

ABSTRACT

The physician assistant workforce in Utah is experiencing remarkable growth, with a 9% net annual rate of increase since 1998. An additional 84 PAs provided patient care in Utah in the 4-year period of 1998 through 2001, an average increase of 21 per year.

The Utah Medical Education Council believes that the demand for PAs will be high over the next 10 to 15 years, with several factors fueling this growth. Productivity is one of these factors.

Even though Utah PAs make up only approximately 6.3% of the state's combined clinician (physician, PA, advanced practice registered nurse [APRN]) workforce; the PAs contribute approximately 7.2% of the patient care full-time equivalents (FTE) in the state. This is in contrast to the 10% FTE contribution made by the state's APRN workforce, which has nearly triple the number of clinicians providing patient care in the state.

The majority (73%) of Utah PAs work at least 36 hours per week. Utah PAs also spend a greater percentage of the total hours worked in patient care, when compared to the physician workforce.

The rural PA workforce reported working a greater number of total hours and patient care hours when compared to the overall PA workforce.

COMPETENCIES

- Medical knowledge
- Interpersonal & communication skills
- Patient care
- Professionalism
- Practice-based learning and improvement
- Systems-based practice

The productivity of PAs, APRNs, and physicians in Utah

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The Utah Medical Education Council (UMEC) was created in 1997 by legislative statute and was charged with assuring that the state maintain an adequate clinical workforce. In order to fulfill this charge, the UMEC conducts surveys of select clinician professions (physicians, physician assistants, and advanced practice registered nurses [APRNs]) in order to assess the adequacy of the state's clinician workforce. Areas that are assessed include demographic makeup; practice characteristics, such as geographic and specialty distribution; work setting distribution; and productivity. The surveys are conducted once every 4 years, with the results published 1 to 2 years later. Two such surveys have been conducted on the Utah PA workforce, one in 1998-1999 and the other in 2002-2003.

In an era of scarce financial and human resources, how should a state choose to invest its resources to address the present health care crisis? For many years, one school of thought has been that PAs and APRNs are "value added" to the health care system and that both groups positively impact problems of affordability and access to care. Analyzing the productivity data of these clinicians, as well as that of physicians, helps provide a clearer picture of why PAs can help to positively address some of the major health care problems facing the state of Utah. Comparisons among the clinician groups can allow a state to make rational, evidence-based decisions regarding the appropriate provider mix to care for an increasing, aging population.

METHODS

The UMEC survey instruments are changed as little as possible from year to year in order to develop trend data, although some improvements to the design are made with each administration. The surveys are mailed to every practitioner with an active license in the state. Licensing data, including address, is obtained from the state Division of Occupational and Professional Licensing. Three separate mailings are conducted generally over a 2- to 3-month period in order to achieve a greater response rate. In most cases, the response rate across the three surveys (physician, PA, APRN), which have been administered on two occasions, has ranged from 66% to 75%. The 2003 PA survey achieved a 75% response rate. Survey responses were weighted using a factor of 0.25 to account for the nonrespondents in the analysis of the survey data. Weighting factors were not used to account for nonrespondents to individual questions.

RESULTS AND DISCUSSION

Clinician demographics According to responses to the 2002-2003 UMEC surveys for PAs, physicians, and APRNs, there were 324 PAs, 3,894 physicians, and 895 APRNs providing patient care in Utah. Of the combined clinician workforce in

the state, PAs represent 6.3%, physicians 76.1%, and APRNs 17.5%. Seventy-four percent of PAs practice in the four urban Utah counties that are home to 77% of the state's population. As reported by Dehn in his comparison of advanced practice nurses, PAs, and physicians with regard to practice location, this situation is similar to that in Iowa, where PAs practice in a greater proportion than physicians and APRNs in areas of lower population density.¹ Males comprise 63% and females comprise 37% of the PA workforce in Utah. Utilizing data from the physician and APRN surveys, the physician gender breakdown is 75% male and 25% female, and the APRN gender breakdown is 18% male and 82% female.

