



Unité Conjointe d'évaluation des technologies de la santé
Joint Technology Assessment Unit (TAU)



Centre Hospitalier de l'Université de Montréal (CHUM)
McGill University Health Centre (MUHC)

FINAL

JOINT TAU

Annual Report

April 2007 - April 2008

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www.mcgill.ca/tau/publications/annual/

Joint Technology Assessment Unit
of
The McGill University Health Centre (MUHC)
and
Le centre hospitalier universitaire de Montréal (CHUM)

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Mission Statement

To advise the hospital in difficult resource allocation decisions, using an approach based on sound, scientific technology assessments, and a transparent, fair decision-making process. Consistent with its role within a University Health Centre, it will publish its research when appropriate, and contribute to the training of personnel in the field of health technology assessment.

Joint MUHC/CHUM TAU Executive Committee

James Brophy MD PhD
Director - Joint TAU

Maurice McGregor MD
Chair -Joint Executive Committee

(MUHC members)
Juliana Arnoldo
Multidisciplinary Council

André Bonnici
P&T Committee

John Johnston
Patients' Committee

Marilyn Kaplow (replaced by Christian Janicki)
Quality Management

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Council of Physicians and Dentists

Judith Ritchie PhD
Council of Nurses

Gary Stoopler
Administration

(CHUM members)
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CMDP Pharmacy Representative

VACANT
Director General Representative

VACANT
CMDP Medical Representative

Josée Breton
Nursing Representative

Jean-Marie Dumesnil
Patients Representative

Pierrette Gervais
Administration

Georges Kasparian
Multidisciplinary Council

Staff

The Joint TAU currently has two full-time research assistants, two part-time research scientists, two expert consultants (one MUHC and one CHUM), a biostatistician and one administrative/research assistant on staff.

Name	Position
Carmen Victoria Atwood	Research Assistant (MUHC)
Dr James Brophy	Director (MUHC/CHUM)
Nandini Dendukuri PhD	Research Scientist (MUHC)
Lonny James Erickson PhD	Research Scientist (MUHC)
Alain Lapointe PhD	Consultant (CHUM)
Dr Maurice McGregor	Consultant (MUHC)
Lorraine Mines	Administrative Officer
Dr. Mouhcine Nassef	Research Assistant (CHUM)
Shawn Xie MSc	Biostatistician (MUHC)

Departures and Arrivals

Marilyn Kaplow left our committee in early 2008. We would like to gratefully acknowledge her expert assistance and generous support during her involvement (since its inception) with the TAU committee. Dr. Christian Janicki has kindly accepted to be the representative on our committee for the Quality Management group.

Ms Tory Atwood left our group in November 2007 to take a research position with the Government in Ottawa. We thank her for her contributions to our group and wish her success in her new endeavour. Mr. Shawn Xie joined our group in September 2007 as a biostatistician. Welcome, Shawn!

We also welcome Mme Josée Breton, the new Nursing representative from the CHUM. Dr. Beaulieu left our committee as the representative for the Director General of the CHUM. At this time, a replacement has not been named. We thank Dr. Marie-Dominique Beaulieu for her contribution to our committee.

TAU Reports (April 2007-April 2008)

NOTE: Projects are researched and drafts prepared by members of the Joint TAU, referred to below as "the authors". They are assisted by expert consultants appointed for each project. Draft reports are then circulated, reviewed, amended and finally approved by the full Executive Committee who become the authors of the final report. In the past year the following seven reports have been approved:

