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Training for Rural Practice: What is the Core Curriculum?

SUMMARY

The question of postgraduate training for medical practice in rural communities has never been answered to everyone's satisfaction. Is there a core curriculum that would prepare a doctor to start up practice? The answer is no, but there is a better educational model that will foster physician attitudes, behaviour, and skills suitable for small-town practice. This article outlines some of the principles of a curriculum, the experiences required of a resident, and the setting and faculty that will make good small-town medicine happen. It addresses the changing illness and injury patterns of a modern rural community and the effect that these will have on the content of practice in the future. (*Can Fam Physician* 1987; 33:2763–2767.)

RÉSUMÉ

La formation médicale postdoctorale préparant à la pratique en milieu rural est une question qui n'a pas été résolue à la satisfaction de tous les intéressés. Existe-t-il un curriculum qui puisse préparer un médecin à y établir sa pratique ? La réponse est non, mais il existe un meilleur modèle éducationnel favorisant les attitudes, le comportement et les habiletés chez le médecin qui se destine à la pratique en milieu rural. Cet article décrit certains principes d'un curriculum, les expériences requises d'un résident, l'environnement et les ressources facultaires qui stimuleront une pratique adéquate de la médecine en milieu rural. Il aborde l'évolution des différentes maladies et traumatismes que connaît le milieu rural moderne et leur effet sur le contenu de la pratique du futur.

Key words: rural practice, core curriculum, medical education

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MY FIRST NIGHT of practice on call was eventful. I crawled back to bed about 2:00 a.m., having delivered my first baby. Just me, a hard-working mom and dad, and the nurse on the floor. It seemed lonely compared to the obstetrics I had done during my internship. My wife was awake, and we talked of the experience. It was exciting for her also. At three o'clock, the hospital phoned again. Another labouring mother about to deliver. Off the five miles to the hospital. This time a baby was distressed on delivery, and I had to intubate her to aspirate some meconium. Back in bed, barely asleep, and the hospital called yet again; another women in labour. This time it was early labour, and no immediate attention was required.

"Is this general practice?" I asked myself. Because if it is, I'll never survive. I've made a terrible mistake, I should have started that residency in obstetrics. I'd be learning all there was to know, always have back-up available, and I'd be surrounded by obstetrical nurses and resuscitative teams."

I'd finished my internship and been up many nights, but I had never been as exhausted as I was the morning after my first night on call in practice. As the weeks wore into months, however, my experience expanded. A man presented one night with a bellyache and in shock. There was air under his diaghram. We took him to the OR and sutured his perforated duodenal ulcer. I travelled 20 miles to a logging camp to find a young man dead from a falling tree, a "widow maker". I went to his home to tell his pregnant wife and three-year-old daughter that he was dead. I attempted intubation on the roadside and in logging mills on people with severe head injuries and crushed chests and, on one occasion, through a shattered window, started an IV in the internal jugular of a man trapped in his truck while the rescue crew used their "jaws of life" and acetylene torches to cut him out. The five units of saline did give us the time to get to the OR and repair his ruptured liver.

Does that experience sound typical of rural practice? Sound a bit sensational? That was the sensational side of my experience with medical life in a small western town of 8000 people, 90 miles from the nearest referral care. We were three doctors, and I had just graduated from a large eastern medical school and a rotating internship.

If we accept the scenario as described and then ask ourselves what would be the core clinical curriculum necessary to give a physician-in-training the skills to function in that environment, we might compile a long list of procedural and technical skills. At the same time, any attempt at list making will never satisfy every clinician, hospital, community and clinical situation.

If we were to accept curriculum as a list of technical skills, we would fail the test. Learning the real job of practice in a small community is more difficult than learning skills and, at the same time, easier. More difficult because it demands intangible qualities like judgement, risk taking, energy and equanimity; easier because once you have acquired the appropriate attitudes, behaviours and personal awareness, they are the values that are timeless and are with you for ever. Doing for a patient something such as straightening a broken finger is relatively easy. But to choose a course of action, to decide when to act, to take the burden of responsibility for the action and the ongoing after-care, are the weights that one must carry in rural practice.

Principles of Curriculum Model

At the University of British Columbia we have created a curriculum model that has offered a better learning experience for future rural physicians. It is based on certain principles:

Education and training

Education and training are different. Education is concerned with ways of thinking and understanding attitudes; its provision is the responsibility of the university. Training is focused on the acquisition of skills and related information; its provision is the vocational responsibility of the medical school.

