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### Descriptive and Process Evaluation of a Shared Primary Care Program

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Evelyn Vingilis, PhD<sup>1</sup>

Jann Paquette-Warren, MSc<sup>1</sup>

Nick Kates, MBBS, FRCPC<sup>2</sup>

Anne-Marie Crustolo, B.Sc.N.<sup>2</sup>

Jaimi Greenslade, B.Psych<sup>3</sup>

Sharon Newnam, PhD<sup>4</sup>

1. Population and community health unit, Family Medicine, Schulich School of Medicine and Dentistry, London, Ontario, Canada
2. Hamilton Health Service Organization, Mental Health and Nutrition Program, St. Josephs Hospital, Hamilton, Ontario, Canada
3. Centre for Organisational Psychology, School of Psychology, The University of Queensland, St Lucia, Queensland, Australia
4. Queensland University of Technology, Brisbane, Queensland, Australia.

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#### ABSTRACT

**Purpose:** This study involved the conduct of a descriptive and process evaluation to examine the implementation and maintenance of an existing local shared care program: The Hamilton Health Service Organization Mental Health and Nutrition Program located in the Hamilton, Ontario, Canada. The program was organized to strengthen links between mental health, nutrition, and primary care services, to improve access to mental health and nutrition care, and to realize the benefits of improved communication, collaboration and mutual support among multiple practitioners, increased continuity of care, and increased family physicians' comfort and skill in handling more complex problems. **Method:** A mixed-method, multi-measures evaluation design was used. Data were gathered from the program's central patient database and by conducting focus groups. **Results:** Teams of practitioners provide comprehensive primary mental health and nutrition care. Collaboration and education opportunities are extensive although time constraints are an issue. Patients with a range of problems were assessed, treated, and referred among team members. There appears to be a decreased burden on external services. **Conclusions & Discussion:** This evaluation suggests that implementation and maintenance of shared care programs are possible within community practices.

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#### INTRODUCTION

Shared care, also called collaborative and integrated care, is a population-based approach which relies on multidisciplinary primary care teams to deliver evidence-based treatment to patients.<sup>1</sup> It is an integrated model of care that includes patient-, practitioner-, and system-level components.<sup>1-7</sup> Also, it is consistent with the concept of system redesign of primary care practices embodied in the chronic care model of Wagner et al<sup>7</sup>, who stated that: "The delegation of key tasks to appropriate members of the practice team, especially non-physicians, appears to be the central feature of successful programs and is an important element of team care planning."

Various randomized controlled trials have found that shared care programs were able to improve clinical outcomes and reduce nursing home and hospital use.<sup>1, 8-13</sup> Additionally, various governments, agencies and scholars have advocated for primary care reforms with more integration of specialized services into primary care settings.<sup>2,4,7,14-17</sup> However, uptake of effective shared care models into mainstream primary care has been limited because of numerous barriers, such as health care funding issues, time constraints, difficulty finding and retaining appropriate staff and general staff resistance to collaboration and change.<sup>2, 6,13,14,17</sup> As Meredith et al<sup>17</sup> write: "studies have been conducted and implemented under favourable circumstances: either in large, integrated systems of care or by researchers with substantial external funding. Little is known about how teams of primary care providers can put these models into action locally and how well changes from these efforts are sustained over time." (p. 48) Katon and Unutzer<sup>4</sup> similarly argue that since effectiveness of shared care is not in doubt, shared care research should study the efforts to deliver such programs: "Such research could make important contributions to the limited but growing evidence base in translating successful interventions from research to practice."

The purpose of this study was to examine the implementation and maintenance of an existing shared care program through the conduct of a descriptive and process evaluation. In 1994, a Mental Health Program was introduced into 13 primary care practices in Hamilton, Ontario, Canada, and was expanded into 23 additional practices in 1996. In 2000, a local Nutrition Program, in operation since 1994, was integrated into the organization and both programs were amalgamated into the Hamilton Health Service Organization Mental Health and Nutrition Program.