Wait Times #3

Requestor: Dr. Arthur Porter - Director General of the MUHC
Title: Wait Times at the MUHC. NO: 3 Fracture Management
Publication date: **May 4, 2007**
Author(s): Maurice McGregor
C. Victoria Atwood
Consultants: Dr Guy Berry, Dept of Orthopaedics. Me Doris Dubé, Dept of Quality Management
Background: This report on the delays experienced by patients before surgical correction of fractures in the MUHC is one of a series of studies on wait times requested by the Director General and CEO, Dr. Arthur Porter. It concerns only the management of acute, non-emergent, non-pathological, primary fractures.
Recommendation(s): 1). That the MUHC urgently inform the Agence and the MSSS of the present egregious state of affairs and request urgent authority to open an additional operating room.
2). That an urgent request be made for the immediate award of one additional anaesthetist PREM, and one orthopedic PREM.
3). That as an interim short term solution, the hospital should hold the fracture room open after 3 p.m. and request the Department of Orthopedics to make every effort to eliminate excessive wait times by scheduling cases in the available evening operating room space. This step should be reviewed after four weeks, and the request withdrawn if there has been no real progress in the opening of an additional operating room.

Machine Perfusion

Requestor: Mr. Gary Stoopler - Director of Administration MUHC
Title: Pulsatile machine perfusion compared to cold storage in kidney preservation.
Publication date: **May 10, 2007**
Author(s): Vania Costa
Maurice McGregor
James Brophy
Consultants: Dr. Steven Paraskevas, Assistant Professor of Surgery – McGill University
Director, Transplant Research - MUHC
Background: In July 2006, Mr. Gary Stoopler, (Director, Administration) requested that the Joint Technology Assessment Unit (TAU) of the McGill University Health Centre (MUHC) and Centre Hospitalier de l'Université de Montréal (CHUM) evaluate the clinical and economic impact of the use of machine perfusion for kidney preservation.
Recommendation(s): The available evidence suggests that machine preservation technology is likely to be cost saving and moreover capital costs are relatively small. The TAU therefore recommends that this technology should be acquired. Since the evidence on which this recommendation is based is far from perfect it is further recommended that transplantation outcomes with machine perfusion should be prospectively recorded and compared with those from kidneys preserved by cold storage. New data from ongoing RCTs may provide additional information on the role of this technology and this report and recommendations will need to be re-evaluated as this new evidence becomes available.

L'incontinence fécale

Requestor: Dr. Richard Harris – Chief of Surgery CHUM
Title: La neuromodulation sacrée dans l'incontinence fécale – Évaluation technologique
Publication date: **May 2007**
Author(s): Alain Lapointe
James Brophy
Consultants: Dr. Eric de Broux – Surgery CHUM
Background: La demande de cette évaluation technologique nous a été faite au mois de novembre 2006 par le Dr Richard Harris, chef du département de chirurgie au CHUM, suite à une requête du Dr Eric de Broux voulant procéder à la neuromodulation sacrée chez les patients souffrant d'incontinence fécale. Ce document présente ainsi les résultats d'une recherche de la littérature en regard de l'efficacité clinique et de l'innocuité de la neuromodulation sacrée dans l'incontinence fécale chez l'adulte.
Recommendation(s): Although evidence is far from optimal, it does consistently indicate a reduction of faecal incontinence episodes and an increase of quality of life for patients with implants. Although complications rate are high, none had permanent serious consequences. Furthermore, the economic impact to the CHUM would be modest. Consequently, the « Direction de l'évaluation des technologies et des modes d'intervention en santé » recommends that the CHUM should introduce and support this technology. Monitoring of the clinical outcomes would appear to be appropriate.