Experiential learning

Experiential learning is the optimum method for the family physician. Vocational training will provide the best learning opportunities if the experience is tempered by a mentorship, a structured clinical curriculum, and teaching resources such as a library, audiovisual equipment, computers, and a technically sound faculty.

The learning environment

The learning environment must typify the circumstances of the physician's-in-training future professional work. Therefore, training in a tertiary hospital is not the appropriate setting for the major part of graduate training of family doctors.

Self-teaching

Self-teaching is a required ability for the family doctor. There is no educational end point in becoming an effective physician. The responsibility for learning lies with the doctor. It is a career commitment.

Competence

The competence of a family physician can only be acheived after an optimum time of continuous, personal, patient care in an environment reflecting that of the physician's future work.

Mentorship

A mentorship is the appropriate educational model for graduate medical training. It implies a relationship where there is an emotional attachment and the mentor cares about the future of the learner. It has been shown that this closeness to the mentor, as well as to the family of the mentor, has a positive effect on learning.

Personal needs

The learner has a personal need to express his or her own uniqueness as a physician. This implies that the mentorship is not a cloning role, but one of sharing those pieces of the mentor's self that will be of value to the learner.

The learner needs to expand her or his opportunities for personal and professional growth in the subtlies of interpersonal relationships. As a physician, the risks and joys of being "close" to a patient, a colleague, and a loved one, often all at the same time, need to be experienced in the safety of the mentorship.

The physician-in-training must learn to develop tolerance of stress, ambiguity, and uncertainty. One of my colleagues said to me as we spoke of the compulsion we seem to carry to do the right thing in our practice, "You do screw up sooner or later." Better to learn in safety what to do when we screw up. The weight of those failings has destroyed many fine physicians through guilt, depression, and substance abuse. Furthermore, what do you do when the right therapy fails despite all your best efforts? That experience also requires a safety net.

The learner needs to experience the responsibility of making clinical decisions, and being accountable for the management of his or her action and its effects; to experience the joy and love of the work; to gain self-confidence in the implementation of new information, and to overcome excessive self-conciousness in the doctor role; to learn the extent of her or his personal resources; and to experience the wonders and stresses of family life, of a network of friends, acquaintances, associates, and business people, and of a population as patients. All of these needs confront our fantasies of being both a doctor and a person to the same people. The fear of this dichotomy is very real for many young physicians considering rural practice. "How can I ever be just myself, with all my imperfections, to people who might also be my patients? How will I ever make friends?"

The learning environment should be the community of the rural family physician where the learner shares the doctor's patients, hospital, office, family, and lifestyle. Everything that is unique and specific about that environment is a piece of the curriculum. All the anguish and ecstasies of the physician must be shared, or at least observed.

Curriculum Experiences

There are educational experiences that should occur within the training time frame. The physician-in-training must receive specific and appropriate clinical feedback from his or her mentor. The unplanned learning experiences still happen in the relative safety of a mentorship. Learning the effective management of time takes considerable patience. The resident will be exposed to the culture of a medical office, a hospital, the doctors and the other health-care personnel of the community, people as patients and their illness belief and behaviour at home with their families, and in the medical setting of the office and the

hospital. Residents must learn the use of their personality in practice. Dr. Peter Newbury, a theologian turned physician, now practising in Hazelton, B.C., holds that when appropriate, at least four expressions of personality should be encouraged. The first of these is an open expression of clinical puzzlement. We need not hide our puzzlement from the patient in an effort to be authoritative. The second is a joy and admiration at a patients' capacity to cope under difficult circumstances. The third is an ability to express genuine non-defensive anger. This form of anger can be a strong statement of caring. The fourth is the open expression of grief.

The curriculum should promote: a willingness to do, to learn, and to try; development of an awareness of community resources and epidemiology; skilful clinical decision making and interaction on the telephone and during housecalls; effective organization of clinical problem-solving and management strategies, such as separating self-limiting problems from life-threatening problems and teasing out the organic, psychological, and social relevance of a patient's problem.