The program aims to integrate specialized mental health and nutrition services into the offices of family physicians with the inclusion of mental health counsellors (social workers or psychiatric nurses), psychiatrists and dieticians within the primary care practices, rather than in separate clinics in the same building, with the objectives of improving communication and collaboration among all practitioners, increasing patient access to services, increasing continuity of care, and increasing family physicians' comfort and skill in handling more complex problems.<sup>18</sup> The program was organized in such a way so as to tackle the major implementation barriers of funding issues, time constraints, difficulty finding and retaining appropriate staff and staff resistance, and to realize the objectives listed above.<sup>2, 6,13,14,17 18</sup>

### **Program Description: Tackling the Implementation Barriers**

An abbreviated version of the program's comprehensive logic model is presented in Figure 1, which represents a blueprint description of the actual program. Developed iteratively over a two month period with the program's staff, the logic model links short- and long-term objectives, with program components and activities, and provides a visual representation in the form of a flow chart of how the program does its work, built on the assumptions underlying the program<sup>18</sup> (for a more detailed description<sup>19</sup>).

The funding issue was tackled through an Ontario government alternative to the common fee-for-service payment method. Health Service Organizations (HSOs) were introduced in 1973 as an alternative payment program based on capitation that covered costs of practice, including physician and staff salaries. An Institutional Supplementary Program provided additional funds to HSOs to integrate other services such as mental health and nutrition, into HSO practices.<sup>18</sup>

The other barriers were perceived to be a greater challenge. It was clear, from the outset, that a central management body would be needed to coordinate activities and support individual primary care practices.<sup>18</sup> A central management team (CMT) was developed to administer the program. The CMT is responsible for administrative/management functions of human resources, distribution of funds, co-ordinating program activities, education, setting program standards, liaison with the funding source, addressing problems as they arise and allied practitioner and psychiatrist recruitment. This provides physicians with more time for skill development and care provision. Additionally, the CMT engages in monitoring evaluation of both patients and practitioners with yearly patient and practitioner satisfaction questionnaires.<sup>19</sup> When problems are identified from the questionnaires, the CMT meets with the practitioners and staff to discuss possible solutions. Moreover, positive and negative feedback from the patient satisfaction questionnaires are provided to the practitioners so that changes, if needed, can be made.<sup>19</sup>

Allied practitioners and psychiatry are distributed as follows: one full-time mental health counsellor for approximately every 8000 patients, one part-time dietician per physician, and one psychiatrist one half-day per month per physician. The CMT examines the human resources evaluation data on a regular basis and makes adjustments accordingly. At the 2002-2003 fiscal year end, the program's CMT included one part-time director, one full-time program coordinator, and seven staff members. The primary care practices of the program included 79 family physicians, 39 mental health counsellors (equivalent to 23.0 full-time employees), 17 psychiatrists (equivalent to 2.0 full-time employees), and eight registered dieticians (equivalent to 7.0 full-time employees). These practitioners form integrated, multidisciplinary teams in 36 program primary care practices.

FIGURE 1 Mental Health and Nutrition Program Logic Model



Teams were developed to support collaborative relationship, and skills building among practitioners. The CMT organizes educational activities where practitioners can improve their knowledge and skills and share information regarding patient care and community resources. Specifically, the activities include a resource centre, professional meetings, and workshops. Guest speakers are often invited to professional meetings and external practitioners are invited to attend the workshops. Qualitative evaluations conducted by the CMT revealed that the workshops were considered excellent and comprehensive, successful, good

or of good quality and no negative comments were offered.<sup>19</sup> Additionally, the CMT organizes professional meetings for practitioners to meet and discuss current issues or changes to the program.<sup>19</sup> For example, since June of 2001, the CMT has organized nine meetings per year for the allied practitioners and a 2001 satisfaction questionnaire indicated 90% were very satisfied/satisfied and only 2% were dissatisfied with the meetings.<sup>19</sup> The objectives of these activities are to build skills, relationships and provide opportunities for peer support and discussion not only among program practitioners, but also with practitioners from other health sectors.

