

**Utah Medical Education Council Rural Rotations
2007-2010**

**Utah Medical Education Council
September, 2010**

Since 2007, the Utah Medical Education Council (UMEC, www.utahmec.org) has sponsored 222 clinical rotations for 180 health care students in the rural and underserved areas of Utah. This initiative was created to attract and retain health care providers in Utah, specifically to the rural and underserved areas. These rotations provide students with a chance to experience and see firsthand rural life and practice, thereby improving chances of these students returning to rural Utah for practice.

Students participating in this program include advanced practice registered nurses (APRN) (2%), dental residents (12%), medical students (10%), physician assistant (PA) students (24%), pharmacy students (13%), and medical residents (39%) (Ref: [Table 1](#)). Although these students come from numerous programs across the United States, a majority are from Utah programs. In order to qualify for the program, out-of-state students must have some background or interest in Utah; this is because studies have shown that medical students interested in rural medicine are more likely to have grown up in rural areas and/or volunteered in rural and developing areas. Nearly 51% (113) of all participants excluding medical students, continue to practice within the state of Utah. Of these, 7% (15) practice in rural Utah¹ (Ref: [Table 2](#)).

Table 1: Number of clinical rotations and students sponsored by UMEC by training program

Profession	# of Students	# of Clinical Rotations
APRN Students²	4	4
Dental Residents	27	27
Medical Students	15	22
PA Students	26	54
Pharmacy Students	29	29
Physician/Medical Residents	79	86
Total	180	222

¹ Medical students are not included because it takes at least three years before a medical student can complete the residency training and enter the workforce, if not longer. Given that UMEC funding has been in place for less than 3 years, it is too early to begin tracking the medical students for retention.

² UMEC has funded four APRN students because the Student/Resident Experiences and Rotations in Community Health (SEARCH) program has a yearly budget to fund rural APRN rotations in Utah. UMEC funds APRNs who are unable to be sponsored by SEARCH due to budget constraints.

Table 2: Current practice locations of students who completed a UMEC sponsored rural rotation by program.

	Total Completing Rural Rotations	In Utah			Outside Utah		
		Rural	Urban	Total (% of total completing rural rotation)	Rural	Urban	Total (% of total completing rural rotation)
APRN	4	4	-	4 (100%)	-	-	0 (0%)
Dental	27	2	10	12 (44%)	-	15	15 (56%)
PA	26	5	6	11 (42%)	2	13	15 (58%)
Pharmacy Students	29	1	26	27 (93%)	-	2	2 (7%)
Physician Residents	79	3	56	59 (75%)	3	17	20 (25%)
Total	165	15	98	113 (68%)	5	47	52 (32%)

Note: Does not include medical students.

Table 3: Number of all rotations sponsored by UMEC by location & training program

	Dental	APRN	Medical Students	PA	Pharmacy	Physician/Medical Residents	Total
Beaver	-	-	-	-	2	1	3 (1%)
Bicknell	-	-	-	-	1	2	3 (1%)
Blanding	-	-	-	-	3	3	6 (2.7%)
Cedar City	-	-	4	13	5	3	25 (11%)
Coalville	-	-	-	-	-	4	4 (2%)
Delta							
East Carbon							
Ft. Duchesne	-	-	3	-	-	1	4 (2%)
Heber City	-	-	1	-	-	15	16 (7%)
Hurricane	-	-	-	1	-	-	1 (0%)
Kanab	-	-	-	3	-	1	4 (2%)
Moab	-	-	-	-	1	2	3 (1%)
Montezuma Creek	27	-	-	1	-	6	34 (15%)
Mt. Pleasant	-	-	-	-	3	3	6 (3%)
Nephi	-	-	1	-	1	21	23 (10%)
Ogden	-	-	-	-	-	2	2 (1%)
Panguitch	-	-	3	-	-	-	3 (1%)
Price	-	-	-	-	-	1	1 (0%)
Richfield	-	-	-	-	-	1	1 (0%)
Roosevelt	-	-	-	-	1	1	2 (1%)
Salt Lake City	-	-	-	-	-	2	2 (1%)
St. George	-	4	6	34	7	3	54 (24%)
Stansbury	-	-	-	-	-	3	3 (1%)
Vernal	-	-	-	-	-	5	5 (2%)
Total	27 (12%)	4 (2%)	22 (10%)	54 (24%)	29 (13%)	86 (39%)	222 (100%)

FNP/ARPN

In 2007, UMEC sponsored rural rotations for four APRN Family Nurse Practitioner (FNP) students in St. George. All four of them were students of the University of Utah (U of U) and are currently working in rural areas of Utah.

