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NorFaM -- training residents for rural practice

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[résumé]

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Abstract

Memorial University of Newfoundland has been training family physicians in Happy Vally - Goose Bay, Labrador, for more than 10 years and, in 1992, expanded and formalized the training into the Northern Family Medicine Education Program (NorFaM), a 28-week rotation program for residents interested in rural medicine. This paper describes the NorFaM program in detail, presents its strengths and weaknesses, and briefly analyses the geographic distribution of its graduates.

Résumé

L'Université Memorial de Terre-Neuve forme des médecins de famille à Happy Vally - Goose Bay, au Labrador, depuis plus de 10 ans et, en 1992, elle a étendu et structuré la formation pour

lancer le Programme de formation en médecine familiale du Nord (NorFaM), rotation de 28 semaines offerte aux résidents intéressés à la médecine rurale. Cette communication décrit en détail le programme NorFaM, en présente les forces et les faiblesses et analyse brièvement la distribution géographique des diplômés.

The shortage of physicians in rural areas is a long-standing problem worldwide.[1-4] Most physicians are trained in urban settings and, upon graduation, tend to set up practice in urban areas.[5] This maldistribution is evident in Canada. Only 11.3% of Canada's physicians practise in rural settings, despite the fact that 23.5% of the country's population lives in rural communities with a population of fewer than 10 000.[6] In the Atlantic provinces, 49.1% of the population lives in rural areas, but only 23.4% of full-time physicians are in rural practice.[6]

Inadequate training has been suggested as a significant contributing factor to the maldistribution of physicians.[7,8] Previous studies have identified clearly the strong connection between the setting in which physicians receive their training and their future practice locations.[9,10] Family practice residents who train in rural settings comment on the amount of hands-on time in rural hospitals in contrast to the "limited exposure available to family medicine residents at large teaching centres where they may rank at the bottom of the physician hierarchy."[11] In a recent study of rural physicians in British Columbia,12 family practice graduates who trained in a rural setting rated themselves better prepared for rural family practice than urban-trained rural physicians.[12] Such studies support the growing perception that urban training in a highly specialized, tertiary care setting does not prepare physicians adequately for rural practice.

The Northern Family Medicine Education Program (NorFaM) was developed in 1992 and 1993 through consultations with Labrador communities, represented by the Melville Hospital Board of Management and the aboriginal organizations of the Innu Nation and the Labrador Inuit Health Commission. Its mission is to train residents in family medicine to be competent rural or northern physicians and to encourage them to choose rural or northern practice.

The NorFaM program is based at Melville Hospital in Happy Valley - Goose Bay, Labrador, population 8000. The hospital has 37 beds and serves a catchment area of 15 000. Five of the 11 family physicians based at the hospital have clinical faculty positions with Memorial University of Newfoundland. There are 3 specialists on staff: a general surgeon, an obstetrician and an anesthesiologist.

General objectives of the NorFaM program

The primary objective is to ensure that all trainees incorporate into their daily practices the 4 principles of family medicine:[13]

- Family physicians are good clinicians.
- Family medicine is community based.
- Family physicians are a resource to a defined population.
- The doctor-patient relationship is central to the role of family physicians.

Four additional objectives are targeted specifically at the unique demands of rural and northern practice.

To acquire greater knowledge and skills in surgery, obstetrics, emergency medicine, intensive care and medical evacuation. With less access to specialist services than their urban counterparts, rural physicians must be competent to handle situations that an urban doctor would normally refer to a specialist.[14] Kamien and Buttfield[8] commented that undertrained graduates attempting rural practice "live in a constant state of apprehension, get easily scared, turn tail and leave." The NorFaM program is designed to provide residents with the knowledge and skills required to feel comfortable working with limited or no specialist support; this is accomplished by allowing them to work at Melville Hospital alongside rural doctors and to visit isolated outposts on a regular basis.

To develop an understanding of the sociocultural and economic characteristics of rural and northern communities and their relations to health. The social, cultural and economic dynamics of any community are unique, and they are well recognized as significant determinants of the health of the community.15 Labrador comprises a culturally, socially and economically diverse group of communities, including the isolated Inuit, Innu and Métis coastal communities with populations of fewer than 1000 people and the town of Happy Valley - Goose Bay, where NorFaM residents are based, at Melville Hospital. Each resident is assigned to a coastal Labrador community, which s/he visits for 1-week periods 4 or 5 times during the 28-week stay in Happy Valley - Goose Bay. During these visits to the coastal communities, each resident works with the nurse practitioner and reviews his or her work over the phone with a faculty member at the end of each day or on an urgent basis if necessary. While in the coastal communities, residents have the opportunity to visit their patients at home and to discuss health concerns with community leaders. Residents are encouraged to develop an understanding of the communities and the impact of sociocultural and economic factors on community and individual health.

