

The follow document contains information
from a 1998 Survey
that was published in 2000
by the Utah Medical Education Council

This report contains information that integrates data
and findings for the following workforce groups:

Physicians
Nurse Practitioner
Physicians Assistants

Utah's Clinical Healthcare Workforce

Achieving Balance Through 2020

Prepared by

**Medical Education Council
State of Utah**

December 2000

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The survey data can be made available in support of research and policy analysis of Utah's healthcare workforce. For more information and/or additional data analysis contact:

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PREFACE

Since 1995, interest has grown in Utah concerning the development of a systematic approach to understand the supply and demand of healthcare clinicians. This interest was captured and codified in 1997 with the passage of H.B. 141—*Medical Education Program* that created the Medical Education Council (MEC) in Utah. One of the responsibilities of the MEC is to assure that Utah has an adequate, well-trained healthcare workforce to meet the needs of the citizens of the state and region. This report, *Utah’s Clinical Healthcare Workforce*, by the MEC, is a comprehensive analysis of physicians, nurse practitioners, and physician assistants providing care in Utah. The report is intended to provide a basis for developing clinical workforce policy for Utah.

Within this report the term “healthcare clinicians”, or variations of it, shall refer to the three clinician groups: physicians, advanced practice nurses (nurse practitioners, nurse anesthetists, nurse midwives, etc.), and physician assistants. Knowing where these clinicians come from and why, and what number of clinicians Utah requires is important information for health policy makers, healthcare administrators, and clinical educators. Utah’s citizenry should be assured that these highly skilled medical professionals meet their healthcare needs.

An adequate healthcare workforce is also an important economic development issue as businesses are attracted to Utah because of the scope of healthcare services and associated research that exist in Utah. In addition, Utah clinicians benefit from knowing the relative balance or imbalance there may be between supply and demand as it impacts the viability of their practices and income. Knowing where shortages exist can help achieve a more balanced distribution of clinicians throughout Utah’s population.

Many insights summarized in this report have come from surveys of physicians, advanced practice nurses, and physician assistants, all of whom are licensed to practice in Utah. The purpose of the surveys was to obtain data regarding the current capacity of clinicians within Utah, and to a lesser degree, the requirements to meet the current and future demand for these clinical services. The survey data were further augmented with both local and national information from the Center for Health Data, the Health Data Authority, the American Medical Association, and other sources as footnoted.

The MEC recognizes that clinical healthcare workforce data and projections have been produced by other organizations. Specifically, the MEC feels that the number of physicians practicing in Utah has been greatly overstated by some organizations. The MEC has taken great care to ensure that the survey data shown in this report accurately reflect the number of physicians both licensed *and* practicing in Utah at some degree. It has been found that many physicians maintain licensure within the State of Utah, yet provide no care to the population (40 percent do not even reside in the state). Basing clinical workforce data on licensed physicians alone, while ignoring if care is being provided within the state, misrepresents Utah’s true capacity to provide care to its residents.

The survey instruments, which were targeted to the three clinician groups, were pre-tested and revised many times. Each question was assessed in terms of how it would be used by each of the sponsoring entities and for what purpose.

The surveys were administered by mail. A cover letter from supporting organizations was mailed with the surveys to all clinicians licensed in the State of Utah as of February 1998. The address for each licensee was obtained from the Division of Occupation and Professional Licensing—Department of Commerce. The response rates and conducted dates for the surveys are indicated as follows:

Survey	Response Rate	Dates
Physicians	61%	Aug. '98—Apr. '99
Advanced Practice Nurses	76%	Nov. '98—May '99
Physician Assistants	67%	Apr. '99—Nov. '99

Leadership for conducting and interpreting survey results was assumed by the Medical Education Council with substantial input from the Physician Workforce Subcommittee and the APRN, PA, Pharm D Subcommittee, both of which were appointed by the MEC. Full versions of all three surveys, along with extrapolated data, can be found in the appendices section of this report.

Joint sponsorship and support of the surveys were provided by the Medical Education Council; the Bureau of Primary Care, Rural & Ethnic Health—Utah Department of Health; the Utah Area Health Education Centers; the Utah Nurses Association; the Utah Physician Assistant Program; and the Utah Medical Association. The data needs of these entities and those whom they serve were paramount to the survey design and the analysis of results. Other key collaborators in the developmental process were the University of Utah School of Medicine—Department of Family and Preventive Medicine, and College of Nursing; the Office of Health Care Statistics—Utah Department of Health; and the Utah Health Policy Commission.

Careful consideration of the information within this report is vital to the future of Utah's healthcare clinician workforce. The report is divided into three broad sections. The first of these sections examines current clinical workforce in Utah and its capacity to adequately provide the needed healthcare services within the state. General descriptive information, practice characteristics, factors affecting clinician location, and training program information are all summarized within this section.

The second section of the report takes a projective look into the future to determine what factors will play a role in impacting the changing demand for the services of healthcare clinicians. Factors such as population demographics, new models of care delivery, and federal policy changes, among others, will all affect Utah's workforce requirements over the next twenty years.

The final section, preceding the appendices, identifies the policy actions necessary to achieve the required future workforce and accommodate the changing healthcare demands of Utah's future population.

Utah's mix of professionals and the staffing ratios are different than the nation's. An action plan is needed based on Utah's projected mix and ratios of clinicians to assure Utah will have the necessary clinicians required to meet the future demands of Utah's growing population. This report on Utah's Clinical Healthcare Workforce provides the information necessary for developing such an action plan.

TABLE OF CONTENTS

	<u>Page</u>
Preface.....	i
Table of Contents.....	v
Executive Summary	vii
Integrated Report	
I. Capacity of Current Clinical Workforce.....	1
A. General Descriptive Information	1
B. Practice Characteristics	3
C. Factors Affecting Locating to Utah to Practice	6
D. Influence of Training Programs on Workforce Capacity	8
II. Projected Clinical Workforce Requirements	11
A. Demographics.....	11
B. Provider Profile.....	12
C. Regional Service Load	14
D. New Delivery Models	14
E. Federal Policy Changes	15
F. Training Capacity	16
III. Policy Actions to Achieve Projected Workforce Requirements, Goals, Objectives, and Action Plan.....	17
IV. Works Consulted	23
Consulted Organizations	37
Appendices	
A. Physicians Survey Data	
B. Advance Practice Nurse Survey Data	
C. Physician Assistant Survey Data	
D. Combined Workforce Data	
E. Utah Models of Integrated Workforce Teams	
F. Population Data	
G. Health Status, Disease Pattern, and Healthcare Utilization Data	
H. Utah Residency Programs	
I. Workforce Recruiting Status as of September 2000	
J. Acknowledgements	

Utah's Clinical Healthcare Workforce

EXECUTIVE SUMMARY

Section I. Capacity of Current Clinical Workforce

1. Utah is on the verge of a crisis in the clinical healthcare workforce. Unless something is done to avert this crisis, Utah citizens will no longer be able to access the quality healthcare that they deserve.
2. There is a chronic *maldistribution* of primary care clinicians among urban and rural settings.
3. There are some statewide specialist shortages developing. At present there is a statewide shortage of emergency room physicians, adult and child psychiatrists in public settings, pediatric and adult endocrinologists, nephrologists, neurologists, rheumatologists, anesthesiologists, and gastroenterologists.
4. Healthcare providers are highly influenced to practice in locations where advanced clinical training was received. This has implications for both Utah in general and for rural locations.
5. National policy to reduce the number of medical residency training slots throughout the nation will reduce the pool of fully trained physicians from which Utah will compete. This is expected to hamper the maintenance of Utah's physician workforce. The demand for advanced practice nurses and physician assistants will continue to grow as a result of the possibility of increased shortages of physicians.
6. As Utah faces physician shortages, it should be noted that enrollment at the University of Utah Medical School has not increased since 1972 (and cannot without additional funding and facility expansion). Advanced practice nursing programs would likewise require added funding for expansion and the state's physician assistant program would need both funding and facility expansion.

Section II. Workforce Requirements (Demands and Needs)

1. Population Growth over the next 20 years will require, at current provider ratios, that Utah increase its clinician workforce by 1880 physicians, 362 advanced practice nurses, and 124 physician assistants by 2020.

2. In addition to maintaining current ratios, the projected retirement rate will require that Utah recruit: 3540 physicians, 583 APNs, and 191 PAs to replace those retiring by 2020.
3. The aging of the population is expected to increase the projected minimum of physicians by 20 per 100,000 total population over the next 20 years.¹
4. As the demographic composition of Utah's physician workforce changes Utah will need to add between 3 and 7% more physicians in order to provide a minimum level of services. Physician assistants will likewise need to increase by 1—2%. Data for advanced practice nurses are not conclusive.
5. Due to the changing models of care delivery, an increase in demand of 5% of the number of advanced practice nurses and physician assistants over the next ten years is likely.
6. Over the next twenty years, Utah will be even more dependent upon the recruitment of clinicians, especially physicians from outside of the state, to meet Utah's future healthcare requirements.
7. To avoid being excessively dependent upon out-of-state recruitment, Utah's current clinician training programs must, at a minimum, be maintained at current production capacity.

Section III. Actions to Achieve Workforce Requirements

1. Institute a clinical environment that fosters the development and evolution of integrated workforce models.
2. To meet projected workforce requirements, Utah is going to need to expand its physician, advanced practice nurse, and physician assistant clinical training capacity commensurate with population growth.
3. Utah will need to utilize multiple Utah hospitals and ambulatory sites that have the capacity to expand healthcare clinical training.
4. Create an interstate compact for intermountain states to combine resources in order to train clinicians in certain specialties and subspecialties for which single state demand is not sufficient to accommodate the cost of supplying such specialty training by one state alone.

¹ The number of needed APNs and PAs is also expected to increase due to population aging, however, specific numbers are difficult to quantify from current provider based data.

5. Explore options for a reallocation of federally supported residency slots to more nearly match federal residency training support to the geographic workforce requirements.
6. Policy recommendations and decisions should be data driven. This will require the collection of quality information elements, analysis completed using sound methods and procedures, maintaining existing quality data resources, and continually updating the data to keep them chronologically current.

SECTION I

CAPACITY OF CURRENT CLINICAL WORKFORCE

A. General Descriptive Information

The present profile of the clinical workforce in Utah consists of 4,774 healthcare clinicians that serve a total state population of 2.1 million. The breakdown of this total count includes 3,792 physicians, 742 advanced practice nurses and 240 physician assistants. The adequacy of the healthcare workforce can be quantified in terms of providers per 100,000 Utah residents. For the year 2000, the Institute for the Future¹ and the Council on Graduate Medical Education's *8th Report* projected that the national range for an adequate supply of physicians was 145–185 per 100,000 U.S. residents.² The Medical Education Council believes a range of 145–165 physicians per 100,000 Utah residents will be adequate to meet the needs of Utah citizens.

Clinicians are considered active patient care providers if 50% or more of their workweek is spent providing patient care or teaching patient care. According to this criterion, the actual number of physicians in Utah providing patient care is 3,221. This figure equates to 155 physicians per 100,000 Utah residents. Thus, Utah is in the middle of the Council's established range for physician adequacy, but closer to the minimum for the recommended national ranges. The Health Resources and Services Administration (HRSA) reported that the 1998 national ratio for nurse practitioners was 26.3 per 100,000 population; and for physician assistants the 1998 national ratio was 10.4 per 100,000 population.³ The Council's calculated figures for advanced practice nurses (which includes not only nurse practitioners, but also nurse anesthetists and nurse midwives) shows a ratio of 29 practitioners for every 100,000 people in Utah. Utah's ratio for physician assistants is 10 for every 100,000 Utah residents. Therefore, in comparison with national ranges, the current capacity of the clinical workforce is marginally adequate for the State of Utah.

Utah's clinical workforce provides a noticeable portion of specialty care services to non-Utah residents. Some may argue that Utah should not be responsible for educating clinicians to meet the needs of residents from other states. However, specialty clinical services are in large part dependent upon population size. Thus, the out-of-state referral base has made it possible for Utah's citizens to enjoy access to a broader range of specialty services than would be economically feasible if Utah did not act as a regional referral center. Utah is a large regional referral center for all of the bordering states and Montana. The average length of stay of these non-residents is double the average length of stay for Utah residents—7.7 days for non-residents and 3.8 days for residents. The demand for healthcare services generated by non-residents is declining in actual patient days as well as number of patients seen. Since 1995, the total number

¹ The Institute for the Future (January 2000), pg. 75.

² COGME 8th Report (November 1996).

³ Health Resources and Services Administration (December 2000), pgs. 38, 55.

of patients has declined 11% or a 43% decline in patient days.⁴ Although the decline in patient days is significant, non-resident inpatient days still account for 13% of patient days and 7% of the total inpatient volume.

Presently, Utah does not have a proportionate balance of ethnic diversity among clinicians in comparison with the population as a whole. Utah's minority ethnic population is 12% of the total population. The percentage of all clinicians with minority backgrounds working in the professions being discussed is 4%. The breakdown of ethnic diversity for each profession compared with population percentages is as follows:

Race/Ethnicity	Physician	Adv. Practice Nurse	Physician Assistant	Population Percentages
African American	0.0%	0.0%	0.6%	0.8%
Native American	0.0%	0.0%	0.0%	1.4%
Pacific Islander	0.0%	0.0%	0.6%	*
Asian	3.0%	1.0%	1.9%	2.5%
Hispanic	1.0%	0.0%	1.9%	6.8%
Other	1.0%	1.0%	0.0%	0.1%
Caucasian	95.0%	98.0%	95.0%	88.4%

* Asian and Pacific Islanders were combined as one ethnic group

Research indicates that African Americans and other minority patients often receive differential and less optimal technical healthcare than white Americans because of cultural barriers in patient-physician communication. It is beneficial to have a greater ethnic diversity among clinicians because it increases their capacity to understand illness according to the values and culture of a specific race.⁵ The medical school and other training programs in Utah must continue their efforts to diversify the clinician workforce. Considerable success has been achieved the last five years in attracting people of ethnic backgrounds into the physician assistant and nurse practitioner programs. Over the last five years, the physician assistant program has had an average of 17% of the enrollees from ethnic minorities.⁶ The University of Utah College of Nursing, in the Master of Science APRN Program has averaged 18% ethnic enrollment from 1960 through 2000. The Advance Practice Nursing Program at Brigham Young has averaged 10% ethnic enrollment. The Westminster Nurse Practitioner Program is the newest, beginning with the first class in 1995. The J-1 Visa Program, a federal program facilitated by the Utah Bureau of Primary Care, Rural & Ethnic Health to enable international medical graduates to work in underserved areas of Utah, assists in diversifying the ethnic make-up of the healthcare workforce. However, Utah still falls short of having appropriate ratios between its workforce of ethnic background to its population of ethnic background.

The age distribution of Utah clinicians shows some significant differences between the three professions. The physician distribution is relatively normal across all age cohorts

⁴ Source: Utah Department of Health—Division of Health Care Finance.

⁵ Cooper-Patrick et al. (August 11, 1999).

⁶ Utah Physician Assistant Program. Annual Reports (1996-2000).

given the age when they complete training and enter practice. However, the age distribution for nurse practitioners and physician assistants shows a disproportionate concentration in the 45-49 age cohort. The percentages for physicians, advanced practice nurses and physician assistants were 17%, 26%, and 29% respectively (Appendix D-1). The high concentration in one or two age cohorts may be problematic as individuals in these two professions reach retirement.

Since 1996, the average age of enrollees entering the physician assistant program has been 34 years. For the Master of Science APRN Program at the University of Utah the average age of enrollees, since 1995, has remained constant at 37 years. The average for the nurse practitioner enrollees the last five years at Brigham Young University has been 27 years.

In Utah, healthcare delivery models—such as managed care or health maintenance organizations—may also be a threatening factor to the capacity of the workforce. Although managed care systems utilize primary care physicians at a higher ratio to specialists than traditional fee-for-service models of delivery, the goal of managed care to enhance provider efficiency (thus reducing the overall number of needed providers) may be a contributing factor to Utah's lower primary care physician to population ratio than the national average. Utah has 63.0 primary care physicians per 100,000 Utah residents compared to a U.S. ratio of 70.9 per 100,000 residents.

According to the Utah Hospitals and Health Systems Association's 1999 report *Eye on the Market*, as of 1997, Utah's percentage of HMO penetration was 38.0% (6th highest in the U.S.), compared to a lower national average penetration of 27.0%. Furthermore, as of January 31, 1999, managed care systems enrolled 88.5% of the population living along the Wasatch Front in some type of managed care plan (81.9% were in non-governmental plans and 6.6% in governmental plans). In that same year, the state overall reached an enrollment rate of 67.1% (62.1% in non-governmental managed care plans and 5.0% in governmental plans).⁷ Regardless of a higher utilization of primary care physicians within managed care systems, Utah's primary care physician ratio to population is still significantly lower than the national average.

The reason that Utah appears to have an adequate clinician supply is due to the fact that, in terms of utilization, the populace utilizes healthcare services less than the national average. Appendix G shows a number of basic differences of healthcare utilization between Utah and the nation over the past years. Except for neonatal care, Utah is almost always below the national range of services utilized.

B. Practice Characteristics

From Utah's clinician survey information and national suggested workforce ranges, it can be concluded that Utah's clinician capacity is marginally meeting the aggregate market demands of the state. However, a closer look at Utah's urban/rural clinician distribution in relation to urban/rural demands reveals a more detailed picture of where

⁷ Utah Hospitals and Health Systems Association (1999), pgs. 1-4, 8.

Utah stands. Factors such as primary/specialty breakdowns of the workforce and gender mix of the workforce provide key insights concerning Utah's current clinician capacity. Since these and many other factors are continually changing, their importance lies not only in understanding the workforce at present, but also in the future.

Utah has both urban and rural characteristics. Its main urban population lies within only four counties along the Wasatch Front. Approximately 76% of Utah's population resides within the Salt Lake, Utah, Weber, and Davis counties. The rural portion of the state comprises the remaining 25 counties and covers approximately 96% of the state's landmass.⁸ These two, uniquely contrasting characteristics create a challenge for Utah's healthcare providers in rendering the proper services to all the people of the state. Additionally, with 24% of the state's population spread out over 96% of the geographical area, rural shortages in the healthcare clinician workforce are difficult to quantify. Some rural communities may have an adequate supply of primary care physicians, while others are in critical need.

The statewide breakout of primary care physicians versus specialists is approximately 35% to 65% respectively.⁹ Among advanced practice nurses the breakout is 57% primary care and 43% specialists, and among physician assistants 59% practice in primary care compared to 41% in specialties (Appendices A through C for specifics by profession). Nurse practitioners and physician assistants provide a significant and increasing portion of the primary care. The training and use of advanced practice nurses and physician assistants adds flexibility in meeting the demands and needs of Utahns. They help achieve the aggregate number of generalists and specialists needed, and also an appropriate mix of generalists and specialists within the state.

As can be seen from the following table, advanced practice nurses and physician assistants are more likely to practice in rural areas of the state than are physicians.

Area of Practice	Physicians	Adv. Practice Nurses	Physician Assistants
Urban	85.7%	82.2%	73.7%
Rural	12.6%	16.9%	26.3%
Other*	1.7%	0.9%	0%

*This accounts for clinicians that maintain their primary practice outside of Utah, but still practice in Utah.

Nationally and in Utah, advanced practice nurses and physician assistants have a history of disproportionately serving disadvantaged populations. This is especially true in rural Utah. The rural distribution is commensurate with clinic location and the population base. The fact that advanced practice nurses and physician assistants are practicing in higher percentages in both primary care and rural areas of the state than

⁸ Source: Governor's Office of Planning and Budget.

⁹ Nationally, the trend in recent years has been to move to a 50/50 mix among specialty and primary care physicians. Recently however, this ratio has been questioned and COGME is re-examining the rationale for an approximate mix. Many anticipate it will be revised to 40% primary care and 60% specialist. In such a case, Utah's primary care mix would still be lower than this level.

are physicians, could lead to a false sense of comfort. Most likely, Utah will always face the problem of providing reasonable care to both disadvantaged and geographically remote populations.

An additional reason Utah's supply of physicians in the rural areas of the state has been marginally adequate and not a critical shortage is the augmentation provided by three recruitment programs administered by the Utah Department of Health—Bureau of Primary Care, Rural and Ethnic Health. These programs are the J-1 Visa Program (foreign professionals) or State 20 program, the State Loan Repayment Program, and the National Health Service Corp. Placement Program. These programs have been used to place 67 physicians in Utah; 49 of these were in rural Utah. They have the potential to address recruitment shortages in both primary care and specialty care for underserved areas. In the context of underserved populations the most requested primary care physician group is family practice. As mentioned, these programs also help in areas that are unable to find specialists through normal recruitment. Due to this, the most requested specialty care physicians are gastroenterologists.¹⁰

Notwithstanding the general ratios of primary versus specialty and urban versus rural, a number of specific shortages are known throughout the state (Appendix I). Currently there are a number of specialist shortages developing either on a statewide basis or involving an urban/rural maldistribution. For example, shortages have been reported by at least two systems of clinics in the areas of anesthesiology, rheumatology, endocrinology, gastroenterology, neurology, and nephrology. Most of these positions have been vacant for more than eight months. Statewide, there is a shortage of emergency room physicians. Virtually all mental health organizations report a shortage of psychiatrists working in public settings. This is an acute problem in rural Utah where there is little prospect of recruitment and most rural communities do not have a psychiatrist. This need may be partially met by the increased use of telemedicine. The fact that Utah is a tertiary regional referral center for medical care also adds to the shortage of specialists per 100,000 Utah residents.

Gender is an important variable in healthcare provider workforce planning largely because women often chose to work fewer hours than men do¹¹; this is most noticeable among physicians. The longer hours worked by men may be a contributing factor in how Utah has been able to meet the needs with a workforce that is smaller in number than normally required by a population the size of Utah's.

The physician workforce has traditionally been, and is still, very male dominated in composition. Females comprise 15% of the current physician workforce (See Appendix A-2) and comprise 18.2% of the primary care physicians. Nevertheless, the ratio of female to male medical school graduates is changing and approaching 50% and will likely change the composition of the profession. Over the next two decades it is expected that the physician workforce will be composed of a larger proportion of women. Consequently, the gender factor would suggest that more physicians and a

¹⁰ Source: Utah Department of Health—Bureau of Primary Care, Rural and Ethnic Health.

¹¹ COGME 14th Report (1997), pg. 10.

higher ratio of physicians to population would be required in Utah to maintain current levels of service. This may be especially true within primary care since the data suggest that women concentrate in primary care at a higher rate, 42.8% compared to 31.7% of men working in that area.

The advanced practice nurse field is significantly different with respect to gender than the fields of physicians and physician assistants. In this case, females comprise a considerably larger portion of the workforce. Approximately 18% of all advanced practice nurses are males (See Appendix B-2) and are most highly concentrated in the nurse anesthetist specialty. There are not significant numbers of males in any other area of specialization. For females, the dominant specialization areas are nurse midwifery and neonatology. Since male advanced practice nurses are so concentrated in a specific specialty area, it is difficult to quantify any impact that gender plays in the service delivery capacity of advanced practice nurses.

Of practicing physician assistants, 64% are males and 36% females (See Appendix C-2). The younger age cohorts are comprised of a larger percentage of women. The enrollment ratio of women to men in the physician assistant program has averaged 39% since 1996.¹² This suggests that, along with physicians, women are beginning to comprise an increasingly larger proportion of the physician assistant workforce.

As mentioned before, there are maldistribution issues that will need continued attention throughout Utah:

- Some disadvantaged and vulnerable population groups and working poor do not have their healthcare needs fully met.
- Some geographically remote populations do not have reasonable access to needed healthcare.

Special ongoing attention, monitoring, and consideration also need to be given to:

- Possible future shortages of some specialists due to retirement, and
- Unfilled vacancies of some specialists.

C. Factors Affecting Locating to Utah to Practice

There are many factors influencing today's healthcare professionals' decision to practice in Utah. The most significant factors include completion of advanced clinical training in Utah, being raised in Utah, and quality of life preferences.

The factor that was determined to be most influential in healthcare professionals locating to Utah is advanced clinical training. The survey indicated that 49.2% of the physician respondents had completed at least one residency program in Utah. Similarly, the dominant factor in the location of advanced practice nurses and physician

¹² Utah Physician Assistant Program. [Annual Reports](#) (1996-2000).

assistants to Utah is their completion of advanced clinical training in Utah. Of advanced practice nurses practicing in Utah, 70.1% were trained in Utah. Of physician assistants practicing in Utah, 68.7% were trained in Utah (See Appendices A-16, B-23, and C-24, respectively).

Schooling can also be a factor in locating to Utah. The University of Utah School of Medicine is the only medical school in the State of Utah and 35% of Utah’s current physician workforce was trained there. Between medical school and residencies, 65% of Utah’s physicians received at least part of their advanced medical training in Utah. By broadening the medical training opportunities in Utah, the number of healthcare professionals practicing in Utah will increase simply by their tendency to settle in Utah after completing their advanced clinical training in the state.

Being raised in Utah is the third most influential factor in the decision for physicians to practice in Utah. The survey indicated that 43% of the physicians practicing in Utah spent the majority of their upbringing in Utah (Appendix A-5). The survey also indicated that 82% of the Utah physicians with a Utah upbringing had either completed a Utah residency and/or medical school training in Utah.

Where an individual is raised is particularly important for those who practice in rural Utah. As the following tables show, being raised in rural Utah increases the likelihood that a professional will practice in a rural community. The number of physicians who were raised in rural Utah is significantly related to the number of physicians practicing in rural Utah. Of 285 physician respondents who were raised in rural Utah, 157 are now practicing in rural Utah, a percentage of 55.2%. This is an indication that recruits from rural Utah are more likely to return to rural Utah to practice. The same is true for advanced practice nurses and physician assistants.

Clinicians with Utah Upbringing by Setting			
Utah Upbringing Setting	% of Physicians in Rural Practice	% of APNs in Rural Practice	% of PAs in Rural Practice
Rural	55.20%	53.10%	85.70%
Suburban	8.00%	10.70%	16.70%
Urban	3.70%	4.10%	11.80%

Regardless of where the individual was raised, being raised in a rural area increases the likelihood that an individual will practice in rural Utah.

Clinicians Without Utah Upbringing by Setting			
Outside Utah Upbringing Setting	% of Physicians in Rural Practice	% of APNs in Rural Practice	% of PAs in Rural Practice
Rural	23.10%	33.80%	50.00%
Suburban	8.60%	9.40%	12.10%
Urban	3.80%	3.40%	10%

Utah's quality of life and recreational opportunities have emerged as a major factor in locating to Utah. Although not addressed in the survey, many clinical healthcare providers have identified this aspect as one of the top three reasons they located to Utah. Also, Utah's educational and research environment appeals to many healthcare professionals in the decision to locate to the state.

Salary ranges for Utah physicians appear to have no effect on their locating to Utah. According to the Center for Health Policy Research's *Socioeconomic Characteristics of Medical Practice 1997/98*, Utah's physician salaries are comparable to those of any Mountain region state.¹³ The average for the region, was approximately \$160,000 per year in the year 1996. The national net median income was \$166,000 in 1996, so Utah physician salaries appear to be competitive and at the average range in comparison with other regions of the nation. Therefore, speaking of physicians as a group, Utah physician salary ranges do nothing to make Utah competitive or noncompetitive. The same conclusion cannot be made when Utah and national salaries are compared on a specialty or subspecialty basis.

As seen, the factors having the most influence on healthcare workforce locating to Utah are graduate/clinical training, Utah upbringing, and quality of life. By targeting new opportunities for medical training in Utah, targeting rural communities for candidates for medical school, and continuing to promote Utah's desirable lifestyle, the location of healthcare professionals to Utah can be increased. Utah is able to produce and attract quality professionals from within the state's population and the national pool. In general, no seriously negative factors were identified at present, which would indicate that Utah would have difficulty recruiting quality medical personnel. The quality of life and training programs are attractive features for those considering locating to the state.

D. Influence of Training Programs on Workforce Capacity

Medical training programs in the State of Utah directly influence the capacity of the clinical workforce. These programs provide a recruitment pool of qualified, well-trained clinicians. The graduates from these programs help advance the already high standards of healthcare in Utah.

Approximately 49.2% of the physicians practicing in Utah have completed a residency program in Utah. There are currently 54 residency programs within the State of Utah that enroll 130 to 140 new physicians a year (See Appendix H). In spite of quality residency programs, Utah is dependent upon other states to train a majority of its physician workforce. The national reduction in residency slots will reduce the pool of fully trained physicians from which Utah will recruit.

The University of Utah's and Brigham Young University's advanced practice nursing programs maintain a combined average annual enrollment of 45 to 55 new students a year. The percentage of advanced practice nurses who remain in the state is about

¹³ Gonzalez, M. L. and P. Zhang, Eds. (1998).

70.1%. Utah's physician assistant program currently admits 32 new students each year. Of those completing training, 68.7% are retained. It is evident clinicians are more likely to remain and practice in the location where advanced clinical training was received.

Over 75% of the University of Utah School of Medicine students are residents of Utah. The School of Medicine educates a large number of the practicing physicians in the Intermountain West. As the only medical school in Utah, it has not increased enrollment since 1972. The constant enrollment at the medical school has been based on patient population and financial considerations. Furthermore, one-third of the teaching at the medical school is done by residents-in-training which reduces the cost of funding a full-time faculty. The threat of reductions in the number of residency slots and/or residency programs makes it very difficult for the medical school to plan and provide for an increased enrollment.

The Accreditation Council of Graduate Medical Education has given accreditation to every site in Utah at which a resident physician is being trained. Likewise, the National League for Nursing Accreditation Commission accredits the advanced practice nurse programs at the University of Utah and Brigham Young University. The other advanced practice nurse program at Westminster College is accredited by the Commission on Collegiate Nursing Education. The Utah Physician Assistant Program is one of the oldest physician assistant programs in the United States. It has maintained full accreditation since 1972. The greatest benefit from these programs is the resource of quality clinicians they make available to Utah's healthcare workforce. This is not only beneficial to the workforce, but also to the citizens of Utah who expect quality care.

All 29 counties in Utah are expected to gain population, households, and employment between the years 1995 to 2020.¹⁴ The growth of the population will provide the increased patient population necessary to support expanded enrollment of students at the medical school, nurse practitioner programs, and the physician assistant program. To assure an adequate workforce, ideally, the capacity of the medical school, in-state residency programs, nurse practitioner programs, and physician assistant programs should be commensurate with growth of the state's and referral region's populations.

¹⁴ Source: Utah Population Estimates Committee—Governor's Office of Planning and Budget.

SECTION II

PROJECTED CLINICAL WORKFORCE REQUIREMENTS

The prediction of workforce requirements is enormously difficult. The major reason for this is the large number of factors and “wild cards” that can come into play. Among the major variables that impact workforce requirements are:

- size and nature of population, and associated demographics (especially growth patterns);
- medical services utilization rate, which in turn is influenced by: the relative health status of the population, population demographics, and efforts at primary prevention of disease;
- health services delivery models, and philosophies/policies regarding use of non-physician clinicians;
- degree to which the population is insured for healthcare services;
- extent and nature of competition;
- technology, and;
- the cost of healthcare.

The Workforce Committees examined the above factors, which potentially could affect workforce projections. In this section we have included only those factors where sufficient information existed to quantify impact on projections.

A. Demographics

The growth of Utah’s population is the major determining factor in the future outlook of workforce requirements. The growth rate of Utah’s population has historically exceeded that of the nation and is expected to continue to do so through 2020. Utah is expected to increase its population by 48% over the next 20 years to over 3.1 million by 2020.¹⁵ Because of population growth, Utah will need to add as many as 120 new physicians each year in order to maintain the current ratio of physicians per 100,000 Utah residents. This will equate to a total increase of over 1800 physicians over the next twenty years. Utah will also need to recruit as many as 23 new advanced practice nurses and 8 new physician assistants per year to maintain current ratios. This is a total increase of 362 advanced practice nurses and 124 physician assistants over the next 20 years due to population demands.

This population growth is not expected to be equal across the state and thus some areas will benefit while others will experience reduced capacity for physicians. Overall it is expected that the population growth will help Utah to alleviate some of the maldistribution problems between urban and rural areas.

¹⁵ Source: Governor’s Office of Planning and Budget—Demographic and Economic Analysis Section UPED Model System.

In addition to growth of the population, Utah is going to experience a polarization effect over the next 20 years. Increases in the 0-14 age population cohorts will result in an overall increase in the demand for pediatricians and pediatric subspecialists. The 65+ age cohort is going to see an increase of 24% over the next 10 years and an increase of 52% over the following 10-year period (See Appendix F).

The dependent populations, 0-19 years and 65+ years are the two highest utilizers of healthcare services. The effect of this on Utah's workforce will be an increased need for healthcare clinicians. National projections indicate that the aging of the "Baby Boomers" will affect an increase in the need for additional physicians somewhere in the range of 5 physicians per 100,000 residents over the next ten years. This need for additional physicians will move Utah's expected range of physician demand from 145-160 to 150-170 per 100,000 Utah residents by the year 2010 and from 155-170 to 170-185 per 100,000 Utah residents by 2020. This movement reflects the rate at which the baby boomers will be moving into the older age cohorts and the increased population due to longer life. In order for the state to keep up with this demand for practitioners, Utah is going to need to add up to 133 new physicians per year by 2010 and as many as 318 per year by 2020. A large percentage of these new physicians will need to be specialists in diseases associated with the aged population including cardiology, pulmonology, endocrinology, etc.

There are no national projections of changes in ratios for advanced practice nurses and physician assistants to population due to aging of the population. However, in Utah there are currently 29 patient-care-providing advanced practice nurses per 100,000 Utah residents and 10 patient-care-providing physician assistants per 100,000 Utah residents. In order to maintain the same ratio of advanced practice nurses and physician assistants to needed physicians, Utah would require an additional 21 to 32 new advanced practice nurses per year and 9 to 13 new physician assistants each year.

B. Provider Profile

Large employers of physicians in Utah have indicated that they traditionally experience an annual retirement rate of 3% among their physicians. If this continues to hold true, Utah would need to recruit at least 114 new physicians each year to replace those retiring. However, there is growing evidence that physicians are beginning to retire as much as ten years earlier than the traditional age of 65. Given this, Utah may need to replace 1600 physicians or 42% of the current workforce in the next 10 years. Over the next 20 years as much as 95% of the physician workforce will need to be replaced.

The age profiles of advanced practice nurses and physician assistants indicate that they enter the clinical workforce at about the same age as physicians and have a smaller percentage of practitioners in the retirement age group than physicians. If a normal professional work life were followed, the age distribution of Utah nurse practitioners should begin to parallel that of physicians. Over the last two decades, the normal pattern for those obtaining advanced practice training was to seek admission after their children were all of school age. While the average age of nurse practitioners graduating

from Brigham Young University and Westminster are younger than those at the University of Utah, the MEC does not have enough data to make conclusions about whether the age distribution of nurse practitioners will assume a pattern closer to the physician profiles. Given the lack of historical data for both nurse practitioners and physician assistants, a 3% per year average retirement rate for both professions is estimated. However, it is obvious the MEC needs to monitor changes in the makeup of the nurse practitioner workforce.

Given that rate, Utah would need to annually recruit at least 22 new advanced practice nurses and 7 physician assistants. No calculation for early retirement has been made for advanced practice nurses and physician assistants because a number of practitioners have said, due to their wage levels, very few feel that they are able to retire early.

The survey data indicate many practitioners are choosing areas of specialty based upon the accompanying workload commitment (hours per week) in order to fulfill other desires and commitments. The overall impact on the workforce due to this trend is unknown. The Utah survey data show that among physicians, women work about 10% fewer hours per week. This agrees with the same trend that is being seen nationally.¹⁶ Because of the trend to move toward a workforce with greater gender balance, Utah will need a 3%-7% increase in the required number of physicians.¹⁷ It is unclear how this demographic change in the workforce will effect the urban/rural maldistribution of physicians, given that there are very few women physicians currently practicing in rural Utah.

Utah's advanced practice nursing programs indicate that they are experiencing minimal increase in the percentage of male enrollees. To what extent the ratio of male to female enrollees will come close to 50/50 is unknown. However, the majority of males currently in the advanced practice nurse profession practice primarily as Certified Registered Nurse Anesthetists (CRNA) and there are not enough females in that group to make a comparison. Thus, no prediction is being made concerning the effects of a demographic change in the balance of the advanced practice nursing workforce.

Utah's physician assistant program likewise reports that they are seeing a shift in enrollment toward a gender balanced student body. Since 1995, women have constituted a low of 33 percent to a high of 50 percent of the annual enrollment.¹⁸ Male physician assistants work on average 13% more hours per week than their female counterparts. The Council expects to see minimal changes, between a 1% and 2% increase, in required total physician assistants, because the current ratio of Utah practicing physician assistants is 36 females to 64 males and the ratio for program entrants has averaged 39% females since 1996.

¹⁶ Hadley, J., Mitchell, J. M. (1997), pgs. 99-111.

¹⁷ Survey results indicate on average female physicians work 10% fewer hours per week with up to a 20% reduction in patient load, which may or may not all be attributed to the reduced hours. Also the sample size in some specialties limit the ability to make detailed comparisons by specialty and county of practice.

¹⁸ Utah Physician Assistant Program. Annual Reports (1996-2000).

The Medical Education Council is continuing to monitor the makeup of the workforce and will be looking for changes in workforce practice patterns, hours worked, and choice of specialty or other factors which might influence the number of clinicians needed by an increasing population.

C. Regional Service Load

Statewide, Utah's regional service load or in-migration of patients needing specialty care has declined steadily in recent years. In 1995, 17,849 out-of-state patients received care in Utah, but that number had decreased to 15,939 in 1998. In addition to the number of cases, inpatient days have also steadily declined over this same time period: from a high of 213,059 in 1995 to 122,209 in 1998. However, due to the increased severity of illness of most non-Utah resident patients and the nature of the required care for the patients, the average length of stay is still twice that of Utah residents. In 1995, the average length of stay (ALOS) for out-of-state patients was 12 days compared to 5 days for Utah residents, and in 1998 the ALOS was 8 and 4 respectively (Appendix G).

