Family medicine around the world: overview by region

The Besrour Papers: a series on the state of family medicine in the world

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Abstract

Objective To demonstrate how family medicine has been recognized and integrated into primary health care systems in contrasting contexts around the world and to provide an overview of how family physicians are trained and certified.

Composition of the committee Since 2012, the College of Family Physicians of Canada has hosted the Besrour Conferences to reflect on its role in advancing the discipline of family medicine globally. The Besrour Papers Working Group, which was struck at the 2013 conference, was tasked with developing a series of papers to highlight the key issues, lessons learned, and outcomes emerging from the various activities of the Besrour collaboration. The working group comprised members of various academic departments of family medicine in Canada and abroad who attended the conferences.

Methods An initial search was conducted in PubMed using a family medicine hedge of MeSH terms, text words, and family medicine journals, combined with text words and terms representing low- and middle-income countries and the concept of family medicine training programs. A second search was completed using only family medicine terms in the CAB Direct and World Bank databases. Subsequent PubMed searches were conducted to identify articles about specific conditions or services based on suggestions from the authors of the articles selected from the second search. Additional articles were identified through reference lists of key articles and through Google searches. We then attempted to verify and augment the information through colleagues and partners.

Report The scope of family medicine and the nature of family medicine training vary considerably worldwide. Challenges include limited capacity, incomplete understanding of roles, and variability of standards and recognition. Opportunities for advancement might include technology, collaboration, changes in pedagogy, flexible training methods, and system-wide support.

EDITOR'S KEY POINTS

- This article describes how family medicine has been recognized and integrated into primary health care systems in contrasting contexts worldwide. It also examines how family physicians are trained and certified, highlighting the factors that support and inhibit the development of family medicine.
- This broad overview can be useful as regions and countries seek to learn lessons from peers, rather than relying simply on trial and error in family medicine development. Understanding these issues is important as the Besrour Centre and its partners begin new collaborations to promote family medicine.

POINTS DE REPÈRE DU RÉDACTEUR

- Cet article décrit la reconnaissance de la médecine familiale et son intégration dans les systèmes de soins primaires au sein de contextes très différents à travers le monde. On y examine aussi la formation et la certification des médecins de famille, en insistant sur les facteurs qui favorisent et freinent le développement de la médecine familiale.
- Ce vaste aperçu peut se révéler utile pour les régions et les pays qui cherchent à tirer des leçons de leurs pairs plutôt que de se fier uniquement à l'apprentissage par l'erreur dans le développement de la médecine familiale. Il importe de comprendre ces enjeux au moment où le Centre Besrour et ses partenaires amorcent de nouvelles collaborations pour promouvoir la médecine familiale.

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La médecine familiale dans le monde : aperçu selon la région

Les documents Besrour : une série sur l'état de la médecine familiale dans le monde

Résumé

Objectif Démontrer comment la médecine familiale a été reconnue et intégrée dans les systèmes de soins primaires au

sein de contextes très différents à travers le monde et présenter un aperçu de la formation et de la certification des médecins de famille.

Composition du comité Depuis 2012, le Collège des médecins de famille du Canada organise les Conférences Besrour dans le but de réfléchir à son rôle dans l'avancement de la discipline de médecine familiale à l'échelle mondiale. Le Groupe de travail sur les documents Besrour a été formé lors de la conférence de 2013 et a reçu pour mandat d'élaborer une série de documents mettant en valeur les principaux enjeux, les leçons apprises et les résultats produits dans diverses activités de la collaboration Besrour. Le groupe de travail comptait des membres de divers départements universitaires de médecine familiale au Canada et à l'étranger qui ont participé aux conférences.

Méthodes Une recherche initiale a été effectuée dans PubMed à l'aide de descripteurs MeSH axés sur la médecine familiale, de mots clés et de revues spécialisées en médecine familiale, combinés à des mots clés et des termes représentant des pays à faible et moyen revenu et le concept des programmes de formation en médecine familiale. Nous avons procédé à une deuxième recension dans les bases de données de CAB Direct et de la Banque mondiale au moyen de termes en médecine familiale seulement. Des recherches subséquentes ont été faites pour repérer des articles sur des conditions ou des services spécifiques en se fondant sur les suggestions des auteurs des articles sélectionnés à partir de la deuxième recension. D'autres articles ont été trouvés dans les listes de références d'articles clés et au moyen de recherches sur Google. Nous avons ensuite tenté de vérifier et de compléter les renseignements en consultant des collègues et des partenaires.