Le temps d'attente au CHUM #1

Requestor: Dr. Denis Richard Roy – Director General CHUM
Title: Le temps d'attente au CHUM – imagerie diagnostique, arthroplastie, chirurgie cardiaque, soins du cancer et restauration de la vue
Publication date: **May 2007**
Author(s): Mouhcine Nassef
Lonny Erickson
James Brophy
Consultants:
Background: The current report is the first in a series of studies which aim to determine and analyse wait times at the CHUM.
These studies stem from a request from the director general (DG) which manifested a growing interest in the real wait times experienced by patients who required diagnostic procedures or therapeutic acts in the 5 priority areas determined by the Federal and Québécois governments (diagnostic imaging, hip and knee replacements, cancer care, sight restoration and cardiac surgery).
Conclusion(s): We reached our goal to learn the real wait times experiences by patients waiting for care or diagnostic exams at the CHUM. Thus, we noted that emergency and urgent cases in the categories considered in this report have access to care very rapidly within required delays. However, access to care services is occasionally compromised for elective cases. Hereafter, we summarize our principal conclusions : Long wait times exist for hip and knee replacements (arthroplasties) and knee arthroscopy; - Waiting for diagnostic examinations at the departments of nuclear medicine and radiology is also long; - Cardiac exams are generally delivered on time according to standards as is cardiac surgery. However, access to cardiologists is difficult, augmenting total wait times for these services; Considerable variation is noted in the waiting time involved in the delivery of the care in the three hospitals of the CHUM;
Results for ophthalmology and radio-oncology are encouraging. Wait times for radiotherapy or cataract surgery have diminished a great deal during the last year to attain medically acceptable standards. The governmental investments devoted to reduce wait times in these two services have finally started to pay off for our patients;
Finally, we stress the importance of investing the resources necessary to insure a continuous and accurate evaluation of wait times in order to ultimately ensure accessibility to health care within a reasonable time for our patients. Each patient has the right to know the wait time planned for his diagnostic exam or therapeutic intervention. Moreover, ideally, we should not have great differences between wait times recorded in the three hospitals of the CHUM for the same diagnostic examination or therapeutic intervention.

Impact of TAU reports

Requestor: In-house project
Title: Impact of TAU reports
Publication date: **February 1, 2008**
Author(s): Maurice McGregor
Consultants:
Background: Between its inception in January 1, 2002 and June 30, 2007 the McGill University Health Centre (MUHC) Technology Assessment Unit (TAU) produced 29 reports. Of these, two reported wait time data and included no policy recommendations, and a further two made recommendations that have no potential budget impact. This report summarizes the impact on policy of 27 reports and the impact on the budget of 25.
Results: The policy recommendations of 25 of 27 reports have been accepted and incorporated into hospital policy. Recommended acceptance of six new technologies has increased expenditure by approximately \$1,0 million.. Rejection or very limited acceptance of 19 technologies has resulted in savings of approximately \$12.8 million.

Les temps d'attente au CHUM #2

Requestor: Dr. Denis Richard Roy – Director General CHUM
Title: Les temps d'attente au CHUM : Services du département de médecine
Publication date: **February 2008**
Author(s): Mouhcine Nassef
James Brophy
Consultants:
Background: The purpose of this study is the same as the one from the previous report published jointly by DÉTMIS – TAU1. Its main aim is to get a clear and objective picture of waiting times in the department of Medicine and so to complement the already published first report. The following divisions will be studied : dermatology, allergy and immunology, geriatrics, internal medicine, haematology-oncology, gastroenterology, nephrology and respirology. These studies were requested by the director general (DG) who showed great interest in knowing true waiting times for patients who need either diagnosis or treatment at the CHUM.
Recommendation(s): Generally speaking, urgent cases get a quick access to health care except for some services like gastroenterology at Hôtel-Dieu, Hôtel-Dieu's sleep clinic, the pathophysiology and functional exploration laboratory of Notre-Dame hospital. In addition, access to health care is also compromised for specific cases. Below are our main observations : - The concept of elective cases hardly exists anymore in the Divisions of Internal Medicine because of congestion largely due to beds taken by patients from other services. Patients from this category are redirected to the emergency service or the ambulatory units of the internal medicine division; - Waiting times are long in most divisions of the CHUM's Department of Medicine;- Finally, as explained above, total waiting time may have increased in some services because of the concept of "access time". In conclusion, the phenomenon of waiting times affects all the CHUM hospitals departments which have been studied until now. One of our main tasks is to track waiting times and try to solve the problem.