This declining patient in-migration trend appears to match the population growth rate of the bordering states and communities. The population growth in the bordering states has made it economically feasible for more of the care to be available in those states. This reduction in overall number of out-of-state patients treated does not necessarily translate into reduced demand for services. Those patients from other states who will continue to seek care in Utah will be the most critically ill and will require specialty care that is unavailable in their home states. The Medical Education Council believes the gradual decline in service demand from the region, will be steadily offset by Utah's growing population. Thus, no decreased demand for the specialty services is anticipated which might threaten the existence of the array of Utah specialists. A slowing in the decline in regional service demand, coupled with increased demand from the growing and aging Utah population, could produce an expanded demand for specialist and sub-specialist physician services. Longitudinal data are needed before trends are known and it becomes possible to accurately project regional service demand. Therefore, the Medical Education Council has not made any adjustment in projected workforce requirements due to regional service load.

D. New Delivery Models

Evidence suggests that Utah is on the cusp of an evolution in the structure of healthcare delivery. Fourteen new integrated workforce teams have been identified by the MEC and interviewed. These new healthcare delivery teams are using advanced practice nurses and physician assistants alongside physicians to provide a higher level of care. These teams have changed, and will change, the role of providers by utilizing advanced practice nurses and physician assistants to perform such tasks as case monitoring, patient education, and both pre-procedure and post-procedure work, with the physicians focused on the more technical procedures for which they are uniquely trained. This trend is expected to expand to more patient care areas, resulting in an increased

demand for nurse practitioners and physician assistants. Team members have indicated that this model of care delivery is preferred because they have better patient work-up and case management. They also cited the better use of team members' skills and training (See Appendix E).

Because this is a new and emerging trend, the absolute impact is impossible to predict. However, in the opinion of the Medical Education Council's Workforce Committees, this movement to care delivery through complementing teams will increase demand for physician assistants and advanced practice nurses an estimated 5% by 2010 and an estimated 10% increase by 2020.

E. Federal Policy Changes

The Council on Graduate Medical Education (COGME)¹⁹ and the Pew Health Professions Commission have called for a reduction in the number of residency training programs in the United States. Currently there are about 40% more residency slots in the United States than there are medical school seniors. Both COGME and PEW Commission reports are calling for a reduction to about 110% of the graduating class. Congress has acted on this and placed a cap on the number of residency slots they are willing to continue to fund and reduced the amount of funding for each resident. It is also probable that the number of resident slots funded through Medicare will be reduced to the 110% figure now proposed.

The Pew Health Professions Commission has also recommended the closure of 20-25% of the medical schools in the United States.²⁰ This, coupled with the reduction of residency slots to 110% of medical school graduates, could reduce the annual available physician pool by 2,000–2,500 physicians. As Utah has and will continue to be a gross importer of physicians, a large reduction in the number of nationally available, qualified physicians will severely cripple Utah's and the nation's ability to maintain the current standard for quality care.

Within the last quarter of calendar 2000, there has been considerable debate about the prior COGME report stating that there was a surplus of physicians. Many hospitals and healthcare systems are reporting difficulty in recruiting needed physicians. There has been increased discussion at national meetings suggesting there never was a physician surplus and reductions in training programs would be unwise. So far, no formal changes in national policy have been announced concerning the number of resident slots that Medicare will pay for or concerning a retraction of the recommendation to close medical schools. However, the debate is just beginning and it is not possible at this time to accurately predict which national policies may make it more difficult to recruit the needed workforce. It is likewise impossible to determine if there might be some relief given for mandates of the Balanced Budget Act which resulted in reductions in cost reimbursements and freezes placed on resident slots. The Medical Education Council is working with national bodies to effect a more rational policy for what

¹⁹ COGME 14th Report (1997), pgs. 30-31.

²⁰ Pew Health Professions Commission (December 1995). Third Report, pg. 40.

constitutes an adequate physician workforce and the training capacity necessary to achieve the projected ranges of physicians.

F. Training Capacity

Over the next twenty years, Utah will be even more dependent upon recruitment of clinicians, especially physicians, from outside the state to meet Utah's healthcare requirements. This is because of limitations of Utah's current clinician training capacity, an aging population, the nation's highest birth rate, and population in-migration. Utah's current clinician training programs, especially residency training slots, need to be maintained and probably expanded so that reliance on outside recruitment does not grow to an unachievable level.

Advanced practice nurse capacity at current state institutions can expand in the current physical facilities by about 20% or 12 slots per year. There are two barriers: 1) legislative and/or private funding of slots and 2) how to recruit necessary faculty since there is a national shortage. Private school enrollment is not likely to expand to meet growing needs.

Since its inception in 1971, the physician assistant program at the University of Utah has gradually increased to the stable level of 32 students per class. At this level of productivity, the physician assistant program should be able to adequately supply the Utah market until 2010 at which time an increase in the physical facility would be necessary before the University could expand training adequately to keep pace with the growing Utah market.

SECTION III

POLICY ACTIONS TO ACHIEVE PROJECTED WORKFORCE REQUIREMENTS—GOALS, OBJECTIVES, AND ACTION PLAN

The Medical Education Council (MEC) proposes that the following actions be enacted to achieve workforce requirements for 2010 and beyond. This list is not exhaustive and proceeds with the most basic implementations necessary to prepare a clinical workforce to meet the demands of the future.

1. Institute a clinical environment that fosters the development and evolution of integrated workforce models.

Nationally and locally, integrated clinical teams are independently emerging in an effort to increase the quality, efficiency, and cost-effectiveness of patient care. Integrated teams more effectively utilize advanced practice nurses and physician assistants in roles that better compliment the patient-care tasks of physicians. This model of healthcare provision does not ultimately replace the physician, but provides a team in which trained professionals are better able to devote more time to patients' needs at a high level of quality and lower cost (Appendix E). The Medical Education Council recommends that existing models of integrated teams be analyzed to gather more objective data on the increasing use of cooperative practices among physicians, advanced practice nurses, and physician assistants. It is important to know if there is greater efficiency as well as increased patient satisfaction. Preliminary information suggests that the physician can provide care to more patients in the same amount of time. This implies that there might be an increased demand for nurse practitioners and physician assistants while the requirements for physicians in some specialties might slow or not increase. This could have significant implications for Utah's training programs and recruiting strategies. Further, it is recommended that Utah's clinician training programs be better integrated to create a clinical environment that will promote further development and evolution of cooperative practices in Utah's workforce.

2. To meet projected workforce requirements, Utah will need to expand its physician, advanced practice nurse, and physician assistant clinical training capacities commensurate with population growth.

In order to achieve capacity for meeting the projected workforce requirements, Utah will need to expand its clinician training programs in proportion to population growth. The MEC realizes that ongoing barriers to these recommendations include faculty shortages

and infrastructure support and costs. Following are the specific needs and approaches to each individual profession.

A. Physician training needs and approach.

The MEC believes that the focus should be placed on maintaining and increasing Utah's clinical residency training programs. This is most apparent since the survey data suggest that location of graduate clinical training is the foremost determinant of where physicians enter the workforce after residency training is completed. An additional reason for the need of an increased physician residency count (before any increase in the medical school enrollment) is the fact that one third of the teaching load at the medical school is borne by physician residents.

Graduate medical education programs will need monitoring to ensure that existing programs remain strong. There will need to be growth in these programs and some additional residency programs will need to be started. This will require careful analysis so priority is given to programs where there is sufficient service demand to assure employment opportunity in Utah for a majority of a program's graduates. Priority should also be given to those areas where there is a national shortage and Utah is continually unable to successfully compete in the national market.

The training capacity of the University of Utah School of Medicine has remained constant since 1972 with a yearly enrollment of 100 students. Based on present population, the capacity of the medical school would have to be doubled in order for Utah to train enough physicians to meet the patient care, medical administration, and research workforce needs. Even at 200 students per year, the state would be slipping behind the population growth curve. Although the argument for expansion is legitimate, at a minimum, the following major factors must be addressed in any consideration of expansion:

- Sustained funding for faculty and support staff,
- Capital budget for construction of training space,
- The lead time necessary to construct more buildings and recruit additional faculty,
- How to obtain the necessary clinical material,
- How to expand residency training capacity to accommodate the increased teaching load that provides residents with a high quality clinical experience in their own career path.

The Medical Education Council and other policy bodies such as the Board of Regents and University administrators must work closely together to achieve maximum efficiency in clinical training programs. Utah must give emphasis to those programs in both primary and specialty care where there is a significant requirement for services and where the clinical incident base is sufficient to assure an in depth quality training experience.

Utah will remain particularly dependent on the national pool to meet its physician workforce requirements. A strategy for competing in recruiting from the national pool

should be developed. Presently, each institution or healthcare system within Utah approaches this responsibility individually. In the face of a probable diminished national pool the MEC may need to promote coordination and cooperation between systems in recruiting and also in sharing capabilities.

B. Physician Assistant training needs and approach.

As indicated in Section II, Utah's physician assistant program has increased to a current annual graduation of 32 new students per year, but has some flexibility to meet Utah's requirements to about 2010. If the physician assistant program were to expand, it would face the same obstacles encountered by the school of medicine, namely: funding of additional faculty, physical facility restrictions, and limited clinical load. The present physical plant capacity is a major factor limiting program expansion. The MEC, in cooperation with the Utah Physician Assistant Program, must begin now to examine how Utah's future physician assistant requirements will be met. By May of 2002, the MEC with the Director of the Physician Assistant Program should develop a strategy document with recommendations and associated costs for training Utah's projected, required, physician assistant workforce for the period beyond 2010.

C. Advanced Practice Nurse training needs and approach.

Advanced practice nursing programs exist at the University of Utah, Brigham Young University, and Westminster College. These programs have an expansion capacity. The advanced practice nursing program at the University of Utah would require an increase in state appropriations if any future expansions were to take place. Since both Brigham Young University and Westminster College are private institutions, expansions within these programs would require private funding.

Increased enrollment in the programs would require increased faculty. Presently there is a national shortage of qualified individuals to assume the professorial and administrative openings. Funding for faculty salaries also becomes an issue at two levels—new dollars and competitive occupations. All of the current programs have voiced concern that the main barriers in attracting highly qualified instructors are faculty salaries and the hours required of faculty members. The most qualified are able to earn significantly more by working in many sectors of patient care and in management positions. Often the most qualified professionals chose career possibilities other than teaching.

Utah's advanced practice nursing programs have grown and changed during the last decade. However, the Utah market demand for nurse practitioners has not grown as rapidly as in some markets in the U.S. The projected demand for nurse practitioners indicates the training capacity in Utah will need to expand to meet future market requirements. With limitations on the number of clinical training locations available and competition for this capacity from residency, pharmacy doctorate, physician assistant, nursing and technician programs, two questions arise. First, how will quality clinical capacity be assured? And second, what is the likelihood Utah might become an

importer of advance practice nurses? The MEC will work with the Board of Regents to create a white paper on the best approach to expand nurse practitioner training as the demand for these professionals increases over the next two decades. Such a policy document should address how training will be shared between the public and private schools; and what strategies should be implemented for attracting adequate faculty to support any program expansion. Because the need for nurse practitioners is not expected to exceed current training capacity until perhaps 2010, this policy document should be undertaken about 2004. By this time, a second workforce survey should be completed by the MEC. This will provide a better understanding of Utah's healthcare workforce and a better understanding of the net impact of market shifts currently under way at both the state and national levels.

3. In order for Utah's clinician training programs to expand and meet the needs of all regions of the state, additional ambulatory sites and hospitals will have to host clinical training.

In the process of examining how Utah might train a workforce commensurate with the needs of an expanding population, emphasis should be placed on options for rural training for a number of reasons. Utah's rural areas are presently underserved. The utilization of other Utah hospitals and ambulatory sites, especially in rural Utah, will increase the likelihood of recruiting and retaining practitioners in rural Utah. Since the Balanced Budget Act established a cap at 1996 levels, Medicare will participate in funding additional residency training slots only when they are rural training programs. This will require careful analysis to assure that the Residency Review Committees (RRC) requirements are met and that only accredited, high quality training is maintained in Utah. Nurse and technician training programs already use many of these rural sites. Care must be taken so that program expansion in one program does not occur with negative impact on another. The MEC, in cooperation with Area Health Education Centers (AHEC), must determine which sites have the greatest capacity for specific training and which sites will be the most suitable for residents. There may have to be some balancing between the training needs of residents, nurse practitioners, physician assistants, and other programs in order to gain maximum efficiencies for clinical exposure from limited patient volumes.

4. Determine the practicality of meeting healthcare workforce requirements through the use of cooperative agreements with other states. Determine ways for states to combine resources in order to train certain clinical specialists and sub-specialists for which single state demand is not sufficient to accommodate the cost of establishing training programs.

There is growing demand within the state for a number of physician specialties that cannot be locally supplied because no training program for such specialties exists. In a

number of specialties, there is insufficient national capacity to meet the national workforce needs. Examples of these specialties include emergency medicine and pediatric endocrinology. As physician-training programs begin to diminish and disappear throughout the United States, it will become increasingly difficult for Utah to recruit physicians in specialties in which Utah does not have residency programs.

It is not practical for Utah to unilaterally establish new programs for these specialties. Although the need for such specialties is critical, demand is not high enough for Utah alone to economically support these programs. A more feasible approach is for Utah and surrounding states to pool resources to support the training of such specialties as a means of gaining these needed physicians. Additional options for training more of the state's required workforce through cooperative arrangements should be investigated. Previously cooperative programs were arranged through WICHE (Western Interstate Commission on Higher Education) and the Educational Commission of the States. The MEC should take the lead in convening a task force of key program personnel and political leaders to determine the practicality of Utah meeting critical requirements through cooperative arrangements with other states.

The creation of interstate compacts for certain advanced practice nursing and physician assistant subspecialties may also be beneficial in solving problems of subspecialties that suffer from rapid saturation in Utah alone. The subspecialty of neonatology at the University of Utah School of Nursing is an example of the frustrations in meeting a consistent, low volume need for a specific subspecialty. The subspecialty program was discontinued a number of years ago only to be recently re-established due to resurfacing need. The MEC will continue to study the feasibility of interstate compacts for efficiently meeting training of various subspecialists with consistent, but low volume, demand.

5. Explore options for a reallocation of federally supported residency slots to more nearly match federal residency training support to the geographic workforce requirements.

It is known that the number of residency slots is seen as excessive in some parts of the nation. It is likely that many residency programs, and therefore the number of residency slots, will be diminished in the coming years. Since Utah is not facing this state of excess, the MEC would like to see another avenue of resolution explored to solve this dilemma. A reallocation of federally supported residency slots from areas of lower need to those of higher need could help to balance out the national overload while helping to supply Utah with the physicians that will be needed as demand continues to rise in the future.

This will include the MEC meeting with Senators Hatch and Bennett to discuss the possibility of Federal Legislation authorizing HCFA to transfer residency training slots from over-supplied areas to under-supplied areas.

6. Policy recommendations and decisions should be data driven. This will require the collection of quality information elements, analysis completed using sound methods and procedures, maintaining existing quality data resources, and updating data to keep it chronologically current.

The Medical Education Council, in compliance with the Health Care Financing Administration, will control funding for GME programs and work with other institutions to strive for proper funding of other clinician training programs.

In an era of tight fiscal resources and possible shortage of healthcare professionals to meet the needs of a growing population, the MEC must carefully assess whether Utah's scope of practice laws promote efficient utilization of the various professionals in meeting workforce requirements. The MEC will work closely with the Division of Occupational and Professional Licensure to share data and information that promote understanding of workforce while maintaining appropriate professional licensure.

Quality data are paramount. Key data resources must be kept viable and partnerships developed to assure proper kinds of data are available to reduce and prevent duplication in data gathering. Maintaining the Utah Health Information Network (UHIN) and the Health Data Authority is essential. The healthcare workforce survey and analyses must be updated at least every five years to compare population driven requirements to workforce capacity.

Accurate information about population growth and changes in demographics will be the basis for determining need for adjustments in program training capacity.

SECTION IV

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CONSULTED ORGANIZATIONS

The Medical Education Council has referred to reports and the websites of the following organizations. They have provided both national and state-level information concerning workforce data on physicians, advanced practice nurses, and physician assistants; managed care penetration ratios; and general demographic data that the MEC studied and found useful in generating this report. The information is presented here so anyone interested in graduate clinical education for the three professions included in the report, or workforce requirements and planning may be able to consult these sources for additional information.

Accreditation Council for Graduate Medical Education
(ACGME)
Suite 2000
515 North State Street
Chicago, IL 60610-4322
<http://www.acgme.org>

American Academy of Physician Assistants
950 North Washington St.
Alexandria, VA 22314-1552
<http://www.aapa.org>

American Association of Colleges of Nursing
One Dupont Circle NW, Suite 530
Washington, DC 20036
<http://www.aacn.nche.edu>

American Association of Colleges of Pharmacy
1426 Prince Street
Alexandria, VA 22314
<http://www.aacp.org>

American Health Care Association
1201 L St., NW
Washington, DC 20005
<http://www.ahca.org>

American Hospital Association
One North Franklin
Chicago, IL 60606-3421
<http://www.aha.org>

American Medical Association
515 North State Street
Chicago, IL 60610
<http://www.ama-assn.org>

American Nurses Association
600 Maryland Ave, SW
Suite 100 West
Washington, DC 20024
<http://www.ana.org>

Association of American Medical Colleges
2450 N Street NW,
Washington, DC 20037-1126
<http://www.aamc.org>

Bureau of the Census
Economic and Statistics Administration
U.S. Department of Commerce
Washington, DC 20233
<http://www.census.gov>

Bureau of Health Professions
National Center for Health Workforce Information & Analysis
Parklawn Building, Room 8-47
5600 Fishers Lane
Rockville, MD 20857
<http://bhpr.hrsa.gov>

Bureau of Labor Statistics
2 Massachusetts Avenue NE,
Washington, DC 20212
<http://stats.bls.gov>

Council on Graduate Medical Education
Division of Medicine and Dentistry
Bureau of Health Professions
Health Resources & Services Administration
U.S. Dept. of Health & Human Services
5600 Fishers Lane, Room 9A-21
Rockville, MD 20857
<http://www.cogme.gov>

Health Care Financing Administration
Bureau of Data Management & Strategy
7500 Security Blvd.
Baltimore, MD 21244
<http://www.hcfa.gov>

Health Resources and Services Administration
Parklawn Building, Room 8-47
5600 Fishers Lane
Rockville, MD 20857
<http://www.hrsa.gov>

National Association of Health Data Organizations
391 Chipeta Way, Suite E
Salt Lake City, UT 84108
<http://www.nahdo.org>

National Center for Health Statistics
Division of Data Services
6525 Belcrest Road
Hyattsville, MD 20782
<http://www.cdc.gov/nchs/>

UHA, Utah Hospitals and Health Systems Association
2180 S. 1300 East, Suite 440
Salt Lake City, UT 84106
<http://www.uha-utah.org>

Utah Department of Health
Office of Health Care Statistics
288 North 1460 West, 4th fl
PO Box 144004
Salt Lake City, Utah
84114-4004
<http://hlunix.hl.state.ut.us/hda/index.html>

APPENDIX A

DATA AND DESCRIPTIVE STATISTICS FOR UTAH PHYSICIANS

Compiled from a Physician Survey
conducted by the
Medical Education Council in 1998-99

This appendix contains the information and tabulations for physicians. It is organized in three general parts:

1. A brief narrative and summary enumeration for each data element of the survey. Data elements numbers 1-42 directly correspond to the questions of the survey questionnaire.
2. Cross tabulations of the data elements that the Workforce Committee and staff have so far examined in the ongoing process of assessing the capacity of Utah's physician workforce. Data elements numbers 43-61 are cross-tabulated data from the survey responses.
3. A copy of the questionnaire used to conduct the survey.

Results from the survey are point-in-time data, trend or longitudinal data are necessary to better understand Utah's workforce. Comparisons against regional and national data must also be done to better understand Utah's competitiveness in the market place.

Some elements of the data set and additional comparisons are available by calling the MEC at 538-6984.

APPENDIX A

DATA AND DESCRIPTIVE STATISTICS FOR PHYSICIANS

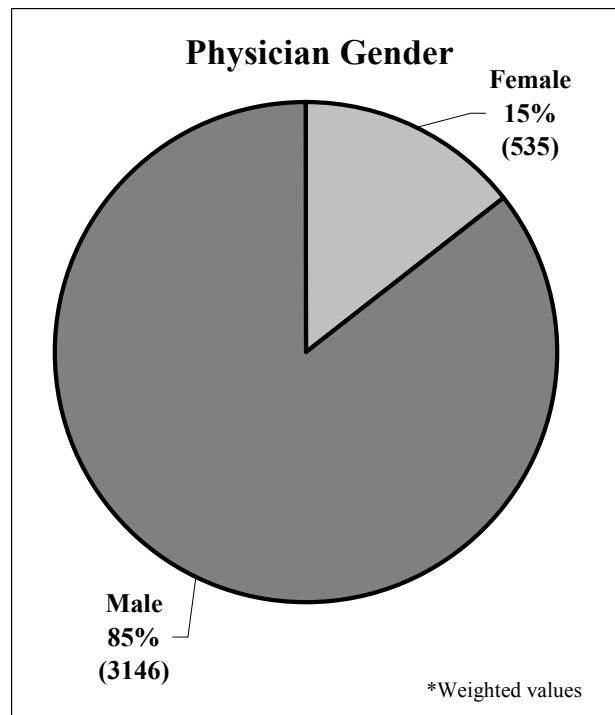
1. Do you do any work or provide services in Utah?
If no, please list reasons you maintain a Utah license and return survey.

2290 of the 3780 respondents indicated that they did provide services in Utah. Of those who do not work in Utah, but maintain a license, most indicated that they do so to allow flexibility to return to Utah at a later date should the opportunity arise. Other major reasons included locum tenens and sentimental reasons (first state of license).

The original survey went to the 6330 physicians licensed in the State of Utah, 40% of which had addresses located somewhere other than Utah. There were 3780 responses returned and 60% were from physicians with Utah addresses. Roughly 60% of the respondents provide services in Utah.

The survey was followed-up by testing a random sample of 75 non-respondents to determine if they were significantly different than the respondents. The test indicated that there was little variance concerning practicing in Utah. However, the sample set was not asked all of the questions so there will be some tendency to overstate or understate specific data when using the weighted responses, specifically for practice location.

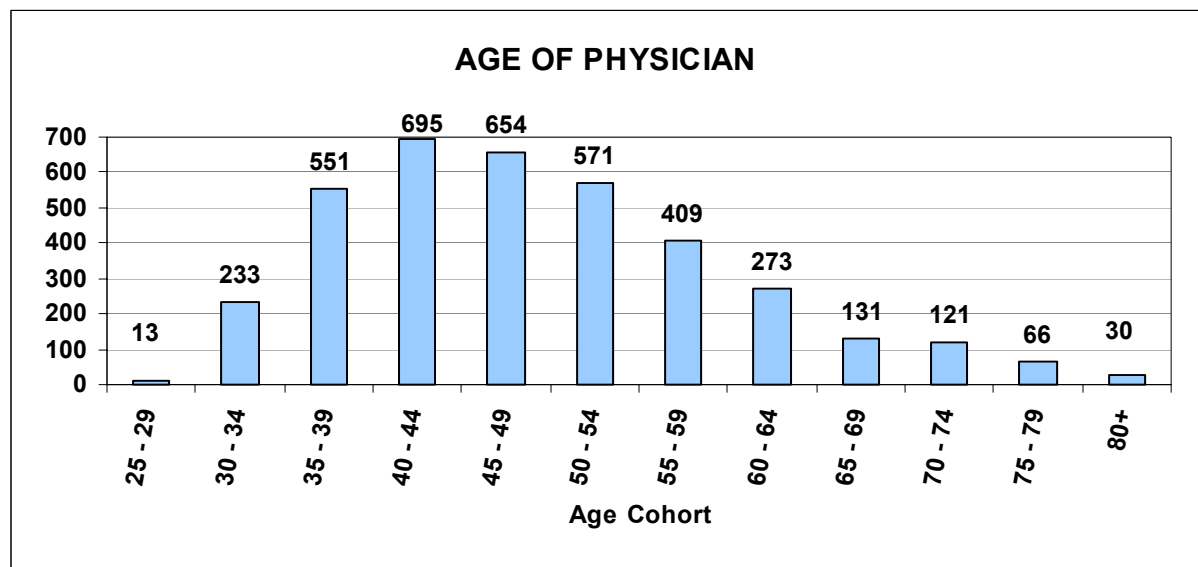
2. Gender: Male / Female



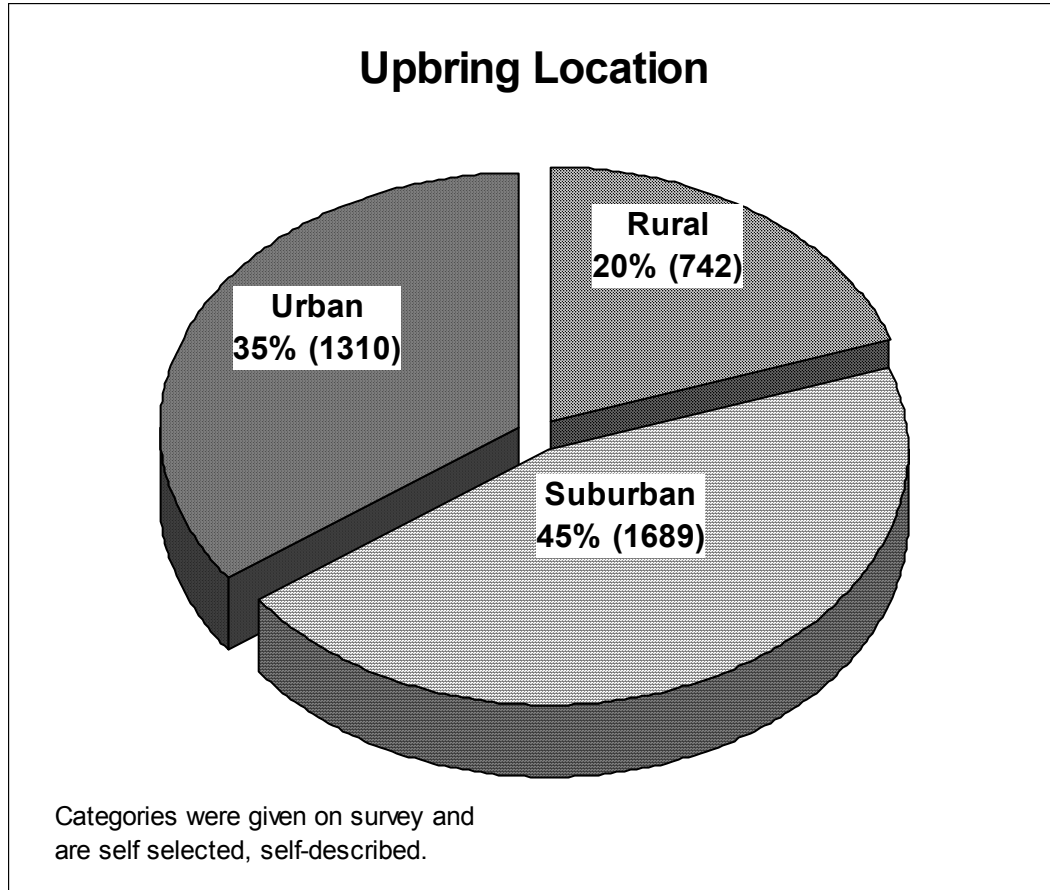
3. What race/ethnicity are you? (specify all that apply), those respondents that checked multiple ethnicities are represented in the other group, thus no double counting is shown in the table.

ETHNICITY OF PHYSICIANS WORKING IN UTAH		
ASIAN	123	3%
HISPANIC OR LATINO	30	1%
OTHER RACE/ETHNICITY	22	1%
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	8	0%
BLACK OR AFRICAN AMERICAN	5	0%
AMERICAN INDIAN OR ALASKA NATIVE	5	0%
WHITE/CAUCASIAN	3562	95%
Weighted totals	3755	100%

4. Year of Birth: Year of Birth was used to calculate age by subtracting the year of birth reported from 1998.



5. How would you best describe the area where you spent the majority of your upbringing? (Check One):



6. The state or country in which you spent the majority of your upbringing:
 Medical Degree: [] MD [] DO

STATE OR COUNTRY WHERE PHYSICIAN SPENT MAJORITY OF UPBRINGING

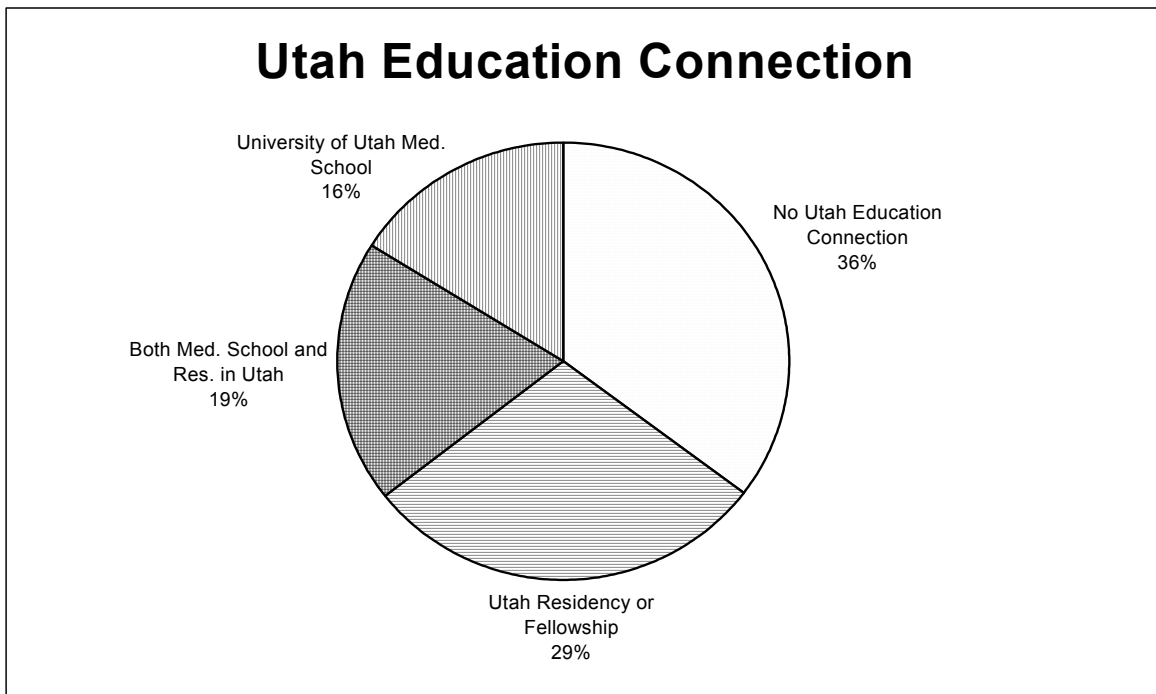
	United States						Foreign Nation							
	1618	43%	New Jersey	36	1.0%	Connecticut	17	0.4%	Canada	55	1%	Austria	2	0.0%
California	298	8.0%	Massachusetts	35	0.9%	Kentucky	15	0.4%	India	13	0%	Brazil	2	0.0%
New York	123	3.3%	Maryland	35	0.9%	Louisiana	13	0.4%	Germany	12	0%	Britain	2	0.0%
Idaho	114	3.1%	Nevada	33	0.9%	North Dakota	13	0.4%	Japan	7	0%	Denmark	2	0.0%
Texas	96	2.6%	Arizona	31	0.8%	South Dakota	12	0.3%	Sweden	7	0%	Dominican Rep.	2	0.0%
Illinois	86	2.3%	Iowa	30	0.8%	Alabama	10	0.3%	Philippines	5	0%	France	2	0.0%
Colorado	71	1.9%	Kansas	28	0.8%	West Virginia	10	0.3%	Chile	3	0%	Great Britain	2	0.0%
Ohio	68	1.8%	Indiana	26	0.7%	Arkansas	8	0.2%	Egypt	3	0%	Israel	2	0.0%
Michigan	61	1.6%	Nebraska	26	0.7%	Maine	8	0.2%	Hong Kong	3	0%	Kenya	2	0.0%
Pennsylvania	60	1.6%	New Mexico	26	0.7%	Mississippi	7	0.2%	Iran	3	0%	Netherlands	2	0.0%
Washington	60	1.6%	North Carolina	25	0.7%	New Hampshire	7	0.2%	Lebanon	3	0%	New Zealand	2	0.0%
Minnesota	58	1.6%	Oklahoma	23	0.6%	Alaska	5	0.1%	Poland	3	0%	Nicaragua	2	0.0%
Oregon	53	1.4%	Virginia	23	0.6%	Rhode Island	5	0.1%	Puerto Rico	3	0%	Slovakia	2	0.0%
Missouri	46	1.2%	Georgia	20	0.5%	Delaware	3	0.1%	South Africa	3	0%	Ukraine	2	0.0%
Wyoming	45	1.2%	Multiple States	20	0.5%	South Carolina	3	0.1%	Switzerland	3	0%	United Kingdom	2	0.0%
Wisconsin	43	1.2%	Tennessee	20	0.5%	Vermont	3	0.1%	Argentina	2	0%	Zambia	2	0.0%
Florida	40	1.1%	Hawaii	18	0.5%	Washington D.C.	2	0.0%	Australia	2	0%			
Montana	38	1.0%												
						TOTAL US	3575	96%				TOTAL NON-US	157	4.2%

7. The institution from which you received your medical degree: (City, State, Year)

Approximately 35% of Utah's physicians attended the University of Utah Medical School; 3% went to George Washington University; 3% attended the University of Washington; 1.5% attended the University of Colorado; 1.5% Northwestern in Illinois; and the remaining 57% studied at over 200 different Medical or Osteopathic training institutions.

8. The institution(s) which sponsored your internship(s)/residency(s) and year completed:

The following chart summarizes those who had a training connection with Utah, indicating that 64% of Utah's physicians received at least part of their advanced medical training in Utah. We have not compiled a list of where all the training has taken place due to the fact that there are over 700 locations split between medical school and up to 4 different residencies.



9. The institution that sponsored your internship/residency and year completed.

Questions 9-12 deal with advanced medical training and the location. There are over 500 different institutions listed for residency training and fellowship training. If you would like further information please contact the Medical Education Council at (801) 538-6881.

13. What specialties/sub-specialties are you board certified in?
 14. What specialties/sub-specialties do you currently practice?

This table presents the current practice information, however very few of the respondents practiced in an area where they were not board certified.

PRIMARY PRACTICE SPECIALTY			
Family Practice	507	Other Surgery Subspecialties	23
Internal Medicine (General)	449	Pulmonary Disease	22
Pediatrics (General)	311	PM&PH subspecialties	22
Anesthesiology (General)	232	Sports Medicine	20
Obstetrics and Gynecology (General)	227	Infectious Disease	18
Emergency Medicine	195	Nuclear Medicine	18
Orthopedic Surgery	156	Preventive Medicine \ Public Health	17
Psychiatry	146	Psychiatry Child/Adolescent	17
Radiology (Diagnostic)	132	Radiology (Therapeutic)	17
Ophthalmology	129	Other EMS Subspecialties	13
Surgery (General)	128	Rheumatology	13
Dermatology	71	Other Ophthalmology subspecialties	13
Pathology Subspecialties	71	Other Anesthesiology Subspecialty	12
Pediatric Subspecialties	71	Other Cardiology sub	12
Otolaryngology	70	Nephrology	10
Neurology	56	Other Subspecialties	8
Plastic Surgery	46	Endocrinology\ Metabolism	7
Urology	45	Other Neurology Subspecialties	7
Cardiology	43	OBGyn Subspecialties	7
Pathology (General)	41	Anesthesiology-Pain Management	5
Gastroenterology	38	Pulmonary Disease subspecialties	3
Neurological Surgery	33	Otolaryngology subspecialties	3
Orthopedic subspecialties	33	Medical Informatics	3
Physical Medicine and Rehabilitation	31	Addictionology	3
Hematology\Oncology	30	Other Dermatology Subspecialties	2
Allergy and Immunology	26	Other Gastroenterology subspecialties	2
Critical Care Medicine	23	Neurovascular Disease	2
Thoracic Surgery	23	TOTAL	3661

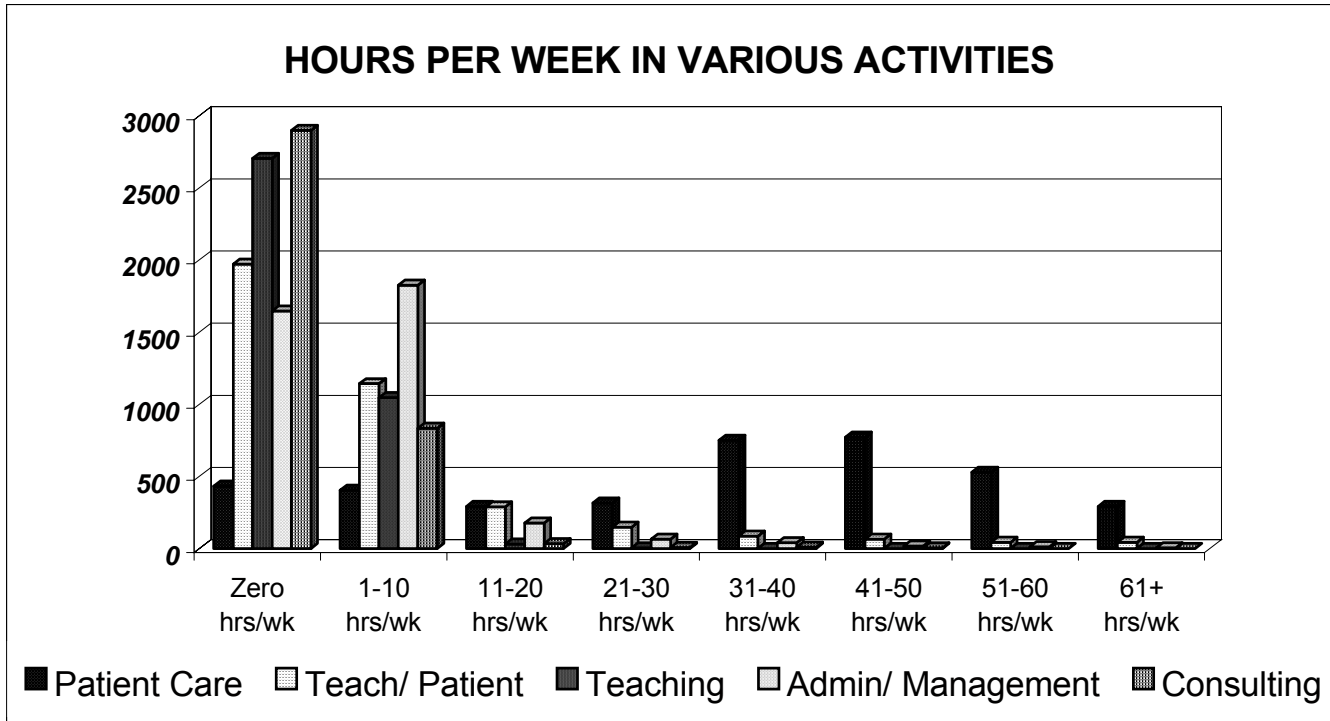
15. Are you board eligible in any specialties/sub-specialties other than those in which you are certified?