Approximately 70% of Utah's PAs work at least 36 hours per week at their primary work location. Across the three surveys completed in 2002-2003 for clinicians reportedly working at least 36 hours per week providing patient care, the results were 73% of males and 63% of females for PAs; 90% of males and 77% of females for physicians; and 91% of males and 64% of females for APRNs. Primary care PAs (72%) were slightly more likely to work a minimum of 36 hours weekly than were their specialty care counterparts (66%). Age, rural/urban practice, and work setting were also examined. There was almost no difference between the percentage of rural and urban PAs who worked a minimum of 36 hours per week. Interestingly, PAs between the ages of 35 and 44 years were more likely to work less than the 36 hour standard. For the most part, there was little correlation between work setting and hours worked. Based on the serial surveys (1999 and 2003) of the three professions, PAs are growing at a rate of 9% per year in Utah, whereas physicians and APRNs are each growing at a rate of 4% per year in Utah.

Clinician productivity A comparison of productivity data for physicians statewide, PAs statewide, and rural and urban PAs revealed some important trends. When looking at mean

“Utah’s PAs and APRNs provide nearly one fifth of the state’s clinician FTE, a significant portion of the care provided in Utah.”

total hours worked and mean patient care hours, both were slightly higher (43 and 42, respectively) for the rural PA workforce, compared to the statewide PA workforce (42 and 41, respectively). This analysis also revealed that the rural PA workforce spends virtually 100% of work time in patient care activities. For both urban PAs and physicians statewide, the mean total hours worked was significantly higher at 46 and 53 hours, respectively. However, mean patient care hours for both of these constituencies were similar to the rural PAs and statewide PA workforce, with urban PAs pro-

TABLE 1. Mean productivity measures per week

	Physician (3,894)	APRN (895)	PA (324)
Total hours worked ^a	53	39.3	42
Patient care hours	43	35.5	41
Outpatient visits	70.5	40.8	79.1
Inpatient visits	9.4	8.1	5.4
Total patient visits	79.9	48.9	84.5

^a Based on clinicians working 50% FTE (full-time equivalents) or more in patient care activities.

TABLE 2. Percent FTE in all specialties and settings

	Physician	APRN	PA	Total
Number of clinicians (head count)	3,894 (76.1%)	895 (17.5%)	324 (6.3%)	5,113
Number of visits/week	79.9	48.9	84.5	
Clinician visits/week	311,130.6	43,765.5	27,378	382,274
Total visits/week ÷ 105 ^a	2,963.1	416.8	260.7	3,640.7
% FTE	81.4%	11.4%	7.2%	100%

^a 1 FTE = 105 visits per week for family physician (AMA).
Key: FTE, full-time equivalents.

viding 41 hours of patient care per week and urban physicians providing 43 patient care hours.

Although Utah physicians work more hours overall and spend more hours in patient care, Utah PAs, especially the rural PAs, see more outpatients per week. This is probably to be expected for a number of reasons. PAs practice within the scope of practice of their supervising physician; however, PAs generally perform more routine procedures and treat patients with more routine problems, while referring more complicated cases to the supervising physician. This may, therefore, allow them to see more patients in a shorter period of time. Also, Utah physicians see more inpatients per week than do the state's PAs (see Table 1).

Utilizing a method of analysis based on one used by the Washington, Wyoming, Alaska, Montana, and Idaho (WWAMI) Center for Health Workforce Studies and the WWAMI Rural Research Center in the study “The contribution of nurse practitioners and physician assistants to generalist care in underserved areas of Washington State,”² the number of outpatient visits per week as reported by the state's clinicians in the UMEC surveys were converted into full-time equivalents (FTE), with one FTE equaling 105 outpatients (number used for family physicians) seen per week (see Table 2). When productivity is measured in this way, corrections for individual differences in productivity can be made and pro-

ductivity can be directly compared across professions. As the WWAMI report suggests, state licensing data and self-reports of visit productivity can be used to count contribution to care by clinicians in FTE. Estimates can be made about the contribution to care made by individual clinician groups in meeting the visit requirements of a population.