Dental Residents

UMEC sent 27 dental residents on rural rotations to Montezuma Creek Utah. All of them are practicing in Utah (Ref: Table 2).

Medical Students

Studies have shown that rural experiences influence medical students toward primary care specialties and rural practice.^{3,4} UMEC provides medical students with the opportunities to practice in rural and underserved areas with the hopes of inspiring them to pursue rural and/or primary care specialties in Utah.

UMEC sponsored 15 medical students for rural rotations during the 09-10 fiscal year. The state currently has one medical school at the U of U; therefore, most of the medical student participants came from this school. U of U provided 60% (9) of these medical students, while the other 41% (6) were from out-of-state medical schools (Ref: Table 4). See Table 5 below for distribution of students by location.

78% of medical students surveyed responded they were raised in rural Utah or had volunteered in rural areas. Many individuals without previous rural experience mentioned that they wanted to help the rural populations and that the rural sites were potential future practice locations.

Table 4: Number of rotations and medical student participants by university

University	State	# of Students	# of Clinical Rotations
University of Utah	UT	9 (60%)	9 (41%)
AT Still University	AZ	2 (13%)	5 (23%)
Western University	CA	1 (7%)	5 (23%)
University of Rochester	NY	1 (7%)	1 (5%)
Washington University	MO	1 (7%)	1 (5%)
Kansas City University	MO	1 (7%)	1 (5%)
Total		15 (100%)	22 (100%)

³ Feldman, Kymm., et al. "The difference between medical students interested in rural family medicine versus urban family or specialty medicine." *CJRM* 73.2 (2008): 73-9.

⁴ Barrett, Felicia A., Martin S. Lipsky, and May Nawal Lutfiyya. "The Impact of Rural Training Experiences on Medical Students: A Critical Review." *Academic Medicine* 86.2 (2011): 259-63.

Table 5: Number of rotations and medical students by UMEC sponsored location

Location of Rotation	Total # of Students in each location	Total # of Rotations
American Fork	1 (7%)	3 (14%)
Cedar City	3 (20%)	4 (18%)
Ft. Duchesne	3 (20%)	3 (14%)
St. George	2 (13%)	6 (27%)
Panguitch	3 (20%)	3 (14%)
Heber City	1 (7%)	1 (5%)
Hurricane	1 (7%)	1 (5%)
Nephi	1 (7%)	1 (5%)
Total	15 (100%)*	22 (100%)

* Number of rotations is greater than students because some students completed multiple rotations in various locations.

Physician Assistant (PA) Students

UMEC has sponsored 54 PA students’ clinical rotations in Utah. Unlike other program students and residents, many PA students from Touro University participate in UMEC sponsored rotations. Touro has provided nearly 48% (13) of all PA participants. PA rotations were completed in six of Utah’s rural communities. Rotations in St. George made up nearly 63% of all PA rotations while Cedar City accounted for 24% (Ref: Table 7). 26% of all PA UMEC rural rotation participants currently work in a rural area. See Table 8 for retention information.

Table 6: Number of PA rotations and participants by university.

