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Summary Report of the Process Evaluation of the Hamilton HSO Mental Health & Nutrition Program

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Table of Contents

List of Figures

List of Appendices

List of Abbreviations

Abbreviation	Description
CMT	Central Management Team
FP	Family Physician
FTE	Full-time Equivalent
HSO	Health Service Organisation
ISP	Institutional Substitution Program
MHC	Mental Health Counsellor
MOHLTC	Ministry of Health and Long Term Care
PSY	Psychiatrist
RD	Registered Dietitian
RPP	Regional Psychiatry Program
WSIB	Workplace Safety and Insurance Board

Acknowledgments

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Executive Summary

Health Service Organisations (HSOs) were introduced in 1973 as an alternative payment program based on capitation and later on institutional substitution program (ISP) grants for primary care. In 1994, the HSO introduced the Mental Health Program in Hamilton which was expanded in 1996. In 2000, a local Nutrition Program, in operation since 1994, was integrated into the HSO and both programs were amalgamated under one administrative body: the central management team (CMT). The Hamilton Mental Health and Nutrition Program's general aims are to increase accessibility to high quality mental health and nutrition services in primary care and to enhance the role of the family physician (FP) as a provider of mental health and nutrition care. Thus, the FPs, mental health and nutrition staff work in interdisciplinary teams to collaboratively provide the best treatment available by the most appropriate health care provider.

The purpose of the current study was to complete a comprehensive process evaluation using mixed methods. Our team aimed to assess the HSO Mental Health and Nutrition Program pertaining to the Ministry of Health and Long Term Care's (MOHLTC) goal of advancing interdisciplinary health care, to assess the delivery of the program in relation to the program's objectives, to identify its strengths and challenges, to present general recommendations for viable costs of the program, and to put forward recommendations on improving the delivery and monitoring of the services it provides.

A process evaluation focuses on whether the program is meeting its program delivery objectives. This evaluation began with the development of a program logic model for the CMT and the HSO practices. The quantitative component included the review of documents provided by the central office and the qualitative component involved reviewing CMT satisfaction questionnaire results and conducting six focus groups to obtain the perspective of various HSO health care practitioners regarding the implementation and functioning of the program. The current report enumerates the program objectives and lists the processes utilised by the program to reach those objectives. Furthermore, the report discusses how the program contributes to the MOHLTC's goals pertaining to primary care, lists the strengths and challenges of the program, and makes recommendations with regards to enhancing delivery and monitoring of the services provided by the program.

The HSO was found to be an excellent example of a program in the primary care setting which contributes to both the provincial and federal objectives. It is a program dedicated to advancing interdisciplinary care by having providers with various expertise working in a common setting, collaborating to provide appropriate patient care, and helping each other learn about various aspects of health and wellness. The program provides the opportunity for increased access to care, decreased waiting times for early detection and intervention, simultaneous care from multiple providers for continuity of care, and patient education material and group sessions to encourage health promotion and disease / injury prevention as well as patient empowerment. Furthermore, the program is organised such that any person experiencing mental health or nutrition problems has the opportunity to be assessed by a qualified professional in a timely fashion. Other qualities of the program, which contribute to the MOHLTC objectives, are the

provider and patient satisfaction questionnaires which are assessed on a regular basis and allow the CMT to maintain both provider and patient satisfaction.

Program strengths

1. A CMT that coordinates, monitors, evaluates, troubleshoots, reports and negotiates with the MOHLTC, serves as a voice in the community for the program, oversees the administrative component of the regional HSO practices, participates in numerous committees, and maintains a relatively problem-free implementation of the program.

2. Accessibility to mental health and nutrition services in primary care which allows for early detection and intervention.

3. Interdisciplinary teams in a common primary care setting allowing for shared care and collaboration in providing the best possible care and continuity of care.

4. Health care provider opportunities for formal and informal education via provider collaboration and educational activities organised by the CMT.

5. Patient education possibilities via group sessions and courses offered by the allied health care providers, as well as educational material provided by the CMT.

6. Flexibility to prioritise patients according to care needs and to choose the most appropriate treatment approach / protocol for patients.

7. Health care provider access to detailed patient information via patient charts and personal communication with team members.

8. Assessment and treatment of patients in a primary care setting for a reduced stigma and a decreased burden on the traditional system.

Program challenges

1. Time constraints due to increased caseloads resulting in less time for collaboration and communication, record keeping, and data collection.

2. Lack of physical space for the increase in personnel and patients making it difficult to have all team members working simultaneously and sharing care.

3. Standard forms are time consuming and lead to legibility issues because they are in a paper format. Also, there is a lack of clarity regarding data collection for chronically ill patients.

4. Lack of clear definition of the providers' roles and expectations with regards to shared care.

5. Difficulties associated with referrals to community clinics which appear to be caused by long waiting lists, strict intake criteria, and an overestimation by these clinics of HSO resources.

6. No-shows and cancellations.

Recommendations for viable costs

1. The HSO program appears to be providing increased access to mental health and nutrition care for more patients with a wider variety of mental health and nutrition problems, and at the same time reducing the burden on community clinics (traditional system).

2. Sharing of common patient medical charts suggest an increased efficiency and may contribute to a more holistic approach to patient care than the traditional system.

3. Valid recommendations would need to emanate from an economic analysis of the program.

4. An economic evaluation assesses the tradeoff between costs and outcomes; therefore, it cannot be conducted until an outcomes evaluation is completed.

5. Economic or even cost analyses require comparator programs or “control” no program.

6. It is recommended that the Ministry consider supporting a comprehensive outcomes and economic evaluation in the future.

Recommendations to improve service reporting and program enhancement

Since the CMT is diligent about adjusting and troubleshooting as issues arise, there are no major changes required to improve the program. However, some of the small issues identified under the challenges section could be considered.

1. The CMT should consider exploring a digitised format for all forms or introducing a computerised system in the individual practices to improve the efficiency of data collection, or at least have the option of electronic or paper versions for all forms. However, it is clear that IT resources would be needed for the program to develop a computerised system of data collection.

2. We recommend to consider an increase in the FTE of all the allied professionals or introducing changes to the flexibility allotted in how the current FTE is spent (clinical vs administrative vs education hours). It is apparent in the data that there is a need for these services and that having such services in primary care seems to reduce the burden on the traditional system. Changes to the way time is spent in practice may allow for more time to collaborate and coordinate with other community services. It appears that the RDs may need more time to become fully integrated into the program. An increase in FTE or a change in

the way time is spent in practice could allow for more collaboration and continued education for all professionals regarding the advantages of nutrition services.

3. The program should continue to increase the awareness of community services regarding the limitations of the resources available in the HSO practices.

4. No-shows and cancellations are a serious challenge for the HSO and the program should continue to work on strategies to reduce this problem.

5. Lastly, it is important to consider clearer definitions, roles, and expectations. Although a certain degree of flexibility is necessary to mould the program according to the patient population and team dynamics, it may be that the provision of clearer definitions of or the development of group consensus on the components and reporting lines within the model could eliminate some of the inconsistencies leading to ambiguity and occasional provider frustration. If the program were to consider more stringent protocols and uniformity across the practices, one would hope a comprehensive evaluation of the current methods and patient outcomes would be completed first. Such an evaluation would help ensure that the most appropriate protocols would be chosen to provide a service that leads to better health outcomes for patients in combination with both patient and provider satisfaction.

INTRODUCTION

Health Service Organisations (HSOs) were introduced in 1973 as an alternative payment program based on capitation and later on institutional substitution program (ISP) grants for primary care. In 1994, the HSO introduced the Mental Health Program in Hamilton into 13 practices and was expanded in 1996 into 23 additional practices. In 2000, a local Nutrition Program, in operation since 1994, was integrated into the HSO and both programs were amalgamated under one administrative body: the central management team (CMT) comprised of one part-time director, one full-time program coordinator, and a research / administrative team of seven people.

The program's general aims are to increase accessibility to high quality mental health and nutrition health services in primary care and to enhance the role of the family physician (FP) as a provider of mental health and nutrition care. As of the end of the 2002-2003 fiscal year, the program involved a total of 146 HSO health care practitioners: 79 FPs, 39 mental health counsellors (MHCs) (equivalent to 23.0 full-time employment [FTE]), 17 psychiatrists (PSYs)(2.0 FTE), and eight registered dietitians (RDs) (7.0 FTE). The FPs, mental health staff, and nutrition staff work in interdisciplinary teams in 38 practices (one of the initial 36 separated into two practices and one practice belongs to the nutrition program only) where they have the opportunity to collaborate to provide the best treatment available.

The purpose of the current study was to complete a comprehensive process evaluation using mixed methods. Our team aimed to assess the HSO Mental Health and Nutrition Program pertaining to the Ministry of Health and Long Term Care's (MOHLTC) goal of advancing interdisciplinary health care, to assess the delivery of the program in relation to the program's objectives, to identify its strengths and challenges, to present general recommendations for viable costs of the program, and to put forward recommendations on improving the delivery and monitoring of the services it provides. A process evaluation is the first element of a comprehensive evaluation and focuses on whether the program is meeting its program delivery objectives. Thus, the first component of this evaluation involved the development of a program logic model. The quantitative component included document reviews and the qualitative component involved reviewing questionnaire results and conducting focus groups. The study received ethics approval from the University of Western Ontario Review Board for Health Sciences Research Involving Human Subjects.

DESIGN & PROCEDURES

A.1 Program Logic Model

A logic model is a diagrammatic representation which reveals the relationship among program objectives, activities, indicators and outcomes so a program's purpose and causal linkages can be clearly understood and evaluated. The development of the program logic model for this project was accomplished in several stages in collaboration with the HSO CMT. Major components, target groups, and activities of both the CMT and the HSO practices were identified and potential indicators were discussed with the CMT. After a period of approximately two months

of ongoing collaboration, program logic models were completed for both portions of the program: the CMT and the HSO practices. Both models include the following sections: components, activities, target groups, short-term outcomes, and short-term indicators (Appendices A & B).

A.2 Quantitative Component

Some of the indicators identified in the program logic models were examined quantitatively to determine whether the short-term outcomes of the program are being met. The data were gathered through informal meetings with the CMT, onsite or via email, and by examining files kept onsite at the HSO's central office. These files contained information regarding professional meetings, newsletters, workshops, and other administrative activities. Furthermore, the CMT provided descriptive data from their central patient database including information from standard forms which are routinely completed by the HSO health care practitioners. The forms offer a wealth of information such as the number of patients seen, the number of patients referred, the number of forms completed, etc. All of the data presented in this summary pertain to the 2002-2003 fiscal year unless otherwise indicated.

A.3 Qualitative Component

Questionnaires

The results of a number of internal qualitative studies and satisfaction questionnaires were made available to our team by the CMT. The contents were reviewed and summarised.

Focus groups

The focus groups were organised to obtain the perspective of various HSO health care practitioners regarding the implementation and functioning of the program. The discussion was semi-structured in that guiding questions were used, but the participants were encouraged to bring up other topics they felt were relevant throughout the discussion. The general guiding questions were developed from information from CHEPA and an expert panel.

All HSO providers were invited to participate in the focus groups by the CMT in person, through a personal letter, telephone call, or email. The only criterion was that the participants be a member of the program as an FP, PSY, MHC, or RD. In addition, the providers were invited to participate as a group of professionals from individual practices. The aim was to obtain two volunteer groups: one located in the inner-city of Hamilton and another from the outskirts. Since only one practice group volunteered, the CMT contacted professionals of a second practice to participate.

A total of six groups were interviewed: i) eight FPs , ii) seven PSYs, iii) 13 MHCs, iv) four RDs, v) one suburban HSO practice (Group 1: 11 various health care providers), and vi) one inner-city HSO practice (Group 2: 10 various health care providers). Each group was interviewed

separately in their workplace or at the central office by two investigators from our team. Prior to beginning each focus group, our team and the aims of the focus group were introduced, the participants were reminded that any comments made would remain anonymous, and that the session would be tape-recorded. All participants were given an information sheet and required to sign a consent form prior to starting the focus group.

Ethnographic and content analyses were conducted by multiple investigators. The first investigator, present during the focus groups, conducted an analysis using NVivo, a computer software program designed to analyse qualitative data. In this analysis, the investigator identified broad themes and representative quotations. A second investigator was responsible for summarising the discussion as per the topics of the guiding questions and making note of any additional topics brought up in the discussions. Since this investigator was not present during the focus groups, the analysis was accomplished by using the summary of the first investigator, the audio tapes, and the transcripts of the interviews. Furthermore, while summarising the discussions, this investigator formulated a complex list of themes. Once the list was complete, two additional investigators, one of whom was naive to the project, were provided the list of themes and the transcripts to ensure that the themes were appropriate. Any discrepancies were discussed until a consensus was reached. After reviewing the list of themes, a content analysis was performed to determine the number of participants and number of times a theme was expressed (Appendix C).

