

A Pilot Study of Training Family Medicine Residents in Procedural Skills at a Community Health Center

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BACKGROUND AND OBJECTIVES: There are many challenges to providing procedural skills training as well as exposure to rural practice for family medicine residents, especially within the allowed hours of training.

METHODS: A curriculum for self study was developed based on a Society of Teachers of Family Medicine consensus statement on procedural skills, resident interest and faculty experience. An agreement to offer a pilot procedural clinic at a community health center staffed by a family medicine faculty and resident was negotiated and delivered. Residents completed an evaluation of the experience.

RESULTS: One faculty and 13 residents delivered 19 different procedures, with a total of 65 procedures, over an 11-month period at a community health center. Minor barriers to providing services such as initially low referral rates and lack of instruments were overcome.

CONCLUSIONS: Residents agreed that participating in this clinic increased the likelihood of adding procedures to their clinical practice and enhanced their appreciation for practice in a rural setting but may not have impacted their likelihood of practicing in a rural area.

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There are many challenges to providing procedural skills training for family medicine residents. Although there is a consensus statement recommending required procedural training in family medicine,¹ there is no published curriculum, and the American Academy of Family Physicians *Soft Tissue Surgery for Family Physicians* guide is out of print.² New residents' previous exposure to, and comfort with, procedures is increasingly variable and often nonexistent. Resident duty hour regulations are making it difficult to meet curriculum requirements within allotted

times.^{3,4} Faculty are looking for new modalities in residency training that meet the changing needs of family medicine practice.⁵ Our program sought to expand its procedural skills training, in part because rural family physicians who provide minor procedures as part of their office practice have higher job satisfaction and increased earning potential.^{6,7} Because we believed we had already maximized opportunities for residents to perform procedures at the Family Medicine Center (FMC) based in the Department of Family Medicine at the Brody School of Medicine (BSOM), East Carolina

University, we took an opportunity to develop a procedures clinic at a nearby federally supported Community Health Center (CHC). BSOM is committed to caring for the uninsured and under-insured people of its region and since 2007 has coordinated with the CHC to assure provision of primary care services to their clients. CHCs across the nation are expanding services to America's medically disenfranchised and are recruiting a primary care workforce.⁸

The first author (JF) developed a curriculum for basic procedural skills focused on instrument selection and manipulation, methods of lesion excision, and suturing, based on the Society of Teachers of Family Medicine consensus statement,¹ a survey of resident interests, and his previous experience in a rural family medicine practice. The curriculum includes topics ranging from instruments for skin surgery to wound dressing,² added readings,⁹⁻¹¹ a 30-item exam, and a skill check list for preceptors. It is posted on the resident Blackboard^{®12} course for independent study. First-year residents participate in a 4-hour workshop and in scheduled procedures clinic at the FMC. This exposure is insufficient, however, to develop confidence and

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competence to independently perform procedures.

The objective of this pilot was to determine the feasibility of delivering, and resident response to, a procedures clinic in a CHC.

Methods

Clinic Development

We completed a needs assessment and developed a list of procedures to be offered at a CHC. We learned that gynecologic procedures were already provided by others at this CHC and did not include them in our plan. We negotiated an agreement to provide a bi-weekly, half-day procedures clinic. The CHC's physicians and mid-level providers would refer their patients to this clinic staffed by a faculty supervisor and a second- or third-year family medicine resident. Prior to the start of the program, an orientation session for the CHC's physicians and nursing staff described the referral process and procedures to be offered (evaluation of skin lesions, excision of sebaceous cysts and lipomas, treatment of warts, seborrheic and actinic keratoses, dystrophic and

ingrown toenails, ganglion cysts, steroid injection of the carpal tunnel, and vasectomy). The cost of faculty supervision (0.1 FTE), a procedure instrument set, and suture and training skin (\$24) for each resident was offset with grant funding. Twenty second- and third-year family medicine residents were offered this opportunity to augment their procedural training.

Evaluation

We assessed the feasibility of the clinic for augmentation of resident exposure to procedures by the number and kind of procedures completed and show rate. Residents reflected, in writing, on the value of the time spent. This educational research was granted an exemption from formal review by the University and Medical Center Institutional Review Board (UMCIRB) of East Carolina University's BSOM.

Results

During the period May 2009 through June 2010, nine second-year and four third-year residents completed

at least one 3.5 hour procedural skills session at the CHC. There were 56 patients (68% female) evaluated in 20 clinic sessions. The patients ranged in age from 10 to 69 years. Many (30%) were Spanish-speaking.

All procedures offered to the CHC were completed at least once (Table 1). We were also asked to evaluate four lesions that did not require surgical intervention.

The residents were unanimous in their report that the time was well spent. Each learned at least one new procedure and reported that the exposure increased their likelihood of including skills in their future practice.

Discussion

The CHC offered a good volume of patients with a variety of needed procedures. Only two specimens required pathologic analysis. We scheduled an average of six patients per session, and averaged two no-shows, thus seeing an average of four patients per session. Although the patients and procedures were similar to those encountered at the FMC,

Table 1: Procedures Completed During Pilot Clinic

Procedure	Number
Capillary hemangioma—punch excision	1
Cryotherapy of seborrheic keratosis	2
Cryotherapy of warts	4
Dermatofibroma—punch excision	2
Ganglion cyst aspiration/injection	2
Hypertrophic callous, feet—paring	1
Ingrown toenail—partial excision	6
Injection of carpal tunnel	3
Laceration repair	1
Lipoma excision—face	1
Lipoma excision—location other than face	2
Sebaceous cyst excision—face	6
Sebaceous cyst excision—location other than face	11
Shave excision—face	1
Shave excision—location other than face	6
Skin tag removal	5
Toenail debridement	3
Vasectomy	4

the residents said this was a good use of their time. Both during the clinic and on follow-up reflection, the residents encouraged the family medicine department to continue this CHC-based procedures clinic and to explore additional opportunities outside of the FMC.

There were challenges to providing this clinic in a CHC that was not structured as a teaching site. This CHC did not have all instruments and supplies needed to deliver care, particularly those needed for delicate procedures and toenail care. We responded by anticipating needs, bringing appropriate instruments based on the day's scheduled procedures, and planning for transport of dirty instruments. Some referrals were outside the scope of family medicine, creating unexpected time commitment to secure appropriate and affordable specialty evaluation. As the CHC staff became confident in the skills of the faculty and residents, the no-show rate declined.

At this CHC, pre-vasectomy counseling and the procedure itself were completed at the same visit, eliminating the potential for a missed procedure following counseling at a prior session. Post-vasectomy semen analysis was performed at the FMC.

Residents were unlikely to see patients for follow-up due to the

biweekly clinic schedule. The educational value of the clinic might be improved by having CHC staff share reports or photos of outcomes with participating residents.

Although all residents had previously assisted in several procedures clinics, it is unlikely that they could independently offer a procedures clinic at a CHC. Since this CHC is not able to provide a preceptor, it remains a challenge to identify funding for the faculty time to sustain this effort.

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