

A Process for Developing a Rural Training Track

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Background and Objectives: *This article describes the process used by the University of Wisconsin-Madison Family Practice Residency Program to establish its first rural training track (RTT) in Baraboo, Wis. The process includes 1) establishing a core planning group to develop rural site selection criteria with specifications on distance traveled, faculty composition, teaching commitment, rural hospital capabilities, and availability of subspecialty teaching, 2) involvement of the state Area Health Education Center, 3) budget planning, 4) telecommunications plans, including e-mail, library search, and Internet connectivity, 5) creation of a residency curriculum in collaboration with the rural site's faculty and staff, 6) preparing an accreditation document to submit to the Residency Review Committee, and 7) faculty development programs for rural faculty. The program then participates in the National Residency Matching Program with an independent Match number.*

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Rural training tracks (RTTs) in family practice residency programs began in the late 1980s to increase the number of residents selecting rural careers. Several RTT models have been described in the literature.^{1,2}

This article discusses the process used by the University of Wisconsin-Madison Family Practice Residency Program in developing the RTT in Baraboo, Wis, which received provisional accreditation in July 1996 and has two residents now in their second year. The same process was used to establish two other RTTs in the University of Wisconsin's statewide network of residencies and is serving as a guide for four other developing locations. The Wisconsin RTTs are "one-two programs," in which a family practice resident spends most of the first year in the core program on traditional internship rotations and the last 2 years with a rural family practice group in a rural community with a rural hospital. The resident is allowed time away from the rural practice for subspecialty rotations, although some subspecialty training is acquired longitudinally in the rural community, taught by visiting subspecialists.

The rationale behind development of these RTTs is 1) the hypothesis that training residents in rural sites will attract them into rural practice after graduation,

2) the belief that rural training will provide a wider range of clinical experience than urban academic settings, 3) the desire to expose residents to rural pregnancy care taught primarily by family physician role models, 4) the hypothesis that residents in training will better learn technical and problem-solving skills in an area in which on-site specialty backup is not always available, 5) the interest in RTTs expressed by medical students in family medicine interest groups and in applicant interviews, and 6) the willingness of rural family physicians to participate in training. We found support for these assumptions in the literature¹⁻⁴ and among clinical colleagues and residents. A new RTT must meet all the requirements of an accredited residency program. Intense planning was done prior to enrollment of residents. The following are the major issues addressed during the planning process.

Assembling a Planning Group and Defining Site Criteria

A core group of faculty and staff worked for 1 year to develop the RTT design and site selection criteria. The core group included an experienced residency director; a faculty member who trained in a rural site and has experience revamping curricula, developing call systems, and negotiating relationships with local health care systems; and a residency program education coordinator, who has experience in developing documents for the Accreditation Council for Gradu-

ate Medical Education's (ACGME) Residency Review Committee (RRC). Others contributed to the fiscal analysis and gave organizational and political advice to the core group. A \$36,672 grant from the Wisconsin Southwest Area Health Education Center (AHEC) supported the salaries of some of the staff involved in program development.

The planning group met throughout 1993, selected a site in 1994, and submitted an application to the RRC. The RRC made a site visit in 1995 and awarded standard "provisional accreditation" to new programs effective July 1996. Two residents were recruited through the National Residency Matching Program during the 1995–1996 Match.

The following site selection criteria were developed by the planning group.

Rural Site Within 1–1.5 Hours of the Core Program

If the site was less than 30 minutes away, rural physicians might be more inclined to refer complex cases out of the rural community, or patients would self-refer to physicians in the urban area. If the site was too far away, the RTT residents could not travel between locations several times per week for continuity clinic in the PGY-1 year and core program educational conferences or block rotations in the PGY-2 and PGY-3 years. A more distant rural site is possible, but it would delay the development of a continuity practice until the PGY-2 year and might require video conferencing or other technology to help maintain connection with the core program.