RESULTS

Central Management Team:

The program logic model for the CMT is presented in Appendix A. It includes details regarding the activities, target groups, short-term outcomes and indicators of its individual components namely education, evaluation, and program development and administration. Following is a summary of the relevant short-term outcomes identified.

B.1 Education

Educational activities

The CMT is dedicated to increasing the knowledge and skills of health care providers working in the HSO via four activities: a resource centre, professional meetings, a newsletter, and workshops. Located in the central office, the resource centre provides a means of disseminating educational material such as reference texts, pamphlets, audio / video tapes, and journal articles organised by topic. The resources can be used free of charge and signed out by HSO professionals, students, and patients. Some resources are available on the shared care website (http://www.shared-care.ca/hso.shtml) and MHCs and RDs order pamphlets from the resource centre to be displayed and distributed in individual HSO practices.

The professional meetings are an ideal forum for HSO professionals to meet and discuss current issues in mental health or nutrition practice, as well as to share information regarding patient care and community resources. Information regarding upcoming educational programs, groups, conferences, and workshops is distributed at the meetings and guest speakers are often invited to provide information about contemporary mental health or nutrition issues. Participation at the meetings is not mandatory; however, an average of 55% and 92% of HSO MHCs and RDs attended these meetings, respectively. Professional meetings are not organised for FPs due to scheduling conflicts and low attendance. Meanwhile, some meetings are scheduled when there are critical issues or changes in the program to be discussed. The PSYs meet with the CMT annually to discuss any issues with the program and are invited to participate in program activities organised for other professional groups.

The quarterly newsletter is sent out to all HSO professionals and provides educational information, program updates, and notices of upcoming workshops, conferences, and educational groups for HSO staff and patients. Furthermore, the newsletter provides administrative updates, details about HSO awards, and staff announcements. When evaluated by the CMT for educational efficacy in 2000, the newsletter was noted as good or excellent and said to be very informative.

Since 1997, 36 workshops were organised by the CMT. The workshops are free of charge and usually conducted in an auditorium or similar venue. The date, time, location, and topics of the workshops are announced in the newsletter, flyers, mail outs, and emails to HSO professionals and affiliated organisations. In general, qualitative evaluations revealed that participants believe the workshops were comprehensive and of high quality as well as successful in increasing their knowledge and skills.

Updates about the program

Up-to-date information about the program is distributed internally via the newsletter. It should be noted that HSO program policy changes are not included in the newsletter, but rather written up as memoranda and sent to all HSO professionals individually. In addition, the CMT has increased awareness of the program via publications, the shared care website (http://www.shared-care.ca/hso.shtml), as well as national and international meetings with non-HSO professionals. A total of 13 journal articles / reports about the program were published between 1997 and 2002, and approximately 74 posters / presentations and 15 courses were presented since 1995 at various conferences and academic institutions. Several national and international groups have demonstrated interest in setting up a shared care program similar to the Hamilton HSO Mental Health and Nutrition Program. The CMT met with the following groups to provide information regarding the implementation of their program:

- Department of Psychiatry at the Fraser Health Authority, British Columbia
- Winnipeg Regional Health Authority, Winnipeg, Manitoba
- Multiple Program, Halifax, Nova Scotia
- Dr. David Haslam, London, Ontario

- Dr. Claude J. Ranger of the Mental Health Clinic, North Bay, Ontario
- Project Manager, Parry Sound, Ontario
- Mental Health Centre, Penetanguishene, Ontario
- Lakehead Psychiatric Hospital, Thunder Bay, Ontario
- Canadian Mental Health, Windsor, Ontario
- Dr. Graham Meadows of the Mental Health Services, Victoria, Australia
- GGz Groningen Raad van Bestuur Clinic, Holland
- National Program, Holland
- Ben Gurion University in Beersheba , Israel
- Department of Psychiatry, Oxford University, United Kingdom
- Kaiser Permanente, California, USA
- Department of Psychiatry and Behavioural Health Rochester, New York, USA
- Altaview Center for Counselling, Intermountain Healthcare, Salt Lake City, USA

B.2 Evaluation

Standard forms and questionnaires

The CMT has developed several standardised forms that HSO providers are required to complete with the aim of collecting information such as the number of patients seen, the number of patients referred, health problems encountered, management strategies used, hours of clinical activity, etc. These forms are collected on a regular basis and the data are entered into a central database. Furthermore, the following questionnaires were used to collect additional information about the program:

- Client Satisfaction Questionnaire (Oct. 2000 - Mar. 2001)
- Visit Satisfaction Questionnaire (Jan.1998 - Oct.1999 : Mental health program only)
- Visit Satisfaction Questionnaire (Feb. 2000 : Nutrition program only)
- Centre for Epidemiological Studies Depression (CESD) scale (May 1998 - Jun. 2001)
- Short Form-36 (SF-36) (Oct. 1999 - Jun. 2001)
- General Health Questionnaire-12 (GHQ-12) (May 1998 - Oct. 1999)
- Provider Satisfaction Questionnaire (1996, 1997, 1999-2000, 2001)

The quality of the central database depends on the number of forms completed and returned to the CMT by the HSO providers. To ensure the quality of the data collected, each form received by the CMT is reviewed before entering the information into the database. Incomplete forms require contacting the provider to obtain missing details or using existing information in the database to complete the missing fields. Outstanding forms may be due to non-completion of paperwork or ongoing treatment into the next fiscal year. Therefore, although the CMT ensures the data entered into the system is complete, outstanding forms may reduce the accuracy of the database and the information provided in this report.

The satisfaction questionnaires and standard forms help maintain standards of service delivery by providing data regarding patient waiting lists, clinical caseload, no shows or cancellations,

staff problems, and administrative issues. This information is assessed by the CMT on a monthly basis and both positive and negative feedback is provided to HSO professionals. Problems are identified and addressed as they arise by the CMT in collaboration with the HSO providers.

Use tests with good psychometric properties

Outcome measurement tools administered to patients and health providers, are chosen by the CMT based on two criteria: they must possess sound psychometric properties, and be benchmarked outcome measures. They are chosen by reviewing the literature and determining which tests are being used by other centres and community programs. The return rate of the scales is reviewed yearly and analysed monthly by the research staff in collaboration with the providers. Tools are identified and considered by the CMT on an ongoing basis.

Reports to MOHLTC

The Ministry of Health and Long-Term Care provides a standard evaluation form which is to be completed annually. It involves evaluating the goals and objectives of the program, main activities, target populations, community partnerships, current personnel, as well as direct and indirect clinical activities of health care providers. The CMT completes this form and provides the Ministry with progress reports pertaining to any Ministry funded projects conducted by the program.

B.3 Program Development and Administration

Maintain the psychiatric and nutrition networks

Dr. Nick Kates, program director, is involved in the Regional Psychiatry Program (RPP) and is the vice-chair of the McMaster University's Department of Psychiatry and Behavioural Sciences. Furthermore, he chairs two national committees promoting shared mental health care: the CPA / CFPC Conjoint Working Group on Shared Mental Health Care and the Canadian Consortium on Collaborative Mental Health Care. In addition, he was a member of the Central South Mental Health Implementation Committee and Anne Marie Crustolo, program coordinator, is a member of the Network Interface Committee. Furthermore, members of the CMT and Dr. Kates played an active role in the development of the National Conference on Shared Mental Health Care. This annual 2-day conference provides an opportunity for various disciplines, nationally and internationally, to learn about shared mental health care.

In addition, members of the CMT attend various community nutrition meetings and symposia. Some include the Hamilton Diabetes Network, Heart Health Hamilton-Wentworth, Obesity: Problems and Approaches for the Healthcare Provider Symposium, and Dairy Farmers of Ontario Seminars. Also, they participate in regional nutrition programs and meet other community primary care nutrition planners. As members of the Canadian Diabetes Association, Diabetes Hamilton, and the Canadian Society of Clinical Nutrition, the team provides recent nutrition information to members of the program on a regular basis (ie. RDs and FPs).

Equitable distribution of human resources and funds

The CMT has developed a general formula for human resources and funds distribution. One full-time MHC is awarded for approximately every 8000 patients, one part-time RD (10-15 hours per month) per FP, and one PSY a ½ day per month per FP. The CMT examines the evaluation data on a regular basis to determine the need for human resources, the number of hours worked by the allied health staff, and makes adjustments accordingly. It is important to note that PSYs with an expertise in a particular area such as child psychiatry are made available to all practices based on patient needs.

An annual administrative stipend is provided to HSO FPs by the CMT. This stipend is to help cover the administrative cost associated with the presence of additional professionals in the practice. The formula set by the Ministry is 15% of the mental health staff's and RDs' salaries based on their FTE at individual practices.

Recruitment

The CMT reduces the FPs' recruitment workload by conducting the majority of the recruitment process. The CMT advertises for staff, interviews applicants who meet the minimum requirements, and provides FPs with a list of the best qualified candidates. The FPs may then choose the most suitable applicants for their practice, or advise the CMT to choose for them. Once a candidate is selected, the CMT meets with the new staff member to provide an introduction package and other information about working within the organisation.

Obtain grants

To date, the CMT has applied for two external research grants. The first is the Educating Future Family Physicians of Ontario grant. This grant was obtained and used to develop a learning package for FPs for Attention Deficit Disorder. Also, they applied for the Ontario envelope of the Primary Health Care Transition Fund grant. The outcome of this grant application has not been determined.

HSO Practices:

The program logic model for the HSO practices is presented in Appendix B. It includes details regarding the activities, target groups, short-term outcomes and indicators of its individual components namely the FPs, MHCs, PSYs, and RDs. Following is a summary of the relevant short-term outcomes identified.

C.1 Assessment and Treatment of Patients

Triage protocol

A common standardised triage protocol is not employed by the allied providers in the program. Rather, the MHCs and RDs, in conjunction with the FPs within each practice, adopt their own triage procedure according to the needs of the practice.

Patients seen

The number of patients assessed and treated by FPs is not available. However, the activity forms revealed that MHCs, PSYs, and RDs assessed / treated 4367, 1201, and 4429 patients, respectively (Figure 1).

A total of 68 main presenting problems and 17 management strategies were noted by MHCs in the assessment / treatment forms. In some cases, more than one strategy was utilised for the same problem. The most common problems encountered included depressed mood (32.99%), marital problems (13.13%), and anxiety symptoms (12.91%), and the most common strategies were individual counselling (19.88%), assessment and recommendations (18.11%), and supportive therapy (15.79%).

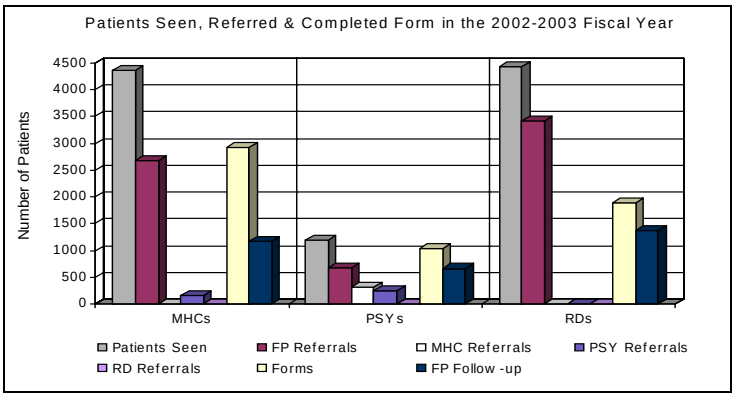

Figure 1- *Number of patients seen and referred, and the number of completed outcome and consultation forms in the 2002-2003 fiscal year.*

PSYs encountered a total of 54 mental health issues and used 11 different management strategies. The most common problems were depressed mood (48.21%) and anxiety symptoms (18.15%). Supportive therapy (26.21%), cognitive-behavioural therapy (20.99%), and individual therapy (15.12%) were the most commonly adopted management strategies. The most common problems encountered by RDs were dyslipidemia (43.63%) and type II diabetes (21.59%), and the most common management strategy employed was individual treatment (84.19%).

Mental Health visit satisfaction questionnaires were completed by patients from April 1998 to March 1999 and Nutrition visit satisfaction questionnaires were completed from 2000 to 2003. In both these questionnaires, patients were to indicate their satisfaction with the following indicators as excellent, very good, good, fair, or poor:

1. How long you waited to get an appointment
2. Convenience of the location of the office
3. Getting through to the office by phone
4. Length of time waiting at the office
5. Time spent with the person you saw
6. Explanation of what was done for you
7. Technical skills (thoroughness, carefulness, competence)
8. The personal manner (courtesy, respect, sensitivity, friendliness)
9. The visit overall

10. Being seen for counselling in your FP's office
11. Major concerns being addressed during the visit.

An average score was calculated for all practices and showed that patients rated all indicators from very good to excellent for both the mental health and nutrition services.

Referrals among HSO providers

FPs referred a total of 3223 patients to mental health staff (Figure 1). Of these 3223 patients, 2551 patients were referred to an MHC, 548 patients were referred to a PSY, 124 patients were referred to both an MHC and a PSY, and six patients were referred to a mental health group. Patient demographics pertaining to age and gender are provided in Figure 2. Individuals between the ages of 25 and 44 (42.20%) represent the largest majority of patients referred by FPs to mental health staff.

