

Capacity-building in family health

Innovative in-service training program for teams in Latin America

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ABSTRACT

PROBLEM BEING ADDRESSED Brazil, Chile, and Canada are among the countries where development and deployment of human resources have been central to health reform; however, it is unclear how the education and training of primary care workers is best accomplished.

OBJECTIVE OF THE PROGRAM To implement a model of in-service training in primary health care for interdisciplinary teams of primary health care professionals from Brazil and Chile.

PROGRAM DESCRIPTION This 5-module program targeted primary care providers from various disciplines who had at least 3 months of front-line experience. The program was offered in 2 formats: intermittent "in-country" training or an intensive course taught in Canada. In Brazil, the in-country training took place over a period of 8 to 12 months, during which 5 modules of 2 to 3 days each were interspersed with 2-month "action periods." The intensive course taught in Canada was delivered to Chilean participants in Toronto, Ont, where 3 modules were offered to a group of 12 to 20 primary health care professionals over a 6-week period. The educational methodology combined short didactic presentations, whole group learning exercises, and small group problem-based learning sessions, including team projects that were completed in between each module and presented at the beginning of the next one. During the course, the participants learned how to perform computer database searches and assess the best evidence in the management of common problems.

CONCLUSION Pretests, posttests, and evaluations of student projects demonstrated that participants had increased knowledge, as well as increased capacity to use the best evidence to address common problems in their communities. This is a promising model, adapted to the context of primary care reform in Latin America, with strong potential to support health human resource development and multidisciplinary care by front-line providers in other countries.

RÉSUMÉ

PROBLÈME À L'ÉTUDE Le Brésil, le Chili et le Canada sont des pays où le développement et le déploiement des ressources humaines ont été au centre des réformes en santé; on ignore toutefois la meilleure façon de former les dispensateurs de soins.

OBJECTIF DU PROGRAMME Instaurer un modèle de formation en cours d'emploi dans les soins primaires pour les équipes interdisciplinaires de professionnels de la santé en soins primaires du Brésil et du Chili.

DESCRIPTION DU PROGRAMME Ce programme en 5 modules visait principalement les intervenants de diverses disciplines qui avaient une expérience de première ligne d'au moins 3 mois. Il était offert en 2 formats: une formation intermittente dans le pays visé ou un cours intensif donné au Canada. Au Brésil, la formation locale s'étendait sur une période de 8 à 12 mois, durant laquelle 5 modules de 2 à 3 jours chacun alternaient avec des «périodes d'action» de 2 mois. Le cours intensif au Canada était donné aux participants chiliens à Toronto (Ont.), où 3 modules étaient offerts à un groupe de 12 à 20 professionnels de soins primaires sur une période de 6 semaines. La méthodologie d'enseignement comprenait des présentations magistrales courtes, des exercices d'apprentissage en grand groupe et des sessions de résolution de problèmes en petits groupes, incluant des projets de groupe complétés entre chaque module et présentés au début du module suivant. Durant le cours, les participants apprenaient à faire des recherches à partir de bases de données électroniques et à évaluer les données les plus probantes pour traiter les problèmes courants.

CONCLUSION Les pré-tests, les post-tests et l'évaluation des projets des étudiants ont montré que les étudiants avaient augmenté leurs connaissances et qu'ils étaient plus en mesure d'utiliser les meilleures données pour s'occuper des problèmes courants de leur communauté. C'est donc un modèle prometteur, adapté au contexte de la réforme des soins primaires en Amérique latine, et dont le potentiel est élevé pour favoriser le développement des ressources humaines en santé et les soins multidisciplinaires dispensés par les intervenants de première ligne dans d'autres pays.

