

UTAH'S PHYSICIAN WORKFORCE:

A Study on the Supply and Distribution of Physicians in Utah

The Utah Medical Education Council

State of Utah



2006

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Utah's Physician Workforce: *A Study on the Supply and Distribution of Physicians in Utah*

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Cover design by: Phil Nguyen @ Creative Graphic Arts

Suggested Citation:

Utah Medical Education Council (2006). Utah's Physician Workforce: A Study on the Supply and Distribution of Physicians in Utah. Salt Lake City, UT

The Utah Medical Education Council

The Utah Medical Education Council (UMEC) was created in 1997 by H.B.141 out of a need to secure and stabilize the state's supply of healthcare clinicians. This legislation authorized the UMEC to conduct ongoing healthcare workforce analyses and to assess Utah's training capacity and graduate medical education (GME) financing policies. In addition, H.B. 141 requires the UMEC to advise the Governor and State Legislature on these issues and to provide policy recommendations for achieving state workforce objectives.

Charge to the Utah Medical Education Council

1. Determine the number and mix of healthcare professionals needed in Utah and develop strategies to assure the projected requirements are met.
2. Identify ways to protect and maximize existing revenue streams that support graduate medical education (GME).
3. Obtain and manage a federal waiver so that receipt of federal funds is linked to addressing Utah's healthcare workforce requirements.
4. Advise the Governor and Legislature on strategies to assure that Utah has an adequate healthcare workforce.

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Acknowledgements

This study of Utah's physician workforce is based on a survey completed in 2003 by the Utah Medical Education Council (UMEC) with assistance from the Utah Division of Occupational and Professional Licensing (DOPL). Additional support was provided by the University of Utah, Intermountain Health Care, and the Bureau of Primary Care and Rural Health.

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Additional Resources

Since its establishment, the Utah Medical Education Council has completed multiple reports on the healthcare workforce in Utah. For access to any of the following reports, please log on to our website at:

www.utahmec.org

- Dentists
- Pharmacists
- Podiatrists
- Physician Assistants
- Radiology Technologists
- Medical Technologists

Physician Job Opportunities in Utah

The presence of the physician workforce shortage has prompted the UMEC to take a pro-active approach to physician recruitment in Utah. We are currently working with the state medical school, residency programs, and industry leaders to direct physicians toward practice opportunities in the state. For a listing of Utah physician jobs, by specialty, please access our website at:

<http://www.utahmec.org/jobboard.php>

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Acronym & Abbreviation Guide

1. **AAMC:** American Association of Medical Colleges
2. **AAN:** American Academy of Neurology
3. **AANS:** American Association of Neurological Surgeons
4. **AAO-HNS:** American Academy of Otolaryngology – Head and Neck Surgery
5. **AAOS:** American Board of Orthopedic Surgeons
6. **ABMS:** American Board of Medical Specialties
7. **ABNS:** American Board of Neurological Surgeons
8. **ACGME:** Accreditation Council for Graduate Medical Education
9. **ACOEM:** American College of Occupational and Environmental Medicine
10. **ACPM:** American College of Preventive Medicine
11. **ACR:** American College of Radiology
12. **ACR:** American College of Rheumatology
13. **AMA:** American Medical Association
14. **APRN:** Advanced Practice Registered Nurse
15. **ASCO:** American Society of Clinical Oncology
16. **AUA:** American Urological Association
17. **BHPR:** Bureau of Health Professions
18. **COGME:** Council on Graduate Medical Education
19. **DHHS:** Department of Health and Human Services
20. **FEHBP:** Federal Employees Health Benefits Program
21. **FTE:** Full Time Equivalent
22. **GAO:** Government Accountability Office
23. **GME:** Graduate Medical Education
24. **HIPAA:** Health Insurance Portability and Accountability Act
25. **HPSA:** Health Professional Shortage Area
26. **HRSA:** Health Resources and Services Administration
27. **IMG:** International Medical Graduates
28. **NPC:** Non-Physician Clinician
29. **NRMP:** National Resident Matching Program
30. **OPM:** Office of Personnel Management
31. **PA:** Physicians Assistant
32. **PEHP:** Public Employees Health Plan
33. **RRC:** Residency Review Committee

Executive Summary

The issue of physician workforce supply and demand has been reviewed by multiple organizations in an attempt to forecast the future requirements of a growing, aging population. Earlier projections spoke of an impending physician surplus, calling for medical school closures and limitations on the number of residents trained in the United States. When the surplus failed to materialize, policymakers reassessed the physician workforce only to find that the nation was headed toward a serious national physician shortage—one that could be as high as 200,000 physicians by 2020.

A national shortage inevitably affects the supply of physicians in Utah. For years the state has relied upon the national pool to cover local deficits, but under current conditions, it will be difficult to compete for more physicians. This reality mandates an ongoing assessment of the clinical and physician workforce in Utah for the development of policy that is conducive to achieving state workforce objectives.

In carrying out the mandate, the UMEC conducted a survey of all Utah licensed physicians to understand the characteristics and shortfalls of our local workforce. In doing so, we found the following:

- 1) In 2003, there were 4,484 physicians working in Utah. Of those, 3,894 were active patient care providers, meaning they spent more than 50% of their workweek on direct patient care or teaching. This supply equates to approximately 165 physicians per 100,000 population which is below the recommended range for physician workforce adequacy (290 per 100,000).
- 2) The characteristics of the Utah physician workforce mirror that of the national workforce. There is little variance among local and national data on variables such as age, race, and gender, but there is significant difference in income levels between Utah physicians and their national counterparts. On average, Utah physicians earn less than their national counterparts in both primary care and specialty care.
- 3) Over 86% of the physicians practicing in Utah have had some previous contact with the state either through upbringing, medical education, or residency training. Of the physicians that have a Utah connection, the greatest proportion consists of those that did not attend high school or medical school in Utah, but completed a residency in Utah.
- 4) In 2003, nearly one-third (29%) of Utah physicians practiced in generalist fields while the rest (71%) practiced in subspecialty areas. There is growing concern over whether or not the current state training capacity is enough to meet the statewide needs in primary care. Decreased national interest in family practice has forced a reduction in both the number of family practice training programs as well as the size of the remaining programs. For the next few years, it will be important for Utah to maintain the size of the four family medicine residency programs to help fulfill the primary care needs of the state.
- 5) Although there is a high ratio of physicians in specialty practice in Utah, shortages still exist in many specialties. The specialties with the greatest need include: pediatric neurology, child

& adolescent psychiatry, adult psychiatry, obstetrics & gynecology, general surgery, dermatology, urology, and cardiology.

- 6) Despite efforts at improving geographic distribution, the percentage of physicians practicing in rural Utah is still far below optimum levels. In 2003, approximately 24% of Utah's population lived in rural counties, but only 12% of the physician workforce provided services in those areas.
- 7) Under current conditions, Utah will need to recruit up to 270 physicians per year due to population growth, age polarization, loss in FTEs, and physician retirement. State residency programs will only be able to meet 19% to 22% of the projected annual demand (52 to 60 physicians), leaving a huge deficit to be covered by out-of-state recruits (210 to 218 physicians). However, current studies indicate that lack of expansion in the national pool will result in nation-wide shortages making it difficult to import providers from other states. Even if Utah were successful in adding out-of-state recruits at the same level that it has in the past, the state will still face an annual shortage of 84 physicians.
- 8) The physicians graduating from today's medical schools are faced with many issues that may affect their practice choices. Student debt, future lifestyle, malpractice insurance, and reimbursement are all factors that can play a key role in specialty selection and geographic distribution. The high number of variables influencing physician practice location and specialty selection necessitates increased efforts by both public and private entities to enhancing the state's appeal in the national market.

The following steps are recommended to help alleviate Utah's physician workforce shortage:

- ❖ **Develop a Comprehensive State Healthcare Workforce Plan:** Utah has a high number of health profession training programs working independently to meet state workforce needs. Although their autonomous efforts have produced many well trained professionals, lack of coordination makes it difficult to determine the need and the contribution of each profession within the increasingly integrated and structured team approach of today's healthcare system. In some instances, the presence of providers in one profession may eliminate the need for or lessen the shortage of providers in another. Therefore, the UMEC encourages the development of a comprehensive state healthcare workforce plan that outlines the need for each health profession as they relate to one another and coordinates the training of such to maximize limited state resources, i.e. funding, faculty, and infrastructure.
- ❖ **Identify and target students that are most likely to remain in Utah practice:** National and local data show that the greatest predictor of future practice location is graduate medical education. Therefore, the UMEC highly encourages program directors to identify students that are likely to remain in Utah practice and assist in finding local opportunities for them while they are enrolled in the residency or fellowship program. Methods that have been used to assist trainees include: posting job opportunities on websites, coordinating with community physicians, and hosting job fairs.

- ❖ **Prioritize Statewide Needs by Specialty:** Since there are limited funds and faculty for state residency programs, Utah should prioritize its statewide needs by specialty so the specialties in greatest need by the population receive the most urgent consideration. Even with the increasing presence of mid-level providers in subspecialty practice, emphasis must still be placed upon enhancing and increasing the physician workforce due to the high level of expertise required in many specialty areas.
- ❖ **Explore Ways to Increase Program Output:** It is apparent that the current number of residents graduating from Utah training programs is not enough to meet the growing needs of the state; therefore action should be taken to expand program output either locally or regionally to maximize the supply of providers for the growing population. This includes exploring new sources of GME funding for residency program expansion, increasing faculty recruitment either through economic incentives or professional opportunities, and collaborating with out-of-state training programs to share resources and swap resident training experiences in specialties in which there is limited local capacity.
- ❖ **Increase Rural Training:** Despite efforts to increase the number of physicians in rural areas, Utah still has a disproportionately low number of providers serving the state's rural population. Efforts should be made to increase exposure to rural medical practice so trainees have an opportunity to familiarize themselves to a rural environment increasing the likelihood of future practice in those areas.
- ❖ **Explore Recruitment and Retention Incentives:** Current data suggest that physicians in Utah are underpaid relative to physicians in other states. This discrepancy needs to be addressed if Utah wants to maximize its ability to recruit and retain more physicians. It is highly encouraged that policymakers explore ways to increase the state's competitiveness in the national market either through the use of financial incentives or through increased promotion of the state's positive characteristics such as quality of life and practice control.
- ❖ **Investigate New Healthcare Delivery Models:** The growing national and local shortage of physicians will inevitably translate into increased reliance upon other professionals within the healthcare system. The UMEC encourages increased exploration of new healthcare delivery models to help increase provider effectiveness and efficiency. Some options to consider include increased use of technology, team oriented approaches, and systematic referrals.
- ❖ **Improve Data Collection:** In a time of limited resources, access to quality information is critical to the development and implementation of effective and fiscally sound policies. Unfortunately, there is little concurrence on the best methodology to be used for obtaining workforce information. A review of the data published by various organizations reveals a multitude of techniques used for estimating the size of the workforce. The technical differences between each methodology produce wide variances among sources making it difficult to assess the true size of the workforce.

Resolving the inconsistencies that exist among various sets of data is a challenging task. The unique mission of each organization makes it difficult to implement a uniform approach to

data collection. What may be sufficient for one organization may not be enough for another. However, there are times when the data collected by various organizations overlap. In this case, time and money has been wasted in the collection of duplicate data. The UMEC highly encourages collaboration among various agencies in the collection of physician data so that policy recommendations can be made using the best available information.

Projected National Physician Shortage

In 1998, the Council on Graduate Medical Education (COGME) established the national benchmark on physician adequacy. Their range of 145-185 physicians per 100,000 population was the yardstick by which states measured their physician supply. States with a physician to population ratio above 185 were considered to be in surplus, while those below 145 were labeled as physician shortage areas. Under this criterion, the nation seemed to be enjoying a physician surplus with pockets of shortage in certain specialties, particularly primary care.