To learn the practice of preventive and community medicine. With the publication of Lalonde's A New Perspective on the Health of Canadians[16] in 1974, much preventive medicine has focused on individual lifestyles. We have since come to understand that what have been perceived as individual choices are strongly influenced by family, community and society as a whole.[17] Smoking is an example of a behaviour that is very sharply graded by socioeconomic class and social conditioning. Family and community medicine are integral to the practice of preventive medicine at the individual level. Residents learn this principle through the care of their patients in clinics and in hospital.

To understand the role of allied health care professionals, in particular nurse practitioners and midwives, in communities with no resident physician. In remote northern Canadian communities, nurse practitioners, community health nurses and midwives provide much of the primary care. NorFaM residents have the opportunity to work side by side with other health care professionals and to gain an appreciation of the challenges and the benefits of this team work.

Program structure

During their first year, most Memorial University family medicine residents take 12 weeks of internal medicine, 8 weeks of obstetrics and gynecology, 8 weeks of pediatrics, 8 weeks of family medicine, 8 weeks of surgery, 4 weeks of geriatrics and palliative care, and 4 weeks of vacation. The first-year residents who have opted to enter the NorFaM program take 4 weeks of neonatology, 12 weeks of an elective, 4 weeks of vacation and the 28-week NorFaM program. Psychiatry is taught during the family medicine block and the NorFaM rotation.

Orientation

On arrival at Melville Hospital, all residents are given information about the goals and objectives of the NorFaM program and receive copies of evaluation forms and other relevant documents as part of the orientation process. They have 3 days of orientation, which includes a review of advanced cardiac life support and neonatal resuscitation, a brief introduction to aeromedical evacuation and a general hospital orientation.

Academic teaching

During the 28-week NorFaM program, 3 hours a day are set aside for formal teaching. The teaching includes tutorials and inpatient rounds in the morning and case discussions at the end of the day. In addition, "in-corridor" consultations occur as needed throughout the day. Each Wednesday, 1 hour is set aside for teleconference seminars with consultants and another hour for educational sessions by teleconference with the other residents and faculty in their teaching locations at St. John's and Whitbourne. Residents are also involved with the rest of the medical and other health care professional staff at the hospital during grand rounds, which are held for 1 hour each week. Multidisciplinary rounds are held twice weekly with the nurse team leader, the nurse counsellor, the social worker, the home care nurse, the cancer nurse, the dietician, the pharmacist, an Inuit liaison person and physicians. Journal clubs are held once a month at the home of a faculty member. These gatherings allow for socializing, learning about critical appraisal and gaining experience in organizing CME. Teaching is conducted primarily by the rural family physician faculty, with contributions from all the health care workers in the multidisciplinary team.

An academic project is a mandatory component of the program. The topic can be selected from a broad range of choices, and the project must demonstrate a significant level of academic rigour.

The project may take the form of clinical or nonclinical research, or it may be a literature review. Residents must present their projects before they complete the program.

Clinical experience

The residents are given graded responsibilities by faculty. They have a provisional licence and are permitted to write prescriptions for outpatients. Initially, all outpatient cases are reviewed with a faculty member daily. After mid-term, if their evaluations have been satisfactory, residents discuss cases with a faculty member only when they feel they need advice; however, each chart is still reviewed and signed by a faculty person. At the beginning of the rotation, each resident works with a faculty physician in the emergency department. The goal is to increase the residents' competence and comfort level while working in a hospital emergency setting, so that at the end of their rotation they will have demonstrated the clinical and organizational ability to survive in a busy emergency clinic. Each week, a faculty member has responsibility for inpatient rounds with the residents, reviewing all inpatient cases with them. This provides supervision for the residents and the opportunity for them to share their experiences with one another.

Each of the residents travels 4 or 5 times to one of the remote communities in coastal Labrador to experience community family medicine. Each week-long visit gives them the opportunity to see their patients in their family and community settings, which enhances the continuity of care. Residents work with the community health nurses, community health representatives and social workers. These visits provide a community-based experience, and they reinforce a multidisciplinary approach to health care. Back-up and supervision are provided by a faculty member by telephone.

Evaluation

A "bricks and bouquets" session is held for 1 hour each month to permit an informal exchange between the residents and the faculty. There is also a formal interim evaluation at mid-term. Both of these evaluation methods allow any adjustments that might need to be made to meet the educational needs of the residents. At the end of the rotation there is a summation or formal evaluation of each resident by the faculty, of each faculty member by the residents and of the program by each resident. The evaluation process encourages residents to continually evaluate and improve their performance.