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Program Description | Capacity-building in family health

Capacity-building can be defined as activities that strengthen the knowledge, abilities, skills, and behaviour of individuals, and improve institutional structures (eg, services, learning institutions) and processes to allow organizations to efficiently meet their missions and goals in a sustainable way. The World Health Organization and World Organization of Family Doctors (WONCA) have described a sequential approach to capacity-building in primary care.¹

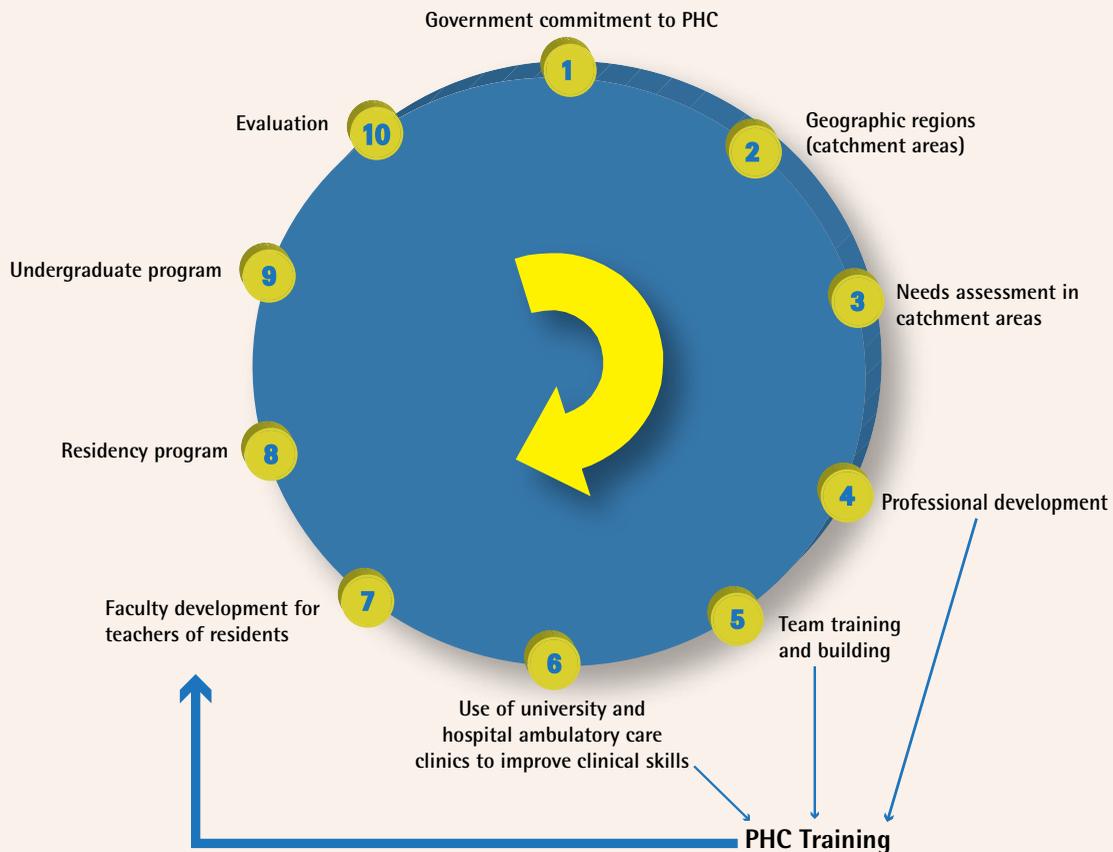
Figure 1 shows the logic sequence in the development of human resources training. The first 3 steps highlight the importance of government commitment to primary care, the needs of the population served, and the selection of the best group of professionals to meet the needs of the community served. In order to strengthen the primary care orientation of a health system, it is crucial to have a critical mass of trained people already working in the field. The creation of primary health care (PHC) teams in the field as a first step, before team training is part of the medical school curriculum, is extremely

important. Teaching medical school students to work in teams that do not actually exist in the real world, which might seem counterintuitive, has been found to be ineffectual. Without existing job opportunities involving work in health care teams, students quickly lose interest in the training, as they do not see the relevance of it.

The program implemented in the Department of Family and Community Medicine (DFCM) at the University of Toronto in Ontario focused on providing continuing health education and team training to health care professionals who provided front-line services. It also used the ambulatory area of the hospital to strengthen the clinical skills of health care professionals, as many were specialists working as generalists. For example, ambulatory care training was used to strengthen adult medicine and women's health care for pediatricians—a reflection of steps 4, 5, and 6 of **Figure 1**.