By 2003, changes to the healthcare environment had significantly altered U.S. demand and supply patterns prompting a reassessment of the national benchmark. In an attempt to capture the impact of these changes, various entities conducted new studies on the national physician workforce. Despite differences in both methodology and range of predictions, each concluded that a national physician shortage currently exists and is likely to worsen by 2020. The following is a summary of their findings:

1. COGME (2003): Using the federal Physician Demand Model, they projected that the demand for physicians will be closer to 290 per 100,000 population—more than 100 physicians above the previously projected ratio of 185 per 100,000 population. The alarming rate at which demand exceeds supply will produce a national shortage of 85,000 to 95,000 physicians by 2020.¹
2. Health Affairs (2002): The Trend Model considers four trends that underlie the supply and use of physician services: economic expansion, population growth, work effort of physicians, and non-physician clinicians (NPCs). Using these four variables, the Trend Model projected a deficit of 50,000 physicians by 2010 and up to 200,000 physicians by 2020.²
3. National Rural Health Association – Health Policy Institute (2003): Projected a 100,000 to 200,000 shortage by 2020.³

A national shortage inevitably affects the supply of physicians in Utah. For years, the state has relied upon the national pool to cover local deficits, but under current conditions, it will be difficult to compete for more physicians. This reality mandates an ongoing assessment of the clinical and physician workforce in Utah for the development of policy that is conducive to achieving state workforce objectives.

¹ Council on Graduate Medical Education, *Sixteenth Report: Physician Workforce Policy Guidelines for the United States, 2000-2020*.

² Cooper, Richard A., et. al. "Economic and Demographic Trends Signal an Impending Physician Shortage." *Health Affairs* 21 (2002): 140-154.

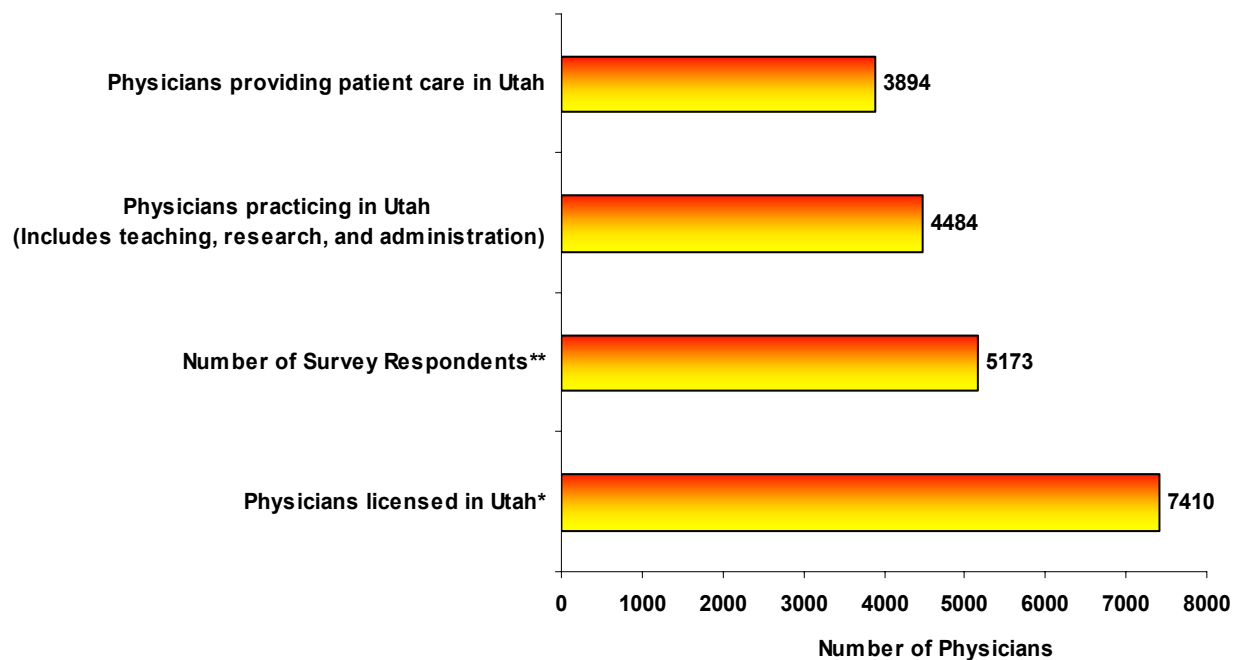
³ National Rural Health Association 2003 Conference Presentation

Characteristics of the Physician Workforce in Utah

AGGREGATE SUPPLY

As of December 2002 there were 7,210 allopathic and 200 osteopathic physicians licensed in the state of Utah. Of those, 5,175 (70%) responded to the UMEC survey. Of the 5,175 respondents, 3,136 physicians indicated that they were employed within the healthcare industry of Utah. To account for the number of non-respondents, these data were weighted to produce an estimate of 4,484 physicians working in Utah. This means that only 61% of the physicians licensed in Utah actually provided services in the state (*Figure 1*). Of those that were providing services, most were actively involved in direct patient care, with only a small percentage engaged in teaching, research or administration (*Figure 2*).⁴

Figure 1. Breakdown of Physicians Licensed in Utah, 2003

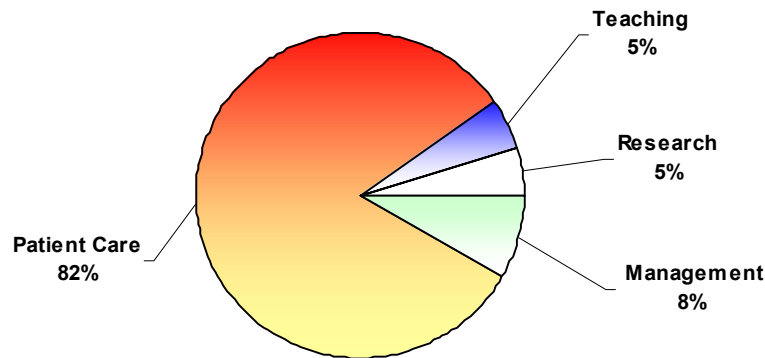


*Includes physicians working in Utah and physicians working in other states. Some physicians hold licenses in multiple states.

**The UMEC received survey responses from Utah licensed physicians working in Utah and also from those working in other states. Data from out of state physicians was filtered out and not included in this analysis of the workforce.

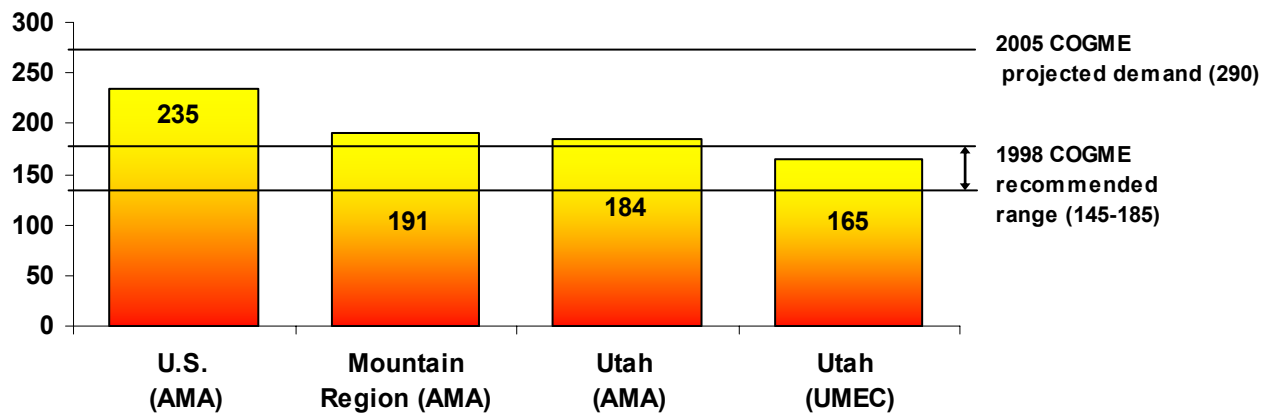
⁴ To be considered an active patient care provider, the physician must spend more than 50% of his or her workweek on direct patient care or teaching.

Figure 2. Major Professional Activity of Physicians Practicing in Utah (4,484), 2003



Although raw numbers provide some indication of the current supply, the adequacy of a workforce is better understood in terms of physician to population ratios. Despite the apparent limitations of this approach, it is a useful tool for comparing physician supplies among different areas. Based on the July 1, 2002 population estimate of 2,416,618 Utah had 165 patient care providers per 100,000 population. This estimate falls below the Mountain region’s average of 191 patient care providers per 100,000, and the national average of 235 patient care providers per 100,000.^{5,6} When stacked up against the national projected demand, all three supply estimates for the U.S., mountain region, and Utah fall below the number required to service the increasing workload (Figure 3).

Figure 3. Physician to Population Ratios, 2003



⁵ Mountain Region: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

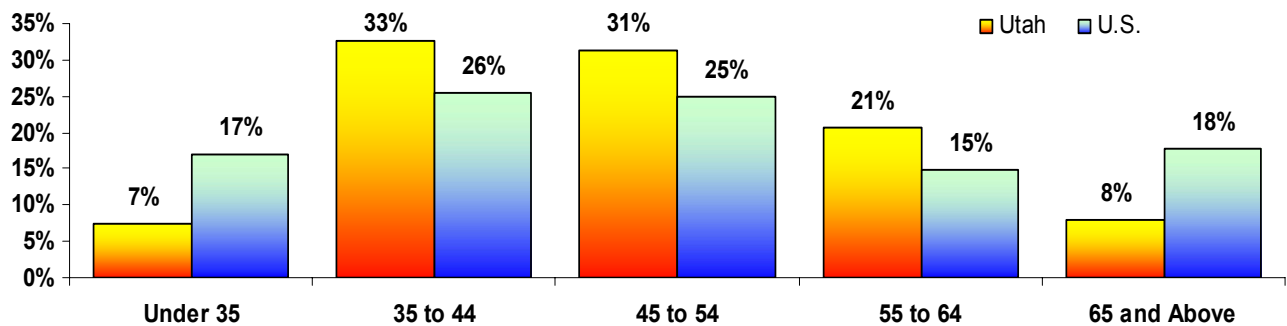
⁶ American Medical Association (AMA). *Physician Characteristics and Distribution in the US 2003-2004 Edition*. 2003

DEMOGRAPHIC CHARACTERISTICS

Age

Age distribution is one of the strongest predictors of future workforce availability. Utah, like the rest of the nation, has a high number of physicians in older age cohorts with a high likelihood of retirement over the next 10 years. In 2003, approximately 7% of the physicians in Utah were under the age of 35, and over 29% were over the age of 55 (*Figure 4*). Assuming that the average age of retirement is 65, Utah will have to replace up to 1,212 physicians over the next 10 years. Although this equates to only 121 physicians per year, less than half of their replacements will come from Utah training programs while the rest must be recruited from other states.

Figure 4. Physician Age Distribution, Utah (2003) and U.S. (2001)

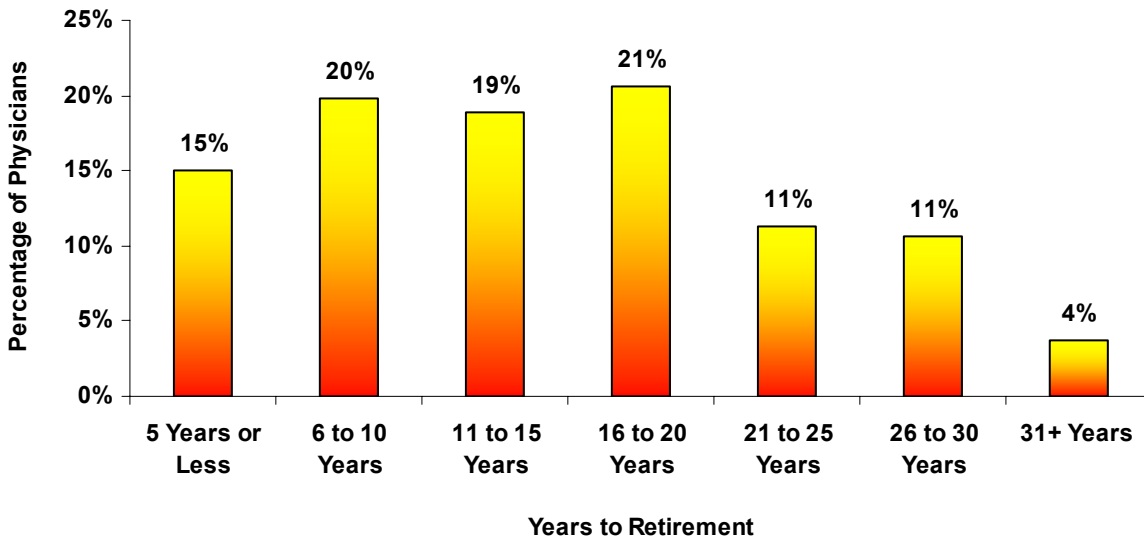


U.S. estimates obtained from the American Medical Association's (AMA) Physician Characteristics and Distribution in the US 2003-2004 Edition. 2003

The estimate on physician retirement is conservative and does not account for the increasing number of physicians choosing early retirement or change in career. A review of the self-reported data on retirement shows that Utah may actually lose up to 35% of its physicians over the next 10 years – an estimate that is 15% higher than the projected retirement by age (*Figure 5*). An interesting statistic to note is that over 11% of the physicians that plan on retiring in the next 15 years are under the age of 44, alluding to the trend of early retirement among physicians.

