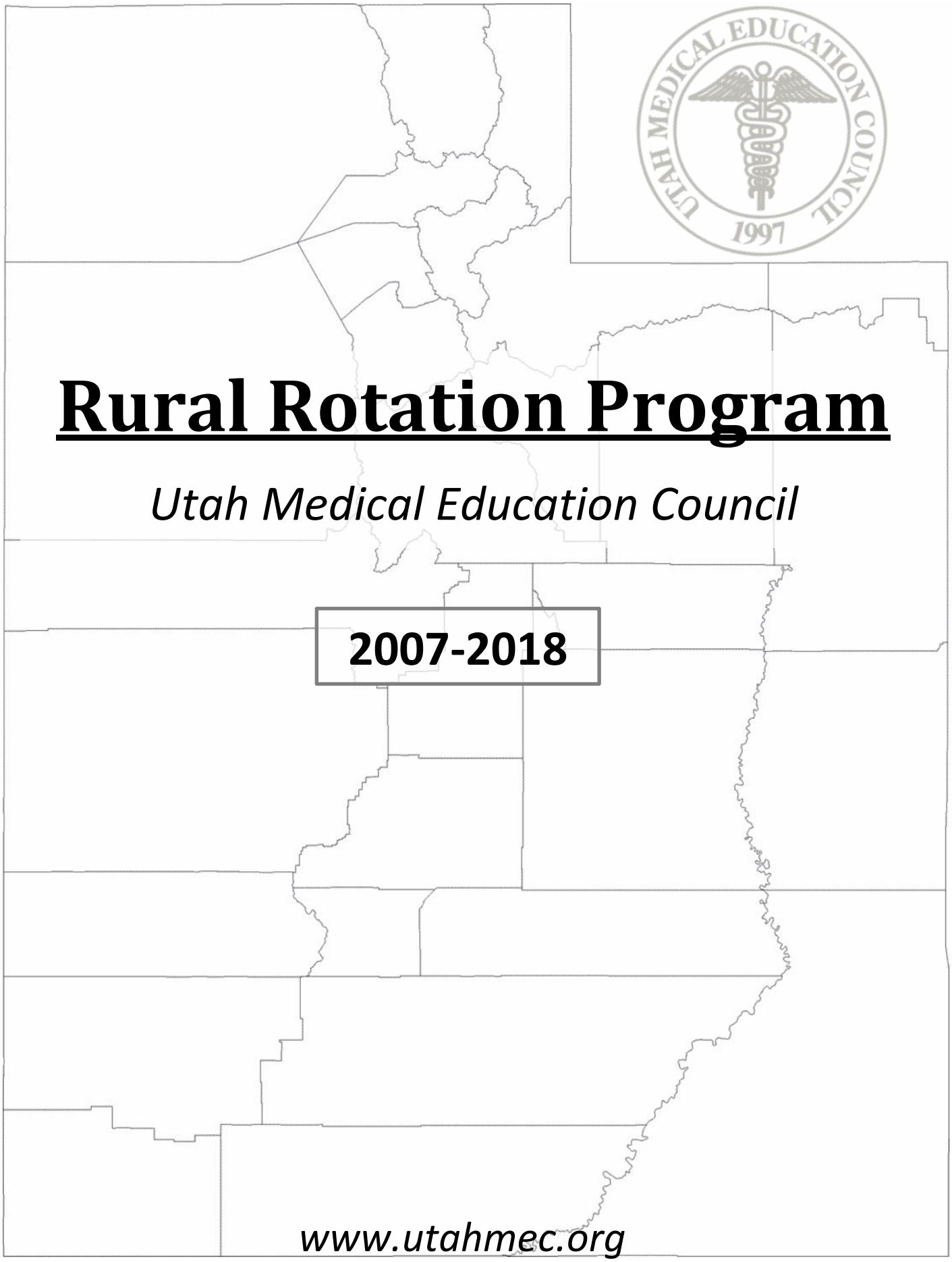

Rural Rotation Program

Utah Medical Education Council

2007-2018

www.utahmec.org

SECTION 1: CURRENT STATUS OF UTAH RURAL HEALTHCARE

Section 1.1 Rural Rotation Program

In 2018, roughly 10.5%[1] of Utah's population lived in a designated rural county.[2] In addition, 27 of the 29 counties in Utah currently have some form of Primary Care Health Professional Shortage Area (HPSA) designation,[3] meaning the population to clinician ratio falls below 3,500 people to every primary care physician. Only 4.6% of new medical students plan on practicing in rural and non-urban areas[4], which could potentially exacerbate that issue in rural healthcare.

