PRIMARY HEALTH CARE TRANSITION FUND
FINAL REPORT
EDITED – DECEMBER 12, 2006

INTEGRATING CHIROPRACTIC HEALTH CARE IN A PRIMARY CARE, HOSPITAL-BASED SETTING

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PRIMARY HEALTH CARE TRANSITION FUND FINAL REPORT SEPTEMBER 29, 2006

INTEGRATING CHIROPRACTIC HEALTH CARE IN A PRIMARY CARE, HOSPITAL-BASED SETTING

1. PROJECT SUMMARY

Attached please find three appendices which will provide additional details regarding project timelines, methodology, evaluation and preliminary data:

1) **Schedule C – reconciled for project end**
2) **Project methodology and preliminary data report**
3) **Qualitative study report**

The following narrative section describes project achievements and deliverables in relation to the objectives that were identified at project outset.

Project Achievements and Deliverables:

In conducting an overview of our project achievements and outcomes, the project team identified four, specific 'themes' or areas under which our results could be appropriately be summarized for this report. These areas include: service delivery; modeling; education; and 'germination'.

Service delivery details the objectives that were met (specific to Schedule "B") and accomplishments that were achieved, related to the objectives focusing on improving access to care. This also incorporates information about clinical outcomes and patient satisfaction with the chiropractic services.

Modeling refers to deliverables that resulted from creating an integrative model of care, with the inclusion of chiropractors on staff in the Department of Family and Community Medicine. As

well, this incorporates information about patient and provider satisfaction with the model of care delivered.

Education was also an objective identified for our project from the outset. This thematic area includes information about the education that was provided to health care professionals and students during our program, both internal to and external to St. Michael's Hospital. As well, this theme describes the creation of an interprofessional education working group and the subsequent creation of an integrated case module that is presented to all medical residents placed in our department as well as to medical students. A third education focus was on patient education. This area summarizes the education patients received during the course of their therapy as well as the collaborative patient education module that has been created and will be delivered to patients by team teaching this fall. In addition, we have summarized the numerous presentations that we have provided on behalf of this project as well as upcoming invited presentations to continue dissemination.

'***Germination***' refers to the numerous project activities, extensions, collaborations and opportunities for further research that have directly resulted from our integration project.

Service Delivery

- It has enabled members of the public access to chiropractic services that they otherwise would not receive. The majority of our patients have not previously attended for chiropractic services and are economically disadvantaged.

- It has demonstrated that when there is no economic barrier to accessing chiropractic services they are readily utilized by a broad spectrum of patients. Because of the acceptance of our services by providers and patients, we currently have a 5 to 6 week waiting period to access care.
- The project has demonstrated excellent clinical outcomes and patient/provider satisfaction with the services.
- Access to our services has reduced the wait time for patients to receive physiotherapy in our department.

Modeling

- It has created a workable model of care with chiropractors integrated on staff in an urban teaching hospital. The chiropractors practice on a 'level playing field' with other providers.
- It has demonstrated that a patient-centered and evidence-based/best practice approach to chiropractic care is a successful and efficacious model
- It has resulted in very high patient satisfaction with the model of care delivery and the services
- It has resulted in very high provider satisfaction with the integrative model of care. Almost 100% of the physicians in our department have referred patients to the services.
- It has been accepted as an International Best Practice poster by the Ontario Hospital Association and has been included in the Best Practices Registry by the Ministry of Health and Long Term Care.
- The model is being used as an example by other hospitals in Ontario and other provinces in Canada have expressed interest in creating similar programs (e.g. Manitoba, New Brunswick,

British Columbia). Interest in our model has been expressed by US and Australian jurisdictions as well.

- The 'mixed research' approach (using quantitative measurement as well as qualitative evaluation) has demonstrated the 'facilitators' and 'barriers' that may impact the creation of a new and innovative health delivery model and the efficacy of that model.
- The collaborative project has demonstrated how different organizations can work together to create a very successful program (CMCC, St. Michael's Hospital, University of Toronto, the Ontario Chiropractic Association and the Ministry of Health and Long Term Care).

Education

- It has facilitated the first academic affiliation agreement between CMCC and a teaching hospital for the education of chiropractic students within a hospital.
- It has enabled the creation of an interprofessional education program whereby collaborative education is provided to health science students by a team of health practitioners
- It has facilitated increased collaboration between academic institutions (University of Toronto, Faculty of Medicine and CMCC) whereby all medical students receive education about chiropractic care.
- It has facilitated the education and expanded the knowledge about chiropractic care to medical residents from the University of Toronto, and has provided elective placements for residents within our program.
- It has enabled the development of a collaborative educational model where chiropractic and medical students receive education sessions together.

- An interdisciplinary educational module for patient education about low back pain has been designed.

‘Germination’

- Physicians and specialists in other Hospital programs have requested that consideration be given to expanding the service delivery to other program areas (Women’s Health Program, Emergency Department Study)
- National and international attention through invitations to present locally, nationally and internationally (Please refer to details listed further on in this report) and through national and international publications (Hospital News, Canadian Chiropractor).
- Generation of additional innovative opportunities and areas for research (Emergency Department project, multi-site cost effective study and others in development).
- Increased opportunity for the chiropractic profession to be included in collaborations that previously we would have not had access to (University of Toronto Pain Week, University of Toronto SCRIPT project, teaching in the International Medical Graduates program).

2. KEY RESULTS AND ACHIEVEMENTS

a) Improved access to primary health care

Prior to the implementation of the demonstration project, chiropractic services were not available within the Department of Family and Community Medicine, St. Michael’s Hospital. Chiropractors have not previously been staff practitioners, providing chiropractic treatment, within an Ontario hospital setting. With the creation of the chiropractic program under this demonstration project, we were able to improve access to chiropractic services to people living

in the inner city as well as to patients in our Positive Care Clinic (for HIV/AIDS). The services were provided without the requirement for patient payment and therefore, no economic barriers prevented patients from accessing the services. Over 400 patients had access to chiropractic care within the demonstration project. Over 6000 patient visits were provided in the just-over two years of service delivery (July 2004 to September 2006). The great majority of patients reported that they had not previously attended for chiropractic care. Affordability was the most commonly articulated reason for not attending.

b) Improved quality and continuity of primary health care

One of the objectives of the demonstration project was to create an integrative model of care within the Department of Family and Community Medicine, with the inclusion of chiropractic services. The project team created an ongoing working group (CPCWG – Chiropractic Program Clinical Working Group) that described practitioners' scopes of practice, developed referral protocol, created reporting and communication mechanisms and supported a patient-centered, evidence based approach to care delivery. The communication and reporting mechanisms as well as the referral protocol ensured that continuity of patient care would represent (as much as possible) a seamless collaboration between practitioners in the department – particularly the physicians, physiotherapists and chiropractors. Patients and providers were surveyed about their perceptions of the integrative care model and the quality of care. Ninety-six per cent endorsement by patients of 'excellent' or 'very good' across all parameters on the patient satisfaction questionnaire was received. Patients also added positive comments regarding the services. Several patients wrote letters to the Hospital CEO and the Ministry supporting the

initiative. The project team's development and use of a clinic-specific outcomes protocol improved the quality of care and this supported the evidence-based approach.

Physicians completed a questionnaire at project end in order to evaluate their perceptions of the inclusion of the chiropractic services and the model of care delivery. All physicians returning the survey reported that they felt the chiropractic services were valuable and should be continued after completion of the demonstration project. All respondents indicated that they felt the model of care was efficacious and that communication was 'good' or 'very good'.

In addition to the clinical services, the chiropractors and physiotherapists collaborated over the past year to develop a patient education module (Low Back Pain) that has be presented to patients suffering from low back pain who are currently on our wait lists. The first session was provided with pre-and post session questionnaires completed by patients. Data indicated that there was a change in patient's knowledge and understanding of back pain and what they may be able to do to begin addressing the problem. Our second session will be held in February of 2007.