### **Process Evaluation: Implementation of Services and Practitioner Perceptions**

The process evaluation consisted of examining whether the program was delivering specialized services within a shared care model. Additionally, the evaluation examined the perceptions of practitioners on whether the program is meeting its objectives, namely, affecting communication and collaboration among all practitioners, access to services, continuity of care, and family physicians' comfort and skill in handling more complex problems and has any challenges. That is, the purpose was to conduct both an *assessment-oriented process evaluation* to assess how well the program was being implemented and a *development-oriented process evaluation* to identify any implementation problems.<sup>20</sup>

### **METHODS AND PROCEDURE**

A mixed-method (qualitative and quantitative data), multi-measures evaluation design was used to enhance the validity of findings.<sup>20-23</sup> To examine whether the program was delivering specialized services within a shared care model, quantitative data were gathered from files and records in the program's central patient database created from standard forms such as the treatment outcome form, the referral forms, the activity sheets, and consultation forms routinely completed by the practitioners. All quantitative patient data presented in this article pertain to the 2002-2003 fiscal year unless otherwise indicated. To examine the perceptions of practitioners on issues of collaboration, access, continuity of care and family physicians' comfort and skill, focus groups were conducted with the practitioners.<sup>24</sup> All practitioners in the program were invited to participate according to their discipline and/or as practice teams. A stratified strategy was used where all who accepted the invitation were included in one of six focus groups (1- eight family physicians; 2- seven psychiatrists; 3- thirteen mental health counsellors; 4- four registered dieticians; 5- eleven practitioners [Group A: suburban practice group including at least one of each four disciplines listed in groups 1 to 4]; and 6- ten practitioners [Group B: inner-city practice group including at least one of each four disciplines listed in groups 1 to 4]).<sup>25-26</sup> This represents 10%, 41%, 33%, and 50% of the family physicians, psychiatrists, mental health counsellors, and registered dieticians involved in the program, respectively. Participants were interviewed in their respective workplace or at the program's central office. A semi-structured discussion format was applied using guiding questions formulated by an expert panel that captured information on communication and collaboration, access to services, continuity of care, and family physicians' comfort and skill in handling more complex problems. Two investigators served as moderators, one of whom took field notes, and all discussions were tape-recorded and subsequently transcribed verbatim.

In the first step of analysis, an editing organization style was applied using audio tapes and transcripts to generate a list of themes and assign them to various categories.<sup>27</sup> The list of themes then served as a coding template for three additional investigators to perform a template style analysis of the transcripts.<sup>27</sup> Any discrepancies were discussed until a consensus was reached. The revised template (list of themes) was used to conduct a content analysis of the data.<sup>27</sup> NVivo, a computer software program, was also used to help organize the data and to pull out representative quotations. Ethics approval was granted by the University of Western Ontario Review Board for Health Sciences Research Involving Human Subjects. This study provides key summary findings; for the detailed results, see Paquette-Warren et al.<sup>19</sup>

### **RESULTS**

#### **Delivery of Services**

Counsellors and dieticians, in conjunction with the physicians within each practice, adopt their own triage protocol according to practice needs. Due to the nature of the program, physicians never fully transfer patient care to the allied practitioners and psychiatrists. They continue to see patients during the course of specialized care and follow up with patients once care from an allied practitioner or psychiatrist is no longer required. Although the number of patients with mental health and/or nutrition problems assessed and treated by physicians is not directly available, over the 12 month period physicians completed a total of 6654 referral forms: 3223 patients to mental health staff (counsellor: 2551 patients; psychiatrist: 548 patients; both counsellor and psychiatrist: 124 patients) and 3431 patients to dieticians (Fig. 2). The treatment outcome/consultation forms filled out by the mental health professionals (2930 by counsellors; 1201 by psychiatrists) and 1895 by dieticians, indicate the number of patients advised to follow up with their physician (Fig. 2). Counsellors advised 1160 patients (40% of patients seen) and psychiatrists advised 663 patients (64% of patients seen) to follow up with their physician. Dieticians advised 1367 patients (72% of patients seen) to return to their physician for follow-up: 919 for routine monitoring and 448 for continuing care. Since the outcome forms are completed upon cessation of treatment, forms for patients whose treatment continued into the next reporting periods are

listed as outstanding. The nature of chronic illnesses, such as diabetes, can lead to numerous outstanding forms. Thus, it is not always clear if outstanding forms are due to ongoing treatment or incomplete paperwork.