The objectives of the UMEC rural rotation program are two-fold: provide needed professionals to underserved areas of Utah and provide experience practicing in a rural setting in order to improve the chances that healthcare professionals choose to practice in a rural area upon graduating.

The UMEC rural program began with only 6 medical residents in 3 areas. The program has expanded in many aspects including the number of rotations, the number of locations, and the variety of healthcare professions. Because each county experiences a variety of shortages, the UMEC has sponsored rotations for several specialties, however there is an emphasis on primary care.

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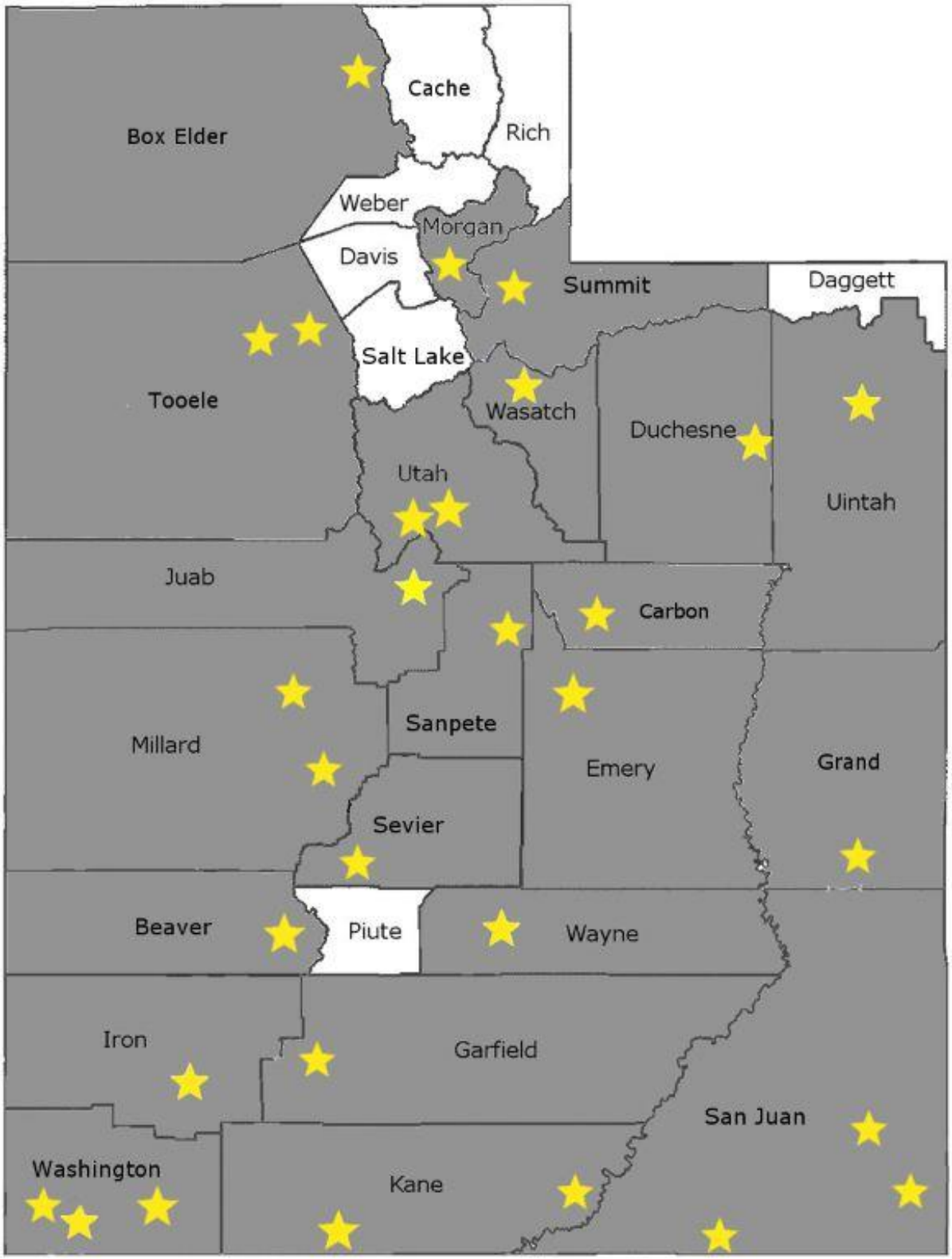
[1] See United State Departure of Agriculture- Economic Research Service State Fact Sheets - http://www.ers.usda.gov/data-products/state-fact-sheets.aspx

[2] In 2000, the rural population in Utah was 11.8%. U.S. Census Bureau, 2000 Census of Population and Housing, Population and Housing Unit Counts PHC-3. See also <http://www.census.gov/prod/cen2000/index.html>.

