is historically of Anglo-Saxon descent, with a smaller contribution from early French settlers (Acadians). While the Maritimes generally have not been a destination of choice for immigrants from abroad, most of whom usually choose to settle in larger urban centers in central and western Canada, visible minorities have increased in the Maritimes over the last 40 years. Current and recent medical school classes mirror the fact that the largest visible minority groups are of Asian descent. The Afro-Canadian population of the Maritimes is relatively small. For example, the Afro-Canadian population in Nova Scotia represents 2.2% (19,670/897,570) of the population and in New Brunswick 0.5% (3850/719,710). Few Nova Scotia-born Afro-Canadians apply to university or to medical school; Afro-Canadian students tend to come from immigrant families from the Caribbean, Africa or elsewhere. In Nova Scotia, there are approximately 12,000 residents of Asian/other Pacific or Arab descent accounting for 1.4% of the population while, in New Brunswick, this group is approximately 0.64% of the total population. The aboriginal population in Nova Scotia is approximately 1.5% of total.

We have engaged in initiatives to encourage enrolment from our aboriginal (documented elsewhere) and Nova Scotia-born Afro-Canadians communities. For those few who do apply, an entry position is offered provided they meet minimum criteria. The issue of professional role models is a challenging one. Factors that constrain the application and entrance of minority indigenous persons to the Faculty of Medicine also have resulted in a paucity of role models for these groups.

In terms of gender balance, during most years in this decade, female student enrollment has exceeded that of male student enrollment by 7-25% with a maximum of 63% females in one year. Two years were exceptions to this when males slightly (by a 4-6% differential) exceeded females. In each of these years, actual enrollment closely matched the gender split in the overall application pool.

Overall, the goal for medical school enrolment is that it reflects the population of the Maritimes. Visible minorities comprise 14-20% of medical school class, slightly in excess of the general population. Also, the rural/urban split in population is considered to be 40/60 and this is approximately the average split in medical school enrolment in recent years. As far as we can determine, each class represents a reasonably broad range of socio-economic backgrounds and we have considerable support directed to specifically identified financial needs. As noted above, indigenous Afro-Canadians and Aboriginals are underrepresented in medical school and in most post-secondary education programs. Affirmative admission acceptance policy for indigenous Afro-Canadians and aboriginals is in place for those who meet minimum criteria; to date only aboriginal students have applied and been accepted under this policy. Gays, lesbians, trans- and bisexuels are not discriminated against in the admissions process.

Student services provide assistance to a student-run support group for organization and funding of meetings and helps in the identification of faculty mentors with particular backgrounds.

Based on provincial legislation, the University and the Faculty of Medicine cannot require specific details concerning students’ ethnic backgrounds during the admissions process. Data collected in this area are based upon voluntary self-identification.
4. **Evaluate whether the acceptance of transfer students, or visiting students in the school’s affiliated teaching hospitals, affects the educational program of regular students (i.e., in the context of competition with the school's own students for available resources, patients, educational venues, etc.).**

Generally, we do not accept transfer students as the curriculum design does not facilitate a smooth educational transition. Many requests are received from visiting elective students. With our increasing student numbers, and similar increases across the country, it is increasingly necessary to give our own students preference, both to mandatory and elective experiences. We anticipate that this issue will increase. The development of the Dalhousie Medical Education Program in New Brunswick requires new educational opportunities be developed both in Nova Scotia and in the other Maritime provinces. Capacity may present as a short term challenge but we are confident that new educational opportunities can be established in our broader Nova Scotia and Maritime communities. Our soon-to-be appointed Senior Associate Dean for Rural and Regional Medical Education will be responsible for developing new opportunities to meet the increasing demand.

**B. Student Services**

5. **Comment on the levels of student attrition and academic difficulty in relation to your school’s admission requirements, academic counseling efforts, and remediation programs. How effective are counseling and remediation systems?**

Our attrition rate on average is less than 3% over the last 8 years. Those who leave medical school rarely do so because of academic difficulty. Students identified as having learning issues meet with the Associate Dean of Undergraduate Medical Education and the Assistant Dean of Admissions and Student Affairs. Where remediation is required, it is individualized and usually successful.

Sessions on study skills, time management and stress management are available through the University’s main campus. In practice, our students’ schedules make it difficult for them to access these services.

Academic counseling services also are available both through the Office of Student Affairs and at the main university campus. For those with documented learning disability, accommodations are made for note-taking and exam writing. If a learning disability is suspected but no documented neuropsychological testing is recommended and referral can be made if the student agrees.

6. **Analyze the pattern of career choice among your recent graduates. Is the pattern congruent with your school's mission and goals? Evaluate the effectiveness of your systems of career counseling, residency preparation, and the selection of elective courses.**

Only 2 students on average do not match every year in CARMS. Dalhousie has the highest percentage of students matching to program of 1st choice among medical schools. Family medicine/specialty matching is in line with the medical school’s mission. Career counseling is year specific and present in all 4 years. The Student Affairs office maintains an open door policy for all students to discuss their specific career questions. The office may recommend and facilitate a student to meet with a practicing physician and/or resident in an area of interest to discuss the specialty. The Postgraduate Office will also meet with students as requested to review programs and to offer advice. Students are encouraged to ask questions of the residents and other physicians they may encounter throughout their clinical rotations. Additionally, students are given access early in first year, to the
Careers in Medicine (CiM) website. This website provides the student with a personalized portfolio that they can use throughout their time in medical school. The CiM template provide students the opportunity to record their experiences, their attributes, skills, interests, etc and provides information related to the various specialties for matching.

From first year through to fourth, students are encouraged to use their electives to explore various disciplines of interest. During the fourth year, students have 12 weeks of scheduled elective time and they are permitted to complete 2 week electives in various disciplines to maximize their time in many disciplines.

As stated in the Clerkship manual the objective of the electives is to provide flexibility and opportunities in order to:

- Gain experience in aspects of medicine not offered in the regular curriculum
- Study particular areas of the curriculum in greater depth
- Explore career opportunities

Students are encouraged to be creative in their selection of electives. Electives in basic science, medical education, Bioethics, and Health Law are encouraged. Additionally, students should choose areas that are complimentary to the specialty of major interest (i.e. for an interest in Orthopaedic Surgery, an experience in Radiology and/or Anaesthesia would provide excellent complimentary experiences).

7. Evaluate the level of tuition and fees in relation to the size of graduates’ accumulated debt, and to the level of financial aid needed and available. What is the school doing to minimize student indebtedness and comment on the effectiveness of these efforts? Comment on the effectiveness of debt counseling programs.