Additionally, we conducted a 'parallel' qualitative study (pre and post project semi-structured interviews with key informants – physicians, physiotherapists, chiropractors, nurses, administrators) and the results have demonstrated very high satisfaction with the model of care as well as the quality of chiropractic services provided to patients. This qualitative study was led by Dr. Heather Boon, University of Toronto. A copy of the final report for the ethnography study is appended to this document.

c) Very high patient and provider satisfaction

Patients completed a satisfaction questionnaire on discharge from the chiropractic program. Very high patient satisfaction (96% endorsement of excellent or very good) was demonstrated across all parameters of the instrument. Many patients also added positive written statements complimenting the chiropractors and the hospital for including the services.

We evaluated provider satisfaction in two ways. We incorporated several 'key informant' providers within our qualitative study (briefly described above) who provided pre and post project feedback on their perceptions and attitudes about the chiropractic program and the integrative model. Additionally, we asked all department physicians to complete a provider satisfaction questionnaire that we modified from the chiropractic integration project led by Dr. Michael Birmingham in Ottawa. We received 38% return of physician responses to the questionnaire. All respondents indicated very high satisfaction with the model of care as well as the chiropractic services and all have supported the continuation of chiropractic services within the department. Further statistical evaluation of the physician questionnaire is currently ongoing.

d) Facilitation of Coordination and Integration with Other Health Services

The demonstration project resulted in the integration of chiropractic services within the Department of Family and Community Medicine at St. Michael's Hospital. The project enabled the inclusion of the services through supportive funding of the clinical services. Within the first year of the project, the hospital decided to renovate the existing physiotherapy space. The renovations were planned collaboratively with the physiotherapists, the chiropractors and

administrators. The outcome was newly renovated space shared between the chiropractors and the physiotherapists.

Integration with other health services has also occurred with chiropractic membership on several committees within the hospital. Chiropractors participate as members on the Health Disciplines Council, the CPCWG as well as on the Interprofessional Education Working Group and the HIV/AIDS Community Advisory Panel.

The chiropractors have also been included in department activities such as Family Practice Unit (FPU) rounds, HIV/AIDS rounds, DFCM Research meetings, the DFCM strategic planning retreat and Medicine Grand Rounds. The scholarly work performed by the chiropractors has been included in the DFCM "Rational Enquirer", published twice annually and the department's annual research report. Our department also publishes a weekly newsletter in which the chiropractors have had featured articles and items included over the past year. The Hospital-wide newsletter has also featured the chiropractic program as have other internal hospital publications. Our integrative program was also featured in Hospital News, a national newspaper dedicated to sharing information about hospital projects and programs.

As well, the chiropractors have presented to the Medical Advisory Committee, at FPU rounds, medical resident education sessions, have provided elective placements to medical residents, enabled observation by medical students and participate on collaborative projects such as the University of Toronto's SCRIPT program.

There has been full integration and inclusion of the chiropractors and the chiropractic program within the hospital as a result of this project. The highest level of integration has been achieved, with the chiropractors on staff within the Department of Family and Community Medicine. The hospital has demonstrated its strong commitment to the integration of chiropractic services with broad inclusion of the chiropractors through committee membership and through promotion/publication of the program. Additionally, the hospital has committed to continuing to support the ongoing operational costs of the program beyond the completion of the funded project.

3. CHALLENGES OR DIFFICULTIES

In our first annual project report, we articulated challenges and difficulties that were primarily related to program development and start up. They are listed below and were described in detail in the Annual report dated May 1, 2005.

- Finalizing contractual arrangements
- Finalizing space availability
- Financial complexities of grant management
- Impact of Chiropractic Delisting on X-ray Access
- Delay in onset of educational program
- Research Ethics Board approvals
- IT issues
- Insufficient time allocated for project administration

In our second annual project report, we had minimal challenges. One administrative challenge was being able to meet the quarterly fiscal report timeline. With two different institutions tracking expenditures and St. Michael's Hospital having to invoice CMCC at each month end, it was not possible to turn around the quarterly report in two weeks. We worked with the MOHLTC and were provided with a 30-day turnaround for the quarterly report. With the extended time we were able to meet the revised reporting timeframes for the year.

We continued to struggle with insufficient clinical space throughout 2005. Our renovations were initiated in November, 2005 and completed in March of 2006. During the period from project start to March of 2006, we only had one treatment room in which to assess and treat patients. This limited the number of clients we were able to book in any given workday. Upon completion of the renovations, we had two treatment rooms and a dedicated office in the same space. This enabled us to increase the number of appointments available to patients. Having office space in our treatment area, rather than two floors up also saved a considerable amount of time traveling between the two floors.

Challenges faced in the last several months were largely focused on activities around project closure and data analysis. These included the following:

- ***Difficulties in extracting data from the PMP***

The Ontario Chiropractic Association Practice Management Program (a data base for managing chiropractors' practices) was modified to collect clinical outcomes under Dr. S. Mior's PHCTF project with the Family Health Networks. We received permission to utilize this modified version of the PMP so that the clinical outcomes could be collected electronically at the same time that we could be able to 'OHIP shadow bill' as was requested by the Provider Services Branch of the MOHLTC. In addition, the advantage of using the PMP program was that we would be collecting the same outcome measures as the two other chiropractic projects funded by PHCTF. This would enable us to compare clinical outcomes of chiropractic services delivered within three health care settings (Hospital, Family Health Network and Community Health Center). Unfortunately, the PMP had some inherent 'glitches' that made data extraction challenging. The process involved downloading the data file and sending it offsite to be

translated into usable data. We noticed that data returning did not appear to be consistent with our patient numbers. With assistance from Dr. Mior, we were able to adapt the format that the data was entered into, and found that the data was then representative and more accurately reflected our population. We continued to have difficulties, however, in extracting data from certain patient groups (neck pain) whereby discharge scores were missing. For the most part, we have been able to reconcile these discrepancies, however, we lack strong confidence in our data set at this time. To ameliorate this situation, we have created an alternative database and we will be doing manual extraction of data from our charts to be entered into the new system. This will be conducted over the next several weeks. It will enable us to have a very robust database in which we have confidence and with which we will be able to prepare for journal submissions. The Roland-Morris, SF 12 and pain rating scale data appeared to be accurate. We have faced difficulty in extracting the MYMOP 2 data, similarly to the Neck Disability Index as well.

- ***Clients not completing all of the discharge outcomes***

On data input, we noticed that some patients were not completing all of the questions on the outcomes forms. There were a considerable number of forms for patients to complete and this was somewhat frustrating, for many of our patients whom English is a second language. Even with the provision of translation services by St. Mike's many patients failed to answer all the questions, leading to uncompleted items. This is a commonly found problem in studies that require subject completion of questionnaires. We reduced this effect somewhat by having our clerical staff help those patients who were having difficulty with the forms.

- ***Clients self-discharging from treatment without returning for discharge evaluation and completion of forms***

We know that several individuals who were entered in the study, discharged themselves from

care and did not return for discharge assessment and completion of the outcome forms. This is commonly encountered in practice as well. We anticipated that this effect would be somewhat higher within our study population due to the nature of the inner city community. The planned manual extraction of charts will assist us in calculating the actual numbers of individuals who did not attend for discharge assessment.

- ***Poor return ratio of completed physician questionnaires***

In order to assist with program evaluation, we requested our department physicians to complete a provider satisfaction questionnaire. We utilized the validated questionnaire that had been developed by the PHCTF chiropractic project from Ottawa and modified it to reflect the Hospital environment. Of the 45 physicians in our department, we have received 17 completed questionnaires.

- ***Securing of ongoing funding after project end***

The most considerable challenge we face at the current time is how to ensure sustainable funding for our program. We were hopeful that, through partnership with the MOHLTC, the program funding would be sustained. However, we were recently informed that the MOHLTC was unable to find a suitable funding mechanism to support an ongoing program at this time.

In the interim, the Hospital has committed to continuing to support the chiropractic program through underwriting operational costs, however there is no mechanism within the current Hospital budget to offset the costs of the chiropractors' salaries. CMCC and St. Michael's Hospital are diligently working on alternative interim funding as well as a plan for long-term sustainable funding at this time. In the meantime, the services will continue to be provided for a limited period of time through support from CMCC and St. Michael's Hospital.