The focus on existing practitioners builds capacity to train future teachers in these areas and increases student demand for training in primary care. This

Figure 1. Logic sequence in the development of human resources training and health systems based on a PHC organization



PHC—primary health care.

approach is also an attempt to counter the focus on specialist training found in most universities.²

Since the Alma-Ata meeting of 1978,³ interdisciplinary teamwork has frequently been recommended as a key element in health system reform, but it has not always been achieved.⁴⁻⁷ A holistic approach to primary care requires a variety of skills brought together by a mix of various health care professionals. Groups of professionals might work in the same location, but teams of professionals work together on common problems.⁸⁻¹⁰ The goal of the program implemented in Brazil and Chile was to offer a range of PHC services delivered by interdisciplinary teams of professionals.

Primary care reform in Brazil and Chile

The structure of primary care delivery systems in Chile and Brazil actively supports the provision of interdisciplinary care, and primary care teams are responsible for the needs of the population of defined geographic areas, as shown in **Table 1**.

In Brazil, most primary care is provided by interdisciplinary teams, with a ratio of approximately 1 team per 4000 people in a defined area.^{11,12} These teams monitor the health status of the communities where they work. This process has evolved over the past 15 years and is now the basic structure of the health care system. Canada, however, does not restrict care provision on a geographic basis; therefore, primary care providers located in urban areas, unlike their counterparts in rural settings, cannot clearly define geographic communities to which they provide services (unlike providers in rural areas). There are more primary care physicians per capita in Canada than in either Chile or Brazil, and therefore physicians in Canada have generally been the core of primary care services, whereas the latter countries use more of a team approach to providing comprehensive services (eg, 29300 family health teams in Brazil).

Program description

In 1995, the DFCM at the University of Toronto initiated a program to train PHC teams in Brazil. A few years later, in 1999, the program expanded to include interdisciplinary training provided in Toronto for Chilean PHC teams.¹³

This 5-module program (**Table 2**) used participatory educational methodology^{14,15} and targeted primary

care providers from various disciplines with at least 3 months of front-line experience. The program was offered in 2 formats: intermittent “in-country” training or an intensive course taught in Canada. In Brazil, the in-country course took place over a period of 8 to 12 months, during which 5 modules of 2 to 3 days each were interspersed with 2-month “action periods.” The Canadian program was delivered to Chilean participants in Toronto, with 3 modules offered to groups of 12 to 20 PHC professionals over a 6-week period. The educational methodology combined short didactic presentations, whole group learning exercises, and small group problem-based learning sessions, including team projects that were completed between each module and presented at the beginning of the next one. During the course, the participants learned how to perform computer database searches and assess the best evidence in the management of common problems.

In Brazil, in addition to the direct training of front-line workers, the program also invited local authorities and universities to support participants in their study projects and assist the students with access to libraries and resources. These supportive institutions learned about the needs of front-line professionals, helping them to inform development of future graduate and postgraduate programs. The model had a train-the-trainer component and enabled the training of a large number of professionals in a short period of time. In the initial phase of the program, the Canadian team trained 15 professionals from medicine, nursing, and dentistry. This group, in turn, facilitated the training of more than 3000 professionals in Brazil over a period of 10 years.

Objectives of the training program

The training program had 7 main learning objectives:

1. To develop a sense of pride as a primary care provider
2. To understand how to work in interdisciplinary teams with an assigned geographic population
3. To learn how to work with evidence in daily practice
4. To learn how to work with communities and families
5. To learn key attributes of primary health care: first contact, longitudinality, integration, and coordination
6. To learn the 4 principles of family health, which have been adapted from the 4 principles of family medicine:

Table 1. Structure of the delivery of primary care services in Chile, Brazil, and the evolving family health team in Ontario

LOCATION	ORGANIZATION OF PRIMARY CARE	YEAR THE USE OF HEALTH CARE TEAMS BEGAN	TEAM COMPOSITION
Brazil	Geographically defined population	1994	Physician, nurse, nurse assistant, community health worker, dentist, and dental assistant
Chile	Geographically defined population	1990	Physician, nurse, social worker, midwife, nutritionist, physiotherapist, psychologist, dentist, and dental assistant
Ontario	Voluntary unrestricted enrolment	Evolving incrementally since 2004	Variable, but can include physician, nurse practitioner, nutritionist, social worker, dentist, and psychologist

Program Description | Capacity-building in family health

- the family health professional is a skilled clinician
 - family health teams are based in the community
 - the family health team is a resource to a defined population
 - relational skills are central to the work of the family health team
7. To learn to function as “multipliers” to train others (Modules 4 and 5 focus on adult education strategies to train the trainer [used in Brazil for 10 years] to deliver the first 3 modules to other teams.)