The Content of Rural Practice

The range of clinical problems in smaller communities does not differ drastically from that encountered in an urban practice. One can make a few generalizations about illnesses in a rural community.[1] Rural residents have a higher rate of limited activity resulting from chronic conditions. Two-thirds of motor-vehicle accidents occur in rural areas. The number of home deaths is highest among farm residents. Agriculture (including lumbering and fishing) and mining industries rank high in illness, injury, and fatality rates, and in percentage of days lost from work as a result of illness. Communities of Native people suffer greater numbers of health problems than do non-Native communities.

Rural environmental health problems may be different from those of urban communities. They may arise from such sources as contaminated water and the pollutants from fertilizers, pesticides, solid wastes, and acid rain.

Strange as it seems, the content of any clinical practice does not reflect the curriculum of a medical school. One health-system analyst, who examined schools in 20 countries, concluded that the medical curriculum was *always* out of step with the reality of practice.[2] Therefore, the efforts of Rosser et al.,[3] published while he was at the University of Ottawa, to adapt institutional objectives and curriculum to the reality of practice is commendable. This must happen in a curriculum designed for rural practice.

Clinical Work in the Future

It is also necessary to project the adaptation of medical education into the future. The Flexner reforms of the early 20th century corrected a mismatch between medical education and new knowledge made available by the laboratory sciences. Those reforms are still largely in place, despite their inappropriateness in the face of current medical practice. This change is reflected in the recent publication by our national Ministry of Health and Welfare, *Achieving Health For All: A Framework for Health Promotion*[4] We appear to be entering the age of the ecology of health. "Health ceases to be measurable in terms of illness and death. It becomes a state which individuals and communities alike strive to achieve . . ." This change removes the emphasis from one person, one germ, one disease to the larger scale of the social, economic and cultural realm. Our aging population, chronic conditions, and the environmentally related problems of population settlement, work, play, and war are areas of medical practice where we urgently need training and financial support for the clinical experience.

Contemporary disease patterns are volatile. Although demographic projections can be misleading, they do suggest the following picture: low birth rates, small fragmented families, aging populations, and continuing migrations from developing countries.[5] According to Dr. Frank White of Dalhousie, disease trends in Canada can be predicted.[6] We might expect to witness the following changes:

- the emergence of new infectious diseases, such as AIDS;
- a rising incidence of cancer cases as our population ages;
- a continuing increase in the rate of chronic respiratory diseases;
- a decline in illness and death rates as a result of heart disease;
- a decline in motor-vehicle accidents and related injuries and deaths as a result of better safety measures;
- greater awareness of family violence;
- a greater prevalence and effect of dementia;
- more prominent occupational and environmental health issues;
- a continuing common incidence of iatrogenic disease, with the interventions of modern medical technology.

Role of the Rural Physician

This survey of the content of practice and the projection for the future indicates that the ideal role for the rural doctor would include the elements that follow:

Clinician

As a clinician the rural doctor should deliver competent care of the common illnesses, including severe ones, and injuries to persons of all age groups. His/her health-care services would include obstetrics. He/she would maintain a commitment to care for the people of the community, coordinate medical efforts with activities of other health-care workers, and recognize local environmental, occupational and community health problems. To improve community health, the rural physician should work closely with public health physicians and personnel.

Learner

As a learner the rural physician should take the time to pursue CME that suits her or his learning style and supports the acquisition of new information and skills. The scope of CME may include regional health services, social, educational, cultural, occupational, and environmental changes.

Team Worker

As a team worker, the rural physician should be involved in activities that concern other health-care personnel such as public health nurses, welfare counsellors, church and volunteer groups, probation officers, drug and alcohol counsellors, and the staff of daycare centres. He or she should be an educator of patients, schools, industries and the community. As a researcher, the rural physician has a remarkable opportunity to observe, over time, the natural history of a person, a

family, a community and disease. He or she also has opportunities to case find and to participate in larger multicentred studies, using the practice population as the denominator.[1]

A Curriculum Model

Let us examine briefly the curriculum of the Community Based Residency at the University of British Columbia. (See Table 1.) It by no means achieves the ideals outlined, but it has moved in that direction. It is designed to be a three-year program, the first year meeting licensing requirements in British Columbia, the second year allowing for certification in the College of Family Physicians of Canada, and the third year establishing competency in an area of practical need and personal interest.