Student survey respondents in all classes rated the adequacy of financial assistance offered by the financial institutions to be better than that offered by either Dalhousie University or the Provincial government. Less than half of respondent thought the latter two sources offered adequate support.

The average debt load is high. Average debt load accumulated as per financial aid applications submitted in 2007 were as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Debt Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med I</td>
<td>$50,259</td>
</tr>
<tr>
<td>Med II</td>
<td>$87,192</td>
</tr>
<tr>
<td>Med III</td>
<td>$135,546</td>
</tr>
<tr>
<td>Med IV</td>
<td>$129,571</td>
</tr>
</tbody>
</table>

Financial management counseling provided initially in Med I and throughout medical school. Students are beginning to meet with counselors in MD Management upon acceptance to medical school. Staff at MD Management have additional staff to accommodate the requests for counseling and they maintain a sound working knowledge of the resources and expenses of medical students in each year.

MD Management offers debt counseling programs for medical students and maintains office hours within the Student Affairs Office. Students are able to make appointments in advance or can drop in to discuss financial issues. Information regarding MD Management is included in the Student Preparation guide which is distributed to all entering students and is posted on the Admissions webpage. Information available from MD Management financial consultants is based on meetings with students for several years (since 2002 when Student Affairs began). Initially, students who met with MD Management did not demonstrate full understanding of their debt structure, the cost of medical school and how to control the debt upon graduation. Since the program began, there have been several initiatives to help improve the
financial awareness of medical students. Seminars based on student selected topics are given regularly. Meetings with all first year students are arranged in small groups and each student is asked to complete a cash flow based on their own situation. Student knowledge and understanding is increasing. Success has been demonstrated in the reduction in the “perceived” stress regarding finances in addition to students being more aware of the cost of medical school and the cost of their financial decisions. Students are meeting with MD Management earlier on and are therefore practicing financial strategies earlier and more consistently.

8. Evaluate the adequacy of student support in the following areas:

Personal counseling and mental health services.

Personal counseling is available rapidly and in confidence. The Director of Student Affairs and the Assistant Dean of Admissions and Student Affairs meet with students as needed in a timely fashion. The Office maintains an open door policy and students can drop in and/or call for a same-day appointment. Students also may access the confidential Student Advisor. In this situation, the concern is not brought to the Medical School’s attention unless there are some extenuating circumstances, and/or the student’s academic performance is affected. Referrals are made to the main campus counseling services when appropriate. These counseling services triage the student to the appropriate level of intervention. Student Affairs has an agreement with a small number of psychiatrists who will see medical students urgently in private (non-hospital) offices. The Office of Student Affairs will sometimes work with staff in the UME office depending on the circumstances. For example, if the student requires changes in their schedule and/or time off due to personal circumstances, the Director will consult with the Director in UME to work out a possible solution. Each student’s situation is unique and is treated as such.

The longer students are in medical school, the less likely they are to be satisfied with the supports available to them to manage stress. In Med I and II more than 60% view the supports as very good to excellent. This suggests students who have not previously attended Dalhousie University maybe unaware of the programs/workshops offered by Dalhousie Counseling Services.

Preventive and therapeutic health services, including immunizations and health and disability insurance.

Wellness is promoted through the Office of Student Affairs with sessions on stress management and healthy living. Discussions are also underway with the Director of the Health Living Program to introduce more sessions in this area. The Office of Student Health is accessible for all university students. Required immunizations are provided to all entering students through Health Services. These are coordinated throughout their schedule and the nurse comes to the building to administer on site. Students have medical insurance through the university health plan and are counseled to purchase disability insurance on graduation.

Education of students about bodily fluid exposure, needle stick policies, and other infectious and environmental hazards associated with learning in a patient care setting.

The Policy on Communicable and Infectious Diseases is available on our website. Needlestick policies, bodily fluid exposure and other related hazards are covered in the introduction to clerkship. Universal Precautions and Surgical Scrub in the Med I module of the Patient-Doctor Unit are taught
through the Learning Resource Centre in collaboration with staff nurses from Capital Authority District Authority.

Students are also prepared in handwashing technique, infection control, and aseptic technique as part of their procedural skills education.

C. The Learning Environment

9. Comment on the effectiveness of school policies for addressing allegations of student mistreatment, and for educating the academic community about acceptable standards of conduct in the teacher-learner relationship.

Results of the student survey indicate that students in all classes believe the overall quality of policies to deal with student harassment and abuse is better than the activities that prevent such abuse. Although this discrepancy is seen in all classes, overall a majority of students report that the policies are adequate. A small number students report experiences of discrimination based on age, gender, race or socio-economic status (ranging from 1% in Med I to 8.2% in Med IV). The increase in perceived discrimination may be a result of exposure to a broader range of persons, patients and professional communities. Further, students in the clinical years arguably are less protected.

Students in Med I were the least likely to believe the information about sexual harassment was adequate. The proportion rose in Med IV, to just over 60%. Clinical Department Heads have the responsibility to ensure that high standards of conduct are in place in the clinical teaching environment.

10. Evaluate the familiarity of students and course/clerkship directors with the school’s standards and policies for student advancement, graduation, disciplinary action, appeal, and dismissal. Review the adequacy of systems for providing students with access to their records, and assuring the confidentiality of student records.

Overall, by virtue of their membership on the overall Progress Committee that governs the year in which their course/clerkship is located, there is excellent awareness by the course /clerkship directors of the School’s standards and policies for advancement, and graduation, and in such cases as it arises, appeal and dismissal. All students and Faculty also receive the Promotion and Evaluation Regulations on DalMedix; these are updated and approved yearly. During Orientation week, the first year students are informed about the guidelines, how to find them, and the importance of familiarizing themselves with them. Student representation on both of the Progress Committees is a direct resource for students who wish clarification on a particular policy or standard.

Students may review their records with a minimum notice of 24 hours (except in emergency situations). The 24-hour waiting period allows the Undergraduate Medical Education Office to ensure the file is complete and that confidential documents are appropriately stored (e.g., admission records are also kept in the student’s file).

Students may challenge their records when they fail an examination. There are processes for requesting that a failed paper be remarked. These processes are described in the Promotion and Evaluation Regulations.
Confidentiality of the files is maintained through limited access, both in the Undergraduate Medical Education Office and the Office of Student Affairs. A policy exists to allow faculty members access under defined circumstances.