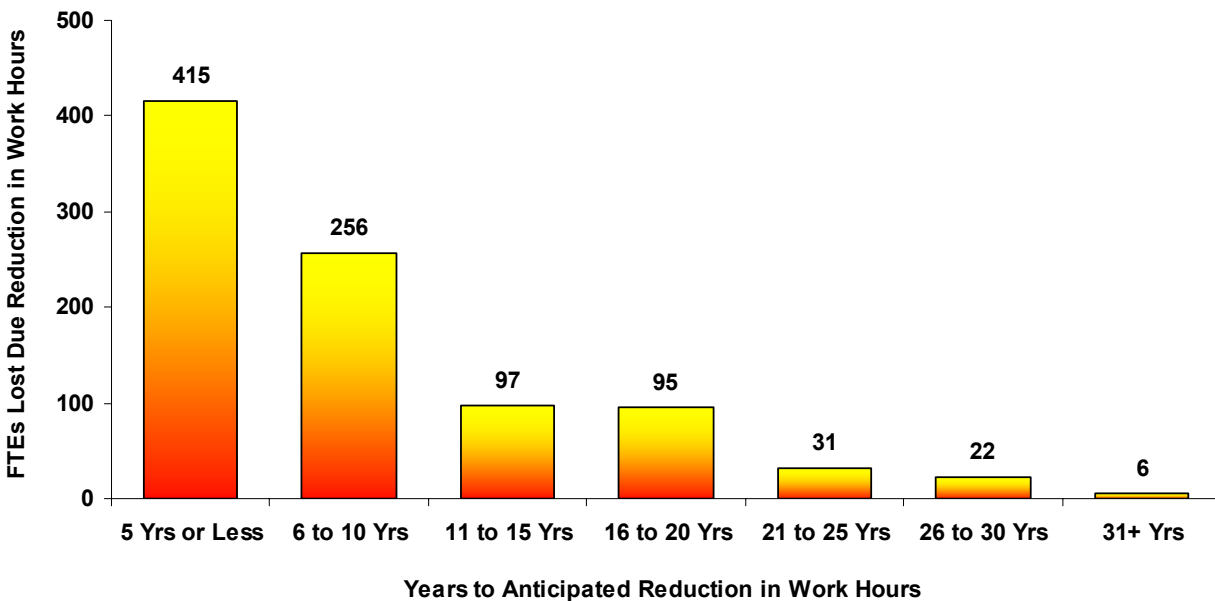
News of early departure from the workforce is cause for concern. Despite anecdotal reports of physicians delaying retirement due to economic downturns, comparative analysis of UMEC data from 1998 to 2003 showed that most of the physicians that had planned on retiring in 5 years or less in 1998 did so on time or within 1 year of their anticipated retirement date. If physicians continue to exit the workforce at this accelerated pace, it will be even more difficult to replace them with the limited number of graduates from U.S. training programs.

Figure 5. Years to Retirement for Utah Physicians, 2003



The manpower shortage produced by early retirement is further compounded by the number of physicians who plan on reducing their work hours prior to exiting the workforce. In 2003, approximately 2,108 physicians (52%) reported that they would eventually reduce their work hours, with over 25% indicating that they would work less than 20 hours per week after the reduction. The reduction in work hours equates to an average annual loss of approximately 61 FTEs over the next ten years (Figure 6).

Figure 6. Loss in FTEs Due to Physician Reduction in Work Hours Prior to Retirement, Utah, 2003



Race

The racial and ethnic composition of the physician workforce still lags behind the growing diversity of the state. As shown in *Figure 7*, over 93.2% of the physicians in Utah are white, and 6.8% are of another racial or ethnic background. Asians are the only group of minorities to have proportionately adequate representation in the physician workforce. The percentage of Asian physicians is over twice the percentage of Asian people in Utah. In comparison, the percentage of Hispanic physicians is only one-sixth of the percentage of the Hispanic population. Similar disproportions are exhibited among the other minority populations (*Figure 8*).

Figure 7. Utah Physician and Population Race Distribution, 2003

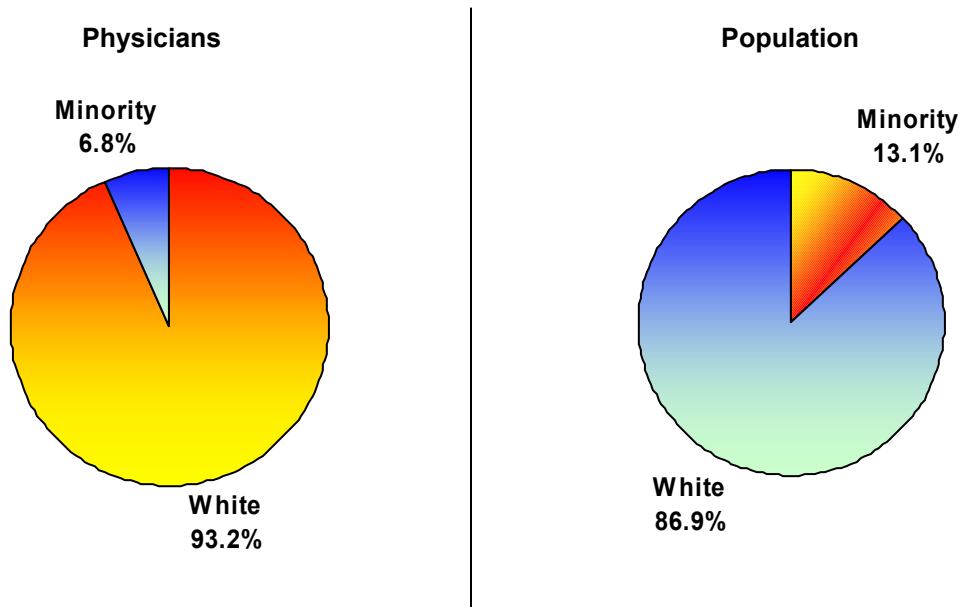
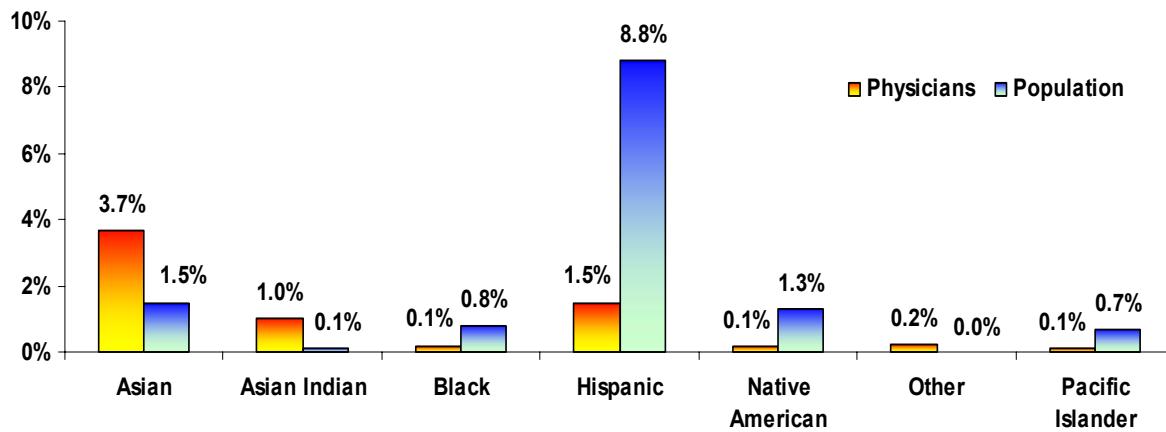


Figure 8. Comparison of Minority Physicians to Minority Populations in Utah, 2003



Concerns over the need to increase diversity in the physician workforce have been addressed on many levels. Most findings show that an increase in the level of minority participation translates to an increase in medical access for underserved populations (COGME 12TH Report, Keith). Although race may not be the primary factor behind a patient’s decision to see a physician, it is a strong indicator of whether or not a physician will practice in a minority or underserved area, thus increasing minority access to a local health care provider (Stinson).

Gender

The ratio of male to female providers in Utah is similar to the national physician gender distribution in that there are significantly more males practicing medicine than females. In 2003, 18% of the physicians working in Utah were female, representing an increase of 3% over the last five years (*Figure 10*).

Figure 9. U.S. Physician Gender Distribution, 2001

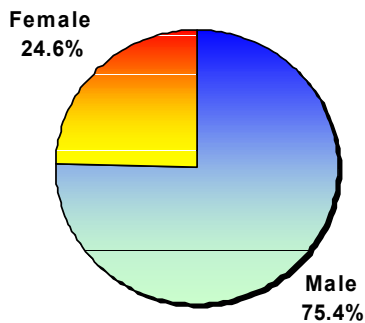


Figure 10. Utah Physician Gender Distribution, 2003

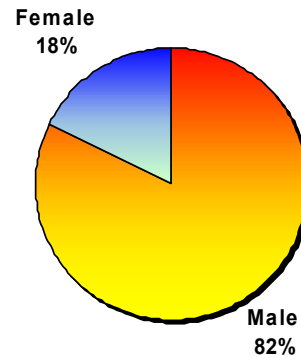


Figure 11. Matriculation at the University of Utah School of Medicine, 1995-2003

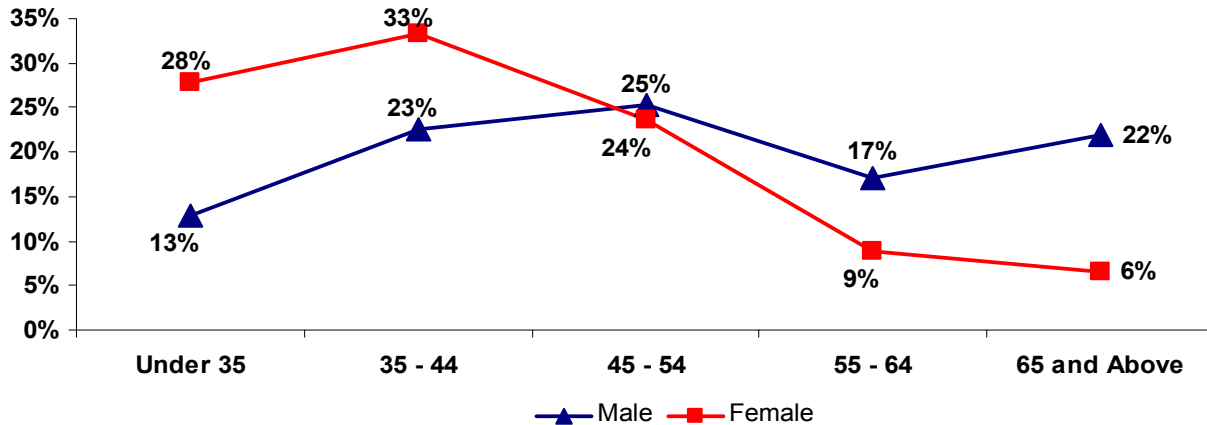
Year	Male	%	Female	%	Total
2003	59	58%	43	42%	102
2002	65	63%	39	38%	104
2001	67	66%	35	34%	102
2000	56	55%	45	45%	101
1999	62	61%	40	39%	102
1998	74	73%	27	27%	101
1997	69	69%	31	31%	100
1996	72	72%	28	28%	100
1995	61	61%	39	39%	100
Total	585	64%	327	36%	912

The increasing number of female physicians in Utah is consistent with national trends. The American Medical Association reports a steady increase in the number of female physicians across the nation. Nationally, the percentage of female physicians has grown from 11.6% in 1980 to 24.6% in 2001 (314). In 2003, the Association of American Medical Colleges reported that for the first time ever, the percentage of female medical school applicants (50.8%) exceeded the percentage of male applicants (49.2%).

Despite the steady increase in female applicants nationwide, the percentage of female applicants and matriculants in Utah has remained relatively flat over the last 10 years. Since 1995, only 30% of the students that have applied to medical school in Utah have been female, and approximately 36% of those that matriculate have been female (*Figure 11*).