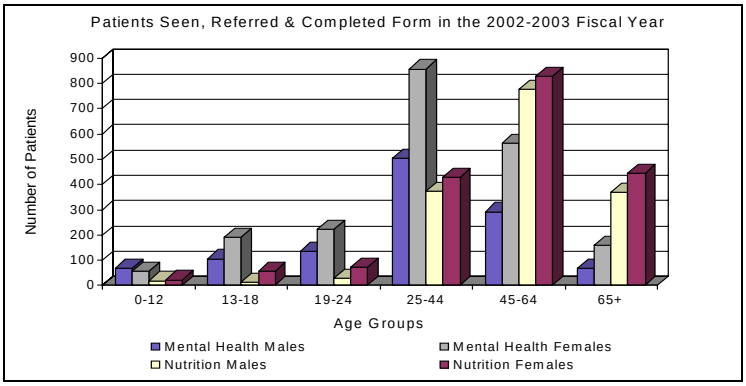

Figure 2- *Demographic information for patients referred by the FPs to mental health and nutrition staff in the 2002-2003 fiscal year.*

Of the total number of patients referred, 63.57% were female patients and 36.43% were male patients. Treatment outcome forms and psychiatric consultation forms indicated that MHCs referred a total of 312 patients to PSYs and that PSYs referred 156 (14.97%) patients to MHCs (Figure 1). These data do not include patients referred to an MHC subsequent to the initial visit with the PSY. FPs referred a total of 3431 patients to nutrition staff (Figure 1) and Figure 2 provides a graphic illustration of the patient demographics for age and gender. FPs referred slightly more female patients (53.95%) than male patients (46.05%) to RDs, and patients aged 45 to 64 years accounted for 46.69% of all patients referred to nutrition staff.

Follow-up care

Due to the nature of the program, FPs never fully transfer care of patients to the allied health professionals. They see patients throughout the course of treatment and continue to follow up with patients once care from an allied professional is no longer required. The number of patients who follow up with their FPs, after receiving mental health or nutrition care, is not documented. However, the outcome and consultation forms, filled out by the mental health or nutrition staff, indicate the number of patients advised to follow up with their FP. MHCs and PSYs advised 1160 and 663 patients to follow up with their FP, respectively. RDs advised 1367 patient to return to their FP for follow-up care: 919 for routine monitoring and 448 for continuing care. Thus, of the outcome and consultation forms completed and returned by the allied professionals, MHCs, PSYs, and RDs advised 39.59%, 63.63%, and 72.14% of patients to follow up with their FP, respectively.

Telephone advice by allied professionals

The MHCs' activity sheet indicates that on average MHCs provided 35.03 hours of telephone advice to patients by practice during the 2002-2003 fiscal year. The number of hours varies among practices from 1.3 to 198.1 hours with a total of 1296.1 hours for the fiscal year. PSYs provided on average 1.5 hours of telephone advice by practice ranging from 0 to 7.3 hours with a total of 41.2 hours for the fiscal year. The variability in the amount of telephone advice provided by MHCs and PSYs by practice may be related to the allotted FTE in each practice and the presenting problems of the patients.

Counselling groups

In the 2002-2003 fiscal year, 23 counselling groups were run by 14 MHCs to address the most common problems encountered in the HSO practices. The groups included couple communication, depression education, self-esteem and stress management, adolescent group workshops, general anxiety disorders, relaxation group, and pain management group. All groups follow a standard course outline and make use of specific course material prepared in combination by the CMT and MHCs.

RDs run lipids groups and Healthy You Weight Management classes. Standard course outlines and materials were developed by the RDs and the CMT. The groups allow RDs to meet with several individuals with similar problems at one time. In the 2002-2003 fiscal year, RDs booked 61 lipids groups. The Healthy You Weight Management course is 11 classes long, is offered to all HSO patients, and runs four times per year.

Referrals to community clinics

HSO FPs referred a total of 204 patients to outpatient clinics in 2002, and a total of 241 to inpatient units. In 1993, prior to the creation of the Hamilton HSO Mental Health Program, the same FPs referred 422 and 264 patients to outpatient and inpatient clinics, respectively. The program was introduced in the fourth quarter of 1994 and expanded mid-way through 1996. Figure 3 suggests a decreasing pattern of referrals to community clinics over the past 10 years.

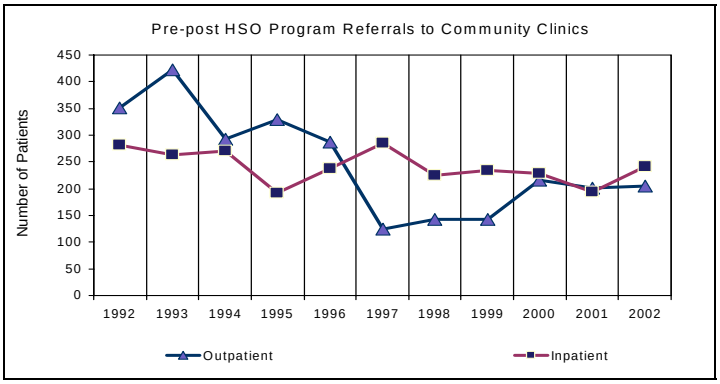

Figure 3- *Pre-post program data for referrals to inpatient and outpatients units by HSO practices.*

In the 2002-2003 fiscal year, MHCs referred 151 patients to community mental health services: 47 (31.13%) to community mental health programs, 28 (18.54%) to school counsellors, and 76 (50.33%) to other community programs or services. PSYs referred 359 patients to community

programs and services: 75 (20.89%) to a community program, 14 (3.90%) to a school counsellor or program, and 270 (75.21%) to other community services such as counsellors, outpatient services, medical specialists, or other groups and programs. This does not include patients referred after follow-up visits with the PSY.

C.2 Evaluation

Provide accurate and consistent patient data

No data are available regarding the accuracy and consistency of the FPs' records; however, FPs completed a total of 6654 referral forms in the 2002-2003 fiscal year.

MHCs provide patient data via three standard forms: the activity sheet, the assessment and intervention plan form, and the treatment outcome form. The number of patients seen by an MHC is 4367, as per the activity sheet (Figure 1). This number reflects all patients carried over from the previous years as well as new referrals made in the reporting year. An assessment and intervention plan form was returned for 2528 new referrals and a treatment outcome form was returned for 2930 patients reflecting long-term and short-term cases coming to a close (Figure 1). Therefore, on average, more than half of these forms were returned to the CMT by MHCs. The outstanding forms may be a reflection of incomplete paperwork or patient carryover into the next fiscal year.

Patient data are recorded by PSYs in the psychiatric consultation form, psychiatric professional sessional fee invoice, and psychiatric follow-up form. The psychiatric consultation forms were completed for 1042 of the 1201 patients seen (Figure 1). Since the PSYs can engage in more than one follow-up visit with each patient, it is difficult to ascertain the number of outstanding follow-up forms and the professional fee invoice is provided to the central management team on a monthly basis.

RDs completed 1895 outcome forms for the 4429 patients seen (Figure 1). Since the outcome form is completed upon cessation of treatment, patients being treated into the next fiscal year account for some of the outstanding forms. Outstanding forms is an issue particularly for RDs because of the large number of their patients having chronic illnesses such as diabetes.

Participate in evaluation, external committee meetings, and program planning

A total of six MHCs participated in the evaluation committee responsible for the ongoing evaluation of the target population of the program, how long appointments should be, which patients should be seen for longer than two years, as well as developing appropriate evaluation forms based on their experience in the program.

RDs are involved in the HSO Nutrition Resources Committee and various external committees such as the Hamilton-Wentworth Nutrition Committee, the Joint Dietetics Patient Education Committee, Niagara Region Nutrition Resources Committee, and the Dietitians of Canada

Primary Health Care Action Group. Furthermore, before incorporating the Nutrition Program into the HSO in 2000, the RDs were involved in the planning and development of the program structure and implementation. They participated in seven meetings which were critical in facilitating the introduction of the program. Since the introduction of the program, RDs have participated in 3-day-long retreats to ensure the continued development of the program. All retreats have led the group to conduct studies which are either complete or in progress in collaboration with the CMT.

Furthermore, to help the continued development of the program, community resources are collected or discovered by the MHCs and RDs on an ongoing basis. These resources are presented at the professional meetings and recorded in the minutes. Additional resources are handed out at meetings, but not discussed. Resources included booklets regarding various types of community education sessions such as workshops, courses, and groups.

C.3 Team Approach and Education

Maintain collaborative relationships with allied staff

In the provider satisfaction questionnaire of 2001. Many of the PSYs, RDs and MHCs commented that although many FPs are willing to collaborate, there are time constraints and variability in the willingness of FPs to collaborate.

During the focus group of 2003, FPs' comments were reflective of a variability in the way collaboration occurs, one extreme being collaboration through direct conversation and the other via paperwork / charts. Direct conversation was said to range from quick casual communication of a couple of minutes to intricate discussion about a case and intervention plan with multiple members of the team. MHCs, PSYs, and RDs agreed independently that collaboration varies widely from one practice to the next and felt it can be limited by the physical environment as well as the interest of the FP in shared care. In some practices, "*it's actually physically very difficult to get the family physician and the psychiatrist and the counsellor all working in the same office at the same time,*" which makes direct communication difficult. Therefore, collaboration occurs in different ways such as "*here's my chart - have a look at it; to here's my assessment; to let's see the person together; to give me a call if you don't know what's going on*;" thus, "*even if you have a mute doctor, they are going to have a link with the communication with the records.*"

Meanwhile, MHCs believe that collaboration is ideal when there is daily contact with FPs, when treatment plans are established together, and when all the providers maintain an open door policy. RDs agreed, "*I'd have to say that the offices I'm at where the family physicians are there at the same time, I feel that the shared care model is working much more efficiently... I see a distinction in the referral rate..., no-show rate, cancellations.*" Furthermore, RDs noted the amount of time spent in the practice and the FP's view of the need and benefits of nutrition counselling as the main factors influencing collaboration.

Increase comfort, knowledge, and skills of FPs in managing mental health and nutrition issues

A satisfaction questionnaire conducted in 2001 revealed that the majority of FPs felt having an MHC in their practice, had significantly or extensively increased their skills (79.16%) and comfort level (79.17%) when dealing with mental health problems. Likewise, they perceived the presence of a PSY to have significantly or extensively increased their skills (71.01%) and comfort (76.47%) in dealing with mental health issues. On the other hand, there was some disagreement among FPs as to the contribution of RDs to their skills in managing nutrition problems. Specifically, 43.84% of FPs reported that having an RD in their office had significantly or extensively increased their skills, while 46.58% stated that they were neutral. The other 9.59% saw very little to some increase in their skills. Similarly, there was disagreement on whether having an RD in the office increased their comfort level in dealing with nutrition problems where 42.10% of FPs felt their comfort had significantly or extensively increased, 44.74% were neutral, and 13.16% saw very little to some increase. Since the nutrition program was introduced in February 2000, an assessment of the increase in comfort, knowledge, and skills of FPs with nutrition issues may require further examination after a longer period of time.

During the focus groups of 2003, FPs noted that their diagnostic skills, familiarity with medications and dosages, and various mental health management strategies had improved since the introduction of MHCs and PSYs in their practice. One FP stated that his "*level of confidence and competence in managing mental health has dramatically improved with the sort of onsite exposure to the team all the time.*" MHCs observed an increased ability in FPs to assess patients, make mental health diagnoses, and provide patients with appropriate treatment. Likewise, PSYs perceived that FPs' repertoire of treatment strategies and their knowledge of various medication / appropriate dosages had improved as a result of the program. In addition, they felt FPs were more familiar with resources available in the community and referred patients with more ease. Meanwhile, FPs suggested RDs contributed a lot to patient education regarding nutrition problems, but the benefits of this education in alleviating problems were not always clear. One of the FPs stated, "*I don't know how people really managed without it these days. You have to have somebody talk to the people about that [cholesterol]. I'm not even sure how effective it is, I mean ultimately, but... it does delay the situation.*" FPs did not comment on the contributions of RDs to their skills and comfort in dealing with nutrition issues.

Increase comfort, knowledge, and skills in handling mental health issues in primary care

The theme of mental health issues in primary care was not addressed specifically during the focus groups of 2003. However, one PSY noted that although it is difficult to measure the impact the program has had on primary care and whether it has increased the capacity of the FPs, it certainly seems that FPs are more comfortable in dealing with the mentally ill and treating them more aggressively, which in turn is likely to yield better outcomes for patients.

The issue of comfort was evident in all the focus groups in terms of referrals patterns, the ease of follow-up, access to patient history, and access to expert advice. Furthermore, even though RDs

believe "*some offices are definitely using shared care philosophy and others are sort of still striving towards it,*" "*doctors learn more about nutrition and [RDs] learn more about mental health.*" The comment that the opportunity "*to interact with GP's daily; you learn a lot*" emphasises that the program can be conducive to education among the different professionals which in turn was perceived as enabling better mental health and nutrition care in primary care.