Answers to this question were limited and are not reported in this document.

16. Please list one or more continuing medical education (CME) programs you would like to have available locally:

This list is extensive and not reported here. If you would like a copy of the list please call the Medical Education Council at (801) 538-6881.

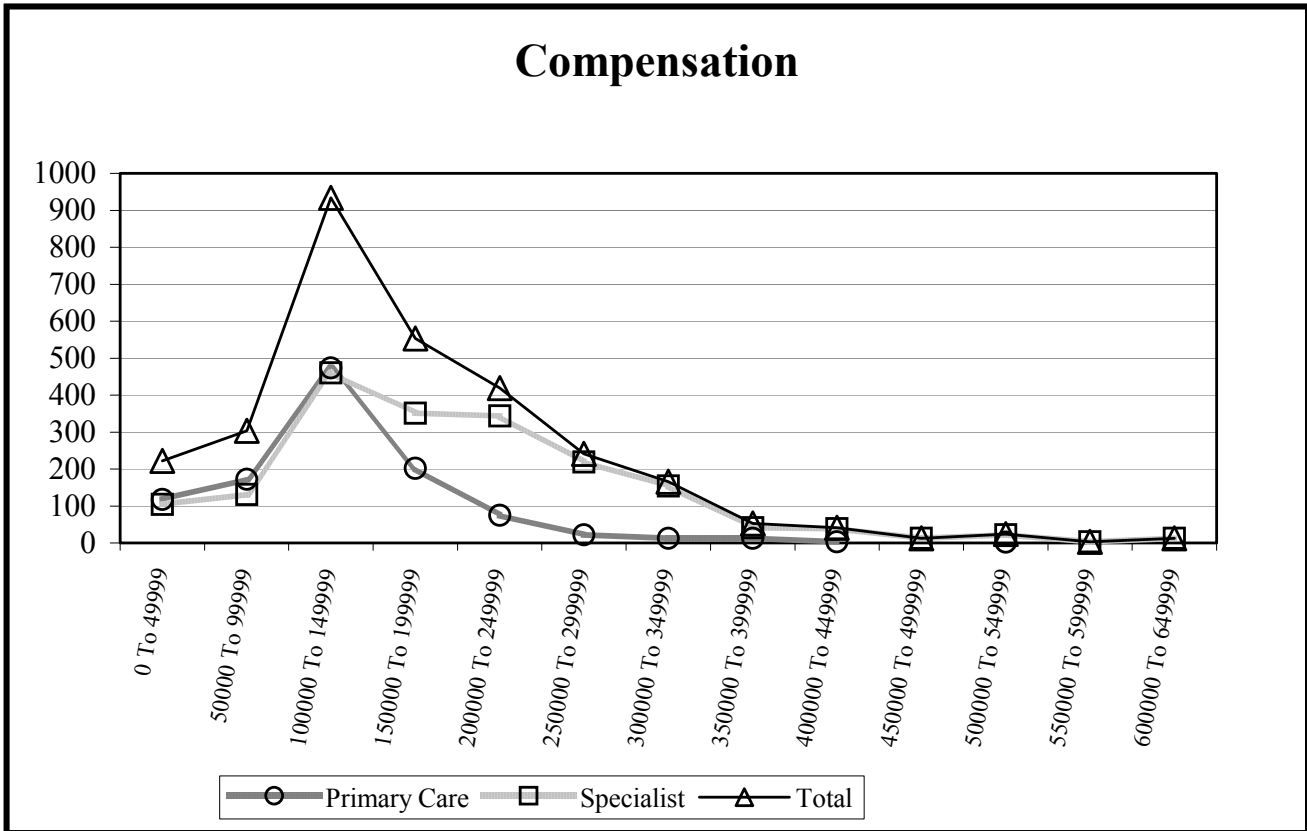
17. Please allocate the hours per week you spend in the following activities:



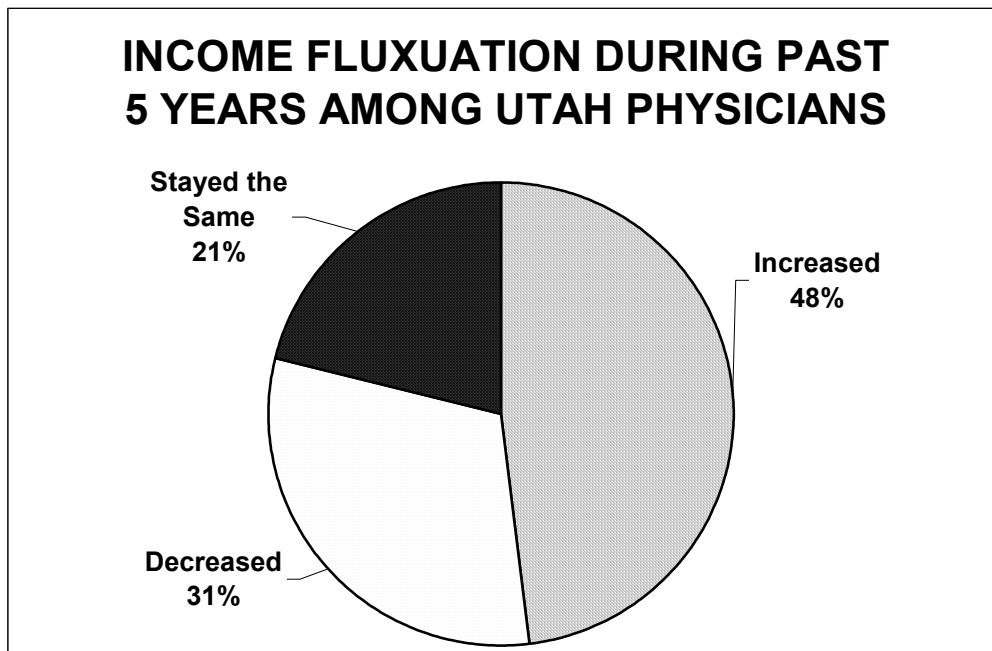
18. For your work setting how many hours working per week is considered full time?

FULLTIME IN YOUR WORK SETTING	
MORE THAN 60 HRS\WK	593
50-59 HOURS\WEEK	840
40-49 HOURS\WEEK	1389
30-39 HOURS\WEEK	444
NOT APPLICABLE	290
Total	3555

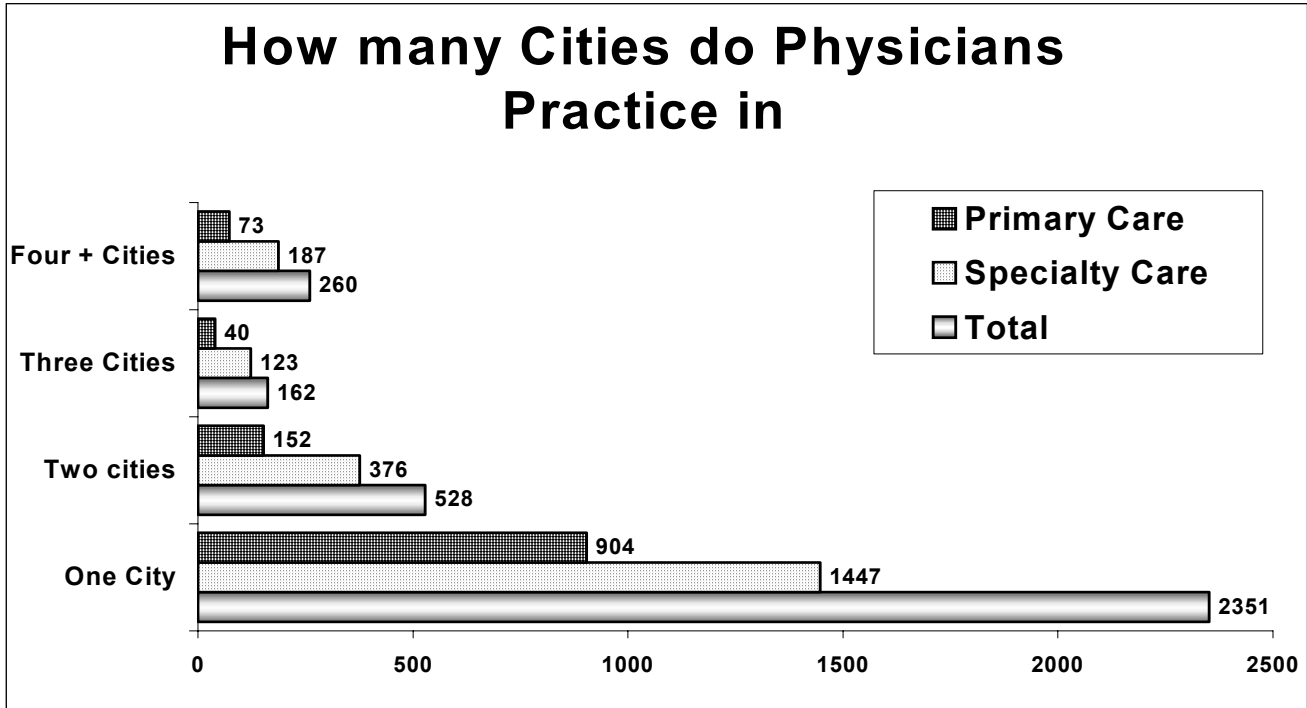
19. What is your average yearly gross compensation?
 Values above \$649,999 were not reported on this graph.



20. Compared to five years ago, has your gross income increased, decreased, or remained stable?



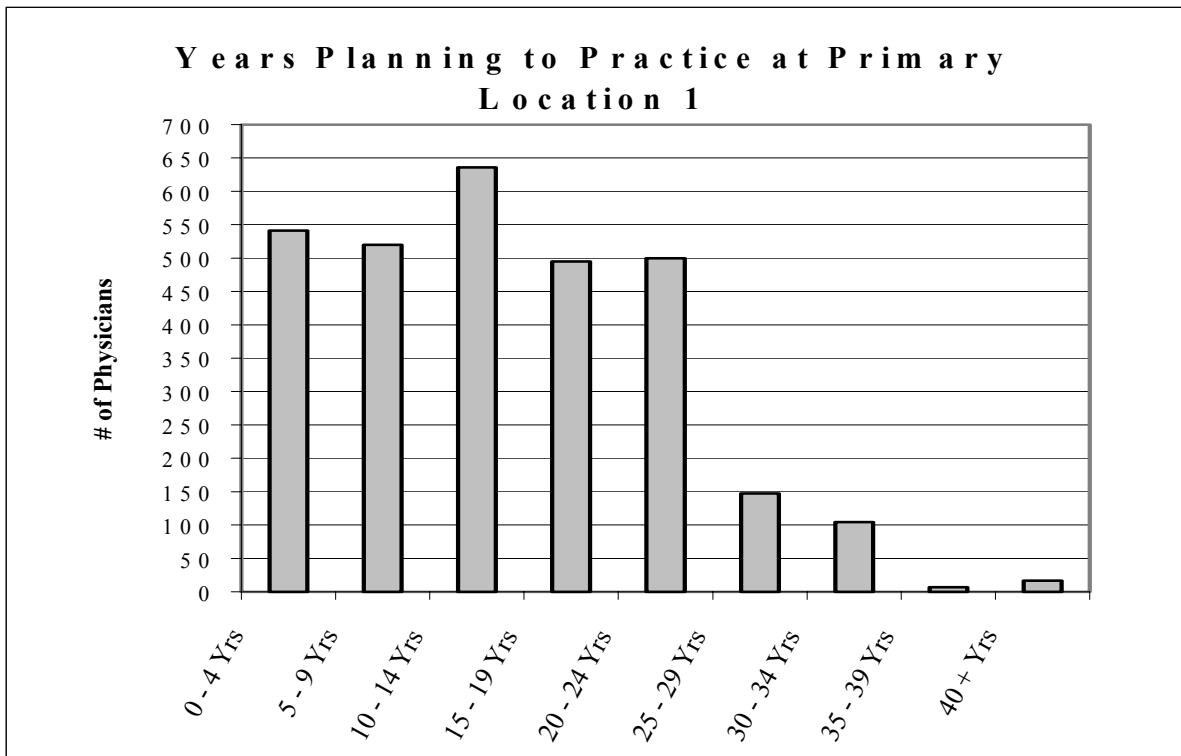
21. In your current practice, in how many separate cities /towns do you provide patient care?



22. Zip Code: For location #1 only.

COUNTY OF PRIMARY PRACTICE					
DAGGETT	0	0.0%	SEVIER	10	0.3%
GARFIELD	0	0.0%	TOOELE	12	0.4%
PIUTE	0	0.0%	DUCHESNE	17	0.5%
WASATCH	0	0.0%	IRON	18	0.6%
WAYNE	0	0.0%	UINTAH	22	0.7%
KANE	2	0.1%	CARBON	23	0.7%
MORGAN	2	0.1%	BOX ELDER	28	0.9%
SAN JUAN	2	0.1%	SUMMIT	31	1.0%
BEAVER	3	0.1%	WASHINGTON	86	2.7%
EMERY	3	0.1%	CACHE	111	3.5%
RICH	3	0.1%	DAVIS	195	6.2%
GRAND	7	0.2%	WEBER	306	9.7%
JUAB	8	0.3%	UTAH	373	11.9%
MILLARD	8	0.3%	SALT LAKE	1863	59.3%
SANPETE	10	0.3%	TOTAL	3143	100.0%

23. How many years do you plan on practicing at each location?



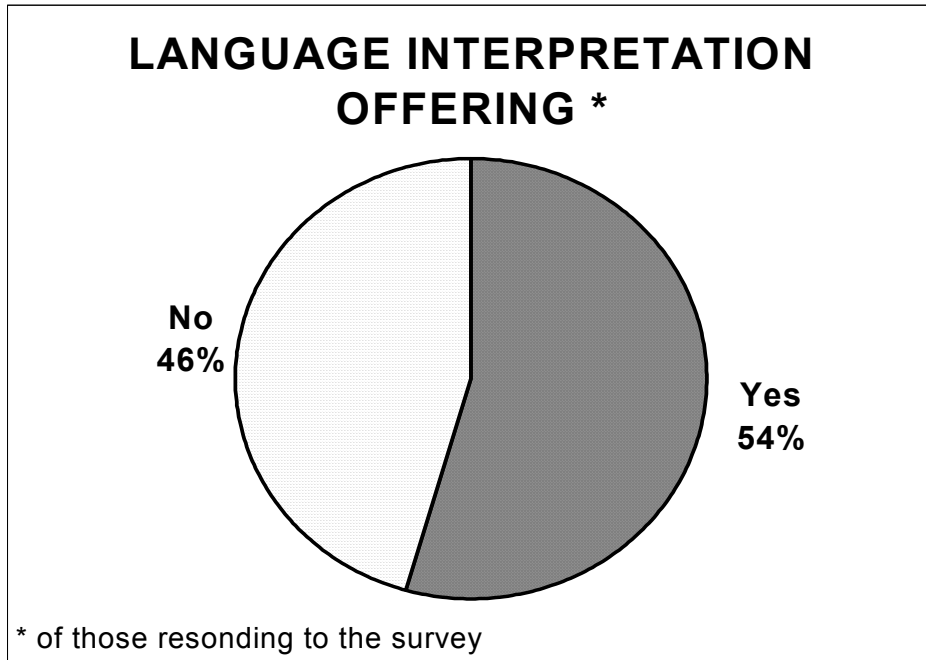
Questions 24 – 32 dealt with practice hours and settings and will not be reported in this document.

33. In an average week how many out-patients do you see?

34. In an average week how many in-patients do you see?

NUMBER OF PATIENTS SEEN IN THE AVERAGE WEEK				
Inpatients		Number of Patients per week	Outpatients	
Physicians by			Physicians by	
Primary	Specialty		Primary	Specialty
192	414	ZERO	33	114
825	1189	1 - 25	159	429
48	106	26- 50	144	379
12	20	51 - 75	152	290
8	12	76 - 100	325	310
3	3	101- 125	157	129
2	5	126 - 150	94	101
0	0	151 - 175	18	23
2	2	176 - 200	30	41
0	0	201 - 225	5	2
0	5	226- 250	3	15
0	0	251 - 275	0	3
0	0	276 - 300	2	12
0	3	301 - +	2	8
1091	1759	Total	1124	1856

35. Does your clinic offer language interpretation to your patients? Yes No



36. Which of the following hospital privileges do you currently hold?

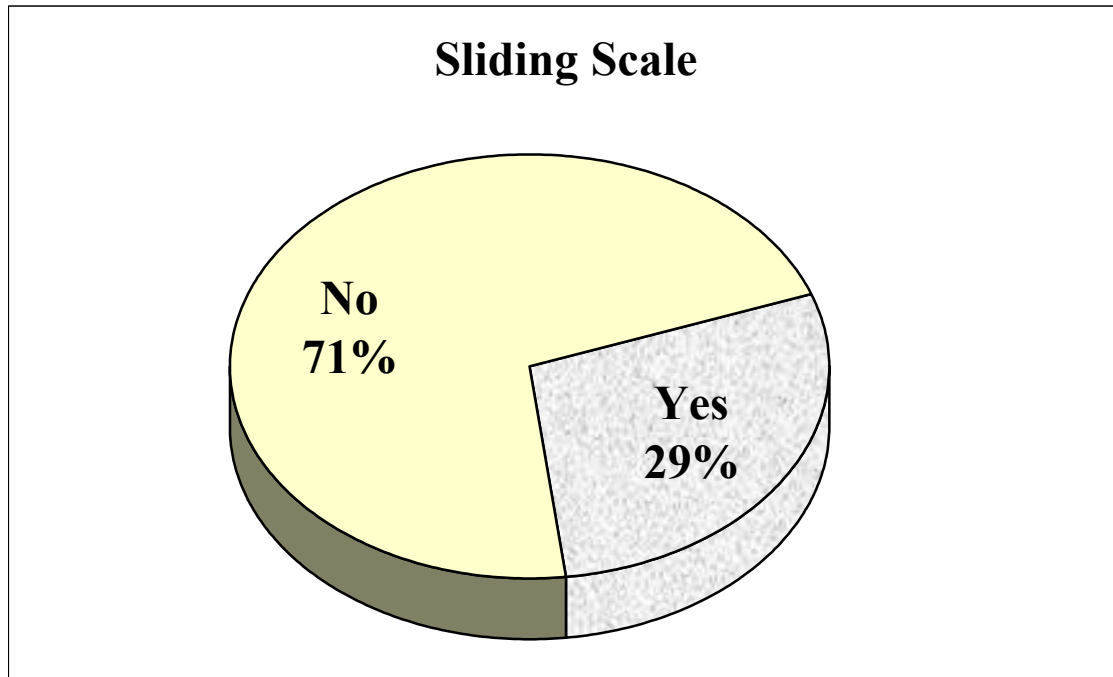
This chart presents those respondents who indicated that they have privileges in the areas shown.

Privileges held at Hospital	
NONE	401
Inpatient Adult	2428
Inpatient Children	1717
Newborns	871
Labor and Delivery	502
First Assistant Major	720
First Surgeon	896
Intensive/Coronary	715

37. In your immediate practice environment, which of the following do you work with in the care delivery team?

PRACTITIONERS IN CURRENT WORK SETTING BY SPECIALTY				
	Primary Care	Specialty Care	No Response	Total
PA	415	450	26	891
APRN	487	629	30	1146
PharmD	214	296	25	535

38. Does your clinic offer a Sliding-Fee Scale based payment option? Yes No



39. Are you limiting the number of new:

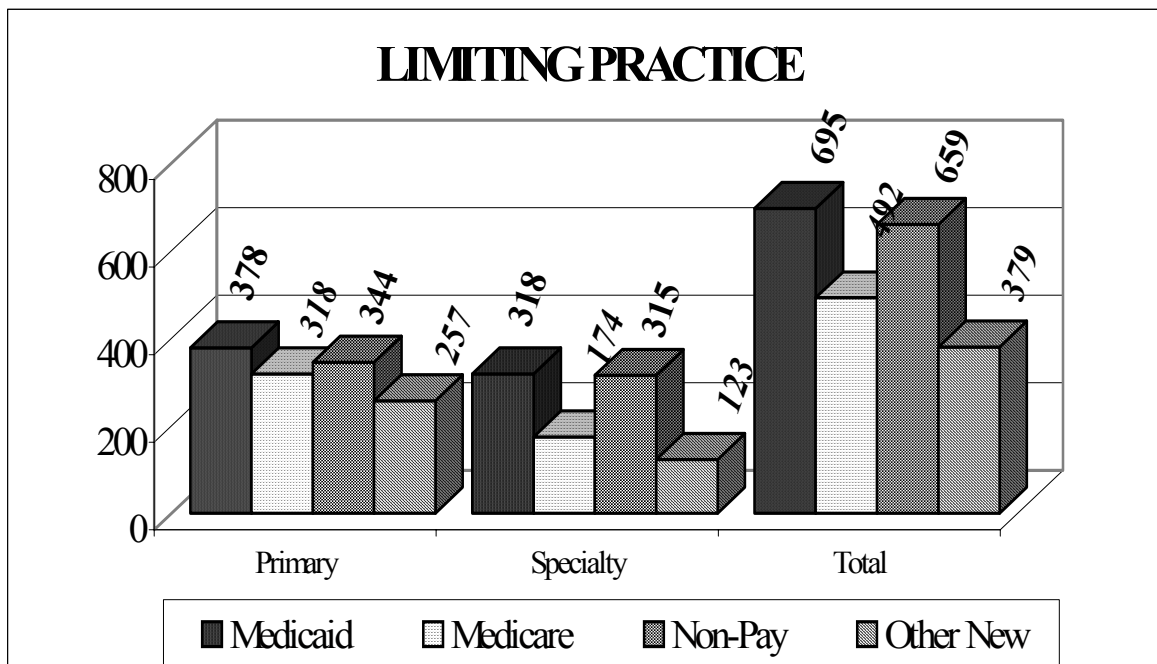
Medicaid Patients Yes No

Medicare Patients Yes No

Non-Paying Patients Yes No

Other New Patients Yes No

This chart depicts the Yes responses to each part of the question by specialty.



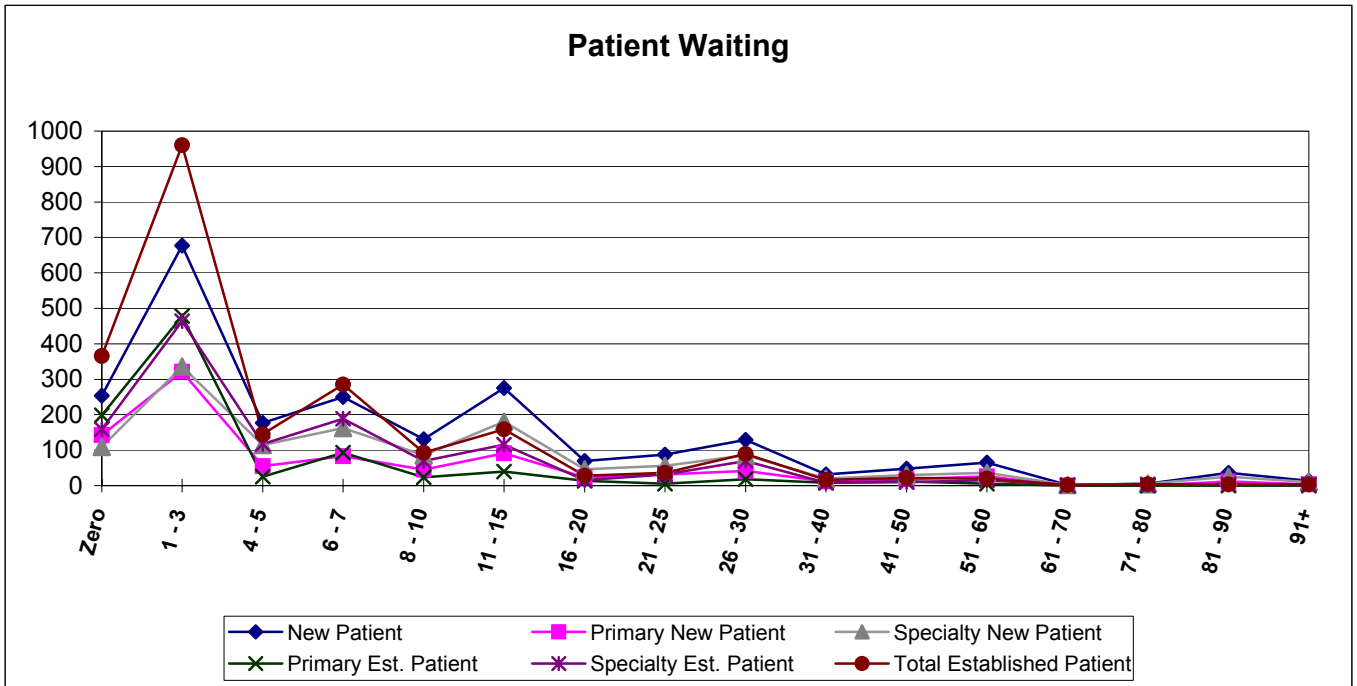
40. What percent of your patients are: Medicaid, Medicare, Managed Care, Self Pay, Fee-for-Service, Workers Compensation, V.A., Active Military, Tricare, and Charity?

This question did not yield usable aggregate data and descriptive data are not reported here.

41. Number of days waiting time for an appointment:

How many days a patient must wait to be seen by physician		
New Patient	Cohort Days	Established Patient
253	Zero	366
677	1 - 3	960
177	4 - 5	146
250	6 - 7	285
131	8 - 10	93
275	11 - 15	159
70	16 - 20	28
88	21 - 25	36
129	26 - 30	89
31	31 - 40	17
48	41 - 50	22
65	51 - 60	20
2	61 - 70	2
5	71 - 80	3
36	81 - 90	3
13	91+	3
2250	Total	2232

42. Patient waiting by specialty.



43. Region or state where current Utah physicians spent the majority of their upbringing by training in Utah and type of training. There is a strong correlation between residency and practice in Utah. Upbringing in Utah was likewise strongly correlated with Utah practice.

Relationship of Utah Physicians to Medical Training Level and Region or State of Upbringing						
Region Upbringing	Utah Physicians by Region of Upbringing	Any Utah Training Connection	PERCENT with Any Utah Training Connection	Utah Residency	Utah Medical School	Both Med. School and Res. In Utah
Utah	1618	1325	82%	800	1098	573
Arizona	31	17	55%	15	8	7
Idaho	114	89	78%	61	55	26
New Mexico	26	18	69%	17	5	3
Nevada	33	22	67%	20	5	3
Wyoming	45	30	67%	22	18	10
Total Surrounding States	249	176	335%	135	91	49
Region VIII	1797	1427	79%	892	1126	591
Region IX	380	211	56%	192	59	41
Region V	342	159	46%	157	23	22
Region X	232	165	71%	134	65	33
Region VI	166	91	55%	90	10	8
Region II	159	61	38%	58	15	11
Region IV	140	79	56%	76	6	2
Region III	133	54	41%	53	12	11
Region VII	130	68	52%	66	3	2
Region I	75	44	59%	40	7	4
Multiple States	20	15	75%	15	2	2
U.S. Protectorate	5	2	40%	2		
Foreign Country	152	53	35%	45	12	3
No Response	60	28	47%	25	7	3
Grand Total	3791	2457	65%	1845	1347	733

* See Region Map in Appendix D-3.

44. County or region of Primary Practice in Utah by the age cohort of the physician. This chart helps us to determine if there are any expected shortage areas emerging due to an unusually high percentage of retirement age physicians by county. All rural counties have been summarized into one number on this chart to protect providers' confidentiality.

GEOGRAPHIC LOCATION OF PRIMARY PRACTICE BY AGE OF PHYSICIAN													
Geographical Area	Age Cohorts in Years												
	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	Total
TOTAL Rural Counties	0	8	58	97	82	71	49	25	11	12	5	0	418
Percent Rural	0%	2%	14%	23%	20%	17%	12%	6%	3%	3%	1%	0%	100%
Percent of Total	0%	4%	12%	15%	14%	14%	13%	11%	11%	14%	14%	0%	13%
DAVIS		7	38	36	35	36	20	13	3	5	3	2	198
SALT LAKE	7	128	291	374	356	262	215	108	58	41	18	8	1866
UTAH	2	15	40	68	51	75	50	45	12	10	2	2	372
WEBER		20	46	56	51	46	35	23	13	13	5	2	310
TOTAL URBAN	9	170	415	534	493	419	320	189	86	69	28	14	2746
Percent Urban	0%	6%	15%	19%	18%	15%	12%	7%	3%	3%	1%	1%	100%
Percent of Total	100%	92%	87%	84%	85%	85%	86%	81%	85%	83%	80%	100%	85%
TOTAL Other	0	6	6	7	6	5	4	20	4	2	2	0	62
Percent Other	0%	10%	10%	11%	10%	8%	6%	32%	6%	3%	3%	0%	100%
Percent Of Total	0%	3%	1%	1%	1%	1%	1%	9%	4%	2%	6%	0%	2%
TOTAL	9	184	479	638	581	495	373	234	101	83	35	14	3226

45. Specialty currently practicing compared with a residency in Utah. By looking at which specialties have the highest rate of Utah graduates we are able to determine possible areas of focus both on recruitment and retention efforts for the state.

PERCENT OF UTAH PRACTICING PHYSICIANS BY COMPLETION OF UTAH RESIDENCY and/or FELLOWSHIP							
Specialty	Utah Residency	Percent	Total	Specialty	Utah Residency	Percent	Total
Allergy and Immunology	2	7%	27	Other Ophthalmology subspecialties	8	62%	13
Anesthesiology (General)	132	57%	231	Otolaryngology	30	43%	70
Anesthesiology-Pain Management	5	100%	5	Otolaryngology subspecialties	0	0%	3
Other Anesthesiology Subspecialty	12	100%	12	Pathology (General)	17	40%	42
Dermatology	25	35%	71	Pathology Subspecialties	40	56%	71
Other Dermatology Subspecialties	2	100%	2	Pediatrics (General)	142	46%	311
Emergency Medicine	61	31%	195	Pediatric Subspecialties	28	39%	71
Other EMS Subspecialties	10	77%	13	Physical Medicine and Rehabilitation	15	47%	32
Family Practice	240	47%	507	Preventive Medicine \ Public Health	8	50%	16
Internal Medicine (General)	237	53%	449	PM&PH subspecialties	12	55%	22
Cardiology	17	40%	43	Psychiatry	94	65%	145
Other Cardiology sub	2	17%	12	Psychiatry Child/Adolescent	15	88%	17
Critical Care Medicine	15	65%	23	Radiology (Diagnostic)	70	53%	133
Endocrinology\ Metabolism	5	71%	7	Radiology (Therapeutic)	8	50%	16
Gastroenterology	25	66%	38	Surgery (General)	60	47%	128
Other Gastroenterology subspecialties	0	0%	2	Neurological Surgery	15	45%	33
Infectious Disease	10	56%	18	Orthopedic Surgery	60	38%	156
Hematology\Oncology	20	67%	30	Orthopedic subspecialties	13	39%	33
Nephrology	5	50%	10	Plastic Surgery	17	36%	47
Pulmonary Disease	10	45%	22	Thoracic Surgery	10	43%	23
Pulmonary Disease subspecialties	2	50%	4	Other Surgery Subspecialties	3	13%	23
Rheumatology	12	86%	14	Urology	23	51%	45
Neurology	23	41%	56	Other Subspecialties	5	63%	8
Other Neurology Subspecialties	7	100%	7	Sports Medicine	10	50%	20
Nuclear Medicine	15	83%	18	Neurovascular Disease	2	100%	2
Obstetrics and Gynecology (General)	84	37%	226	Medical Informatics	2	50%	4
OBGyn Subspecialties	0	0%	7	Addictionology	2	50%	4
Ophthalmology	68	53%	129	TOTAL	1848	49%	3797

46. This chart compares the number of primary care to specialty care physicians in both urban and rural settings in Utah. The other category represents those physicians who work primarily in other states, but have some practice in Utah on a regular basis. The bulk of this group maintains a primary practice in Colorado or Nevada.

Classification of Care by Region of Service

	Primary Care	Specialty Care	No Response	TOTAL
Rural	184	215	13	412
Urban	946	1760	61	2767
Out of State	10	43	3	56
Total	1139	2019	78	3236

47. While this chart shows that a much smaller percent of the females are in the retirement ages we are unable to determine for sure if this is a reflection of the ability of females to enter the medical profession thirty years ago or an indication that females retire earlier. However, increasing numbers of females in the younger age cohorts typifies a trend toward a more gender-balanced workforce.

GENDER OF PHYSICIAN BY AGE COHORT

AGE COHORT	Female		Male		No Response		Total
25 - 29	5	38%	8	62%	0	0%	13
30 - 34	63	27%	164	70%	7	3%	234
35 - 39	131	24%	409	74%	12	2%	552
40 - 44	137	20%	550	79%	8	1%	695
45 - 49	104	16%	535	82%	15	2%	654
50 - 54	53	9%	497	87%	22	4%	572
55 - 59	25	6%	368	90%	17	4%	410
60 - 64	3	1%	263	96%	7	3%	273
65 - 69	3	2%	123	94%	5	4%	131
70 - 74	2	2%	108	89%	12	10%	122
75 - 79	2	3%	63	94%	2	3%	67
80+	2	7%	25	83%	3	10%	30
Total	530	14%	3113	83%	110	3%	3753

I. Weighted Values

48. Although Utah is lacking in ethnic diversity, the data suggest that recent efforts are changing that trend. This is evidenced by the fact that there are larger numbers of physicians with ethnic background in the younger age cohorts.

RACE OR ETHNICITY OF PHYSICIAN BY AGE COHORT													
Race or Ethnicity	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	Total
ASIAN	2	13	33	22	18	12	8	5	2	3	2		120
HISPANIC OR LATINO		3	10	7	3	3	2	2					30
OTHER RACE/ETHNICITY		2	3		2	8	3	3					21
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER		2	5	2									9
AMERICAN INDIAN OR ALASKA NATIVE					2	2			2				6
BLACK OR AFRICAN AMERICAN			3	2									5
WHITE/CAUCASIAN	12	212	492	657	621	541	394	262	126	118	63	30	3528
Total	14	232	546	690	646	566	407	272	130	121	65	30	3719

49. While physicians have higher incomes than most professionals in the workforce this chart indicates that the age earning profile for physicians is similar in that the higher wages are earned between the ages of 35 and 60 with peaks in 40-44 and 45-49 age cohorts.

INCOME OF PHYSICIANS BY AGE COHORT													
Income in \$25,000 increments up to \$1050000	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	TOTAL
ZERO									2	5	5	5	17
\$1 TO \$12,500	2		2	2	2	2	2		3	2	3		20
\$12,501 TO \$37,500	8	56	23	10	3	2	3	3	8	12	8	3	139
\$37,501 TO \$62,500	2	61	28	13	8	8	2	5	8	17	10	2	164
\$62,501 TO \$87,500		12	35	31	15	8	15	10	7	5	3	2	143
\$87,501 TO \$112,500		45	93	91	58	36	28	22	17	13	12		415
\$112,501 TO \$137,500		13	88	103	86	70	48	35	18	7	2		470
\$137,501 TO \$162,500		13	78	88	94	79	46	38	7	7			450
\$162,501 TO \$187,500		7	28	31	45	45	22	17	10	3	3		211
\$187,501 TO \$212,500		3	43	71	76	55	46	31	10	5			340
\$212,501 TO \$237,500			8	10	20	26	18	10	2				94
\$237,501 TO \$262,500		2	28	38	43	63	40	13	5				232
\$262,501 TO \$287,500			8	8	8	5	3	2					34
\$287,501 TO \$312,500			13	31	36	18	26	20		2			146
\$312,501 TO \$337,500			2	7	3	3							15
\$337,501 TO \$362,500				13	8	17	10	2	2				52
\$362,501 TO \$387,500						3	2						5
\$387,501 TO \$412,500			2	7	7	8	7	2					33
\$412,501 TO \$437,500					2			2					4
\$437,501 TO \$462,500				3	2	2	5	2					14
\$462,501 TO \$487,500				2				2					4
\$487,501 TO \$512,500			2	5	2	3	2	7	2				23
\$512,501 TO \$537,500													0
\$537,501 TO \$562,500						2	2						4
\$562,501 TO \$587,500						5	3	2					10
\$587,501 TO \$612,500													0
\$612,501 +			2	2	7	3	5	5					24
TOTAL	12	212	483	566	525	463	335	230	101	78	46	12	3063

50. The age of physicians by specific regions of practice and specialty is a very important table identifying areas of capacity that may experience shortages due to unusually high workforce retirement.