The late entrance of females into medicine helps explain the variance in age among male and female physicians. As can be seen in *Figure 12*, over 61% of the female physicians in Utah are under the age of 44, whereas only 36% of male physicians belong to this age cohort. The high density of young female physicians implies longevity in the workforce, but their personal decisions regarding specialty choice and family commitments often reduce their level of participation in the workforce.

Figure 12. Utah Physician Age Distribution, by Gender, 2003



The difference between male and female workforce participation can be seen most clearly through their weekly work hours. On average, a female physician in Utah works approximately 9.25% less than her male counterpart (*Figure 13*). This premise holds true even when the data are broken down by specialty. In 8 of the 12 major specialties examined, female physicians reported working fewer hours than male physicians (*Figures 14 & 15*). As medicine moves towards gender equilibrium, differences between male and female practice patterns as well specialty choices will play an even greater role on the overall workforce. It will be important to monitor and quantify these differences and their effects on state workforce capacity.

Figure 13. Utah Physician Work Hours per Week, by Gender, 2003

Gender	Average Hours Per Week
Male	54
Female	49
All Physicians	53

Figure 14. Utah Physician Work Hours per Week in Primary Care, by Gender, 2003

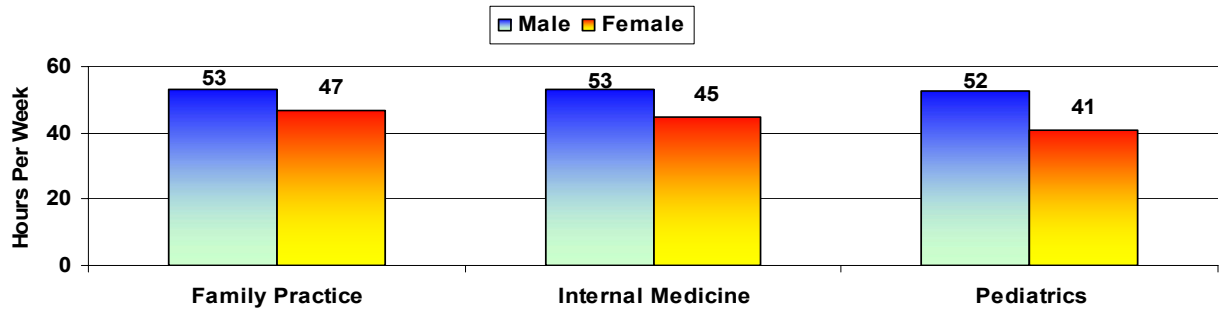
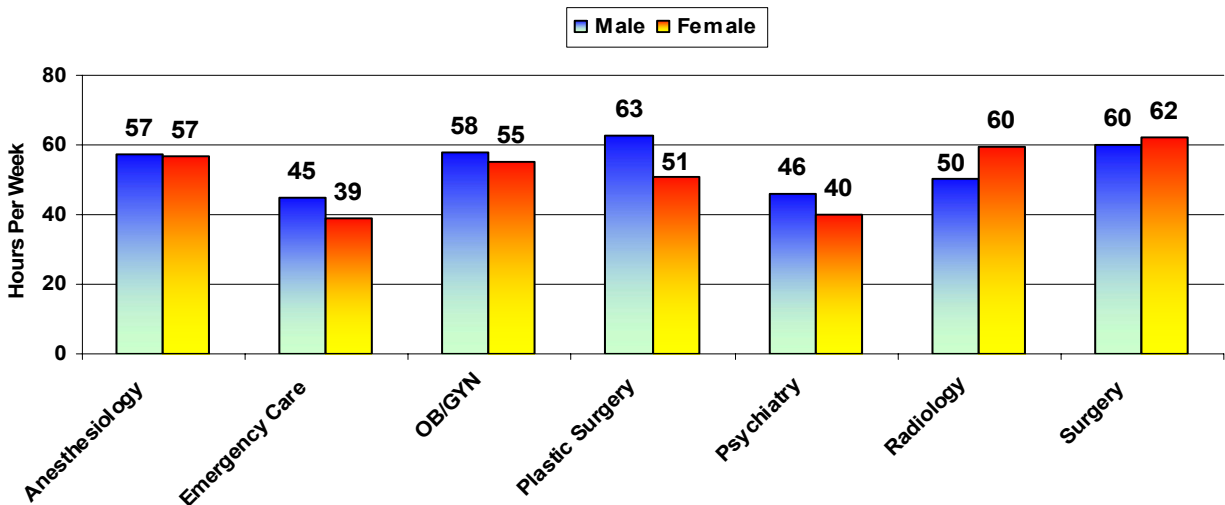


Figure 15. Utah Physician Work Hours per Week in Selected Specialties, by Gender, 2003



PRACTICE CHARACTERISTICS

Practice Setting

Physicians in Utah are employed in a variety of practice settings. Current data show that many have chosen to organize into group practices to deliver medical service. In 2003, almost half (49%) of Utah physicians classified themselves as belonging to some form of group practice. Approximately 22% specified that they were hospital employees, and 17% worked as solo practitioners (*Figure 16*).

The gradual shift towards group practice can be attributed to a variety of factors. While many group practices have developed as a way to capture increased negotiating power, others have formed out of a need to increase revenue or decrease workload. At this time, it is uncertain as to whether or not growth in this type of practice can be sustained as more physicians realize the high number of non-clinical administrative duties that are associated to group practice. Further studies are required to better understand the intricacies associated to different physician practice structures.

Figure 16. Primary Patient Care Practice Setting, Utah, 2003

Practice Setting	Number of Physicians	%
Group Practice	2087	49%
Hospital-Inpatient	956	22%
Solo Practice	725	17%
Other Setting	220	5%
Free-Standing Health Center or Clinic	170	4%
Staff Model	64	1%
State or Local Health Department	40	1%
Nursing Home	6	0%
Home Health	1	0%
Total	4269	100%

Work Hours

According to the 2003 survey, physicians in Utah work an average of 53 hours per week, with minimal variance across age groups until the age of 65 (*Figure 17*). However, when examined by gender and specialty, there were marked differences between the number of hours each group worked during the week. As previously mentioned, female physicians work an average of 9.25% less than their male counterparts. Differences in work hours among the various specialties were even greater. Physicians specializing in cardio-thoracic surgery reported working the greatest number of hours, averaging over 87 hours per week, while those who classified themselves as other internal medicine sub-specialists indicated working 31 hours a week (*See Figure 18*).

Figure 17. Average Physician Work Hours per Week by Age, Utah, 2003

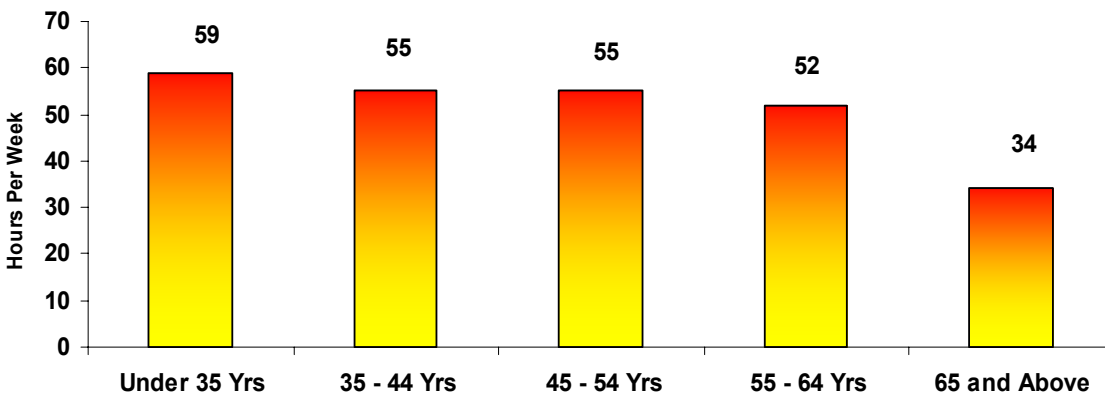


Figure 18. Average Physician Work Hours per Week by Specialty, Utah, 2003

Specialty	Average Work Hours	Specialty	Average Work Hours
Cardio-Thoracic Surgery	87	Nephrology	55
Critical Care Medicine	67	Other Anesthesiology Subspecialties	53
Pulmonary Diseases	67	Pathology Subspecialties	53
Ob/Gyn Subspecialties	65	Internal Medicine & Pediatrics	53
Other Surgical Subspecialties	64	Family Practice	52
Nuclear Medicine	62	Geriatrics	52
Plastic Surgery	61	Radiology (Diagnostic)	52
Surgery (General)	61	Internal Medicine (General)	52
Anesthesiology-Pain Management	61	Infectious Diseases	51
Cardiology	60	Other Specialty	49
Neurology	60	Physical Medicine & Rehab	49
Pediatrics Subspecialties	60	Pediatrics (General)	48
Neurological Surgery	59	Ophthalmology	47
Endocrinology & Metabolism	59	Dermatology	45
Orthopedic Surgery	59	Pathology (General)	45
Rheumatology	58	Child & Adolescent Psychiatry	45
Hematology/Oncology	58	Psychiatry	45
Anesthesiology (General)	57	Emergency Care	44
Ob/Gyn (General)	57	Allergy & Immunology	43
Radiology (Therapeutic)	57	Hospice & Palliative Medicine	43
Gastroenterology	57	Preventative/Occupational/ Public Health	43
Urology	56	Other Psychiatry Subspecialties	35
Otolaryngology	56	Other Internal Medicine Subspecialties	31

Income

In 2003, the median income for physicians in Utah was \$125,000 for primary care and \$170,000 for specialists, though income varied significantly by specialty (*Figure 19*). At this time it is difficult to determine the exact difference in income between Utah physicians and their national counterparts due a lack in comparative data. However survey results from both the AMA and the Medical Group Management Association (MGMA) suggest that Utah physicians earn less than their national counterparts. If this is such, it will be difficult for the state to recruit physicians from the shrinking national pool. At this time, it is highly recommended that the state examine this issue in further detail to determine the potential effect of reimbursement on the physician workforce in Utah.

Figure 19. Physician Income, Utah, 2003

	Primary Care	Specialty Care
Mean	\$134,162	\$196,857
Median	\$125,000	\$170,000
Mode	\$150,000	\$200,000
\$50,000 or Less	11%	11%
\$50,001 - \$100,000	22%	12%
\$100001 - \$150,000	45%	23%
\$150,001 - \$200,000	15%	23%
\$200,001 - \$250,000	4%	12%
\$250,001 - \$300,000	1%	9%
\$300,001 +	2%	11%
Total	100%	100%

Figure 20. Percentage Change in Income for Selected Specialties, U.S. 1998-2002

Primary Care	10%
Pediatric/Adolescent Medicine	13%
Internal Medicine	10%
Family Practice (Without OB)	9%
Specialty Care	18%
Hematology/Oncology	46%
Dermatology	39%
Radiology (Diagnostic)	38%
Gastroenterology	34%
Anesthesiology	23%
Urology	23%
Otorhinolaryngology	21%
Emergency Medicine	20%
Ophthalmology	19%
Orthopedic Surgery	16%
Neurology	16%
Pulmonary Medicine	15%
Psychiatry	14%
Surgery (General)	13%
Cardiology (Noninvasive)	10%
Cardiology (Invasive)	10%
Obstetrics/Gynecology	8%

Differences in physician compensation often signal changes in the healthcare environment or demographic shifts in the population. The proliferation of HMOs in the mid 1990s is a prime example of this. During this period, the gatekeeper model was introduced and primary care physicians were transformed into valuable cost containment instruments. The increasing use of this model created fierce competition for primary care physicians. Bidding wars for their services inflated primary care salaries to record levels. Physicians that were willing to practice in these fields were financially rewarded for their choice.

By 2001, the hype surrounding the gatekeeper model had dissolved and bidding wars for primary care physicians were a thing of the past. As the market transitioned back into a system that allowed open access to physicians, the demand for specialty services became more apparent. The urgency of recruiting physicians to fulfill this demand has translated into superstar salaries for many specialists. The growing demand has produced double digit percentage increases in many subspecialty areas (*Figure 20*).