Increase peer support

MHCs participate in peer support meetings and professional meetings. PSYs enjoyed the opportunity to meet and talk about the program in the focus group of 2003. "*We could be of better support to each other in managing... issues [if we had more meetings like this]*." Finally, peer support was noted as a major advantage of the program by RDs. They felt the professional meetings give them the opportunity to discuss both clinical and administrative issues, and provides them access to each others' knowledge of special topics and strategies in dealing with particular patients and situations.

Supervise students

In the 2002-2003 fiscal year, MHCs supervised two social work students: a master's student and a PhD candidate. The PhD candidate reported her experience at the HSO to be very rewarding and beneficial to her understanding of treating mentally ill patients in primary care. She mentioned that the following principles were outstanding within the program: "*respect for ideas, one another, and other disciplines; sharing of information with staff, counsellors, patients, and the research community; structuring professional development to facilitate upgrading; and flexibility in operation, problem-solving attitudes, openness to new ideas.*" Overall she rated the quality of the placement as excellent. In addition, five PSYs were involved in the supervision of a total of 35 students; 27 medical students, six psychiatric residents, and two family practice residents. "*I think it's an excellent place for teaching... You're taking them, [the students], to the real world of medicine... They are learning that in general practice [there are] other people with other health wellness and illness, [they learn] how to do psychiatric assessments*." Lastly, six RDs were responsible for the supervision of six dietetic interns.

Attend educational meetings / sessions

The percentage of FPs who attend formal educational meetings and workshops is characteristically low. Thus, the CMT facilitated the introduction of MAINPRO-C Educational Groups. Although 51 FPs were initially involved, only 1 MAINPRO-C group with 12 members remains. However, informal educational activities such as meetings with various health professionals within the individual practices are said to occur regularly.

MHCs attended five workshops and nine professional meetings organised by the CMT. On average, 62% of MHCs, ranging from 41 to 95%, attended the workshops and attendance to the meetings ranged from 16 to 28 MHCs for an average of 21. Therefore on average, more than half of the MHCs attended the professional meetings. Limited data are available on the number of

educational activities attended by PSYs. Since PSYs only account for 2.0 FTE in the program, the CMT does not organise educational activities specifically for this group. However, PSYs participate in a number of educational activities organised externally by academic and pharmaceutical organisations. The majority of RDs (92%) attended the nine professional meetings and all RDs attended the five workshops organised by the CMT. Also, RDs participated in two continuing education courses: Pharmacology for the RD and Recovery Package.

Provide assistance in research and presentations on the program

The opportunity for doing research in the program and the role of the CMT were noted by MHCs and RDs in the focus groups. "*The central program here is very supportive and they're really in agreement with us continuing our education and doing research and going to conferences.*" "*Having someone actually manage the data that we collect all the time anyway gives us a chance to actually publish the data... It's wonderful as a dietitian to have that service.*" The allied professionals published four posters / presentations and three journal articles in the 2002-2003 fiscal year or late spring of 2003.

C.4 Administrative Activities

Complete insurance, medical and legal forms

There are a large number of insurance, medical, and legal forms that MHCs or PSYs may be required to complete. These fall into three broad categories: Routine Forms (requested by an insurance company or Workplace Safety Insurance Board [WSIB]), Insurance Letters / Forms (advocating for individuals denied benefits to which they are entitled), and Legal Letters (requested by lawyers and others).

Maintain professional accreditation and accountability to the CMT

Each practice involved in the mental health and nutrition program must sign a contract with the CMT which stipulates details about funding, recruitment, FTE allocation, termination protocol, etc. Furthermore, the HSO professionals provide accountability to the CMT via the standard evaluation forms and questionnaires. MHCs in the program must be members of either the Ontario College of Social Work and Social Service, a member of the College of Nurses of Ontario, or the College of Psychologists of Ontario, and RDs are required to be members of the College of Dietitians of Ontario. In addition, each MHC and RD must be covered by liability insurance and certificates of coverage must be provided to the CMT.

Focus Groups:

Six focus groups were conducted to obtain the perspectives of providers involved in the program. They included individual groups of FPs, MHCs, PSYs, RDs, and members of two HSO

practices (Group 1: suburban HSO practice; Group 2: inner-city HSO practice). In Appendix C, a list of themes is provided with a description of the source (which groups referred to the theme) and a content summary for individual groups (theme mentioned by how many participants and how many times). Following is a brief ethnographic summary.

D.1 HSO Program Goals

The most common themes pertaining to the program goals included accessibility for a variety of patients to mental health and nutrition services, patient empowerment, collaboration / interdisciplinary care, health promotion / disease prevention as well as early detection and intervention, and lastly more efficient mental health care. All of the above themes were noted by all six groups. "*[The program aims] to improve the health of our patients,*" "*[to] offer relatively short-term care, early access [for a] variety ... of clients,*" "*[to] increase access of some patients who may not otherwise agree to see a psychiatrist,"* to provide the opportunity for "*patient [to have] an input and [to contribute] to their own health care plan,*" to have "*people of different disciplines [working] together and [sharing] their expertise and sort of [collaborating] ... for the benefit of patients,*" "*[to] identify those individuals at risk ... [for] early intervention,*" and to "*treat people and keep them out of the acute crisis emergency room at the hospital*."

Furthermore, education of the team members for increased skills and knowledge was noted by FPs, MHCs, PSYs, and Group 2. The program "*provides education to the family physicians and the social workers and those who work in the program*" to "*improve the knowledge and capability of [providers]... in managing people with [mental health] problems*" and facilitate "*referrals to tertiary care services or knowledge of services.*" In addition, more efficient nutrition care was described by the FPs, and the RDs made reference to the evaluation component of the program as an important measure of program success. "*Evaluation [is important in]... seeing if what we did was effective and made a difference."*

D.2 Shared Care Model

The shared care model is included as a program strength in Appendix C under the following categories: flexible model and key features of shared care. For flexible model, all six groups felt that the model definition is different from how it is applied; thus, leading to a lot of variability among the practices. *"There's a bit of difference in how you define shared care and the reality of how it does work." "You've got a basic framework... a lot of flexibility and a lot depends on... your counsellor... her strengths... the psychiatrist... it depends on the relationship with the person... What works in my office may not work in the other offices*." Furthermore, MHCs, PSYs, RDs, Group 1 and 2 noted the perspective, comfort, and interest of the FP in shared care as a critical element in shaping the shared care model. "*[It] depends upon the doctor*" and "*how the physical environment unfolds is really a reflection of a physicians's own perception of how mental health work should interface with physical health work.*" Some FPs "*don't have an interest in dealing with patients who have psychiatric problems... [and other] family doctors are very much involved*." Therefore, "*some offices are definitely using the shared care philosophy and others are sort of still striving towards it.*"

However, variability among the practices was presented as a strength because it allows the providers to mould the model to fit the needs of the practice and its patients. All of the groups except for RDs reported that the flexibility in treatment protocol and scheduling allows providers to treat patients in order of priority and utilise a treatment strategy that is appropriate for the patient whether in the clinic, in the home, etc. Furthermore, providers described the program as improving and changing over time in terms of relationships among team members, organisation of the setting, individual skills, etc.

The key features of shared care are themes described as having a great influence over how shared care actually occurs within individual practices. All six groups agreed that the following themes contribute to shared care: communication (in person or in writing), availability of team members (to collaborate and support / back up other providers with regards to appropriate patient care), setting (all providers working in the same facility using common resources), individual skills and comfort of the providers, and the relationship among the team members.

"*[One can] sort of trade the person back without difficulties, with relative ease, which is very different than what might take place in an outpatient setting where, yes the same transfer takes place, but doesn't take place with a phone call or a face-to-face contact.*" "*Communication is easy because you are in the same place every week or two or we are accessible by phone.*" In cases where the providers are not available for face-to-face communication, communication can occur "*by note or by phone. So it happens [even if] it's not as good... We just find that communication is so much better when you're right onsite.*" In summary, "*the chart is there, you talk in the hallways, the conversation is going on, there is communication going on regularly,*" and despite the amount or type of communication, "*unique in the health care system [is] where the consultant and the consultee actually see each other on a regular basis... You have an opportunity for mental health and primary care to be actively involved at the same time.*"

Furthermore, "*part of the point of this, [shared care], is to support the family doctors who deliver mental health services in the community with timely, accessible back-up... [and] counsellors also,... timely accessibility to a psychiatrist for back-up as needed.*" "*Different areas of expertise can be relied upon,*" for "*a combination of knowledge,... being utilised for the patient.*" "*There's also a bit of a safety check or a fail-safe mechanism in place that everybody is looking out for ultimately the interests of the patient.*"

Therefore, "*health professionals are seeing the patients and then reviewing [the cases], having interaction together,*" and "*the interaction could be [with] anybody. It could be with counsellors or the psychiatrist or the nutritionist, you can then chat about the case, and take turns seeing [patients]*" for increased accessibility. Also, "*You can make real time adjustments... It's much more flexible and efficient because a lot of things get done without paper work, just by a couple a sentences.*" In addition, "*we really do have again people coming into the system that I think would not be seen elsewhere because of accessibility.*" Lastly, "*[there are] particular issues that we can make a learning point,... [therefore,] a lot of indirect care can happen efficiently*" when the professionals have the opportunity to discuss cases.

D.3 Positive Outcomes of the Program

Providers appear to be satisfied with many aspects of the program. The interdisciplinary team approach and collaboration among the providers was said by all six groups to give the opportunity for formal and informal education and access to all pertinent patient information whether in person or in writing (see quotations in section D.2). The program "*pushes the family docs to do a little more with back-up, but it also pushes the counsellors to do more... Everyone is becoming more of a psychiatrist in this system."* However, there is "*the flexibility of working at whatever comfort level works for us."*

Furthermore, all groups made reference to an overall general satisfaction with the program, the independence and flexibility within the model, and the assistance provided by co-workers with things such as external referrals. FPs, MHCs, and Group 2 noted the opportunity to focus on their personal expertise because of the easy access for patients to providers with other expertise. "*When it becomes very obvious that this might be an ongoing, much more cognitive approach,... we've got somebody there who can do it... It gives us more time to spend on what we are trained to do.*" FPs, PSYs, RDs, and Group 2 felt the program offers easy transfer of patient care among providers within the team and for some, this comes with an increased comfort in transferring authority over patient care. Less common themes included the opportunity for student education within the program noted by PSYs and Group 2, co-worker assistance in dealing with insurance companies on behalf of patients noted by FPs and Group 2, and RDs made reference to the opportunity to work in multiple settings with multiple co-workers.

Multiple features of the program were described as contributing to better patient care. Among those factors, the most popular was associated with increased accessibility via a comfortable and familiar setting for patients and the opportunity for allied providers to be seen as part of the system allowing for more patient acceptance and buy-in, reduced stigma, as well as patient empowerment. The program "*[decreases stigma by] making it, [mental health services], part of kind of your, average day... There's a connection, it doesn't jump agencies... You're just part of the system*" and "*being here onsite all at the same time,... [we can] go in and meet the person before a referral is actually in progress... to ease that transition*" and **"***eliminate all that craziness that happens between the client needing help to getting it in our service. It's like it's just there... It takes away a lot of the pressure, a lot of the stress that normally people go through.*" A second theme emerged noting the element of primary care including early detection and intervention, health promotion and preventive care, as well as patient education. The program provides "*all kinds of patient information and literature that as they, [patients], are sitting here they can pick up and read about.*" The last theme in this category mentioned by all six groups was the opportunity for continuity of care. *"I love the fact that we're seeing families with continuity... It doesn't feel like you're getting a piece of this person... There's a backdrop,*" because providers have access to the patients' charts and extensive medical history via the FPs. Furthermore, the collaboration among the provider allows for indirect care. For example, when "*there is a bit of a waiting time to get somebody in,... [the PSY] can be very helpful if you need to give him a call and say what can we do in the meantime*."

All groups except for RDs made specific reference to a decreased burden on the traditional system. Providers can offer "*a lot of treatment that doesn't require formal assessment or emergency psychiatric service, admission to hospital, [or] referral to an outpatient services.*" Finally, FPs and Group 1 felt the model provides practitioners the chance to outline clear treatment plans for patients and give more feedback to patients regarding their care and progress. MHCs, PSYs, RDs, and Group 2 made some mention of the role of the CMT as a facilitator of the program and shared care. MHCs and RDs referred to the education and research opportunities offered by the CMT for the providers to increase their skills and knowledge and get published.