[3] HPSA's are defined as areas experiencing "shortages of primary medical care, dental or mental health providers and may be geographic, demographic, or institutional".

[4] Matriculating Student Questionnaire, Association of American Medical Colleges, 2016

Locations of Clinical Rural Rotations, 2018



SECTION 2: OUTLINE OF THE UMEC'S RURAL ROTATION PROGRAM, FY 2018

2.1 RURAL ROTATIONS IN 2018

In 2018, the UMEC's rural rotation program consisted of medical residents, advanced practice registered nurse students (APRNs), pharmacy students, and physician assistant students (PAs). These 123 residents/students took part in 127 rotations in 33 rural locations across 22 different Utah counties.

Table 2 – Rotations and Residents/Students, FY 2018

Profession	# of Students	# of Clinical Rotations
Medical Residents	27	27
Pharmacy Students	49	51
Physician Assistant Students (PAs)	43	45
Medical Student (MS)	2	2
Advanced Practice Registered Nurse Students (APRNs)	2	2
TOTAL	**123**	**127**

Table 3 – Locations of Rotations by Profession, FY 2018

Location	Medical Resident	Pharmacy Students	PAs	APRNs	Medical Student	Total
Beaver	1	---	---	---	---	1
Bicknell	1	8	2	---	---	11
Blanding	2	3	---	---	---	5
Bullfrog	---	---	3	---	---	3
Castle Dale	---	---	1	---	---	1
Cedar City	1	4	6	---	---	11
Coalville	---	---	1	---	---	1
Fillmore	---	---	1	1	---	2
Grantsville	---	---	2	---	---	2
Green River	---	---	7	--	---	7
Gunnison	---	---	1	1	---	2
Heber	6	2	---	---	---	8
Kanab	1	---	---	---	---	1
Manti	5	---	---	---	---	5
Manti/Richfield	1	---	---	---	---	1
Moab	1	---	---	---	---	1
Montezuma Creek	1	---	5	---	---	6
Monument Valley	---	---	2	---	---	2
Morgan	---	---	4	---	---	4
Moroni	---	---	1	---	---	1
Mt. Pleasant	1	5	1	---	---	7
Nephi	4	2	---	---	---	6
Panguitch	---	1	---	---	1	2
Payson	---	4	---	---	---	4
Price	---	---	2	---	1	3
Richfield	1	---	3	---	---	4
Roosevelt	---	---	1	---	---	1
Santa Clara	---	4	---	---	---	4
Santaquin	---	5	---	---	---	5
St. George	1	---	---	---	---	1
Stansbury Park	---	3	---	---	---	3
Tooele	---	5	---	---	---	5
Tremonton	---	2	2	---	---	4
Vernal	---	3	---	---	---	3
TOTAL	**27**	**51**	**45**	**2**	**2**	**127**

Only 4.9% of participating students were from out of state programs, while a vast majority (67.5%) came from the University of Utah.[5]

Table 4 – Rotations and Participants by University, FY 2018

University/School	Participants	Rotations
University of Utah	83	85
McKay Dee Family Medicine	5	5
Brigham Young University	2	2
Rocky Mountain University	20	21
Utah Valley Family Medicine	7	7
Out of State*	6	7
TOTAL	**123**	**127**

*Includes: Idaho State University, Penn State College of Medicine, Roseman University, Touro University

Table 5 – Provider Type by University, FY 2018

University/School	Medical Resident	Pharmacy Students	PAs	APRNs	Medical Student
University of Utah	14	48	21	---	2
McKay Dee Family Medicine	5	---	---	---	---
Utah Valley Family Medicine	7	---	---	---	---
Brigham Young University	---	---	---	2	---
Rocky Mountain University	---	---	21	---	---
Idaho State University	---	---	2	---	---
Penn State College of Medicine	1	---	---	---	---
Roseman University	---	3	---	---	---
Touro University	---	---	1	---	---
TOTAL	**27**	**51**	**45**	**2**	**2**

[5] In order for out-of-state students to qualify for these rural rotations, they must show a background or interest in working in rural Utah.