4. SUSTAINABILITY

Both St. Michael's Hospital and the Canadian Memorial Chiropractic College have committed to continuing the chiropractic program. The hospital has committed to funding all operational costs with the exception of chiropractic clinician salaries and coverage while away on business or vacation. The hospital has the intention to request funding for chiropractic services under the budget of a Family Health Team (FHT) that may eventually be created within the department. As well, preliminary internal discussion has indicated that chiropractic program funding will be included in the Hospital's future funding requests to the LHIN. In the meantime, we are also meeting with organizations to secure interim funding between now and April of 2008. We are hopeful that these organizations will support our program during that interim period. As well, we are seeking alternative funding mechanisms to be effective as of April 2008 should the FHT not be created or the LHIN funding be delayed. In addition, the team is in the process of preparing two additional research projects for which we will seek research grants over the next 1 to 2 year period.

5. COMMUNICATION OF PROJECT

Number of Health care sites: Our project involves one primary health care site, with a total of four clinics providing referrals to our services. We are located in the Department of Family and Community Medicine, St. Michael's Hospital at 61Queen Street East. We receive referrals to our program from the Family Practice Unit (all four clinical sites: 61 Queen, 410 Sherbourne, St.

Lawrence and St. James Town) as well as the Positive Care Clinic and the Employee Health Unit.

Number of patients = 466

Type of Interdisciplinary providers: Chiropractors, Physiotherapists, Physicians, Nurses, Pharmacists, Social Workers, Dietitians, Medical residents/students

Tools:

1. Referral protocol for patients accessing chiropractic and physiotherapy services within the Hospital
2. Medical directive enabling direct access to diagnostic imaging by the chiropractors after OHIP delisting
3. Inter-professional education module for medical residents (Complex Low Back Pain case)
4. Patient satisfaction questionnaire
5. Provider satisfaction questionnaire
6. Interdisciplinary patient education module for low back pain patients
7. Secondment contract between St. Michael's Hospital and Canadian Memorial Chiropractic College

Lessons Learned:

1. ***Insufficient time*** was provided from time of MOHLTC notification of grant and start of project.
2. ***Insufficient time/funding*** was allocated for project administration within the grant.
3. The importance of ***community and stakeholder advocacy***. The project was conceived as a result of the HIV/AIDS community requesting chiropractic services within their hospital

program. Stakeholder input was encouraged from within and outside of the hospital to ensure that stakeholder needs were also being met and that their concerns were being considered.

4. ***Building relationships*** is integral to the success of a new program. We learned from our qualitative project that a strong facilitator of developing a new program is building strong relationships, both personal and professional, which result in a trusting relationship. In order for organizational champions to take a project forward, they must be completely comfortable with the project they are advocating for and the individual(s) leading it.
5. ***Education*** has been an essential component to developing relationships. Education to physicians and other providers at Family Practice Rounds early on in the project enabled an improved understanding of the role of chiropractors in the department at the outset of the project and provided a basic foundation from which to continue building as the project evolved.

The creation of an interprofessional education (IPE) working group was facilitated by our project in order to meet one of our objectives which was to increase knowledge about chiropractors within other health professionals. The IPE working group has collaborated in the development of an IP educational module being delivered to medical residents during their placements in our department.

Education was also provided outside of the department providers. We have been delivering educational sessions to medical residents and students at the University of Toronto, Faculty of Medicine as well.

In addition to this effort we have completed an academic affiliation agreement between CMCC and the Hospital. This will enable CMCC interns to practice under the clinician's direct supervision and residents to also potentially become providers. We expect the first group of interns to begin providing treatment in early February of 2007. Additional educational opportunities for CMCC interns have tentatively been identified. We are currently developing an observational elective whereby CMCC interns are able to observe in the Fracture Clinic, Martin Arthritis Centre, neurology clinic, rheumatology clinic and family practice unit. As well, there is a strong potential for observation in the operating room for spinal or joint surgery. We are hopeful that this observational rotation will begin in April of 2007. CMCC students will also participate in education with medical clerks during their rotation in family medicine. The interns and clerks will spend a morning together with the chiropractic/physiotherapy program each month.

6. ***Having an organizational/project champion*** was a pivotal reason for broad acceptance of our initiative at St. Mike's. Champions, both in an administrative capacity and in medical leadership of our department, were able to facilitate the building of bridges within the department. The leadership support we received for our initiative was essential in the development of trust between professionals. Open and honest dialogue, facilitated by our champions, promoted a collegial relationship where all perspectives were respected. Our qualitative study results emphasized the importance of champions who are respected and trusted, leading innovative programs. Respondents commented about leadership within the

hospital administration, within the department and the project leader as having a significant effect on early successes in the project.

7. ***An evidence-based, patient centered approach*** is an essential requirement for practicing at St. Michael's, an academic health science centre. Adherence to evidence/best practice principles by the chiropractors on staff has resulted in increased credibility and support from the department's other health providers. Critical thinking skills, currency with the literature and considerable practice experience were all contributors to the excellent clinical outcomes that have been demonstrated through this project.

Focusing on the patient as the centre of care also facilitated decisions around scope of practice and professional roles. Discussions early on in project development, adhering to client-centered principles, enabled the physiotherapists and chiropractors in agreeing that both services would practice within the full scope of their profession, understanding that all scopes of services overlap. The group agreed that patient choice in their health provider would be a determining factor in what service was accessed by patients. Thus, patient-centered care principles formed the basis for the referral protocol that was developed collaboratively with our department's health providers.

Commitment to patient-centered care ensures that patients are educated, informed and are partners in their care delivery. This empowering of patients has resulted in a better educated patient and being much more highly satisfied with the services as evidenced by our patient satisfaction questionnaire results.

8. ***A collaborative (inclusive) approach*** that encouraged open and honest dialogue, early on in the development process resulted in the formation of trusting and respectful relationships. This was a cultural priority in the department. All health professionals providing services within the DFCM were provided with an opportunity to provide feedback about the introduction of the chiropractic services. Our CPCWG meetings provided a forum for physicians, nurses, physiotherapists, chiropractors, administrators and the Employee Health Unit to provide input into the planning process.

9. ***Be consistent with messaging.*** Messages and information disseminated to collaborating organizations and individuals were consistent and congruent with St. Michael's Hospital priorities. Of primary importance was ensuring community access to high quality care and a patient centered focus, empowering the patient to be the decision-maker in their care. These priorities were first and foremost in our project objectives and in any program development as well as presentations. Programming decisions were influenced by our commitment to access, quality and patient choice. These characteristics were congruent with the Hospital's culture and this enhanced collaboration.

10. ***Keep evolving.*** As our program developed over the course of two years, we continued to expand our involvement in the department and the Hospital. Further internal collaborations were created through information sharing and recognition of common goals. For example, we recognized that the chiropractic services would be beneficial for employees suffering work related musculoskeletal injuries so we included an Employee Health Unit

representative on our CPCWG and created a referral mechanism specifically for them. A second example was the recognition that chiropractic services may be helpful for pregnant women suffering from low back pain by the obstetricians in our Women's Health Program. Following a request for consideration of expanding our referral base to this program, we conducted a 'needs assessment' and learned that a significant number of patients would likely benefit from accessing care. However, because of our limited funding (and the number of chiropractors on staff), we recognized that we could not service this population. In order to continue assisting in some way, we provided education to the nursing staff in the program about the use of belts to support the pelvis during pregnancy and provided them with feedback about preventative stretching and posture information that they disseminate to pregnant patients. Given these identified 'need' areas, we are planning to conduct a needs analysis within the Hospital to determine what level of chiropractic involvement would be required for expansion into additional Hospital programs in order to better serve our community.

Continuing to evolve is essential to ongoing program improvement and enhancing quality. It also enables the development of new relationships both internal and external to the organization. For example, with our IPE initiative, we attracted the University of Toronto in their new project around interprofessional education. Subsequently we were invited to participate as a SCRIPT site – part of a multi-institutional initiative led by Dr. Ivy Oandesen.