The Training Site Should Have at Least Four FTE Family Physicians Committed Long-term to a Single, Well-functioning, Full-service Practice

The rural practice should have enough physicians for the program to survive the loss or turnover of a physician during the start-up time of several years. The group should have a call system that enables residents to see a representative rural physician's lifestyle. The RTT should not be used to rebuild a dysfunctional care system. If the rural practice's priority is basic survival or practice building, the site may not pass the RRC's evaluation and, even if it did, the educational needs of residents would suffer. The family physicians should be engaged in full-service practice that includes maternity care, hospital intensive care, emergency medicine, nursing home care, and community service.

At Least One of the Family Physicians Must Be Willing to Serve as On-site Coordinator and Program Advocate

This position can be shared, if more than one individual wishes to serve.

All On-site Family Physicians Must Be Willing to Teach and Engage in Educational Processes to Improve Teaching Skills

All the family physicians in the practice must agree to work with residents, both during the day and after hours, and to attend faculty development sessions. Our goal was to find or develop role-model physicians who would be able to receive feedback, be enthusiastic about teaching and confident in their skills, but be aware of their limitations. We sought physicians who saw teaching as a way to broaden a career, not to leave practice.

The Rural Hospital Should Be Close to the Rural Practice, Fiscally Viable, and Committed to Full-range Services by Family Physicians, Including Maternity Care, With Adequate Back-up

Travel time between the clinic and hospital should not exceed 20 minutes. The rural hospital census, emergency medicine volume, and maternity care volume should be sufficient to meet ACGME requirements and provide a varied and busy on-call experience for RTT residents in their PGY-2 and PGY-3 years. Fiscal viability is determined by review of the hospital's financial records.

Most Medical and Surgical Subspecialty Services Needed for Training Should Be Available in Town Either Through Local Subspecialists or Rotating Visiting Subspecialists

Subspecialists must be willing to teach family practice residents via longitudinal or concentrated educational rotations.

Other Nonessential Characteristics Can Add Value to a Potential RTT Site

Other valued factors included a balance of male and female physicians in the rural practice, a mixed cultural and socioeconomic patient base, family physicians performing C-sections, proven excellence in medical student or resident teaching, connection with a multispecialty group and/or hospital used by the core program, presence of mid-level providers (nurse practitioners and physician assistants) and behaviorists (psychologists or social workers), availability of computerized practice data, a commitment to quality improvement, plans for (or presence of) electronic medical records system, and hospital CME program and distance education technology.

Selecting the Site

The planning group identified practices within 30–90 minutes travel time from the core program in Madison. Initial contacts with potential sites were made by phone or through informal visits. There was no formal competition for site selection; the investiga-

tion was to determine the level of interest and whether they met criteria.

Four sites emerged as possibilities; physicians in Baraboo expressed the most enthusiasm and desire to pursue the RTT. The Baraboo site met all essential criteria and most of the nonessential characteristics. Since planning committee members intended to add a second site after the first was established, they continued dialogue with the other sites.

The major concerns of physicians in the rural sites were how the educational program would affect the financial viability of the practice, time commitment, space, and competition for patients between residents and local physicians. What excited most rural physicians were closer ties with the university, the possibility of recruiting family physicians to the community, and the local hospital's interest in having a training program.

Establishing Partnerships and Responsibilities

It was determined that the RTT program director be ultimately responsible for overseeing budget, faculty development, resident well-being and evaluation, and working with disciplinary actions. The RTT director reports to the core program's residency director because the RTT residents must integrate into the core program, especially in PGY-1. A staff member employed by the rural hospital was assigned to spend .25 FTE to coordinate local resident recruitment and educational activities, assist with the preparation of accreditation documents, and be the ongoing staff contact person for the RTT.

The Baraboo RTT development evolved into a partnership among several entities. The responsibilities of each partner were discussed and agreed on. (Table 1).