SECTION 3: OUTLINE OF UMEC'S RURAL ROTATION PROGRAM, 2007-2018

3.1 RURAL ROTATION PROGRAM SINCE INCEPTION: 2007 – 2018

Since 2007, the UMEC has sponsored 1,017 rotations for 866 healthcare residents/students. Rotations have been undertaken by medical residents (28.8%), pharmacy students (32.8%), PAs (21.0%), dental residents (8.1%), medical students (5.1%) and APRNs (4.3%). These rotations have provided services in 51 different areas, covering 26 of the 29 counties in Utah. San Juan and Washington counties have had the highest number of rotations.

Table 6 – Rotations and Residents/Students, 2007-2018

Profession	# of Students	# of Clinical Rotations
Medical Residents	249	266
Dental Residents (DDS)	70	70
Pharmacy Students	284	313
Physician Assistant Students (PAs)	182	273
Medical Students (MS)	44	55
Advanced Practice Registered Nurse Students (APRNS)	37	40
TOTAL	**866**	**1017**

Clinical Rotations, ALL ROTATIONS (2007-2018)

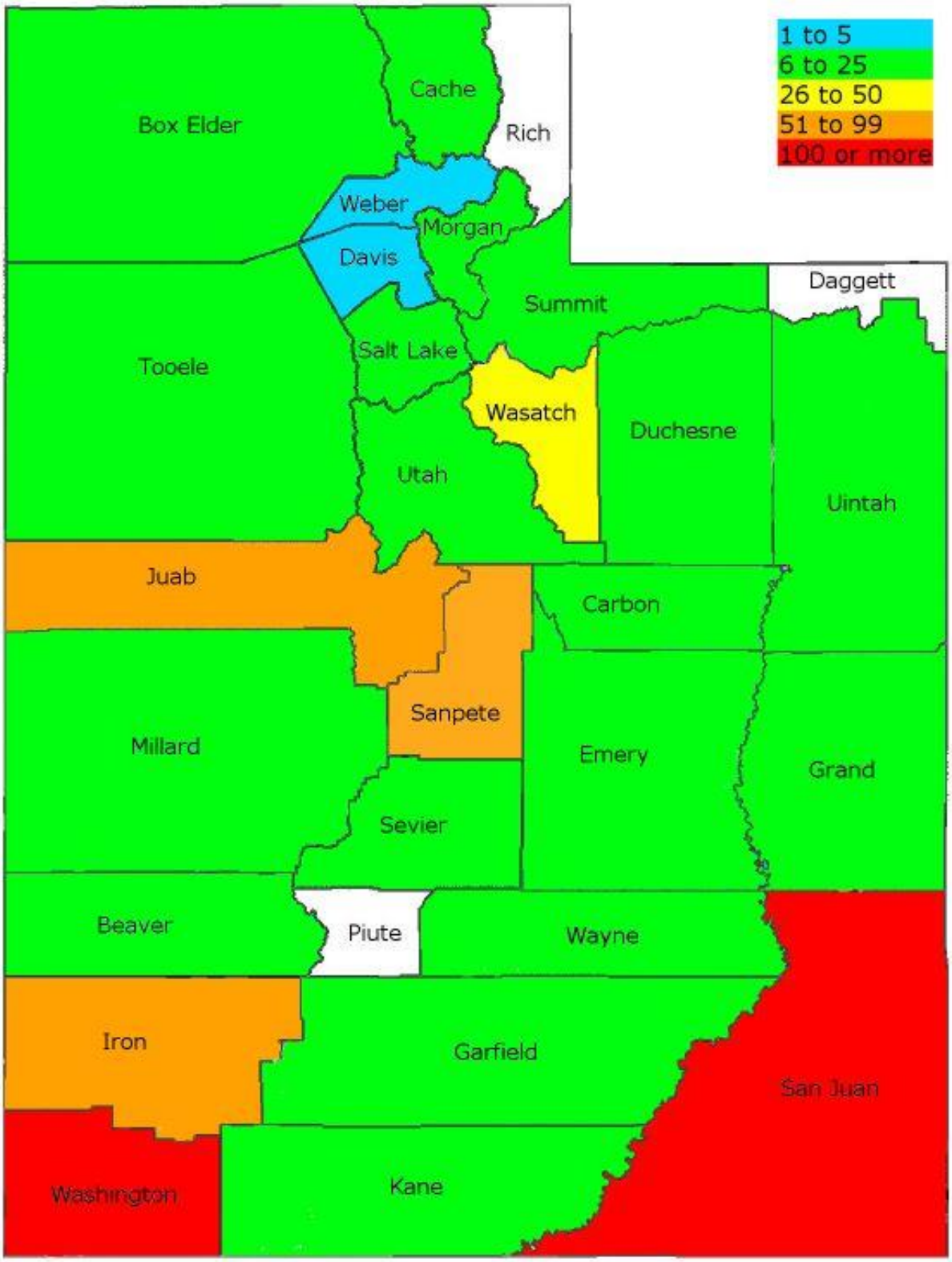


Table 7 – Location by Providers, FY 2007-2018

Location	Medical Resident	Dental Resident	PA	Pharmacy Students	APRN	Medical Student	Total
American Fork	---	---	---	---	---	3	**3**
Beaver	3	---	2	2	---	---	**7**
Bicknell	3	---	4	22	---	---	**29**
Big Water	---	---	1	---	---	---	**1**
Blanding	28	---	---	57	2	---	**87**
Bountiful	1	---	---	---	---	---	**1**
Bullfrog	---	---	10	---	---	---	**10**
Castle Dale	---	---	4	---	---	1	**5**
Cedar City	8	---	38	34	1	14	**95**
Coalville	9	---	1	---	---	---	**10**
Delta	1	---	2	2	---	---	**5**
East Carbon	---	---	---	---	1	---	**1**
Enterprise	---	---	5	---	---	---	**5**
Ephraim	---	---	---	---	---	1	**1**
Fillmore	1	---	3	---	9	---	**13**