<u>Communication/Dissemination Activities and Plan</u>

We have exceeded our expectations for project information dissemination during the course of the project as outlined in Schedule E. We are anticipating several submissions to scientific journals upon final completion of detailed statistical analysis.

The following education sessions/presentations were provided by the chiropractors over the period of the project. (Those accompanied by an * indicate that the session was collaboratively presented with another health provider in the department.)

Presentations - 2004-2006:

- * St. Michael's Hospital, Department of Family and Community Medicine – Family Practice Rounds – Toronto
- TVO – Second Opinion television show - Toronto
- * St. Michael's Hospital, Department of Family and Community Medicine – HIV/AIDS Rounds - Toronto
- Ontario Chiropractic Association Practice Makes Perfect Day – Toronto
- World Federation of Chiropractic (WFC) Biennial Congress – Sydney
- * Ministry of Health and Long Term Care – Senior Management - Toronto
- * University of Toronto – Toronto
- * Manitoba Health – Deputy Minister and Associate Deputy Minister of Health
- Research Agenda Conference/Association of Chiropractic Colleges (ACC) Conference - Washington
- Manitoba Health – Regional Health Authority Chiefs of Staff – Winnipeg
- * McMaster University, Department of Physiotherapy and Occupational Therapy – Hamilton
- Primary Care Today Conference – Toronto
- * MOHLTC Innovations Expo Toronto
- * PHCTF Summit – Toronto
- HIV/AIDS Community Advisory Panel, St. Michael's Hospital
- UN Bone and Joint Decade World Network meeting – Durban, S.A.
- Zimbabwe Medical Association – Bulawayo
- Canadian Chiropractic Association National Convention – Vancouver
- INCAM Conference, Calgary
- *WFC/ACC Conference on Professional Identity and Curriculum – Cancun
- * Ontario Hospital Association – Health Achieve Conference - Toronto

Upcoming Invited Presentations:

- New Brunswick Hospital Board – Fredericton

- Health Research and Policy Conference, Vancouver
- WFC/Foundation for Chiropractic Education and Research International Conference on Chiropractic Research – Portugal

Project information was also disseminated through the following print media:

- Hospital News
- Canadian Chiropractor
- DFCM Weekly InfoMemo
- In Touch (Hospital newsletter)
- Rational Inquirer (published twice per year – DFCM Research and Academic Newsletter)
- DFCM Annual Departmental Research Report
- Journal of the Canadian Chiropractic Association
- American Chiropractic Association Wellness Journal
- World Federation of Chiropractic Quarterly Report

Now that our project is complete and final statistical analysis is under way, we are anticipating several journal submissions. Target journals include:

Journal of the Canadian Chiropractic Association
Journal of Manipulative and Physiological Therapeutics
Canadian Medical Association Journal
Canadian Journal of Public Health
Journal of Interprofessional Education.

6. EXECUTIVE SUMMARY

Project Title: **Integrating Chiropractic Health Care in a Primary Care, Hospital-Based Setting.**

Partners: St. Michael's Hospital
Canadian Memorial Chiropractic College
University of Toronto
Ontario Chiropractic Association

Goal: To integrate chiropractic services into the delivery of coordinated health care in the Department of Family and Community Medicine at St. Michael's Hospital, in collaboration with the Hospital's health care providers.

Objectives:

- To improve access to chiropractic services in the inner city community, increasing the variety of health services at its disposal
- To facilitate collaboration between the health care providers in the Inner City Health Program. This project seeks the highest level of collaboration – that in which chiropractors are on staff in the DFCM.
- To improve continuity and coordination of interdisciplinary care through the development of an integrative model of care
- To develop and evaluate triage/referral protocol for chiropractic and physiotherapy services within the department
- To evaluate patient and provider satisfaction with the integrative model of care

- To facilitate knowledge transfer to health science students and staff providers about complementary and alternative therapy, with a primary focus on chiropractic
- Increase emphasis on injury prevention strategies and patient empowerment in their health, through health promotion and education

Methods:

- Demonstration project with 'mixed' research approach (quantitative and qualitative components).
  - Quantitative:
    - Utilization data, study population description
    - Clinical outcomes (NDI, R-M, SF12, MYMOP, NRS 101, Improvement Scale)
    - Patient satisfaction questionnaires
    - Provider satisfaction questionnaires
  - Qualitative:
    - Key informant semi-structured interviews combined with observation of chiropractic interaction activities within the Hospital

Activities:

1. Creation of project team and development of chiropractic program (scope and description of services, target population, referral mechanism, communication, diagnostic imaging medical directive, patient education program)
2. Secondment contract development, creation of chiropractic clinical team
3. Ethics submission (University of Toronto, St. Michael's Hospital, Canadian Memorial Chiropractic College)
4. Securing of space within the department/renovation of the physiotherapy and chiropractic program shared space
5. Delivery of chiropractic services/subject recruitment/informed consent
6. Data collection (utilization of modified OCA Patient Management Program)
7. Data analysis

Results:

- Enabled members of the inner city community to access chiropractic services within the Hospital. Over 400 patients were provided with approximately 4200 patient visits within the period of the project. The great majority of these patients had not previously accessed chiropractic care.
- Development of a workable and efficacious integrative model of care within the Department of Family and Community medicine, incorporating chiropractors on staff within the model.
- Patient satisfaction scale results indicated very high patient satisfaction with over 90% endorsement at 'excellent' or 'very good' across all parameters.
- Qualitative evaluation demonstrated very high provider satisfaction among key informants (physicians, nurses, administrators, chiropractors, physiotherapists).
- Creation of a referral ('triage') mechanism for patients to access our care and a referral note form to provide written information to the referral source for each patient.
- Creation of an inter-professional education program within the department. Development of a collaborative case module for medical residents and clerks with teaching of the integrative case conducted by the team.
- Creation of a patient education program whereby patients with low back pain will attend and participate in an education session delivered collaboratively by the chiropractors and physiotherapists.

Project Contact: **Deborah Kopansky-Giles**
Chiropractic Program
St. Michael's Hospital, Department of Family and Community Medicine
61 Queen Street East, 2nd Floor
Toronto, Ontario
M5C 2T2
Kopansky-gilesd@smh.toronto.on.ca

APPENDIX 1
SCHEDULE C – RECONCILED

Schedule "C"

Attached to and forming part of the Agreement between the **Ministry of Health and Long-Term Care** and **Canadian Memorial Chiropractic College** dated the _____ day of ______________ 2006

The Recipient shall complete the Project according to the following time lines:

1. By May 1, 2004 begin Rounds presentations within the Hospital
2. By June 30, 2004 complete Clinical Program Description
3. By July 1, 2004 begin clinical service delivery
4. By July 1, 2004 begin data collection
5. By September 30, 2004 complete Educational Program Description
6. By October 1, 2004 begin Educational program delivery
7. By April 30, 2005 complete Annual progress report.
8. By May 1, 2006 complete Annual project report
9. By Sept. 29, 2006, submit final project summary report
10. By Oct. 6, 2006, submit audited financial statement covering the full term of the agreement.