11. **Discuss the school’s expectations for professionalism on the part of students, faculty members, and staff. To what extent does the school monitor the learning environment (especially the clinical setting) to determine how well the informal (“hidden”) curriculum conforms with and reinforces those expectations?**

The Faculty is committed to improving and incorporating the education and assessment of professionalism. The recently formed Professionalism Committee is charged with revising the preliminary background policy document – a draft of which has been reviewed by Faculty Council. Further work and development of a final professionalism policy will be brought forward to Faculty Council and Faculty for review and approval. Professionalism behaviour is regularly evaluated and is incorporated into all classroom, tutorial, and clinical experiences. All students must meet standards and professional behaviour to progress and to graduate. Monitoring of the learning environment is both formal and informal.

12. **Assess the adequacy and quality of student study space, lounge and relaxation areas, and personal storage facilities. Do available resources for study contribute to an environment conducive to learning?**

Since the last accreditation, substantial priority has been given to improving study space, lounge and relaxation areas and personal storage facilities to better meet student needs.

All tutorial rooms have been updated with new furnishings, flooring and paint. Each tutorial room is now equipped with internet access and a large-screen, wall-mounted monitor. The tutorial rooms are designated solely for the use of the undergraduate medical students. Outside of the scheduled tutorial sessions, these rooms provide exclusive study space. For safety and security, all tutorial rooms are now equipped with swipe card access.

The Learning Resource Centre recently underwent major renovation and renewal. Due to a flood in the Centre, upgrades to the drainage system, new flooring and painting of the area occurred. In addition, equipment in the clinical teaching area was replaced and modernized. This includes exam tables, clinical teaching equipment and furnishings.

Each student has access to a locker located within the tutorial and lecture area. Damaged lockers have been replaced. A new mail box structure has also been provided for the medical students.

The Kellogg Library has created more learning commons space.

In the spring, 2008, the student’s lounge was renovated and upgraded. This project had full student input to ensure their requirements were fulfilled. This project replaced flooring, painted walls, replaced all furniture including tables and chairs, and added more casual seating areas. A computer terminal, television/video system, new microwave oven and new counter areas were part of this major upgrade.
During the summer and fall of 2008 the main eating area within the Faculty of Medicine was renovated. The space was enlarged, flooring and painting were upgraded and new tables, chairs and casual eating areas were added.

IV. FACULTY

A. Number, Qualifications, and Functions

1. Describe factors that facilitate and hinder the recruitment and retention of faculty members at your institution. Is the current size and mix of faculty (gender, ethnicity, academic discipline) appropriate for the attainment of your institutional goals?

   The Faculty of Medicine complies with the University's academic recruitment process, which is based on best practices in interviewing and hiring and is monitored by the University’s Human Rights and Equity Advisor under Dalhousie University's Policy on Employment Equity and Affirmative Action. This Policy is in compliance with the Nova Scotia Human Rights Act and the Federal Contractors' Program to implement Employment Equity. The University will take pro-active steps to eliminate discrimination in its two forms: direct discrimination against individuals and systemic discrimination in the University's employment systems that is often unintentional. The University is committed to reversing the historic under-representation of women, Aboriginal peoples, racially visible persons, and people with a disability on its faculty and staff.

   The policy states that when a faculty member retires or leaves, the position reverts to the Dean for placement. In general, new members of faculty are recruited through the Department with strategic directions in mind, including consideration of research strengths, strategic priorities, maintaining breadth of coverage and upcoming retirements. Teaching ability appears rarely to be the primary criterion of hiring although consideration is given to teaching experience.

   In the Department of Family Medicine, the clinical teachers are primarily family physicians serving the Maritime community; this assists in our efforts to achieve the school’s mission of serving the Maritime Community. All students experience health care outside of the tertiary system, thus serving a primary care population.

   Not all faculty feel the recruitment and development of the medical school’s faculty takes into account its mission, the diversity of its student body, and the population that it serves. Fewer than 30% of respondents agree or strongly agree that there are sufficient faculty members to meet educational needs.

2. Evaluate the availability of opportunities for both new and experienced faculty members (full-time, part-time, and volunteer) to improve their skills in teaching and evaluation. Is institutional or departmental-level assistance, such as training sessions from education specialists, readily available?

   Faculty involved in design, implementation and evaluation of courses, both clinical and preclinical, have access to expertise in curriculum design, methods of teaching and program evaluation. This expertise is found in the Undergraduate Medical Education Office where the current Director of Curriculum has a higher degree in education and in the Division of Medical Education where five of our
Faculty members have higher degrees in or related to education. A third area of growing expertise is in the more than 20 Faculty members who have completed or are completing the Masters in Medical Education in cooperation with Mount Saint Vincent University. This greatly increases our capacity, particularly in the clinical departments.

Faculty members at all levels of the program are supported in their development and evaluation activities by the development of templates and curriculum structures which are standardized across courses. An example would be the structure of cases, and weeks in Years I and II.

In addition, faculty members who wish to receive individual guidance or mentoring, or specific support in their educational work, can request support from the Division of Medical Education and will receive assistance as needed.

The majority of community-based preceptors with whom our students are placed are appointed to the Department of Family Medicine. The Department has a very active faculty development outreach to its preceptors. These faculty members, as with faculty in all departments at all sites, have access to Faculty Development in the areas described, through videoconferencing.

Faculty members regularly participate in the Annual Medical Education Conference which brings together the AFMC, the Medical Council of Canada, the Royal College of Physicians and Surgeons and the Canadian Association of Medical Education. There are also visiting educational experts who provide updates and workshops in current areas of importance.

Further assistance and support are available to faculty in the area of research. With regard to educational research, faculty development sessions are offered regularly by the Division of Medical Education. In addition, an annual competition for education research and development projects is held. Educational expertise is available to assist with the preparation and design of those projects. For those Faculty pursuing research projects in the context of a graduate degree, supervision is available, usually through the Division of Medical Education.

64% of Faculty survey respondents believe that there are adequate professional development opportunities for Faculty.

**B. Personnel Policies**

3. **Evaluate the system for the appointment, renewal of appointment, promotion, granting of tenure and dismissal of faculty members. Are the policies clear, widely understood, and followed?**

The Faculty of Medicine has developed a system called CAPR (Continuing Appointment with Periodic Review). This process specifically developed for clinical faculty to provide regular review and feedback related to their clinical and academic roles, was recently reviewed by Faculty Council and reaffirmed with suggestions for improvement. The CAPR process links with the departmentally initiated formal promotion review process. All promotions are reviewed by the Dean prior to recommendation to the President of the University.