Based on this methodology the state's PA workforce, which makes up 6.3% of the combined physician, PA, and APRN clinician workforce, contributed 7.2% of the total FTE available throughout the state. What was somewhat surprising was that the state's APRNs contributed approximately 10% of the total FTE based on this formula, despite constituting more than triple the number of PA(s) and comprising 17.5% of the total (physician, PA, APRN) clinician workforce. Basing productivity solely on outpatient data probably discounts APRN productivity somewhat, as many Utah APRNs dedicate a portion of time to RN-type activities and/or inpatient care. Normalizing both PA and APRN hours worked to physician hours worked per week (43 hours) is shown in Table 3 and continues to demonstrate a major difference.

Like the Washington study, the significance of this analysis lies in the finding that, together, Utah's PAs and APRNs provide nearly one fifth of the state's clinician FTE. This represents a significant portion of the medical care provided in the state. Without the presence of these two constituencies, Utah's physician workforce would be marginally ade-

TABLE 3. Patients seen per week normalized to physician hours

	APRN	PA
Patient care hours/week	35.5	41
Total patient visits	48.9	84.5
Normalized to physician patient care hours	$\frac{48.9}{1} \times \frac{43}{35.5} = 59.2$	$\frac{84.5}{1} \times \frac{43}{41} = 88.6$
Patients per week ^a		

^a Mean patient care hours worked by Utah physicians = 43 hours.

TABLE 4. Percent FTE in all specialties for outpatient visits

	Physician	APRN	PA	Total
Number of clinicians (head count)	3,894 (76.1%)	895 (17.5%)	324 (6.3%)	5,113
Number of visits/week	70.5	40.8	79.1	
Clinician visits/week	274,527	36,516	25,628	336,671
Total visits/week ÷ 105 ^a	2,614.5	347.7	244.0	3,206.2
% FTE	81.6%	10.8%	7.6%	100%

^a 1 FTE = 105 visits per week for family physician (AMA).
Key: FTE, full-time equivalents.

“Even though the trend is toward increased specialization, Utah's primary care PAs still provide an important service to the state.”

quate at best for meeting the needs of the state's residents, particularly for outpatient visits (see Table 4).

Using the same methodology used to measure productivity of the overall clinician workforces, UMEC analyzed the contribution of PAs practicing in rural Utah as well as those working in primary care. Rural and primary care PAs provided roughly the same proportion of FTE as the overall workforce. The 68 rural PAs in the state provided 8.2% of the clinician FTE in rural Utah. Primary care PAs contributed 8.7% of the primary care FTE contributed by PAs and physicians (see Table 5, page 47, and Table 6, page 47).

Data regarding nonpatient care activities reveal that PAs spend a larger percentage of work time in patient care than do physicians. Utah physicians spend larger percentages of their time in nonpatient care activities, such as teaching and research. The mean number of hours spent per week in administrative functions is indicative of this trend. For Utah physicians, the mean number of hours spent in administration is 4.45; for Utah PAs, the mean is 2.53.

PA practice specialty Utah PAs are contributing to the non-primary care workforce at an increasing rate. The percentage of Utah PAs working in subspecialty care rose from 44% in 1999 to 47% in 2003.³ Among those who obtained a Utah license during or after 1998, the percentage in subspecialty care is 50%. The trend toward specialization of the PA profession is expected to continue into the foreseeable future and will be a key factor in fueling increasing demand for PAs. Since the 1998 report, Utah has an additional 28 PAs practicing in one of the internal medicine subspecialties and 25 additional PAs practicing in surgery or one of the surgical subspecialties. These PAs represent 46% of the total increase since 1999.