And shall complete the Project by the Completion Date of **September 15, 2006**

REVISED WORK PLAN:

Task/Milestone	Responsibility	Est'd Timeframe	***Status***
Detailed Program Description a) Description of clinical service delivery pathway b) Referral processes/network development c) Program evaluation indicators	Chiropractic Team Leader Program Director – Inner City Health Program Co-Investigator	Completed within ***first two months*** of program inception.	Completed

Task/Milestone	Responsibility	Est'd Timeframe	***Status***
Clinical service delivery - services provided 5 days per week - 1 FTE by two chiropractic clinicians	Staff Chiropractic Team Leader Staff Chiropractic Clinician	Onset of clinical service delivery *within 2 weeks of completion of program description (above)*	Initiated July 2004 and ongoing to project end
Data collection	Staff Chiropractic Team Leader Staff Chiropractic Clinician Administrative support staff Research Assistant	Begins at onset of service delivery throughout the duration of the program *(22 months)*	Initiated in July, 2004 and ongoing to September 15, 2006. This has provided over two full years of patient data.
Data analysis/ongoing program evaluation	Chiropractic Team Leader/Co-Investigator Program Manager – ICHP Project Manager Research support from CMCC and SMH as required	Initiated at *onset of clinical service delivery* and ongoing throughout duration of the program	As above.
Development of educational program component: - DFCM IPE - medical resident education (U of T) - DFCM IPE - Senior medical student education (U ofT) - International Medical Residents Program (U of T)	Chiropractic Team Leader Program Manager – Inner City Health Program	Developed after completion of program description: evolving program over project duration	Education started in DOCH 4.0 and now DOCH 3.0 program at U of T Faculty of Medicine in 2004. This is ongoing. DFCM IPE initiated in April 2005 and is ongoing. Teaching in the Internal Medical Graduates Program started in 2005 and continues at this time.
Educational Program	Chiropractic Team	Rounds program delivery within the *first 3* months of	We have exceeded

Task/Milestone	Responsibility	Est'd Timeframe	***Status***
Delivery b) Inner City Health Rounds c) Other Hospital rounds d) CMCC student rotation e) 'Other' health science students program	Leader Chiropractic Clinician Program Manager – Inner City Health Program Representative from CMCC Clinical education program Representative from CMCC Post-graduate program Representative from Fitzgerald Academy Input from other affiliated academic institutions (e.g., U of T)	inception. Other educational programs to begin at 6 months post program inception and ongoing throughout the duration of the program	educational objectives for the project. Please refer to the final report for a listing of presentations that have been given for our project. Presentations to MAC, Family Practice Rounds, HIV Rounds, Family Practice site teams, medical residents, senior medical students have all occurred. Presentations to chiropractic students is planned for November and ongoing with collaborative education which started in October of 2005 and continuing . We are on track to meet all educational objectives. A patient education module has been created collaboratively and will be team taught to patients starting October, 2006. This will be an ongoing session.
Annual progress report	Chiropractic Team Leader/Co-investigator Project Manager	April 30, 2005	Completed April 30, 2005

Task/Milestone	Responsibility	Est'd Timeframe	***Status***
	Program Manager – Inner City Health Program Other institutional support as required		
Continuation of clinical service delivery - 1 FTE by two chiropractic clinicians			Ongoing.
Fiscal Quarterly reports	Chiropractic Team Leader, Project Manager, Accounting staff from CMCC and St. Michael's Hospital	June 30, 2004 September 30, 2004 December 31, 2004 March 31, 2005 June 30, 2005 September 30, 2005 December 31, 2005 March 31, 2006 June 30, 2006 September 29, 2006	Completed as per directed time line. Permission was granted for an additional two weeks due to multiple organizations collaborating on fiscal accounting. All future deadlines were met.
Second ***Annual progress report***	Chiropractic Team Leader/Co-investigator Chiropractic Clinician Program Manager-Inner City Health Program Project Manager Other institutional support as required	April 30, 2006	Submitted within the required time frame
End of project - Final project summary report	Chiropractic Team Leader/Co-investigator Program Manager – ICHP Project Manager Other institutional support as needed	September 29, 2006	Submitted within the required time frame

Task/Milestone	Responsibility	Est'd Timeframe	***Status***
End of project - Audited financial statement covering the full term of the Agreement	Leader/Co-investigator Program Manager – ICHP Project Manager Financial services – SMH Controller, CMCC	Oct. 6, 2006	Audit has been completed and report will be submitted on time.

APPENDIX 2

PROJECT METHODOLOGY AND PRELIMINARY STUDY DATA

(*Final data analysis is ongoing with collection of outcomes and demographic information completed by September 15, 2006)*

We discontinued entering new subjects into the data base as of July 31, 2006. However, we continued to collect follow up information for subjects that were already entered into the study prior to July 31. Final, detailed statistical analysis is under way, in preparation for scientific journal submission.

The data set presented below incorporates patient data up until September 15, 2006, with the exception of clinical outcomes information which was extracted from the data base as of June 30, 2006. As our data extraction required sending the data set to an off-site location, it usually took over six weeks to receive the translated data back to us in a format that we could use for statistical analysis. For this reason, clinical outcome data presented in this report is for data collected between July 15, 2004 and June 30, 2006.

Methods

The project was undertaken under a "mixed research" approach. We utilized quantitative methodology in the evaluation of clinical outcomes, patient satisfaction and physician satisfaction. We used qualitative methodology for evaluation of integrative model development and in looking at changes in provider/administrator attitudes pre and post integration of the chiropractic services.

As a demonstration project, the clinical services were delivered to patients referred to the services whether they agreed to participate in the project or not. Only those providing informed, written consent to participate in the project had data entered into the PMP system.

The project involved the development of an integrative model of care, including chiropractors in the Department of Family and Community Medicine, St. Micheal's Hospital. The project team decided that an effective way to assess the model development and end result was to conduct an 'arms-length' qualitative semi-structured interview study that paralleled the model creation. Attached as Appendix 3 you will find a summary report from Dr. Heather Boon who led this secondary study.

An outcomes evaluation protocol was developed with involvement of all team members. Research Ethics Board submissions were sent to St. Michael's Hospital, the Canadian Memorial Chiropractic College and the University of Toronto. REB approval was received from all institutions.

The final version included standardized instruments to measure pain, disability, general health and pain coping. A patient satisfaction scale was also used. The protocol was delivered by clinic staff at the initial visit (following consent) and on the discharge visit. Data on compliance

of the patients with the protocol and on change scores of the instruments themselves were calculated and reviewed descriptively.

All consenting patients attending chiropractic treatment at SMH were included, except for clients who did not read or write English, or if under the age of 18. The age range was 20 years to 85 years with 63% female. Data was collected from July 2004 to July 2006 and included the following:

- Patient demographic/characteristics information (gender, age, referral source,) collected through intake forms.
- Nature of the cases referred to the service (nature of complaint, reason for referral, prior experience with chiropractic care) was collected through patient history.
- Treatment outcomes (patient satisfaction with care, satisfaction with model of care).
- Health outcomes measured by reliable and validated scales (e.g. SF12, Neck Disability Index, NRS 101Pain Outcome Scale, Roland Morris Questionnaire, Improvement Rating Scale, MYMOP) data collected at onset of care at clinically appropriate intervals and at discharge.

The data was taken from the Roland Morris questionnaire to address low back pain and disability. The other instruments included: The Numerical Rating Scale (NRS) for general, low back pain, and other pain, such as emotional pain; the SF12 V.2 for health and well being; and the CCMC Neck Disability. All instruments proved to be consistent and validating.

Statistical Methodology

The data were organized into three sectors: demographic, clinical presentation and clinical outcomes. Data from all sectors were summarized descriptively. Descriptive summaries were compiled for the outcome measures by total score, for current analysis, and for each of the measure's items for future analysis. Outcome measures were summarized for two time points: intake and discharge, and were interpreted descriptively. Where sufficient data was available, change scores were evaluated as effect sizes which were then compared to published benchmarks either specifically per instrument (such as with Minimal Clinically Important Difference) or for chronic pain patients in general.