**FIGURE 2**

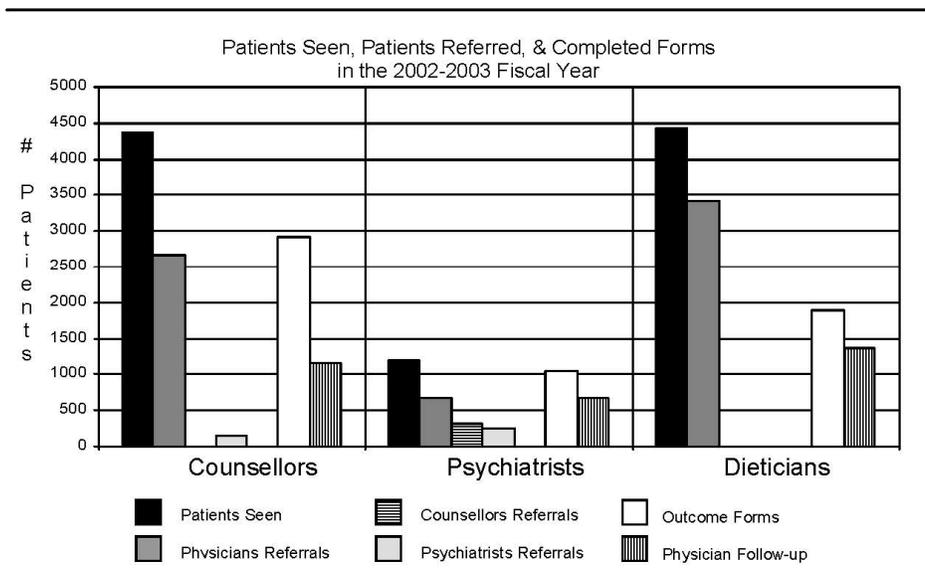


Figure 2. Graphic illustration of the number of patients seen and referred to and from the program practitioner. Also shows the number of outcome forms completed as part of the program evaluation efforts.

In addition to regular primary care provided by the physicians, the activity sheets revealed that counsellors, psychiatrists, and dieticians assessed/treated 4367, 1201, and 4429 patients, respectively (Fig. 2). Counsellors encountered a total of 68 main presenting problems and made use of 17 treatment strategies. The most common problems were depressed mood (33%), marital problems (13%), and anxiety symptoms (13%), and the most common treatment strategies were individual counselling (20%), assessment/recommendations (18%), and supportive therapy (16%). Similarly, psychiatrists identified 54 mental health issues and used 11 different treatment strategies. Depressed mood (48%) and anxiety symptoms (18%) were the most common problems, and supportive therapy (26%), cognitive-behavioural therapy (21%), and individual therapy (15%) were the most commonly adopted treatment strategies. The most common problems encountered by dieticians were dyslipidemia (44%) and type II diabetes (22%) treated mainly with individual therapy (84%). The outcome/consultation forms indicated that counsellors referred 312 patients to psychiatrists and that psychiatrists referred 156 patients to counsellors (Fig. 2); however, these data do not include patients referred after a follow-up visit with the psychiatrist.

In addition to one-on-one care, some practitioners provide telephone advice and conduct counselling groups. The counsellors provided an average of 35.0 hours of telephone advice to patients varying from 1.3 to 198.1 hours per practice with a total of 1296.1 hours for the fiscal year (3.6% of total full time equivalent). Psychiatrists provided an average of 1.5 hours of telephone advice per practice ranging from 0 to 7.3 hours with a total of 41.2 hours (1.2% of total full time equivalent). The variability in telephone advice may be related to the allotted full time equivalent in each practice and the presenting problems of the patients. During the fiscal year, 14 counsellors ran 23 counselling groups to address the most common problems encountered in the program's practices. The groups included couple communication, depression education, self-esteem and stress management, adolescent group workshops, general anxiety disorders, relaxation groups, and pain management groups. Furthermore, dieticians ran 61 lipids groups and four weight management groups. All groups follow a standard course outline and make use of specific educational materials prepared in combination by the central management team, counsellors, and dieticians.

The demographics of all patients referred by physicians to counsellors and psychiatrists were: 64% = female and 36% = male (Fig. 3). The 25 to 44 age group represent the largest percentage (42%) of patients referred by physicians to mental health staff (Fig. 3). Physicians referred slightly more female patients (54%) than male patients (46%) to dieticians and patients aged 45 to 64 years represented 47% of the 3431 patients (Fig. 3).