D.4 Program Challenges

The most common complaint noted by all six groups is the time constraints associated with caseload / waitlists, collaboration / communication, paperwork, and resources. "*The system is a victim of its own success... The rate of case discovery has gone up something like 1100 percent... and because of that, things kind of back up a lot... [The program] is good it seems to me, bringing mental health care to a greater number of people,... [but] I think from what I've seen they are many legitimate cases that would benefit from [more time for] intervention.*" "*We can't see every patient once a week if you're there a day and a half... [in] more than one practice. It becomes quite a challenge.*" Time was depicted as a major limiting factor of shared care especially when referring to the opportunity to collaborate with team members. "*The intent is there for good communication,... [but] it's a bit limited.*" "*If you're only there a couple of hours a week then it's really hard to have that kind of sharing going on between health professionals... I might never see the mental health counsellor or the doctor might never be there the day I'm there.*" "*If you are not here at the same time, it becomes more of a traditional model... [Also], the counsellors are usually very busy and I'd say the psychiatrist is usually very busy. So we'll still have a waiting list.*" Most groups attributed the time constraint challenge to lack of adequate funding for the program.

As for physical space, mentioned by FPs, MHCs, PSYs, and RDs, the issues were related to visibility, accessing resources, and availability of allied professionals. In smaller practices, some of the providers do not have a personal workstation and some share one workstation with other allied professionals while others must utilise examination rooms, and so cannot be onsite simultaneously. RDs noted that since they work in multiple offices, "*have[ing] your resources there is sometimes tricky,... 'that's at home and that's at the other office'... Not only is there not another dietitian to ask, but I don't have my trusty book to look it up.*" Furthermore, "*where the physicians are there at the same time, I feel that the shared care model is working much more effectively... I see a distinction in the referral rate... no-show rate, cancellations, just everything.*"

In addition, all groups except for RDs noted difficulties related to external referrals associated with long waiting lists, stringent intake criteria, lack of willingness of patients to go to external community services, overestimation of HSO resources by community organisations, and unclear boundaries between the services. When making external referrals, "*either the patient doesn't*

want to go... [or you] run into the situation of the criteria... [and when a community clinic] finds out that they're a patient form here, we get them." "*Boundary between the outpatient clinics and the HSO is still somewhat kind of ill-defined*" and "*I think the rest of the psychiatric system sometimes overestimates what we can do within the HSO... They don't realise that I'm there one-half day a month.*" Therefore, the "*boundaries... between outpatients and primary care [need to be clearly outlined so]... the transitions take place in a relatively seamless way."*

Furthermore, MHCs and PSYs felt roles and expectations should be more clearly defined. They believed it is unclear where the authority lies in terms of dealing with attitudinal problems and that the model may be too flexible in terms of provider expectations. "*There's just not enough structure put in place to define 'here's our expectations of what needs to be provided in terms of physical space, but also in terms of how definitive [everyone's] roles [are]*." Therefore, "*the central program actually is unable to regulate what goes on with certain, more problematic practices... [because] the physicians are actually the owners of the practice, literally and figuratively."* FPs, MHCs, PSYs, and RDs agreed that in some cases the program is not a true model of shared care as individual practitioners work very independently, very much like private practitioners in the traditional system. Since there is a"*wide variety of counsellors and family doctors and us, [PSYs], who all come with different interests and expectations and experiences, I think the program would be immeasurably stronger if there could be greater synchronisation, practice by practice.*"

The following themes were mentioned by fewer participants in fewer groups. FPs and Group 1 perceived a lack of space on the standard forms to describe patient individuality and FPs felt the forms should be made available in an electronic format. Likewise, PSYs and FPs noted that a standard protocol for record keeping such as typed notes and electronic referral sheets would facilitate sharing of information and avoid legibility problems. No-shows, access to the program for patient outside the HSO, access to specialised staff such as a child psychiatrist, access to other HSO providers in case of compatibility issues, and collaboration of RDs with community services to avoid duplication were some of the other challenges noted. Furthermore, FPs and RDs had concerns about the level of understanding providers have of nutrition services and their effectiveness.

Finally, issues regarding program development was noted by PSYs as follows: "*We want to know if it, [the program], makes a difference... [By] identifying any sub-group or population for specific focus and then target a bunch of interventions... If we did that collectively, we probably would have greater impact than we do sort of individually*." Lastly, "*this particular way of practising psychiatric in the community only covers a very small percentage of the family doctors and I wonder where it goes from here. I mean if we're saying it works so well, what about all the other people who don't have any access to this.*"

D.5 Target Population of the Program

When asked to describe which patients benefit the most and the least from the program, all six groups were in agreement that at some level, all patients benefit. Specifically, patients with

institutional barriers, family problems, general psychiatric ailments, some physical problems such as diabetes, lipidemia, gastrointestinal issues, etc, and patients with particular demographic characteristics like low socioeconomic status, the elderly, ethnic groups, etc, are some of the patient groups who benefit the most from the program. Some groups felt patients with fairly complex psychiatric problems such as schizophrenia and bipolar disease could also benefit. No matter the diagnosis, a number of participants believed that patient motivation was a critical feature of treatment success. However, "*we are not very good at judging who is motivated or not... People surprise you all the time.*"

Patients who need ongoing treatment, frequent counselling, or emergency psychiatric care were identified as those who benefit the least from the program. Mainly, the participants believe those patients exceed the resources of the program. For example, patients who need vocational or addiction rehabilitation, patients with unstable schizophrenia / bipolar disease / etc, large families especially when associated with grief, and children because child psychiatric issues can become very complex involving a number of people (parents, siblings, etc). Meanwhile, if patients are not accepted into an external service promptly, "*we just kind of keep at it and keep at it until something happens, either they do get admitted or they get treated, one or the other.*" Finally RDs made reference to patients with weight management issues to be the least likely to benefit because, in general, they lack the required personal motivation to succeed in managing their weight as opposed to inadequate program services.

DISCUSSION

When carrying out any comprehensive evaluation, the first task is to conduct a process evaluation to outline how the program operates and whether or not it is meeting its identified program objectives. This process evaluation provides a comprehensive and detailed appraisal of whether the Hamilton HSO Mental Health and Nutrition Program is delivering its intended services. In addition, this evaluation addresses the evaluation objectives outlined in the Agreement between the Population and Community Health Unit and the MOHLTC. The scope of the current evaluation as outlined in the Agreement included the development of program logic models, the gathering of administrative quantitative and qualitative data, and conducting focus groups with HSO health care professionals, to provide a complete accurate description of the program. In describing the program, particular attention was to be focused on staff satisfaction, promotion of integrated services, appropriateness of the program in relation to the MOHLTC's goal of advancing interdisciplinary care, strengths and weaknesses of the program, viable costs of the program, and recommendations on how to improve service reporting so delivery of services can be monitored and tracked.

This evaluation began with the development of program logic models for both the CMT and the HSO practices. Program logic models are diagrammatic representations of program objectives, activities, outcomes, and indicators; thus, they are useful for conceptualising the causal pathways by which a program can meet its objectives and for determining whether the program is delivering services as intended. The program objectives are defined by the expected indicators

which identify measurable outcomes. This discussion will first answer the question of whether the program is meeting its program objectives and delivering its intended services. Then, the discussion will address the specific issues regarding program delivery, staff satisfaction, appropriateness within MOHLTC's interdisciplinary care goals, strengths, challenges, costs and recommendations for improvements to service reporting.

The results of this evaluation indicate that the Hamilton HSO Mental Health and Nutrition Program plays an important role in the community as it provides access to comprehensive health care in a primary care setting. Overall, the program objectives of the CMT and HSO practices for education, evaluation, program development / administration, comprehensive health care delivery, collaboration, and health care accessibility are being met. The CMT and HSO practices were found to work together to improve access and delivery of primary care, mental health care, and nutrition services.

Program Logic Model Indicators & Outcomes:

The program logic models of both the CMT and the HSO practices reflect a well organised and causally linked program (Appendices A & B). The components, activities, outcomes, and indicators clearly outline the complexity of the program and the extensive, evidence-based planning involved in the program's development. Furthermore, the CMT should be commended as the evaluation revealed that the implementation of the program is in accordance with the program logic models. This is evident in the results sections and critical features will be reviewed below.

E.1 The Central Management Team

The CMT is a critical part of the program. It plays a relevant and important function in education, evaluation, and program development and administration. Furthermore, it is crucial in managing the HSO practices as well as a complex central patient database which is vital in contributing to program quality control and improvement, research opportunities, and program advocacy. The current evaluation revealed that all of the objectives outlined in the CMT program logic model are being met.

Education

The CMT puts much emphasis on both patient and practitioner education. They have made it their responsibility to identify important resources and distribute them both in the central office and in individual HSO practices for public use. For the HSO health care providers, the CMT organises formal education opportunities such as professional meetings, workshops, and a resource centre. The evaluation revealed that all of these services are utilised and described to be satisfactory.

Even though FPs were shown to be the least likely group of providers to use these resources, focus group data revealed that they participate in informal educational activities. These activities

occur in individual practices and include case discussion, lunch and learn sessions, face to face communication, letters, and/or notes in patient charts. In fact, the results suggest that all providers in the program participate in informal educational activities based in the individual practices.

Therefore, there are both formal and informal opportunities for the different HSO professionals to learn from each other and improve their skills and knowledge. These educational opportunities may impact positively on patient care.

Evaluation

To maintain an extensive patient database and to monitor service delivery, the CMT has developed a vigilant and comprehensive evaluation component for the program. Some of the activities they have undertaken include the development, distribution, and collection of standard forms and questionnaires. These forms and questionnaires provide important information regarding demographics, treatment activity, effectiveness of resource distribution, and patient and provider satisfaction. Furthermore, the large quantity of data collected and managed, provides detailed information about the HSO services such as the number of patients seen, the number of patients referred, the types of main presenting problems encountered, the type of treatments or management strategies utilised, etc.

In addition, the sizable database allows the CMT to monitor, troubleshoot, and make appropriate and timely adjustments to the program to maintain delivery of quality services. The disadvantage to having such an extensive evaluation component is that the HSO providers are sometimes overwhelmed with the data collection required. It then becomes crucial to find the least time consuming data collection format. As suggested in the focus groups the CMT may want to consider exploring options for a more computerised data collection system.

Program development and administration

The CMT is focused on continuous quality improvement and program dissemination. Therefore, members of the CMT are proactive in various centres and committees to improve the program locally, and to improve primary care nationally and internationally. They accomplish the latter by advocating on behalf of the program and by helping organisations in other regions develop and implement similar shared care model programs. Since the CMT is active in many committees which are part of the psychiatric and nutrition networks, the team can play an important role in the management, monitoring, and quality improvement of the HSO practices. Moreover, they have the wherewithal to take a lead role in research and training with regards to both mental health and nutrition care.

Lastly, the CMT has an important function as the intermediary between the MOHLTC and the HSO practices. They are central in coordinating procedures and answering to the MOHLTC with respect to program objectives, activities, target population, current personnel, and community involvement.

E.2 The HSO Practices

In the HSO practices program logic model, the components reflect the four types of professionals involved in the program: FPs, PSYs, MHCs, and RDs (Appendix B). The major objectives / short-term outcomes identified for these components include comprehensive health care (assessment, treatment, and follow-up), education (personal, co-workers, FPs, research), collaboration (professional relationships, patient care), accessibility (internal and external referrals), and other (data collection, accreditation, student training, program development). Many of the program objectives are not mandatory requirements for the health care providers; however, the results indicate that despite the lack of requirement, the objectives are being met.

Comprehensive health care

The indicators for comprehensive health care clearly demonstrate that patients are being assessed and treated. Figure 1 shows that MHCs assessed and treated 4367 patients and the PSYs and RDs assessed and treated 1201 and 4429 patients, respectively. Furthermore, evaluation data show that MHCs and PSYs encountered 68 and 54 main presenting problems for which they utilised 17 and 11 different management strategies, respectively. RDs encountered 51 main presenting problems and made use of four different treatment strategies. To complement individual treatment and management strategies, both the MHCs and the RDs offer group treatment sessions. This allows for more efficient use of their time by addressing common problems with a number of patients at once. However, it is important to note that FPs never fully transfer patient care. In other words, they continue to care for patients even when they are receiving additional care from one or more of the allied providers. This results in continuity of care by easing the transfer of patient care among the providers.

Education

HSO providers have the opportunity to participate in both formal and informal educational activities. Participation in formal educational activities is not mandatory; however, 55 to 92% of the providers participated in professional meetings and 27 to 100% participated in workshops in the 2002-2003 fiscal year. It is evident that the education objective is being met with some enthusiasm by the HSO professionals.

Although informal educational activities are not evaluated by the program, qualitative data from the focus groups suggest that the majority of the providers' education occurs informally. Furthermore, the focus groups revealed that all the providers learn from each other despite the focus of the program logic model on FP education.