There are clear faculty guidelines and policies for appointment, promotion and tenure in both Basic Science and Clinical departments. Within this, criteria are clearly defined for promotion in the categories of Research, Teaching, Clinical Service, and Professional and Community service. These guidelines were last reviewed and revised in 2002.
4. **Assess the adequacy of institutional and departmental conflict of interest policies relating to faculty members’ performance of their academic responsibilities.**

   A conflict of interest policy was developed by Dalhousie University in 2006 and discussions were held with Department Heads for clarification and dissemination. Although the Dean has provided assessment and suggested preventative measures in a few cases, no specific issues of obvious violation of the standards have needed to be addressed to date.

5. **Describe the extent of feedback provided to faculty members about their academic performance and progress toward promotion. Are faculty members regularly informed about their job responsibilities and the expectations that they must meet for promotion?**

   Of the Faculty who responded, 50% believed that they did not receive adequate or regular feedback about their performance. Faculty members in the basic sciences were more likely to believe they received regular feedback (37%) than their clinical counterparts (24%). The expectation is that all Faculty members will be provided with regular performance reviews and guidance for goals for the ensuing year at the department level. Regular performance reviews of department heads are conducted with the Dean.

   Annual performance review processes with feedback are in place for faculty members and some departments have developed more comprehensive programs. Feedback to faculty on their teaching of specific units could be more timely and specific. The Departments of Emergency Medicine, Psychiatry, Pediatrics, Medicine and Anesthesia are examples where well developed annual performance reviews incorporate self assessment, peer feedback and education and research productivity into an annual plan with objectives. This feedback process is helpful to support the promotions process. Basic Science and Clinical Department Heads have the responsibility for timely feedback to faculty members.

6. **Discuss the extent to which education is valued in the institution. How are the degree and quality of participation in medical student education factored into decisions about faculty retention and promotion?**

   Education of medical students is a central mission of the Faculty of Medicine, as is education of graduate students. Educational contributions are explicitly valued in the Standards for Appointment, Promotion and Tenure, as well as in the standards for Continuing Appointment with Periodic Review. Faculty members in either group may elect educational activities as the basis for their application and evaluation, and numerous occurrences of successful applications demonstrate this is possible.

C. **Governance**

7. **Evaluate the effectiveness of mechanisms for organizational decision-making. Are necessary decisions made in a timely and efficient manner with appropriate input from concerned parties? Assess the relative roles of committees of the faculty, department heads, and medical school administrators in decision-making.**

   There are several committees that help the Dean determine medical school policies. There is a Council of Associate/Assistant Deans, a Department Head’s group and Faculty Council. In addition, there are standing committees that are charged with overseeing and managing many aspects of the Faculty of
Medicine’s work; examples include the Admissions, Medical Research, Finance and Curriculum Committees.

Faculty Council is a 12-member elected body of Faculty that represents faculty and functions in an advisory capacity to the Dean. Faculty Council has approximately half clinical and half basic scientists as well as three student representatives. This group meets biweekly and is responsible to faculty as their representative on policies and practices. All academic policies passed through Faculty Council, are brought to Faculty as a whole. All departmental survey reports and Department progress reports are reviewed and approved by Faculty Council. For a time sensitive issue or in the case of a lack of quorum at a full Faculty Meeting, Faculty Council can act on Faculty’s behalf. This has become increasingly necessary in recent months.

As noted earlier, other standing committees contribute to the decision-making in the Faculty. With respect the educational program, the decisions are ultimately taken at the Curriculum Committee. However, major educational changes require the support of Faculty as a whole.

The faculty has intimate involvement in all decisions of the educational program. Faculty members make up the Admissions Committee and are involved in all aspects of this process. The recent change in the admission interviews has further increased faculty participation.

The Curriculum Committee is made up of faculty members who are responsible for the curriculum and appointed by the Nominating Committee. The resource intensive COPS curriculum ensures broad faculty participation. In 2007/2008, there were 185 tutors who gave 6,172 hours in small group sessions for Med I and II alone. Each unit has tutor meetings, which allows further participation and modification of the curriculum. Evaluations are also based on the faculty participation. In Med I and Med II each COPS small group has a mid point and final evaluation by the tutor. Student promotion is also a responsibility of the faculty as a whole.

8. **Assess the effectiveness of the methods used to communicate with the faculty. Do faculty perceive themselves to be well informed about important issues at the institution? Do faculty believe that they have sufficient opportunities to make themselves heard?**

There are many methods used to communicate with faculty members:

1) **Face to face meetings.** Faculty meetings are held monthly. Numerous tools (electronic and paper-based) are used to announce the meetings. Attendance is variable even with various attempts to improve participation. Attendance is generally small unless there are issues of substance to be discussed. For the one-third of faculty respondents who felt that the faculty meetings did not meet their needs, the most common improvement suggested was to reduce the information transfer at the meetings. It is a challenge to find meeting times that meet the needs of larger groups.

2) **Electronic communication.** The Dean communicates regularly with all faculty about "global" issues within the Faculty of Medicine (or which directly impact the Faculty of Medicine) via electronic memos including a regular quarterly summary update called “Dean’s Desktop.” The Dean also has provided regular and timely e-mail updates to all faculty about the developing medical education program in New Brunswick, as well as about issues such as enrolment expansion. Associate Deans also communicate by e-mail to provide faculty with relevant information pertaining to their areas (i.e., Undergraduate Medical Education, Postgraduate
Medical Education, Research, etc.). Faculty also receive a weekly e-mail calendar with upcoming events and notices.

3) **Print communications.** Faculty members receive a quarterly internal newsletter. The newsletter recaps major medical school events, achievements and developments. Last year, the Faculty of Medicine also launched a glossy, full-colour annual magazine (Dal Medicine) which includes feature-length articles on "the brightest and the best" of the medical school’s achievements. Many departments also produce print newsletters and annual reports that are distributed to faculty and staff in their departments, as well as to other departments within the Faculty of Medicine.

V. **EDUCATIONAL RESOURCES**

A. **Finances**

1. Discuss the appropriateness of the balance between the various sources of financial support for the school (i.e., state and local appropriations, income from patient care, endowments, tuition income, research income, hospital revenues). Are revenue sources stable? How do you view the financial prospects for the medical school over the next five years? Are there any departments in financial difficulty? Are there systems/policies in place to address departmental financial difficulties?

    Typical of most Canadian medical schools, Dalhousie’s Faculty of Medicine is supported by various sources of funding, the most significant is the annual operating budget allocation from the University based on University funding from the Nova Scotia Government’s Department of Education. The 2003/04 enrolment increase of eight positions was funded by the Nova Scotia Government’s Department of Health. This is an additional annually recurring resource which, through agreement by the University and Department of Health, flows directly to the Faculty of Medicine. This has increased the operating base of the medical school by approximately $1.7M. The operating budget of the Faculty of Medicine is also supported by clinical practice plans, interview and verification fees, international tuition fees, support service recoveries, endowment earnings and annual donations.