Program content

To achieve program objectives, participants formed teams to complete 3 group projects through which they developed 3 sets of skills: using evidence to improve quality of clinical services, engaging communities in health promotion projects, and working with families in clinical and community-based settings. In addition, each project included an implementation and evaluation strategy, with clearly defined roles for each team member. All teams arrived at the course with lists of the

Table 2. The 5-module program for in-service training in primary health care

MODULE SECTION	DESCRIPTION OF SECTION	SKILLS DEVELOPED	PROJECT EXAMPLES
1. Using evidence to improve clinical care	Identify and appraise national and international guidelines to address the problem	Assessing literature reviews, evidence-based medicine, and guideline appraisals	Improve management of diabetes in adults
	Adapt these guidelines to improve care for a common clinical problem in designated territory	Developing implementation and evaluation strategies	Improve management of acute respiratory illness in children
2. Acting as a resource to a defined population	Identify a health need in the community and develop a clinical and community prevention project to address it	Using a logic model as a project planning tool	Improve cervical cancer screening
		Identifying health needs and community resources	Prevent childhood obesity
	Develop an evidence-based preventive measure and promote intervention for the identified need	Designing a program and developing an evaluation strategy, including short-, medium-, and long-term objectives	Prevent teen pregnancy
3. Relational aspects of care between patients, professionals, and communities	Study the relationships between patient, family, and community, focusing on individuals' strengths, weaknesses, challenges, and opportunities	Incorporating principles of health promotion and community advocacy	
		Developing a set of indicators to evaluate the interventions	
		Using tools, such as genogram, ecomap, FIRO theory, family life cycle	Detect and manage alcoholism, depression, and family violence
4 and 5. Preparation of the multipliers	Prepare material and class plan (eg, needs assessment, objectives, strategies, and evaluations)	Understanding the roles of team members in managing a case	
		Determining the needs assessment of students	Teach the first 3 modules by presenting the experience with each module and providing an evaluation of each module
		Developing objective knowledge, skills, and attitudes	
		Using appropriate adult teaching strategies (short lecture, film, debate, role playing, etc)	
		Designing course evaluations	

FIRO—fundamental interpersonal relation orientation.

health problems commonly seen in their communities, which were used as the basis for their work.

The 5 modules

This was a 5-module program (Table 2). The first module, which began with an overview of the principles of family health, focused on clinical competence and the use of evidence. Each team identified a clinical problem in its population and, following bibliographic searches for the best evidence on the subject, presented a plan to develop a care pathway. The care pathway outlined the role of each team member involved.

The second module focused on the team as a resource to the community and the skills required by the professional to assess community needs and identify risks. It taught students to maintain their skills and knowledge as lifelong learners, to evaluate the quality of their services (ie, audit), to act as advocates, to promote community health, and to maintain their own well-being.^{16,17} Each project included a detailed description of the role of each professional on the team.

For the third module, each group developed a plan to produce a profile of the structure of families in the community served by its clinic. Each team also selected a particular family that clinic workers found challenging. Each team assessed the problems of its "family" in detail, using various tools (eg, the genogram, ecomap, and life cycle) presented during training, in order to understand the family's problems and possible root causes. Next, integrating the learning from the previous 2 modules, the team developed an interdisciplinary strategy to work with family members to address key problems as well as important risk factors.

The fourth and fifth modules focused on adult education and effective educational strategies. The objective of these modules was to train the participants to teach the first 3 modules under the supervision of another group of PHC teams, as part of the multiplier component of the program. These modules have been mainly taught in Brazil, where teaching occurs on-site.

Program evaluation

In order to assess the training initiatives in Brazil and Chile, the interprofessional unit and the DFCM combined data from prior qualitative and quantitative studies,^{18,19} which were inspired by Kirkpatrick's model of educational outcomes.