Age of Physician by region of practice and specialty						
TOTAL	Rural	Urban	Age Cohort	Primary	Specialist	TOTAL
8	0	8	25 - 29	7	16	7
176	7	169	30 - 34	116	73	189
472	56	416	35 - 39	197	344	541
631	96	535	40 - 44	275	412	687
574	81	493	45 - 49	202	436	638
490	71	419	50 - 54	180	378	558
368	48	320	55 - 59	99	298	397
212	23	189	60 - 64	71	195	266
96	10	86	65 - 69	33	96	129
80	10	70	70 - 74	38	79	117
33	5	28	75 - 79	31	31	62
13	0	13	80+	8	20	28
3153	407	2746	Total	1257	2362	3619

1. Weighted values

51. The relationship between upbringing and training is being used to help determine possible effects of recruiting from areas with specific population densities.

Relationship of Utah Physician to Upbringing Population Density and Medical Training Level					
Population Density Area	Total Physicians	Utah Training Connection	Med School in Utah	Residency in Utah	Both Res and MED in Utah
Rural	742	480	306	318	144
Suburban	1689	1091	608	803	320
Urban	1310	858	416	702	260
Not Given	51	26	15	20	8
Total	3792	2455	1345	1843	732

52. This chart is being used to help determine potential pockets of high retirement by specialty. Thus, allowing us to increase training efforts before reaching the shortage status.

STATEWIDE SPECIALTY BY AGE COHORT BROKEN BY SPECIALTY													
By Specialty	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80+	Total
Family Practice	3	46	88	99	89	78	28	25	18	13	17	2	506
Internal Medicine (General)	2	36	66	114	68	55	35	30	10	15	8	5	444
Pediatrics (General)	2	33	43	61	45	48	36	17	5	10	7	2	309
Total Primary Care	7	115	197	274	202	181	99	72	33	38	32	9	1259
Percent of TOTAL	100%	61%	36%	40%	31%	32%	25%	27%	25%	31%	48%	29%	34%
Percent of Primary Care	1%	9%	16%	22%	16%	14%	8%	6%	3%	3%	3%	1%	100%
Total Specialist	0	74	349	415	441	379	303	197	101	83	34	22	2398
Percent of TOTAL	0%	39%	64%	60%	69%	68%	75%	73%	75%	69%	52%	71%	66%
Percent of Specialist	0%	3%	15%	17%	18%	16%	13%	8%	4%	3%	1%	1%	100%
TOTAL BY AGE COHORT	7	189	546	689	643	560	402	269	134	121	66	31	3657

1. Some numbers may be overstated due to rounding error.

53. By determining if hours worked per week is dependent on age of physicians the MEC is able to assess possible capacity problems.

HOURS PER WEEK IN PATIENT CARE IN UTAH BY AGE OF PHYSICIAN														
Patient Care hours	Age Cohort by Years											TOTAL	Percent	
	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79			80+
Zero hrs/wk	5	38	43	46	58	41	41	40	26	45	23	17	423	11%
1-5 hrs/wk		8	25	25	36	17	15	18	10	5	12	3	174	5%
6-15 hrs/wk		17	41	51	55	36	41	26	18	18	8	7	318	8%
16-25 hrs/wk		20	48	53	38	41	33	17	15	15	8	2	290	8%
26-35 hrs/wk		23	56	66	68	58	43	18	10	10	7		359	10%
36-45 hrs/wk	3	50	134	171	134	131	91	58	25	15	7	2	821	22%
46-55 hrs/wk	3	40	91	146	126	128	70	55	12	10			681	18%
56-65 hrs/wk	2	22	68	81	104	83	53	35	10	3	2		463	12%
66+ hrs/wk		17	45	56	35	36	22	7	5				223	6%
TOTAL	13	235	551	695	654	571	409	274	131	121	67	31	3752	100%

NUMBER OF CITIES PHYSICIANS PROVIDE SERVICES IN BY SPECIALTY					
Primary Care	One	Two	Three or More	Total	Percent more than one
Family Practice	338	76	56	470	22%
Internal Medicine (General)	341	41	30	412	23%
Pediatrics (General)	225	35	27	287	22%
Total Primary Care	904	152	113	1169	48%
Specialty Care	One	Two	Three or More	Total	Percent more than one
Allergy and Immunology	13	8	4	25	48%
Anesthesiology (General)	176	20	10	206	15%
Anesthesiology-Pain Management	3	0	0	3	0%
Other Anesthesiology Subspecialty	12	0	0	12	0%
Dermatology	38	20	7	65	42%
Other Dermatology Subspecialties	2	0	0	2	0%
Emergency Medicine	91	63	25	179	49%
Other EMS Subspecialties	5	0	5	10	50%
Cardiology	30	2	8	40	25%
Other Cardiology sub	5	2	4	11	55%
Critical Care Medicine	20	0	0	20	0%
Endocrinology\ Metabolism	5	2	0	7	29%
Gastroenterology	33	5	0	38	13%
Other Gastroenterology subspecialties	0	0	2	2	100%
Infectious Disease	12	3	0	15	20%
Hematology\Oncology	22	5	2	29	24%
Nephrology	5	0	4	9	44%
Pulmonary Disease	15	2	3	20	25%
Pulmonary Disease subspecialties	3	0	0	3	0%
Rheumatology	10	0	3	13	23%
Neurology	41	7	3	51	20%
Other Neurology Subspecialties	0	0	6	6	100%
Nuclear Medicine	12	0	0	12	0%
Obstetrics and Gynecology (General)	144	46	27	217	34%
OBGyn Subspecialties	5	0	2	7	29%
Ophthalmology	81	13	20	114	29%
Other Ophthalmology subspecialties	7	2	5	14	50%
Otolaryngology	41	13	15	69	41%
Otolaryngology subspecialties	3	0	0	3	0%
Pathology (General)	20	7	3	30	33%
Pathology Subspecialties	35	12	7	54	35%
Pediatric Subspecialties	43	13	11	67	36%
Physical Medicine and Rehabilitation	20	2	5	27	26%
Preventive Medicine \ Public Health	10	0	2	12	17%
PM & PH subspecialties	12	3	3	18	33%
Psychiatry	98	22	18	138	29%
Psychiatry Child/Adolescent	10	2	5	17	41%
Radiology (Diagnostic)	51	26	28	105	51%
Radiology (Therapeutic)	10	0	3	13	23%
Surgery (General)	79	20	12	111	29%
Neurological Surgery	28	0	3	31	10%
Orthopedic Surgery	83	23	34	140	41%
Orthopedic subspecialties	17	7	5	29	41%
Plastic Surgery	28	10	5	43	35%
Thoracic Surgery	18	0	0	18	0%
Other Surgery Subspecialties	17	3	3	23	26%
Urology	23	12	7	42	45%
Other Subspecialties	2	0	0	2	0%
Sports Medicine	8	3	4	15	47%
Neurovascular Disease	2	0	0	2	0%
Addictionology	2	0	0	2	0%
Total Specialist	1450	378	313	2141	32%
TOTAL Physicians	2354	530	426	3310	29%

54. This chart will aid the MEC in practice pattern analysis, which is helpful in the recruitment and retention of physicians.

NUMBER OF CITIES BY AGE OF PHYSICIAN BY SPECIALTY

Number of Cities	Age Cohort											TOTAL	
	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79		80+
Primary Care													
One City	3	79	136	202	157	128	75	56	18	20	18	5	897
Two Cities	2	13	30	38	25	23	7	7	5	2			152
Three Cities		3	7	7	8	5	3	2		2	2	2	41
Four or More Cities		7	15	17	5	12	7	2	5	3	2		75
TOTAL	5	102	188	264	195	168	92	67	28	27	22	7	1165
Specialty Care													
One City		43	194	268	278	219	197	114	58	40	12	8	1431
Two Cities		18	70	53	58	60	56	38	12	2	5		372
Three Cities		2	30	23	22	20	13	5	2	7			124
Four or More Cities		2	18	45	33	46	13	18	3	3	2	2	185
TOTAL		65	312	389	391	345	279	175	75	52	19	10	2112

Weighted Totals

55. This chart indicates a need to know more about practice patterns. Are multiple practice locations due to low patient volume in an area? Are they contractual arrangements to extend care geographically? Or are they a result of personal lifestyle choices?
56. While rural counties are not displayed on this chart to maintain the confidentiality of providers, this chart is being used by the MEC to assess capacity and work patterns by county.

57. In conjunction with the previous chart this will help assess capacity.

Total Hours Per Week Working by Primary Practice Specialty

PRIMARY SPECIALTY	Zero hrs/wk	1-5 hrs/wk	6-15 hrs/wk	16-25 hrs/wk	26-35 hrs/wk	36-45 hrs/wk	46-55 hrs/wk	56-65 hrs/wk	66+ hrs/wk	TOTAL	
	Family Practice	18	12	20	18	15	96	151	79	96	505
Internal Medicine (General)	5	12	10	7	10	76	129	106	91	446	
Pediatrics (General)	3	2	17	22	18	58	78	65	48	311	
Total Primary Care	26	26	47	47	43	230	358	250	235	1262	
Percent of Primary Care	2%	2%	4%	4%	3%	18%	28%	20%	19%	100%	
Percent of TOTAL	37%	24%	40%	43%	27%	36%	36%	33%	33%	34%	
Allergy and Immunology		2			2	12	3	5	3	27	
Anesthesiology (General)	3	3	5		7	22	71	66	55	232	
Anesthesiology-Pain Management	2					2	2			6	
Other Anesthesiology Subspecialty						3	5	2	2	12	
Dermatology			5		5	18	25	10	7	70	
Other Dermatology Subspecialties								2		2	
Emergency Medicine	3	2	2	7	23	71	51	18	17	194	
Other EMS Subspecialties				3	5	3	2			13	
Cardiology					2	2	10	10	20	44	
Other Cardiology sub			2					2	8	12	
Critical Care Medicine		2				3	5	12	2	24	
Endocrinology\ Metabolism						2	3	2	2	7	
Gastroenterology					2	5	5	17	8	37	
Other Gastroenterology subspecialties								2		2	
Infectious Disease				2	2	3	2	5	3	17	
Hematology\Oncology			2		2		5	10	12	31	
Nephrology						2	3	3	2	10	
Pulmonary Disease		2	2			2	3	3	10	22	
Pulmonary Disease subspecialties									2	4	
Rheumatology							8			13	
Neurology		2	2	3	2	5	20	10	13	57	
Other Neurology Subspecialties							3	2		7	
Nuclear Medicine		3				2	5	3	5	18	
Obstetrics and Gynecology (General)	2	10	3	3	15	23	33	66	71	226	
OBGyn Subspecialties								3	3	6	
Ophthalmology		3	2	3	8	40	46	12	13	129	
Other Ophthalmology subspecialties				2				5	2	14	
Otolaryngology		2	2	2	2	12	20	12	17	71	
Otorhinolaryngology Subspecialties										3	
Pathology (General)						7	15	7	3	43	
Pathology Subspecialties										74	
Pediatric Subspecialties										72	
Physical Medicine and Rehabilitation										32	
Preventive Medicine \ Public Health										18	
PNP\PH subspecialties										23	
Psychiatry	8	12	14	32	100	310	12	48	60	2042	
Psychiatry Child\Adolescent										14	
Radiology (Diagnostic)										131	
Radiology (Therapeutic)										18	
Surgery (General)	5	7	18	63	538	243	18	136	351	996	
Neurological Surgery										33	
Orthopedic Surgery	159	94	230	209	222	387	308	179	83	1881	
Orthopedic Subspecialties										153	
UTAH										34	
Plastic Surgery	13	13	22	94	81	256	5	27	123	48	
Thoracic Surgery										24	
Other Surgery Subspecialties										24	
TOTAL RURAL	10	109	265	249	293	658	515	344	143	2767	
Percent of Rural	4%	4%	10%	9%	11%	24%	19%	12%	5%	100%	
Percent of Total	7%	7%	10%	9%	11%	24%	19%	12%	5%	100%	
DAVIS										127	
SALT LAKE										33	
UTAH										153	
WEBER										34	
TOTAL URBAN	10	109	265	249	293	658	515	344	143	2767	
Percent of Urban	7%	7%	10%	9%	11%	24%	19%	12%	5%	100%	
Percent of Total	7%	7%	10%	9%	11%	24%	19%	12%	5%	100%	
TOTAL OTHER	1	2	7	2	2	3	2	0	6	2	
Percent of Other	25%	25%	12%	3%	3%	5%	3%	0%	100%	2	
Percent of Total	25%	25%	12%	3%	3%	5%	3%	0%	100%	2	
TOTAL	2	45	81	70	63	114	409	637	518	469	2406
Total Specialist										2406	
Percent of Specialists		2%	3%	3%	3%	5%	17%	26%	22%	19%	100%
Percent of TOTAL		63%	76%	60%	57%	73%	64%	64%	67%	66%	66%
TOTAL	71	107	117	110	157	639	995	768	704	3668	

58. Given a three-percent per year retirement rate knowing where that retirement is likely to come from will help the MEC develop strategies for replacement before the fact.

ADDITIONAL YEARS PLANNING TO PRACTICE AT PRIMARY PRACTICE LOCATION BY GEOGRAPHIC AREA												
Geographic Area	missing	ZERO	1 - 4 yrs	5 - 9 Yrs	10 - 14 Yrs	15 - 19 Yrs	20 - 24 Yrs	25 - 29 Yrs	30 - 34 Yrs	35 - 39 Yrs	40 + yrs	Total
TOTAL RURAL	58	7	41	62	75	66	75	17	12	0	6	419
Percent of Rural	14%	2%	10%	15%	18%	16%	18%	4%	3%	0%	1%	100%
Percent of TOTAL	16%	16%	9%	12%	12%	14%	15%	12%	12%	0%	33%	13%
DAVIS	18	3	40	23	31	23	31	10	15		3	197
SALT LAKE	219	30	277	285	387	295	250	81	50	2	7	1883
UTAH	43	3	45	51	70	53	76	18	12	3	2	376
WEBER	23	2	53	61	45	40	55	20	12	2		313
TOTAL URBAN	303	38	415	420	533	411	412	129	89	7	12	2769
Percent of Urban	11%	1%	15%	15%	19%	15%	15%	5%	3%	0%	0%	100%
Percent of TOTAL	82%	84%	89%	83%	86%	85%	84%	88%	88%	100%	67%	85%
TOTAL OTHER	9	0	10	22	9	4	5	0	0	0	0	59
Percent of Other	15%	0%	17%	37%	15%	7%	8%	0%	0%	0%	0%	100%
Percent of TOTAL	2%	0%	2%	4%	1%	1%	1%	0%	0%	0%	0%	2%
TOTAL PHYSICIANS	370	45	466	504	617	481	492	146	101	7	18	3247

59. This data poses many questions. Further analysis around specialty, years of practice, hours worked, practice setting is needed before meaningful conclusions can be drawn.

Gross Income of Physicians by Gender				
Gross Income cohorts	Female	Male	Not Specified	Total
0 To 49999	78	187	7	272
50000 To 99999	111	194	5	310
100000 To 149999	166	742	35	943
150000 To 199999	55	488	13	556
200000 To 249999	26	387	10	423
250000 To 299999	13	227	3	243
300000 To 349999	3	159	3	165
350000 To 399999		53		53
400000 To 449999		41		41
450000 To 499999		12		12
500000 To 549999		23		23
550000 To 599999		3		3
600000 To 649999	2	7	3	12
700000 To 749999		3		3
750000 To 799999		5		5
800000 To 849999		2		2
850000 To 899999		2		2
900000 To 949999		2		2
1000000 To 1049999		3		3
1200000 To 2000000		5		5
Not Given	81	601	31	713
Total	535	3146	110	3791

Race or Ethnicity by Primary Practice Specialty

60. While there is still a disparity in the ethnic composition of the overall physician workforce, there appears to be diversity among specialties.

Primary Practice Specialty	WHITE/CAUCASIAN	ASIAN	HISPANIC OR LATINO	OTHER RACE/ETHNICITY	NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	BLACK OR AFRICAN AMERICAN	AMERICAN INDIAN OR ALASKA NATIVE	NOT GIVEN	Total
Family Practice	479	13	5		3			7	507
Internal Medicine (General)	416	25	3		2			3	449
Pediatrics (General)	283	10	8		2	2		7	312
Total Primary Care	1178	48	16	0	7	2	0	17	1268
Allergy and Immunology	26								26
Anesthesiology (General)	204	20	2	5	2				233
Anesthesiology-Pain Management	3	2							5
Other Anesthesiology Subspecialty	8	3							11
Dermatology	66	2		2		2			72
Other Dermatology Subspecialties	2								2
Emergency Medicine	189	5						2	196
Other EMS Subspecialties	13								13
Cardiology	38	5							43
Other Cardiology sub	12								12
Critical Care Medicine	23								23
Endocrinology\ Metabolism	7								7
Gastroenterology	35	3							38
Other Gastroenterology subspecialties	2								2
Infectious Disease	15		3						18
Hematology\Oncology	30								30
Nephrology	8	2							10
Pulmonary Disease	20			2					22
Pulmonary Disease subspecialties	3								3
Rheumatology	13								13
Neurology	50	2		2				3	57
Other Neurology Subspecialties	7								7
Nuclear Medicine	17							2	19
Obstetrics and Gynecology (General)	219	3	2	2			2		228
OBGyn Subspecialties	7								7
Ophthalmology	126			2				2	130
Other Ophthalmology subspecialties	13								13
Otolaryngology	68	2							70
Otolaryngology subspecialties	3								3
Pathology (General)	38	2						2	42
Pathology Subspecialties	68	2	2						72
Pediatric Subspecialties	70	2							72
Physical Medicine and Rehabilitation	31								31
Preventive Medicine \ Public Health	17								17
PM&PH subspecialties	20		2						22
Psychiatry	137	3		3				2	145
Psychiatry Child/Adolescent	15					2			17
Radiology (Diagnostic)	126	3	2				2		133
Radiology (Therapeutic)	17								17
Surgery (General)	121	3						3	127
Neurological Surgery	31							2	33
Orthopedic Surgery	152			2				2	156
Orthopedic subspecialties	33								33
Plastic Surgery	41	2		2			2		47
Thoracic Surgery	22	2							24
Other Surgery Subspecialties	23								23
Urology	43							2	45
Other Subspecialties	8								8
Sports Medicine	20								20
Neurovascular Disease	2								2
Medical Informatics	3								3
Addictionology	3								3
Total Specialty Care	2268	68	13	22	2	4	6	22	2405
NOT GIVEN	118	8	2	2				2	132
Total	3564	124	31	24	9	6	6	41	3805

61. This chart suggests that further analysis by age, years of practice and geographic region will likely provide additional insights concerning recruitment and retention. The MEC will continue to compare and contrast Utah Physician salaries with national and regional averages.

AVERAGE SALARY OF PHYSICIANS BY PRIMARY PRACTICE SPECIALTY

Primary Practice Specialty	Valid N	mean	median	mode
Family Practice	265	\$127,256	\$120,000	\$150,000
Internal Medicine (General)	229	\$130,210	\$120,000	\$150,000
Pediatrics (General)	166	\$122,340	\$116,000	\$120,000
Allergy and Immunology	14	\$128,214	\$100,000	\$100,000
Anesthesiology (General)	121	\$215,157	\$219,000	\$200,000
Cardiology	24	\$225,063	\$239,500	\$250,000
Critical Care Medicine	13	\$150,462	\$150,000	\$150,000
Dermatology	29	\$210,828	\$200,000	\$200,000
Emergency Medicine	106	\$176,875	\$180,000	\$200,000
Gastroenterology	21	\$201,952	\$180,000	\$180,000(a)
Hematology\Oncology	15	\$222,800	\$170,000	\$150,000
Neurological Surgery	16	\$234,063	\$207,500	\$160,000(a)
Neurology	31	\$136,226	\$120,000	\$250,000
Obstetrics and Gynecology (General)	113	\$218,451	\$200,000	\$200,000
Ophthalmology	69	\$212,217	\$165,000	\$200,000(a)
Orthopedic Surgery	71	\$233,239	\$220,000	\$300,000
Otolaryngology	31	\$179,323	\$200,000	\$200,000
Pathology (General)	19	\$145,842	\$150,000	\$150,000
Physical Medicine and Rehabilitation	14	\$157,071	\$160,000	\$180,000
Plastic Surgery	24	\$271,292	\$220,000	\$200,000(a)
Psychiatry	76	\$142,109	\$140,000	\$140,000
Pulmonary Disease	10	\$152,800	\$165,000	\$200,000
Radiology (Diagnostic)	58	\$201,121	\$200,000	\$200,000
Surgery (General)	64	\$213,320	\$200,000	\$200,000
Thoracic Surgery	10	\$332,300	\$225,000	\$100,000
Urology	21	\$239,886	\$200,000	\$200,000
Orthopedic subspecialties	15	\$273,200	\$200,000	\$200,000
Other Surgery Subspecialties	10	\$203,000	\$215,000	\$150,000(a)
Pathology Subspecialties	32	\$152,867	\$137,500	\$100,000
Pediatric Subspecialties	38	\$141,763	\$125,000	\$180,000
Prev. Med. & Pub. Health subspecialties	11	\$106,364	\$90,000	\$80,000(a)
a. Multiple modes exist. The smallest value is shown				
b. specialties with fewer than 10 responses were not included to insure privacy of the respondents				

Utah Physician Survey

1. Do you do any work or provide any services in Utah? YES NO
If no, *please list reasons you maintain a Utah license and return the survey, Thank you.* _____

2. Gender: MALE FEMALE
3. What race/ethnicity are you? (*specify all that apply*)
 CAUCASIAN
 AFRICAN AMERICAN
 NATIVE AMERICAN OR ALASKAN NATIVE
 HISPANIC
 ASIAN
 PACIFIC ISLANDER
 OTHER (*please specify*) _____
4. Year of Birth: 19____
5. How would you best describe the area where you spent the majority of your upbringing (*Check One*):
 RURAL SUBURBAN URBAN
6. The state or country in which you spent the majority of your upbringing:
 UTAH OTHER (*please specify*) State _____ or Country _____
7. Medical Degree: MD DO
8. The institution from which you received your medical degree: _____
City: _____ State: _____ The year you received this degree: 19____
9. The institution(s) which sponsored your internship(s)/residency(s) and year completed:
Institution: _____ City: _____ State: _____ 19____

Institution: _____ City: _____ State: _____ 19____

Institution: _____ City: _____ State: _____ 19____
10. If applicable, the institution which sponsored your fellowship: _____ N/A
City: _____ State: _____ The year you finished your fellowship: 19____
11. Are you currently enrolled in a residency or fellowship training program? YES NO
If yes, please specify:
Institution: _____ City: _____ State: _____
12. If you desire any additional residency / fellowship training please identify specialty. _____

13. What specialties / sub-specialties are you Board Certified in?
Primary: _____, Secondary: _____
14. What specialties / sub-specialties do you currently practice?
Primary: _____, Secondary: _____
15. Are you board eligible in any specialties/sub-specialties other than those in which you are certified?
 YES NO *If yes, please list:* _____
16. Please list one or more continuing medical education (CME) programs you would like to have available locally:

17. Please allocate the hours per week you spend in the following activities:
- | | HRS / WEEK
IN UTAH | HRS / WEEK
OUTSIDE UTAH |
|--|-----------------------|----------------------------|
| COMBINED TEACHING / PATIENT CARE:
(<i>Supervision / training of students / residents.</i>) | _____ | _____ |
| PATIENT CARE: (<i>Direct patient care,
chart reviews, without teaching of resident / student.</i>) | _____ | _____ |
| TEACHING:
(<i>Didactic and / or classroom teaching without direct patient care.</i>) | _____ | _____ |
| RESEARCH:
(<i>Reports, applications, etc.</i>) | _____ | _____ |
| ADMINISTRATION / MANAGEMENT: (<i>Planning, budgeting,
personnel management, etc..., not in support of patient care.</i>) | _____ | _____ |
| CONSULTING
(<i>Not in support of patient care, but in relation to health care.</i>) | _____ | _____ |
18. For your work setting how many hours working per week is considered full time?
 NOT APPLICABLE 30 -39 40 - 49 50 - 59 MORE THAN 60
19. What is your average yearly compensation \$_____ (Gross Amount)
20. Compared to five years ago, has your gross income: INCREASED
 DECREASED
 REMAINED STABLE

If you do not provide any patient care or combined teaching/patient care in Utah, STOP NOW. Please return the survey. THANK YOU!

THE REMAINING QUESTIONS DEAL WITH YOUR CLINICAL PRACTICE:

21. In your current practice, in how many separate cities/towns do you provided patient care
 1 2 3 4 OR MORE

Please complete questions 22-34 for the three location(s) where you spend the largest portion of your time delivering patient care and combined teaching/patient care.

	Location #1	Location #2	Location #3
22. Zip Code:	Zip_____	Zip_____	Zip_____
23. How many more years do you plan on practicing at each location.	Yrs._____	Yrs._____	Yrs._____
24. Number of days per week you spend at each location.	Days_____	Days_____	Days_____
25. Hours spent delivering patient care and / or combined teaching/ patient care in an average week (#17 Teaching & Patient care)	Hrs._____	Hrs._____	Hrs._____

Please allocate the hours in question 25 to the categories in questions 26 - 30.

26. Hours of ambulatory practice devoted to primary care <i>(When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN.)</i>	Hrs._____	Hrs._____	Hrs._____
27. Hours of ambulatory practice devoted to specialty care.	Hrs._____	Hrs._____	Hrs._____
28. Hours of inpatient practice devoted to primary care <i>(When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN.)</i>	Hrs._____	Hrs._____	Hrs._____
29. Hours of inpatient practice devoted to specialty care.	Hrs._____	Hrs._____	Hrs._____
30. Hours of practice devoted to emergency room care.	Hrs._____	Hrs._____	Hrs._____
31. Do you provide prenatal care at this location?	Y__N__	Y__N__	Y__N__
32. Do you provide perinatal care at this location?	Y__N__	Y__N__	Y__N__
33. In an average week how many out-patients do you see?_____ <i>(One number only.)</i>			
34. In an average week how many in-patients do you see?_____ <i>(One number only.)</i>			
35. Does your clinic offer language interpretation to your patients? <input type="checkbox"/> YES <input type="checkbox"/> NO			

If yes, please specify which languages _____

36. Which of the following hospital privileges do you currently hold (*check all that apply*):
- NONE
 INPATIENT CARE OF ADULTS
 INPATIENT CARE OF CHILDREN (*non-newborns*)
 CARE OF NEWBORNS
 LABOR AND DELIVERY
 FIRST ASSISTANT FOR MAJOR SURGERY AND/OR CESAREAN SECTIONS
 FIRST SURGEON FOR OTHER MAJOR SURGICAL PROCEDURES
 INTENSIVE/CORONARY CARE
37. In your immediate practice environment, which of the following do you work with in the care delivery team. *please specify number:*
- PHYSICIAN ASSISTANTS _____
 ADVANCED PRACTICE NURSES _____
 DOCTORS OF PHARMACY _____

***If you spend 100% of your time in a hospital / inpatient setting
STOP NOW. Please return the survey. THANK YOU!***

Questions 38 - 42 may be referred to an office manager for completion.

38. Does your clinic offer a Sliding-Fee Scale based payment option? YES NO
39. Are you limiting the number of new:
- | | YES | NO |
|--------------------------|-------|-------|
| MEDICAID PATIENTS | _____ | _____ |
| MEDICARE PATIENTS | _____ | _____ |
| NON-PAYING PATIENTS | _____ | _____ |
| OTHER NEW PATIENTS _____ | _____ | _____ |
40. What percent of your patients are:
- | | |
|--|--------------|
| MEDICAID | _____ % |
| MEDICARE | _____ % |
| MANAGED CARE Including: HMO=S(with and without a point of service plan), IPA=s
(<i>Independent Practice Associations</i>), PPO=s, (<i>Preferred Provider Organizations</i>) | _____ % |
| SELF PAY | _____ % |
| FEE FOR SERVICE / INDEMNITY PLANS | _____ % |
| WORKERS COMPENSATION | _____ % |
| VETERANS ADMINISTRATION | _____ % |
| ACTIVE MILITARY | _____ % |
| TRI-CARE (CHAMPUS) | _____ % |
| CHARITY (<i>uncompensated care, including uncollected billings</i>) | _____ % |
| TOTAL= | 100 % |
41. Number of days waiting time for an appointment: (*One number only.*)
 FOR A NEW PATIENT: _____
 FOR AN ESTABLISHED PATIENT: _____
42. Average time (*minutes*) spent waiting in office by a patient with a scheduled appointment: _____

APPENDIX B

DATA AND DESCRIPTIVE STATISTICS FOR NURSE PRACTITIONERS

Compiled from a Nurse Practitioner Survey
conducted by the
Medical Education Council in 1998-99

This appendix contains the information and tabulations for nurse practitioners. It is organized in three general parts:

1. A brief narrative and summary enumeration for each data element of the survey. Data elements numbers 1-31 correspond to the questions of the survey questionnaire.
2. Cross tabulations of the data elements that the Workforce Committee and staff have so far examined in the ongoing process of assessing the capacity of Utah's nurse practitioner workforce. Data elements numbers 32-48 are cross-tabulated data from the survey responses.
3. A copy of the questionnaire used to conduct the survey.

Results from the survey are point-in-time data, trend or longitudinal data are necessary to better understand Utah's workforce. Comparisons against regional and national data must also be done to better understand Utah's competitiveness in the market place.

Some elements of the data set and additional comparisons are available by calling the MEC at 538-6984.

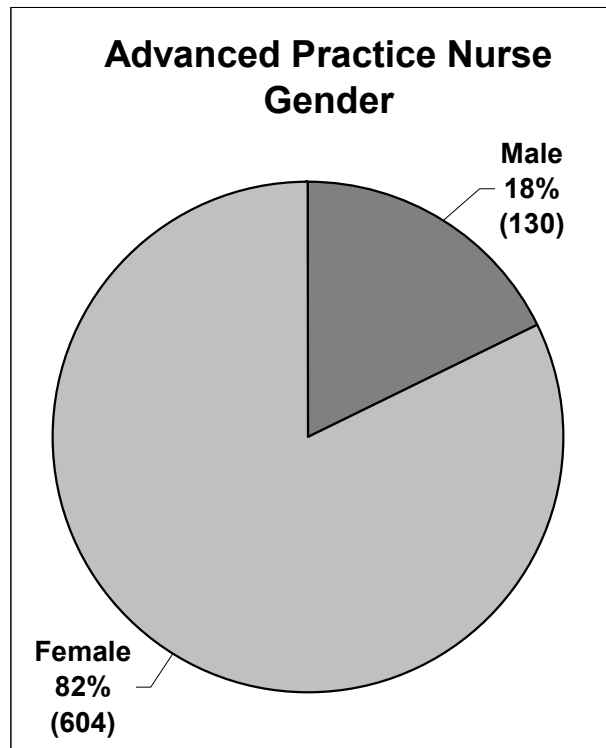
APPENDIX B

DATA AND DESCRIPTIVE STATISTICS FOR NURSE PRACTITIONERS

1. Do you do any work or provide services in Utah?
If no, please list reasons you maintain a Utah license and return survey. Thank You.

The original survey went to the 895 Advanced Practice Nurses (APNs), which include Nurse Practitioners, Certified Registered Nurse Anesthetists, Certified Nurse Midwives, and Clinical Nurse Specialist) licensed in the State of Utah. There were 686 completed surveys returned. 569 of the 686 respondents indicated that they do work or provide services in Utah. Of those who do not work in Utah, but maintain a license, most indicated that they do so to allow flexibility to return to Utah at a later date should the opportunity arise. Other major reasons included reciprocity and sentimental reasons (first state of license).

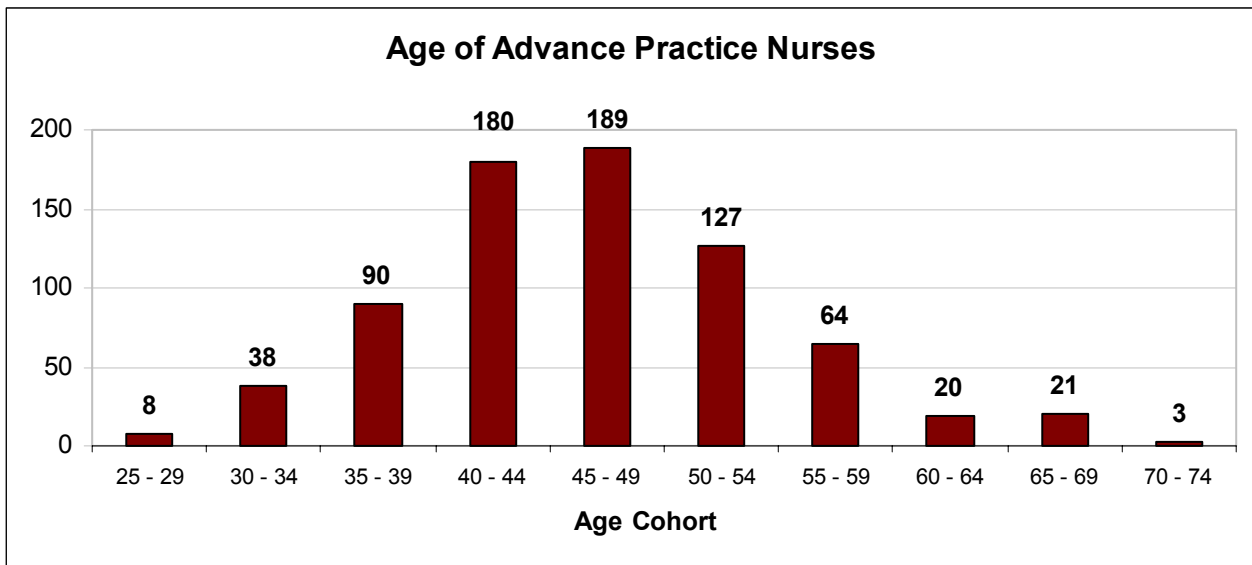
2. Gender: Male [] Female []



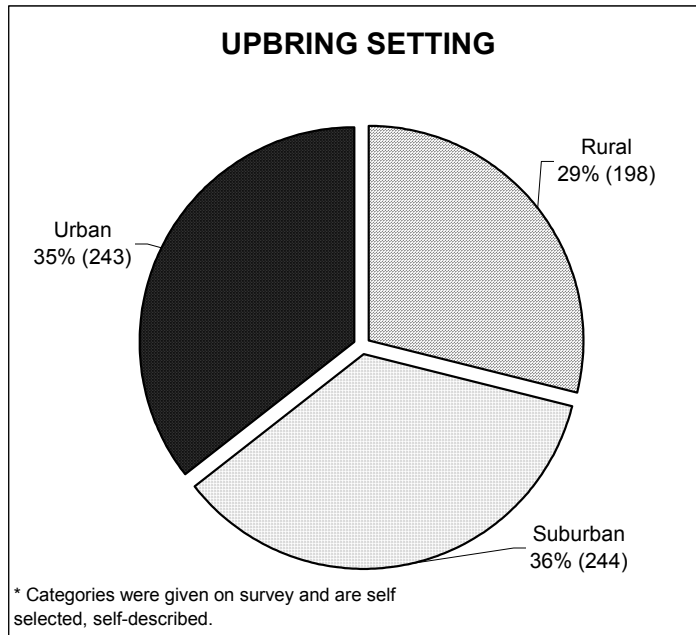
3. What race/ethnicity are you?

Race or Ethnicity of Advanced Practice Nurse	
ASIAN	12
HISPANIC OR LATINO	5
BLACK OR AFRICAN AMERICAN	1
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	0
AMERICAN INDIAN OR ALASKA NATIVE	0
WHITE/CAUCASIAN	724
TOTAL	742

4. Year of Birth: 19___. Age was calculated using year of birth.



5. How would you best describe the setting where you spent the majority of your upbringing? Rural Suburban Urban



6. What state or country best describes where you spent the majority of your upbringing?

STATE OR COUNTRY WHERE APN SPENT MAJORITY OF UPBRINGING

Utah	334	46%	New Jersey	7	1%	Arkansas	1	0%
California	68	9%	South Dakota	7	1%	Louisiana	1	0%
Idaho	34	5%	Georgia	5	1%	Maine	1	0%
Ohio	22	3%	Kansas	5	1%	North Carolina	1	0%
Colorado	18	2%	Maryland	5	1%	New Hampshire	1	0%
Illinois	18	2%	North Dakota	5	1%	Nevada	1	0%
New York	17	2%	Virginia	5	1%	South Carolina	1	0%
Pennsylvania	14	2%	West Virginia	5	1%	TOTAL U.S.	724	99%
Michigan	13	2%	Florida	4	1%			
Wyoming	13	2%	Iowa	4	1%			
Arizona	12	2%	Indiana	4	1%			
Missouri	9	1%	Tennessee	4	1%			
Montana	9	1%	Alaska	3	0%	FOREIGN NATIONS		
Connecticut	8	1%	Deleware	3	0%	CANADA	3	0%
Minnesota	8	1%	Kentucky	3	0%	FINLAND	1	0%
Oregon	8	1%	Mississippe	3	0%	IRELAND	1	0%
Texas	8	1%	New Mexico	3	0%	PERU	1	0%
Washington	8	1%	Oklahoma	3	0%	PHILIPPINES	1	0%
Wisconson	8	1%	Rhode Island	3	0%	Netherlands	1	0%
Massachusettes	7	1%	Alabama	1	0%	Total Foreign	9	1%
						Nations		

7. Advance Practice Classification: This question was used to determine the specialty of APNs currently in the workforce.