    The financial base for the Faculty of Medicine has stabilized considerably over recent years. Although there has been a continued percentage reduction (1-2%) to the operating funds allocated from the University, other revenue and revised financial management practices, including guidelines for addressing any departmental deficits or surpluses, have enabled initiatives to advance and recent year end results to be in surplus. Additional revenue to the Faculty of Medicine is confirmed with the September, 2008 addition of eight first year and two third year enrolment positions.

    Few departments or units have reported a deficit in the past fiscal year. In these instances, there is a Faculty wide requirement that a financial plan is developed whereby the deficits are paid back to the faculty over an agreed period of time. This approach has helped ensure sound fiscal management practices across all departments.

    Since 2003, University tuitions have been increased as a source of revenue to the University. The Faculty of Medicine expressed concern and reservations about these increases and the impact on student debt. The tuition increases have however also resulted in additional bursary support for students in need. Furthermore, over the past two years tuitions have been frozen and this stabilization of tuition is anticipated for the next three years.
The University has signed a new Memorandum of Agreement (MOA) with the provincial Government that sets out a three year funding commitment to the University. A significant modification has been made to the funding formula in this MOA whereby university enrolment increases are a significant factor to funding allocations. Given the increase in student enrolment at Dalhousie University, funding will increase to the University thus enabling stability to the funding base. The University is currently debt free. Therefore a significant portion of these additional funds will address defined strategic initiatives across the University.

2. **Comment on the degree to which pressures to generate revenue (from tuition, patient care or research funding) affect the desired balance of activities of faculty members. If so, what mechanisms are in place to protect the accomplishment of the educational mission?**

The Faculty of Medicine has kept central its mission of education and research as it works to both stabilize and increase revenue sources. The revised funding model in Academic Funding Plans (AFPs) defines a specific academic funding allocation. Work is underway to more clearly articulate the expectations within these deliverables. This will help protect the commitments required to fulfill the educational mission. Direct generation of revenue is a small component and not a threat to the Faculty’s educational mission.

3. **Describe how the school has positioned the clinical enterprise (faculty practice plan/organization and structure of healthcare system) for best results in the local health care environment. Is planning related to the clinical enterprise occurring?**

The Faculty of Medicine as a key facet of its social accountability regards its activities and future as one which is engaged with the communities it serves. The strategic planning process undertaken by the Faculty of Medicine in 2006 defines its strategic vision as “Improving the health of our Maritime community”. The Faculty therefore considers education, research and clinical care to be highly integrated. As articulated in our strategic vision, the Faculty of Medicine is uniquely positioned to contribute to the improved health of the Maritime regions through its education, training and research.

The Dean is actively engaged in several aspects of health care system planning at the level of primary health centres and the broader provincial system analysis and modification.

4. **Describe how present and future capital needs are being addressed. Is the financial condition of the school such that these needs can be met?**

Through recent years substantial renovations have been undertaken within the medical school to improve learning and teaching spaces and other areas which serve our students, such as the Undergraduate Medical Education and the Admission and Student Services offices. The Faculty has allocated funds from enrolment expansion to address these capital needs. In addition a portion of endowment funds supports capital requirements. In the near future, through University-wide support and a major capital campaign, it is expected that a new education building will be constructed. In addition, through the tuition anticipated from the development of the Dalhousie Medical Education Program in New Brunswick, upgrades will be made to current lecture theatres in the medical school. Capital needs are factored into the budget planning process for the Faculty of Medicine annually.
B. General Facilities

5. Evaluate the adequacy of the general facilities for teaching, research, and service activities of the medical school. Is the opportunity for educational excellence or educational change (e.g., introduction of small group teaching) or for the attainment of other medical school missions constrained by space concerns? Is there planning occurring to address any need for additional space?

As noted above, substantial renovation has been undertaken within the Faculty of Medicine with a priority focus on improving learning areas such as the tutorial rooms, the learning resource centre and other student centered spaces such as a completely renovated student lounge, improved eating area and renovations to the undergraduate and admissions and student services offices. The anticipated construction of an education building will enable transfer of the learning resource centre to the main campus as well as provide new learning and lecture spaces. Planning is currently underway to confirm all elements for the new educational building.

In the major teaching hospitals in Capital District Health Authority teaching space is at a premium and represents an increasing challenge. The District is undergoing a major master space planning exercise and teaching space is noted as an essential need. Additional and improved teaching space is particularly required in ambulatory settings with the increased clinical teaching and learning opportunities shift to this patient care area.

To more effectively support our research community, and as a direct result of the planning process, the Faculty has assumed responsibility to provide a set of core facilities to allow our researchers access to modern and well-supported technologies. In addition to a well-equipped Animal Care Center, the Faculty has renovated space and established a Proteomics Core Facility that houses a mass spectrophometer (soon to be supplemented with additional instrumentation) and a dedicated full-time research technician. Likewise, the Faculty has assumed responsibility and financial support for a comprehensive imaging facility (Cellular and Molecular Digital Imaging) that houses confocal and fluorescence microscopes and associated computers, again supported by a dedicated full-time technician. The Faculty is in the midst of creating a Zebrafish facility that will provide support for both clinical and basic science approaches to study a variety of diseases.

6. Discuss the adequacy of security systems on each campus and at affiliated sites.

Students in all years (80-90%) rated the quality of personal safety on the campus as very good to excellent. Ratings for the security of personal belongings were slightly lower. The security and safety for students, staff and faculty have increased with the installation of swipe card access on all tutorial rooms and the student lounge. In addition, there is restricted access to buildings after hours with entry doors requiring key-fob electronic entry. Recent security changes across the University have put restrictions on entry to buildings between midnight and 6:00 am. The Faculty of Medicine has reviewed these changes and we are making allowances to ensure that students can enter the buildings for study purposes, especially at exam preparation periods, while still putting in place security systems to address personal safety and building security.

The medical school complex has continued efforts to increase safety and security over recent years. Major entry doors are now equipped with swipe card access, security alarms and electronic/password entry to restricted areas. Building security will continue to improve with the introduction of security card access on elevators during after hours.
C. Clinical Teaching Facilities

7. Analyze the clinical resources available to the medical school. For the size of the student body, are there adequate numbers of patients and supervisors available at all sites? Is the patient mix appropriate? Are clinical facilities, equipment, and support services appropriate for exemplary patient care? Discuss the availability, quality, and sufficiency of ambulatory care facilities for teaching.