Budget Development

In consultation with the planning group, the core program administrator and the departmental accountant developed a budget template for rural tracks (Table 2). The budget assumptions were that the core program and the RTT clinic should not lose money in the project; the rural hospital should gain an expanded referral base and enhanced prestige by having an educational program; the rural clinic should keep resident billings; hospitals could keep 10% of the Medicare GME funds and send 90% to the rural practice to support program functions; and an on-site rural physician coordinator stipend should be awarded.

A preliminary RTT budget was developed and agreed on by all the participating partners before the project started. In the planning year, the only income was the \$36,672 AHEC grant that covered some staff planning time, faculty development sessions, supplies, and a video camera for the rural clinic. The core pro-

Table 1

Responsibilities of Rural Training Track Partners

Core Program (University of Wisconsin-Madison Family Practice Residency Program)

- Administrative support and development of the program (curriculum, budget, Residency Review Committee document)
- Teaching from University of Wisconsin faculty
- Faculty development of rural physicians
- Recruitment of residents for the program
- Evaluation of residents with rural teachers
- Evaluation of new rural physicians as teachers
- Ongoing evaluation of the overall program

Subspecialty Center Affiliate (Dean Clinic)

- Subspecialty teachers for educational longitudinal and block rotations (rheumatology, ENT, urology, etc)

Rural Clinic (Baraboo Medical Associates)

- Provide faculty/teachers
- Provide clinical and teaching space
- Provide transcription and other secretarial support
- Provide nursing and medical assistant staff support

Rural Hospital (St Clare Hospital in Baraboo)

- Secure housing for residents, if needed
- FTE of .25 for administrative support for the program
- Financial support

Urban Affiliate Hospital (St Mary's Hospital in Madison)

- Financial stipend (investment in program) and administrative support, along with rural hospital
- Help rural hospital secure Medicare pass-throughs

Area Health Education Centers

- Administrative support
- Assistance in choosing a site with knowledge of underserved areas
- Stipend to get rural training track started and continued stipend to support

ENT—ear, nose, and throat

gram donated \$28,018, and the rural clinic donated \$18,500 in unreimbursed staff time for development. In the first year with residents, income came from another \$16,250 AHEC grant for staff and computer equipment, Medicare pass-throughs, and resident patient care at Baraboo. At the end of the first year, the budget effect on the Madison program was zero, and the rural clinic showed a slight loss for unreimbursed staff time. In the second year, the two PGY-2 residents had already generated enough in patient revenue to cover rural physician time losses. The ultimate financial outcome is expected to be "budget neutral" for the core program and positive for the rural clinic and hospital.

Telecommunications

E-mail proved to be invaluable for communication. AHEC helped fund the purchase and installation of two computers for the rural clinic. Software for e-mail, Internet access, and medical literature searches was

Table 2

Baraboo Rural Track Budget Template

Core Program Budget

Revenue

- Medicare pass-throughs from core program hospital

Expenses

- .25 FTE core program physician program director
- .25 FTE rural on-site physician coordinator
- Core program administrative/teaching support
- Resident salary and benefits
- Resident travel from core program to resident site
- Faculty travel from core program to resident site
- Equipment, supplies, recruitment materials, phone calls
- .2 FTE clerical support

Rural Clinic Budget

Revenue

- Resident productivity billings, less practice productivity loss
- Total patient charges, less uncollectible charges
- Net fee revenue
- .25 on-site physician coordinator

Expenses

- .5 medical assistant
- Transcription costs

Rural Hospital Budget

Revenue

- Medicare pass-throughs

Expenses

- 90% of pass-throughs transferred to program
- Non-salary expenses for two residents

installed, and rural personnel received computer training. Two-way video and conference phones between the core program and the Baraboo hospital are now used for planning meetings between faculty at both sites. Trials of educational video conferencing are planned.