Table 3^{19,20} outlines the indicators that demonstrate Freeth and colleagues' educational outcomes on interprofessional development. Participants' reactions, attitude modifications, and acquisition of new knowledge were assessed by informal discussions at the end of each module. Participants also completed preprogram and postprogram tests.

Team behaviour and attitudes were evaluated using a questionnaire based on the Schutz FIRO (Fundamental Interpersonal Relation Orientation) model of team functioning (ie, inclusion, influence, and openness) at the end of each project and at the end of the course.²¹

Results

Since 1995, more than 4000 professionals from different countries have been involved in the program. Table 4 shows results of participants' preprogram and postprogram tests of understanding of key attributes of primary care and of the principles of family medicine.

Table 3. Program indicators demonstrating the Freeth and colleagues¹⁹ model of educational outcomes for interprofessional education

EDUCATIONAL OUTCOME	DESCRIPTION	INDICATOR
Reaction	Presents students' views of the learning experience and its interprofessional nature	Like or did not like
Modification of attitudes or perceptions	Changes in reciprocal attitudes or perceptions between participant groups	Team evaluation (ie, questionnaire based on the FIRO model)
	Changes in perception of or attitude toward the value or use of team approaches to caring for a specific client group	Small group discussion
Acquisition of knowledge and skills	Includes knowledge and skills linked to interprofessional collaboration	Preprogram and postprogram tests
Behavioural change	Identifies individuals' transfer of interprofessional learning to their practice settings and changed professional practice	Use of various tools (eg, genogram, ecomap)
Change in organizational practice	Wider changes in the organization and delivery of care	Introduction of interprofessional guidelines
Benefits to patients or clients	Improvements in health or well-being of patients or clients	Health indicators (eg, mortality, morbidity, quality of life)
		Audit ²⁰

FIRO—fundamental interpersonal relation orientation.
Adapted from Freeth et al.¹⁹

Table 4. Results of participants' preprogram and postprogram tests of their understanding of the key attributes of primary care and the 4 principles of family medicine

TEST	KEY ATTRIBUTES OF PRIMARY CARE				FOUR PRINCIPLES OF FAMILY MEDICINE			
	P1	P2	P3	P4	P5	P6	P7	P8
Preprogram								
• Incomplete response, %	0	100	100	100	100	100	100	100
• Complete response, %	2	0	0	0	0	0	0	0
Postprogram								
• Incomplete response, %	42	35	39	46	83	83	83	78
• Complete response, %	58	65	61	54	17	17	17	22

P1—first contact; P2—longitudinality; P3—comprehensiveness; P4—coordination; P5—professional competence; P6—person-, family-, and community-based methods; P7—resources for person, family, and community; P8—professional, team, and community relations.

Postprogram test results demonstrate an effect on participants' knowledge and attitudes (Freeth and colleagues' third model of educational outcomes¹⁹).

Project evaluations were also used to assess participants' acquisition of skill sets (eg, analyzing critical appraisals, using various tools, such as genograms, understanding family life cycles, managing health prevention, and designing health promotion programs). Participants demonstrated increased skill in searching and critically appraising the literature as well as incorporating evidence in the development of clinical pathways.

Assessment of the questionnaires and group discussions were used for team evaluations. Participants demonstrated an increased sense of inclusion in the team (ie, belonging), participation in decisions (ie, control, influence), and comfort in expressing themselves (ie, openness).

Discussion

The PHC team capacity-building modular program provided training in the application of the principles of family medicine to multidisciplinary family health teams from Brazil and Chile. The program focused on the use of evidence to improve the quality of clinical practice, the design and evaluation of community prevention programs, and skills in the relational aspects of PHC care. Evaluations showed an immediate and beneficial effect on the knowledge and skills of participants. The program was able to rapidly train large numbers of interdisciplinary PHC teams using a train-the-trainer model and successfully attracted enthusiastic participants.