Ft. Duchesne	---	---	---	---	---	4	**4**
Grantsville	---	---	6	---	---	---	6
Green River	---	---	20	---	---	---	**20**
Gunnison	**---**	**---**	**2**	**---**	**2**	**---**	**4**
Heber City	49	---	---	2	---	1	**52**
Highland	---	---	2	---	---	---	**2**
Hurricane	---	---	9	2	1	1	**13**
Kanab	13	---	4	---	5	1	**23**
Logan	2	---	---	7	---	1	**10**
Manti	14.5	---	---	---	---	---	**14.5**
Moab	7	---	---	4	---	2	**13**
Montezuma Creek	16	70	19	1	---	---	**106**
Monticello	3	---	---	---	---	---	**3**
Monument Valley	**---**	**---**	**7**	**---**	**---**	**---**	**7**
Morgan	---	---	10	---	---	---	10
Moroni	---	---	1	---	---	---	1
Mt. Pleasant	9	---	2	37	---	---	**48**
Nephi	54	---	---	13	1	1	**69**
Ogden	4	---	---	---	---	1	**5**
Orderville	---	---	---	---	1	---	**1**
Panguitch	3	---	4	9	1	5	**22**
Payson	---	---	2	11	---	---	**13**
Pleasant Grove	---	---	---	---	---	1	**1**
Price	1	---	12	1	---	1	**15**
Provo	---	---	---	---	---	1	**1**
Richfield	6.5	---	5	---	2	1	**14.5**
Roosevelt	3	---	4	11	---	---	**18**
Salina	1	---	3	---	---	---	**4**

Salt Lake City	5	---	---	---	1	---	**6**
Santa Clara	---	---	---	11	---	---	**11**
Santaquin	---	---	---	13	---	---	**13**
St. George	7	---	84	37	13	14	**155**
Stansbury Park	3	---	---	9	---	---	**12**
Tooele	1	---	---	10	---	---	**11**
Tremonton	---	---	7	5	---	---	**12**
Vernal	10	---	---	13	---	1	**24**
TOTAL	**266**	**70**	**273**	**313**	**40**	**55**	**1017**

The rural rotation program has included participants from both in-state and out-of-state institutions, but the University of Utah has provided the majority of participants. Their programs account for 71.0% of participants and 65.3% of rotations.