Advanced Practice Nurse Specialty	
Nurse Practitioner (Including the following*)	415
*Family Nurse Practitioner	224
*Multiple Nurse Practitioner Certifications	56
*Adult Nurse Practitioner	44
*Pediatric Nurse Practitioner	43
*Neonatal Nurse Practitioner	42
*Womens Health Nurse Practitioner	20
*Other Nurse Practitioner	25
*Geriatric Nurse Practitioner	13
*Occupational Health Nurse Practitioner	4
Certified Nurse Specialist	100
Certified Registered Nurse Anesthetist	100
Certified Nurse Midwife	56
Certified Nurse Specialist and Nurse Practitioner	10
Certified Nurse Midwife and Nurse Practitioner	3
CRNA and Nurse Practitioner	1
Total	742

8. The Institution from which you received your Advanced Practice Education? (The data for this question is reported according to the state in which the institution is located. This data can be reported by individual institution, but for brevity considerations, it is not listed as such in this appendix.)

State Where APN Received Advanced Nurse Training								
Utah	521	70%	New York	5	1%	Maryland	3	0%
California	34	5%	Michigan	5	1%	Kentucky	3	0%
Texas	20	3%	Massachusetts	5	1%	Idaho	3	0%
Minnesota	17	2%	Georgia	5	1%	Hawaii	3	0%
Missouri	16	2%	Oregon	4	1%	Florida	3	0%
Washington	10	1%	New Jersey	4	1%	Wisconsin	1	0%
Pennsylvania	9	1%	Nebraska	4	1%	Rhode Island	1	0%
D.C.	9	1%	North Dakota	4	1%	North Carolina	1	0%
Kansas	8	1%	Illinois	4	1%	Indiana	1	0%
Connecticut	8	1%	Tennessee	3	0%	Arizona	1	0%
Ohio	7	1%	South Dakota	3	0%	Arkansas	1	0%
Colorado	7	1%	Montana	3	0%	No Response	1	0%
Virginia	5	1%	Mississippi	3	0%	TOTAL	742	100%

9. What Advanced Practice National Certification(s) do you hold?

Due to the many different responses that were received for questions 9 and 10, the results of such are not reported in this document. If you would like to review the results please call the Medical Education Council at 538-6881.

10. Please list one or more continuing education programs which you would like to have available locally:

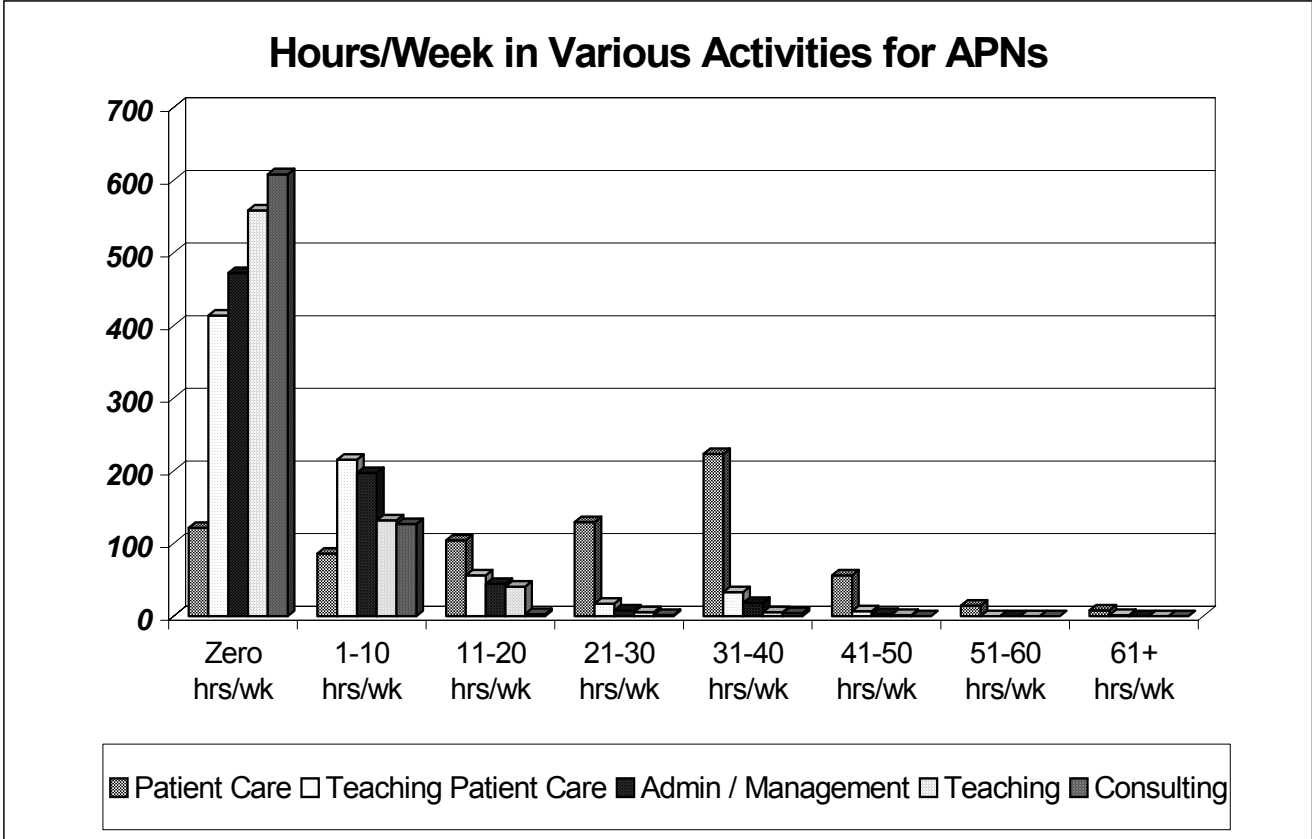
Here are the top six responses. For additional results please call the Medical Education Council at 538-6881.

- i. Pharmacology
- ii. Psychopharmacology
- iii. Neonatal Pharmacology
- iv. Dermatology
- v. Primary Care
- vi. Women's Health Issues

11. In your specific work situation, what is considered full-time?

FULLTIME IN YOUR WORK SETTING	
51+ Hours/Week	44
46-50 Hours/Week	50
41-45 Hours/Week	65
36-40 Hours/Week	464
31-35 Hours/Week	44
26-30 Hours/Week	16
Not Applicable	50
TOTAL	733

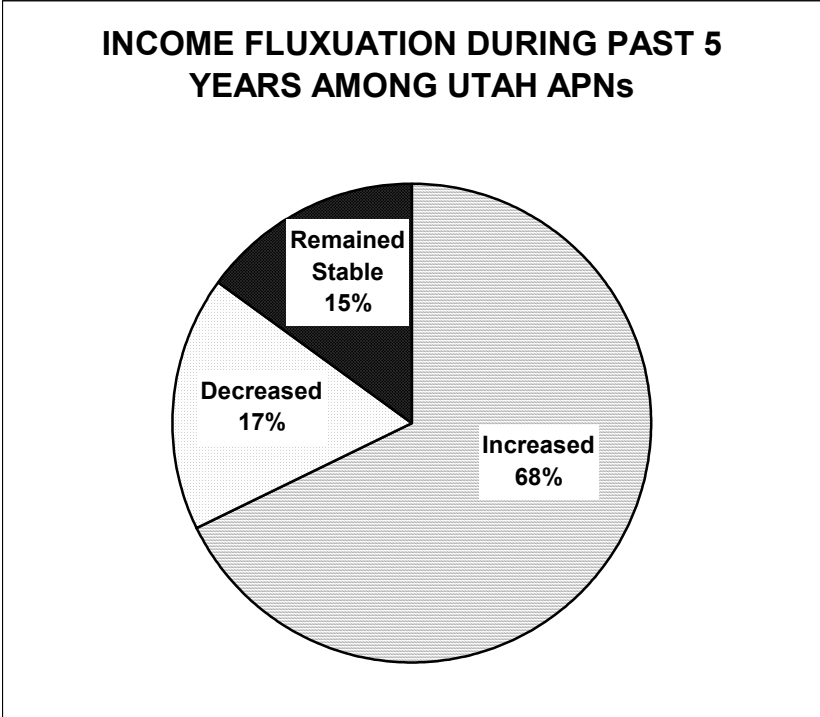
12. Please allocate the hours per week you spent with the following activities:



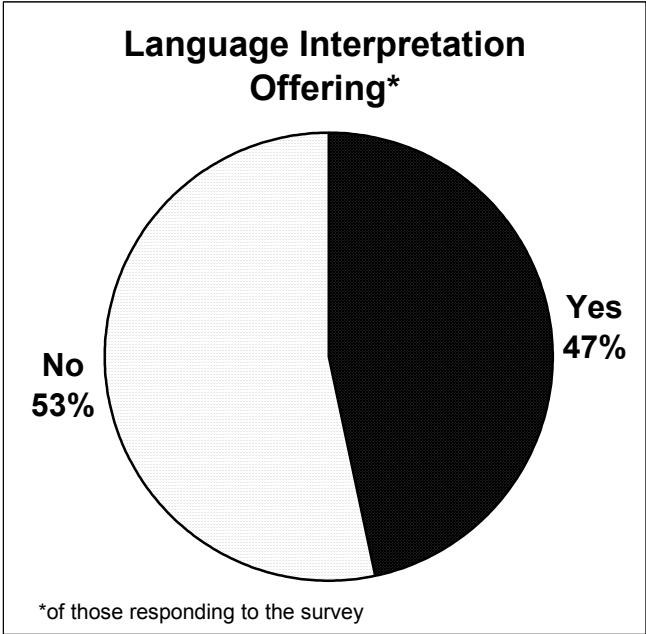
13. What is your average yearly gross compensation?

COMPENSATION BY COHORT	
<\$10,000	40
\$10,000 - \$19,999	18
\$20,000 - \$29,999	29
\$30,000 - \$39,999	57
\$40,000 - \$49,999	98
\$50,000 - \$59,999	209
\$60,000 - \$69,999	132
\$70,000 - \$79,999	60
\$80,000 - \$89,999	30
\$90,000 - \$99,999	17
\$100,000 +	43
Total	733

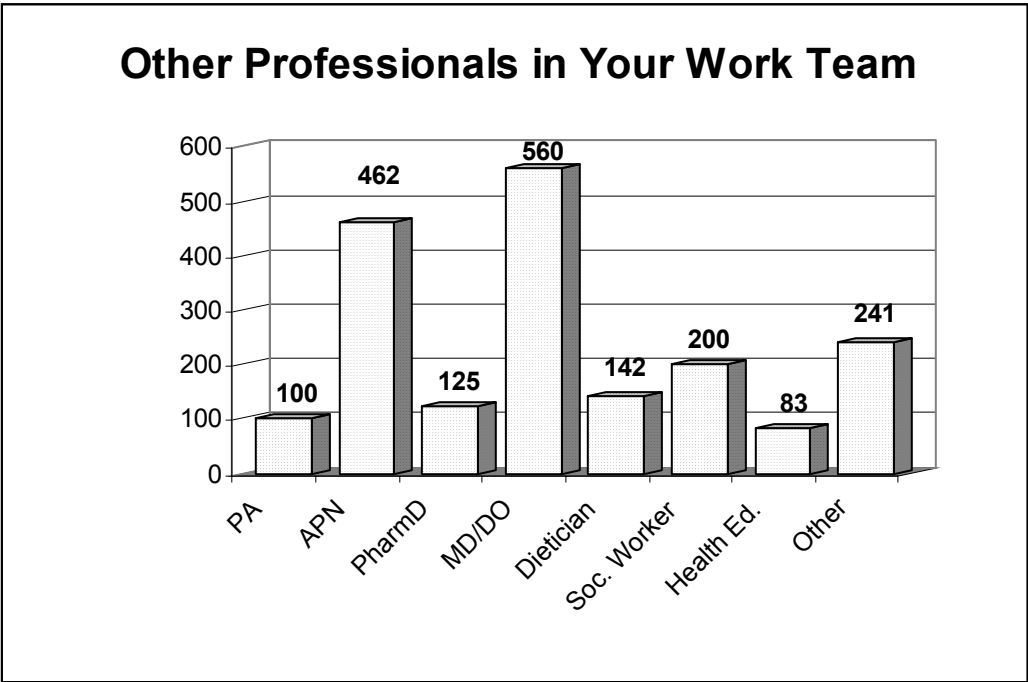
14. Compared to five years ago, has your gross income increased, decreased, or remained stable?



15. Do you offer language interpretation to your patients? Yes No



16. Which professionals comprise your immediate healthcare team?



17. Average number of days waiting time to receive an appointment:
 For a new patient: _____
 For an established patient: _____

Average Length of Wait to See an APN in Days		
Established Patient	Days Cohort	New Patient
99	Zero	85
227	1 - 3	177
20	4 - 5	34
46	6 - 7	47
12	8 - 10	14
20	11 - 15	43
8	16 - 20	13
5	21 - 25	7
3	26 - 30	14
0	31 - 40	4
0	41 - 50	3
1	51 - 60	7
1	81 - 90	1
4	91+	3
445	Total	451

18. Average time (minutes) spent waiting in office by a patient with a scheduled appointment: The data for this question encompassed such a varied range of responses that the results are not reported here.

The results for questions 19 and 20 are combined because of their similar content. The responses are summarized in the chart below

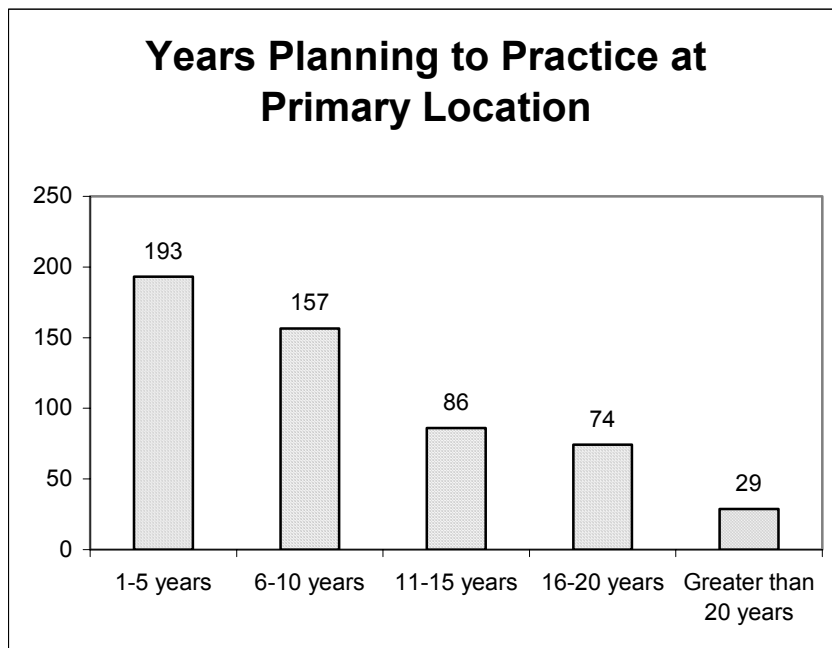
19. In an average week, how many outpatients do you see?
20. In an average week, how many inpatients do you see?

Number of Patients seen in the average week.		
Outpatients	Range of patients per week	Inpatients
Frequency of APN's		Frequency of APN's
48	ZERO	294
85	1-10	167
94	11-20	39
67	21-30	17
52	31-40	10
60	41-50	10
47	51-60	3
18	61-70	3
39	71-80	3
10	81-90	1
26	91-100	3
1	101-110	0
12	111-120	0
8	121+	3

21. Zip code: These data were used to calculate the county of primary practice. Those who practice in two or three counties were also determined, although not included in this report.

County of Primary Practice					
DAGGETT	0	0%	SEVIER	4	1%
PIUTE	0	0%	GRAND	7	1%
RICH	0	0%	TOOELE	8	1%
WAYNE	0	0%	UINTAH	8	1%
KANE	1	0%	BOX ELDER	9	1%
MILLARD	1	0%	CACHE	12	2%
MORGAN	1	0%	IRON	14	2%
SAN JUAN	1	0%	WASHINGTON	17	2%
WASATCH	1	0%	SUMMIT	18	2%
BEAVER	3	0%	DAVIS	42	6%
DUCHESNE	3	0%	SALT LAKE	416	56%
EMERY	3	0%	UTAH	97	13%
SANPETE	3	0%	WEBER	53	7%
CARBON	4	1%	OUTSIDE UTAH	7	1%
GARFIELD	4	1%	TOTAL	740	100%
JUAB	4	1%			

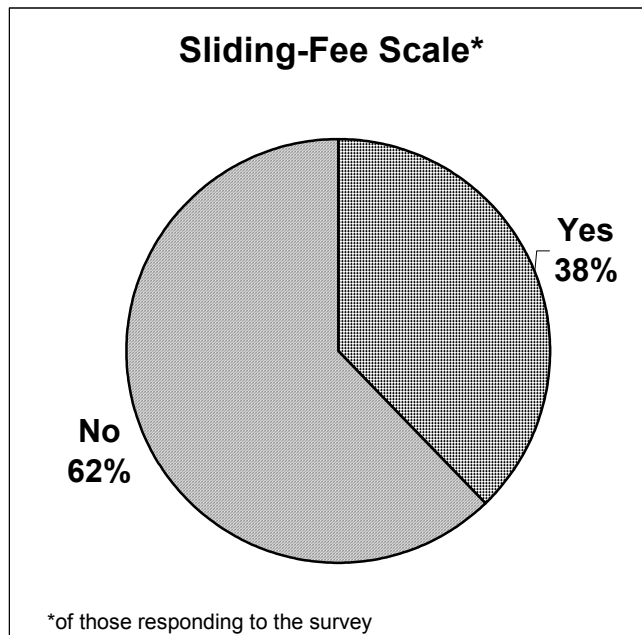
22. Additional years you plan on practicing at your primary location of service? Because of the focus upon primary practice in the report, only the primary practice location is presented, even though the survey requests information for all sites of practice.



Questions 23 – 29 were posed in order to determine the actual number of hours allocated by advanced practice nurses to specific areas of primary and specialty care. The format of the survey and the non-uniform method of response from the participants caused the data to be incomparable and inaccurate. Therefore each question will be listed below in this appendix, however, responses to these questions will not be posted with this report.

23. Number of days per week you spend at each location of practice?
24. Hours in an average week spent delivering patient care and/or combined teaching/patient care?
25. Hours of ambulatory practice devoted to primary care?
26. Hours of ambulatory practice devoted to specialty care?
27. Hours of inpatient practice devoted to primary care?
28. Hours of inpatient practice devoted to specialty care?
29. Hours of practice devoted to Emergency Room care?

30. Does your clinic offer services based on an ability to pay or a Sliding-Fee Scale based on income or family size?



31. This question reports those who are limiting the number of new patients by payment category:

Advanced Practice Nurses Limiting New Patients Based on Payment Method

	Yes	No	No Response
Medicare Patients	9%	61%	30%
Medicaid Patients	10%	65%	25%
Non-Paying Patients	15%	59%	26%
Other New Patients	5%	67%	28%

32. What percent of your patients are: Medicaid, Medicare, Managed Care, Self Pay, Fee-for-Service, Workers Compensation, V.A., Active Military, Tricare, and Charity?

This question did not yield usable aggregate data and descriptive data are not reported here.

33. The age cohort and gender chart below confirms that the nurse practitioner field is predominantly female and that the majority (83%) of the male workforce is above the age of 40.

Age Cohort of APN by Gender

	Male	Female	No Response	Total	Percent
25 - 29	0	8	0	8	1%
30 - 34	5	33	0	38	5%
35 - 39	17	72	1	90	12%
40 - 44	29	149	3	181	24%
45 - 49	38	150	1	189	26%
50 - 54	26	99	1	126	17%
55 - 59	8	56	0	64	9%
60 - 64	4	14	1	19	3%
65 - 69	4	17	0	21	3%
70 - 74	0	3	0	3	0%
TOTAL	131	601	7	739	
Percent	18%	81%	1%		100%

34. Utah does not have an ethnically diverse APRN workforce. The cross tabulated chart comparing age cohorts to ethnicity reveals that 94% of the APRN workforce with ethnic background is at least 40 years of age or older.

Comparison of APRN Age Cohort and Ethnicity

	Caucasian	African American	Hispanic or Latino	Asian	TOTAL
25 - 29	8				8
30 - 34	37			1	38
35 - 39	90				90
40 - 44	171	1	3	5	180
45 - 49	188		1		189
50 - 54	123			4	127
55 - 59	63			1	64
60 - 64	20				20
65 - 69	20		1		21
70 - 74	3				3
TOTAL	723	1	5	11	740

35. The chart of hours worked per week compared to age displays that work patterns across all age cohorts are very similar.

AGE BY TOTAL HOURS WORKED PER WEEK IN UTAH

	NO Resp.	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	Total
Zero hrs/wk							1					1
1-10 hrs/wk		1	1	5	9	5	1	1	1	1	1	26
11-20 hrs/wk	1		1	5	7	7	9	5	1	4		40
21-30 hrs/wk	1	1	1	5	16	17	13	5		5		64
31-40 hrs/wk	1	4	20	47	81	93	50	26	8	5	1	336
41-50 hrs/wk		1	12	10	35	34	33	18	3			146
51-60 hrs/wk			1	10	21	16	12	1	4			65
61-70 hrs/wk				1	4	4	1		1			11
71-80 hrs/wk					3	5	3	1				12
81 + hrs/wk				1	3	5						9
TOTAL	3	7	36	84	179	186	123	57	18	15	2	710

36. APRN specialties cross tabulated with age is a type of analysis that allows the MEC to determine which specialties could face a possible shortage from retirement.

SPECIALTY BY AGE COHORT												
Area of specialty of APNs	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	No Response	Total
Nurse Practitioner	1		8	18	16	11	8		1			63
Adult Nurse Practitioner		4	3	9	14	3	7	1	3	1		45
Occupational Health NP					1	3						4
Womens Health NP		3	7	3	7		1					21
Geriatric Nurse Practitioner		1		3	3	3	3		1			14
Family Nurse Practitioner	4	10	27	57	64	34	17	3	8			224
Pediatric Nurse Practitioner	1	5	8	12	10	3	1	1	1			42
Primary Care	6	23	53	102	115	57	37	5	14	1	0	413
Percent Primary Care	86%	61%	58%	57%	61%	45%	58%	26%	70%	50%	0%	56%
Other Nurse Practitioner				4	4	5	1	1			1	16
Neonatal Nurse Practitioner		3	7	18	9	4					1	42
Certified Nurse Midwife	1	3	9	13	18	8	1	3				56
NP and CNM				3								3
Certified Nurse Specialist		1	7	22	16	29	13	5	5	1	1	100
NP and CNS			1	1	3	3	3					11
Certified Registered Nurse Anesthetist		8	13	17	25	22	9	5	1			100
NP and CRNA			1									1
Total Specialist Providers	1	15	38	78	75	71	27	14	6	1	3	329
Percent Specialist	14%	39%	42%	43%	39%	55%	42%	74%	30%	50%	100%	44%
TOTAL	7	38	91	180	190	128	64	19	20	2	3	742

37. The chart below shows the distribution of APRN workforce by county and age cohort. As with the previous chart, determining those professionals who are approaching retirement age in a specific county or region can determine future pockets of need.

**COUNTY OF PRIMARY PRACTICE BY AGE
COHORT**

County	No Resp.	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	Total
SALT LAKE		1	16	47	91	98	61	29	10	7	1	361
UTAH		1	5	8	25	14	12	10	4	4	1	84
WEBER		1	3	8	8	13	10	3				46
DAVIS		1		1	10	10	7					29
Total Urban	0	4	24	64	134	135	90	42	14	11	2	520
SUMMIT				1	3	5	3	3				15
WASHINGTON				1	4	3	3	1		1		13
CACHE				7	1	3	1					12
IRON			1	1	8	1	1					12
BOX ELDER		1		1		3	3					8
TOOELE				1	3	1	3					8
UINTAH			1		1	1	1	1				5
GARFIELD				1		3						4
GRAND					1		1	1		1		4
JUAB					1	1	1					3
CARBON							1	1				2
DUCHESNE			1			1						2
EMERY					1					1		2
SANPETE					1	1						2
SEVIER			1			1						2
BEAVER						1						1
KANE									1			1
MILLARD				1								1
MORGAN					1							1
SAN JUAN								1				1
Total Rural	0	1	4	14	25	25	18	8	1	3	0	99
Out of State			1	3	1	1						6
NO RESPONSE	4	1	8	8	18	26	18	13	4	7		107
Total	4	6	37	89	178	187	126	63	19	21	2	732

*weighted totals

38. Age cohorts compared with yearly gross income suggest that income does not appear to be increasing significantly with age. Yearly gross income is significantly affected by specialty as seen in the second cross tabulation.

NURSE PRACTITIONER YEARLY INCOME BY AGE COHORT

	No Resp.	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 & over	Total
No Response				1	7	4	4	7		3	26
<\$10,000			3	4	4	7			1	2	21
\$10,000 - \$19,999		1		1	3	1	5	3		4	18
\$20,000 - \$29,999	1		1	5	5	9	1			5	27
\$30,000 - \$39,999	1	3	5	5	9	17	8	5	3	1	57
\$40,000 - \$49,999		1	3	7	34	22	21	8	3		99
\$50,000 - \$59,999	1	3	10	35	51	55	29	17	4	4	209
\$60,000 - \$69,999			5	14	38	31	29	10	1	3	131
\$70,000 - \$79,999			5	5	14	17	12	4	3		60
\$80,000 - \$89,999			3	5	5	8	4	5			30
\$90,000 - \$99,999				1	4	4	1	3	4		17
\$100,000 +			3	4	7	14	13	1	1		43
Total	3	8	38	87	181	189	127	63	20	22	738

Appendix B

39. Specialty by income shows that the bulk of those above \$100,000 are Certified Registered Nurse Anesthetists.

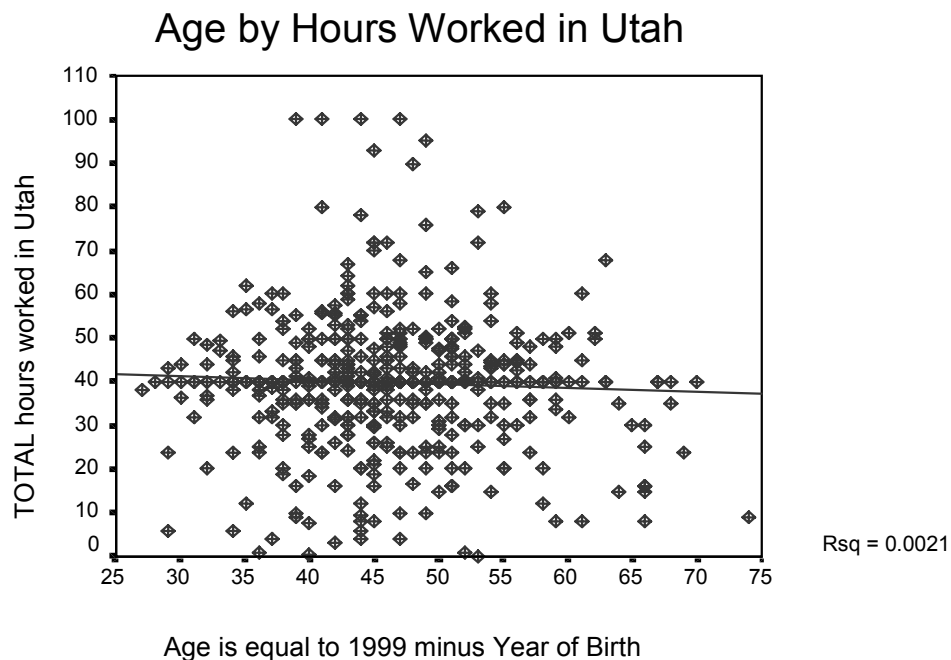
ADVANCED PRACTICE NURSE SPECIALTY BY YEARLY INCOME													
APN specialty	No Response	<\$10,000	\$10,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 - \$99,999	\$100,000 +	Total
Nurse Practitioner	4	3	4		7	12	18	10	3	3		1	65
Adult NP	1	1	1	1	1	8	14	9	5				41
Womens Health NP				3	4	3	10						20
Geriatric NP	1						8	3	1				13
Other NP	3			4	1		3	4	1	1			17
Family NP	7	12	5	9	20	35	78	38	8	7	3	3	225
Pediatric NP	1	3	3	1	5	4	10	13	3				43
Neonatal NP	3			1		5	13	9	8	1		1	41
Certified Nurse Midwife		1		5	7	9	10	16	10				58
Certified Nurse Specialist	1	1	5	4	12	22	31	17	5				98
CNS & NP	1						8					1	10
Cert. Reg. Nurse Anesthitist	3						1	13	15	18	14	37	101
Total	25	21	18	28	57	98	204	132	59	30	17	43	732

Some Specialties were eliminated from this chart to protect respondents confidentiality.

40. Income data was collected by groupings of \$10,000 increments and not absolute values. So calculating an average by wage is not very accurate. However, by using the midpoints as values it is obvious that male APNs make more than female APNs by as much as 50%. However, since male APNs tend to concentrate in the CRNA field, which is traditionally the highest paying, these results are not surprising.

Income Cohort by Gender of APN			
	Male	Female	TOTAL
<\$10,000	0	21	21
\$10,000 - \$19,999	0	18	18
\$20,000 - \$29,999	1	27	28
\$30,000 - \$39,999	1	56	57
\$40,000 - \$49,999	3	94	97
\$50,000 - \$59,999	20	187	207
\$60,000 - \$69,999	25	104	129
\$70,000 - \$79,999	14	46	60
\$80,000 - \$89,999	14	16	30
\$90,000 - \$99,999	12	5	17
\$100,000 +	34	8	42
Not Given	5	20	25
TOTAL	129	602	731

41. As is expected the hours per week worked trends downward with age, however the R^2 value suggests the results are not significant. Indicating that most APNs work about 40 hours per week regardless of age.



42. This chart, which displays ethnicity of advanced practice nurses by specialty, defines the need for Utah to encourage more people of ethnic background to enter advanced practice specialties.

Ethnicity of Advanced Practice Nurse by Specialty					
	Caucasian	African American	Hispanic or Latino	Asian	Total
Nurse Practitioner	63		1		64
Adult NP	40		4		44
Occupational Health NP	4				4
Womens Health NP	20				20
Geriatric NP	12			1	13
Family NP	222			3	225
Pediatric NP	43				43
Neonatal NP	39	1		1	41
Other NP	17				17
Certified Nurse Midwife	55			1	56
Certified Nurse Specialist	95			5	100
CRNA	100				100
CNM and NP	3				3
CNS and NP	10				10
CRNA and NP	1				1
Total	724	1	5	11	741

43. The time demands for an advanced practice nurse vary significantly by specialty. This chart describes the allocation of time among different specialties of primary and specialty care.

Average Hours Working by Specialty

Advance Practice Nurse Primary Practice Certifications	Zero hrs/wk	1-10 hrs/wk	11-20 hrs/wk	21-30 hrs/wk	31-40 hrs/wk	41-50 hrs/wk	51-60 hrs/wk	61+ hrs/wk	Total
Nurse Practitioner		4	4	4	31	13	1	3	60
Adult NP		1	1	4	23	7	3	1	40
Occupational Health NP				1	1	1			3
Womens Health NP				1	16	1		1	19
Geriatric NP			1		4	5		1	11
Family NP		13	17	22	100	42	14	9	217
Pediatric NP		3	3	10	16	4	4	4	44
Primary Care	0	21	26	42	191	73	22	19	394
Percent of Total	0%	75%	63%	66%	57%	50%	34%	59%	55%
Certified Nurse Midwife		1	3	4	25	12	8	4	57
Certified Nurse Specialist		1	5	9	51	22	9		97
CRNA		3	3	4	30	30	17	8	95
CNM & NP					1		1		2
CNS & NP		1			5	3	1		10
CRNA & NP					1				1
Other NP	1		3	1	8		3	1	17
Neonatal NP		1	1	4	22	7	4		39
Specialty Care	1	7	15	22	143	74	43	13	318
Percent of Total	100%	25%	37%	34%	43%	50%	66%	41%	45%
Total	1	28	41	64	334	147	65	32	712

44. Most of Utah's APNs are employed along the Wasatch Front, however, this chart shows that a respective number of advanced practice nurses are employed in rural counties. Of all the advanced nurse specialties, nurse practitioners and certified nurse anesthetists tend to work more in rural settings than other specialties.

COUNTY OF PRIMARY PRACTICE BY SPECIALTY

	NP	CNM	CNS	CRNA	NP & CNM	NP & CNS	CNS & CNM	NP & CRNA	TOTAL
BEAVER				1					1
BOX ELDER	3	1		4					8
CACHE	10	1							11
CARBON	1			1					2
DUCHESNE		1		1					2
EMERY	3								3
GARFIELD	3	1							4
GRAND	3		1	1					5
IRON	8	1		4					13
JUAB	1			3					4
KANE				1					1
MILLARD	1								1
MORGAN	1								1
PIUTE									0
SAN JUAN	1								1
SANPETE	1			1					2
SEVIER	1			1					2
SUMMIT	10	1	3						14
TOOELE	3			3	1	1			8
UINTAH	3	1		3					7
WAYNE									0
WASATCH									0
WASHINGTON	10	1		1					12
TOTAL RURAL	63	8	4	25	1	1	0	0	102
DAVIS	16	4	3	7	1				31
SALT LAKE	226	27	60	17	8	22		1	361
UTAH	47	7	5	22	1	3			85
WEBER	25	3	4	12		3			47
TOTAL URBAN	314	41	72	58	10	28	0	1	524
Out of State	4			1	1				6
TOTAL ALL	381	49	76	84	12	29	0	1	632

45. Training information cross-tabulated with information of upbringing assists in documenting which states the advanced practice nurses are from and where they received training. Such information is useful for determining where Utah should recruit for needed practitioners.

**State of Advanced Training by Demographic Region of
Upbringing**

STATE	Rural	Suburban	Urban	Missing	Total
Utah	125	174	183	39	521
California	9	13	10	1	33
Texas	10	5	3	1	19
Minnesota	4	8	4	1	17
Missouri	5	4	1	5	15
Washington	4	1	5		10
D.C.	4	3	1	1	9
Pennsylvania	1	4	4		9
Connecticut	3	1	3	1	8
Kansas	4	1	3		8
Ohio	3	3	1		7
Colorado	5	1			6
Georgia		3	3		6
Massachusetts	1	1	3		5
Michigan	1		3	1	5
New York	1	4			5
Virginia	1	3	1		5
North Dakota	3			1	4
Nebraska		3	1		4
Oregon	3	1			4
Illinois	1		1	1	3
Kentucky	3				3
New Jersey	1	1	1		3
Florida		1	1		2
Hawaii	1	1			2
Idaho	1	1			2
Maryland	1		1		2
Mississippi		1	1		2
Montana			1	1	2
South Dakota			1	1	2
Tennessee	1	1			2
Arkansas			1		1
Arizona		1			1
Indiana			1		1
North Carolina		1			1
Rhode Island		1			1
Wisconsin			1		1
Total	196	242	240	54	732

46. Similar to the chart above, this chart is a description of regional training of advanced practice nurses and the recruitment potential for Utah.

Utah Training by Region or State of Upbringing

Region of Upbringing	UTAH TRAINING	NON UTAH TRAINING	TOTAL
UTAH	242	87	329
IDAHO	26	7	33
COLORADO	16	2	18
WYOMING	8	4	12
ARIZONA	10	1	11
NEW MEXICO	3	0	3
NEVADA	0	1	1
Total Surrounding States	63	15	78
Region I	13	5	18
Region II	15	7	22
Region III	20	11	31
Region IV	13	8	21
Region V	51	21	72
Region VI	9	5	14
Region VII	6	10	16
Region VIII	283	96	379
Region IX	57	21	78
Region X	39	13	52
Foreign Nation	7	1	8
TOTAL by Region	513	198	711

47. Looking at hours per week as opposed to actual number of professionals in an area allows better understanding of capacity and possible workforce problems.

Hours Per Week in Patient Care by County of Primary Practice

County of Primary Practice	Zero hrs/wk	1-5 hrs/wk	6-15 hrs/wk	16-25 hrs/wk	26-35 hrs/wk	36-45 hrs/wk	46-55 hrs/wk	56-65 hrs/wk	66 + hrs/wk	Total
BEAVER	1				1					2
BOX ELDER	1		1		3	4				9
CACHE	3			3	3	3	1			13
CARBON				1	1		1			3
DAGGETT										0
DUCHESNE						3				3
EMERY	1					1				2
GARFIELD			1			3				4
GRAND	1				4	1				6
IRON			4		1	8	1			14
JUAB	1					3				4
KANE	1									1
MILLARD			1							1
MORGAN					1					1
PIUTE										0
RICH										0
SAN JUAN	1									1
SANPETE		1						1		2
SEVIER				1		3				4
SUMMIT	1		3	5	4	5				18
TOOELE	1	1			4		1			7
UINTAH		1		3	1	1		1		7
WASATCH			1							1
WASHINGTON	3				3	9	1	1		17
WAYNE										0
TOTAL RURAL	15	3	11	13	26	44	5	3	0	120
DAVIS	7	1		8	9	10	3	1	3	42
SALT LAKE	81	13	60	80	77	89	10	3	4	417
UTAH	10	3	16	9	13	37	7	1		96
WEBER	4	5	4	7	12	13	7	1	1	54
TOTAL URBAN	102	22	80	104	111	149	27	6	8	609
OUTSIDE UTAH	1	3	1			1				6
TOTAL	119	28	92	117	137	195	32	9	8	735

48. This chart is an example of how the MEC can forecast shortages based upon the number of years advance practice nurses are planning to remain in practice and the county in which they are working.