The program was well integrated with government strategies in Chile and Brazil. Developing a curriculum based on the needs of front-line staff ensured the relevance of its content to practice. The program's focus on team projects helped to promote interdisciplinary practice in primary care and provide skills that are important in countries where most primary care is provided by multidisciplinary teams. The program demonstrated some effect on the attitudes and knowledge of participants. An initial evaluation of one clinic seemed

to indicate a change in its organization of care.²² Many valuable lessons were learned and many changes were made over the course of the program's 12-year history; for example, although this program started as a family physician training program, it quickly morphed into the training of PHC teams, at the request of the South American program partners. When the program was only provided in Toronto, a recurring problem was the difficulty recruiting physicians who were not compensated for their participation by their governments. This obstacle was removed when the program was offered to participants in their own countries.

It became apparent early on that an international collaboration in training PHC professionals was highly dependent on government support, as such programs required a strong commitment to primary care and capacity-building at the municipal, regional, or central levels, and was vulnerable to shifting political priorities. Further challenges encountered in the early days of the program were the initial lack of evidence-based literature available to Spanish- and Portuguese-speaking participants, as well as the introduction of a practice culture based on evidence.

Other Canadian universities also offer training programs in family medicine internationally. Funded by the Canadian International Development Agency, the Department of Family Medicine at Queen's University in Kingston, Ont, has been working in Bosnia and Herzegovina since 1995 to establish an educational infrastructure for family medicine. Activities focus on the creation of departments of family medicine in 4 of 5 medical schools in these countries, including clinical training, residency programs, and undergraduate programs. An integral part of the program has been to assist the ministries of health at the federal and cantonal levels to reform PHC policy to include family medicine.²³

The family medicine program at McMaster University in Hamilton, Ont, has been working in Kurdistan, Iraq, since 2003, providing continuing medical education seminars and workshops. Two or 3 Canadian physicians travel to the region with the financial support of

the Religious Society of Friends (commonly known as Quakers). Neither of these programs, however, focuses on building interdisciplinary family health teams.

A new PHC training program at the University of Toronto has recently been awarded a substantial grant from the Canadian International Development Agency to address the specific needs of state, regional, and municipal PHC managers in northern Brazil, focusing on their specific roles as facilitators and enablers. The program will be designed using a strategy similar to the PHC team program.

A second program has been granted seed funding to build relations with the Ministry of Health of Chile; the goal will be to develop a 3-country initiative (ie, Bolivia, Canada, and Chile) using the train-the-trainer (multiplier) model, with the participation of Chilean "monitors" who are graduates of the University of Toronto program.

Conclusion

The implementation of a team-training program for PHC professionals over a 12-year period demonstrated the need for a curriculum grounded in the learners' direct experiences in the field; their own needs to function as a PHC team; and the needs of the communities they serve. It has also been shown that a solid commitment to PHC by the government of the program participants is central to the sustainability of the reform. 🌿

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Competing interests

None declared

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References

- World Health Organization, World Organization of Family Doctors. Making medical practice and education more relevant to people's needs: the contribution of the family doctor. In: *WHO/WONCA 1994 conference: the contribution of the family doctor*. London, ON; Joint WHO/Wonca Conference; 1994. Available from: <http://libdoc.who.int/hq/1995/55633.pdf>. Accessed 2009 Apr 3.
- Mendes VE. *A atenção primária à saúde no SUS*. Fortaleza, Brazil: Escola de Saúde Pública do Ceará; 2002.
- World Health Organization. *Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978*. Geneva, Switzerland: World Health Organization; 1978. Available from: www.who.int/hpr/NPH/docs/declaration_almaata.pdf. Accessed 2009 Apr 3.
- Tejada de Rivero DA. Alma-Ata revisited. *Perspect Health* 2003;8(2):1-6.
- Dussault G. Les déterminants de l'efficacité de la multidisciplinarité. *Le Gérontophile* 1990;12(2):3-6.
- Faulkner Schofield R, Amodeo M. Interdisciplinary teams in health care and human services settings: are they effective? *Health Soc Work* 1999;24(3):203-19.
- Sicotte C, D'Amour D, Moreault MP. Interdisciplinary collaboration within Quebec Community Health Care Centres. *Soc Sci Med* 2002;55(6):991-1003.
- Gillam S. Is the declaration of Alma Ata still relevant to primary health care? *BMJ* 2008;336(7643):536-8.
- D'Amour D. *Structuration de la collaboration interprofessionnelle dans les services de santé de première ligne au Québec*. Montreal, QC: University of Montreal; 1997.
- Ferrada-Videla M. *Le processus de collaboration interprofessionnelle à l'égard d'enfant à risque de négligence et de leurs familles*. Montreal, QC: University of Montreal; 2002.