FIGURE 3

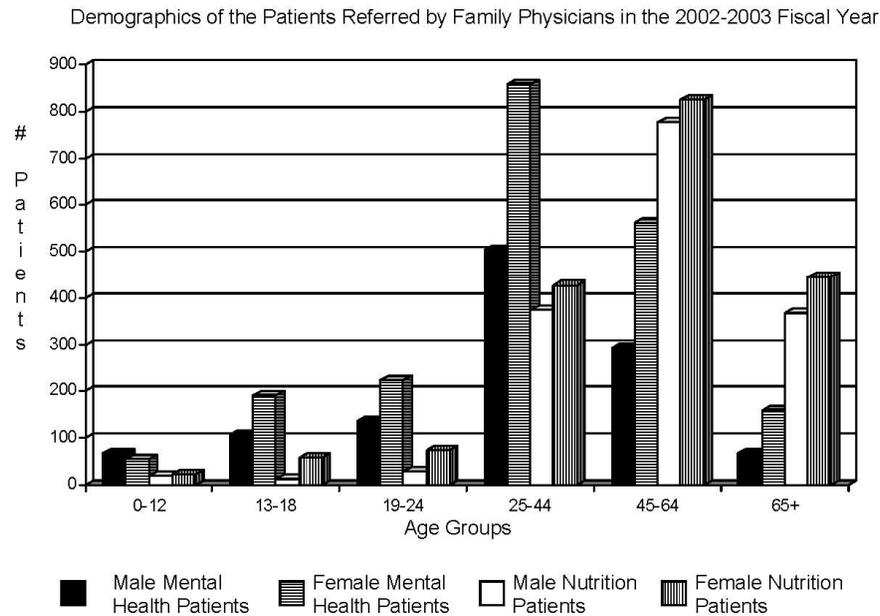


Figure 3. Graphic illustration of the patient demographic information from patients referred for mental health or nutritional care by family physicians to allied health practitioners.

FIGURE 4

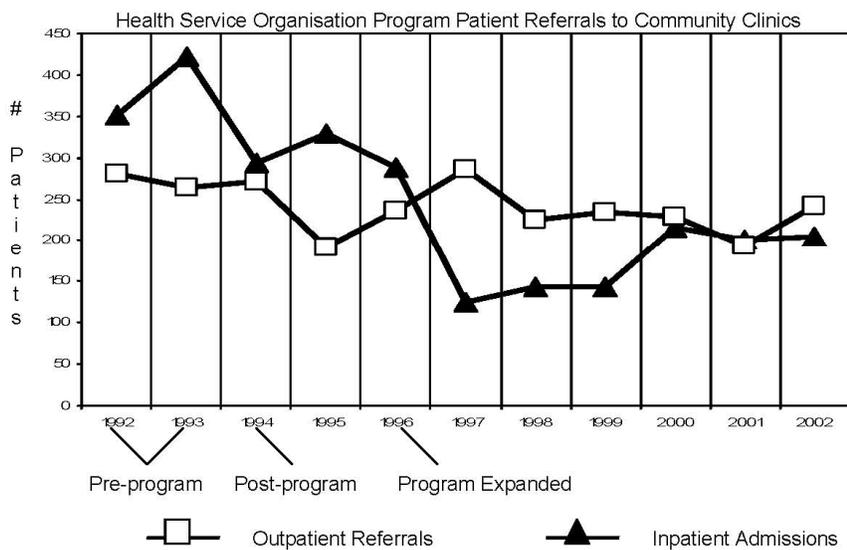


Figure 4. Graphic illustration of the decreasing pattern of referrals to community clinics by program family physicians.

When patients' needs cannot be met by the program, they are referred to community clinics. In 2002, physicians referred a total of 204 patients to outpatient clinics and 241 patients were admitted to inpatient units. In 1993, the number of patient referrals and admissions made by the same physicians, prior to the introduction of the program, was 422 patients to outpatient clinics and 264 patients to inpatient units. Figure 4 illustrates the pattern of referrals to community clinics by family physicians in the program

over a 10-year period. Note that the program was introduced in the fourth quarter of 1994 and expanded mid-way through 1996. In the 2002-2003 fiscal year, counsellors and psychiatrists referred 151 and 359 patients to community mental health services, respectively. This does not include patients referred by psychiatrists after follow-up visits and the number of referrals by dietitians to community clinics is not documented.