Source: Medical Group Management Association, *Physician Compensation and Production Survey: 2003 Report Based on 2002 Data*

Figure 21. Median Physician Salary by Various Sources

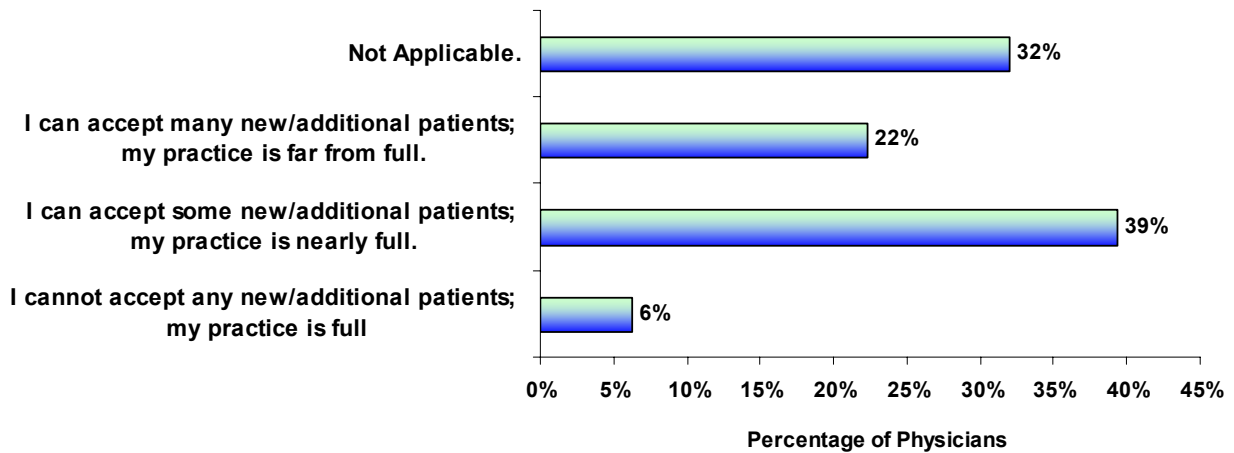
The data below provides a starting point for comparing physician reimbursement. However, caution must be used in any analysis performed using these figures due to differences in reporting methods employed by the cited sources.

PRIMARY CARE	Utah 2003 (UMEC)	U.S. 2000 (AMA)	U.S. 2002 (MGMA)
Family Practice	\$130,000	\$144,700	\$153,548
Internal Medicine (General)	\$130,000	\$164,100	\$158,356
Pediatrics (General)	\$120,000	\$137,800	\$153,098
SPECIALTY CARE	Utah 2003 (UMEC)	U.S. 2000 (AMA)	U.S. 2002 (MGMA)
Allergy and Immunology	\$155,000	N/A	\$235,316
Anesthesiology (General)	\$250,000	\$244,700	\$305,676
Anesthesiology-Pain Mgmt	\$220,000	N/A	\$318,322
Cardiology	\$215,000	N/A	\$366,567
Child and Adolescent Psychiatry	\$131,500	N/A	\$180,000
Critical Care Medicine	\$175,000	N/A	\$204,905
Dermatology	\$200,000	\$219,500	\$262,782
Emergency Care	\$185,000	\$197,100	\$211,709
Gastroenterology	\$240,000	\$299,200	\$321,023
Geriatrics	\$130,000	N/A	\$146,016
Hematology/Oncology	\$170,000	N/A	\$299,319
Infectious Diseases	\$135,000	N/A	\$180,286
Nephrology	\$170,000	N/A	\$227,385
Neurological Surgery	\$328,000	N/A	\$470,476
Neurology	\$125,000	\$183,100	\$185,666
Obstetrics and Gynecology (General)	\$200,000	\$227,000	\$217,240
Ophthalmology	\$200,000	\$229,200	\$254,376
Orthopedic Surgery	\$250,000	\$335,800	\$364,060
Otolaryngology	\$200,000	\$214,500	\$277,585
Pathology (General)	\$140,000	\$246,500	\$285,087
Physical Medicine and Rehabilitation	\$150,000	N/A	\$192,490
Plastic Surgery	\$200,000	N/A	\$289,561
Preventive Medicine/Public Health/Occupational	\$130,000	N/A	\$164,783
Psychiatry	\$130,000	\$145,700	\$159,444
Pulmonary Disease/CCM	\$160,000	N/A	\$234,243
Radiology (Diagnostic)	\$300,000	\$327,700	\$362,887
Radiology (Therapeutic)	\$210,000	\$292,600	\$265,000
Rheumatology	\$150,000	N/A	\$193,410
Surgery (General)	\$200,000	\$263,700	\$255,438
Urology	\$237,500	\$264,500	\$294,337

Practice Status

A leading indicator of service capacity is practice status. According to the 2003 survey, 6% of Utah physicians have practices that are full and are incapable of accepting any new patients (*Figure 22*). The specialties with the highest number of full practices include: psychiatry (both adult and child & adolescent), geriatrics, general internal medicine, family practice, anesthesiology, cardiology and pediatrics. Specialties that are nearly full include: nephrology, rheumatology, endocrinology & metabolism, obstetrics & gynecology, dermatology, urology, and orthopedic surgery.

Figure 22. Current Status of Patient Care Practice, 2003



Patient Wait Time

Another indicator of service capacity is patient wait time. In Utah, new patients must wait an average of 18 days for an appointment, while established patients can obtain an appointment in approximately 11 days (*Figure 23*). Although these average wait times appear customary, when calculated for individual specialties, they reveal disturbing information on the amount of time that it takes to see certain specialists. In some cases, patients are required to as long as three months before getting in to see a physician. Specialties with the longest wait times include: rheumatology, neurology, anesthesiology-pain management, endocrinology & metabolism, and neurological surgery.⁷

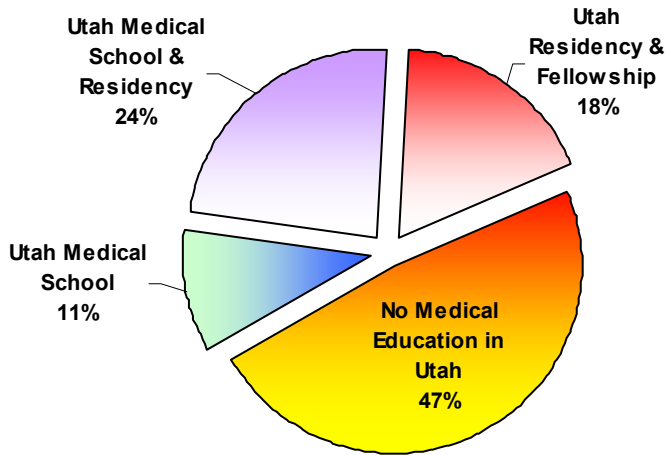
Figure 23. Number of Days Patients Must Wait for an Appointment, Utah, 2003

Type of Patient	All Physicians	Primary Care	Specialty Care
New Patient	18	13	21
Established Patient	11	6	13
Emergency Patient	1	0	1

⁷ For a complete list of the average wait time for each specialty, see Appendix D.

MEDICAL EDUCATION AND RESIDENCY TRAINING

Figure 24. Utah Education Connection



Many factors influence a physician’s choice to practice in a given area, but the strongest predictor of eventual practice location is graduate medical education (GME). A recent study conducted by the National Conference of State Legislatures (NCSL) found that “a majority of generalist physicians and physicians in metropolitan areas practice in the same state where they completed their most recent GME,” (6). This inclination holds true in Utah. According to the 2003 survey, 42% of Utah

physicians completed at least one residency in the state, and over 53% had some form of medical education in Utah (See Figure 24). Further review of the UMEC data showed that the greatest segment (26%) of the physician workforce in Utah consisted of those that did not attend high school or medical school in Utah, but completed a residency in Utah (See Figure 25).

Figure 25. Background Data on Physicians Practicing in Utah, 2003

No. of Utah Factors	Utah Highschool	Utah Medical School	Utah Residency	Number of Physicians	Percent in Utah Practice
0	No	No	No	561	13%
1	Yes	No	No	122	3%
	No	Yes	No	39	1%
2	No	No	Yes	1165	26%
	Yes	Yes	No	212	5%
	Yes	No	Yes	695	15%
3	No	Yes	Yes	701	16%
	Yes	Yes	Yes	919	20%
Unknown				70	2%
				4484	100%

Specialty Distribution

A discussion of physician supply requires an analysis of the various specialties that make up the workforce. In addition to having the right number of physicians, states must also consider the importance of having the right specialty mix. In 1993, amidst growing reports of an impending generalist shortage, COGME released its 50/50 recommendation encouraging half of all new practicing physicians be generalists (*Third Report 3*).⁸ This recommendation, endorsed by a number of leading institutions, led to a marked increase in the number of generalists during the 90s.^{9,10}

By 2000, interest in primary care eventually waned as healthcare moved away from restrictive HMOs to more open access networks. As the market called for more specialists, graduates responded by training in higher paying specialties. Data from the National Resident Matching Program revealed double digit increases in the number of positions filled between 2000 and 2004 in many subspecialty areas. Specialties with the greatest increase include physical medicine & rehabilitation (34%), radiation oncology (47%), anesthesiology (50%), neurological surgery (52%), plastic surgery (56%), and pathology (78%). Current figures show that the number of specialists (62%) still surpass that of generalists (38%) despite the push for primary care in earlier decades.

Despite the high ratio of physicians in specialty practice, shortages still exist in many subspecialty areas. Current physician recruitment trends reveal that healthcare staffing organizations are looking to fill more positions in specialties that are geared toward the aging population.¹¹ The Merritt, Hawkins & Associates *2003 Review of Physician Recruitment Incentives* showed demand increases of over 100% for several of these specialties. The specialties that experienced the greatest demand increase from 2000 to 2003 include: pulmonology, neurology, otolaryngology, anesthesiology, radiology, and urology. It is unlikely that this trend will cease due to the increasing number of baby boomers entering retirement and demanding more specialized services.

Generalists in Utah

The specialty mix in Utah resembles the national mix of physicians. In 2003, nearly one third (1,280) of Utah physicians practiced primary care (family practice, general internal medicine and general pediatrics), while the rest (3,204) were in subspecialty areas (*Figure 26*). It is difficult to determine whether or not these figures reflect a shift in the ratio of generalists to specialists in the state due to differences in specialty categorization between the 1998 and 2003 survey. However, data from the National Resident Matching Program (NRMP) as well as local Utah residency programs confirm a declining interest in primary care.

⁸ At the time of the recommendation, the United States had a ratio of 30% generalists to 70% specialists.

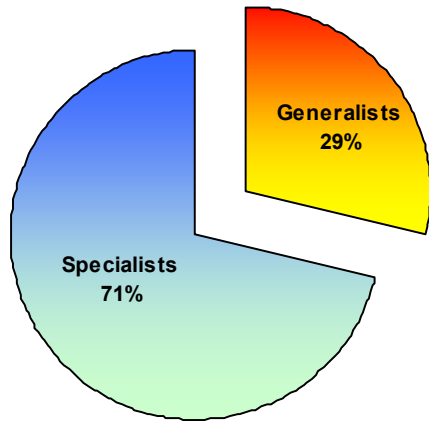
⁹ Organizations such as the Pew Health Professions Commissions and the Institute of Medicine endorsed the increase in generalist physicians.

¹⁰ Data from the National Resident Matching Program showed that between 1994 and 1999 all primary care specialties experienced an increase in the number of residency slots filled. Family practice increased by 17%, internal medicine by 7%, and pediatrics by 12%.

¹¹ Merritt, Hawkins & Associates, Cejka & Company, Comphealth, Martin Fletcher

The waning appeal of primary care can be seen most markedly in family practice. Declining demand and increasing costs of family medicine training programs has resulted in a reduction in the number of available training positions both nationally and locally. Since 1999, family practice residency programs nationwide have been forced to downsize by approximately 10%. It is anticipated that the numbers will drop even further if nothing is done to garner more interest in this specialty.

Figure 26. Distribution of Generalists to Specialists in Utah, 2003



National residency data revealed marginal growth in internal medicine and pediatrics. Since 1999, internal medicine has increased by 1.3% and pediatrics by 6.3%. The same is true in Utah where program output has expanded in both of these specialties. By the time expansion is fully built out, internal medicine will have increased output by 6.3% and pediatrics by 35%.