At the present, the body of community-based experience lies in the second year of the program. During that year, 60% of the student's working time is committed to the clinical work of the practice and 40% to primary learning experiences. The latter period covers the following elements: daily record-chart reviews of office and/or hospital work (including on-call, home, office, and emergency work; a weekly one-on-one clinical teaching session with the mentor (or a substitute); a planned viewing or audio-visual taping of one hour duration; a weekly seminar, hospital round, and teaching presentation by the resident; a monthly practice audit of the resident's work; practice with self assessment modules; journal club, focusing on appraisal of new information in the literature; a clinical study project (a yearlong examination of an area of clinical interest); a four-week academic study block at the university to complete the formal core curriculum courses of the residency program. These courses cover certain areas of practice in Family Medicine:

The Principles of the Family;
Health Promotion and Illness Prevention
Clinical Therapeutics
Second-year courses
The Scientific Foundations
Personal Care (''Behavior Medicine'')
Care of Chronic Medical Illness
Practice Management

The strength of the second year is the immersion of the resident and his/her family in the total milieu of the community. This experience provides an educational opportunity that is rarely experienced in present medical training systems, but that allows the blending of personal growth and professional development, under the umbrella of a mentorship and within the dynamics of a community culture typical of where the physician-in-training will work. The difficulty that family medicine has confronted for years is the misguided notion propagated by medical schools and specialists (who have provided the bulk of training) that the hospital is the *most* important educational setting. Once we acknowledge that the teaching hospital is a small subculture of the world of illness, we are freed of the constraints that ''specialist training'' has always put on the family doctor. Only those technical skills that apply to our job and that information that helps our practice population need be acquired. As those skills and that information are always changing, an important attribute to be learned by the training physician is *the capacity to learn and relearn*. Today's procedure is tomorrow's lesson in ''the old method''.

Table 1
Curriculum of the Community-Based Residency, University of British Columbia

Content	Time (weeks)		
	Year 1	Year 2	Year 3[a]
In hospital:			
Pediatrics	8	0	
Obstetrics	8	0	
Surgery/emerg	12	0	
Med. diagnosis & management:			
Critical care	8	0	
General ward	4	0	
Community/office:			
Urban	8	0	
Rural	4	39	
Electives	0	8	
Academic block	0	4	
Educational leave	0	1	

a. The third year may be a year of emergency medicine leading to certification; a year of anesthesia; or six-month combinations of two of geriatrics, anesthesia, critical care, obstetrics, and epidemiology.

Difficulties in Implementation

There are major challenges to this concept of core training in family practice. Community faculty, as mentors, take on the responsibility of being educationally sound, clinically astute, and personally aware. The university assumes the job not only of providing clear educational objectives for teacher and learner, but also of facilitating the development of individual faculty members. In our experience, over the past few years, we have failed to nurture these ideals because the medical school has lacked the requisite financial resources and commitment.

Wide geographic separation does promote isolation of the learners from their peers. The closeness of the mentor and the community does not totally compensate for the loss of peer relationships and the peer learning process. Strong professional reaffirmation usually results from that ongoing contact. The attendance at the university for research and resident days, the four-week academic block, and the elective clinical times only partially address the problem of separation.

There are several areas of clinical work in which it is difficult to gain optimal learning experiences. Obstetrical care, for instance, is hard to share. The close bond of the practitioner (the mentor) and the expectant mother makes it difficult for the resident to experience, for her/himself, all the subtlties of that relationship, the pressures of the clinical decisions, and the ex-

citement of the delivery. It takes a strong commitment by the mentor and the patient (and spouse) to share, and by the resident to attend at all times and work to earn the privilege of attending. These principles also apply to other clinical areas, such as gynecology and personal counselling.

Conclusions

In some ways, the critical factor in being a doctor in a smaller community has to do with one's expectations of life and practice. Most family-practice residents enjoy a rotation in a rural practice. Most are pleasantly surprised at the satisfaction they experience and the boost it gives their confidence. Those from small towns and those whose wives were born and raised in rural communities are more likely to return to that setting to raise a family and practice medicine.[7, 8] The rest, despite the positive experience of a rural rotation, choose to stay in the urban setting, as do the majority of Canadians! Thus the foundation of any rural practice core curriculum is the selection of would-be physicians with backgrounds that suit rural life. The next step is to apply the curriculum to the rural setting, using as faculty, appropriate practitioners from those very communities. ◉

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