Table 8 – Rotations and Participants by University, 2007-2018

University/School	Participants	Rotations
University of Utah (Utah)	615	664
McKay Dee (Utah)	55	60
Touro University (Nevada)	20	60
Idaho State University (Idaho)	9	19
AT Still University	6	12
Others*	161	202
TOTAL	**866**	**1017**

*Includes: Arizona State University, Brigham Young University, Campbell University, Des Moines University, Drexel University, Franklin Pierce University, Frontier School of Family Nursing, Gonzaga University, Idaho State University, Intermountain Medical Center, Kansas City University of Medicine and Biosciences, Lake Erie College of Osteopathic Medicine, Lehigh Valley Hospital, Long Island University, Mary Imogene Bassett Hospital, Michigan State University, Midwestern AZCOM, Nova Southeastern University, Ohio University, Oklahoma State University, Oregon Health and Sciences University, Pacific University, Penn State College of Medicine, Quinnipiac University, Rocky Mountain University of Health Professions, Rocky Vista University, Roseman University, Saint Francis University, Salus University, Samuel Merritt University, St. Marks, Texas Tech, Towson, University of Arizona, University of Cincinnati, University of Hawaii, University of Missouri, University of New Mexico, University of Rochester, University of South Alabama, University of Southern Nevada, University of Wyoming, Utah Valley Residency, Wake Forest University, Washington University, Western University, and Westminster College.

Table 9 – Rotations by Provider Type and University, 2007-2018

University/School	Medical Resident	Dental Resident	Pharmacy Students	PAs	APRNs	Medical Student
University of Utah	170	70	294	91	14	25
McKay Dee	60	---	---	---	---	---
Touro University	---	---	---	58	---	2
Idaho State University	---	---	3	16	---	---
AT STILL University	---	---	---	5	---	7
*Others**	36	---	16	103	26	21
TOTAL	**266**	**70**	**313**	**273**	**40**	**55**

*Includes: Arizona State University, Brigham Young University, Campbell University, Des Moines University, Drexel University, Franklin Pierce University, Frontier School of Family Nursing, Gonzaga University, Idaho State University, Intermountain Medical Center, Kansas City University of Medicine and Biosciences, Lake Erie College of Osteopathic Medicine, Lehigh Valley Hospital, Long Island University, Mary Imogene Bassett Hospital, Michigan State University, Midwestern AZCOM, Nova Southeastern University, Ohio University, Oklahoma State University, Oregon Health and Sciences University, Pacific University, Penn State College of Medicine, Quinnipiac University, Rocky Mountain University of Health Professions, Rocky Vista University, Roseman University, Saint Francis University, Salus University, Samuel Merritt University, St. Marks, Texas Tech, Towson, University of Arizona, University of Cincinnati, University of Hawaii, University of Missouri, University of New Mexico, University of Rochester, University of South Alabama, University of Southern Nevada, University of Wyoming, Utah Valley Residency, Wake Forest University, Washington University, Western University, and Westminster College.

3.2 PROFESSION SPECIFIC HIGHLIGHTS: 2007-2018

3.2a MEDICAL RESIDENTS

Medical residents is the third largest group sponsored by the UMEC rural rotation program with 266 (26.2%) rotations completed by 249 residents (the number of physician assistant rotations overtook those completed by medical students in 2018). The rotations for medical residents have encompassed numerous specialties, with Family Medicine comprising the majority (65.8%) followed by Obstetrics and Gynecology (23.3%). Family Medicine and OB/GYN residents are given a higher priority due to the demand for their services in rural communities.