Curriculum Development

The curriculum shown in Table 3 was created by the planning committee in collaboration with the Baraboo staff. The curriculum is a hybrid of the non-rotational curriculum pioneered by Sparrow Hospital Family Practice Residency in the early 1970s.⁵ During the first year, the resident drives from the core program to the rural clinic 2 half days per week to begin the continuity clinic experience. At the beginning of the second year, the resident is assigned a rural faculty mentor and lives in or near the rural community.

There are 13 8-week blocks in the last 2 years of training (104 weeks). These 8-week blocks are subdivided into office practice/longitudinal rotations (5 weeks) and mini-block rotations (3 weeks). Office

Table 3

Rural Track Curriculum

Sample First-year Rotations

- General medicine—13 weeks (7 weeks SMHMC family practice inpatient adult medicine; 6 weeks UWHC family practice inpatient adult medicine)
- Medical intensive care (SMHMC)—7 weeks
- Obstetrics (SMHMC)—10 weeks
- Inpatient pediatrics (SMHMC)—6 weeks
- Inpatient surgery (SMHMC)—6 weeks
- Surgery preceptorship (Baraboo)—4 weeks
- Emergency room (Baraboo)—3 weeks
- Emergency room (UWHC)—3 weeks
- Vacation—3 weeks (during surgery and emergency room rotations)

Taken During the Second and Third Years*Required Longitudinal Rotations (Baraboo)*

- Urology—14–28 half days
- Ophthalmology—14–28 half days
- ENT—14–28 half days
- Psychiatry-behavioral sciences
- Gynecology—45–50 half days
- Community medicine—10 half days
- Vacation/site visit—4 weeks
- Conference time—1 week

Other longitudinal rotations available in Baraboo:

- Oncology
- Allergy
- Rheumatology
- Cardiology
- Neurology
- Gastroenterology

Mini-block Rotations (Baraboo or Other Sites)*

- Pediatrics—2 blocks (1 block NICU, 1 block outpatient pediatrics)
- Sports medicine/podiatry—1 block
- Orthopedics—2 blocks and 1 week casting
- Critical intensive care unit—1 block
- Dermatology—1 block
- Medicine subspecialty—1 block
- Elective time—5 blocks
- Vacation/site visit—4 weeks
- Conference time—1 week

* Mini-blocks are intensive 3-week experiences.

SMHMC—St Mary's Hospital Medical Center

UWHC—University of Wisconsin Hospitals and Clinics

ENT—ear, nose, and throat

NICU—neonatal intensive care unit

practice responsibilities include hospital rounds, assisting on surgical cases, seeing patients in clinic, handling urgent care, and learning practice management on-site. The residents deliver babies from the resident-faculty mentor practice and trade responsibility for handling the newborn nursery on rounds every morning. Longitudinal rotations are outpatient experiences with subspecialists who visit Baraboo. For example, ENT, gynecology, and urology may each be taken 1 half day per week for several months to meet the RRC requirements. Night call during office

practice/longitudinal rotation is one night per week and one weekend day per month.

The residents voluntarily trade off carrying an "interesting case" beeper, so they can be paged to the emergency room or labor and delivery if a patient's case warrants their attention. During the 5 weeks of office practice/longitudinal rotation, the resident spends 5 half days per week in the office seeing patients, 1 half day per week off after a night on call, 1 half day per week with the core program in Madison for conferences, and 3 half days per week in longitudinal rotations in Baraboo with subspecialists.

Mini-block Rotation (3 Weeks)

A mini-block is an intensive 3-week experience to complete other required and elective rotations. These may be in Madison, Baraboo, or a location of the resident's choice. During mini-blocks, residents spend 2 half days per week in the second year and 3 half days per week in the third year seeing their own patients in Baraboo to maintain continuity. When one resident is away, the other covers both practices. While on mini-block rotation, the resident does not take call for Baraboo. The resident's partner (who is on office practice/longitudinal rotation) covers both practices.