County of Primary Practice by Additional Years Planning on Practicing at Current Location

County of Primary Practice	Zero	1-5 years	6-10 years	11-15 years	16-20 years	21+ years	Total
BEAVER						1	1
BOX ELDER		1		3	1		5
CACHE			4	1	3	1	9
CARBON		1	1	1			3
DAGGETT							0
DUCHESNE		1				1	2
EMERY					1		1
GARFIELD					3		3
GRAND		4	1				5
IRON		1	3	1	4	1	10
JUAB			1	1		1	3
KANE			1				1
MILLARD							
MORGAN							0
PIUTE							0
RICH							0
SAN JUAN		1					1
SANPETE					1	1	2
SEVIER					1	1	2
SUMMIT	1	3	3	4	4		15
TOOELE		5		1		1	7
UINTAH		1	3	1			5
WASATCH		1					1
WASHINGTON		3	1	3	5		12
WAYNE							
DAVIS		10	10	8	1		29
SALT LAKE	3	115	95	43	29	9	294
UTAH	1	25	21	13	12	7	79
WEBER	1	16	12	5	9		43
Outside Utah		4				1	5
TOTAL	6	192	156	85	74	26	538

*Totals may not match due to non response

49. Another example of using the survey information to assist in forecasting potential shortages is this chart. It relates the cross tabulation of age, specialty and area of practice. Such data is extremely valuable in creating a step by step methodology to fill Utah's needs.

Age Cohort by Specialty Broken Down by Urban or Rural Practice

	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	TOTAL
Nurse Practitioner			7	13	4	10	7	1			50
Certified Nurse Midwife	1	1	7	3	10	3	14	1	1		39
Certified Nurse Specialist			4	18	10	1	10	1	4	1	71
CRNA		5	1	10	1	9	4	10	10	7	56
CNM & NP				3							3
CNS & NP			1	1	3	3	1				9
CRNA & NP			1								1
Adult NP		3	1	8	13	3	4	1	3	1	37
Occupational Health NP					1	3					4
Womens Health NP		3	4	3	4		1				15
Geriatric NP		1		3	3	3	1		1		12
Other NP				4	3	4	1	1			13
Family NP	4	5	3	16	8	38	14	43	13	9	138
Pediatric NP	1	4	7	10	1	10	1	1	1		36
Neonatal NP		1	7	14	8	4					34
Total	5	1	23	5	65	16	134	26	135	25	91
							18	40	8	13	1
								10	4	2	
											518
											104

* Numbers in Italics represent Urban practice sites and Numbers in bold represent Rural practice sites.

** 1 CRNA and 4 Family NPs Maintain a primary practice outside of Utah.

Utah Advanced Practice Nurse Survey

1. Do you work or provide any services in Utah? YES NO
If no, please specify reasons that you maintain a Utah license and return the survey. Thank you.

2. Gender: MALE FEMALE

3. What race/ethnicity are you?
 CAUCASIAN
 AFRICAN AMERICAN
 NATIVE AMERICAN OR ALASKAN NATIVE
 HISPANIC
 ASIAN
 PACIFIC ISLANDER
 OTHER, (please specify) _____

4. Year of Birth: 19_____

5. How would you best describe the setting where you spent the majority of your upbringing?
 RURAL SUBURBAN URBAN

6. What state or country best describes where you spent the majority of your upbringing?
 UTAH OTHER, (please specify) State_____ or Country_____

7. Advance Practice Classification: (CHECK ALL THAT APPLY)
 Nurse Practitioner, (please specify):
 FNP PNP NNP GNP ANP
 OHNP WHNP ACUTE CARE NP
 OTHER, (please specify): _____
 Certified Nurse Midwife
 Clinical Nurse Specialist, (please specify):
 Acute Care Specialist Psychiatric Care Specialist Other, (please specify): _____
 Certified Registered Nurse Anesthetist
 OTHER, (please specify): _____

8. The institution from which you received your Advanced Practice Education? _____
City: _____ State: _____
Year of degree: 19_____

9. What Advanced Practice National Certification(s) do you hold?

10. Please list one or more continuing education programs which you would like to have available locally:

11. In your specific work situation, what is considered full time?
 26 - 30 hrs/wk 31 - 35 hrs/wk 36 - 40 hrs/wk 41 - 45 hrs/wk
 46 - 50 hrs/wk 51 + hrs/wk Not applicable

12. Please allocate your hours per week spent with the following activities:
- | | HRS / WEEK
IN UTAH | HRS / WEEK
OUTSIDE UTAH |
|---|-----------------------|----------------------------|
| A. COMBINED PATIENT CARE / TEACHING: (ONLY)
<i>(Supervising or training of residents / students while delivering patient care)</i> | _____ | _____ |
| B. PATIENT CARE: (ONLY)
<i>(Direct patient care without teaching of students/residents)</i> | _____ | _____ |
| C. TEACHING: (ONLY)
<i>(Didactic and / or classroom teaching without patient care)</i> | _____ | _____ |
| D. RESEARCH: (ONLY)
<i>(Reports, applications, surveys, etc...)</i> | _____ | _____ |
| E. ADMINISTRATION / MANAGEMENT: (ONLY)
<i>(Planning, budgeting, personnel management, not in support of patient care)</i> | _____ | _____ |
| F. CONSULTING: (ONLY)
<i>(Not in support of patient care)</i> | _____ | _____ |
| G. OTHER, <i>(Please specify)</i> : _____ | _____ | _____ |

13. What is your average yearly gross compensation?
- | | | |
|--|--|--|
| <input type="checkbox"/> < \$10,000 | <input type="checkbox"/> \$40,000 - \$49,999 | <input type="checkbox"/> \$80,000 - \$89,999 |
| <input type="checkbox"/> \$10,000 - \$19,999 | <input type="checkbox"/> \$50,000 - \$59,999 | <input type="checkbox"/> \$90,000 - \$99,999 |
| <input type="checkbox"/> \$20,000 - \$29,999 | <input type="checkbox"/> \$60,000 - \$69,999 | <input type="checkbox"/> \$100,000 + |
| <input type="checkbox"/> \$30,000 - \$39,999 | <input type="checkbox"/> \$70,000 - \$79,999 | |

14. Compared to five years ago, has your gross income:
- INCREASED
 DECREASED
 REMAINED STABLE

-----THE REMAINING QUESTIONS DEAL WITH YOUR CLINICAL PRACTICE-----

15. Do you offer language interpretation to your patients? YES NO
 If yes, what language(s)? _____
16. Which professionals comprise your immediate health care team? (For example: 4 MDs, 1 PA, 2 NPs)
- | | | | |
|----------------------------------|---------|---|---------|
| <input type="checkbox"/> PA | # _____ | <input type="checkbox"/> DIETICIAN | # _____ |
| <input type="checkbox"/> APN/NP | # _____ | <input type="checkbox"/> SOCIAL WORKERS | # _____ |
| <input type="checkbox"/> PHARM D | # _____ | <input type="checkbox"/> HEALTH EDUCATORS | # _____ |
| <input type="checkbox"/> MD/DO | # _____ | <input type="checkbox"/> OTHER, <i>(please specify)</i> : | _____ |
17. Average number of days waiting time to receive an appointment:
 FOR A NEW PATIENT: _____
 FOR AN ESTABLISHED PATIENT: _____
18. Average time (*minutes*) spent waiting in office by a patient with a scheduled appointment: _____
19. In an average **week**, how many **outpatients** do you see? _____ (One number only)
20. In an average **week**, how may **inpatients** do you see? _____ (One number only)

Please allocate your **patient care hours** to the three location(s) where you spend the largest portion of your time.

- | | | | | |
|-----|---|-------------|-------------|-------------|
| | | Location #1 | Location #2 | Location #3 |
| 21. | Zip code: | Zip_____ | Zip_____ | Zip_____ |
| 22. | Additional years you plan on practicing at each location: | Yrs_____ | Yrs_____ | Yrs_____ |
| 23. | Number of days per week you spend at each location: | Days_____ | Days_____ | Days_____ |
| 24. | Hours in an average week spent delivering patient care and / or combined teaching/patient care: (#12 A & B) | Hrs_____ | Hrs_____ | Hrs_____ |

Please allocate the hours in question #24 to the categories in questions 25-29

- | | | | | |
|-----|--|----------|----------|--------------|
| 25. | Hours of ambulatory practice devoted to primary care:
<i>(When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN)</i> | Hrs_____ | Hrs_____ | Hrs_____ |
| 26. | Hours of ambulatory practice devoted to specialty care: | Hrs_____ | Hrs_____ | Hrs_____ |
| 27. | Hours of inpatient practice devoted to primary care:
<i>(When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN)</i> | Hrs_____ | Hrs_____ | Hrs_____ |
| 28. | Hours of inpatient practice devoted to specialty care: | Hrs_____ | Hrs_____ | Hrs_____ |
| 29. | Hours of practice devoted to Emergency Room care: | Hrs_____ | Hrs_____ | Hrs_____ |
| 30. | Does your clinic offer services based on ability to pay or a Sliding-Fee Scale based on income or family size?
[] YES [] NO | | | |
| 31. | Are you limiting the number of new: | YES | NO | |
| | MEDICAID PATIENTS | _____ | _____ | |
| | MEDICARE PATIENTS | _____ | _____ | |
| | NON-PAYING PATIENTS | _____ | _____ | |
| | OTHER NEW PATIENTS | _____ | _____ | |
| 32. | What percent of your patients are: | | | |
| | MEDICAID | | | _____ % |
| | MEDICARE | | | _____ % |
| | MANAGED CARE: HMOs (<i>with and without a POS plan</i>), IPAs
<i>(Independent Practice Associations), PPOs, (Preferred Provider Organizations)</i> | | | _____ % |
| | SELF PAY | | | _____ % |
| | FEE FOR SERVICE AND INDEMNITY PLANS | | | _____ % |
| | WORKERS COMPENSATION | | | _____ % |
| | VETERANS ADMINISTRATION | | | _____ % |
| | ACTIVE MILITARY | | | _____ % |
| | TRI-CARE (CHAMPUS) | | | _____ % |
| | CHARITY (<i>uncompensated care, including uncollected bills</i>) | | | _____ % |
| | TOTAL= | | | 100 % |

THANK YOU, PLEASE RETURN THE SURVEY!

APPENDIX C

DATA AND DESCRIPTIVE STATISTICS FOR UTAH PHYSICIANS ASSISTANTS

Compiled from a Physician Assistant Survey
conducted by the
Medical Education Council in 1999

This appendix contains the information and tabulations for physician assistants. It is organized in three general parts:

1. A brief narrative and summary enumeration for each data element of the survey. Data elements numbers 1-39 correspond to the questions of the survey questionnaire.
2. Cross tabulations of the data elements which the Workforce Committee and staff have so far examined in the ongoing process of assessing the capacity of Utah's physician assistant workforce. Data elements numbers 40-55 are cross-tabulated data from the survey responses.
3. A copy of the questionnaire used to conduct the survey.

Results from the survey are point-in-time data, trend or longitudinal data are necessary to better understand Utah's workforce. Comparisons against regional and national data must also be done to better understand Utah's competitiveness in the market place.

Some elements of the data set and additional comparisons are available by calling the MEC at 538-6984.

APPENDIX C

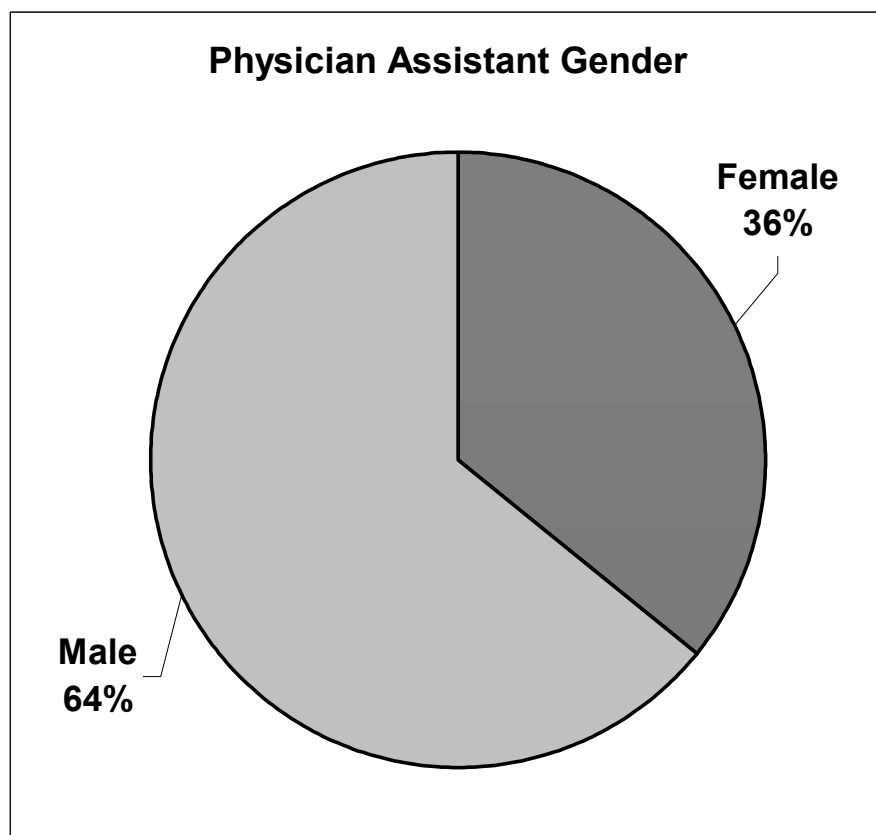
DATA AND DESCRIPTIVE STATISTICS FOR PHYSICIAN ASSISTANTS

The original survey went out to the 283 licensed physician assistants in Utah. A 67 percent response rate was achieved with 189 respondents. The following appendix contains weighted responses to the survey questions presented to physician assistants.

1. Do you work or provide any services in Utah?
If no, please list reasons you maintain a Utah license and return survey.

240 of the 283 respondents indicated that they did provide services in Utah. Of those who do not work in Utah, but maintain a license, most cited the reason for doing so was to allow flexibility in returning to Utah at a later date should the opportunity arise. Other major reasons included locum tenens and sentimental reasons (first state of license).

2. Gender: Male / Female

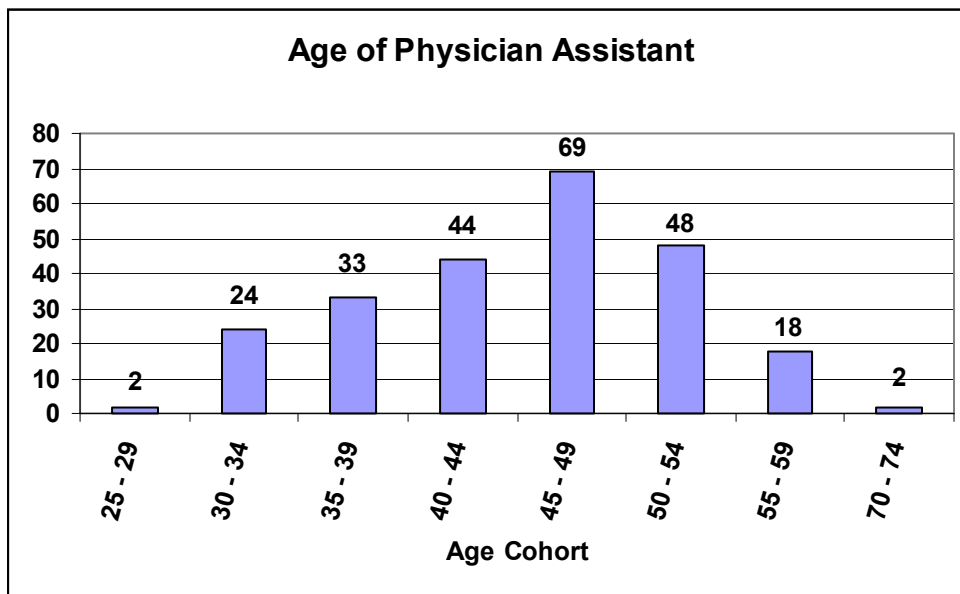


3. What race/ethnicity are you?

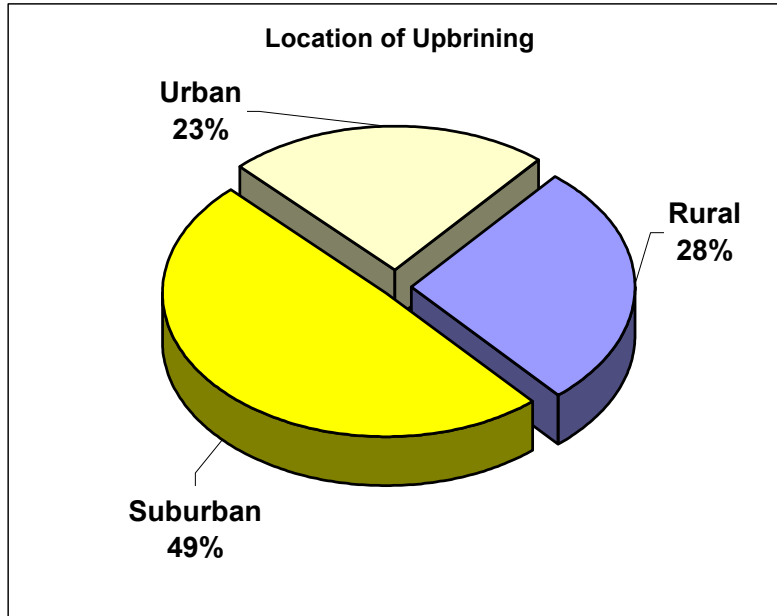
Ethnicity of Physician Assistants		
African American	1	0.63%
Asian	5	1.88%
Caucasian	228	95%
Hispanic	5	1.88%
Pacific Islander	1	0.63%
Total	240	100%

4. Year of Birth:

Year of birth was used to calculate age from 1998 survey responses.



5. How would you best describe the area where you spent the majority of your upbringing?



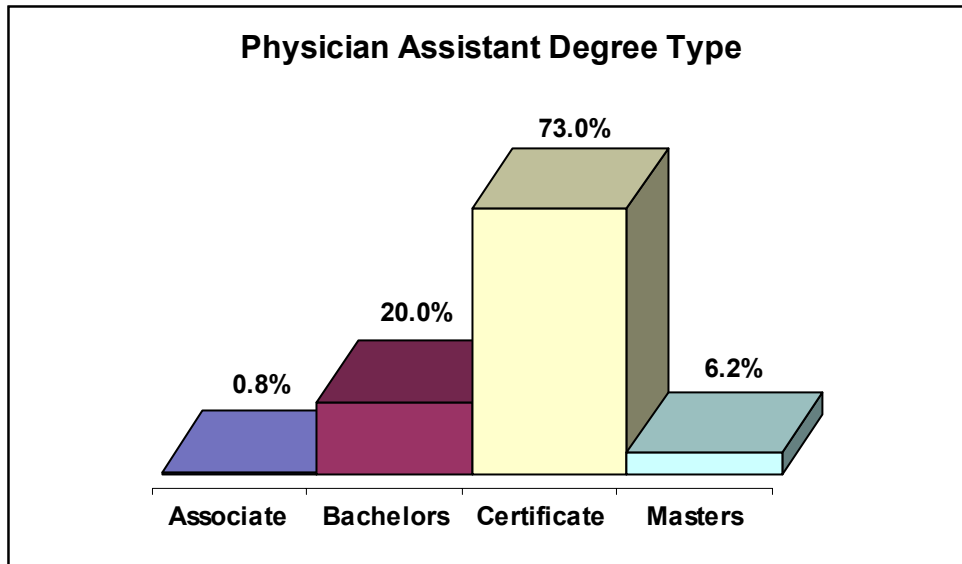
6. What state or country would best describe where you spent the majority of your upbringing?

State _____ or Country _____

State or Country Where Physician Assistant Spent Majority of Upbrining

United States					Foreign Nation			
Utah	125	53.0%	New Jersey	3	1.3%	Czech Republic	1	0.4%
California	33	14.4%	North Dakota	3	1.3%	Mexico	1	0.4%
Texas	9	3.8%	Ohio	3	1.3%	Tonga	1	0.4%
Colorado	8	3.1%	Iowa	2	0.6%			
Idaho	6	2.5%	Michigan	2	0.6%			
Wyoming	6	2.5%	Oklahoma	2	0.6%			
Wisconsin	5	2.0%	Washington	2	0.6%			
Nevada	5	2.0%	Maine	2	0.6%			
Pennsylvania	5	2.0%	Arizona	2	0.6%			
New York	3	1.3%	Montana	2	0.6%			
Illinois	3	1.3%	Kentucky	2	0.6%			
Nebraska	3	1.3%	Hawaii	1	0.4%			
			Total US	237	98.80%	Total Non-US	3	1.2%

7. Please list the type of Physician Assistant degree you have earned and the state where you received your degree. (Certificate, Bachelors, Masters)



List the city and state of the institution from which you received your physician assistant degree.

State Where Physician Assistant Received Clinical Training					
	Number	Percent		Number	Percent
Utah	154	68.7	Missouri	3	1.3
Oklahoma	9	4.0	Michigan	1	0.7
California	9	4.0	North Dakota	1	0.7
Pennsylvania	6	2.7	Ohio	1	0.7
Nebraska	4	2.0	Washington	1	0.7
New York	4	2.0	Kansas	1	0.7
North Carolina	4	2.0	Tennessee	1	0.7
Georgia	4	2.0	West Virginia	1	0.7
Texas	4	2.0	Illinois	1	0.7
Idaho	3	1.3	Wisconsin	1	0.7
Iowa	3	1.3	Colorado	1	0.7
			Total	225	100.00

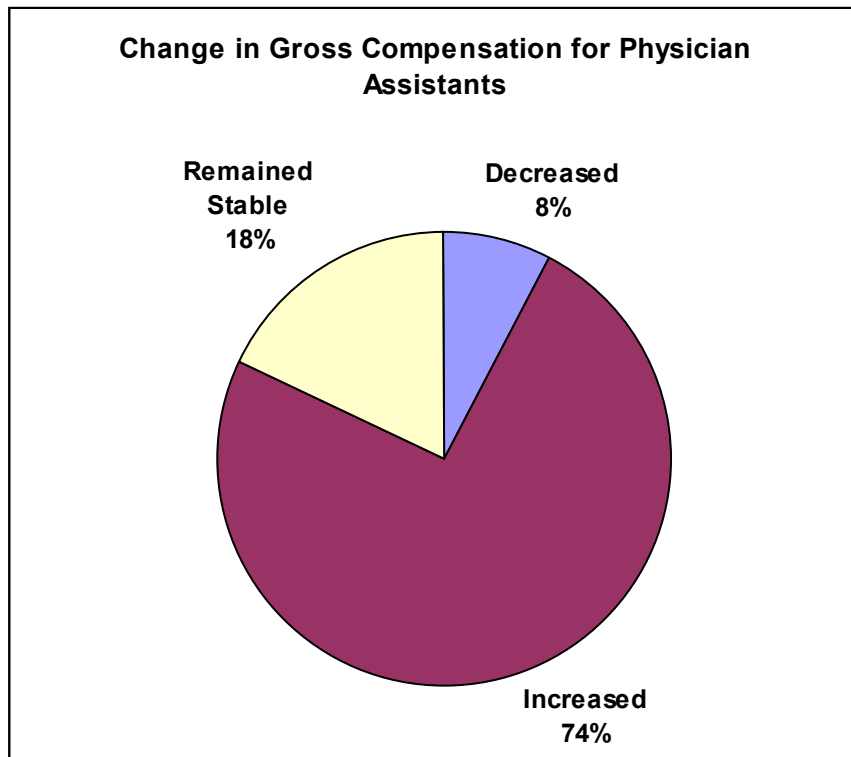
8. Questions 8 through 12 on the survey were related to the respondent's opinion concerning future educational pursuits and did not provide pertinent statistical data used in the integrated report. The responses will not be reported in this appendix, however, requests for the information may be submitted to the Medical Education Council.

13. What is your average yearly gross compensation?

Physician Assistant Yearly Gross Compensation

	Frequency	Percent
\$20,000 - \$29,999	1	1%
\$30,000 - \$39,999	4	2%
\$40,000 - \$49,999	18	8%
\$50,000 - \$59,999	69	29%
\$60,000 - \$69,999	60	25%
\$70,000 - \$79,999	40	17%
\$80,000 - \$89,999	16	7%
\$90,000 - \$99,999	12	5%
\$100,000 - \$109,999	9	4%
\$110,000 - \$119,999	1	1%
\$120,000 - \$129,999	6	3%
\$130,000 - \$139,999	1	1%
Total	240	100%

14. Compared to five years ago, has your income increased, decreased or remained constant?



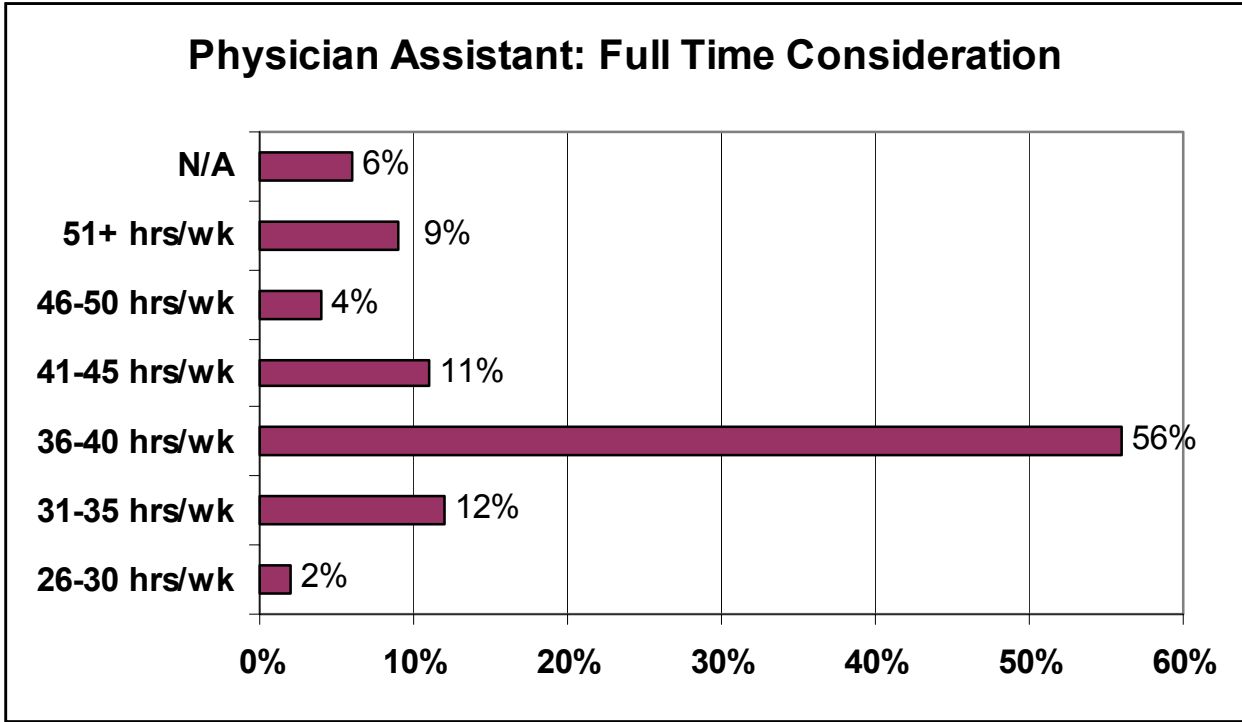
15. What specialties or sub-specialties do you *currently* practice?

Specialties Practiced by Physician Assistants

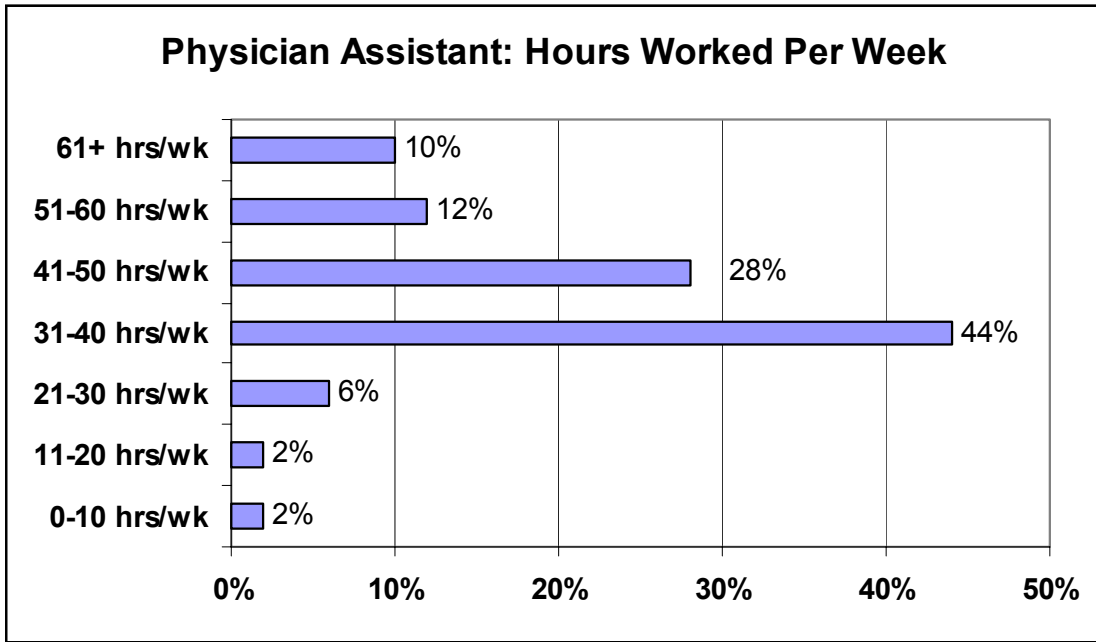
Family Practice	105	47%
Dermatology	10	4%
Orthopedics	12	5%
Pediatrics	13	6%
Internal Medicine	7	3%
Emergency/Urgent Care Medicine	19	8%
Rehab/Occupational Medicine	12	5%
Other Sub-specialties	37	16%
No Response	22	6%
Total	240	100%

16. Please list one or more continuing education programs/topics which you would like to have available locally? This question is not pertinent to the workforce report and is not reported here. For data concerning this question contact the Medical Education Council.

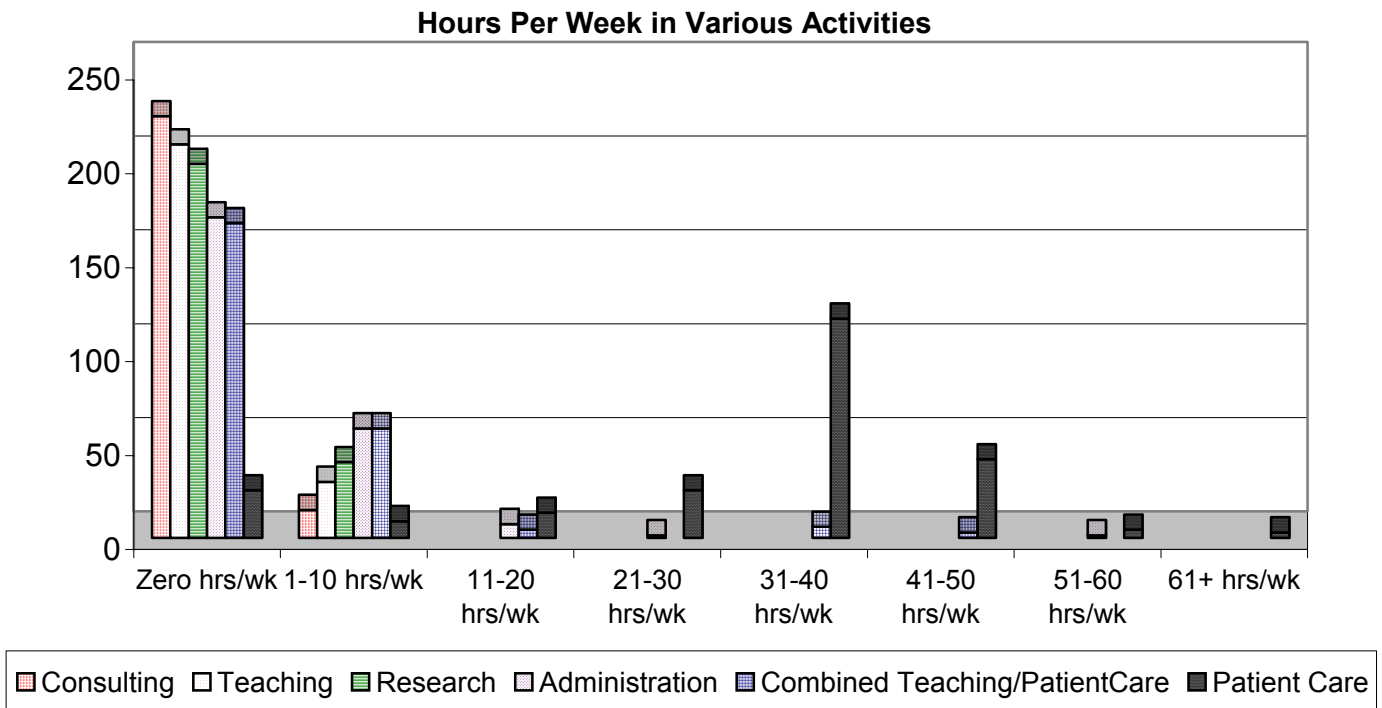
17. In your specific work situation, what is considered full time?



18. In an average week, how many hours do you spend working?
 (Data reported in this chart is for hours worked in Utah only.)



19. Please allocate the average hours per week you spend with the following activities: Patient care, Teaching, Patient care combined with Teaching, Research, Administration/Management, Consulting, and Other.

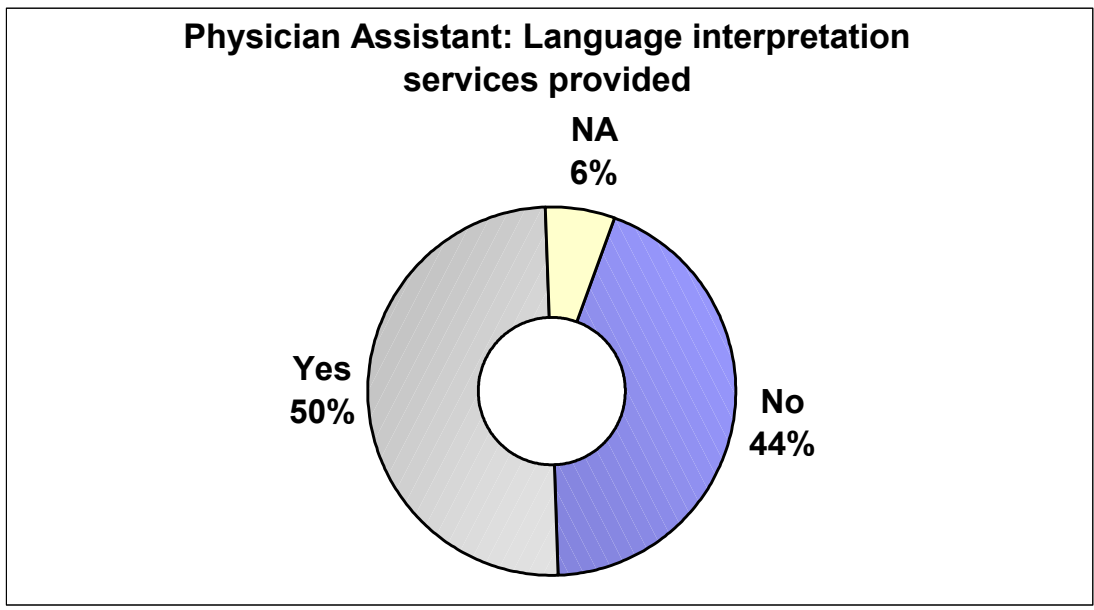


20. Which professionals comprise your immediate healthcare team?

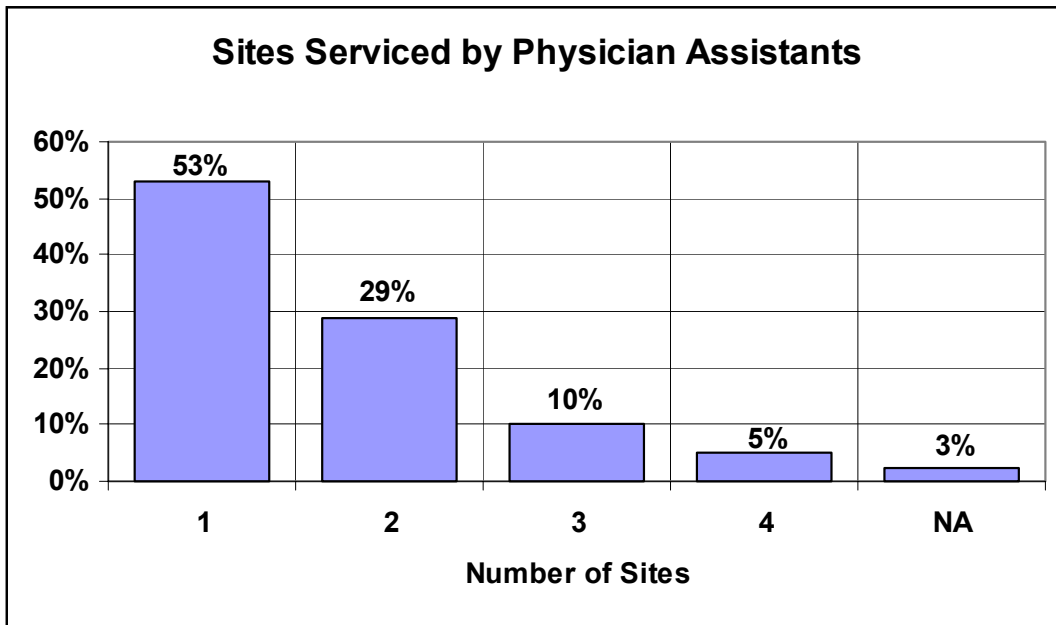
Response of Physician Assistants concerning which Health Professionals comprise their Immediate Health Team

		Physician Assistant Response	Percentage of Physician Assistants
Healthcare Professional	PA	217	91%
	APRN/NP	60	25%
	Pharm Doc	28	12%
	MD/DO	217	91%
	RN	64	27%
	Dietician	30	13%
	Social Wkr	34	14%
	Health Ed.	25	11%
	Other	48	20%

21. Do you offer language interpretation to your patients? Yes or No.



22. In the past 12 months, at how many separate SITE(S) have you consistently provided patient care? 1, 2, 3, 4 or more



23. Representation of the number of Physician Assistants in each county of Utah. (According to zip code of primary site)

Physician Assistant Count by County					
BEAVER	1	1%	SANPETE	3	1%
CACHE	6	3%	SEVIER	3	1%
CARBON	6	3%	SUMMIT	3	1%
DAVIS	19	8%	TOOELE	3	1%
DUCHESNE	3	1%	UTAH	24	10%
EMERY	3	1%	WASHINGTON	10	4%
GARFIELD	3	1%	WEBER	18	8%
IRON	3	1%	OUT OF STATE	4	2%
RICH	1	1%	NO RESPONSE	10	4%
SALT LAKE	106	45%	Missing	4	2%
SAN JUAN	3	1%	Total	240	100%

24. Additional years you plan on practicing at your primary location?

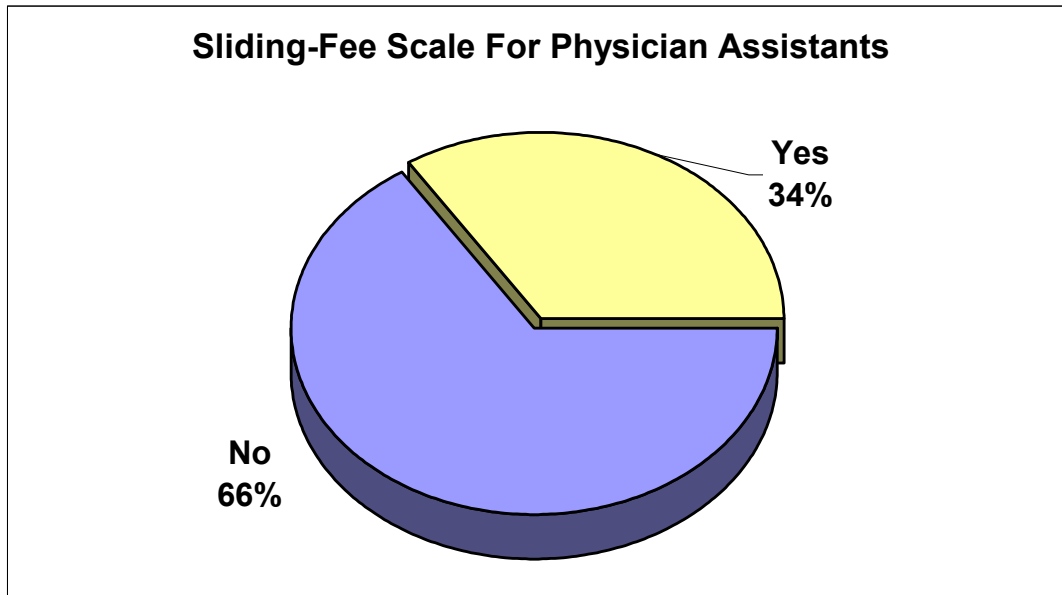
Number of Years Physician Assistants Plan to Practice at Primary Location

	Actual Number of Responses	Percent of Physician Assistants
No Response	78	33%
0 Yrs	1	1%
1 - 4 Yrs	39	16%
5 - 9 Yrs	25	11%
10 - 14 Yrs	45	19%
15 - 19 Yrs	27	11%
20 - 24 Yrs	21	9%
30 - 34 Yrs	3	1%
Total	240	100%

Questions 25-31 were posed in order to determine the actual number of hours allocated by advanced practice nurses to specific areas of primary and specialty care. The format of the survey and the non-uniform method of response from the participants caused the data to be incomparable and inaccurate. Therefore each question will be listed below in this appendix, however, responses to these questions will not be posted with this report.