The details of the clinical resources available for teaching our students are in the Educational Resources section in the self-study database. To date we have been able to place students appropriately for a sound educational experience. However, we are conscious of the need to develop new experiences, to provide strong experiences for our increased student numbers. In addition to New Brunswick, Kentville, a community in Nova Scotia, has been identified as a potential learning opportunity for our students.

In teaching hospitals, all resident physicians are in training programs accredited by the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada. Some community rotations do not have resident physicians and in these settings the student is directly supervised by an attending physician. (This was confirmed with a Med III focus group). In the latter cases, these physicians are members of either the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada.

Students generally rated the quality of clinical facilities highly in all clinical rotation (80-100%). Also, in all rotations, students rated their exposure to an adequate range of patients as satisfactory.

In addition to the clinical facilities, the Learning Resource Centre was rated as very good to excellent as a place to develop technical skills and learn from simulated patients.

8. Describe and evaluate the interaction between the administrators of the hospitals/clinics used for teaching and the medical school administration. Does the level of cooperation promote the education of medical students?

Most clinical departments have their administrative offices in the large teaching hospitals in Halifax and Saint John. This geographic location facilitates the alignment between the teaching and clinical missions of these departments. Dalhousie administrative staff members often are located in these sites, which is helpful to solve teaching issues as they arise in clinical rotations. As part of the search and survey process for clinical departments, both university and hospital representatives carefully review the impact of clinical issues on teaching for undergraduate and postgraduate students. Recently, Capital District Health Authority commissioned a review of education support for all health professions including medicine (report is included as an attachment in the self-study database). The hospital board approved this report, and an implementation is under development to address many issues relating to teaching facilities and supports within the teaching facilities of Capital District Health Authority in Halifax. The Dean has excellent communications and working relationships with the CEOs and appropriate Vice Presidents of all affiliated health centres.
9. Describe and evaluate the level of interaction/cooperation between the staff members of the hospitals/clinics used for teaching and medical school faculty members and department heads, related especially to the education of medical students.

All clinicians in our primary affiliated teaching hospitals must have academic appointments approved by the Dean. With one exception, the academic heads of all clinical departments also serve as clinical chiefs for these departments.

The development of Academic Funding Plans (AFPs) for many clinical departments has highlighted the need for interaction and co-operation in this area. Clinical and academic deliverables have been clearly articulated in these plans and are reviewed on a quarterly basis by the Department, the academic health centre, the Dean’s Office and the Department of Health. The teaching of medical students is well integrated as part of the clinical mission of all teaching facilities. The development of the new Senior Associate Dean for Regional and Rural Medical Education will improve this link, especially with the expansion of the undergraduate and postgraduate programs in New Brunswick, Prince Edward Island, and Nova Scotia.

D. Information Resources and Library Services

10. Evaluate the quantity, quality, and accessibility of the library collection as a resource for medical students, graduate students, and faculty members.

Faculty hold positive views of both the library and information services, with regard to their sufficiency to support the school’s mission. This is a changing environment and efforts are foremost to preserve and expand on accessibility to all levels of academic literature appropriate to our mission.

i) Quantity -- Dalhousie libraries collections have grown enormously over the last five years:

   • 2008 Electronic journal subscriptions 36,000 plus titles,
   • 2008 Print serial subscriptions: 4000 plus titles
   • 2008 Monographs purchased: 16,000 plus titles

ii) Quality -- Journal and book collections are built with the advice from faculty and student to support clinical and research initiatives. High impact resources are primary targets. Book reviews and rating services such as those provided by Doody’s Electronic Library and Login Brothers are also important.

iii) Accessibility -- The collection is being built to support 24/7 electronic access (on or off site). The mechanics of access are not a challenge. End user training (faculty and student) and promotion of new library resources are the main challenge.
11. Comment on the adequacy of information technology services, particularly as they relate to medical education. Are resources adequate to support the needs of the educational program? Are the information systems of the medical school and major clinical affiliates sufficiently well integrated to assure achievement of medical school missions? Note any problems.

Health Sciences Library and University Libraries Information Technology services are expanding to meet the growth of our electronic collections, digital initiatives and the expectations of our faculties and students. With proper authentication, electronic collections can be accessed remotely from anywhere in the world with few exceptions (e.g., license limitations, or institutional firewalls).

Our teaching hospitals are institutionally separate and it is not currently possible to integrate library systems fully. However, there is a high level of cooperation among the region’s health sciences libraries that assures strong support for all library users.

In addition to electronic collections, a number of information technology services are available to support medical education:

- A comprehensive DalMedix application has been developed to act as a single source and repository for information related to the medical education program. This application is heavily used by faculty, staff and students to access news, schedules, calendars, course content and other information about the medical program and also facilitates targeted communication within the Dalhousie medical community and access to other applications for management of units such as Central Stores, Animal Care, UME Elective, Admissions, Scholarships, Immunization Records and Postgraduate Residents.
- The Digital Media group contributes to the development of learning materials with photographic and video services.
- The Graphics Design group assists faculty in designing and developing visual course content to facilitate the learning process. In addition, the Graphics Design group assists faculty, students and researchers in developing posters to portray project/research results at conferences and poster fairs.
- Video Conferencing services provide full video conferencing between campuses and clinical sites for the purpose providing lectures, presentations and facilitating meetings and discussions.
- Instructional Support Services (ISS) insure that prior to every educational event, the correct complement of instructional technology is available in the classrooms and tutorial rooms and that the equipment is functioning properly.
- Desktop and laptop support services are available to troubleshoot and repair problems that faculty and students have with their computers.
- PDA software is provided to students to give them ready and convenient access to the Tarascon Pharmacopoeia, Taber’s Medical Dictionary and Harrison’s Guide to Internal Medicine databases.
- Other software is provided to faculty and students to facilitate secure access to computing resources and analytical tools including McAfee, VPN, SPSS and SAS.
- A computer lab is available for the exclusive use of medical students to access various computing resources.

12. Evaluate the usability and functional convenience of the library. Are hours appropriate? Is
assistance available? Is study space adequate? Is equipment, such as computers or workstations, adequate? Does the library provide space or common areas that facilitate the exchange of ideas and generation of knowledge?

Generally, the library staff members are regarded as knowledgeable and helpful (close to 80% of student responses). Students have expressed concerns that the Kellogg Health Sciences Library is noisy, has insufficient places to study, and has an inadequate numbers of computers. 60% of students rated the adequacy of the collections and computers as very good to excellent. Students also expressed concern that the library policies (e.g., no food) are not enforced equally across all user groups.