Despite the increase in internal medicine and pediatric residents, it is not enough to

meet the growing needs of the state, particularly in rural areas where primary care physicians make up over 43% of the workforce. Utah currently retains only 60% to 70% of its primary care graduates and makes up the difference with out-of-state recruits, international medical graduates (IMGs), and midlevel providers. However, with more physicians choosing specialty care over primary care, it will be difficult to recruit physicians from the national pool to cover state deficits. The diminishing supply of primary care providers has and will continue to decrease access for underserved populations.

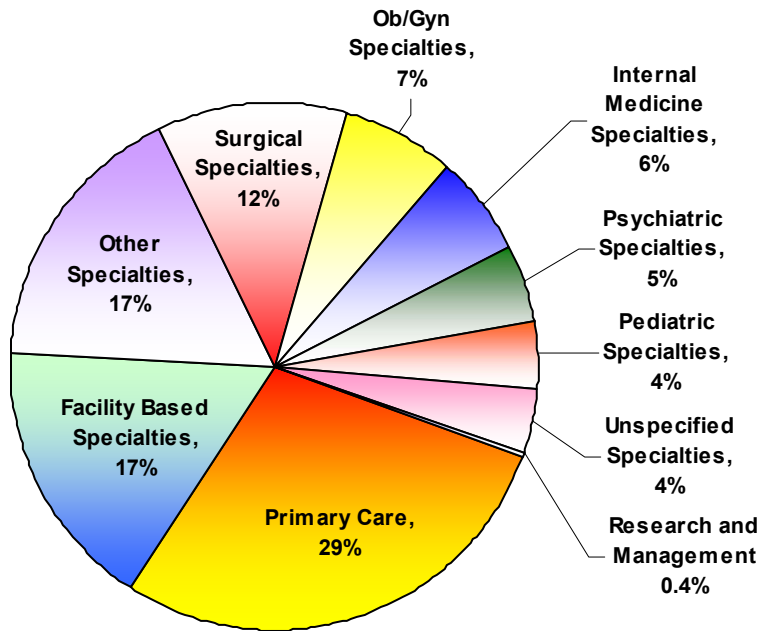
Specialists in Utah

The Utah market currently supports a high number of specialists. This has been due in part to regional referral and residency training, both of which have enabled Utah residents to enjoy a broader range of services than would otherwise be possible. However, even with the high ratio of specialists, shortages still exist in many specialty areas. A review of physician recruitment data from leading healthcare institutions in the state found that the following specialties are currently in high demand or are difficult to recruit in Utah: cardiology, dermatology, endocrinology, gastroenterology, hematology/oncology, obstetrics/gynecology, orthopedic surgery, and urology.¹² In addition to these specialties, shortages currently exist in pediatric neurology, adult & child psychiatry, general surgery, dermatology, urology and cardiology.

¹² Data was obtained from CompHealth, Iasis, Intermountain Health Care, Life Point, Mountain Star, and the University of Utah Hospitals and Clinics.

The UMEC has attempted to identify the areas of greatest shortage in order to prioritize state workforce needs for policy initiatives. The following are brief synopses of the specialties in greatest need in Utah, by priority. For detailed information on other specialties that were identified during the 2003 survey, refer to Appendix D.

Figure 27. Distribution of Utah Physicians by Specialty Category, 2003



Pediatric Neurology

In 1998, the American Academy of Neurology conducted a workforce study on pediatric neurologists and found that the supply of physicians in this specialty was 20% below the demand for their services. They estimated that there were only 1.14 providers per 100,000 children under the age of 18, which was below the recommended ratio of 1.4 per 100,000. Since that time, the shortage has become even greater due to the decreasing number of pediatric neurology residents and the increasing number of retired practitioners.

The shortage of pediatric neurologists extends to Utah where only 10 pediatric neurologists practice in the entire state. Of the 10 that are practicing here, only 3 would be considered full FTEs, while the rest work in various capacities. This gives the state a ratio of approximately 1 pediatric neurologist per 100,000 children, but when other professional duties are taken into account, it is estimated that the adjusted supply is actually closer to 0.7 per 100,000. Of immediate concern is the age distribution of the providers in Utah. The median age for providers in this specialty is slightly over 55, meaning there is a high likelihood they will be retiring over the next 10 years. With so many providers exiting the workforce and so few entering, it is highly likely that Utah will face a severe shortage in pediatric neurology in the coming years.

The pediatric neurology program at the University of Utah currently trains 1 resident per year for three years. Over the past four years, they have been successful at retaining all of their program graduates in the state. Utah will only be able to meet the needs of population if this trend continues for the next 7 to 10 years. However, with the growing shortage of pediatric neurologists nationwide, it will be difficult to compete against other states for the limited number of providers in this specialty.

There has been discussion of expanding the Utah residency program to 2 residents per year due to high applicant interest in the state's training program; however no funding is available to support expansion at this time. If expansion were to occur, caution should be exercised to determine if the Utah program can maintain such growth with the dwindling pool of applicants in this specialty. At this time, it is recommended that Utah collaborate with other training programs to generate increased interest in pediatric neurology.

Child & Adolescent Psychiatry

Child and adolescent psychiatry is an area of significant need in Utah. Like the rest of the nation, Utah is having a difficult time recruiting the number of providers needed to serve its growing pediatric population. This is due in part to the declining number of U.S. medical school graduates entering PGY-1 psychiatry programs. The latest comparative analysis revealed that Utah had a physician to population ratio of only 5.03 per 100,000 population under 18 years of age, an estimate that is significantly lower than both the regional (6.51) and national average (8.67) (AMA). The recommended ratio for this specialty is 6 to 7 per 100,000 population under 18 years of age, with likelihood of an upward climb due to anticipated increases in demand.^{13, 14}

The University of Utah currently graduates 2 residents per year in child & adolescent psychiatry and 1 resident per year in triple board.¹⁵ However, they are only able to retain approximately 50% of their program graduates in Utah, i.e. 1.5 child psychiatrists per year. This is not enough to cover the number of child psychiatrists exiting the workforce and the increasing pediatric population of the state. With only 36 child psychiatrists providing care to the pediatric population in Utah, Idaho, and western Colorado, there will be a decline in workforce capacity that will prolong wait times and increase risk to children in critical need of psychiatric care.

Part of the problem surrounding child & adolescent psychiatry in Utah is funding for residency training. Various funding constraints have forced the program to remain at the minimum level required by the RRC (4 child & adolescent residents, 3 triple board), despite their ability to train more residents. The UMEC has provided funding to stabilize the residency program so that they can continue to train residents at the existing level; however more should be done to take advantage of the state's excess clinical capacity and ability to train more residents.

¹³ American Academy of Child & Adolescent Psychiatry

¹⁴ The U.S. Bureau of Health Professions, DHHS, estimates that demand will increase by 100 percent between 1995 and 2020.

¹⁵ Triple Board Program: Residency training program that combines pediatrics, general psychiatry, and child & adolescent psychiatry curriculum

Adult Psychiatry

Utah currently has approximately 170 psychiatrists serving the entire state population, most of whom are in urban/suburban areas. This equates to approximately 7.46 psychiatrists per 100,000 population which is significantly below the national average of 13.21 (AMA). This supply is not adequate to serve the number of people suffering from mental illness in Utah. According to a 2003 study conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), Utah was identified as one of ten states with the highest rate of serious mental illness in the nation. In 2003, approximately 10.97% of Utah adults over the age of 18 suffered from serious mental illness, and it is anticipated that this number may be even greater due to the high number of cases that go unreported every year.¹⁶

Despite excess clinical capacity, it has been difficult to expand the state residency program beyond 6 or 7 residents per year due to various funding constraints. In the past, funding deficits have been subsidized by various state and federal sources; however recent cuts have made it difficult to rotate into areas that need psychiatry services most such as rural sites and Indian reservations. At this time it is unclear as to whether or not funding will become available for psychiatry rotations into these areas. The UMEC highly encourages further exploration of the various reimbursement issues associated to this specialty to maintain existing rotations and expand program output.

Obstetrics & Gynecology

Utah has long held its position as the state with the highest birthrate in the nation. As such, there has been additional strain placed on the limited number of OB/GYN physicians working in the state. A review of local and national data showed that Utah is below the national average in OB/GYNs per 100,000 female population over the age of 15. In 2001, the AMA reported that the U.S. had 36.31 providers per 100,000 while Utah had only 32.5 per 100,000. In 2003, UMEC data showed that the ratio had slipped down to 28.64 per 100,000. This translates into approximately 400 more patients and 68 more deliveries per year per provider compared to their national counterparts.^{17, 18, 19}

The additional workload means increased risk for Utah providers as they struggle to pay for the rising malpractice premiums that are associated to this specialty. A recent poll found that approximately one-third of the state's OB/GYNs are expected to sharply curtail or completely

¹⁶ States listed here in alphabetical order within each group were divided into five groups based on the magnitude of their percentages. States in the *highest group* (9.09 to 10.17 percent) were Arkansas, Idaho, Kentucky, Missouri, Nevada, Oklahoma, Rhode Island, Utah, Washington, and West Virginia. States in the *next highest group* (8.36 to 9.08 percent) were Alabama, Arizona, Georgia, Maine, Montana, New Mexico, North Carolina, Ohio, Oregon, and Tennessee. States in the *mid group* (7.81 to 8.35 percent) were Delaware, Indiana, Kansas, Louisiana, Minnesota, New Hampshire, New York, North Dakota, South Carolina, Wisconsin, and Wyoming. States in the *next lowest group* (7.36 to 7.80 percent) were Alaska, Colorado, District of Columbia, Massachusetts, Michigan, Mississippi, South Dakota, Texas, Vermont, and Virginia. States in the *lowest group* (6.38 to 7.35 percent) were California, Connecticut, Florida, Hawaii, Illinois, Iowa, Maryland, Nebraska, New Jersey, and Pennsylvania.

¹⁷ In 2001, Utah OB/GYNs delivered an average of 210 babies per year, whereas U.S. OB/GYNs delivered an average of 142 babies per year. Data obtained from the U.S. Census Bureau.

¹⁸ American Medical Association. 2001 Physician Characteristics and Distribution in the U.S. (2003-2004 Edition).

¹⁹ U.S. Census Bureau. Annual Population Estimates, By State. July 1, 2001 Estimates.

remove the obstetric component of their practice over the next few years. A reduction of this magnitude will severely disrupt obstetrical care in Utah imposing great risk on the high number of children being delivered in the state each year.

The University of Utah currently graduates 5 residents per year with the anticipated likelihood of 6 residents per year pending RRC approval. However, only 50% of the graduates stay in Utah to practice, while the rest move on to training or practice in another state. The 2 or 3 physicians that stay are not enough to replace the number of retiring OB/GYNs or to cover the demand generated by the state female population. To maintain the current level of service, Utah needs to add at least 27 OB/GYNs per year, though current trends suggest that the need may be even greater. Despite Utah's ability to fill deficits with out-of-state recruits, the current rate by which they are being added to the workforce still puts the state OB/GYN capacity below optimum levels.

It has been proposed that the University of Utah residency expand its program output to 10 residents per year or possibly more in order to meet statewide demand. However, initial discussions with program directors have shown that there is not enough clinical capacity at the current rotational institutions to expand beyond 7 residents. In looking at statewide OB/GYN data, the UMEC feels that there may be potential to expand beyond the university environment into different institutions that are able to provide residents with enough clinical volume to meet RRC curriculum requirements. Options to be explored include starting a second residency program in the state, increasing OB/GYN exposure of family practice residents, and exploring the increasing trend of laborists (OB/GYNs that only deliver babies). Implementing any of these plans will help increase the number of providers in this specialty and reduce the workload and liability of existing OB/GYNs in the state.

General Surgery

In August 2003, researchers from the University of California, Los Angeles (UCLA) released a study showing that the aging of the U.S. population will result in significant growth in surgical services (Etzioni et al.). They predicted that the demand for some surgical specialties will increase by nearly 50% by 2020, and that the demand for general surgery will increase 13% by 2010 and 31% by 2020. Despite these increases, National Resident Matching Program (NRMP) figures show that the number of residents entering general surgery training has remained flat over the last 10 years. If current trends continue, there will not be enough surgeons to meet the growing demands of the aging population.

A national shortage of surgeons will adversely affect the population in Utah. The state currently relies heavily upon the national pool due to limited local training capacity. The University of Utah general surgery program currently graduates 5 residents per year, many of whom will not end up in general surgery practice. The strategic goal of the program is to place about 25% of their trainees in academic surgery, 25% in laboratory research, and 25% in subspecialty practice. This leaves only 25% (1 graduate) for general surgery practice, with a 50/50 chance of him or her leaving Utah to practice in another state. Conservative estimates show that Utah needs to recruit at least 7 general surgeons per year just to accommodate physician retirement and population growth. Under current conditions, Utah can expect to see a severe shortage of

general surgeons as baby boomers enter retirement and demand more surgical services over the next 10 years.