The 53% of Utah PAs practicing in family medicine, general internal medicine, pediatrics, and obstetrics and gynecology in 2003 compares to the 60% who reported practicing in primary care nationally during this same time period.⁴

Even though the trend is toward increased specialization of the PA workforce, Utah's primary care PAs continue to provide an important service to the state. The presence of the primary care PAs in the state amplifies the capacity of physicians in these specialties. Utah's physician to population ratios for family practice, internal medicine, pediatrics, and obstetrics and gynecology are all significantly lower than US ratios.⁵ The ratios would appear to be even more marginally adequate without considering that Utah ranks among the highest (fifth) in health rates in the nation⁶ and has a large dependant population in both the child/adolescent and elderly cohorts.

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TABLE 5. Percent FTE in all specialties working in rural Utah based on outpatient visits

	Physician	APRN	PA	Total
Number of clinicians (head count)	568 (68.6%)	192 (23.2%)	68 (8.2%)	828
Number of outpatient visits/week	92	50	81	
Clinician visits/week	52,256	9,600	5,508	67,364
Total visits/week ÷ 105 ^a	497.7	91.4	52.5	641.6
% FTE	77.6%	14.2%	8.2%	100%

^a 1 FTE = 105 visits per week for family physician (AMA).
Key: FTE, full-time equivalents.

TABLE 6. Percent FTE working in primary care based on outpatient visits

	Physician	APRN	PA	Total
Number of clinicians (head count)	2,474 (92.9%)	Data unavailable	189 (7.1%)	2,663
Number of outpatient visits/week	71.8		89.5	
Clinician visits/week	177,642		16,908	194,550
Total visits/week ÷ 105 ^a	1,691.8		161.0	1,852.9
% FTE	91.3%		8.7%	100%

^a 1 FTE = 105 visits per week for family physician (AMA).
Key: FTE, full-time equivalents.

Clearly, PAs augment what would otherwise be insufficient capacity in the state to provide patient care services.

CONCLUSION

The UMEC estimates that the state will need approximately 346 new PAs by 2010 to account for population growth (predicted to increase from 2.2 million in 2000 to 3.3 million in 2020), to accommodate the aging population, and to replace PAs leaving the state workforce. Utah is predicted to need 988 new PAs by 2020. As a result of these predictions, the UMEC has recommended that the University of Utah’s PA program expand from its current 36 students per year to 50 students by 2012.

Some authors contend that increasing enrollment in PA educational programs will pose many challenges, including lack of clinical training sites and lack of qualified PA educators.⁷ An adequate funding stream for PA education is yet another challenge for educational programs in this time of tightening budgets and cutbacks at academic health centers and universities. As educational programs for other health

professions, particularly physicians and APRNs, also undertake expansion, these challenges will be magnified. Additionally, if salaries for PA educators do not parallel the continuing rise in clinical salaries for practicing PAs, we will have a compounding of the problem, including negative effects on the quality of graduates. The UMEC in Utah and other state jurisdictions making health workforce policy decisions must be made aware of the implications of their recommendations and must include methodologies to address both the intended and the potential unintended consequences. Financial resources will be needed to accommodate the fiscal realities of PA program expansion, the questionable federal support of PA education, and the current salary inequity between clinically active PAs and their educator colleagues.

Income trends for clinically practicing PAs reflect their current popularity. From 2001 to 2005, compensation for APRNs and PAs grew 13.2% and 15%, respectively, outpacing the growth rate of 9.6% for family physicians and 11.3% for pediatricians.⁸ Given the quality of PA graduates, the profession’s emphasis on service, and the demonstrated productivity of PAs, the profession in recent years has enjoyed very positive accolades. The PA profession was one of the 20 “hot professions” profiled in the November 11, 1991, issue of *U.S. News & World Report*⁹ and was again profiled by them in 1997 as the number one hot career track for the health professions.¹⁰ In 2005, the US Bureau of Labor Statistics ranked PA as the fourth fastest-growing occupation from 2004 to 2014.¹¹ Additionally, being a PA was listed as number five for “Best Job in America” profiled in a release by CNN and *Money Magazine* in 2006.

Getting the job done, to some degree, translates as productivity. Our experience in Utah clearly demonstrates that PAs are getting the job done and are now in great demand for the return on investment they represent. **JAAPA**

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