The hours of operation were least satisfactory to Med I students, and students have asked that the hours of operation be extended in the period leading up to examinations.

i) Library space: Although all public areas have been freshly painted since the last accreditation, the library has occupied the same space since 1967 and does show its age. Built to an open plan, the main floor service and information commons areas are inherently noisy. The second floor of the library is an enforced quiet area. Study space is not adequate. There is an ongoing need for group study rooms to support an increasing number of students across the three health faculties. Library visits/walk-ins have increased by 150,000 per year since 1997. The faculty and university as a whole are aware of and working on the library’s space challenges.

ii) Computers and workstations: Since the last accreditation the library has established an information commons in the library. We now have 60 workstations available for student use with access to all library collections and a suite of writing and statistical packages. At peak times, 60 workstations are not sufficient to meet demand. Space limitations are the main impediment to expanding the library commons. The library has instituted a laptop lending program (April 2008) to supplement the 60 workstations. Further deployment is contingent upon new or renovated space.

iii) Collections: Dalhousie library collections are more robust than at any time in the university’s history. Journal collections have grown from 5000 to 35,000 current subscriptions over the last five years. The library acquisitions budget has by increased $1.8M over last three years. The amount of $300,000 was earmarked to e-book purchases over the past two years with a majority of those titles in medical subject areas. More journals and books are available than ever before. The library is aggressively pursuing electronic collection development to support off hours and off campus demand,

Challenges now are:

i) Promoting our rich new collection in a transparent electronic environment where the library profile has shrunk;
ii) Improving access which has become confusing;
iii) Improving linkages between curriculum development and collection development;
iv) Improving linkages between undergraduate medical students and the library;

Work is underway on all these challenges. We are particularly optimistic about our Undergraduate Medicine Library Guides: http://dal.ca.libguides.com/content.php?pid=14393. The Kellogg Library’s hours of operation were extended during exam period hours in April 2008 and we will continue to do so. There is also access to the library in the clinical sites of the teaching hospitals.
13. Assess the library and information technology staff contributions to the education of medical students and the professional development of faculty members in the following areas:

- Information management, responsible literature searching, research data management, and evidence-based practice.
  
  i) Library staff provide training sessions on all of the above for all three health faculties.

  ii) Student support:

  Support of Undergraduate Medicine Students consists of Orientation Week (1 hour; basic Introduction to Library) and the CECT unit (2 hours; Intermediate, evidence based searching and resources).
  Support of Postgraduate Medicine Residents training consists of Resident Orientation (15 min to 1 hour; Access and authentication of information and broad introduction to the library).
  Evidence Based Instruction is provided for Family Medicine (fall and winter); Emergency Medicine (summer & fall); Pharmacology (fall); Anesthesiology lab session (fall); and the Psychiatry lab session (fall).

  iii) Support for Faculty:

  The Library contributes to new faculty orientations at Faculty and University wide levels including training sessions by request for particular department hosts and lunch time seminars on key databases and resources through the fall and winter semesters. Subject specialists meet with faculty individually to help with database management, effective searching, exploring new resources, and reference management packages.

  Outreach to faculty and students is always in need of review and refinement.

- Planning and coordination of knowledge management skills across the curriculum.

  Library involvement in knowledge management skills is heavily tilted to the first year and not developed across the curriculum. We offer on-demand seminars on current awareness tools, bibliographic management tools, but this is not embedded in the curriculum.

- Participation in educational program planning and assessment relating to educational needs and support of curricular activities.

  The Library has an active library committee where collections planning, assessment and library instructional programs are discussed and reviewed. There is no formal linkage between the library and curriculum planning.
SUMMARY

1. Summarize the school's strengths and problem areas, and prioritize the latter. If the self-study has identified problems that are identical or similar to those noted at the time of the last survey, explain why the corrective measures did not succeed, or why the problems are different from those identified at the time of the last survey. Have new strengths or problems emerged? Are changing conditions likely to cause problems in the near future?

The Faculty of Medicine at Dalhousie University MD program has major strengths and recently has embarked on expansion programs in both Nova Scotia and New Brunswick.

The admissions process is comprehensive and fair, with a focus on the Maritime group of potential students. Applicants are of high quality and the recent introduction of the Multiple Mini Interview (MMI) assessment, developed by and adopted from McMaster University, will further strengthen the admissions process.

Students are well served by the Office of Admissions and Student Affairs, separated from the Undergraduate Office after the 2002 LCME survey. This office is able to access a comprehensive range of services to assist students in difficulty. Recent additions of programs in financial management and bursary support have had a positive impact.

The Undergraduate Medical Education Office has been re-organized, and additional staff hired with clarity in roles and responsibility. These changes will support the ongoing needs for responsive curriculum management and evaluation processes and delivery. The roles of the Curriculum Committee and Progress Committees are clear and members have an improved understanding of their role in the undergraduate medical education program.

The Case oriented-problem-stimulated (COPS) program remains the fundamental approach for Med I and Med II. Many improvements have been made to the cases, tutor support, and longitudinal programs such as the Patient-Doctor Unit to make for a more unified experience.

The Clerkship program has been re-organized as a result of the 2006 Clerkship review. A major addition was the mandatory rotation in Emergency Medicine. Other recommendations of the review have been reviewed and acted upon.

Medical students continue to perform very well on their MCC exams and CARMS residency placements. There is an excellent working relationship between DMSS and the Deans office.

A strategic plan has been recently developed and approved. Fundamental to this plan is the renewal of high quality educational programs “within a diverse clinical and research-rich environment.” There have been major improvements in both the physical environment and faculty support for research, and a renewed focus on integration of research and enquiry into medical education at all levels. The appointment of two assistant deans in research has helped to link the clinical and basic science research enterprise with the faculty mission and vision.

Dalhousie has an excellent postgraduate residency training program, which recently was accredited by the Royal College and College of Family Physicians of Canada. A strength of the Dalhousie program is the commitment of residents to teach medical students in both the tertiary care and community
environment. New initiatives have included formal teaching programs for residents, and deliberate strategies to ensure their awareness of their role in teaching undergraduate medical students.

Both the Division of Medical Education and the Office of Continuing Medical Education provide strong program evaluation and research support for education at all levels within the Faculty. These offices have international reputations for their scholarly work and educational program development.

Other programs and Departments are critical to the education program and provided specialized support, including the Communication Skills program, Medical Informatics, and the Department of Bioethics. The Medical Humanities program, perhaps unique in the country, has the role of enhancing humanistic values in all our students. The International Health Office provides excellent programs in global health, which have been embraced and supported, especially by the medical students.