Collaboration

Collaboration was described by the providers as a critical feature of shared care which in turn was defined as the opportunity for multiple disciplines to be involved in the care of patients and collaborating to provide the most appropriate care by the most appropriate professional. Within

the mental health and nutrition program, collaboration was said to occur in many ways such as sitting in during assessments, face to face conversations, letters, notes in the patient charts, etc. The focus group data indicated that the type and the extent of the collaboration is dependent on a number of factors such as the clinical setting, availability of allied professionals for communication, individual skills of the providers, the relationship among the providers, and the personal view and comfort of individual members regarding shared care. All of these factors contribute to the large variability described by the providers from one practice to the next. However, the variability was described as a positive aspect of the program by a number of the providers. It was said that the flexibility offered by the shared care model allows individual practices to mould protocols and procedures to suit the individual skills of the team and its target population. Furthermore, in moulding the program, the providers can take into account the team dynamics and logistical issues so that whatever the process of collaboration, the program objectives can be met.

Some providers indicated a higher degree of personal satisfaction and perceived better outcomes for patients when making use of face to face collaboration as opposed to collaboration via patient charts. However, this process evaluation cannot assess whether one type of collaboration yields stronger or weaker outcomes for patients. A more complex research methodology with specific outcome data is needed to assess differential outcomes. Meanwhile, regardless of the type of collaboration, the providers felt the model provides the allied professionals access to an extensive patient history and medical information which contributes to a more holistic approach to patient care than in the traditional system. As noted by one PSY, *"unlike in the outpatient clinic, where you don't have access necessarily to anyone who knows the patient and you don't have access to the patients' old records, [in this program] you're sitting in the family doctor's office and you have their whole chart and their medical records and you have a family doctor who may have known this person for years or decades.*" All the allied professionals made reference to access to patient information multiple times during the focus groups.

At this time, the only quantitative measure of collaboration available is the number of hours of telephone advice provided by the allied professionals. It is difficult to measure other indicators because most of the collaboration occurs in an informal format. On average, PSYs spent 1.5 hours per practice and MHCs spent 35.0 hours per practice providing telephone advice in the 2002-2003 fiscal year.

Since the nutrition program was introduced in 2000, there has been less time for RDs to build relationships and become integrated into the shared care model. Thus, collaboration between the nutrition staff and other health care professionals seems less evolved. Another factor that may contribute to a lower degree of collaboration among RDs and FPs is the insufficient amount of knowledge and skills FPs are perceived to have about nutrition care. This was perceived by a few RDs to be mostly related to the lack of emphasis placed on nutrition and diet counselling in their medical training. Therefore, expanding formal educational workshops on nutrition care could possibly encourage and advance the integration of RDs into the program and facilitate shared care.

Accessibility

Both the quantitative and qualitative data indicate that patient access to mental health and nutrition services is enhanced by the program. For example, the quantitative data demonstrate a large number of referrals among the HSO providers. The FPs referred 2675, 672, and 3431 patients to MHCs, PSYs, and RDs, respectively. In turn, MHCs referred 312 to PSYs and advised 1160 patients to follow up with their FPs. PSYs referred 156 patients to MHCs, and 663 patients to FPs for follow-up care. Moreover, RDs referred 919 patients to FPs for monitoring care and 448 for continued care (Figure 1). If the Hamilton HSO Mental Health and Nutrition Program did not exist, these patients may well be referred to inpatient or outpatient clinics, or may not receive any specialised care to complement that of the FPs.

When one examines the referrals to community clinics (Figure 3), there appears to be a substantial decrease in external referrals to outpatient clinics from HSO practices following the implementation of the HSO Mental Health Program. This seems to indicate that fewer patients are referred to community clinics because they are receiving treatment within the HSO. However, the decrease does not account for all the patients treated in the HSO. Thus, as described by the providers in the focus groups, the program provides access to care for patients with institutional barriers who would not otherwise receive treatment. As a whole, the providers seemed to attribute the higher caseload to the increased pick-up rate, lack a stringent intake criteria, and the reduced stigma associated with mental health care in primary care.

It is important to note that PSYs are available for consultation and short follow-up and the MHCs and RDs run group sessions in addition to performing assessments and providing individual treatment. Meanwhile, patients have access to specialised care via the FPs because FPs can readily access the allied professional for advice, support, and back up. "*[When] there is a bit of a waiting time to get somebody in... [the PSY] can be very helpful if you need to give him a call and say what can we do in the meantime*." Thus, early detection and early intervention is possible while patients wait for a complete psychiatric or nutrition assessment. In addition to indirect specialised care via the FPs, the general consensus during the focus groups is that the waiting lists in this program are much shorter than those in the traditional system.

Therefore, as per the information collected for this evaluation, it would appear that accessibility to mental health and nutrition services is greatly increased. However, a comprehensive outcomes evaluation is necessary to determine the extent of the impact of increased accessibility on the health outcomes for patients. If such a comprehensive evaluation were to be completed, some of the outcome data currently collected by the CMT would be an asset.

Other

The HSO professionals are required to maintain their professional accreditation and to participate in data collection by filling out the appropriate standard forms regarding patient demographics, treatment activity, etc., and forwarding a copy to the CMT. The standard forms help maintain the completeness and accuracy of the central patient database and allow for monitoring of service delivery.

Another objective of the program is for HSO professionals to provide opportunities for student training. Even though this objective is not a requirement, MHCs supervised two social work students, five PSYs supervised 35 students (27 medical students, six psychiatric residents, and two family practice residents), and six RDs supervised six dietitian interns. The focus groups' data revealed that the HSO is seen as an ideal setting for student education.

Additional Evaluation Objectives:

F.1 MOHLTC Evaluation Objectives

Program contribution to the goals of the MOHLTC

Health Canada clearly states on their website (http://www.hc.gc.ca/phctf-fassp/english/), that the broad, national objectives for primary health care are to:

- *increase the proportion of the population having access to primary health care organisations accountable for the planned provision of a defined set of comprehensive services to a defined population;*
- *increase emphasis on health promotion, disease and injury prevention, and management of chronic diseases;*
- *expand 24/7 access to essential services;*
- *establish interdisciplinary primary health care teams of providers, so that the most appropriate care is provided by the most appropriate provider, and;*
- *facilitate coordination and integration with other health services, i.e. in institutions and in communities.*

The MOHLTC chose to focus on ensuring that there is flexibility in payment and delivery models for primary health care all the while making sure that the federal objectives are met. Thus, as indicated on their website (http://www.health.gov.on.ca/english/providers/project/phctf/phctf_app_051203.pdf), the provincial goals for primary care are:

- *Improved access to primary health care;*
- *Improved quality and continuity of primary health care;*
- *Increased patient and provider satisfaction, and;*
- *Increased cost-effectiveness of primary health care services.*

The HSO was found to be an excellent example of a program in the primary care setting which contributes to both the provincial and federal objectives. It is a program dedicated in advancing interdisciplinary care by having providers with various expertise working in a common setting, collaborating to provide appropriate patient care, and helping each other learn about various aspects of health and wellness. The program provides the opportunity for increased access to care, decreased waiting times for early detection and intervention, simultaneous care from multiple providers for continuity of care, and patient education material and group sessions to encourage health promotion and disease / injury prevention. Furthermore, the program is

organised such that any person experiencing mental health or nutrition problems has the opportunity to be assessed by a qualified professional in a timely fashion. Other qualities of the program, which contribute to the MOHLTC objectives, are the provider and patient satisfaction questionnaires which are assessed on a regular basis and allow the CMT to maintain both provider and patient satisfaction.

Program Strengths

One of the major strengths of the program is the CMT. It coordinates, monitors, evaluates, and makes adjustments to ensure the program is accomplishing its goals. Furthermore, the CMT is responsible for reporting and negotiating with the MOHLTC and serves as a voice in the community for the program and individual practices. It is important to have a team overseeing the administrative component of the regional HSOs, so the program can grow and improve. Since the CMT participates in numerous committees collecting up-to-date information regarding mental health and nutrition care, they can elaborate on the program. As a result of the activities of the CMT, the program maintains a relatively problem-free implementation and meet its objectives as intended.

The program enhances accessibility in terms of both availability of services and short waiting lists to obtain mental health and nutrition care. The organisation of the providers into interdisciplinary teams working in the same setting, allows them to share care and collaborate to provide the most appropriate care for their patients. The interdisciplinary relationships and the exposure to the expertise of other professionals provide great opportunity for informal education. Qualitative data indicate an increase in skills and knowledge as well as a sense of understanding and respect of the expertise provided by other professionals. Furthermore, the providers believe that patients benefit greatly from this set-up and the collaboration among the HSO providers. However, as there is some controversy in the literature on the extent of influence continuity of care has on improving mental health outcomes for patients (Bickman, 1996[1], 1997[2], 2000[3]), a comprehensive outcomes evaluation of the program is recommended.

Other strengths of the program include flexibility, the opportunity to prioritise patients according to care needs, provider access to detailed patient information, increased knowledge of community resources, and the chance to offer better care (prevention, continuity of care, early intervention, etc.). Finally, the program allows patients to be assessed and treated in a primary care setting which seems to reduce the stigma often attached to receiving mental health or nutrition care and decrease the burden on the traditional system.

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1 Bickman, L. (1996). A Continuum of Care: More Is Not Always Better. *American Psychologist*, 51(7): 689-701.

2 Bickman, L. (1997). Resolving Issues Raised by the Fort Bragg Evaluation. *American Psychologist*, 52(5): 562-565.

3 Bickman, L., et al. (2000). The Fort Bragg Continuum of Care for Children and Adolescents: Mental Health Outcomes Over 5 Years. *J of Consulting & Clinical Psychology*, 68(4): 710-716.

Program Challenges

As expressed during the focus groups, the most common challenge in the program is time constraints. For example, it would appear that the program has increased the pick-up rate of mental health and nutrition problems leading to increase caseloads resulting in less time for collaboration and communication among co-workers. In addition, the facilities cannot always accommodate for the increase in personnel and patients making it difficult to have all team members working simultaneously. Thus, time is a limiting factor for collaboration.

In keeping with time constraints there is the issue of record keeping and data collection. The standard forms provided by the CMT are primarily in paper format. A number of providers indicated they would benefit from having a computerised data collection system. This could allow for faster input of data and increased ease in sharing patient information among different providers. Another expressed challenge is the lack of clarity regarding data collection for patients with chronic illnesses. The outcome forms are to be filled out at treatment cessation. Unfortunately with the management of chronic illnesses, treatment is likely to be ongoing. The issue then becomes when does one complete the forms. The expectation for form completion is after a prescribed amount of time such as 2 or 3 months or at the end of an episode. But, how does one define an episode? It would be helpful for the data collection process if agreement could be reached regarding episode time-frames and a protocol put in place to ensure accurate and consistent data reporting for patients with continuing problems.

Other issues that could be more clearly defined in the program include shared care and the roles and expectations of individual team members. The flexibility offered by the program can be an advantage, but it can also be a disadvantage by producing some misunderstanding surrounding protocols and procedures, resource allocation, responsibility, authority, etc.

Other challenges which are not restricted to the HSO, but rather common in the health care system, is the long waiting lists and strict intake criteria of community services. In the case of the HSO, it may be increasingly difficult to access community services as the program is perceived to have the necessary resources to attend to all mental health and nutrition issues in-house. In fact, the program does not have the resources to care for all patients who require ongoing frequent counselling to maintain their health. Another problem that is prominent in health care in general is that of no-shows and cancellations. However, the CMT is aware of this issue and has attempted to remedy the situation in various ways such as patient empowerment (patients make their own appointment), patients meeting allied professional prior to referral, requiring re-referrals after missing 2-3 appointments, take home information, etc. A clinical trial to examine no-show rates of the different problem solving strategies employed by the program may reveal some interesting results.

Lastly, inadequate funding to expand the program outside of the current HSO practices was seen as an issue during the focus groups. The providers felt that some patients were unfairly advantaged by having the opportunity to benefit from the HSO and the services it entails, when other patients with similar needs in the city, as well as throughout Ontario, do not have access to these services. One of the PSYs noted, "*I think the HSO does in this city what probably needs to be done elsewhere in Ontario.*"

Recommendations for Viable Costs

Any valid recommendations regarding viable costs would need to emanate from an economic analysis of the program. Moreover, any economic evaluation is an assessment of the tradeoff between costs and outcomes. For that reason, economic evaluations cannot be conducted until an outcome evaluation has been performed. Economic or even cost analyses are complex and require the costing of variable, incremental, recurring, hidden, direct, indirect and opportunity costs, a challenge indeed for such an intricate program. Economic evaluations, be they cost-effectiveness analyses (CEA), cost-utility analyses (CUA), cost-benefit analyses (CBA) or cost minimization analyses (CMA) not only require outcomes data, but they also require comparator programs or "control" no program situations. This is necessary because economic evaluations compare the costs relative to the outcomes of two or more programs or of a program compared to no program. Thus, it is recommended that the Ministry consider supporting a comprehensive outcomes and economic evaluation in the future.