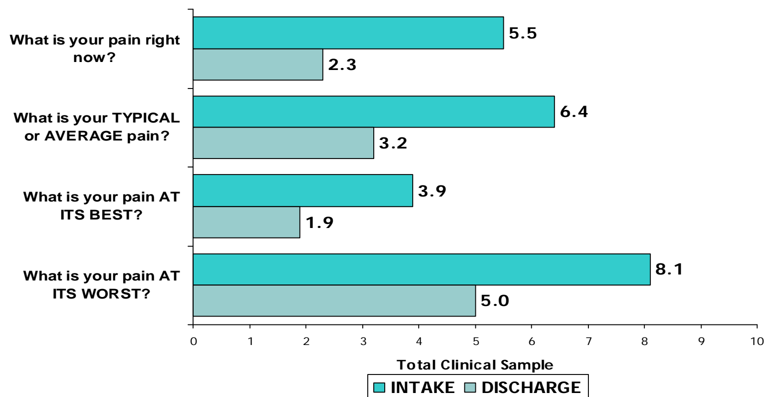
Preliminary Data

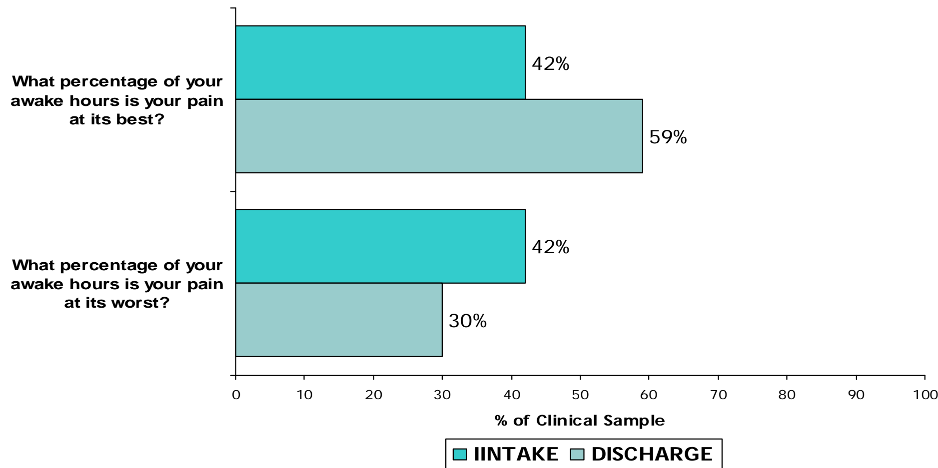
Descriptive Data

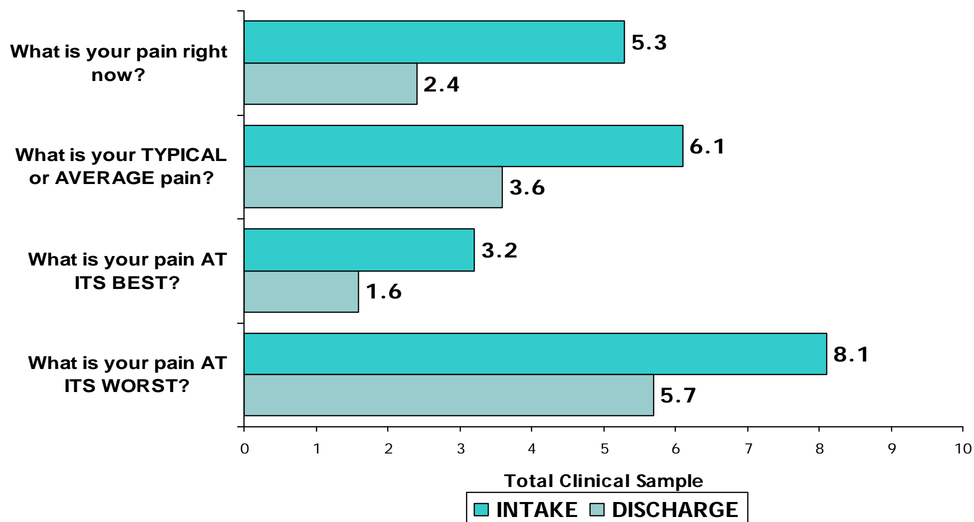
Descriptor	
New Patients	446
Subsequent Visits	6261
Mean # of visits/patient	14
Age	Age Range = 20 - 85 Mean Age = 41.2
Gender	M = 172

	F = 274
Referral source	Family Practice Unit = 417 Positive Care Clinic = 6 Employee Health Unit = 23
Area of Complaint(s) (Tracked through OHIP procedural codes)	Primary Neck: 28 Primary Upper Back: 38 Primary Lower Back: 142 Primary Non-Spinal: 40 Primary Multiple Site: 65 Radiculopathy/Neuropathy/Referred pain: 17 Primary Headache: 10 Other: 11
Shadow Billing	$ 61,118.45
Serious Adverse Events	0

Sample Patient Outcomes

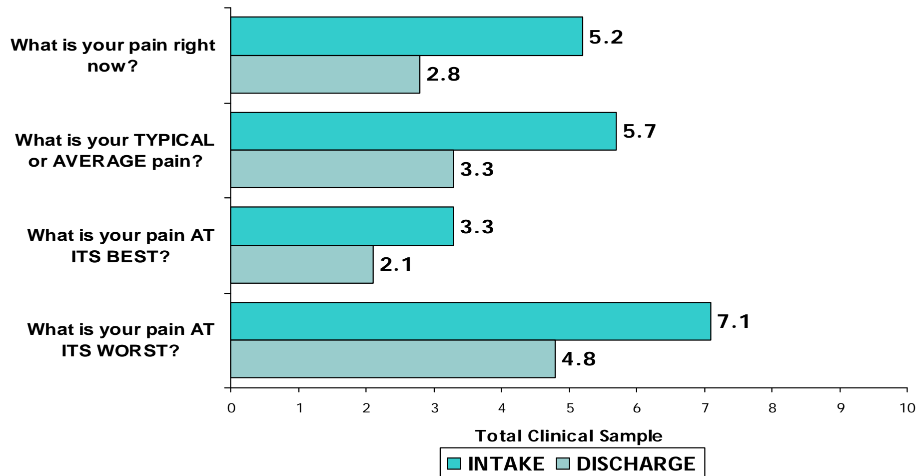



Numerical Rating Scale (NRS)
LOW BACK PAIN
What percentage of your awake hours is your pain at its best?
42%
59%
What percentage of your awake hours is your pain at its worst?
42%
30%
0
10
20
30
40
50
60
70
80
90
100
% of Clinical Sample
IINTAKE
DISCHARGE


Numerical Rating Scale (NRS)
LOW BACK PAIN
What is your pain right now?
5.3
2.4
What is your TYPICAL or AVERAGE pain?
6.1
3.6
What is your pain AT ITS BEST?
3.2
1.6
What is your pain AT ITS WORST?
8.1
5.7
0
1
2
3
4
5
6
7
8
9
10
Total Clinical Sample
INTAKE
DISCHARGE

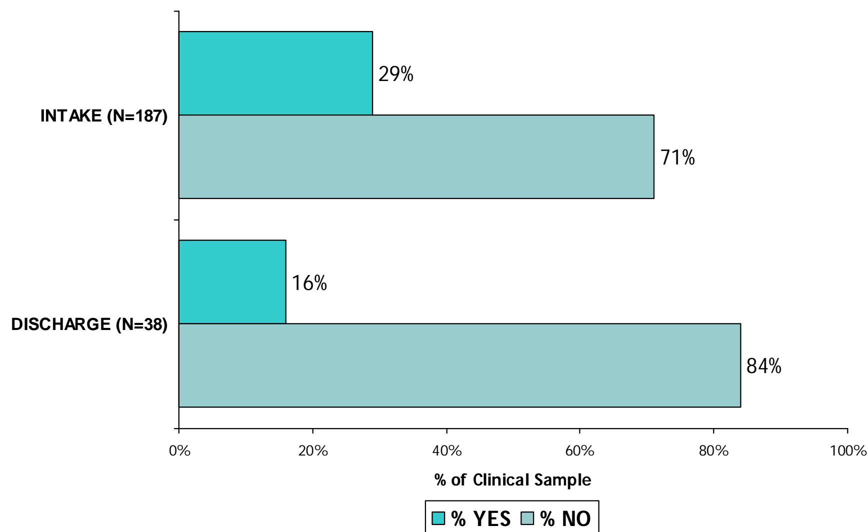
Numerical Rating Scale (NRS)