### **Perceptions of Practitioners**

#### **Collaboration/Communication**

During the focus groups, comments among all groups reflected variability in the way collaboration occurs, ranging from collaboration through direct conversation to communication via paperwork/charts, which has considered to be a strength of the program. Direct communication 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. In general, family physicians felt that in the program, *"you're sharing with your staff, yourself, the social worker, the psychiatrist, and the patient . . . It's a team approach."* But, *"to setup a meeting sort of once a month and that doesn't work. So it's more like can I talk with you a couple of minutes?" "If there is a problem, the social worker can call you, or talk to you,... you can make real time adjustments... without paper work, just by a couple of sentences."* *"[Just having them [allied practitioners and psychiatrists] onsite and the sharing of charts... they see the medical component [notes], we see the social work and the psychiatry [notes]."* *"[As for nutrition therapy, we are] dealing with a whole area we don't know, and the fact that it's onsite, again the chart can be shared, the blood work can be shared, it makes life very, very simple."*

Allied practitioners and psychiatrists indicated that collaboration can be limited by the physical environment as well as the interest of the family physician in shared care. In some practices, *"it's actually physically very difficult to get the family physician and the psychiatrist and the counselor 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."*

The allied practitioners believed that collaboration is ideal when there is daily contact with the family physician, when treatment plans are established together, and when all the practitioners maintain an open door policy. *"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."*

In addition, focus groups data indicated that all practitioners participate in both formal and informal educational activities within individual practices. *"We actually meet as a group when the psychiatrists come, to actually present a case, and then, the case is sort of commented on by the psychiatrist and everyone present,... that's quite the learning process."* Also, *"my knowledge of medicine has increased greatly just since I've been in this program, just having the ability to be able to interact with GPs [general practitioners] daily; you learn a lot... Coming together and sharing of that information... [In the practices, education is] very informal and it's ongoing all throughout the day. [Furthermore], we meet weekly. We have a Lunch & Learn session."*

#### **Access, Coordination & Continuity**

All focus groups felt the program provides access to care for patients with institutional barriers who would not otherwise receive treatment. *"We really do have again people coming into the system that I think would not be seen elsewhere because of accessibility."* The program helps care for a *"whole draft of people who kind of don't really get service or easily get service."*

In addition, practitioners felt very strongly that waiting lists in this program are much shorter than those in the traditional system and *"[when] there is a bit of a waiting time to get somebody in [to an external service]... [the psychiatrist] can be very helpful if you need to give him a call and say what can we do in the meantime";* thus, providing an opportunity for early detection and early intervention while patients wait for a complete psychiatric or nutrition assessment.

Furthermore, the practitioners discussed that informal coordination of patient care occurs among the practitioners. For example, one of the counsellors noted that, *"if I have a question, if I have a concern, if the patient has a question and it would be like four weeks wait... I'll step out and get him, [the family physician], in the hallway... I'll ask the question, he'll address it and sometimes comes into the session."* *"We have an open door policy and essentially what that is is he'll, [the family physician], knock on my door and interrupt me and say I'm really sorry, can I talk to you for a minute. And I'm free to do the same thing and there's never a problem."*

The opportunity for continuity of care was also identified by all groups: *"I love the fact that we're seeing families with continuity...It doesn't feel like you are getting a piece of this person...There's a backdrop,"* because practitioners have access to the patients' charts and extensive medical history via the family physicians.

Yet, the most common complaint noted by all six groups was time constraints. *"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 counselor 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 counselors 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.

Additional complaints and recommendations for change included paper work, limited office space for all practitioners and external referrals. For example, comments such as, *"When you refer out, they say well you've got your own psychiatrists, use your own psychiatrist"* and *"we've had to have them [patients], seen by our psychiatrist before they'll accept a referral."*

#### **Family physician comfort and skill with complex problems**

During the focus groups, family physicians noted that their diagnostic skills, familiarity with medications and dosages, and various mental health management strategies had improved since the introduction of allied practitioners and psychiatrists in their practice. One family physician 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."* Mental health counselors observed an increased ability in family physicians to assess patients, make mental health diagnoses, and provide patients with appropriate treatment. Likewise, psychiatrists perceived that family physicians' repertoire of treatment strategies and their knowledge of various medications and appropriate dosages had improved as a result of the program. In addition, they felt family physicians were more familiar with resources available in the community and referred patients with more ease. Family physicians suggested dieticians contributed a lot to patient education regarding nutrition problems, but the benefits of this education in alleviating problems were not always clear. One physician 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."*