Rapport La portée de la médecine familiale et la nature de la formation dans cette discipline varient grandement dans le monde. Parmi les difficultés figurent les capacités limitées, une compréhension incomplète des rôles et la variabilité des normes et de la reconnaissance. La technologie, la collaboration, des changements dans la pédagogie, des méthodes de formation flexibles et un soutien de l'ensemble des systèmes représentent des possibilités de faire progresser la spécialité.

To enhance collaborative work at the Besrour Centre, we describe how family medicine worldwide has been recognized and integrated into primary health care systems in contrasting contexts and provide an overview of how family physicians are trained and certified, highlighting the factors that support and inhibit the development of family medicine. Regional analysis illustrates concepts within and between countries and regions in broad brushstrokes, and highlights current challenges and opportunities for the discipline. Fortunately, family medicine is in a dynamic state of rapid development in many regions. Therefore, this information might be incomplete. Dr Parks and colleagues of the American Academy of Family Physicians and the Robert Graham Center conducted a comprehensive survey and developed a map of global family medicine in 2013.[1] We are creating an interactive database to describe family medicine and training in individual countries to aid clinicians, educators, and researchers at **www.familymedicine.ca/global**. We invite readers to add information about what is happening in their countries.

Composition of the committee

Since 2012, the Besrour Centre of the College of Family Physicians of Canada has hosted the Besrour Conferences to reflect on its role in advancing the discipline of family medicine globally. The Besrour Papers Working Group, which was struck at the 2013 conference, was tasked with developing a series of papers to highlight the key issues, lessons learned, and outcomes emerging from the various activities of the Besrour collaboration. The working group comprised members of various academic departments of family medicine in Canada and abroad who attended the conferences.

Methods

An initial search was conducted in PubMed, with the assistance of the College of Family Physicians of Canada librarian, using a family medicine hedge (ie, filter) consisting of MeSH terms, text words, and family medicine journals, combined with text words and terms representing low- and middle-income countries and the concept of family medicine training programs. A second search was completed using only family medicine terms in the CAB Direct (CAB Abstracts and Global Health) and World Bank databases. Subsequent PubMed searches were conducted to identify additional articles about specific conditions or services based on suggestions from the authors of the articles selected from the second search. Additional articles were identified through the reference lists of key articles and through Google searches, after which we attempted to verify and augment the information we found with colleagues and partners.

Report

North America, Western Europe, and Oceania: challenges to enhancing quality and accessibility of care

System: In each of the high-income countries in these regions, some form of universal health care exists involving public funds along with private insurance, except for in the United States (US). Primary care physicians comprise almost half of all physicians in Australia,

Canada, and France, but comprise closer to 10% of physicians in Greece.[2]

Role and history of family medicine: Family medicine was established in Canada and Britain in the 1960s. In the US in 1969, family medicine was established as a specialty distinct from general practice requiring postgraduate training. (In the United Kingdom [UK], Denmark, and the Netherlands, the term *general practitioner* refers to one who has completed postgraduate training in family medicine and works primarily in an outpatient setting, while in other parts of the world the term refers to a medical school graduate who enters clinical practice without further postgraduate training.) Family practice governing bodies in the US and Canada struggle with the need for family medicine to provide "cradle-to-grave" care, including obstetric care. In the US, family doctors work less as gatekeepers than in countries such as the UK and Canada.

Family medicine training: Among Global North countries, Canada has the shortest postgraduate training period (2 years); US programs are 3 years long. Currently, European programs range from 3 years in the UK (after 2 "foundation" years of rotating internships) to more than 5 years in Denmark. Given the desire for generally free movement of labour across borders, there are efforts to standardize qualifications and training of generalist physicians across Europe.

Future—challenges and opportunities: Countries in these regions are increasingly realizing the value of decentralized training for primary care physicians in developing skills and retaining physicians in areas of high need. In Canada, family medicine training has increasingly been established in communities according to a "distributed learning" model, while Australia now promotes a new rural, remote specialty with its own board.[3] Norway has increased retention in the far north of the country by encouraging in-service training in remote areas.[4]

Latin America: microcosm of intradiscipline variability

System: Except for Cuba's exclusively public system, a combination of public and private medicine exists throughout Latin America. The Peruvian Society of Family and Community Medicine expressed concern that Peru's mixed health system, which has multiple insurers and providers and leaves 30% of the population without coverage, does not fulfil the characteristics of primary health care as being the first point of contact, longitudinal, comprehensive, and coordinated.[5] Terminology for the specialty varies; terms used include atención primaria de salud, *primary health care,* and *family and community medicine*. Cuba's well recognized program of primary care is not always identified as family medicine, but mainly as medicina general integral.[6,7]

Role: The role of family medicine and its acceptance as a discipline differs considerably throughout the region. Several challenges to integrating qualified family doctors within health systems persist—in particular, finding appropriate teaching and leadership positions for them. In Paraguay and Bolivia, the few family physicians who are trained are meant to manage health care teams. In Argentina, while *atención primaria de salud* is supported by the government, there seems to be generally little interest among students in pursuing family medicine.