- 25. Number of days per week you spend at each location of practice?
- 26. Hours in an average week spent delivering patient care and/or combined teaching/patient care?
- 27. Hours of ambulatory practice devoted to primary care?
- 28. Hours of ambulatory practice devoted to specialty care?
- 29. Hours of inpatient practice devoted to primary care?
- 30. Hours of inpatient practice devoted to specialty care?
- 31. Hours of practice devoted to Emergency Room care?

32. Does your clinic offer services based on ability to pay or a Sliding-Fee Scale based on income or family size? Yes or No



33. Are you limiting the number of new patients?

Limiting New Patients Among Physician Assistants

	Yes	No	No Response
Medicaid Patients	15%	78%	7%
Medicare Patients	19%	73%	8%
Non-Paying Patients	21%	71%	8%
Other New Patients	6%	89%	5%

34. In an average week, how many outpatients do you see?

Physician Assistant Responses to Number of Outpatients Seen Weekly

		Physician Assistant Response	Percentage of Response
Number of Patients	No Response	10	4%
	0 count	1	1%
	1 - 25	25	11%
	26- 50	34	14%
	51 - 75	33	14%
	76 - 100	76	32%
	101- 125	30	13%
	126 - 150	19	8%
	151 - 175	1	1%
	176 - 200	3	1%
	201 - 225	1	1%
	226- 250	3	1%
Total	240	100%	

35. In an average week, how many inpatients do you see?

Physician Assistant Responses to Number of Inpatients Seen Weekly

		Physician Assistant Response	Percentage of Response
Number of Patients	No Response	27	11%
	0 count	154	64%
	1 - 25	51	21%
	26- 50	4	2%
	76 - 100	3	1%
	Total	240	100%

36. Number of days waiting to receive an appointment:

Response to Number of Days to Receive an Appointment For a New Patient

		Number of Responses	Percentage of Response
Range of Days	No Response	24	10%
	Zero	67	28%
	1 - 3	87	36%
	4 - 5	6	3%
	6 - 7	12	5%
	8 - 10	12	5%
	11 - 15	15	6%
	16 - 20	1	1%
	21 - 25	6	3%
	26 - 30	3	1%
	41 - 50	1	1%
	51 - 60	1	1%
	81 - 90	3	1%
Total	240	100%	

36. continued

Response to Number of Days to Receive an Appointment For an Established Patient

		Number of Responses	Percentage of Response
Range of Days	No Response	24	10%
	Zero	82	34%
	1 - 3	90	38%
	4 - 5	4	2%
	6 - 7	10	4%
	8 - 10	10	4%
	11 - 15	6	3%
	16 - 20	1	1%
	21 - 25	6	3%
	26 - 30	1	1%
	41 - 50	3	1%
	Total	240	100%

37. Average time (minutes) spent waiting in office by a patient with a scheduled appointment:

Time spent waiting for a scheduled appointment by a patient

	Number of Responses	Percentage of Response
No Response	24	10%
0 minutes	7	3%
1-10 minutes	21	9%
11-20 minutes	99	41%
21-30 minutes	37	16%
31-40 minutes	37	16%
41-50 minutes	7	3%
61-70 minutes	6	3%
Total	240	100%

38. What percent of your patients are: Medicaid, Medicare, Managed Care, Self Pay, Fee-for-Service, Workers Compensation, V.A., Active Military, Tricare, and Charity?

This question did not yield usable aggregate data and descriptive data are not reported here.

39. Which of the following hospital privileges do you currently hold?

Hospital Privileges Among Physician Assistants

Privileges Listed	# of Responses
None	137
Inpatient Care of Adults	68
Inpatient Care of Children	41
Newborn Care	17
Labor and Delivery	5
First Assistant for Major Surgery	39
First Surgeon for Major Surgery	6
Intensive/Coronary Care	17

40. This chart shows the county of primary practice for physician assistants according to age. Cross tabulation charts that contain age cohort information are a valuable factor in determining future demands resulting from workforce retirement. For example, the data contained below identifies which counties currently have or may presently have a shortage of workforce clinicians due to aging.

County of Primary Practice According to Age Cohorts of Physician Assistants

County	Age of Physician Assistants							Total
	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59+	
BEAVER							1	1
CACHE			1		1	3		5
CARBON		3	1		1			5
DAVIS		3	3	4	3	3	3	19
DUCHESNE						3		3
EMERY		1				1		2
GARFIELD						3		3
IRON			1			1		2
RICH				1				1
SALT LAKE		9	15	19	40	16	4	103
SAN JUAN			1		1			2
SANPETE		1					1	2
SEVIER		1					1	2
SUMMIT		1		1				2
TOOELE						1		1
UTAH			4	7	4	4	3	22
WASHINGTON		1		3	1	1	3	9
WEBER	1	1	1	4	4	4		15
OUT OF STATE			1	1	1			3
NO RESPONSE			1			6	3	10
Total	1	21	29	40	63	42	17	213

41. Gender ratios compared to age as viewed in this chart is applicable information that can be used to balance gender in the workforce.

Physician Assistant Age Cohorts by Gender

AGE	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59+	Total
Female	1	7	16	15	28	12	4	83
Male		16	15	28	40	36	14	149
Total	1	23	31	43	68	48	18	232

42. The following chart lists specialties practiced by physician assistants according to age cohorts. Survey results make it possible to calculate the average age a physician assistant enters a specific specialty and which specialty recently graduated professionals are favoring.

Physician Assistant Specialty by Age Cohort

		Age Cohort						Total	
		25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54		55 - 59+
Specialty	Family Practice	1	15	15	19	24	16	11	101
	Dermatology				1	1	7		9
	Orthopedics		1	3	4	1	1		10
	Pediatrics			4		7	1		12
	Internal Medicine		3	1	1	1			6
	Emergency/Urgent Care Medicine		3		3	10	3		19
	Rehab/Occupational Medicine			1		6	1	3	11
	Other Sub-specialties			4	9	13	9	1	36
	Total	1	22	28	37	63	38	15	204

43. This chart gives the gross compensation for physician assistants by age cohort. It can be a reliable method of indicating the earning capacity of physician assistants and the average gross compensation for different age groups in this profession.

Physician Assistant Gross Compensation by Age Cohort

		Age Cohorts						Total	
		25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54		55 - 59+
Gross Compensation	\$20,000 - \$29,999						1	1	
	\$30,000 - \$39,999				3		1	4	
	\$40,000 - \$49,999		4	3	1	1	1	6	16
	\$50,000 - \$59,999		15	13	9	19	9	2	67
	\$60,000 - \$69,999	1	4	7	6	22	10	6	56
	\$70,000 - \$79,999			6	12	12	9	1	40
	\$80,000 - \$89,999				6	4	4	1	15
	\$90,000 - \$99,999				4	3	3	1	11
	\$100,000 - \$109,999			3		1	4		8
	\$110,000 - \$119,999					1			1
	\$120,000 - \$129,999				1	3	1		5
	\$130,000 - \$139,999						1		1
Total	1	23	32	42	66	44	17	225	

44. The gross compensation chart below provides comparable data of salary ranges by county. This information is one example of what type of comparisons can be created from the survey information. In this table, counties with less than five responses were left out for confidentiality reasons.

Physician Assistant Gross Compensation by County

County	Gross Compensation															Total		
	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 - \$99,999	\$100,000 - \$109,999	\$120,000 - \$129,999	\$130,000 - \$139,999							
BEAVER																	1	
CACHE																		4
CARBON				3			1				1							5
DAVIS			4		1	3	6			3								18
DUCHESNE																		2
EMERY																		2
GARFIELD																		2
IRON																		2
RICH																		1
SALT LAKE	1		7	28	36	21	4	1	3	3								104
SAN JUAN																		2
SANPETE																		2
SEVIER																		2
SUMMIT																		2
TOOELE																		3
UTAH				7	3	4	1	4	1	1								21
WASHINGTON			1	4	1	1	1											8
WEBER				6	6	1	3		1									17
OUT OF STATE																		3
NO RESPONSE			1	3	4			1										9
Total	1	3	15	62	57	37	11	10	8	5								210

45. This gross compensation chart assists in determining the areas of specialty that provide the greatest compensation for physician assistants. Combining this chart with the gross compensation by county chart would make it possible to identify areas in Utah that are below average compensation ranges.

Physician Assistant Gross Compensation by Specialty

Specialty	Gross Compensation													Total
	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000 - \$79,999	\$80,000 - \$89,999	\$90,000 - \$99,999	\$100,000 - \$109,999	\$110,000 - \$119,999	\$120,000 - \$129,999	\$130,000 - \$139,999		
Family Practice	1	1	10	33	28	18	6	4				1	102	
Dermatology				1	1	1	3	1	1				8	
Orthopedics				3	3	3	3						12	
Pediatrics			1	6	3				3				13	
Internal Medicine				6	1								7	
Urgent Care Medicine				1	4	7	1		1	1	1		16	
Occupational Medicine			1	3	4			1		1			10	
Other Sub-specialties		1	4	10	12	3	3		1		1		35	
Total	1	2	16	63	56	32	16	6	6	1	3	1	203	

46. Gross compensation by gender as seen in this chart is a good indicator of equality within the profession and may contribute to understanding the mix of gender. However, this is not the only factor affecting the mix of gender in this profession.

Physician Assistant Compensation by Gender

	Gender		
	Female	Male	Total
\$20,000 - \$29,999		1	1
\$30,000 - \$39,999	4		4
\$40,000 - \$49,999	15	3	18
\$50,000 - \$59,999	34	34	68
\$60,000 - \$69,999	18	42	60
\$70,000 - \$79,999	9	30	39
\$80,000 - \$89,999	1	15	16
\$90,000 - \$99,999		12	12
\$100,000 - \$109,999		9	9
\$110,000 - \$119,999		1	1
\$120,000 - \$129,999	3	3	6
\$130,000 - \$139,999		1	1

47. Ethnic diversity according to age cohort is important in comparison to the population as a whole. For example, in this chart it is evident that most of the physician assistants with a diverse ethnic background are in the middle-aged cohorts. This leaves a shortage of diversity in the upper and lower age cohorts.

Ethnicity of Physician Assistants Compared to Age Cohorts

	Age Cohorts							Total
	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59+	
Caucasian	1	22	33	40	67	43	19	225
Hispanic		1		1		1		3
Asian					1	1		2
African American				1				1
Pacific Islander						1		1
Total	1	23	33	42	68	46	19	232

48. This chart shows that specialties have a disproportionate mix of ethnic diversity.

Race or Ethnicity by Specialty

	Caucasian	Hispanic	Asian	African American	Pacific Islander	TOTAL
Family Practice	100	1	1		1	103
Dermatology	10					10
Orthopedics	10			1		11
Pediatrics	12		1			13
Internal Medicine	7					7
Emergency Care Medicine	19					19
Rehab/Occp. Medicine	12					12
Other Sub-specialties	33	3	1			37
TOTAL	203	4	3	1	1	212

49. This chart relates the upbringing of each physician assistant to the county of their primary practice. Information gathered from the survey revealed that a clinician's environment of upbringing had a positive influence on their choice of practicing in a rural county.

Physician Assistant Upbring Compared to County of Primary Practice

		Upbringing			Total
		Rural	Suburban	Urban	
County of Primary Practice	BEAVER	1			1
	CACHE	1		3	5
	CARBON	6			6
	DAVIS	3	15	1	19
	DUCHESNE	3			3
	EMERY	1	1		2
	GARFIELD	3			3
	IRON	3			3
	RICH		1		1
	SALT LAKE	7	52	45	105
	SAN JUAN	3			3
	SANPETE	3			3
	SEVIER	3			3
	SUMMIT	3			3
	TOOELE	1	1		2
	UTAH	7	15	1	23
	WASHINGTON	4	6		10
	WEBER	3	13	1	17
	OUT OF STATE		3	1	4
	NO RESPONSE	6	3	1	10
Total	61	110	53	226	

50. This chart shows the state or nation in which a physician assistant was raised compared to the state where they received graduate training. The state in which they were raised seemed not to be as significant in determining location of practice as the state of institutional training.

**Physician Assistant State or Nation of Upbringing
Compared to Institutional Training Site**

		Institution Site		Total
		Utah	NON UTAH	
State/Nation of Upbringing	Utah	88	23	111
	Arizona	0	1	1
	Colorado	6	1	7
	Nebraska	0	1	1
	Oklahoma	0	1	1
	California	15	14	29
	Texas	6	2	8
	Idaho	3	2	5
	New York	1	1	2
	Illinois	1	1	2
	Wisconsin	3	1	4
	Nevada	4	0	4
	Iowa	0	1	1
	Pennsylvania	0	3	3
	Multiple	3	0	3
	Wyoming	4	1	5
	Michigan	1	0	1
	North Dakota	1	1	2
	Ohio	3	0	3
	Maine	1	0	1
	New Jersey	3	0	3
	Montana	1	0	1
	Kentucky	1	0	1
	Hawaii		1	1
	CZECH REPUBLIC	1	0	1
	MEXICO	1	0	1
	TONGA	1	0	1
	Total	148	55	203

51. This chart is a triple cross-tabulation of age, specialty, and practice location. It is an excellent example of how the survey information can be combined to answer many of the workforce questions. Here the chart shows the Utah urban/rural regions and the division of specialists according to age.

Age of Physician Assistant by Practice Location and Specialty Care

Total	Rural	Urban	Age Cohort	Primary Care	Specialist	Total
1		1	25 - 29	1	0	1
23	10	13	30 - 34	18	4	22
33	9	24	35 - 39	20	8	28
43	7	36	40 - 44	20	17	37
67	15	52	45 - 49	32	31	63
44	16	28	50 - 54	17	21	38
18	8	10	55 - 59+	11	4	15
229	65	164	Total	119	85	204

52. The chart shows the range in number of hours worked by a specific specialty.

Hours Worked/Week By Primary Specialty

Primary Practice Specialty	0-10 hrs/wk	11-20 hrs/wk	21-30 hrs/wk	31-40 hrs/wk	41-50 hrs/wk	51-60 hrs/wk	61+ hrs/wk	TOTAL
Family Practice		1	6	49	37	6	1	100
Dermatology			1	7	1			9
Orthopedics				1	4	6		11
Pediatrics				10	3			13
Internal Medicine	1			4		1		6
Emergency Medicine	1	1	3	4	4	4		17
Rehab/Occp. Medicine				4	1	4		9
Other Sub-specialties		1	3	19	7	6		36
TOTAL	2	3	13	98	57	27	1	201

53. This chart contains information comparing hours worked per week to each age cohort. Such data can help determine which age group has the greatest capacity of assisting patients in a normal 40-hr workweek.

Hours of Work/Week by Age Cohort

		Age Cohort							Total
		25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59+	
Range of Hours	0-10 hrs/wk			1		1	1		3
	11-20 hrs/wk			1	1	1			3
	21-30 hrs/wk		1		4	6		1	12
	31-40 hrs/wk		9	15	21	31	19	9	104
	41-50 hrs/wk	1	7	12	10	15	18	1	64
	51-60 hrs/wk		6	3	3	12	3	1	28
	61+ hrs/wk							2	2
	TOTAL		1	23	32	39	66	41	14

54. This chart depicts the environment of upbringing as it relates to training in Utah. The majority of physician assistants were raised in an urban or suburban community. Survey results strongly suggest that the state in which training was provided and the circumstances of upbringing were two important factors influencing the physician assistant's decision of where to practice.

Physician Assistants' State of Training and Upbringing

		State of Training		Total
		Utah	Not Utah	
Upbringing	Rural	40	17	57
	Suburban	70	28	98
	Urban	43	10	53
	Total	153	55	208

55. The chart below depicts specialty care being provided in each county. Capacity shortages in specific counties and specialties can be determined from such information.

Specialty by County of Primary Practice

	Family Practice	Pediatrics	Internal Medicine	Primary Care	Dermatology	Orthopedics	Emergency Medicine	Rehab/ Occupational Medicine	Other Sub-specialties	Specialist	TOTAL
BEAVER	1			1						0	1
CACHE	1			1					3	3	4
CARBON	1			1			3			3	4
DUCHESNE	3			3						0	3
EMERY	3			3						0	3
GARFIELD	1			1			1			1	2
IRON		1		1					1	1	2
RICH				0					1	1	1
SAN JUAN	3			3						0	3
SANPETE				0					1	1	1
SEVIER	3			3						0	3
SUMMIT	1			1						0	1
TOOELE				0				1		1	1
WASHINGTON	4		1	5					1	1	6
RURAL	21	1	1	23	0	0	4	1	7	12	35
DAVIS	9	3		12			1	1	1	3	15
SALT LAKE	39	6	1	46	4	10	9	6	24	53	99
UTAH	15	1		16	1	1		1	3	6	22
WEBER	10	1	3	14						0	14
URBAN	73	11	4	88	5	11	10	8	28	62	150
OUT OF STATE			1	1			3			3	4
TOTAL	94	12	5	111	5	11	14	9	35	74	185

UTAH PHYSICIAN ASSISTANT SURVEY

1. Do you work or provide any services in Utah? YES NO
If no, please specify reasons that you maintain a Utah license: _____
2. Gender: MALE FEMALE
3. What race/ethnicity are you? (please choose only one)
 CAUCASIAN
 AFRICAN AMERICAN
 NATIVE AMERICAN OR ALASKAN NATIVE
 HISPANIC
 ASIAN
 PACIFIC ISLANDER
 OTHER, (please specify) _____
4. Year of Birth: 19_____
5. How would you best describe the setting where you spent the majority of your upbringing?
 RURAL SUBURBAN URBAN
6. What state or country best describes where you spent the majority of your upbringing?
 UTAH OTHER, (please specify) State_____ or Country _____
7. PA Degree: _____ Type of Degree: Certificate Bachelors Masters
Institution: _____
City: _____ State: _____ Year of degree: 19 _____
8. If you have not received a Masters Physician Assistant Degree, do you feel doing so will be beneficial in the future?
 YES NO
9. If a Masters program for PA's was available in the state of Utah would you be interested?
 YES NO
10. Are you currently nationally certified by the NCCPA?
 YES NO
11. Are you currently enrolled in a post-graduate program? (including non-medical programs)
 YES NO
*If yes, Specialty: _____

Location _____
12. Have you completed a post-graduate PA residency program?
 YES NO
*If yes, Specialty _____

Location _____

13. What is your average yearly gross compensation?
- | | | | |
|--|--|--|--|
| <input type="checkbox"/> < \$9,999 | <input type="checkbox"/> \$40,000 - \$49,999 | <input type="checkbox"/> \$80,000 - \$89,999 | <input type="checkbox"/> \$120,000 - \$129,999 |
| <input type="checkbox"/> \$10,000 - \$19,999 | <input type="checkbox"/> \$50,000 - \$59,999 | <input type="checkbox"/> \$90,000 - \$99,999 | <input type="checkbox"/> \$130,000 - \$139,999 |
| <input type="checkbox"/> \$20,000 - \$29,999 | <input type="checkbox"/> \$60,000 - \$69,999 | <input type="checkbox"/> \$100,000 - \$109,999 | <input type="checkbox"/> \$140,000 - \$149,999 |
| <input type="checkbox"/> \$30,000 - \$39,999 | <input type="checkbox"/> \$70,000 - \$79,999 | <input type="checkbox"/> \$110,000 - \$119,999 | <input type="checkbox"/> \$150,000 + |

14. Compared to five years ago, has your gross income:
- INCREASED DECREASED REMAINED STABLE

15. What specialties or sub-specialties do you CURRENTLY PRACTICE?
- _____

16. Please list one or more continuing education programs/topics which you would like to have available locally.
- _____

17. In your specific work situation, what is considered full time?
- | | | | |
|---|---|---|---|
| <input type="checkbox"/> 26 - 30 hrs/wk | <input type="checkbox"/> 31 - 35 hrs/wk | <input type="checkbox"/> 36 - 40 hrs/wk | <input type="checkbox"/> 41 - 45 hrs/wk |
| <input type="checkbox"/> 46 - 50 hrs/wk | <input type="checkbox"/> 51 + hrs/wk | <input type="checkbox"/> Not applicable | |

18. In an average week, how many hours do you spend working:
- IN UTAH: _____
- OUTSIDE UTAH: _____

19. Please allocate the average hours per week you spend with the following activities:
(NOTE: Totals for A-G should equal the numbers in question #18)
- | | HRS / WEEK
IN UTAH | HRS / WEEK
OUTSIDE UTAH |
|--|-----------------------|----------------------------|
| A. PATIENT CARE:
(Direct patient care without teaching of students / residents) | _____ | _____ |
| B. TEACHING:
(Didactic and / or classroom teaching of students without patient care) | _____ | _____ |
| C. COMBINED PATIENT CARE / TEACHING
SIMULTANEOUSLY:
(Supervising or training of residents / students while delivering patient care) | _____ | _____ |
| D. RESEARCH:
(Reports, applications, surveys, etc.) | _____ | _____ |
| E. ADMINISTRATION / MANAGEMENT:
(Planning, budgeting, personnel management, not in support of patient care) | _____ | _____ |
| F. CONSULTING:
(Not in support of Patient Care) | _____ | _____ |
| G. OTHER, (please specify): _____ | _____ | _____ |

-----THE REMAINING QUESTIONS DEAL WITH YOUR CLINICAL PRACTICE-----

20. Which professionals comprise your immediate health care team? (For example: 4 MD, 1 PA, 2 NP)

PA	# _____	DIETICIAN	# _____
APN/NP	# _____	SOCIAL WORKERS	# _____
PHARM D	# _____	HEALTH EDUCATORS	# _____
MD / DO	# _____	OTHER, (Please specify)	_____
RN	# _____		

21. Do you offer language interpretation to your patients? YES NO
If yes, what language(s)?

22. In the past 12 months, at how many separate SITE(S) have you consistently provided patient care?
 1 2 3 4 or more

Please allocate your patient care hours to the SITE(S) where you spend the largest portion of your time each week

	PRIMARY SITE #1	SECONDARY SITE #2	TERTIARY SITE #3
23. Zip code:	Zip _____	Zip _____	Zip _____
24. Additional years you plan on practicing at each location:	Yrs _____	Yrs _____	Yrs _____
25. Number of days per week you spend at each location:	Days _____	Days _____	Days _____
26. Hours in an average week spent delivering patient care and / or combined teaching/patient care: (#19 A & C)	Hrs _____	Hrs _____	Hrs _____

Please allocate the above patient care hours in question #26 to the categories in questions 27 - 31

27. Hours of **ambulatory** practice devoted to **primary care**: (When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN) Hrs _____ Hrs _____ Hrs _____

28. Hours of **ambulatory** practice devoted to **specialty care**: Hrs _____ Hrs _____ Hrs _____

29. Hours of **inpatient** practice devoted to **primary care**: (When primary care is defined as: general or family practice, general internal medicine, general pediatrics, or primary care OB/GYN) Hrs _____ Hrs _____ Hrs _____

30. Hours of **inpatient** practice devoted to **specialty care**: Hrs _____ Hrs _____ Hrs _____

31. Hours of practice devoted to **Emergency Room** care: Hrs _____ Hrs _____ Hrs _____

32. Does your clinic offer services based on ability to pay or a Sliding-Fee Scale based on income or family size? YES NO

33. Are you limiting the number of new:
- | | YES | NO |
|---------------------|-------|-------|
| MEDICAID PATIENTS | _____ | _____ |
| MEDICARE PATIENTS | _____ | _____ |
| NON-PAYING PATIENTS | _____ | _____ |
| OTHER NEW PATIENTS | _____ | _____ |

34. In an average **week**, how many **outpatients** do you see? _____

35. In an average **week**, how many **inpatients** do you see? _____

36. Number of days waiting to receive an appointment:

FOR A NEW PATIENT: _____

FOR AN ESTABLISHED PATIENT: _____

37. Average time (minutes) spent waiting in office by a patient with a scheduled appointment: _____

38. What percent of your patients are:

MEDICAID	_____ %
MEDICARE	_____ %
MANAGED CARE: HMO (<i>with and without a POS plan</i>), IPA=s (<i>Independent Practice Associations</i>), PPO=s (<i>Preferred Provider Organizations</i>)	_____ %
SELF PAY	_____ %
FEE FOR SERVICE AND INDEMNITY PLANS	_____ %
WORKERS COMPENSATION	_____ %
VETERANS ADMINISTRATION	_____ %
ACTIVE MILITARY	_____ %
TRI-CARE (CHAMPUS)	_____ %
CHARITY (<i>uncompensated care, including uncollected billings</i>)	_____ %
OTHER (<i>please specify</i>) _____	_____ %
TOTAL=	100 %

39. Which of the following hospital privileges do you currently hold? (*check all that apply*)

- _____ NONE
- _____ INPATIENT CARE OF ADULTS
- _____ INPATIENT CARE OF CHILDREN (non-newborns)
- _____ CARE OF NEWBORNS
- _____ LABOR AND DELIVERY
- _____ FIRST ASSISTANT FOR MAJOR SURGERY AND/OR CESAREAN SECTIONS
- _____ FIRST SURGEON FOR OTHER MAJOR SURGICAL PROCEDURES
- _____ INTENSIVE / CORONARY CARE

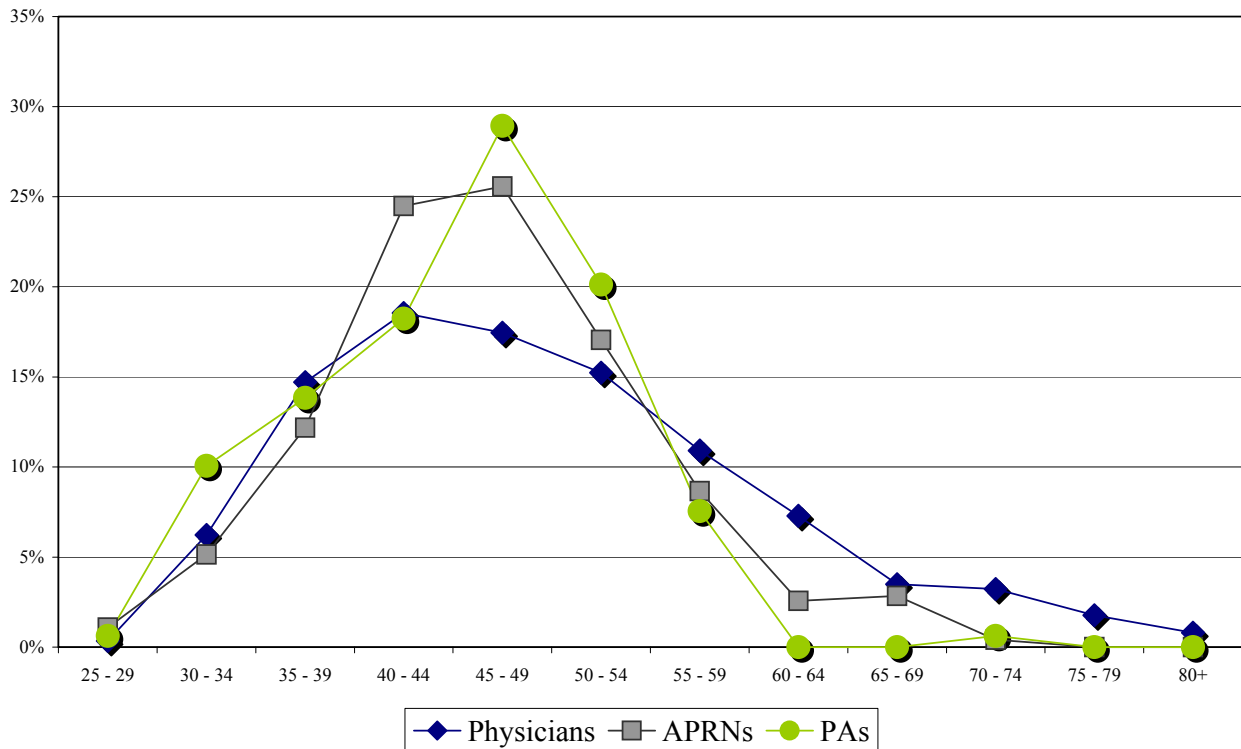
END OF SURVEY. THANK YOU FOR YOUR PARTICIPATION.

APPENDIX D

COMBINED WORKFORCE DATA

1. The chart shows age for each of the three professions as a percent of the total workforce for that profession. The spikes of bubbles in the Advanced Practice Nurse and Physician Assistant lines would appear to be due to the fact that those programs and certifications have only been around for about 30 years. However, as these professions grow we would expect to see a smoothing of the line to more closely match that of the Physicians.

AGE FOR ALL THREE PROFESSIONS AS A PERCENT OF THE TOTAL



Appendix D

2. Comparison of National projected ranges for physicians and Utah projected ranges for physicians. The right side of the chart shows the ratio of patient care Physicians and total providers per 100,000 population broken out by primary and specialty care.

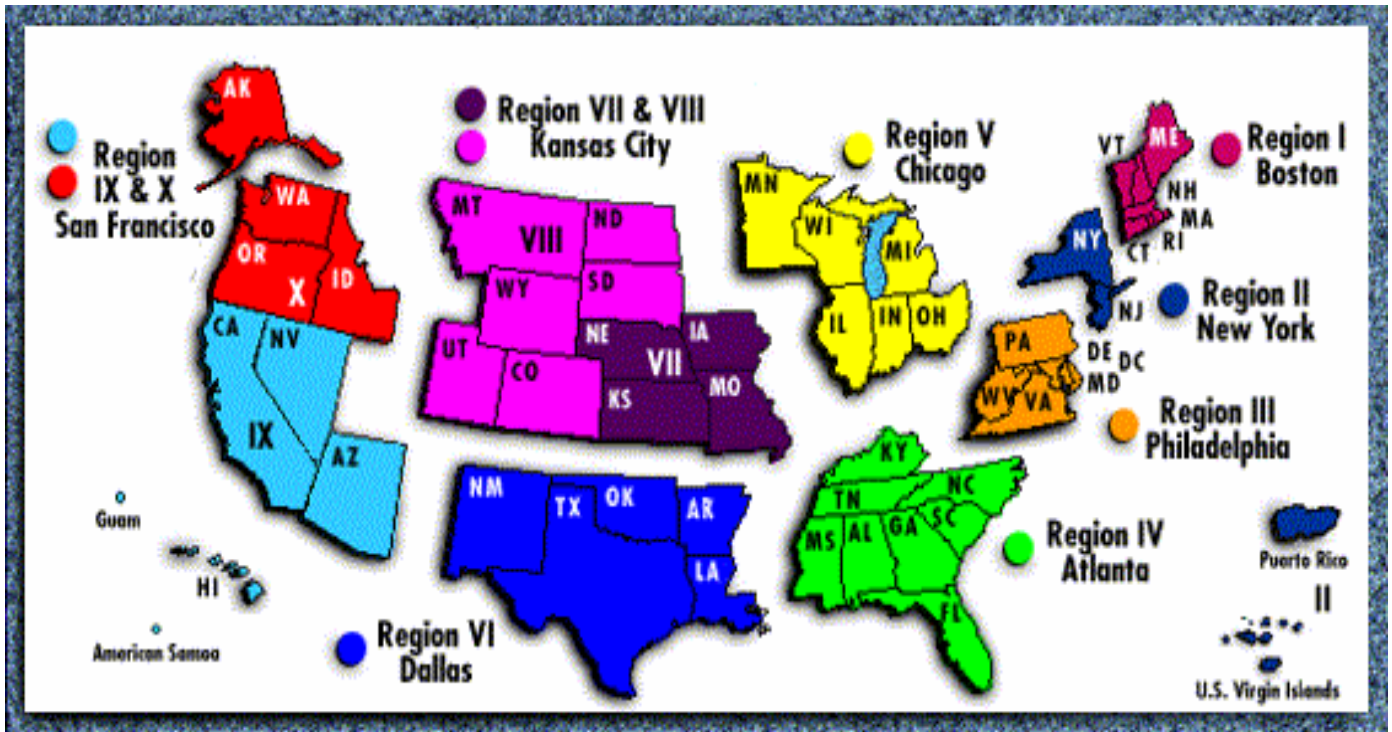
	National Projections		Utah Projections		Ratio of Providers per 100,000 Utah residents			
	Physicians National Range	Physicians Utah Projected Range	Patient Care Physicians	TOTAL Physicians	ANPs Utah	PAs Utah	Total Primary Care Specialty Care	
Year 2000								
All Physicians	145-185	145-160	155	182	35	12	Total	
Primary Care	60-80		53	63	15	7	Primary Care	
Specialty Care	85-105		98	119	20	5	Specialty Care	
Year 2010								
All Physicians	150-190	155-170						
Primary Care	60-80							
Specialty Care	90-110							
Year 2020								
All Physicians		170-185						
Primary Care								
Specialty Care								

Urban Rural Ratios per 100,000

RURAL	Physicians
Primary Care	44
Specialist	55
Total	99
URBAN	
Primary Care	69
Specialist	139
Total	208

% of Providers who did final training in Utah	
Physicians	49%
Nurse Practitioners	70%
Physician Assistants	64%

FEDERAL REGION MAP



Region I – Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut

Region II – New York, New Jersey

Region III – Pennsylvania, West Virginia, Virginia, Delaware, Maryland, Washington DC

Region IV – Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida

Region V – Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio

Region VI – New Mexico, Texas, Oklahoma, Arkansas, Louisiana

Region VII – Nebraska, Iowa, Kansas, Missouri

Region VIII – Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado

Region IX – California, Nevada, Arizona, Hawaii

Region X – Alaska, Washington, Oregon, Idaho

APPENDIX E

UTAH MODELS OF INTEGRATED WORKFORCE TEAMS

Several implications can be drawn through researching a number of models of integrated workforce teams. The first point of interest concerning these integrated teams is the motivating factors behind their creation. Administrators indicate that such integration has been implemented due to the desire for cost reduction in the providing of care. This is especially true for rural models. The ability to fund the cost of full-time physicians in rural areas is becoming more difficult. The integration of mid-level providers (physician assistants and nurse practitioners) in both rural and urban areas allows for the ability to provide care at a lower cost to the facility.

The desire for integrated teams goes beyond that of the economic factors and implications. Many physicians indicate that the presence of mid-level providers on their medical workforce team allows for more quality care to be provided. It is argued that the ability for mid-level providers to focus specifically on tasks such as patient education, case monitoring, follow-up treatment, etc. allows for these tasks to be performed with a higher quality standard.