Wait times #4 Radiology

Requestor: Dr. Arthur Porter - Director General of the MUHC
Title: Wait times at the MUHC. No: 4 Diagnostic Imaging Revisited. Adult Hospitals of the MUHC
Publication date: **February 29, 2008**
Author(s): C. Victoria Atwood
Maurice McGregor
Consultants: Dr R Lisbona MD. Director, Medical Imaging, MUHC. Ms P Rozanski, Director, Diagnostic and Therapeutic Services, MUHC.
Background: This report is one of a series prepared in response to the request of Dr. Arthur Porter that the Technology Assessment Unit (TAU) should study patient wait times at the MUHC, identify bottlenecks in patient flow, and recommend measures necessary to eliminate them. The present report concerns wait times for imaging in the adult hospitals of the MUHC.
Recommendation(s): Detailed recommendations are available at :
http://www.mcgill.ca/files/tau/Wait_times_radiology.pdf
Pages 7 – 10 .

La neuromodulation sacrée dans l'incontinence urinaire – Évaluation technologique

Requestor: Dr. Richard Harris – Chief of Surgery CHUM
Title: La neuromodulation sacrée dans l'incontinence urinaire – Évaluation technologique
Publication date: **March 2008**
Author(s): Alain Lapointe
James Brophy
Consultants: Dr. Martine Jolivet-Tremblay
Background: La demande de cette *Évaluation technologique* nous a été faite au mois de mars 2007 par le Dr Richard Harris, chef du département de chirurgie au CHUM. Elle précède la venue au CHUM d'une nouvelle chirurgienne voulant procéder à la neuromodulation sacrée pour traiter les patients souffrant, entre autres, d'incontinence urinaire par impériosité (« urge incontinence »). Ce document présente ainsi les résultats d'une revue rapide de la littérature en regard de l'efficacité clinique et de l'innocuité de la neuromodulation sacrée dans l'incontinence urinaire par impériosité chez l'adulte ainsi que ses implications dans notre contexte hospitalier.
Recommendation(s): The evidence of effectiveness of this technology and the relatively small anticipated budget impact indicate that it could appropriately be developed in the CHUM. In view of the small anticipated turnover and the probability that expertise improves with turnover, it is suggested that the users of this technique in the Montreal area collaborate with a view to centralizing this activity.

Informal Reports (not reviewed by executive committee)

1. EZIO system (intraosseous infusion) *author: Shawn Xie, J. Brophy*
2. Review of Ultrasound-guided insertion of PICC line *author: C. Victoria Atwood, J. Brophy*
3. Surgical Ablation for atrial fibrillation (Modified Maze procedure) *author: Lonny Erickson, J. Brophy*
4. Analyse Préliminaire des coûts de la thérapie photodynamique avec Photofrin® pour traiter la dysplasie de haut grade *author : Lonny Erickson, J. Brophy*

Current Projects

NEW PROJECTS (in progress) and potential projects

1. Examining waiting times in university hospitals (MUHC/CHUM)
2. Cytologie en phase liquide avec test Reflex HPV (CUSM/CHUM)
3. ELANA (Excimer laser-assisted non-occlusive anastomosis)
4. Evaluation of deep brain neurostimulators
5. Continuous renal replacement therapy in paediatric patients.
6. Processus d'intervention en vertiges et déséquilibres persistants

Extramural Activities

TAU has continued to forge links with the provincial technology assessment group, Agence d'Évaluation des technologies et des modes d'intervention en santé. (AETMIS). Both Drs Brophy and McGregor gave presentations to the initial conference organized by AETMIS to further hospital-based health technology assessment.

Dr. Brophy serves on the provincial *Table Sectorielle des RUIS en ETMIS* which seeks to advance and coordinate health technology evaluation throughout the province.

Dr. Brophy has also served as a consultant to the Centre hospitalier universitaire de Québec (CHUQ) in establishing their local technology assessment unit.