Meanwhile, it would appear that there is a substantial decrease in external referrals from HSO practices to community clinics following the implementation of the HSO Mental Health Program because patients are receiving treatment in primary care. The program enhances accessibility in terms of both availability of services and short waiting lists to obtain mental health and nutrition care and access to care for patients with institutional barriers who would not otherwise receive treatment. This suggests that the program is providing access to more patients with a wider variety of mental health and nutrition problems, and at the same time reducing the burden on community clinics. Additionally, since assessment and treatment information on patients referred to health practitioners outside of the FP clinic may or may not be sent back to the referring FP, one can assume that the sharing of common patient medical charts by the HSO health care practitioners increases efficiency and contribute to a more holistic approach to patient care than the traditional system.

Recommendations to Improve Service Reporting

Identifying a format of data collection which yields comprehensive data through brief forms is a challenge. Over the years, the CMT has refined the standard forms, but continue to struggle with some providers in terms of getting the forms completed. The CMT should consider exploring a digitised format for all forms or introducing a computerised system in the individual practice to improve the efficiency of data collection, or at least have the option of electronic or paper versions for all forms. This could allow all data to be sent automatically to the CMT, and reduce the burden on support staff. The electronic forms could be attached directly to patients' computerised charts and illegible hand writing would no longer be an issue. Furthermore, it could give all team members the chance to view patient information quickly and easily as needed. Additionally, current development and piloting of standardised patient chart forms and computerised data linkage systems (in different jurisdictions for FPs, hospitals, and other health service providers to enhance continuity of care) may provide useful information downstream. However, it is clear that IT resources would be needed for the HSO program to develop further computerised systems of data collection.

F.2 Research Team Evaluation Objectives

Recommendations for Program Enhancement

Since the CMT is diligent about adjusting and troubleshooting as issues arise, there are no major changes required to improve the program. However, some of the small issues identified under the challenges section could be considered.

An expanded computerised system for data collection appears to be one change that would impact upon multiple facets of the program. For practitioners who currently use computers in their practice, there is the potential to decrease the time required to fill out the forms giving practitioners more time to focus on clinical activities. Furthermore, it could prevent legibility issues and make it easier to share information among the different providers increasing the ease of transfer of patient care. Finally, a digitised data collection system could be formatted so that copies of standard forms are automatically forwarded to the CMT to be incorporated into the central patient database. This may in turn reduce the number of outstanding forms, the burden on support staff, and although minimal, decrease some of the cost of supplies and postage. The disadvantages to implementing this type of system is the initial time and monetary costs, especially in practices that do not currently have a computerised charting system. However, some practices have already formatted the standard forms and included them in their computerised chart system. Some even made reference to sharing such information with the other practices during the focus groups. Also, many jurisdictions are conducting pilot programs for electronic data collection and management such as the London Health Sciences Centre and the Thames Valley Family Practice Unit. These may serve as excellent resources to exploring the development and incorporation of such a system in the HSO.

A second recommendation was alluded to by many of the professionals during the focus groups. The program might consider increasing the FTE of all the allied professionals or introducing changes to the flexibility allotted in how the current FTE in spent (clinical vs administrative vs education hours). It is apparent in the data that there is a need for these services and that having such services in primary care appears to reduce the burden on the traditional system. These services are accessible and provide patients an opportunity to address their mental health and nutrition problems at one location. Furthermore, there appears to be a reduced stigma attached to obtaining services in the primary care setting as well as possible patient empowerment. Changes to the way time is spent in practice may allow for more time to collaborate and coordinate with other community services. To do so, the program must set clear boundaries and ensure that external services are aware of the resources available to the HSO practices. Additionally, it appears that the RDs may need more time to become fully integrated into the program. An increase in FTE or a change in the way time is spent in practice, could allow for more collaboration, in addition to continued education for all professionals regarding the advantages of nutrition services. Once RDs are fully integrated into the program, there is a good possibility that more collaboration could occur with external services to avoid duplication. Also, no-shows and cancellations are a serious challenge for the HSO and the program should continue to work on strategies to reduce this problem as it reduces the efficiency of the services.

Lastly, it is important to consider other issues pointed out in the focus groups such as clearer definitions, roles, and expectations. As described above, the flexibility of the program is an important and positive component of the program. Yet occasionally it can lead to frustration, especially for those who work in multiple offices. Although a certain degree of flexibility is necessary to mould the program according to the patient population and team dynamics, it may be that the provision of clearer definitions of or the development of group consensus on the components and reporting lines within the model could eliminate some of the inconsistencies leading to ambiguity and occasional provider frustration. If the program were to consider more stringent protocols and uniformity across the practices, one would hope a comprehensive evaluation of the current methods and patient outcomes would be completed first. Such an evaluation would help ensure that the most appropriate protocols would be chosen to provide a service that leads to better health outcomes for patients in combination with both patient and provider satisfaction.

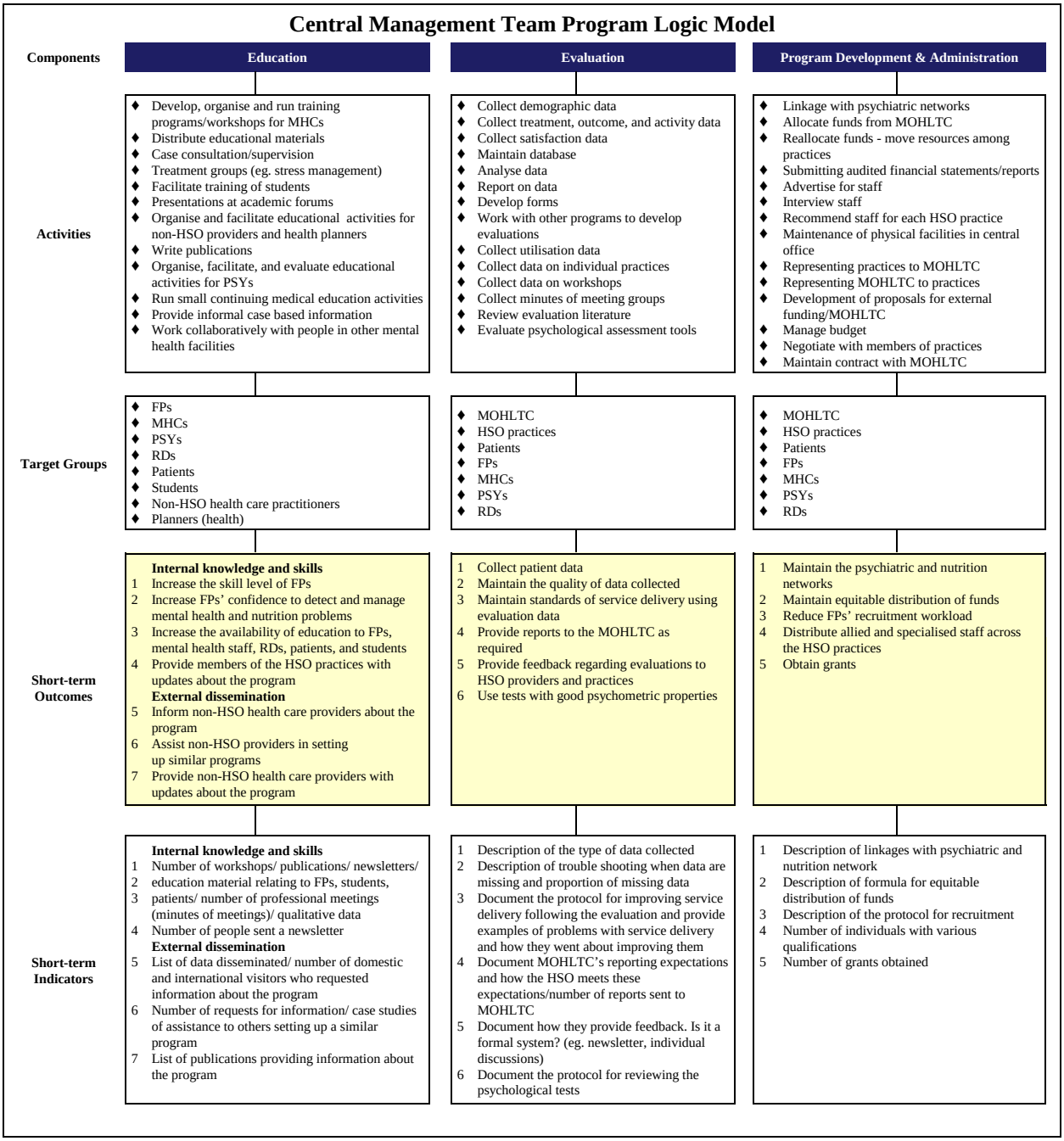
Comparison of Qualitative Data to Data Collected by CHEPA

Many similarities were observed between our qualitative data and the data collected by CHEPA. For example, the populations noted by providers as benefiting the most were patients with low socio-economic status, elderly patients, young mothers/single mothers, patients with diabetes, depression / anxiety patients, and ethnic groups/patients with language barriers. Furthermore, providers working in various HSO programs expressed an increased job satisfaction as a result of formal/informal collaboration for a more holistic approach to patient care. They felt they had more time to spend with patients and focus on personal expertise; therefore offering patients the best care by the most appropriate provider. Moreover, providers like their independence within the program and that their skills are valued and respected by their co-workers. Having access to patient charts/medical history and easy access to allied providers, was said to contribute to better patient care. Finally, the providers perceived a decreased burden on the traditional system for increased cost-efficiency.

In terms of patient care, providers noted an increased access to specialised care as well as continuity of care. Furthermore, they felt the programs allow for preventive care and patient education, as well as early detection / intervention which often helps to avoid crisis and exacerbation of symptoms that would require utilisation of emergency services. Providers reported that patients appear more comfortable in primary care leading to more buy-in, compliance to treatment, and decreased stigma. Lastly, there seems to be shorter waiting times to receive specialised care and increased quality of care while waiting to receive external care.

The challenges reported by providers included the variability in training / skills / treatment approaches of allied providers, patient motivation issues, multiple site difficulties in terms of time for collaboration, not enough funding, lack of access to ISP funding / extended primary care services for non-HSO practices, and a time consuming evaluation component for providers. However, overall it appears that despite minor challenges, the providers are satisfied with the programs and all HSO programs contribute to the MOHLTC's goals for primary care and deliver much needed services to a wide variety of patients.

Appendix A: Program Logic Model for the CMT



Appendix B: Program Logic Model for the HSO Practices

HSO Practices Program Logic Model

Components	Physicians	Mental Health Counsellors	Psychiatrists	Dietitians
Activities	♦ Assessment and treatment of patients ♦ Monitor patient progress ♦ Aftercare (follow up after case is referred back from mental health staff) ♦ Attend educational meetings ♦ Collaboration and case discussion with mental health staff and RDs ♦ Referrals to mental health staff and/or RDs and completion of referral forms ♦ Referrals to secondary or tertiary facilities based on patients' needs ♦ Complete requirements of CMT	♦ Triage referrals ♦ Assessment and treatment ♦ Facilitate/run counselling groups ♦ Telephone advice for patients ♦ Attend educational/administrative meetings ♦ Participate in research projects ♦ Participate in presentations about the program ♦ Advise FPs regarding mental health management techniques ♦ Collaboration with FPs and PSYs regarding management plan and follow-up care ♦ Referrals to community programs and mental health services ♦ Referrals to PSYs ♦ Completion of patient forms as required by the CMT ♦ Complete insurance, medical, and legal forms ♦ Supervise students ♦ Provide information about community resources ♦ Maintain professional accreditation ♦ Participate in evaluation meetings	♦ Patient consultations ♦ Assessment and treatment of patients ♦ Telephone advice ♦ Attend educational/ administrative meetings ♦ Participate in research projects ♦ Participate in presentations about the program ♦ Conduct educational sessions for MHCs and FPs ♦ Provide advice about mental health management techniques ♦ Collaborate with FPs and MHCs regarding management plan and patient monitoring ♦ Referrals to MHCs ♦ Referrals to community programs and mental health services ♦ Complete consultation, follow-up, and activity forms as required by the CMT ♦ Complete medical, legal, and insurance forms ♦ Supervise students	♦ Triage referrals ♦ Assessment and treatment ♦ Run nutrition groups ♦ Conduct educational sessions for FPs ♦ Provide advice to FPs about nutrition management techniques ♦ Attend educational/ administrative meetings ♦ Participate in research projects ♦ Participate in presentations about the program ♦ Collaborate with FPs regarding the management plan and follow-up care ♦ Complete treatment and outcome forms as required by the CMT ♦ Supervise students ♦ Provide information about community resources ♦ Maintain professional accreditation ♦ Represent the program on other nutrition committees ♦ Collaborate with other nutrition departments ♦ Participate in program planning/ direction
Target Groups	♦ Patients ♦ CMT ♦ Allied professionals ♦ Other FPs	♦ Patients ♦ FPs ♦ CMT ♦ PSYs ♦ Mental health community agencies	♦ Patients ♦ FPs ♦ MHCs ♦ CMT ♦ Mental health community agencies	♦ Patients ♦ FPs ♦ CMT ♦ Outpatient departments and community nutrition agencies
Short-term Outcomes	**Primary Care** 1 Assess and treat patients 2 Provide follow-up care for patients who have seen mental health or nutrition staff **Education** 3 Attend educational meetings/ sessions **Collaboration** 4 Maintain collaborative relationships with mental health staff and RDs **Access to Care** 5 Refer patients to mental health staff and RDs within HSO practices 6 Refer patients to community clinics **Records** 7 Provide accurate and consistent patient data **Other** 8 Maintain accountability to the CMT	**Mental Health Care** 1 Maintain triage protocol 2 Assess and treat patients 3 Run mental health counselling groups 4 Provide required telephone advice **Education** 5 Attend educational/administrative activities 6 Assist in research and presentations about the program 7 Increase comfort, knowledge, and skills of FPs in managing mental health issues 8 Increase comfort, knowledge, and skills in handling mental health issues in primary care 9 Increase peer support among HSO MHCs **Collaboration** 10 Maintain collaborative relationships with FPs and PSYs **Access** 11 Refer patients to community clinics 12 Refer patients to PSYs **Records** 13 Provide accurate and consistent patient data 14 Complete insurance, medical, and legal forms **Other** 15 Supervise students 16 Collect and discover community resources 17 Maintain professional accreditation 18 Participate in evaluation meetings	**Psychiatric Health Care** 1 Assess and treat patients 2 Provide required telephone advice **Education** 3 Attend educational/ administrative activities 4 Assist in research and presentations about the program 5 Increase comfort, knowledge, and skills of FPs and MHCs in managing mental health issues 6 Increase comfort, knowledge, and skills in handling mental health issues in primary care 7 Increase peer support among HSO PSYs **Collaboration** 8 Maintain collaborative relationships with FPs and MHCs **Access** 9 Refer patients to MHCs 10 Refer patients to community clinics **Records** 11 Provide accurate and consistent patient data 12 Complete insurance, medical, and legal forms **Other** 13 Supervise students	**Nutrition Care** 1 Maintain triage protocol 2 Assess and treat patients 3 Run nutrition counselling groups **Education** 4 Increase comfort, knowledge, and skills of FPs in managing nutrition issues 5 Attend educational/ administrative activities 6 Assist in research and presentations about the program 7 Increase comfort, knowledge, and skill in handling nutrition issues in primary care 8 Increase peer support among HSO RDs **Collaboration** 9 Maintain collaborative relationships with FPs **Records** 10 Provide accurate and consistent patient data **Other** 11 Supervise students 12 Collect and discover community resources 13 Maintain professional accreditation 14 Attend external committee meetings 15 Collaborate with other nutrition programs 16 Participate in program planning