Modifying the Rural Clinic as an Educational Facility

The organizational structure of the rural family practice center must meet the requirements listed in the RRC guidelines⁶ and is scrutinized by RRC site reviewers. In Baraboo and other developing RTTs, clinic signs had to be changed and the waiting room divided to clearly isolate a family practice area when other types of providers were in the building. Conference space, resident space, and student space also had to be delineated. Medical records have to be accessible to residents after hours.

Development of the Accreditation Document and RRC Site Visit

Development of an application to the RRC required us to obtain teaching commitments from rural specialists and prepare the accreditation document. This required weekly meetings between core program staff and staff at Baraboo over a 2-month period. A final copy of the accreditation document was circulated among all participating Baraboo faculty for approval before it was submitted.

The Baraboo and the Madison staff members met in Baraboo 3 weeks before the RRC site visit to explain the purpose of the site visit, provide general instructions, and review the program information form. Participants included an administrator of the rural hospital, six family physicians from the rural practice, the three core planning committee members from

Madison, and other subspecialist leaders. The site visit itself was facilitated by the Baraboo education coordinator and the physician site coordinator; Madison planning committee members were present. ACGME first deferred action and requested more information about some curricula and how exclusive space for the residency was delineated in the Baraboo clinic. When the additional information was provided, provisional accreditation was granted retroactive to the time of the first RRC meeting in July 1996.

Faculty Development of Rural Physicians

Three months before the first RTT residents began their PGY-1 year, five hour-long early morning faculty development sessions were held at Baraboo's hospital. Most of the family physicians and many subspecialists attended. Sessions were taught by faculty and educational staff from the core program. The topics included 1) goals for education in an RTT, 2) teaching in clinic and hospital settings, 3) precepting medical and surgical procedures, 4) evaluation, assessing problems, and giving constructive feedback, and 5) data collection in an RTT. All sessions received high evaluation ratings.

Recruitment of Resident Applicants

In 1995–1996, Baraboo program brochures were mailed to prospective applicants to request recruitment materials from the core program. There were 30 applicants for two positions in the RTT. Since Baraboo recruitment was proceeding before accreditation approval, the core program assured applicants that they would be placed at an approved specific clinic in Madison if Baraboo was not approved. Applicants interviewed in Madison the first day and spent the evening in Baraboo at a local hotel or with faculty. The following morning, the applicant toured Baraboo and met with faculty. Baraboo faculty and the Madison program prepared separate Match lists containing all Baraboo applicants.

Baraboo currently has 65 US applicants for two positions for 1998 and has its own Electronic Resident Application Service (ERAS) mailbox. The Madison program plans the Baraboo interview schedule; the Baraboo staff coordinator facilitates the visit by following the 1996 format. The original plan was to recruit two residents every other year (maximum four); annual recruitment is being considered (maximum six).

Conclusions

At this point, it can be stated that the curriculum design and site criteria used in creating the Baraboo RTT are viable, because they have been adapted for use at two other developing RTTs in our system with similar results. The other RTTs have been approved

by the RRC, and the sites are attractive to current residency applicants. The "one-two program" design seems to be organizationally workable for the core programs and rural practices. The fiscal effects of having an RTT have been neutral. The overall effect on the core residency programs has been positive. Increased numbers of high-quality applicants interested in rural practice have been attracted to the programs. The development process has helped focus discussions with subspecialist colleagues on how all residents can become better prepared for rural practice. Through the process of exploring RTT opportunities, the core program has been able to create new training modules for core residents in nearby rural communities in rural emergency medicine, rural general surgery preceptorships, rural subspecialty clinics, and expanded rural rotation opportunities.

The number of RTTs in Wisconsin is increasing rapidly. Currently, there are four residents in two RTTs. If 1998 recruitment is successful, there will be 12 residents in seven RTTs managed by five core residency programs and two sponsoring institutions. AHEC has been a major partner in helping programs and communities implement RTTs.

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