Dr. McGregor is a member of the International Expert Committee advising the Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen (IQWiG) of Germany on Methods for Economic Evaluation of Health Care Interventions;

Dr. McGregor is the Chair of the Research Committee of the Montréal based Portage Programme, and a regular contributor to the Executive Training for Research Application (EXTRA) program for health executives.

Scientific Activities

As TAU gains maturity, it is being increasingly recognized as an innovative and effective model for health technology assessment. This recognition has taken several avenues.

1. Our reports are now indexed in the international database for the Center for Reviews and Dissemination managed by York University, UK (<http://www.york.ac.uk/inst/crd/crddatabases.htm>)
2. Our reports are widely diffused from our website (www.mcgill.ca/tau) with several thousand "hits" annually. Between April 1, 2007 and April 1, 2008 our website received 115,000 hits.

3. Collaboration with the Nijmegen Center for Evidence Based Practice, Nijmegen, The Netherlands to train students in technology assessment; to date 5 international graduate students have completed a 4-5 month training program in Health Technology Assessment.

Scientific Publications

Peer Review Grants

1. Brophy JM, Dendukuri N. Bayesian methods for evaluating diagnostic technologies: An application in the health technology assessment of electron beam computed tomography for the screening of coronary artery disease. CCOHTA's 2005 Health Technology Assessment Capacity Building Grants program. \$84,000 Feb 2005 – March 2006.
2. Brophy JM, Dendukuri N, McGregor M, Erickson L. Collaborative Development and Implementation of a Joint HTA Unit by two University Hospital Networks in Montreal, Quebec. CCOHTA's 2005 Health Technology Assessment Capacity Building Grants program. \$197,000 Feb 2005 – March 2008.

Abstracts

1. Lapointe A, Brophy JM. Joint Health Technology Assessment: Can 2 university hospitals work collaboratively? HTAi Montreal July 2008
2. Lapointe A, Brophy JM, McGregor M. Sacral Nerve Stimulation for the Management of Urinary and Fecal Incontinence: Experience of two Teaching Hospitals. HTAi Montreal July 2008
3. Filion K, Xie X, van der Avoort CJ, Dendukuri N, Brophy JM. Microvolt T-wave Alternans and the Selective Use of Implantable Cardioverter Defibrillators for Primary Prevention: A Cost-Effectiveness Analysis. MUHC Health outcomes Research Day. June 5 2008. Montreal
4. Viscaal AM, Mayo NE, Rodriguez AM, Brophy JM. The Disutility of Restenosis and Repeat Percutaneous Coronary Intervention. ISOQOL. Toronto. Oct 2007.
5. Blagojevic A, Delaney JAC, Dendukuri N, Boivin JF, Brophy JM. An interaction between statins and clopidogrel – A cohort study with survival time analysis. Canadian Cardiovascular Society. Quebec City. Oct 2007.
6. Bielinski M, El-Khoury F, Dendukuri N, Brophy JM. The role of C-Reactive protein in screening Cardiovascular risk in the General Healthy Population : A Systematic Review. Canadian Cardiovascular Society. Quebec City. Oct 2007.
7. El-Khoury F, Bielinski M, Dendukuri N, Brophy JM. Bayesian Meta-Analysis demonstrating the effect of Omega-3 on improving survival and restenosis rate. Canadian Cardiovascular Society. Quebec City. Oct 2007.
8. McGregor M, Brophy JM. Needlestick injury in the hospital. Should we always choose zero risk? American Congress of the Union of Risk Management for Preventive Medicine. Montreal June 2007.
9. Nassef M, Erickson L, McGregor M, Brophy JM. Evaluating wait times in a university hospital. Health Technology Assessment International 2007. Barcelona Spain. June 2007