The impending shortage of surgeons in Utah has led to discussions on expanding the general surgery residency program at the University of Utah. Current estimates show that there is enough clinical capacity in order to do so. On average, Utah residents see a higher number of cases than their national counterparts. Prior to resident work hour restrictions, they averaged 1,300 to 1,400 cases over the course of their training, while most residents are required to see only 500 to 1,000 cases. Even after the restrictions were imposed, Utah residents still averaged 1,000 to 1,100 cases over the course of the five year training program.

Despite the high clinical volume, there are still many obstacles that currently hinder general surgery program expansion and retention in both urban and rural Utah. The following reasons have been cited:

- 1) The ACGME controls the number of surgery residents that are allowed to train each year for the entire nation. Therefore, if a program expands in another state, it may be difficult for the Utah program to expand due to the limited number of slots that are allowed nationally.
- 2) Surgeon incomes in Utah are lower than the national average.
- 3) Most openings in Utah are for rural practice and most surgeons want a practice with more control of work hours. Rural practice is more likely to be solitary, on call, and therefore, less attractive.
- 4) Surgeons in rural practice complain that their patients want to travel to Salt Lake City for their surgical care due to the perception that surgical care is inferior in rural areas.

The UMEC recommends further examination of the issues outlined above along with any other factors that may inhibit the recruitment and retention of general surgeons in Utah to help alleviate the shortage of physicians in this specialty.

Dermatology

In January 2004, the American Academy of Dermatology released the results of their workforce study indicating that all signs were pointing towards a dermatology workforce shortage. They found that new patients were required to wait an average of 36 days for an appointment and that over 1/3 of dermatologists in the U.S. were looking to add more associates to their practice. Of those that were seeking to expand, approximately 57% had looked for more than 6 months before filling the position. Other indicators such as the increased use of midlevel providers were also included in their overall assessment of the U.S. dermatology workforce.

The situation in Utah is very similar to the national environment. Comparative AMA data shows that the dermatologist to population ratio in Utah is very close to the national average. In 2001, the U.S. had a dermatologist to population ratio of 3.34, while Utah had a ratio of 2.94, a difference of only 0.4 providers. In addition to being similar in size, Utah's dermatology workforce is also similar in characteristic to the national workforce. In 2003, over 39% of the dermatologists in Utah reported extended wait times for new patient appointments (31 days or

more), with the longest wait time being 120 days for several providers. Not only are new patients being required to wait for a prolonged period of time, but they also run the risk of not being accepted at all since 66% of the providers in Utah reported having practices that were full or nearly full. With so many providers operating at full capacity and multiple institutions advertising positions for dermatologists in the state, it is apparent that Utah is also experiencing a shortage of dermatologists.

The limited supply of dermatologists has been a result of the fixed number of residents graduating from U.S. dermatology programs. Over the past 20 years, there has been no funding to increase training slots despite the high number of applicants interested in pursuing this specialty.²⁰ The same can be said for Utah, where only 2 residents graduate from the local training program each year. Of those that complete training in Utah, only 27% end up practicing in state while the rest are lost to national competition. This means that on average, Utah only retains 1 resident every 4 years, which is not enough to meet the growing statewide demand. The latest statistics show that the state needs to recruit at least 10 dermatologists per year just to maintain current capacity. At present there is enough instructional and clinical volume to expand the state training program up to 3 or 4 residents per year, however there is no funding available to take advantage of this excess capacity.

The issue of limited residency funding has been recognized by the American Academy of Dermatology as well as pharmaceutical and device manufacturers. To help remedy the situation, they collaborated to fund a workforce initiative known as the Dermatology Residency Support (DRS) Program to help train 30 additional residents over the next 3 years. The University of Utah dermatology residency program will pursue these funds in 2007 to expand their residency program to 3 slots per year. Utah should continue to expand this residency to its maximum capacity to help increase the likelihood of program graduates remaining in Utah practice.

Urology

Urology is currently high on the list of specialties in greatest demand in the U.S. Recent estimates show a projected increase of 35% in urologic surgeries by 2020. In contrast, the number of residents graduating from urology training programs has continued to decline over the last decade (Etzioni et al.). Over the last 10 years, urology has experienced a 38% decrease in the number of first year slots offered through the NRMP, with an anticipated likelihood of further decline. Currently there are only 245 residents being trained in the U.S., which is enough to replace the number of retiring urologists, but not enough to service the increasing demand of the aging population.

The supply of urologists in Utah is as limited as the rest of the nation. Current figures show that there are only 47 urologists actively practicing in the state, or 2 urologists per 100,000 population. This is significantly below the American Urological Association's (AUA) recommended ratio of 3 per 100,000. To meet the AUA's sufficiency benchmark, Utah would need to immediately add 24 urologists to the workforce.

²⁰ NRMP: In 2004, there were 894 applicants for 263 positions nationwide.

The task of adding more urologists to Utah is extremely difficult under current conditions. At present, Utah trains only 2 urology residents per year, and retains only 23% of those that are trained here in the state. This equates to approximately 1 urologist every 2 years, which is not enough to replace the number of retiring urologists or to service the needs of the baby boomer population. To maintain current capacity (2 per 100,000) Utah needs to recruit at least 3 urologists per year, but has been unable to do so for a number of years. Since 1998, the state has had a net gain of only 2 urologists, and it is anticipated that the gap between supply and demand will increase as more providers exit the workforce due to retirement over the next few years.²¹

Urology also faces a problem with geographic distribution. It is very difficult to place these physicians into a rural environment due to the population requirements of this specialty. On average, it takes a minimum of 35,000 people to sustain a urologist in a given area. St. George and Logan are the only places outside of the Wasatch Front with the population density to support more than one urologist in the community, while other rural counties are forced to do without providers in this specialty.

To address the problems associated to the supply and distribution of urologists in Utah, the UMEC recommends an expansion of the urology residency program to increase the number of urologists entering the state workforce each year. Although it is not yet possible to sustain urologists in rural areas, the UMEC encourages the development of rural rotations in this specialty so that the populations in those communities have some access to providers in this specialty. Information pertaining to the selection of rotation sites may be obtained from patient origin records to determine if certain communities have greater incidences of urological disorders.

Cardiology

In 2001 the American College of Cardiology (ACC) conducted a review of the cardiology workforce and concluded that the U.S. will face a serious shortage of cardiovascular specialists. They found that various “demand catalysts” would considerably widen the gap between the number of available providers and the number of services being requested by the growing elderly population. In light of these findings, they recommended that immediate action be taken to minimize the risks imposed upon the population from a cardiologist shortage. The following action items were developed by the ACC as ways to increase the output of cardiologists in the United States:

1. Increase the number of approved cardiology training positions
2. Identify public and private sources of funding for cardiology training
3. Identify and publicize models where academic institutions have partnered with private cardiology groups to enhance the training process
4. Encourage cardiologists to defer retirement

Although the ACC concluded that the U.S. was facing a cardiologist shortage, they made no recommendation on the appropriate number of cardiologists required for a given population. The lack of a national benchmark makes it difficult to assess the cardiology workforce in Utah,

²¹ UMEC Data: In 1998, Utah had 45 urologists, and in 2003, Utah had 47 urologists.

however all variables indicate that the state is headed towards a serious cardiology workforce shortage. The UMEC survey showed that 44% of Utah cardiologists are over the age of 55, and approximately 46% plan on retiring in the next 10 years. When asked about the current status of their patient care practice, 55% indicated that their practice is nearly full and 10% indicated that their practice was completely full and unable to accept new patients. The percentage of providers (46%) exiting the workforce in the next 10 years will translate into increased workload for the limited number of cardiologists remaining in the workforce; this will result in extended patient wait times and decreased quality of care.

The challenge of adding more cardiologists to Utah is no easy task. Current estimates show that Utah will need to add at least 6 cardiologists to the workforce each year just to maintain current capacity with the anticipated likelihood of increased demand by the baby boomer population. Currently, the state has only one cardiology training program that graduates 4 fellows per year in general cardiology, 3 in transplant cardiology, 2 in electrophysiology, and 2 in interventional cardiology. Out of the 4 fellows that graduate from general cardiology, approximately 50% to 75% go on to further subspecialty training, leaving 1 cardiologist available for the workforce with only a 30% likelihood of Utah practice. As for the fellows in subspecialty training, nearly 100% leave Utah upon graduation for practice in another state.

At the current time, the University of Utah is unable to expand beyond existing levels due to clinical constraints. However, they are in the process of restructuring a clinic to take on more volume and may possibly increase the number of fellows trained in general cardiology to 5 per year in the next 3 to 5 years. It is unlikely that there will be any expansion in cardiology subspecialties due to the limited clinical capacity that is available in the state to fulfill RRC requirements. It is recommended that the state re-examine this issue in 5 years after the program has reorganized to determine whether or not there is further expansion capability for the purpose of meeting state workforce needs.

Geographic Distribution

Over the past few years, much has been done to restructure the physician workforce in Utah. Despite these efforts, the state has been unable to overcome the challenge of physician maldistribution. As of May 1, 2003, the state Office of Primary Care and Rural Health reported that every county in Utah still had some form of Health Professional Shortage Area (HPSA) designation from the Health Resources and Services Administration (HRSA). Areas that qualify for this sort of designation exhibit common characteristics of insufficient capacity such as overwhelming physician patient loads, extensive waiting periods, and excessive use of emergency departments for routine treatment.²²

The shortage characteristics outlined by HRSA are seen most prevalently in rural Utah. Although 24% of the state's population resides in these regions, only 12% of Utah physicians provide services in these areas. The lack of physicians in rural Utah has forced communities to augment or substitute physician care with midlevel providers. However, it is becoming

²² A map of the Utah HPSA designations is available in Appendix E.

increasingly difficult to attract physician assistants and nurse practitioners to rural areas due to the growing demand for their services in urban subspecialty practice. If current trends continue, rural communities will experience even greater difficulty attracting required clinicians, thus posing a great risk to the number of people residing in those areas.

The difficulty of attracting physicians into rural areas is attributed to a variety of factors. One common deterrent is a physician's unfamiliarity with the rural environment. According to the 2003 survey data, only 24% of the physicians in Utah grew up in a rural area, while the rest were raised in urban or suburban communities. The lack of exposure to rural environments leads many physicians to believe that rural areas are undesirable places to practice. Many physicians fear that they will be isolated from the medical community and prevented from access to the latest medical technologies, while others are concerned about spouse and family, reimbursement and educational debt—all of which can contribute to a decision to choose urban/suburban over rural practice.

In an effort to increase the number of physicians in rural communities, a variety of state and federal programs have been developed to entice physicians into rural areas. The Utah Office of Primary Care and Rural Health coordinates several programs aimed at improving the health of underserved residents. Each program requires a minimum two-year service commitment from the healthcare provider, with the option of extension for additional financial assistance. The following is a list of the programs administered by the Office:

1. Utah Health Care Workforce Financial Assistance Program: A 100% state funded initiative that provides scholarships and loan repayment assistance.
2. Match Federal Service Corps Program: A federal program that provides a one to one match of state dollars that are encumbered for scholarship and loan repayment assistance.
3. National Health Service Corps Program: A federally funded loan repayment assistance program.

In addition to the scholarship and loan repayment programs, the Office also administers the Conrad State 30/J-1 Visa Waiver Program. This federally funded initiative allows states to recruit up to 30 international medical school graduates (IMG) to fill vacancies at health care facilities servicing medically underserved populations. Sites wishing to exercise this option must demonstrate that they have been unable to fill a vacant position with a U.S. citizen or permanent resident for at least one year. Recruited IMG physicians are required to work a minimum of 40 hours a week and complete a three-year service obligation to the site sponsoring their work visa. Since 1996, Utah has recruited 66 IMGs, and retained 51 of them in the state. Almost half of these physicians work in rural counties, while the rest are employed in Salt Lake, Utah, and Weber County (*See Figure 28*).

