

EXTERNAL REVIEW COMMITTEE REPORT

The Montreal Neurological Institute and Hospital

Fall, 2008

Introduction:

The Committee met on August 26th and 27th, 2008 to review the Montreal Neurological Institute of McGill University. The reviewers were Dr. Marie T. Filbin, (Hunter College), Dr. Robert Miller (Case Western Reserve University), and Dr. Peter Herscovitch (National Institutes of Health).

The Committee met for two days, reviewed documents on the accomplishments of the MNI in recent years, and had “round-table” discussions with faculty and staff from different disciplines within the MNI and the recently re-integrated MNH. This report comprises the conclusions and recommendations based on our overall evaluation of the MNI. The report is written in the form of answering the questions posed by the Dean of the Faculty of Medicine in his initial charge to the group.

Is the Mission of the MNI appropriate to a leading institute of Neuroscience?

The MNI is a world-class institute with an extremely strong international reputation. The Committee members were deeply impressed with the unanimous devotion of faculty and staff of the MNI/MNH (hereafter the MNI) to the mission of the MNI as conceived by Wilder Penfield: that a state-of-the-art neurological hospital is within a research institute and not the other way round, which is the case for the vast majority of other institute-hospital pairings. The faculty and staff also impressed upon the Committee the absolute necessity for this arrangement to be maintained and expanded, and that the two should not be physically separated. The Committee strongly agreed.

The MNI is unique in the intimate linkage and leverage that exists between the clinical and basic neuroscience components. We could think of only one other situation where something similar was attempted, Queen’s Square in London, but that institution has not reached the same level of international recognition and renown as the MNI. It was also realized by the Committee that the MNI – MNH interaction provides the ideal situation for true translational research to be nurtured and to progress. Only recently has the NIH realized that the integration of clinical and basic science in this type of environment is necessary for fostering successful translational research, and the NIH is now

trying to duplicate the model of the MNI. Those programs are, however in their infancy, while those at the MNI are well-established and successful.

Although patient care was not a focus of the Committee's deliberations, we note that the unique MNI/MNH interaction not only fosters bench-to-bedside or translational neuroscience research, but also serves to markedly enhance the clinical care of neurological patients. Individual patients benefit from access to research resources in such areas as brain imaging and cognitive neuroscience, unavailable in most tertiary medical centers, as well as the availability of clinical trials in areas such as multiple sclerosis and movement disorders, directed by outstanding clinical investigators.

How well have the past five years of development and recruitment supported the mission of the MNI?

The standing of an Institute is directly reflected in its ability to recruit the brightest and best young scientists. Competition is strong and recruitment to the MNI has been outstanding, each position attracting over a hundred applicants. Being able to recruit the top choices from this pool speaks to the stature of the MNI with Dr. Colman at the helm. The highest-rated scientists, both young and more mature, want to come to the MNI and these top-rate recruits have contributed to and extended the stellar publication record of the MNI faculty. In addition, the new recruits expand the expertise of existing faculty which in turn strengthens the larger Neuroscience training program at the MNI that attracts students and post-doctoral fellows from around the world. Furthermore, new forward-looking programs have been initiated such as NeuroEngineering, Neuropalliative Care, and Experimental Therapeutics. These strengthen and solidify the interaction among basic research, clinical research, and clinical care at the MNI. Finally, the MNI and MNH have been re-integrated under the leadership of one Director, Dr. Colman, which as stated above, is absolutely crucial to the uniqueness and success of the Institute.

How does the scientific activity of the MNI compare with that of other cutting-edge research institutes?

It was concluded by the Committee that MNI – MNH interaction provides the ideal situation for true translational research to be nurtured and to progress. Only recently has the NIH in the USA realized this model is necessary to foster successful translational research. However, those NIH programs are in their infancy while the MNI is well-established and successful. In this respect, the MNI is the international leader in its scientific activity. When compared with other general Neuroscience institutes that do not have direct clinical

couplings, the MNI ranks as one of the top international leaders and is certainly within the top 5% based on publication record and funding.

Do the fields of inquiry support the idea that the MNI will contribute in a major way to the future of neuroscience and the improvement of neurological health?

It is generally realized that a major challenge to the international community of neurological investigators is the development and application of therapeutic approaches to address neurological deficits. As stated above, the uniqueness of the MNI-MNH pairing makes it most likely the world's leader in true translational Neuroscience research. This tremendously increases the likelihood that advances will be made that result in improvement in neurological health. The organization by Dr. Colman of the MNI's activities into four overarching initiatives will position the Institute to build on its success and leverage its strengths in highly relevant areas. These inter-related initiatives consist of expanding the understanding of how the nervous system works; repairing the damaged nervous system; using technology to extend the function of the nervous system; and improving the lives of patients. They link clinical and basic neuroscience research with relevant clinical goals, and will cut across clinical and basic neuroscience boundaries to advance both neuroscience and clinical care.