Social accountability has driven development of family medicine in Uruguay. Brazil and Venezuela are moving to team-based models with family physicians as core members. Since the 1990s, roughly 40 000 family health teams were established throughout Brazil, each caring for 1000 households defined by geographic location. They now cover more than 60% of Brazil's population. The training of the physicians leading the teams has been reported to be variable, with less than 15% being led by a trained Brazilian family physician. In response to the shortage of physicians, Brazil has reportedly hired 15 000 physicians trained in Cuba and elsewhere.[8] Roughly 5000 of the country's family health teams currently include a postgraduate-trained family physician, with most including a generalist physician not specifically trained in family medicine.[9]

Family medicine training: Family medicine–specific medical training was introduced incrementally throughout Latin America. As of 2006,

> the list of countries with university-recognized training programs includes Mexico (1971), Argentina (1972), Bolivia (1976), Spain (1978), Venezuela (1979), Dominican Republic (1981), Chile (1982), Columbia (1984), Cuba (1984), Ecuador (1987), Uruguay (1996), and Peru (1997). The number of residency positions varies from 1 to 100 with an average duration of 3 years.[10]

Now it appears that family medicine is present in every country in Latin America except Honduras.

The duration of training varies from 2 years in Venezuela and Brazil (although 3-year programs also exist) to 3 years in most countries, to 4 years in Argentina, Costa Rica, and the Dominican Republic. While in the 1980s and 1990s several countries in Central America were developing North American–style residency training programs, current training models in many countries include a master's degree or continuing medical education for non–postgraduate-trained primary care physicians.

Many challenges exist. For example, Costa Rica's 3-year program—established in 1987 in collaboration with McGill University in Montreal, Que—was dormant for a while, with few and sometimes no residents. It has since been re-established, but several master's degree programs take many more trainees. Family medicine training has existed in Peru since 1989, and more than 250 residents have graduated. There are now between

70 and 90 residency places each year, but there really is no place for the graduates in the health system.

Future: Despite concerns about recognition and compensation in many countries, several shining examples show another way. Brazil, host of the 2016 WONCA (World Organization of Family Doctors) conference, has prioritized family medicine throughout the health system, from mandating increased teaching in primary care at an undergraduate level to influencing policy. Chile has moved from a system of adult and pediatric primary care based on a Spanish model to a more integrated system, and economic incentives have been increased for family doctors to work in the public system.

Sub-Saharan Africa: capacity issues slowing development

System: While drawing general conclusions from a continent as diverse as Africa is challenging, human resource limitations are widespread, with patient-to-physician ratios in some countries upward of 50 000:1. Health systems struggle to provide services, with scarce human resources owing to internal migrations of health professionals from rural to urban areas and public to more lucrative private practices, and external migrations to countries with better pay and working conditions. Investment in other cadres of health care workers, such as clinical officers, while improving access to health services, might result in lower standards of care if these workers are not fully trained and supervised, particularly in rural environments, where more than two-thirds of the population still lives.[11]

Role: As Raymond Downing—a family physician at Moi University in Eldoret, Kenya—stated,

> First contact care and "gate-keeping," for example, is not a common characteristic of African family medicine; this is often done by nurses or physician assistant–level providers. Longitudinal care is very difficult where chronic disease is uncommon, and the majority of patients come for acute episodic care. Comprehensive care is a goal, but African family physicians do not rank "preventative medicine" as their first priority.[12]

Training: Family medicine is well established in South Africa; postgraduate programs were implemented in 1968 at the University of Pretoria. Community-based training was launched in 1998 and is now available at all 8 medical schools. In West Africa, Nigeria provided family medicine training in church hospitals in the early 1980s and later in government hospitals. A few regions now have independent part-time diploma programs for 1 weekend per month for 18 months, with lectures, practicums, and demonstrations. Moi University in Kenya established a family medicine training program in 2005, with 4 additional programs beginning in the past 3 years. John Ross, a family doctor at Memorial University of Newfoundland in St John's, helped initiate a 4-year rural program in community medicine in Uganda in 1988 with a grant from the Canadian International Development Agency; this program evolved into a family medicine program at Makerere University in 2005. Family medicine programs are now operating, in order of inception, in South Africa, Nigeria, Uganda, the Democratic Republic of the Congo, Sudan, Ghana, Tanzania, Kenya, Lesotho, and Botswana, and most recently in Somaliland, Ethiopia, Mali, and Malawi.