University	State	# of Clinical Rotations	# of Students
Touro University	NV	31 (57%)	13 (48%)
University of Utah	UT	3 (6%)	3 (11%)
Idaho State University	ID	9 (17%)	3 (11%)
Pacific University	OR	2 (4%)	2 (7%)
Drexel University	PA	2 (4%)	1 (4%)
Quinnipiac University	CT	2 (4%)	1 (4%)
Saint Francis University	PA	2 (4%)	1 (4%)
Townson University	MD	1 (2%)	1 (4%)
Midwestern University	AZ	1 (2%)	1 (4%)
Samuel Merritt	CA	1 (2%)	1 (4%)
Total		54 (100%)	27 (100%)

Table 7: Number of PA rotations and participants by UMEC sponsored location

Location of Rotation	Total # of Students in each location	Total # of Clinical Rotations
St. George	12 (44%)	34 (63%)
Cedar City	8 (30%)	13 (24%)
Kanab	3 (11%)	3 (6%)
Highland	1 (4%)	1 (2%)
Hurricane	2 (7%)	2 (4%)
Montezuma Creek	1 (4%)	1 (2%)
Total	27 (100%)	54 (100%)

Table 8: Current practicing locations of PA students sponsored by UMEC by training program

University	Total completing rural rotations	In Utah		In Utah Total (% of total rotation)	Outside Utah		Outside Utah Total (% of total rotation)
		Rural	Urban		Rural	Urban	
Touro University	31	14	7	21	-	10	10
University of Utah	3	-	-	-	-	3	3
Idaho State University	9	1	4	8	3	1	4
Pacific University	2	-	-	-	-	2	2
Drexel University	2	2	-	2	-	-	-
Quinnipiac University	2	-	2	-	-	-	2
Saint Francis University	2	-	2	2	-	-	-
Townson University	1	-	-	-	-	1	1
Midwestern University	1	-	-	-	1	-	1
Samuel Merritt	1	-	-	-	-	1	1
Total	54 (100%)	17	15	32 (59%)	4	18	22 (41%)

Pharmacy

In 2009, UMEC and the U of U pharmacy program collaborated to create a rural pharmacy rotation program. Since then, 29 pharmacy students have completed rotations with the UMEC. These students participated in rotations in eleven different locations (Ref: Table 10). UMEC 2009-2010 data show an in-state retention rate of 93% (27). (Ref: Table 2).

Table 10: Number of pharmacy students by UMEC sponsored location

Location of Rotation	Total # of Students in each location	Total # of Clinical Rotations
St. George	7 (24%)	7 (24%)
Cedar City	5 (17%)	5 (17%)
Logan	4 (14%)	4 (14%)
Blanding	3 (10%)	3 (10%)
Mt. Pleasant	3 (10%)	3 (10%)
Beaver	2 (7%)	2 (7%)
Bicknell	1 (3%)	1 (3%)
Hurricane	1 (3%)	1 (3%)
Moab	1 (3%)	1 (3%)
Nephi	1 (3%)	1 (3%)
Roosevelt	1 (3%)	1 (3%)
Total	29 (100%)	29 (100%)

Physician/Medical Residents

Medical residents comprise of largest group sponsored by the UMEC rural rotation program at 86 rotations. Many rural communities have hosted these residents. Nephi, Heber city, and Montezuma Creek have the highest percentages of rural resident rotation assignments (Ref: Table 15). Residents from many specialty training programs, including family medicine, Ob/Gyn, psychiatry, etc. do their rural rotations with UMEC funds. UMEC funds are focused solely for family medicine rural rotations due to the high demand of this specialty in rural areas. As such, they make up 70% (55) of all resident specialties in this program (Ref: Table 12). UMEC data from 2008-2010 suggests that 75% (59) of all residents completing a UMEC sponsored rural rotation are currently practicing within the state of Utah (Ref: Table 13).

Table 11: Number of resident participants by program.

Residency Program	State	# of Residents	# of Rotations
University of Utah	UT	52 (66%)	56 (65%)
McKay Dee	UT	21 (27%)	22 (26%)
St. Marks	UT	1 (1%)	3 (3%)
Intermountain Medical Center	UT	1 (1%)	1 (1%)
Lehigh Valley Hospital	PA	1 (1%)	1 (1%)
Mary Imogene Bassett Hospital	NY	1 (1%)	1 (1%)
Michigan State University	MI	1 (1%)	1 (1%)
Texas Tech	TX	1 (1%)	1 (1%)
Total		79 (100%)	86 (100%)