Workshops

The NorFaM program is designed to accommodate 2 groups of 3 residents per year, with a 4-week overlap in the middle of the academic year. The overlap allows all of the residents to be present for the workshop component of the program. The workshops include training in cultural awareness (2 days), medical evacuation (2 days), management of trauma (2½ days), addictions counselling (3 days) and wilderness camping (3 days). The wilderness experience gives the

residents a taste of the joys and hardships of living in Labrador, while their visits to coastal communities, described earlier, afford them an appreciation of the living conditions of some aboriginal people who still live a traditional lifestyle. The camping experience also gives the residents an opportunity to practise the wilderness survival skills taught in the medical evacuation seminar. The workshops are adapted for rural and northern conditions. For example, the field management of trauma is important for rural and northern physicians, given that they may be the first to respond in an emergency. The "golden hour" in the management of trauma in an urban setting does not often apply, because of the distance and time involved in transporting the patient to the appropriate facility. The workshops are designed to promote a multidisciplinary approach. Nurses and other health care professionals are involved in the workshops and act out their roles during the practical sessions.

Strengths and weaknesses of the program

It is too soon to determine the success of the program in meeting its mission of encouraging the trainees to work in rural and northern Canada, but the initial results are encouraging. Only 14 residents have completed the program thus far, but 11 of those graduates are practising, 10 (91%) of them in rural practices. Six of the 10 now in rural practice returned to work in Labrador, 3 for long-term practice and the other 3 for locum work. The 3 residents not yet in practice have undertaken further postgraduate training: a third year of emergency medicine for one, a third year of obstetrics and general surgery for another, and a residency program in community medicine for the third. One graduate is now in urban practice.

The strengths of the NorFaM program are exemplified by the positive evaluations of the program by the residents. In the final evaluation, completed by the residents at the end of the program, 12 (86%) of the 14 graduates have evaluated the program as excellent overall. All of the residents have felt that the NorFaM experience encouraged them to work in rural practice.

The NorFaM program was developed with the suport of the communities and continues to receive that support. It is based in the communities, in that the residents follow their patients to those communities for at least part of the rotation. The residents are also involved in some public health during their work with the community health nurses and community health representatives. They practise health promotion at the individual, family and community levels.

The main weakness of NorFaM is the need for further training. The residents need more experience in surgical procedures and complicated deliveries, they need opportunities to perform regional anesthetic blocks, and they need formal teaching and experience in community development. It is our opinion that the NorFaM program can be enhanced by extending the duration of the residency, with blocks of time set aside for the acquisition of additional skills.

Future directions

Health care is only one of the determinants of health; others, such as education, level of income, social status, social support, employment, the physical environment, childhood development and lifestyle, are keys to achieving better health for the community.[18] Community development has the potential to improve the overall health within communities. Therefore, we recommend that community-development strategies be taught in NorFaM. Residents will thus be able to participate in community development within the communities for which they provide medical services. For example, residents could advise community leaders about the high prevalence of diabetes mellitus and the relation of this disease to changes in lifestyle. They could help community groups seeking funding for culturally appropriate exercise programs and recreational facilities, and they could promote the modification of school curricula to include adequate content on diabetes, diet and exercise.

Residents are more likely to learn the appropriate skills in surgery, obstetrics and gynecology, and anesthesia in a rural setting while working with the relevant specialists and community family physicians. This training is best delivered in an integrated fashion with mentorship from the specialists and community family physicians.

The program could be improved and could become more cost-effective if there were further horizontal integration of the teaching modules. For example, ambulance attendants, pilots, nurses and physicians could work together to deliver the medical evacuation workshop to combined classes of trainees in all of these professions. In other sections where there is common interest and where team- work is necessary, workshops could be delivered conjointly. During case simulations, each of the health care professionals could practise his or her individual and team member roles.

Conclusions

The NorFaM program is a unique program for rural and northern family medicine in Canada. It provides trainees with an intense learning experience in a setting that approximates their future practice environment. As of the date of writing, about 90% of the graduates who are in practice are working in rural areas. Our experience suggests that a 3-year rural and northern family medicine program is needed to allow adequate time to acquire the range and depth of knowledge and skills to function competently and confidently as a rural or northern family physician. The additional year would provide more time for training in community development, and additional surgical, obstetrics and gynecology, and anesthesia skills. Recognition of the additional year of training by the College of Family Physicians of Canada and through increased financial remuneration from the physician funding agencies would enhance the status and profile of rural medicine. Ultimately, this could provide better training and help to address the difficulty of attracting physicians to rural and northern Canada.

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