Key stakeholders can sustain or sink the development of a program. Support needs to be context dependent. While in a few countries, such as Nigeria, Kenya, Ethiopia, and Ghana, it appears that decision makers find value in family medicine, in several others, support for its development is less obvious. Changes at the national ministry of health in Rwanda resulted in cancellation of the postgraduate family medicine training program that had existed from 2008 to 2011, which graduated 9 family doctors in 2 cohorts. Until recently, Aga Khan University in Dar es Salaam, Tanzania, which was established in 2004, struggled with few rural training opportunities; lack of governmental recognition and support led to migration of many trainees to Kenya.

Scaling up training might be challenging because there is a lack of local qualified teachers. Some programs have addressed this challenge with innovative approaches. For example, Gezira University in central Sudan is developing a 1-year online-module diploma and a 2-year master of science degree in family medicine and is planning to enrol more than 100 students per cycle. Addis Ababa University in Ethiopia is developing a residency for about 6 residents per year with the support of the University of Toronto in Ontario and the University of Wisconsin in Madison. A master's degree program in Mali is being implemented in collaboration with the University of Sherbrooke in Quebec. South-South partnerships, such as Primafamed, the East Africa Family Medicine Initiative, and WONCA Africa, represent new hope.[13] At the 2008 Primafamed conference in Kampala, Uganda, the *African Journal of Primary Health Care and Family Medicine* was launched.[14]

Middle East and North Africa: overcoming system fragmentation

System and role: Health systems in countries in the Middle East and North Africa range from those historically reliant on a well developed, for-profit private sector (eg, Lebanon) to those that are government-run, are publicly funded, and comprehensively cover the population alongside a growing private sector (eg, Jordan, Oman, Saudi Arabia, Israel). Others are more fragmented, such as that of Palestine, which has 4 main providers of health services—the ministry of health; the United Nations Relief and Works Agency, which manages refugee care; non-governmental organizations; and the private sector, all of which often compete for

resources. Finally, there are underdeveloped health systems (eg, Yemen), with poor coverage in the context of high poverty rates and poor health indicators. The translation of the concept of primary health care (which has been universally embraced) into primary health care–oriented health systems and family physician training programs is therefore contextual.

Training: As in other regions, family medicine programs in the Middle East and North Africa were established after the adoption of the Declaration of Alma Ata in 1978. Lebanon, Bahrain, and Israel were among the first countries to develop family medicine residency programs. Other postgraduate programs were established in the 1980s (Kuwait, Jordan, Turkey), in the 1990s (Qatar, United Arab Emirates, Oman, Saudi Arabia), in the 2000s (Iran), and more recently in 2010 (Palestine) and 2011 (Tunisia).[15] A 2011 survey of family medicine residency programs in Arab countries found 31 programs graduating only about 182 residents per year. The study noted the low ratio of family physicians to the population in most Arab countries and a varied scope of practice among practising physicians.[16]

Future: Challenges related to training in the region include an emphasis on hospital-based training and the limited number of residency spots compared with the requirement for family medicine specialty skills, together with limited continuing professional development and few research opportunities. Deans of Francophone medical schools in North Africa and elsewhere are now considering promotion of family medicine as it relates to social accountability.

Russia and Central and Eastern Europe: struggle for acceptance and recognition

System: Since the collapse of the communist bloc, the countries of Eastern Europe have witnessed a radical transformation in the way primary care is delivered. Once under the purview of large, impersonal "polyclinics," which assembled non–family physician specialists to deliver first-contact care, primary care clinics have now been privatized and are often led by individual physicians, although not always by family physicians. For instance, in the Czech Republic, Slovakia, and Slovenia, gynecologists and pediatricians are considered primary care physicians.[17] Other countries train family physicians for children or childbearing women separately from those for general adult care. Nonetheless, all countries in this region have discipline-specific associations and conferences, and at least half have peer-reviewed journals on academic family medicine.