Our over 1,900 faculty are critical to the success of the MD program. Programs are in place to support faculty in their important teaching role. The CAPR and promotion processes support and reward teaching and academic activity. With recent new recruitments, our faculty development program has been expanded and enhanced. A number of faculty (11 complete, 6 In-Progress) have competed a Masters in Education, with a concentration in Medical Education in a unique program developed between the Faculty of Medicine and Mount Saint Vincent University. Alternative funding agreements for the major clinical departments have stabilized faculty and provided for protected time to support academic activity. The search/survey process has been improved and streamlined, with a number of excellent new clinical and basic science department heads now in place.

The Council of Associate/Assistant Deans in the Faculty of Medicine is an excellent, cohesive team, able and willing to help and problem solve at a faculty level, and very supportive of the Dean’s strategic initiatives.

Despite the general enthusiasm of students, staff and faculty, challenges exist.

In general, our medical students reflect the local society in the Maritimes. However, the faculty has struggled in its attempts to improve the diversity of its students, particularly with respect to aboriginal and Afro-Canadians. A more active program, involving many partners is required to address this important issue. The Transition Year Program (TYP), a one-year program designed for First Nations and Afro-Canadian adults, prepares students who do not yet meet standard Dalhousie entrance requirements. Dalhousie University, in partnership with the two communities, established the TYP to redress educational inequities faced by members of the First Nations and Afro-Canadian communities (http://collegeofcontinuinged.dal.ca/Transition%20Year%20Program/index.php ). The Faculty of Health Professions is in the early stages of developing an Undergraduate Program with a focus on health. The concept of this program includes an enhanced partnership with the Transition Year Program and the Afro-Canadian and Aboriginal communities to respond to the constituent needs and facilitate entry into the health professions.

Due to the complexity of the curriculum, it has been challenging for both faculty and students to understand where and how learning objectives are met during all four years. Recent efforts in curriculum mapping and linking objectives to clinical experiences are helpful, but need to be completed and then continuously updated. Our goal is to have a dynamic usable, and user friendly database that could be used by students, teachers, curriculum planners and evaluators alike.

We are still challenged to ensure that the program can identify gaps in a student’s experience; efforts are underway to make the methods more systematic across departments, many of which have individual systems in place.
A new committee on professionalism is in the process of defining policy and educational programs for all components of the faculty of medicine, with undergraduate as the highest priority. This important work will require support and buy in from students, staff and faculty.

Our current MD program is delivered at a number of sites across the Maritimes. The recently approved expansion to New Brunswick will require an expansion and enhancement of our distributed education network. Our current technical and curriculum development resources are limited in this area and will require major support to provide seamless, state of the art education programs at multiple sites for many levels of learners.

With any change in curriculum, it is important to evaluate its effect on the end product. Currently long term follow up of our medical school graduates is very limited. Resources and expertise need to be available to support this important function. We have recently agreed to use a process developed at the University of Calgary, which they have kindly agreed we may use. We will begin this in the spring of 2009.

Despite their enthusiastic support of the MD education program, many of our faculty are concerned about the lack of support and mentoring available for academic activity, especially with respect to teaching. Faculty development programs vary from department to department. A faculty-wide mentorship and feedback/performance program would be welcome and supported.

Excellent programs are in place in Med I and Med II to address issues of culture and diversity in health and disease. But at the clinical level, faculty members do not have the resources or expertise to integrate this important information and attitudes into teaching program. External resources and comprehensive faculty development programs are recommended.

There is a tremendous interest and enthusiasm for interprofessional care and education programs across the country. Here at Dalhousie University, we have a number of research project investigating aspects of IPE and both the Deans of Medicine and Health Professions are very supportive of these initiatives. We want to proceed to develop new interprofessional education programs, and will carefully evaluate their effectiveness.

Strong relationships with the many affiliated teaching institutions are crucial to the success of the medical school. With the many clinical pressures they face, health care institutions often find it challenging to support their teaching and research mission. This remains an ongoing challenge for Dalhousie, especially with the largest affiliated health care institution - Capital Health. A recently completed review requires urgent action.

Expansion of the medical school in Nova Scotia and New Brunswick will present many challenges including hiring and supporting new faculty, expansion of the distributed education network and student support at multiple locations. Recruitment of leadership into two new associate dean positions will be critical to ensure successful development of these programs with the current tight implementation time lines.

Dr. Cook has provided excellent leadership during this busy and critical period for the faculty of medicine. A new dean will be appointed for July 1, 2009 and will find a well organized, vibrant school ready to face the many challenges ahead.
2. Note major recommendations for the future. How can the strengths be maintained and the most pressing problems addressed? Be brief but specific in describing actions that will need to be (or already have been) taken.

Major Recommendations for Action

1. The Faculty will need to vigorously support the distributed education model throughout the three Maritime Provinces to assure a high quality education program for our current students and for those in our future expanded programs. Specific development areas include senior leadership and administration, faculty development, technological support and student support.

2. The process of curriculum renewal requires ongoing leadership and development. Curriculum mapping, COPS case revision, additional cultural diversity modules, and revision of objectives are important priorities. More robust methods to assure that students meet objectives on clinical rotations need to be implemented. Long term follow up of graduates needs to be implemented to inform future curriculum changes.

3. Professionalism is an important component of the curriculum that requires more explicit integration with clinical practice. The work of the Professionalism committee will require support at senior levels of the faculty to effect change.

4. Faculty development has been identified as a critical need to support current and expanded programs. A comprehensive faculty wide program including individualized feedback and mentorship opportunities needs to be put in place.

5. Teaching hospital and community teaching practices are key resources in the undergraduate education program. With increasingly clinical pressures, senior leadership at the faculty of medicine and the teaching institutions will need to be vigilant to ensure that educational goals continue to be met.

6. Alternative funding plans for clinical departments have been a key support to enable many departments to meet clinical and academic roles. The Faculty of Medicine needs to take a more active stewardship role to ensure that academic deliverables are met.

7. The Faculty of Medicine and the Faculty of Health Professions have been leaders in the provision of interprofessional education. The Deans of both faculties need to provide leadership to promote new innovative interprofessional education programs at all levels of the educational continuum.
APPENDIX I

Dalhousie University – Faculty of Medicine
LCME Institutional Self Study Task Force

MEMBERSHIP

Dr. Doug Sinclair (Co-Chair)
Associate Dean, Continuing Medical Education
Faculty of Medicine
Dalhousie University

Ms. Susan Spence Wach (Co-Chair)
Associate Dean, Health Systems & Policy
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Dr. Kim Blake
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Dr. Guy Brisseau
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