OTHER PAIN



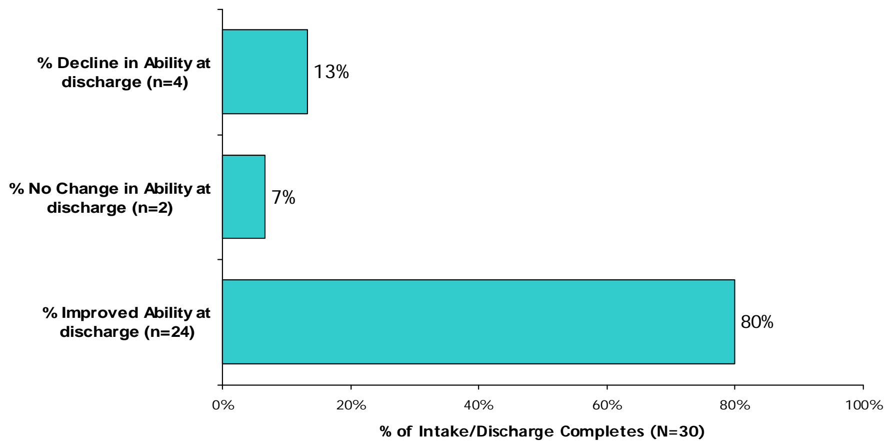
Roland-Morris Low Back Pain & Disability

I stay at home most of the time because of my back



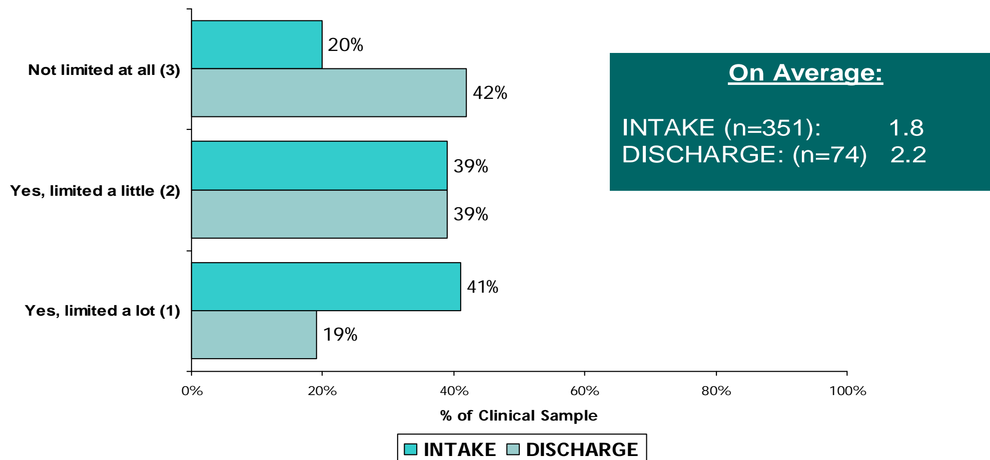
Roland-Morris Low Back Pain & Disability

Improved ability from intake to discharge RM-score



Health and Well-Being (SF12v.2)

Does your health limit you in Moderate activities, such as moving a table, pushing a vacuum, bowling or playing golf? If so, how much?



On Average:

INTAKE (n=351): 1.8
DISCHARGE: (n=74) 2.2

Patient Comments

"I had never been to a chiropractor before even though I suffered with back problems for years and was so surprised how well I felt after one visit. I should have gone sooner."

"Such an overwhelming change in the state of my problem from being extremely painful and debilitating to the extreme opposite."

"The doctor was very helpful with my physical and emotional needs and understood the pain I was in."

"A great program for improving the general health of those in need in the community. I would highly recommend this program to others.

APPENDIX 3

QUALITATIVE STUDY REPORT

Integrating Chiropractic Care in a Primary Care Hospital-Based Setting: An Ethnography

Investigators: Heather Boon, Howard Vernon, Jim O'Neill

Prepared by: Natasha Kachan, Research Coordinator

Background

Primary care is increasingly being delivered by teams of healthcare providers. Understanding how integrative healthcare teams are formed and evolve is necessary in order to determine how best to implement team-based approaches across Canada.

Purpose

The purpose of this project was to examine and describe the integration of chiropractic services in the Family Medicine Unit at St. Michael's Hospital (SMH).

Methods

This study employed a qualitative research design using interview-based data. Semi-structured, in-depth interviews were conducted from February 2004 – August 2006 with 18 key participants (4 administrators, 2 chiropractors, 2 physiotherapists and 10 family physicians). All interviews included questions about perceptions of and involvement in the integration of chiropractic services at SMH. All participants were interviewed at least twice, with the exception of two administrators and three family physicians who were only interviewed once. A total of 42 interviews were conducted. All interviews were audio-taped and transcribed verbatim. Transcripts were then analyzed for main themes using basic content analysis

Results:

Integration of chiropractors into the Family Medicine Unit at SMH did occur. As the study progressed, and the family physicians became more aware of the chiropractic services, referrals increased. As one physician stated in an August 2006 interview:

FP9:But I would say that the clinics referrals overall have increased, because I think more people were hearing about it and getting good feedback on it, and so using it. I think that there wasn't an awareness before that it was even there.

Many participants talked about the collaboration that occurred between the chiropractors and the physiotherapists. Collaboration between these two professions is largely being viewed by respondents as something that will continue to aid the program in getting established in the hospital, and may also lead to important learning opportunities for the clinicians involved.

FP3: I check "physio or chiro", because I believe they are collaborating and working together, so they're in a better position to decide amongst themselves which condition is best served by which service.
Int: So it's your impression that they're working together to decide which service gets which patients?
FP3: Yes...

P2: Sometimes when we have patients that are frequent flyers, let's say that they have received physio therapy for 2-3 years, on different occasions. And they haven't received any other therapy, and they are still in the same process. We offer, we say well you know, have you ever tried chiro? Because probably physio is not working in the way that you expect. Have you ever tried chiro? Would you be interested? Yes, no. If yes, we contact chiros and say we have this patient, this patient has been a regular client in the physio service for the last 3 years. We don't see any improvement, really, would you mind to give them a try. Same with them. If they are treating a patient, and they see they have reached a level, and the patient is not 100% recovered, they call us and say well you know I have this patient. I feel that he will benefit from physiotherapy. Can we refer? And the patient at the end is the one who says yes or no.
Int: And how have those consulting, interactions with chiro been?
P2: Yeah, they've been perfect. Same language, no problem. (Physio2)

Three main themes were identified in the data that related to the integrative service that evolved during the study. They are **A. Success Factors, B. Barriers**, and **C. Outcomes**.

A. Success Factors
This theme encompasses the perceptions of respondents with respect to the factors that contributed to the success of the integration of chiropractics at SMH. These included the importance of "champions"; laying groundwork; the culture at SMH; and the choice of practitioners. Each is discussed in more detail below.

A1. Champions of the cause
Many respondents highlighted the importance of key players who championed this program. There was a widespread opinion that without these champions, the program would not exist. Respondents recognized that a potentially controversial program such as this one requires that its proponents be stellar in terms of their personal and professional credibility. "Credible" champions were identified as one of the key success factors for this program.

Admin1:*Well, (doctor), who is now our physician representative on our chiropractic initiative project, (doctor) said, "Oh good, I've got so many patients with chronic back pain. Maybe they can help." So he was open immediately and I really can't remember what a couple of the other people said. They were open to the concept and especially, I think, because (doctor) and (administrator) were recommending it, because, again, (they) have great credibility in our department.*

Admin2: I had to champion it personally and get senior management to see the value of this…(name) I think was important as well. Obviously she is passionate about what she does, but her personal presentation I think is astute and conciliatory and not over-zealous and is willing to listen. I am sure that she has heard these arguments and criticisms a million times, but she deals with them graciously and politely and patiently and that kind of presentation is critical I think. It gave her a personal level of credibility.