Role: Although these challenges are not unique, what is notable for the region is the very decentralized primary care sector, which often lacks a gatekeeper role and lacks the team-based care that is the trend in other regions. Perhaps in relation to this atomization, another common characteristic of family medicine in this region is an ongoing struggle for acceptance and recognition. Of the universities with departments of family medicine, only a few of these departments are led by general practitioners or family doctors.[17,18]

Training: Training programs vary from 3 to 5 years. Estonia and Slovenia are among the countries that have the most advanced programs as well as governmental support.

Future: Despite its lack of historical roots, family medicine has official support and bodies to govern it, giving it a relative position of strength. There is a general recognition that reform needs to be centred on quality improvement, and needs to influence neighbouring regions where family medicine is not yet recognized as a separate academic discipline, such as parts of Southern Europe.[19]

Asia: toward coordinated change

System, role, and training: Most people in Asia live in rural areas; various ethnic groups might have poor access to health care and this might be an impetus for establishing primary care.

Multiple routes to practice include part-time or full-time study, distance or in-person training, and various mixtures of urban and rural training. Many universities have created programs with international partner support (even overseas training, such as in Nepal) or by using curricula from other countries (eg, in Malaysia and Myanmar; Malaysia uses the curriculum of the Royal College of General Practitioners).

Singapore established family medicine training in the 1970s, with a 3-year master's degree and diploma programs. Malaysia has a 4-year full-time master's degree program that includes research and a 2-year diploma program. Thailand implemented a 3-year residency program in 1999. Laos developed provincial community-based training in 2003, while Vietnam began promoting its family medicine residency program in 2002 at Vietnam National University in Hanoi. Tribhuvan University in Nepal began training family medicine residents in 1982 (about 12 per year) partly in Calgary, Alta. Now a national scaled-up version of the program is being implemented at Patan University in Nepal with substantial Canadian support. There are 4 other family medicine training programs running in Nepal.

Future: Before the effect of these programs can be measured and sustained, a "critical mass" of family physicians needs to be trained. A smaller country such as Laos or a region such as Aceh, Indonesia, with governmental support at the highest level and support from outside institutions (eg, the University of Calgary and McMaster University in Hamilton, Ont, respectively), can create programs that suit their specific contexts.

India and China: in opposite directions? Perhaps the greatest challenges are in China and India, which represent more than one-third of the world's population. India has 1 doctor for every 1700 people and most of the 30 000 medical school graduates choose non–family medicine specialties.[20]

The government's position seems to be ambivalent: while there is some support for family medicine graduates in community health centres and subdistrict hospitals, most positions are unfilled, and rather than promoting family medicine, the government favours requiring all postgraduates to complete a year of rural practice.[21]

Although a Diplomate of the National Board in family medicine was established in India in 1983, the 250 000 existing general practitioners have limited access to postgraduate training; there are perhaps only 200 training sites with 700 training posts.[22] The All India Institute of Medical Sciences is establishing programs at 6 similar regional schools, each of which have departments of family and community medicine for undergraduate teaching; they are now developing 3-year residency programs, beginning in Bhopal. The Christian Medical College in Vellore has a distance master's degree program for those in rural areas.

China's "barefoot doctors" program, an inspiration to the Alma Ata declaration, was abolished in 1982. In 2010, only 5.3% of more than 2.3 million physicians were family physicians or family physician assistants. At that time 6 ministries of the Chinese government jointly issued a plan for building team-based primary care led by family physicians, prompting the creation of new models of family medicine training across the country.

A total of 50 000 practising physicians and physician assistants will be selected annually by provincial governments for 1 year (full time) or 2 years (part time) of hospital-based family medicine residency training affiliated with a medical school or university. Before the end of the decade China plans to train hundreds of thousands of new family physicians.[23]

Change is easier to implement in China, with central planning through rapid evolution and collaboration between primary health care and public health. The Ministry of Health in China considers family medicine to be the core of future health care delivery. Although limited residency training and master's degree and diploma programs are beginning to serve India's growing health care needs, cultural and political considerations might preclude similar centralized support and prioritization.

Conclusion

The scope of family medicine and the nature of family medicine training vary considerably worldwide. Lack of capacity, lack of understanding of the discipline's role, and variability of standards and recognition can represent challenges. New technologies, collaborations, changes in pedagogy, variable methods of training, and system-wide support might represent opportunities for advancement of the discipline and of population health. We might ask whether regions or countries can learn from the experience of their peers or whether the development of family medicine is inevitably one of trial and error, with training and end products tailored to fit the needs of each context. Understanding these issues is important, as the Besrour Centre and its partners are engaging in exciting new collaborations to promote our discipline globally.

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Contributors

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Competing interests

None declared

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