EDITOR'S KEY POINTS

- Primary health care (PHC) teams need to become a reality. Without existing job opportunities involving work in health care teams, students quickly lose interest in team training, as they do not see its relevance.
- This 5-module program was successful in training large numbers of interdisciplinary PHC teams using a train-the-trainer model, attracting participants, and integrating the government strategies of Brazil.
- As this program focused on team projects, it helped promote interdisciplinary practice in primary care and provided participants with the necessary skills to function in PHC teams.

POINTS DE REPÈRE DU RÉDACTEUR

- Il importe de créer des équipes de soins primaires (SP). En absence de réelles perspectives d'emploi au sein d'équipes de soins de santé, les étudiants se désintéressent rapidement de ce type de formation puisqu'ils n'en voient pas la pertinence.
- Ce programme en 5 modules a réussi à former un grand nombre d'équipes interdisciplinaires en SP en utilisant un modèle de «formation de formateurs», en attirant des participants et en intégrant les stratégies du gouvernement brésilien.
- Étant centré sur des projets en équipe, le programme a favorisé le travail interdisciplinaire dans les SP et a conféré aux participants les habiletés requises pour fonctionner dans des équipes de SP.

- Machado de Souza H. *Monitoramento da implantação e funcionamento das equipes de Saúde da Família. No Brasil 2001-2002*. Brasília: Diretora do Departamento de Atenção Básica; 2003.
- Ministerio de Salud de Chile. *Evaluación programa de mejoramiento de la atención en el nivel primario de salud 2000-2001*. Santiago, Chile: MINSAL, DIVAP, Departamento de Gestión; 2002.
- Talbot YL, Wagner H, Rosser W, Drehmer V, Paiva JG, Barbosa A, et al. Aperfeiçoamento da prática em saúde da família. *Revista da Saude da Família de Contagem* 2000;1:13-7.
- Howkins E, Allison A. Shared learning for primary health care teams: a success story. *Nurse Educ Today* 1997;17(3):225-31.
- Talbot Y, Batty H, Rosser WW. Five Weekend National Fellowship Program. Program for faculty development. *Can Fam Physician* 1997;43:2151-7.
- Schön DA. *Educating the reflective practitioner: toward a new design for teaching and learning in the professions*. San Francisco, CA: Jossey-Bass, Inc; 1987.
- Shapiro J, Talbot Y. Applying the concept of the reflective practitioner to understanding and teaching family medicine. *Fam Med* 1991;23(6):450-6.
- Hammick M, Freeth D, Koppel I, Reeves S, Barr H. A best evidence systematic review of interprofessional education: BEME Guide no. 9. *Med Teach* 2007;29(8):735-51.
- Freeth D, Hammick M, Koppel I, Reeves S, Barr H. *A critical review of evaluations of interprofessional education. Occasional paper no. 2. October 2002*. London, Engl: Higher Education Academy; 2002. Available from: www.health.heacademy.ac.uk/publications/occasionalpaper/occasionalpaper02.pdf. Accessed 2009 Apr 3.
- Takeda SP, Flores R, Giacomazzi MC, Lenz ML, Devinar Perico LA. Em busca de melhores resultados em saúde. A experiência do Serviço de Saúde Comunitário do Grupo Conceição. *Revista Brasileira de Saúde da Família* 2007;1:66-71. Available from: http://bvsm.s.saude.gov.br/bvsm/periodicos/saudefamilia/revista_saude_familia14.pdf. Accessed 2009 Apr 3.
- Schutz WC. *FIRO. A three-dimensional theory of interpersonal behavior*. New York, NY: Holt, Rinehart & Winston; 1958.
- Sant'Ana AM, Rosser WW, Talbot Y. Five years of family health care in São José. *Fam Pract* 2002;19(4):410-5.
- Broers T, Hodgetts G, Batic-Mujanovic O, Petrovic V, Hasanagic M, Godwin M. Prevalence of mental and social disorders in adults attending primary care centers in Bosnia and Herzegovina. *Croat Med J* 2006;47(3):478-84.