Are the strategic goals developed in 2002 being supported and accomplished; are they still appropriate and relevant to the MNI today?

In 2002, several strategic goals were articulated by Dr. Colman for the first five years of his Directorship. These goals built upon the MNI's unique strengths, while also recognizing that growth and new initiatives were required to maintain and expand the institution's pre-eminence in basic and clinical neuroscience. These goals were well thought out and highly relevant at the time, and remain so.

There has been great success in recruiting new faculty, as noted above. The success rate of faculty in obtaining peer-review grants is remarkably high, thanks to an in-house review system for new proposals and the emphasis on fostering a rich neuroscience environment. The plan to encourage faculty to compete for honors and awards has been very successful at the local (McGill), provincial, national and international level. This increased the prominence of the MNI, and had the practical result of increasing financial support for faculty. Several new interdisciplinary programs were established as planned (e.g., BRAMS, NeuroEngineering, Experimental Therapeutics; Neuropalliative Care). The first two programs cut across several departments of McGill University, the

Univ. de Montreal, and the IRCM, leveraging all their strengths, and serve to further anchor the MNI in the larger Montreal academic community.

The MNI fund-raising campaign, critical to implementing long-term strategic goals, has been incredibly successful. The benefits of having an integrated neuroscience research institute and hospital were recognized by Dr. Colman, and in 2004 he was successful in reuniting them under his Directorship. Finally, the need for physical expansion of the Institute was recognized, beyond the funding that existed in 2002 for expansion of the brain imaging laboratory. This project, the North Wing, has not yet been completed, and is seen as a critical priority for McGill by the Committee.

The above achievements could be translated into quantitative metrics to evaluate the performance of the MNI Director. Although we did not formally carry out this exercise, we feel that success has been achieved by several measures, including the quantity and quality of new recruits to the faculty, research funding of individual faculty members, the CECR award, and the quality and diversity of the research portfolio in basic and clinical neuroscience and its publication record.

The goals set forth in 2002 remain relevant, especially ongoing recruitment of top-rate faculty, obtaining external grants and awards, developing and sustaining interdisciplinary programs, fund-raising, and maintaining the Institute and Hospital as an integrated unit.

Is the MNI sufficiently supported in its research mission?

In the last 5 years the MNI has maintained an extraordinarily high CIHR grant success rate at 65 – 70%, more than twice the national average. Dr. Colman and his faculty have also received a large number of awards including an unsolicited Center of Excellence Award from the Canadian government. Importantly, Dr. Colman has been responsible for obtaining more than \$30 million in new private philanthropic donations. This is largely because of the unique standing of the MNI within McGill. The MNI should be encouraged to continue to promote itself and Dr. Colman should be supported to continue to fundraise for the MNI independently; this should not be compromised. The public perception or “persona” of the MNI and MNH in Montreal, Quebec and Canada is invaluable with regard to fund-raising. Dr. Colman has successfully maintained this identity in his development and public relations activities. Donors may more readily identify with a smaller, more focused institution. It is clear that major donors have seen the benefits (in some cases personally) of an

integrated neurological hospital and research institute, and this provides a strong motivation for their continued support. Overall the committee felt that the independence afforded to the MNI for fundraising was of a general benefit to the neuroscience community of McGill.

Are the administrative structure and the governance of the MNI sufficient and appropriate to an Institute of this size and mission?

It was impressed upon the Committee by the faculty and staff, and the Committee agreed, that the unique positioning of the MNI within McGill, as envisaged by Penfield, should be maintained at all costs. First, the MNI is not a department and should never become one nor be treated as such; it is an entity different from all others at McGill. Serious consideration should be given to the creation of the MNI as a Faculty in its own right, or alternatively, giving the Director of the MNI the status and authority of a Faculty Dean. Second, the MNI Director should have a reliable and smooth direct line of communication with the Principal of McGill. In addition, Dr. Colman has established an Advisory Board of Directors, on which McGill representatives have a number of seats. These representatives should be strongly encouraged to attend the board meetings and to participate in the decision making conducted at those meetings that directs the MNI.