Moreover, the skills development was reciprocal. Allied practitioners and psychiatrists also indicated shared learning: *"the family doctor, some mental health counselors might not have had that much training in say medications, so this system pushes you, pushes all of us to be somewhat more broad"*. *"You ask questions that you dared not ask before...because you couldn't do anything about it, and now you have resources, you have experience, you have back-up."*

## **DISCUSSION**

This evaluation suggests that implementation and maintenance of shared care programs are possible within local settings. The Hamilton Health Service Organization Mental Health and Nutrition Program is a good example of a primary care program using a shared care approach. The program staff, allied practitioners, psychiatrists and family physicians were found to work together to improve collaborative relationships, to increase access and delivery of primary, mental health and nutrition care, and to decrease the burden on external services. The CMT plays a key and important function in tackling implementation barriers of funding issues, time constraints, difficulty finding and retaining appropriate staff and staff resistance by providing many formal opportunities for skill development and expansion of collaborative relationships among program practitioners as well as with external practitioners. They facilitate the efficient use of program resources by continually monitoring evaluation data, and redistributing funds as well as reorganizing human resources according to practice and patient needs.

The administrative and focus group data suggest that program objectives to improve communication and collaboration among all practitioners, increase patient access to services, increase continuity of care, and increase family physicians' comfort and skill in handling more complex problems are being realized. Within the focus groups, practitioners described a large variability in the way communication, and coordination of care occurs; however, the opportunity to collaborate with team members through direct or indirect communication was perceived as a major strength of the program. Access to comprehensive health care is demonstrated by the large number of patients referred. Evaluation data indicate that counsellors, psychiatrists, and dieticians encountered many different main presenting problems and utilized various treatment strategies. Focus groups data gathered

from practitioners indicated that there is increased access for patients who would not otherwise receive specialized treatment, although time constraints were perceived to be a barrier to more case finding and treatment. Furthermore, access to counsellors, psychiatrists, and dieticians in primary care appears to decrease the burden on the traditional system. However, without a control group and time series analyses one cannot attribute the downward trend of referrals to community clinics to the Mental Health and Nutrition program per se.

It is important to note that within this shared primary care program each team has the flexibility to adapt protocols, procedures and roles according to the skills of individual team members. Physicians also never fully transfer patient care. They continue to care for patients while they are receiving care from the allied practitioners and psychiatrists, resulting in continuity of care and easier transfer of patient care among the practitioners. Although psychiatrists are available for consultation and brief follow-up only, counsellors and dieticians run group sessions in addition to performing assessments and providing individual treatment. Furthermore, patients have access to specialized care from the physicians through the availability of the allied practitioners and psychiatrists for advice, support, and back up, whether through onsite face-to-face conversations, on the telephone, or via patient charts. In addition, waiting times in this program may be shorter than in the traditional system because of the availability of in-house allied practitioners. Thus, earlier detection and intervention is possible and accessibility to mental health and nutrition services and continuity of care may be increased. 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, a comprehensive outcomes evaluation of the program is needed.<sup>26-28</sup>

In summary, this study has demonstrated that the Hamilton Health Service Organization Mental Health and Nutrition Program is a good example of a successfully implemented and maintained shared care program, in which traditional implementation barriers have been generally overcome and the program's objectives are being realized. An important and central feature of the program is the CMT, which is responsible for administrative, educational and evaluative functions as also described by Mechanic: "organizational features can enable ... [appropriate patient care] by careful selection of primary care providers, by providing opportunities for training and collaboration, by structuring practice to facilitate strong clinician-patient relationships, and by incentives that make processes of care between primary and various specialized ... [practitioners] part of a seamless pattern".<sup>29</sup> This evaluation revealed that the Health Service Organization program has implemented many of those critical features identified by Mechanic.<sup>29</sup> Future evaluations need to be conducted to determine what impact the successful implementation of these features of shared care has on patients and on the wider health care system.

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