Invited Presentations

1. Brophy JM. Laval University. "The influence of university based health technology assessments." Ste. Foy Quebec. April 16 2008.
2. McGregor M. Health Technology Evaluation Before Technology Acquisition: A new Approach to Hospital Decision Making. Plenary Session, Annual Meeting of the Ontario Thoracic Society and the Ontario Lung Association. Toronto. 2007
3. McGregor M. Health technology evaluation before acquisition. Decision making at the local level. Evidence, Economics, and Ethics for Tough Decision Making. And Invitational Conference convened by Canadian Agency for Drugs and Technologies in Health and Dalhousie University. Moncton, New Brunswick, May 4, 2007
4. McGregor M. Prevention of Needlestick Injury in the Hospital. Is Zero the only Acceptable Risk? 15th Cochrane Colloquium. Plenary Session, Sao Paulo, Brazil. October 27, 2007.
5. McGregor M. Putting EBM into Practice. The use of Evidence in Hospital Policy Decisions. Johnson & Johnson New Brunswick NJ. Annual Convention. November 27, 2007.
6. McGregor M. Context for Decisions. How one organization promotes the use of research-based evidence. Executive Training for Research Application (EXTRA). Kananaskis, Alberta, August 15, 2007
7. McGregor M. Needlestick Injury in the Hospital. Should we always choose zero risk? The union of Risk Management for Preventive Medicine (URPMPM) and CIRANO. Montréal. June 15, 2007
8. McGregor M. Evaluation *Before* Acquisition: a hospital approach to technology decision making. Conference on "Evidence, Economics, and Ethics for Tough Decision Making". Canadian Agency for Drugs and Technologies in Health and Dalhousie University. Moncton, New Brunswick, May 4, 2007.
9. McGregor M. Health Technology Evaluation Before Acquisition: a hospital approach to technology decision making. Better Breathing Conference of the Ontario Lung Association. Toronto. February 1 2007.

Peer Reviewed Publications

1. Dendukuri N, Chiu K, Brophy JM. Validity of Electron Beam Computed Tomography for Coronary Artery Disease: A Systematic Review and Meta-analysis. BMC Medicine. 2007, 5:35. Epub ahead of print
2. Costa V, Brophy JM. Drotrecogin Alfa (activated) in Severe Sepsis: A Systematic review and new cost-effectiveness analysis. BMC Anesthesiol. 2007 Jun 25;7(1):5 [Epub ahead of print] rated "highly accessed"
3. Dendukuri N, McIsaac M, Khetani K, Brophy JM. Testing for HER2 positive breast cancer: A cost-effectiveness analysis. CMAJ 2007; 176(10):1429-34.
4. McIsaac ML, Goeree R, Brophy JM. Primary Data Collection in Health Technology Assessment. Int J Technol Assess Health Care. 2007;23(1):24-9.
5. Zanke B, Spencer PC, Culyer T, Longo C, McGregor M. Facing cancer costs. How will we afford hi-cost cancer therapies? Oncology Exchange. 2007; 6(1): 42-48.
6. McGregor M. Evaluation *Before* Acquisition: a hospital approach to decision-making. Ontario Thoracic Revues. 2007;19(2):1-4.

ACKNOWLEDGMENT

"(I)t does not make sense to ask whether a particular rationing decision is right... .., one asks whether the decision was made in the right way". A good process "promotes the consistency, and thus the fairness, of treatment; it makes rationing more visible; it reduces the burden on individual physicians; and it enhances the accountability of doctors and the medical profession" [Hoffmaster. Can J Cardiol 2000;16:1313]

The TAU is a unique example of an attempt to adjust the services we offer to conform to the resources available in a logical, fair, and consistent fashion. While some of our decisions have not supported the acquisition of a technology, and have thus "saved money", others have supported new developments because they have identified the benefits, and found them to be sufficient to justify the increased expenditure. Our sincere thanks are due to the many members of the MUHC who have assisted with data collection, to those who have served as Consultants, and to the members of the Committee who have dedicated many hours to the consideration of these problems. *Maurice McGregor.*