A2. "Laying the Groundwork"

One of the keys to success of the chiropractic integration program was the fact that a lot of energy was dedicated to gradually introducing the program, long before its actual launch, to other departments SMH. This groundwork ensured that by the time the program came into existence, other departments were prepared for it and were not threatened by the introduction of a new service that might result in competition for resources to support their own services. Through the preliminary work, the key players were able to convey that this program was supported by senior level administration, which in turn sent the message to physicians that the chiropractic service could serve as a safe, legitimate option for treating their patients:

Int: Why was that preliminary work so important?
Admin2: It's important with any new service, any new service. We need to pave the way, we need to market it, we need to send positive messages to the potential referral services. Physicians and family physicians tend to be somewhat conservative about where they're going to send their patients. They're protective, and they're not just going to send them anywhere. So they want to know that it's supported and endorsed and has credibility and it's going to be a safe service….And also again sending the message that senior levels of program administration supported it and had confidence in it…And I think one of the things we'd promised earlier that we adhered to which was important to physio[therapy] and other professions, we ensured that there wasn't going to be encroachment into other professions' participation. That it would have to be funded by funding beyond SMH, like the ministry or wherever else, and that was important to establish as well so physio[therapy] and nursing and other professions could be assured that we weren't going to eliminate one of their positions and put money into chiro[practic].

DC2: The way we approached it from the very beginning… the collaboration, bringing everyone in to get their input, was really key. Openness for everyone to talk about how they're feeling at every meeting, and culture of the hospital. They're very receptive to ideas, they're receptive to innovation – so we're getting great support and buy in from all sides.

A crucial component in laying the groundwork, and continuing to keep exposure high for the program once it began was achieved through formal presentations. Both those involved in the delivery of the presentations (i.e. chiropractors, administrative staff), as well as those who attended the presentations (i.e. physicians, administrative staff) agreed these formal presentations have been a crucial component in terms of raising awareness about the initiative.

Chiro2: But then I presented at rounds with (doctor) who is one of their HIV docs, and so a lot of people got exposure that way to us, and I think the sense was pretty positive…So their (MDs') level of awareness is different, I think, just by virtue of their exposure to us.

Int: Do you remember where exactly, in what context, you got the information?
FP3: It was in a meeting. It was at, as I recall, a departmental staff meeting, family practice meeting. Then also to their credit, the two chiropractors put on one of our um, were responsible for one of our family practice rounds. We had them two Thursday mornings a month. And so they…were invited and accepted and then described what they do and sort of went into their just how they handle things differently and their expertise and just what they don't do.

A3. Culture of St. Michael's Hospital
According to respondents, because this hospital is unique in terms of its philosophy and the patient population it serves, it is more amenable to the implementation of treatment programs that fall outside the sphere of traditional Western medicine. Many respondents implied that the culture of SMH has been an important factor in the success of this program.

Chiro2: And to the other thing, St. Mike's really, truly does listen to what the community wants, and so here you had a community driving it, it wasn't just us coming in and saying, 'Oh, we're so great. Take us.' It was a community saying this is what we know we need. It helps us.

Admin3: We are an inner city hospital and we see patients from all cultures. We try to be open to the needs and interests of the patient population.

A4. Choice of Practitioners
Many physicians identified that the chiropractors at SMH were chosen for their level of expertise and experience and that this was an important factor as to whether or not they were likely to refer to the service. Respondents referred to the "legitimacy" lent to the chiropractors because they were selected to work in the hospital setting. The high quality of the referral notes and positive patient feedback was also highlighted by the physicians when discussing why they felt comfortable referring to the service:

FP9: I think that having a reliable source is very important. It's the same with anything. I don't refer to all the gastroenterologists in the city either, right. So, having a reliable, quality source that's actually in the hospital, and in the hospital context, makes a huge difference. And knowing you get good notes, and knowing that the patients like who they're seeing, that they're connected, that this person's nice, that makes you more likely to refer, because you get the positive feedback. So would I refer to every chiropractor in the city the same way? No. I don't refer to every doctor in the city the same way.

Int: So you wouldn't have necessarily suggested chiropractics to a patient prior to the existence of this service?
FP1: No. But my patients have educated me.
Int: In what way?
FP1: They come in and say, well I tried this chiropractor, he did a great job on my back, I just feel so much better. And I'll say oh really, tell me more. (Names of chiropractors) have done a great job for us.

B. Barriers
This theme encompasses those things identified by respondents as potentially hindering the success of the chiropractic program. Theses included: funding, lack of awareness of the service and perceptions of risk.

B1. Funding
Administrators, staff, and physicians directly involved with the chiropractic initiative repeatedly identified the lack of a viable, permanent source of funding as the only barrier they see in the continuation of this program:

DC2: …integration is welcomed by all the players. I don't see any limitations, except for funding. We've had no resistance. The only barrier we have is funding.

FP8: My understanding is the program might be finishing in September because of funding. The fact that this [program] is something that a lot of my patients cannot afford, because they are definitely lower income, if not welfare, means they won't have access to this if the service is discontinued. The fact that they can access it is a real bonus for this patient group. So I really hope they find the money!

B2: Lack of awareness of service:
Physicians with both high and low referral rates to the chiropractic service were asked to speculate why their colleagues may not be referring to the service at all. Referring physicians hypothesized that physicians who are not referring do not know the service exists:

Int: "…I'm wondering if you can give me any hypothesis around why some physicians aren't using the service?
FP5: (pause) One may be they don't know." (FP5)

Int: I'm wondering if you can hypothesize around why some people aren't referring to chiropractics.
FP2: Ummm….potentially a lack of knowledge about the service.
Int: Do you mean awareness that it exists, or awareness of what things chiropractors treat…?
FP2: Yeah, existence.

B4: "Risk"
Perceived risk of certain aspects of chiropractic treatment was also mentioned as a barrier. Some thought it may limit the number and kinds of referrals from physicians:

FP2: I am a bit influenced about the neck stuff, and not that the evidence is that great, but you know, a bit of the controversy about neck manipulation that exists out there. But I recognize that it's a, you know, chiropractors feel a certain way and physicians often feel a different way. So I mean there is a bit of a concern there.

FP7: That's what the patients are afraid of. It's always the manipulation aspect that they're afraid of some manipulation that will cause some irreparable damage, so I guess that's what I mean by "cautious."

C. Outcomes

This qualitative study was not designed to objectively assess the outcomes of the integration project. However, many participants talked about their perceptions of improved patient care:

FP1: I'd say in general it's improved the recovery time for musculoskeletal injuries with back pain and shoulder pain. And that's improved the overall recovery rate and the overall health of people.

FP8: I feel this service has impacted my ability to care for my patients…it's been very useful. There are some patients who can't tolerate meds. There are some patients who are leery about needing to ramp from a non-narcotic to a narcotic. So I would use chiro before I would…give them narcotics. Because I think in the long term it's better for the patient.

Others talked about some of a new program for patients that has resulted from the collaboration between chiropractors and physiotherapists:

P1: We (chiropractors and physiotherapists) are jointly are putting on a patient education program. So that people on the waiting list can be introduced to an understanding of the problem and given some exercises that they can start doing, and that way by the time they are seen, at least they've got that going and maybe they'll get better and they won't have to come see us!

In addition, several new educational approaches for Family Practice residents have been developed, with plans to include initiatives for medical students and chiropractic interns in the upcoming academic year:

Admin1: Because of the chiro project, we started this interprofessional education/collaboration team and last year we did one session to the family practice residents on the role of each discipline within family practice and this coming year we will do the same thing…

Chiro2: We get these 6 groups of medical clerks in the Family Practice Unit, so they're in they're 3rd year [of medical school]. We're going to give them an integrated case. And we're going to pair them with chiropractic interns. We're getting 8 of each, and we're going to put them in 4 teams and do team-based learning with our education module. And it will be very interesting to see the dynamics of working with another professional right then and there, working through this complex case.

Conclusion

Key factors contributing to the success of this program include i) having credible, experienced people championing it; ii) a long and carefully thought out process of laying the necessary groundwork before its inception; iii) being implemented into an institution with a culture and

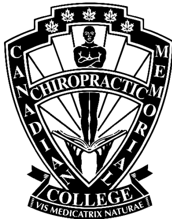
philosophy that supports it; and iv) staffing it with quality practitioners. The major challenge to the continued success of this program is a viable and permanent source of funding.

APPENDIX 4

ACKNOWLEDGMENTS

The Project team would like to thank and acknowledge the following participating organizations:

St. Michael's Hospital



Canadian Memorial Chiropractic College

Ministry of Health and Long-Term Care

University of Toronto

Ontario Chiropractic Association