Table 10 – Number of Medical Residents by Specialty, 2007- 2018

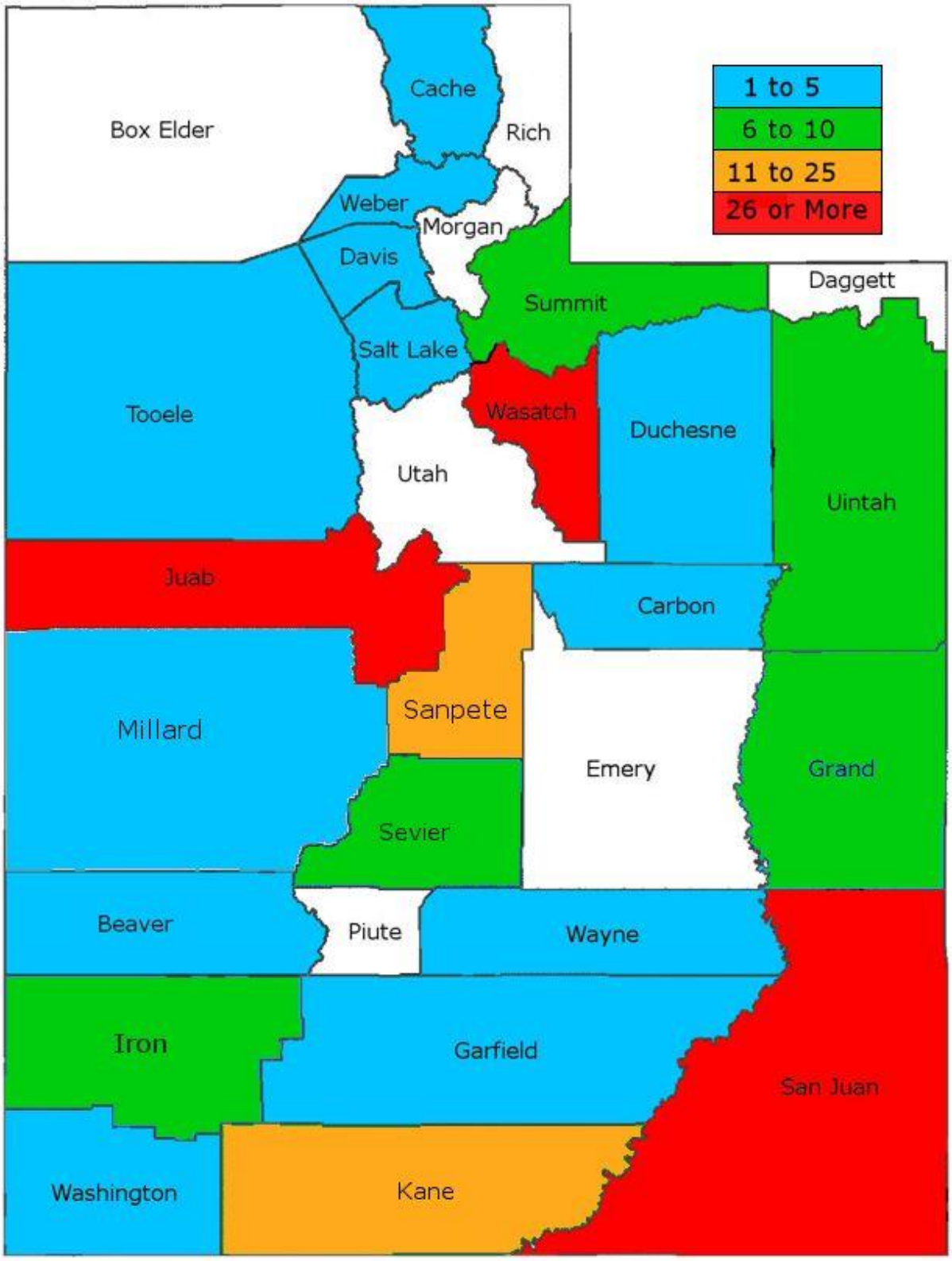
Specialty	Residents	Rotations
Anesthesiology	3 (1.2%)	3 (1.1%)
Emergency	2 (0.8%)	2 (0.8%)
Family Medicine	162 (65.1%)	175 (65.8%)
Geriatric	1 (0.4%)	1 (0.4%)
Internal	4 (1.6%)	5 (1.9%)
OB/GYN	60 (24.1%)	62 (23.3%)
Oncology	1 (0.4%)	1 (0.4%)
Pathology	1 (0.4%)	1 (0.4%)
Pediatrics	6 (2.4%)	6 (2.3%)
Psychiatry	7 (2.8%)	7 (2.6%)
Radiology	1 (0.4%)	1 (0.4%)
Surgery	1 (0.4%)	2 (0.8%)
TOTAL	**249**	**266**

Medical residents have rotated or had rotation assistance across 29 different underserved locations in Utah. The most common location for Family medicine providers is Nephi (30.3%) and a little more than half of OB/GYN rotations take place in Heber City (51.6%).