Short-term Indicators	1 Number of patients assessed and treated 2 Number of patient follow-up visits 3 Attendance at educational meetings (qualitative comments about education component) 4 Qualitative comments regarding level of collaboration 5 Number of referrals to mental health and nutrition staff 6 Number of referrals to community clinics 7 Number of referral forms completed 8 Document protocol for maintaining accountability to CMT	1 Document triage protocol 2 Number of patients assessed and treated 3 Number of counselling groups 4 Number of telephone hours 5 Attendance at educational/ administrative meetings 6 Participation in publications and presentations 7 Qualitative comments pertaining to knowledge, skills, and comfort of FPs after the introduction of MHC in practice 8 Qualitative comments 9 Qualitative comments regarding peer support 10 Qualitative comments regarding the level of collaboration 11 Number of referrals to community clinics 12 Number of referrals to PSYs 13 Number of referral, treatment and outcome forms completed 14 Describe protocol for completing insurance, medical, and legal forms 15 Number of hours supervising students 16 Number of community resources discovered and collected 17 Describe protocol for maintaining professional accreditation 18 Attendance at evaluation meetings	1 Number of patients seen 2 Number of telephone hours 3 Attendance at educational/ administrative meetings 4 Participation in publications and presentations 5 Qualitative comments pertaining to knowledge, skills, and comfort of FPs and MHCs after the introduction of PSYs in practice 6 Qualitative comments 7 Qualitative comments regarding peer support 8 Qualitative comments regarding the level of collaboration 9 Number of referrals to MHCs 10 Number of referrals to community clinics 11 Number of consultation, follow-up, and activity forms completed 12 Describe protocol for completing medical, legal, and insurance forms 13 Number of learners present at sessions	1 Document the triage protocol 2 Number of patients assessed and treated/patient comments from visit satisfaction questionnaires 3 Number of nutrition groups run 4 Qualitative comments pertaining to knowledge, skills, and comfort of FPs after the introduction of RDs in practice 5 Attendance at educational/ administrative activities 6 Participation in publications and presentations 7 Qualitative comments 8 Qualitative comments regarding peer support 9 Qualitative comments regarding the level of collaboration 10 Number of treatment and outcome forms completed 11 Number of hours supervising students 12 Number of community resources discovered and collected 13 Describe protocol for maintaining professional accreditation 14 Describe participation in external committees 15 Describe collaboration with other programs 16 Participation in program planning

Appendix C: Focus Group Themes and Content Analysis Results

Focus Group Themes	FPs		MHCs		PSYs		RDs		Group 1		Group 2		TOTAL		
P = participants / T = times mentioned / G = groups	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#G
PROGRAM GOALS															
Increased accessibility for variety of patients / patient empowerment	1	2	3	3	3	3	1	1	3	4	4	4	15	17	6
Interdisciplinary care (collaboration)	1	1	3	3	2	3	3	3	1	1	3	3	13	14	6
Health promotion / disease prevention / early detection / early intervention (short waiting lists)	1	1	2	2	4	4	3	4	1	1	2	2	13	14	6
More efficient mental health care	2	2	1	1	3	3	2	2	1	1	2	2	11	11	6
Education (increase team's knowledge / skills)	1	1	1	1	3	4					1	1	6	7	4
More efficient nutrition health care	2	2											2	2	1
Evaluation (measure success rate)							1	1					1	1	1
PROGRAM STRENGTHS															
Flexible model															
Model definition differs from its application leading to variability among practices (mould to practice needs)	3	6	3	6	7	21	3	5	1	1	2	3	19	42	6
Flexibility in treatment protocol	2	2	4	7					2	2			8	11	3
Program improves and/or changes with time			4	6	2	5	1	1	1	1			8	13	4
Flexibility in scheduling / prioritising according to patient needs			1	1	2	2			1	1	3	3	7	7	4
Provider satisfaction															
Interdisciplinary team approach / Collaboration among different providers	6	9	7	14	5	17	3	8	4	8	7	14	32	70	6
Opportunity for formal and informal education with team members (increase skills / knowledge)	3	12	4	4	6	14	4	10	3	6	2	4	22	50	6
Access to detailed patient information, patient history (Integration of patient information) for more holistic approach	5	9	4	7	4	12			3	4	4	4	20	36	5
General expression of satisfaction	3	4	9	13	2	6	1	1	1	1	3	3	19	28	6
Co-worker assistance with external referrals	5	5	1	1	2	2	2	2	2	2	2	6	14	18	6
Independence and flexibility	3	4	1	1	2	2	2	4	2	2	3	3	13	16	6
Opportunity to focus on personal expertise which is valued and respected	3	5	4	7							1	1	8	13	3
Transfer patient care with ease / Increase comfort in transferring authority of patient care	1	1			5	8	1	1			1	1	8	11	4
Student education / teaching					2	2					1	1	3	3	2
Co-worker assistance re: insurance companies	1	1									1	1	2	2	2
Multiple co-workers / workplaces							2	2					2	2	1
Key features of shared care:															
Direct communication / Indirect communication (charts, notes...)	7	11	8	13	6	16	2	2	7	12	6	10	36	64	6
Availability of allied professionals (for consultation, advice, collaboration) and support / back up of allied providers	7	13	8	10	5	16	3	3	5	10	7	15	35	67	6
Setting (common resources, all providers in same settings) / Decreased stress for patients	4	12	3	3	4	4	2	2	3	7	6	15	22	43	6
Individual skills and comfort of team members	6	6	3	3	2	2	2	2	2	4	2	2	17	19	6
Relationships among team members	3	4	1	1	5	7	1	1	2	5	3	3	15	21	6
FPs perspective, comfort, and interest in shared care	2	3	5	7	5	9	1	1			1	1	14	21	5
More efficient patient care due to shared care															
Accessibility / Comfortable setting / Opportunity to build trust with patients (part of a familiar system of care- extension of FP) / Patient acceptance and buy-in / Patient empowerment	7	22	9	30	2	2	4	6	6	15	8	23	36	98	6
Better patient care in general	7	13	8	5	4	4	3	7	2	4	3	4	27	37	6
Early detection and intervention / Preventative care / Health Promotion / Patient education and education materials	5	11	8	12	4	6	4	7	2	6	4	8	27	50	6
Continuity of Care	2	2	5	8	4	4	3	3	3	5	2	4	19	26	6
Avoidance of hospitalisation or external referrals for decreased burden on traditional system	4	7	1	1	3	5			2	2	1	1	11	16	5
Reduced stigma	1	2	2	2	1	1			1	1	2	3	7	9	5
Clear treatment plan and feedback re: care	2	2							2	2			4	4	2
CMT															
Support providers and facilitate shared care			3	3	1	1	2	2			1	1	7	7	4
Provide formal education and research opportunities for providers			3	4			2	2					5	6	2

Focus Group Themes	FPs		MHCs		PSYs		RDs		Group 1		Group 2		TOTAL		
P = participants / T = times mentioned / G = groups	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T	#G
PROGRAM CHALLENGES															
Administrative issues															
Time constraints re: caseload / waitlists / multiple workplace re: access to resources / collaboration / communication / paperwork	2	3	4	14	3	4	3	18	6	16	4	5	22	60	6
External Referrals: difficulties in making external referrals due to intake criteria, long waiting lists, and lack of patient comfort or willingness to go to external services	3	5	2	2					3	6	2	3	10	16	4
Physical Space re: visibility and workstation	2	2	3	6	1	1	1	1					7	10	4
Standard Forms / Non-electronic evaluation format / Quick easy access to patient information (electronically in treatment room)	4	10							2	2			6	12	2
External Services: unclear boundaries leading to external services overestimating HSO resources	3	5			2	3					1	1	6	9	3
Unclear authority / action of CMT, re: attitudinal barriers or other practice specific issues			5	11	1	1							6	12	2
Unclear roles and expectations of provider within shared care model			5	11	1	1							6	12	2
Record keeping system (handwritten notes and referral pads)	3	5											3	5	1
Lack central booking system					1	1							1	1	1
Other issues															
Lack of interest in shared care or increasing knowledge and skills causing variability among practices and in some cases there's a feeling that it is not shared care, that team members work independently (delegated act, more traditional approach)	1	1	4	17	7	15	2	7					14	40	4
No-shows / Lack penalty system for no-shows	5	8			1	1	1	1					7	10	3
Lack of accessibility for patients outside HSO / need to expand the program	1	1	1	1	4	5					1	2	7	9	4
Lack understanding of services provided by other professionals or their effectiveness	2	2					4	6					6	8	2
Lack access to specialised staff such as child psychiatrist	3	4			1	1			1	1			5	6	3
Lack access to other allied professionals when there is compatibility issue among provider and patient (personality and skills)	3	3											3	3	1
Lack of collaboration of RD's with external services / duplication	2	3											2	3	1
Lack of regular meeting for peer support and program development / evaluation					1	1							1	1	1
TARGET POPULATION															
Patients who benefit the most															
Patient with institutional barriers	2	2	6	9	4	6	3	5	4	5	3	3	22	30	6
Patient with general psychiatric disorders such as depression, panic disorders / phobia, chronic pain, anxiety disorder	3	11	5	6	4	6			4	6	4	6	20	35	5
Patient with family problems / or family groups	2	2	6	6	1	1	1	1	4	6	1	1	15	17	6
Patient demographic groups such as low socio-economic status groups, elderly patients, single mothers, ethnic groups, vegetarians			4	6	1	2	2	3	2	2	4	4	13	17	5
Patient with physical illness such as impaired glucose tolerance, pre-diabetic / diabetic, lipidemia / cholesterol, hypertension, obesity, gastrointestinal problems, etc	4	9					3	21	3	6	2	3	12	39	4
All patients			3	5	3	4	2	4	1	2	1	2	10	17	5
Motivated patients	2	3					1	2	3	4			6	9	3
Patient with stable schizophrenia, stable bipolar disease, personality / behavioural disorders, suicidal patients, etc	2	4	2	3							2	3	6	10	3
Patients who benefit the least															
Patients who need ongoing treatment , high intensity / frequent counselling, emergency psychiatric care (acute crisis),	3	4	2	4	3	3			2	4			10	15	4
Patients with bipolar disease, schizophrenia, personality disorders, acute suicidal patients	3	4	2	4	1	1							6	9	3
Children	1	1							2	2			3	3	2
Patients experiencing grief											2	2	2	2	1
Patients who require drug rehabilitation					1	1			1	1			2	2	2
Patients who require vocational rehabilitation					1	1							1	1	1
Large families											1	1	1	1	1
Patients with weight management issues							1	1					1	1	1