The location of the MNI within the University is mutually beneficial on several levels, and it is important for the leadership of both the University and the MNI to recognize these benefits. For example, MNI staff have University appointments and tenure, teaching and collaborative research opportunities, and a supportive grant administration system. The University has world-renowned research laboratories of neuroscience on its campus, undergraduate and graduate teachers, outstanding clinical neurology and neurosurgical expertise in its teaching hospital beds, a focus for shared fund-raising, and a firm base on which to build a much-needed University-wide Integrated Neuroscience Program. The unique role of the MNI within McGill has led to some tensions, however, in such areas as fund-raising, financial transparency, and government relations. Although these tensions are understandable, efforts should continue to resolve them.

Does the financial administrative budget adequately support the administrative aspects of the MNI infrastructure?

As stated many times above, the MNI is a unique entity within McGill. It is also frequently referred to as "the jewel in the McGill crown" as an internationally recognized center of excellence in not only Neuroscience research

in general but in clinically relevant research. This status comes with a price and McGill should continue to support the administrative infrastructure as needed to ensure the continuation of this status.

The review committee did not have the opportunity to review in detail the budget of the MNI, or the complex fiscal arrangements between the MNI and the University. It was clear however, that there are several points of concern relating to financial matters between the MNI and the University, including the definition of the MNI's "deficit" or surplus over the years, allocation of costs and responsibility for faculty salaries, graduate students and space, sharing of the indirect income from research grants, and construction funding for the North Wing, which at this point remains a hole in the ground. An attempt should be made to come to a mutual understanding and agreement about these issues, perhaps by means of a working group involving high level University and MNI administrative staff, with input from lay members on the McGill and MNI Boards.

Maintaining the MNI/MNH as an integrated facility

The planned relocation of the MNH requires additional discussion. As noted above, we were deeply impressed with the devotion of the faculty to the MNI/MNH mission conceived by Wilder Penfield of a state-of-the-art neurological hospital within a research institute. The faculty and staff also impressed upon the Committee the absolute necessity for this arrangement to be maintained and that the two should not be physically separated. The Committee strongly agrees. The plan to reorganize McGill's teaching hospitals poses a serious threat to the continued integration of the MNI and MNH, and to the benefits that this integration provides. Specifically, we were told that plans for the unified McGill University Health Centre (MUHC) include closing the neighboring Royal Victoria Hospital and relocating the MNH neurology and neurosurgery beds and services to the Montreal General Hospital, which is about a mile away. (We unfortunately did not have the opportunity to meet with leadership of the MUHC.)

There should be a strenuous, focused attempt to maintain the physical integration of the MNI and MNH. It should address issues such as: (1) how patient care could be safely delivered at the current site in the absence of a full-service general hospital across the street; (2) what additional costs, if any, would be incurred; (3) the negative impact a physical separation and the abandonment of the "Penfield vision" would have on basic, translational and clinical research; and (4) the negative impact on the level of patient care. Points to

consider include how the Institut de Cardiologie de Montreal functions without a general hospital nearby; the impact that losing faculty members would have on the level of care; how the MNI/MNH cares for patients not only from Montreal, but also from the rest of the province and beyond; whether it could be formally transformed into a referral center for the entire province and perhaps for fee-for-service patients from abroad; and the particular areas of research and clinical excellence that impact patient care, such a multiple sclerosis, movement disorders (the MNH has been recognized as a Parkinson's Disease Center of Excellence), neuroimaging, cognitive neuroscience, and the surgical treatment of epilepsy.

In order to maintain the physical integrity of the MNI/MNH, there should be a definitive plan, developed by all the stakeholders. This would include the MNI/MNH, McGill University (including the Faculty of Medicine and the office of the Principal), the MUHC, and the board of governors of the University and the MNI/MNH.

Finally, it should be noted that Dr. Colman has offered a plan in which a second, independent "Neuro" Pavilion would be built at the Montreal General Hospital site. He envisions this Pavilion as an extension of the activities of the MNI, in that it would house the inpatient Neurosurgical patients, as well as contain 30,000 sq ft. of new research space, which would surely be an enticement to attract the next Chief of Neurosurgery. This plan should be explored more extensively by the MNI, McGill and the MUHC leadership.

Summary

In summary, in the last 5-years, under the direction of Dr. David Colman, the standing of the MNI has expanded as an international center of excellence in Neuroscience Research and in Clinical Research and in the treatment of Neurological Diseases. Dr. Colman has done an outstanding job as Director of the MNI. Finally, the MNI faculty and staff, as well as the Board of Directors, were unanimous in their praise and enthusiasm for the Director of the MNI, Dr. David Colman.