Table 12: Number of residents by specialty

Specialties	# of Residents	# of Rotations
Anesthesiology	1 (1%)	1 (1%)
Elective	1 (1%)	1 (1%)
Emergency Medicine	1 (1%)	1 (1%)
Family Medicine	55 (70%)	59 (69%)
Ob/Gyn	15 (19%)	17 (20%)
Pathology	1 (1%)	1 (1%)
Pediatrics	1 (1%)	1 (1%)
Psychiatry	2 (3%)	2 (2%)
Surgery	1 (1%)	2 (2%)
Transitional Year	1 (1%)	1 (1%)
Total	79 (100%)	86 (100%)

Table 13: Current practicing location of 2008-2010 residency rotation participants by specialty

	Total completing rural rotations	In Utah		In Utah Total (% of total rotation)	Outside Utah		Outside Utah Total (% of total rotation)
		Rural	Urban		Rural	Urban	
Anesthesiology	1 (1%)	-	-	-	-	1	1 (100%)
Elective	1 (1%)	-	-	-	-	1	1 (100%)
Emergency Medicine	1 (1%)	1	-	1 (100%)	-	-	-
Family Medicine	55 (70%)	2	43	45 (82%)	2	8	10 (18%)
Ob/Gyn	15 (19%)	-	10	10 (67%)	-	5	5 (33%)
Pathology	1 (1%)	-	-	-	-	1	1 (100%)
Pediatrics	1 (1%)	-	-	-	-	1	1 (100%)
Psychiatry	2 (3%)	-	2	2 (100%)	-	-	-
Surgery	1 (1%)	-	1	1 (100%)	-	-	-
Transitional Year	1 (1%)	-	-	-	-	1	1 (100%)
Total	79 (100%)	3 (4%)	56 (71%)	59 (75%)	2 (2%)	18 (23%)	20 (25%)

Table 15: Number of residents by UMEC sponsored location and specialty

	Anesthesiology	Elective	Emergency Medicine	Family Medicine	OB/GYN	Pathology	Pediatrics	Psychiatry	Surgery	Transitional Year	Total
Beaver	-	-	-	1	-	-	-	-	-	-	1 (1%)
Bicknell	-	-	-	1	-	-	-	-	-	-	1 (1%)
Blanding	-	-	-	1	2	-	-	-	-	-	3 (4%)
Bountiful	1	-	-	-	-	-	-	-	-	-	1 (1%)
Cedar City	-	-	-	3	-	-	-	-	-	-	3 (4%)
Coalville	-	-	-	3	1	-	-	-	-	-	4 (5%)
Ft. Duchesne	-	-	-	1	-	-	-	-	-	-	1 (1%)
Heber City	-	-	-	4	9	-	-	-	-	-	13 (16%)
Kanab	-	-	-	1	-	-	-	-	-	-	1 (1%)
Logan	-	-	-	-	1	-	-	-	-	-	1 (1%)
Moab	-	-	-	2	-	-	-	-	-	-	2 (3%)
Montezuma Creek	-	-	-	6	-	-	-	-	-	-	6 (8%)
Mt. Pleasant	-	-	-	3	-	-	-	-	-	-	3 (4%)
Nephi	-	-	-	20	-	-	-	-	-	-	20 (25%)
North Logan	-	1	-	-	-	-	-	-	-	-	1 (1%)
Ogden	-	-	-	-	-	-	-	-	1	-	1 (1%)
Park City	-	-	-	-	-	-	-	1	-	-	1 (1%)
Price	-	-	-	-	-	1	-	-	-	-	1 (1%)
Richfield	-	-	-	1	-	-	-	-	-	-	1 (1%)
Roosevelt	-	-	1	-	-	-	-	-	-	-	1 (1%)
Salt Lake City	-	-	-	-	-	-	-	1	-	-	1 (1%)
St. George	-	-	-	-	2	-	-	-	-	1	3 (4%)
Stansbury	-	-	-	3	-	-	-	-	-	-	3 (4%)
Tooele	-	-	-	1	-	-	-	-	-	-	1 (1%)
Vernal	-	-	-	4	-	-	1	-	-	-	5 (6%)
Total	1 (1%)	1 (1%)	1 (1%)	55 (70%)	15 (19%)	1 (1%)	1 (1%)	2 (3%)	1 (1%)	1 (1%)	79 (100%)