The roles of workforce team members vary greatly with the type of care being provided (primary vs. specialty) and with the geographic location of the provider facility. In urban areas, physician assistants and advanced practice nurses serve much more complimentary roles to the work of specialty care physicians than in rural areas. The tasks listed above which are often focused upon by mid-level providers allow physicians to spend more time providing specialty care in areas where they are uniquely trained.

In rural areas, mid-level providers often provide primary care on a much more autonomous level. In many rural health clinics, nurse practitioners are serving as medical directors with physician influence being very limited. The medical workforce of several clinics consists exclusively of mid-level providers; physicians providing only the minimum time needed for supervision of physician assistant services and billing.

All healthcare provider settings (hospitals and clinics) indicate that more care is being provided to more patients on a daily basis due to the division of labor created by these integrated teams. Also, as mentioned above, it is believed that such division enhances both the efficiency and quality of the care being provided.

Findings indicate that the demand for physician assistants and advanced practice nurses will maintain and possibly continue to grow, especially in rural and underserved areas. Demand will be driven by the factors of cost, efficiency, and quality. Although some provider facilities have expressed the desire to keep their workforce teams focused upon physicians, integration of mid-level professions is still taking place. Due to the high desire and ability for mid-level providers to practice relatively autonomously in rural and under-served areas, the demand for their services could possibly succeed

that of physician demand for these same *general* services. However, physician demand will continue to grow as a result of increasing population and their ability to provide the services for which they are uniquely trained (in both primary and specialty care).

APPENDIX F

POPULATION ESTIMATES FOR UTAH

All state agencies are required to use the population projections developed by the Utah Population Estimates Committee (UPEC). UPEC's population projections are more accurate than the Bureau of the Census because the UPEC develops Utah population estimates using a combination of factors:

1. **School Enrollment Method.** The school enrollment method uses changes in school enrollment as an indicator of net migration. The public school system receives independent audits of enrollment data due to the equalized education funding mechanism utilized in the state.
2. **LDS Membership Method.** A method based on membership of the Church of Jesus Christ of Latter Day Saints (LDS). This method utilizes a data source uniquely relevant in Utah—membership records of the Church of Jesus Christ of Latter-day Saints (frequently called LDS or Mormons). This method simply applies the growth rate in LDS membership in a particular county to the previous year's estimate for the county. Approximately 69 percent of Utah's population is included in the membership counts of the LDS Church. The originating file is a current file and an extract can be taken at any time.
3. **IRS Tax Exemption Method.** A method based on tax return data from the Internal Revenue Service. This method uses the growth in exemption as reported on tax returns filed with the Internal Revenue Service as an indicator of population change. The Committee developed the method after realizing that the School Enrollment and LDS Membership Methods were yielding unrealistically low population estimates during a time of significant economic expansion. This method is relatively accurate as long as the tax code is stable and the percent of the population filing tax returns does not vary dramatically from year to year.

Since estimates prepared by UPEC include more recent data than U.S. Bureau of the Census and consider more recent data, these estimates are utilized as the preferred source. Generally, estimates prepared by the Bureau of the Census and the UPEC are reasonably close.

Utah Population Projections by Five Year Age Group

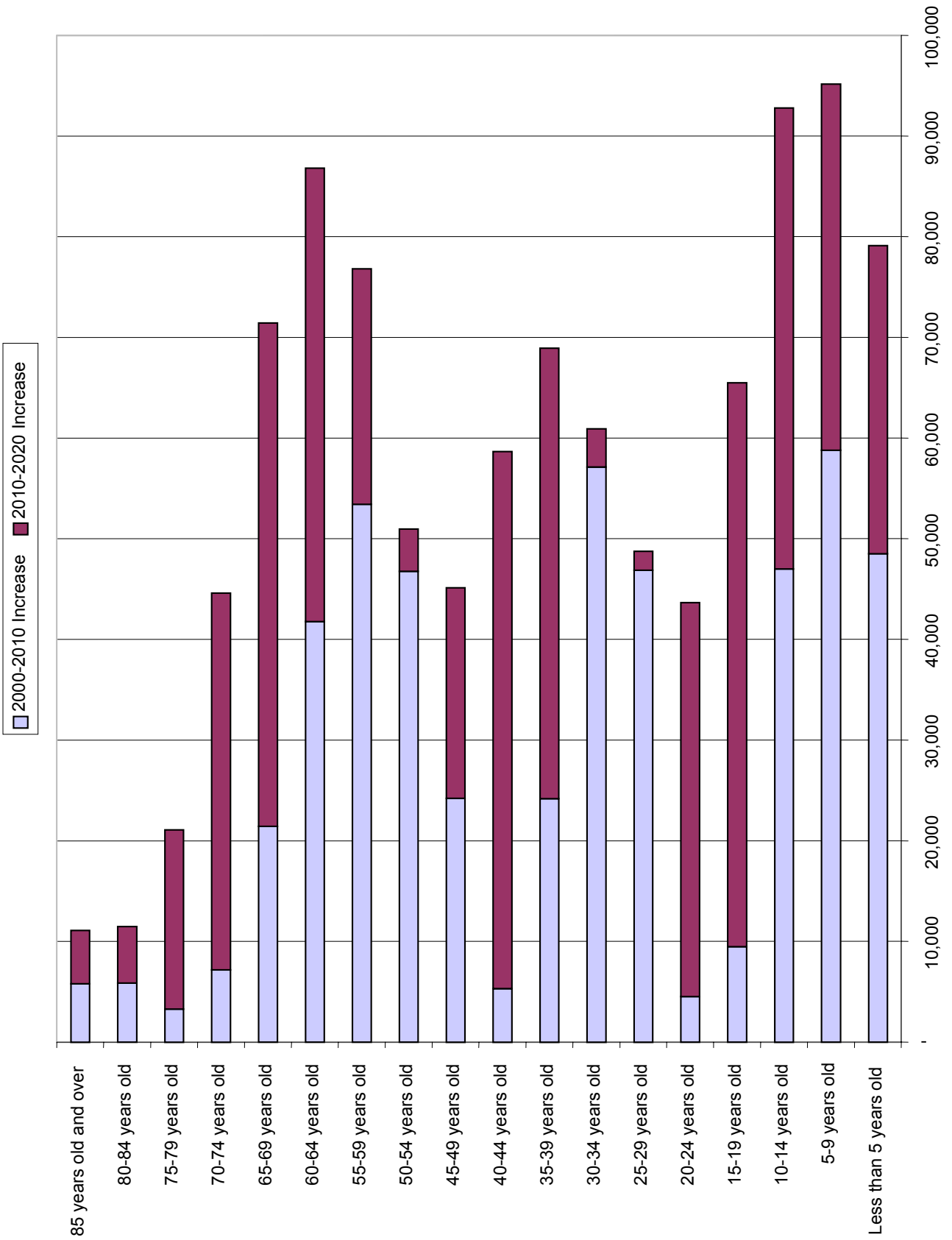
<u>Five Year Age Group</u>	1980	1990	2000	2005	2010	2015	2020	2030
Less than 5 years old	189,962	172,252	219,157	242,697	267,670	286,733	298,285	345,067
5-9 years old	146,187	183,402	191,840	220,325	250,646	273,160	287,028	318,094
10-14 years old	125,681	182,953	180,419	192,925	227,425	255,344	273,232	298,941
15-19 years old	138,903	152,885	192,954	184,099	202,434	234,535	258,446	290,661
20-24 years old	155,676	138,216	204,341	209,652	208,876	223,291	248,023	293,249
25-29 years old	135,087	137,009	167,959	197,185	214,843	211,433	216,724	265,859
30-34 years old	105,688	137,815	145,562	164,403	202,692	217,290	206,472	234,575
35-39 years old	79,178	123,377	147,994	146,093	172,185	207,308	216,926	211,129
40-44 years old	63,628	100,585	147,532	148,773	152,858	175,728	206,209	205,374
45-49 years old	57,021	76,405	129,817	147,205	154,045	155,711	174,961	214,671
50-54 years old	55,845	61,285	103,706	129,091	150,475	155,801	154,696	203,255
55-59 years old	52,701	54,672	77,046	102,270	130,476	150,785	153,878	171,285
60-64 years old	46,260	52,512	60,073	74,895	101,857	128,691	146,915	148,985
65-69 years old	38,183	48,517	51,322	57,000	72,766	98,277	122,775	143,393
70-74 years old	29,637	39,443	46,219	47,047	53,413	67,830	90,851	130,118
75-79 years old	20,242	29,268	38,362	39,907	41,651	47,113	59,459	100,344
80-84 years old	12,306	18,811	26,333	30,105	32,206	33,566	37,817	65,121
85 years old and over	8,852	13,443	19,569	21,448	25,384	28,410	30,691	43,566
Total	1,461,037	1,722,850	2,150,205	2,355,120	2,661,902	2,951,006	3,183,388	3,683,687
Median Age	24	26	28	28	29	30	30	31

- Source: Governor's Office of Planning and Budget--Demographic and Economic Analysis Section UPED Model System.
- This is the provisional 2000 Baseline, revised December 13, 1999.
- 1980 and 1990 populations are April 1 U.S. Census Modified Age, Race and Sex (MARS) populations; all others are July 1 populations.

The last year of historical data is 1998 for employment and 1999 for population.

UTAH POPULATION INCREASES											
2000	2005	2010	2015	2020	Five Year Age Group	2000-2010 Increase	Percent Increase	2010-2020 Increase	Percent Increase	Total 2000-2020 Increase	Total Percent Increase
219,157	242,697	267,670	286,733	298,285	Less than 5 years old	48,513	22.14%	30,615	11.44%	79,128	36.11%
191,840	220,325	250,646	273,160	287,028	5-9 years old	58,806	30.65%	36,382	14.52%	95,188	49.62%
180,419	192,925	227,425	255,344	273,232	10-14 years old	47,006	26.05%	45,807	20.14%	92,813	51.44%
192,954	184,099	202,434	234,535	258,446	15-19 years old	9,480	4.91%	56,012	27.67%	65,492	33.94%
204,341	209,652	208,876	223,291	248,023	20-24 years old	4,535	2.22%	39,147	18.74%	43,682	21.38%
167,959	197,185	214,843	211,433	216,724	25-29 years old	46,884	27.91%	1,881	0.88%	48,765	29.03%
145,562	164,403	202,692	217,290	206,472	30-34 years old	57,130	39.25%	3,780	1.86%	60,910	41.84%
147,994	146,093	172,185	207,308	216,926	35-39 years old	24,191	16.35%	44,741	25.98%	68,932	46.58%
147,532	148,773	152,858	175,728	206,209	40-44 years old	5,326	3.61%	53,351	34.90%	58,677	39.77%
129,817	147,205	154,045	155,711	174,961	45-49 years old	24,228	18.66%	20,916	13.58%	45,144	34.78%
103,706	129,091	150,475	155,801	154,696	50-54 years old	46,769	45.10%	4,221	2.81%	50,990	49.17%
77,046	102,270	130,476	150,785	153,878	55-59 years old	53,430	69.35%	23,402	17.94%	76,832	99.72%
60,073	74,895	101,857	128,691	146,915	60-64 years old	41,784	69.56%	45,058	44.24%	86,842	144.56%
51,322	57,000	72,766	98,277	122,775	65-69 years old	21,444	41.78%	50,009	68.73%	71,453	139.22%
46,219	47,047	53,413	67,830	90,851	70-74 years old	7,194	15.57%	37,438	70.09%	44,632	96.57%
38,362	39,907	41,651	47,113	59,459	75-79 years old	3,289	8.57%	17,808	42.76%	21,097	54.99%
26,333	30,105	32,206	33,566	37,817	80-84 years old	5,873	22.30%	5,611	17.42%	11,484	43.61%
19,569	21,448	25,384	28,410	30,691	85 years old and over	5,815	29.72%	5,307	20.91%	11,122	56.83%
2,150,205	2,355,120	2,661,902	2,951,006	3,183,388	TOTAL	511,697	23.80%	521,486	19.59%	1,033,183	48.05%

Utah Incremental Population Increases



APPENDIX G

HEALTH STATUS, DISEASE PATTERN, AND HEALTHCARE UTILIZATION DATA

Hospital Discharges and Discharge Rates for the Diseases/Conditions Related to Lifestyle and Behavior, Utah and United States: 1992

Disease Classifications	Utah Discharge Number	Utah Rate 1992	US Rate 1992	US:UT Ratio
Diseases of the Circulatory system	16,238	89.1	162.9	1.8
Heart Disease	11,599	63.7	114.4	1.8
Ischemic Hear Disease	6,551	36	61.8	1.7
Acute Myocardial Infraction	2,598	14.3	21.6	1.5
Heart Failure	1,972	10.8	24.8	2.3
Cardiac Dysrhythmia	1,612	8.8	15.8	1.8
Hypertensive Diseaes	367	2	11.3	5.6
Malignant Hypertension	86	0.5	1.5	3
Cerebrovascular Disease	2,269	12.5	23.3	1.9
Atherosclerosis	127	0.7	1.6	2.2
Aortic Aneurism	180	1	1.8	1.8
Arterial Embolism & Thrombosis	204	1.1	2	1.8
Respiratory Diseases	10,428	57.2	106.5	1.9
Pneumonia, All Forms	4,803	26.4	36.6	1.4
Pneumonia (481, 482.2-.3, 482.9, 483,485-6)	3,427	18.8	29.5	1.6
COPD except Asthma	616	3.4	11.6	3.4
Asthma	1,423	7.8	19.5	2.5

Hospital Discharge and Disease rates continued:

Disease Classifications	Utah Discharge Number	Utah Rate 1992	US Rate 1992	US:UT Ratio
Malignant Neoplasms	5183	28.4	47.8	1.7
Trachae, Broncus and Lung Cancer	240	1.3	5.3	4.1
Esophagus and Stomach	88	0.5	1.2	2.3
Pancreas	87	0.5	1	2
Bladder	169	0.9	1.6	1.8
Breast (rates are for women)	554	6.1	10	1.6
Prostate (rates are for men)	1001	11	7.5	0.7
Large Intestine and Rectum	527	2.9	4.2	1.5
Diabetes	1624	8.9	15.5	1.7
Acute Metabolic Complications	515	2.8	3.6	1.3
PID (rates for women, acute and unsp)	193	2.1	4.2	2
HIV	57	0.3	1	3.2
Hip Fracture	1231	6.8	7.7	1.1
Head Injuries	1498	8.2	7.9	1
Chronic Liver Disease and cirrhosis	253	1.4	2.2	1.6
Pancreatitis (acute, chronic)	676	3.7	4.7	1.3
Alcohol Dep Synd and Alcohol Psychosis	769	4.2	11.2	2.7
Illicit Drug Use-Related Conditions	435	2.4	4.6	1.9

*Rates per 10,000 persons

**U.S. rates have been age-adjusted to the Utah 1992 population, using 4 age groups

Note: Prostate and breast cancer and PID rates are sex specific.

**Data obtained from the Office of Health Care Statistics—Utah Department of Health

Prevalence of Selected Behavioral Risk Factors Among Persons 18 Years of Age or Older, Utah and the United States, 1993

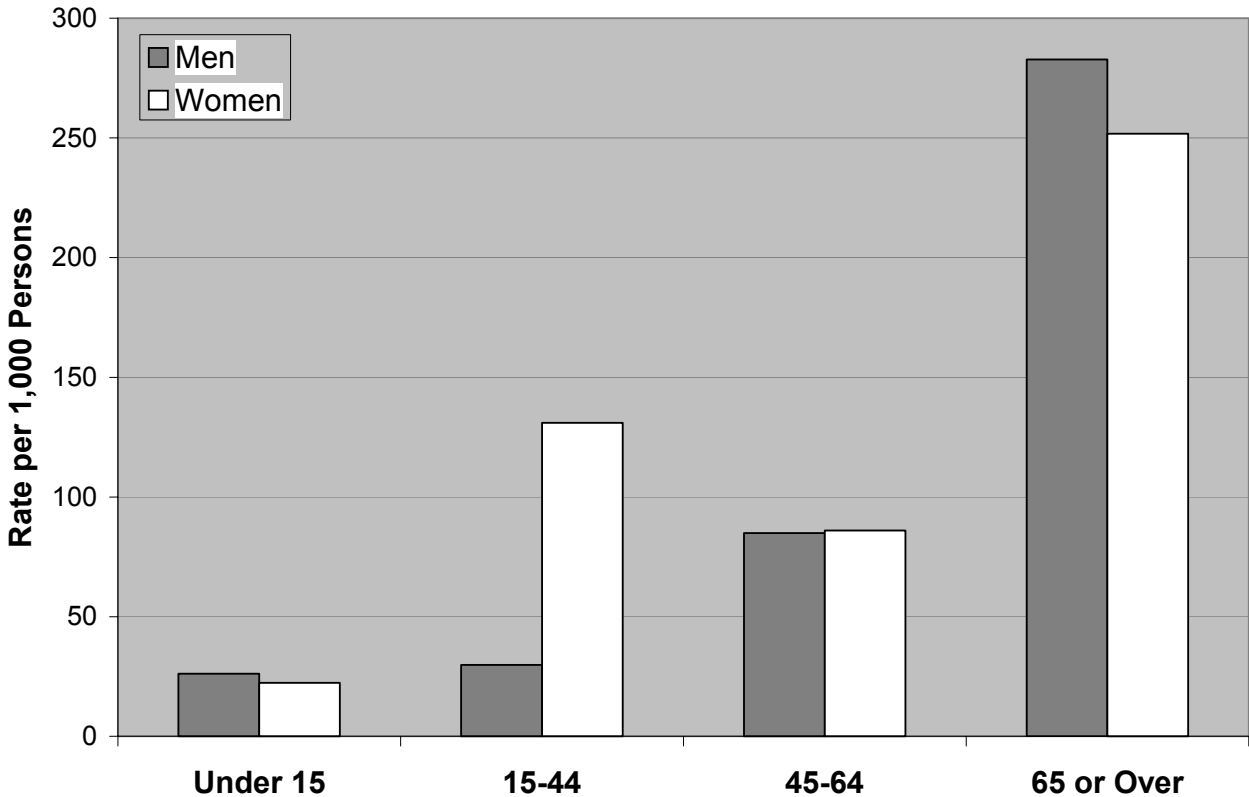
Risk Factor	Utah %	Utah 95% CI ³	U.S. Median % ⁴	U.S. Range % to % ⁵
Current regular smoking	14.3	(12.6, 16.0)	22.2	14.3 to 29.4
Overweight 1	22.5	(20/3, 24.7)	25.5	20.2 to 31.7
Exercise 2				
sedentary lifestyle	48.1	(45.5, 50.8)	56.5	46.2 to 82.1
regular & vigorous exercise	19.6	(17.7, 21.6)	14	4.0 to 19.6
Seat belt use				
adults who don't always use	39.2	(36.6, 41.7)	36.3	10.1 to 74.8
Alcoholic beverage use any in past month	31.8	(29.3, 34.4)	51.8	27.4 to 69.6
5 drinks on one occasion in past month	11.9	(10.2, 13.6)	14.2	4.2 to 22.8
60 drinks in past month	1.6	(0.9, 2.2)	3	1.4 to 6.1

1. Body mass index 278.8 for males, 27.3 for females
2. Exercise measures are for 1992; sedentary lifestyle is less than 20 minutes of exercise performed 3 times per week during the past month; regular & vigorous exercise is at least 20 minutes 3 times a week at 50% capacity
3. 95% confidence limits
4. Median of state-specific rates in the U.S.
5. Range of state-specific rates in the U.S.

**Data obtained from the Office of Health Care Statistics—Utah Department of Health

Hospital Utilization by Age and Sex

Hospital discharges per 1,000 person, Utah 1998.



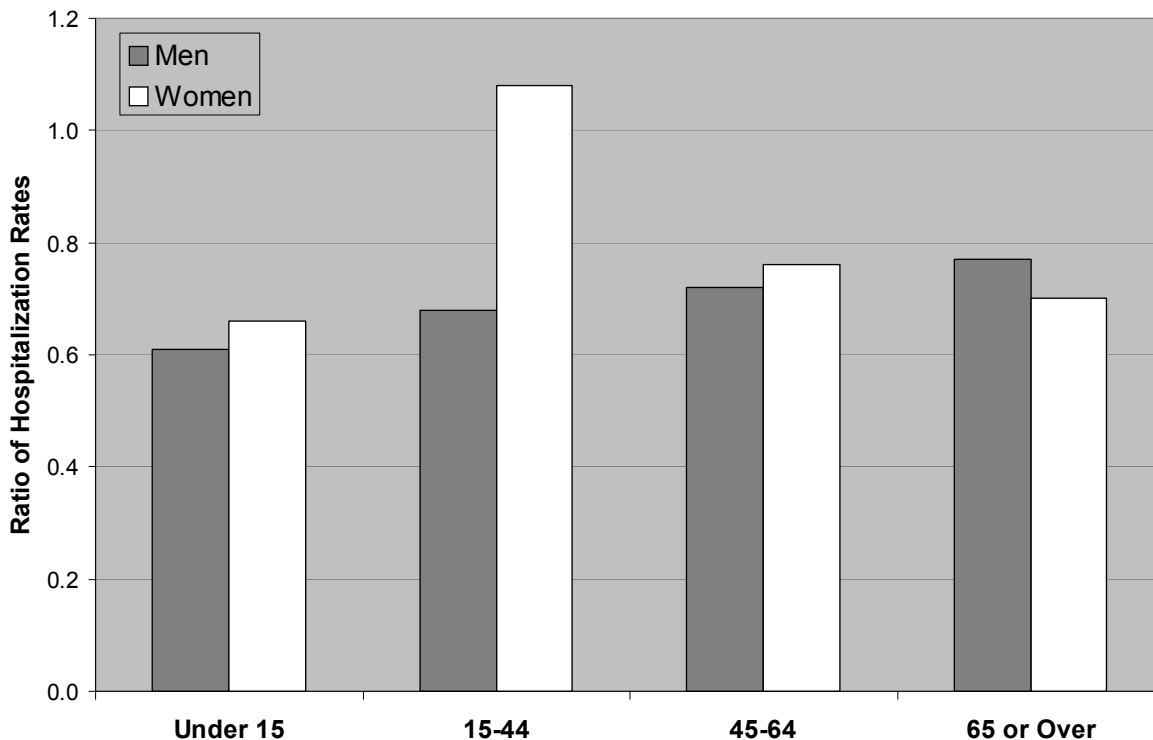
Excludes discharges of newborns and non-Utah residents
Source: Utah Hospital Discharge Database

- The average length of hospital stay decreased from 4.0 days to 3.44 days between 1994 and 1997, but increased slightly to 3.55 days in 1998.
- Utahns were hospitalized appreciably less often than is true elsewhere in the U.S. Utah hospitalization rates were 61-77% of U.S. rates in all age-gender groups except women age 15-44, where the high rate of childbirth in Utah resulted in Utah women being hospitalized at a higher rate than U.S. women.
- The most important third party payers for Utah hospital discharges were managed care (33.5% of discharges), Medicare (20.5%), Medicaid (9.6%), Blue Cross/Blue Shield (7.5%), and other commercial payers (15.2%). Medicare was payer for 80% of discharges of persons over 65 years of age.

**Data obtained from the Office of Health Care Statistics—Utah Department of Health

Hospital Utilization in Utah and U.S.

Ratio of Utah to U.S. Hospitalization Rates by age and sex,
Utah 1998 and U.S. 1997.



Excludes discharges of newborns and non-Utah residents
Sources: Utah Hospital Discharge Database, 1997 National Hospital Discharge Survey

- Examining types of clinical care delivered, pregnancy & child birth (20,3%) and newborn care (19.8%) accounted for large proportions of discharges, but smaller proportions of total charges (8.9 and 8.8%, or charges, respectively). In contrast, diseases of the circulatory system accounted for 10.2% of discharges and 19.2% of charges.
- The most common diagnoses were those related to pregnancy, childbirth, and newborn care. Of the remainder of discharges, common diagnoses included pneumonia, coronary atherosclerosis and other heart disease, and affective disorders. Notably, given the recent concern with medical errors, two common diagnoses were for complications of care.
- The most common procedures performed during hospitalization were those related to pregnancy, childbirth, and newborn care. Of the remainder of discharges, common procedures included hysterectomy, diagnostic cardiac catheterization, percutaneous transluminal coronary angioplasty, and arthroplasty of the knee.

**Data obtained from the Office of Health Care Statistics—Utah Department of Health

APPENDIX H UTAH RESIDENCY PROGRAMS

Program	Sponsoring Institution	Director	Specialty
Anesthesiology	U of U	Michael A. Ashburn, M.D.	Anesthesiology
Anesthesiology	U of U	Christopher M. Viscomi, M.D.	Anesthesiology
Anesthesiology, Pain Mgt	U of U	Michael Ashburn, M.D.	Anesthesiology
Dental Education	U of U	Lynn Powell, D.D.S.	Dental
Dermatology	U of U	Marta Petersen, M.D.	Dermatology
Family Practice	McKay--Dee	Richard Arbogast, M.D.	Family Medicine
Family Practice	St. Marks	John Robinson, M.D.	Family Medicine
Family Practice	Utah Valley	Michael Beller, M.D.	Family Medicine
Family Practice Sports Med.	U of U	Elizabeth Joy, M.D.	Family Medicine
Family Practice Sports Med.	Utah Valley	Dwayne Robert, M.D.	Family Medicine
Family Practice-OB	U of U	Steve D. Ratcliffe, M.D.	Family Medicine
Family Practice-SLC	U of U	Steve D. Ratcliffe, M.D.	Family Medicine
IM Cardiac Electrophysiology	U of U	Roger Freedman, M.D.	Internal Medicine
IM Cardiology	U of U	Jeffrey L. Anderson, M.D.	Internal Medicine
IM Gastroenterology	U of U	Scott K. Kuwada, M.D.	Internal Medicine
IM Geriatrics	U of U	Gerry Rothstein, M.D.	Internal Medicine
IM Hematology/Oncology	U of U	John H. Ward, M.D.	Internal Medicine
IM Infectious Diseases	U of U	Harry Rosado-Santos, M.D.	Internal Medicine
IM Nephrology	U of U	Donald E. Kohan, M.D., Ph.D.	Internal Medicine
IM Pulmonology/Critical Care	U of U	John Hoidal, M.D.	Internal Medicine
IM Rheumatology	U of U	H. James Williams, M.D.	Internal Medicine
Internal Medicine	U of U	H. James Williams, M.D.	Internal Medicine
Internal Medicine	LDS	Corwin Q. Edwards, M.D.	Internal Medicine
Medical Genetics	U of U	John C. Carey, M.D.	Medical Genetics
Medical Informatics	U of U	Michael J. Lincoln, M.D.	Medical Informatics
Neurology	U of U	John E. Greenlee, M.D.	Psychiatry & Neurology
Neurology, Child	U of U	James F. Bale, Jr., MD	Pediatrics
Neurology, Clin Neurophysiology	U of U	Mark B. Bromberg, M.D.	Psychiatry & Neurology
Neurosurgery	U of U	Ronald I. Apfelbaum, M.D.	Neurological Surgery
Neurosurgery, Pediatrics	U of U	Jack Walker, M.D.	Pediatrics
Nuclear Medicine	U of U	Boyd E. Vomocil, M.D.	Nuclear Medicine
Nuclear Radiology	U of U	Boyd E. Vomocil, MD.	Radiology/Radiation Oncology
Ob/Gyn	U of U	Robert Silver, M.D.	Obstetrics/Gynecology
Ob/Gyn, Maternal-Fetal	U of U	Ware Branch , M.D.	Obstetrics/Gynecology
Occupational Medicine	U of U	Anthony Suruda, M.D.	Internal Medicine
Ophthalmology	U of U	Paul L. Zimmerman, M.D.	Ophthalmology
Orthopedic Surgery	U of U	Harold K. Dunn, M.D.	Orthopedic Surgery
Orthopedic Surgery	U of U	Christopher L. Peters, M.D.	Orthopedic Surgery
Orthopedics, Hand Surgery	U of U	Douglas Hutchinson, M.D.	Orthopedic Surgery
Orthopedics, Pediatrics	U of U	Peter M. Stevens, M.D.	Pediatrics
Orthopedics, Sports Medicine	U of U	Robert T. Burks, M.D.	Orthopedic Surgery
Pathology	U of U	Chris Lehman, MD	Pathology
Pathology, Hematopathology	U of U	Sherrie Perkins, M.D., Ph.D.	Pathology

**A number of Residency Programs have been expanded into areas of emphasis.

Pathology	U of U	Chris Lehman, MD	Pathology
Pathology, Hematopathology	U of U	Sherrie Perkins, M.D., Ph.D.	Pathology
Pediatrics	U of U	Ronald S. Bloom, M.D.	Pediatrics
Pediatrics Critical Care	U of U	Madolin K. Witte, M.D.	Pediatrics
Pediatrics Emergency Med	U of U	Doug Nelson, M.D.	Pediatrics
Pediatrics Hem/Onc	U of U	Robert Goldsby, M.D.	Pediatrics
Pediatrics Neonatology	U of U	John Ross Milley, M.D., Ph.D.	Pediatrics
Pediatrics Pulmonology	U of U	Anthony G. Durmowicz, M.D.	Pediatrics
Physical Medicine and Rehab	U of U	Stuart E. Willick, M.D.	Physical Medicine and Rehab
Podiatry	VA	Gregg Young, M.D.	Podiatry
Psychiatry	U of U	Craig B. Hummel, M.D.	Psychiatry & Neurology
Psychiatry, Child	U of U	Doug Gray, M.D.	Pediatrics
Radiation Oncology	U of U	Lynn Smith, M.D.	Radiology/Radiation Oncology
Radiology, Diagnostic	U of U	Marc Gosselin, M.D.	Radiology/Radiation Oncology
Radiology, Neuroradiology	U of U	H. Ric Harnsberger	Radiology/Radiation Oncology
Radiology, Vasc-Interventional	U of U	Franklin J. Miller, Jr. M.D.	Radiology/Radiation Oncology
Surgery, Cardiothoracic	U of U	S. V. Karwande, M.D.	Thoracic Surgery
Surgery, General	U of U	James M. McGreevy, M.D.	Surgery
Surgery, Otolaryngology	U of U	R. Kim Davis, M.D.	Otolaryngology
Surgery, Plastics	U of U	Bradford Rockwell, M.D.	Plastic Surgery
Surgery, Urology	U of U	Richard Middleton, M.D.	Urology
Surgery, Vascular	U of U	Spencer W. Galt, M.D.	Surgery

****A number of Residency Programs have been expanded into areas of emphasis.**

APPENDIX I

WORKFORCE RECRUITING STATUS AS OF SEPTEMBER 2000

<u>Urban Central Region – Physician Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	Salt Lake City	Gastroenterology	09/03/99	Looking		Very difficult position.
	So. Salt Lake	Gastroenterology	09/03/99	Negotiating		J1 Visa candidate.
	L.D.S.	Urologic Oncologist	06/01/99	Looking		No candidates.
	S.L. Clinic	Cardiology	07/02/99	Negotiating		Candidate if from university
	So. Salt Lake	Cardiology	03/27/00	Looking		No candidates.
	Sandy	Allergist	01/29/99	12/02/99	8 mo.	
	Westridge	Family Practice	08/01/99	02/01/00	6 mo.	
	Taylorville	Family Practice	03/20/00	06/01/00	3 mo.	
	S.L. Clinic	Internal Medicine	11/17/99	Looking		
	Bountiful	Internal Medicine	05/11/00	Looking		
	So. Salt Lake	Dermatology	12/01/00	05/01/00	5 mo.	
	S.L. Clinic	Neurology	01/28/97	Hold		Difficult to fill. Now on hold.
	S.L. Clinic	Nephrology	02/01/99	Pulled		
	So. Salt Lake (Holl.)	Pediatrics	02/01/00	05/01/00	3 mo.	
	So. Salt Lake (MVP)	Pediatrics	03/15/00	09/01/00	6 mo.	
	So. Salt Lake (Sandy)	Pediatrics	08/01/99	04/28/00	9 mo.	
	Memorial	Pediatrics	03/23/00	05/01/00	1 mo.	
	S.L. Clinic	PMR	07/14/99	07/01/00	12 mo.	
	L.D.S.	General Surgery	03/08/00	08/14/00	6 mo.	

<u>Hospital Division and Private Placement</u>						
<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>	
L.D.S.	Infectious Disease	01/25/00	Looking			
Cottonwood	Neurology	06/30/98	06/01/00	23 mo.	Difficult recruit.	
Cottonwood	Vascular Surgeon	01/01/98	Looking		Challenges with private group & hospital.	
Wasatch Canyon	PSY	01/01/99	06/01/00	17 mo.	Psychology has been challenging.	
Alta View	PSY	01/01/99	06/01/00	17 mo.	Very few Candidates.	
L.D.S.	Cardiology Research	10/14/99	Looking	11 mo.	Specialized search	
L.D.S.	Neurologic Oncology	07/01/99	Looking	14 mo.		
L.D.S.	Transplant Cardio	01/31/00	06/01/00	5 mo.		
<u>Urban North Region – Physician Division Weber Co. North Davis</u>						
<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>	
No. Ogden	Family Practice	02/01/00	Looking			
No. Ogden	Family Practice	11/19/99	05/01/00	6 mo.		
No. Ogden	Family Practice	11/19/99	04/03/00	5 mo.		
No. Ogden	Family Practice	06/01/99	12/17/99	7 mo.		
Roy	Family Practice	09/21/99	04/13/00	7 mo.		
McKay MOB	Internal Medicine	06/23/99	06/01/00	11 mo.		
McKay MOB	Neurologist	05/05/98	06/06/00	25 mo.	Very difficult position to recruit for.	
McKay MOB	Pediatric Neurologist	06/23/99	Cancelled		Cancelled due to lack of candidates.	
McKay MOB	Pediatrician	11/17/99	06/30/00	7 mo.		
<u>Hospital Division</u>						
<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>	
McKay-Dee	Anesthesia	07/02/99	02/17/00	8 mo.		
McKay-Dee	Gastroenterology	11/18/99	Looking		Very few candidates. Many J1 Visas.	
McKay-Dee	Neuro Surgery	08/03/98	Looking		Difficult to recruit for.	
McKay-Dee	Pathology	11/18/98	05/21/00	18 mo.		
McKay-Dee	PMR	10/12/99	Cancelled			
McKay-Dee	Perinatal	07/27/00	Looking			
McKay-Dee	Internal Medicine	08/18/99	04/01/00	7 mo.		
McKay-Dee	Internal Medicine	N/A	07/15/00			

<u>Urban South Region – Hospital Division</u>					
<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
American Fork	Gastroenterologist	05/01/00	Looking		No candidates to date.
American Fork	Orthopedic Surgery	01/01/99	Looking		Problems with location/volume.
American Fork	Urology	03/03/99	Hold/Reopen		On hold due to difficulties.
Utah Valley	Cardiovascular Sur.	08/16/00	Looking		Difficult search.
Utah Valley	Cardiology Inter	05/11/00	Looking		
Utah Valley	Cardiology Non Inter	05/11/00	Looking		
Utah Valley	Ped. Neurologist	1998	Cancelled		Difficult search, cancelled.
Utah Valley	Neurologist	06/30/99	Looking	14 mo.	Combined effort from Ped. Neur.
Utah Valley	Neonatology	01/28/99	03/17/00		
Utah Valley	Neurosurgon	03/01/99	01/23/00	11 mo.	
Utah Valley	OCC	10/01/99	01/23/00	4 mo.	
Utah Valley	Hem/Oncologist	10/02/98	Looking		
Utah Valley	Pulmonologist	04/19/99	In Review		Very difficult search in all areas.
Utah Valley	Vascular Surgeon	12/01/97	06/12/00	31 mo.	Difficult search, competitive.
Utah Valley	Pediatric Surgeon	08/01/98	Looking		Both positions are diff. recruits.
Utah Valley	Pediatric Surgeon	08/01/98	Looking		Taken off hold after review.
<u>Logan Valley – Physician Division</u>					
<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
Budge Clinic	Gastroenterology	09/03/99	Looking		Very few candidates, mostly J1.
Budge Clinic	General Surgery	1998	04/01/00	16 mo.	
Budge Clinic	Orthopedic Surgeon	09/03/99	Looking		Politics of community made it difficult.
Budge Clinic	Med/Peds	11/17/99	05/02/00	7 mo.	
Budge Clinic	Dermatology	01/27/99	Looking		

<u>Logan – Hospital Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	Logan	Internal Medicine	08/06/99	06/07/00	10 mo.	No candidates for positions.
	Logan	Oncology	1998	Cancelled		
	Logan	Emergency Room	N/A	03/28/00		
<u>Central/Southern Utah – Physician Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	St. George	Internal Medicine	08/06/99	06/07/00	10 mo.	
	St. George	Family Practice	02/23/00	07/07/00	4 mo.	
<u>Hospital Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	Dixie	Hem/Oncologist	09/14/98	11/17/99	14 mo.	Looking for a second.
	Dixie	Hem/Oncologist	09/14/98	Looking		
	Dixie	Pulmonologist	01/19/99	01/12/00	12 mo.	
	Dixie	PSY	06/01/99	Looking		Decided to cover St. George.
	Cedar	Pathologist	03/27/00	Cancelled		
<u>North Region - Hospital Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	Pocatello	Ob/Gyn	08/10/98	09/01/99	13 mo.	Difficult due to call problems. Small community
	Pocatello	Ob/Gyn	08/10/98	Looking		
	Pocatello	Cardiologist	04/14/00	Looking		
	Pocatello	Family Practice	12/01/99	04/17/00	5 mo.	
<u>Other - Hospital Division</u>	<u>Practice Location</u>	<u>Physician Specialty</u>	<u>Date Posted</u>	<u>Hire Date</u>	<u>Time</u>	<u>Comments</u>
	Cassia	Emergency Room	05/04/98	10/01/99	16 mo.	Covering from Twin Falls.
	Cassia	Urologist	04/02/99	Cancelled		
	Sanpete	Orthopedic Surgeon	02/01/98	Looking		

APPENDIX J

ACKNOWLEDGMENTS

Medical Education Council Membership

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