Table 11 – Locations of Rotations by Profession, 2007-2018

Location	Family Medicine	OB/GYN	Other	Total
Beaver	3	---	---	3
Bicknell	3	---	---	3
Blanding	4	18	6	28
Bountiful	---	---	1	1
Cedar City	7	---	1	8
Coalville	8	---	1	9
Delta	1	---	---	1
Fillmore	1	---	---	1
Heber City	16	32	1	49
Kanab	12	---	1	13
Logan	---	1	1	2
Manti	14.5	---	---	14.5
Moab	4	---	3	7
Montezuma Creek	6	7	3	16
Monticello	3	---	---	3
Mt. Pleasant	8	1	---	9
Nephi	53	---	1	54
Ogden	3	---	1	4
Panguitch	3	---	---	3
Price	---	---	1	1
Richfield	6.5	---	---	6.5
Roosevelt	---	---	3	3
Salina	1	---	---	1
Salt Lake City	2	1	2	5
St. George	4	1	2	7
Stansbury Park	2	1	---	3
Tooele	1	---	---	1
Vernal	9	---	1	10
Total	**175**	**62**	**29**	**266**

Clinical Rotations, Medical Residents ONLY (2007-2018)



3.2b Dental Residents

The UMEC has sponsored 70 rural rotations for 70 general practice residencies for dentists from the University of Utah from 2008 to 2018. Of note, these residents have all served in the rural underserved area of Montezuma Creek, Utah. With an estimated 10 dentists practicing in all of San Juan County, these residents have provided an invaluable contribution to the oral health of this community.

3.2c Pharmacy Students

The UMEC has funded 284 pharmacy students to do 313 rotations from 2009 to 2018. Currently, 4 sites make up the majority (52.7%) of all pharmacy student rotations: St. George (37), Blanding (57), Cedar City (34), and Mt. Pleasant (37). Additionally, 93.9% of all pharmacy students have come from the University of Utah.

3.2d Physician Assistants

The UMEC has funded 182 physician assistants to participate in 273 rotations. Just over half (52.0%) of these rotations have been in Green River, Cedar City and St. George. While the majority of other students and residents participating in the UMEC's rural rotation program come from the University of Utah, PAs differ with over two thirds of participants coming from other schools (66.7%).

SECTION 4: FUTURE IMPORTANCE OF RURAL ROTATION PROGRAM

4.1 PHYSICIANS

The UMEC's rural rotation program is structured to help train, familiarize, and provide incentive for individuals to pursue a career in rural communities in Utah. Family Medicine residents that completed a UMEC rotation chose to practice in a rural Utah setting after graduation 8.5% of the time. Less medical residents are participating in the rural rotation program as evidenced by becoming the third largest group sponsored. In 2016, medical residents were the largest participants but have since been surpassed by pharmacists and physician assistants. Physicians play a vital role in rural healthcare and additional action to obtain more medical resident participation may be needed.

4.2 RURAL WORKFORCE RETIREMENT OVER NEXT DECADE

The UMEC's data on different healthcare workforces can help illuminate retirement patterns of each workforce by county. This self-reported data is crucial for helping to project retirement and prepare for any adverse projections in these already underserved communities. Based on UMEC's workforce reports[6], roughly 30% of healthcare providers from the 20 rural counties with UMEC sponsored rural rotation sites in 2016 expect to retire over the next decade.

4.3 AGING RURAL POPULATION IN UTAH

Older age cohorts typically have a higher demand for healthcare services on average, relative to their younger counterparts. Demand for health services can be expected to increase as the proportion of the rural community elderly cohort increases. An aging population can impose additional demand on the local health system, and by doing so, worsen any medical personnel shortages that may already exist. The population of those aged 60 and older in rural counties is projected to increase in the next ten years[7], thereby possibly causing an increased demand on a smaller workforce.

4.4 MOVING FORWARD

The UMEC's rural rotation program will continue to provide necessary healthcare professionals to underserved areas in order to provide necessary services as well as influence some practitioners into selecting practice settings in rural and underserved Utah after graduating. As the population continues to age, and individuals retire from the rural workforce, the need to replace and grow these workforces becomes a more challenging and important task.

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[6] The UMEC produces different workforce analyses for varying healthcare professionals and asks about retirement plans. These reports can be seen at http://www.utahmec.org/publications.php.

[7] Utah's Long-term Demographic and Economic Projections. *Kem C. Gardner Policy Institute.* University of Utah. 7 Dec. 2017. http://gardner.utah.edu/wp-content/uploads/Kem-C.-Gardner-County-Detail-Document.pdf.