Figure 28. Distribution of IMG Physicians in Utah, by County and Specialty, 2002

RURAL	#
Cache	2
Carbon	1
Duchesne	2
Kane	2
San Juan	2
Tooele	4
Uintah	1
Washington	11
Subtotal	25
URBAN	#
Salt Lake	22
Utah	2
Weber	2
Subtotal	26
UTAH	51

SPECIALTY	#
Anesthesiology	5
Cardiovascular	2
Internal Medicine ¹	29
Gastroenterologist	5
Nephrologist	1
Neurologist	3
Pediatrician	5
Radiologist	1
Total	51

Source: Utah Office of Primary Care and Rural Health

1. Internal medicine physicians were hired based on their sub-specialty. The Office of Primary Care and Rural Health did not provide a break out of the sub-specialties.

Although programs such as the ones administered by Utah’s Office of Primary Care and Rural Health have made valuable contributions to underserved communities, more must be done to ensure a stable pipeline of physicians into rural areas. The National Rural Health Association (NRHA) suggests using a two-pronged approach that distinguishes the difference between the recruitment and retention of rural physicians. They define recruitment as the processes occurring prior to the physician’s arrival in the community and retention as those that occur after (NRHA 1998). The coordination of these processes will increase the likelihood of physicians staying in rural areas.

The recruitment of rural physicians begins with candidate selection. Multiple national studies have demonstrated that physicians with rural backgrounds are more likely to practice in rural areas (Abercrombie 2000, Acoste 2000). In fact, 60% of those interested in rural practice as senior medical students come from rural backgrounds (Bowman 1994). The correlation between background and practice location can also be seen in Utah, where nearly half of all rural physicians reported attending high school in a city or town with less than 20,000 people.

Although the types of individuals most suitable for rural practice have been identified, the actual task of harnessing rural students is a difficult challenge. According to the Association of American Medical Colleges (AAMC), the number of medical students coming from rural

backgrounds has declined at a staggering rate. In 1983, there were 4,000 rural students admitted to U.S. allopathic medical schools, but by 1999, only 2,000 students were admitted. Rural health advocacy groups blame this decline on the limited exposure to health professions and the restricted number of educational resources in rural areas.

Communities attempting to retain physicians in rural areas must identify factors that keep physicians satisfied and interested in rural practice. Variables such as professional development, financial incentives, and social opportunities have all been identified as important criteria to physicians selecting future practice location. Approaches that have been used include: subsidized housing, loan repayment, locum tenens opportunities in urban areas, and church and community activities. Successful promotion and implementation of these and other incentives will make rural communities more attractive to physicians exploring the option of rural practice.

Projected Demand and Supply of Physicians

A. Projected Demand for Physicians

The demand for physicians is driven by many factors, but the one with the most influence on future workforce needs is population growth. Current projections show that the population in Utah is growing at a rate that far exceeds the state's training capacity. Even with the recent decline in growth, Utah still remains on the Census Bureau's top10 list of fastest growing states. The latest estimates ranked Utah as the seventh fastest growing state in the country. By 2020, Utah is expected to have a population increase of over 45%. To provide the same level of service to the population, Utah will need to add at least 103 physicians to the workforce each year, for a total of 1,862 physicians.²³

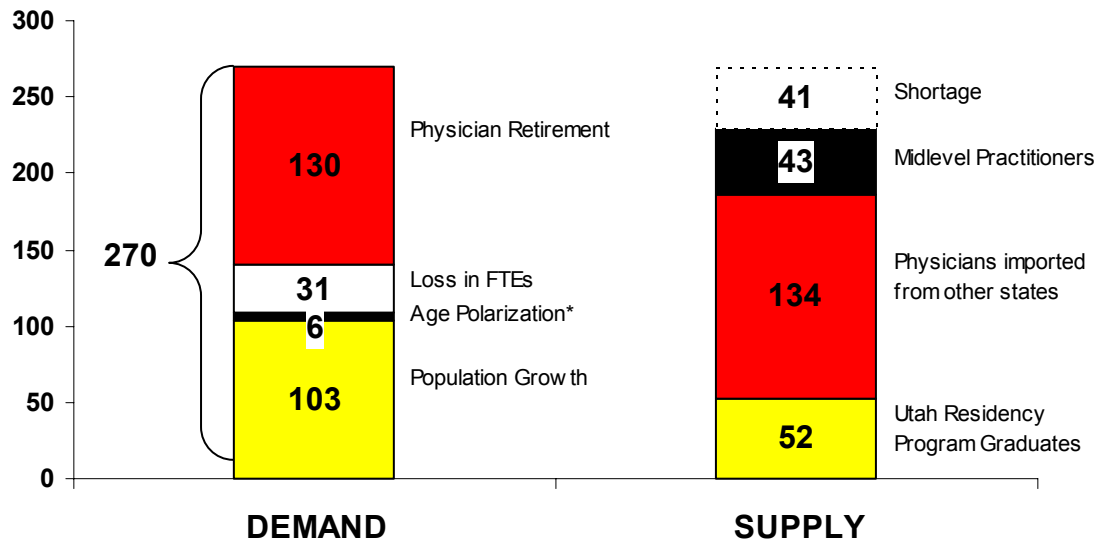
The challenge of adding so many physicians is further complicated by disproportionate growth in the population. Utah's high birth rate and aging baby boomer population will expedite growth in the 0-19 age group and the 65 and above age group, making them the fastest growing segments of the population. By 2010, the population under 19 years of age is expected to increase by 17%, and by 2020, it will increase by over 35%. More startling are the figures for the 65 and above age cohort. By 2020, this segment of the population will increase by over 62%. Current healthcare utilization patterns show that, on average, the number of medical visits for people over the age of 65 was 57% higher than the general population (Office of Public Health Assessment 15).²⁴ Further extrapolations of these data indicate that 6 additional physicians must be added each year to accommodate the projected growth in healthcare utilization among elderly populations.

²³ Although the population in Utah is growing at a rapid pace, the healthy status of the state helps ease the demand for physicians. According to the United Health Foundation's 2003 report on America's health, Utah was the third healthiest state in nation. The low prevalence of risk factors such as smoking, violent crime, and heart disease helped contribute to the state's high ranking. Despite Utah's shortcomings in areas such as prenatal care and occupational fatalities, the combined measures of risk factors and outcomes indicate that Utah will remain a relatively healthy state.

²⁴ Average annual number of medical visits in 2001 for those over 65 years of age was 5.8 visits per person, while the state average was only 3.7 visits per person.

Simultaneous to these changes are the demographic shifts in the physician workforce. Like the rest of the population, the physicians in Utah are also getting older and closer to retirement. As previously mentioned, many plan on reducing their work hours prior to leaving the workforce. This reduction equates to an annual loss of approximately 41 FTEs, or 31 physicians.²⁵ When combined with the 130 physicians that will be retiring, Utah will need 161 physicians to replace those that are exiting the workforce. The various components of demand produce a combined annual need of 270 physicians.

Figure 29. Projected Annual Demand and Supply of Physicians in Utah up to 2020



* Age polarization: Accelerated growth in the youngest and oldest segments of the population. This type of growth increases demand due to the higher incidences of healthcare utilization by individuals in these two age cohorts.

B. Projected Supply of Physicians

Utah has one medical school that graduates approximately 100 students on an annual basis, and 52 residency programs that have a yearly output of 175 to 200 physicians. Only a limited number of physicians that graduate from a Utah residency program will enter practice in the state while the rest leave to fulfill military commitments, pursue further clinical training, or establish practice in another state. Current estimates show that only 52 to 60 Utah graduates remain in state, or roughly 19% to 22% of the projected demand. These graduates replace only half of those that retire in any given year, creating a sizable deficit of physicians.

Utah’s limited training capacity has forced the state to rely heavily upon the national pool of physicians. In the past this has been 50% to 75% of the local workforce. Those who have been willing to relocate to Utah have done so for a variety of reasons. Some are attracted by the research and recreational opportunities, while others are drawn through family or religious ties.

²⁵ The number of FTEs was estimated by dividing the total number of hours lost, 31,400 by 19 years. The number of physicians required to cover those FTEs was determined by dividing the number of lost hours by 53 (average physician work week in Utah).

Regardless of the reason, the presence of these physicians has meant a broader range of medical services for Utah residents and an increased capacity to serve as the Intermountain regional referral center.

However, recruiting from the national pool is becoming increasingly difficult due to the dwindling supply of new providers. Current projections indicate that the nation may be on the verge of a staggering physician shortage. Using a physician forecasting model developed by the federal Bureau of Health Professions, the Center for Health Workforce Studies estimated that the shortage will be in the range of 85,000 to 96,000 physicians.²⁶ These numbers were generated using information on current production levels, physician practice patterns, and healthcare utilization rates. After the release of these figures, a multitude of healthcare organizations publicly voiced their concerns on the impending shortage. In January 2004, the American Medical Association officially shifted their policy position from recognizing a physician surplus to a potential physician shortfall (Stagg 1). Acknowledgement of the impending shortage by influential organizations such as these will eventually trigger national policy changes. However, the time it takes to plan and implement these changes will make it difficult for those already in the workforce as they struggle to meet the increasing demand.

Figure 30. U.S. Medical School Applicants, 1993-2004

U.S. Medical School Applicants, 1993-2004												
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Number of Applicants	42,806	45,360	46,586	46,965	43,016	40,996	38,443	37,088	34,860	33,625	34,791	35,735
Increase / (Decrease)	N/A	2,554	1,226	379	(3,949)	(2,020)	(2,553)	(1,355)	(2,228)	(1,235)	1,166	944
Percentage Change	N/A	6%	3%	1%	-8%	-5%	-6%	-4%	-6%	-4%	3%	3%

Source: AAMC: Data Warehouse: Applicant Matriculants File as of 11/16/2004.

C. Increasing Role of Mid-Level Providers

It is apparent that under current production and practice patterns, the supply of practicing physicians will be incapable of meeting the projected demand for clinical services. As the gap between physician supply and demand widens, mid-level providers will be called upon more frequently to assist with the increasing workload. In the past, the extent to which these providers could be used as physician substitutes was greatly limited, however, recent changes to the laws regulating their profession have enabled them to expand their scope of practice and take on greater responsibility for patient care.

The increasing role of mid-level providers is already evident in Utah. Over the past few years, the state has experienced a substantial increase in the number of practicing physician assistants (PA) and advanced practice nurses (APN). The latest counts showed over 284 PAs and 788 APNs providing patient care in Utah. These figures reflect respective increases of over 35% and

²⁶ The numbers reported above are the midpoints of the projected range of future supply and demand, and future supply and need.

31% over the last four years. An interesting aspect of this growth is the gradual shift in the number of mid-level providers involved in specialty care. Currently, over 47% of PAs and 55% of APNs are employed in a specialty care setting, and it is anticipated that their numbers will continue to rise as physician shortages emerge in the various subspecialties.

To better understand the impact of mid-level growth, their contribution must be quantified in terms of physician equivalents. Although the overlapping nature of their work makes it difficult to categorize their tasks into “mid-level procedures” and “physician procedures,” the WWAMI Center for Health Workforce Studies has developed a method for estimating their contribution. The model uses the number of outpatient visits in a given health service area as the primary unit of analysis. By dividing the number of outpatient visits to mid-level providers by the AMA’s standard measure of a primary care physician FTE, 105 outpatient visits per week, they were able to calculate the physician equivalent of mid-level providers. Using this methodology, the UMEC determined that the clinical contribution of mid-level providers in Utah equates to 43 physicians or approximately 16% of the required physician workforce. With such a substantial contribution, it will be important to monitor mid-level fluctuations as they will impact the physician workforce.

Figure 31. Projected Demand of Clinical Workforce in Utah, 2002 - 2020

Year	Population	NUMBER OF CLINICIANS REQUIRED TO MAINTAIN 2002 RATIO OF 214 PER 100,000 POPULATION					INCREASED UTILIZATION		RETIREMENT			TOTAL	TOTAL
		Physicians	PA	APRN	Total	Population Growth	Medical Visits	Increased Utilization	MD	PA	APRN		
2002	2,321,707	3,894	294	788	4,976	0	8,535,897	0	0	0	0	0	0
2005	2,464,633	4,012	368	812	5,192	216	9,083,205	103	354	37	72	463	782
2010	2,787,670	4,217	566	853	5,636	660	10,315,289	377	968	148	196	1,312	2,349
2015	3,126,736	4,432	871	897	6,200	1,224	11,630,191	580	1,613	261	326	2,200	4,004
2020	3,371,071	4,658	1,340	943	6,941	1,965	12,638,400	427	2,291	469	464	3,224	5,616

D. Workforce Requirements in Subspecialty Areas

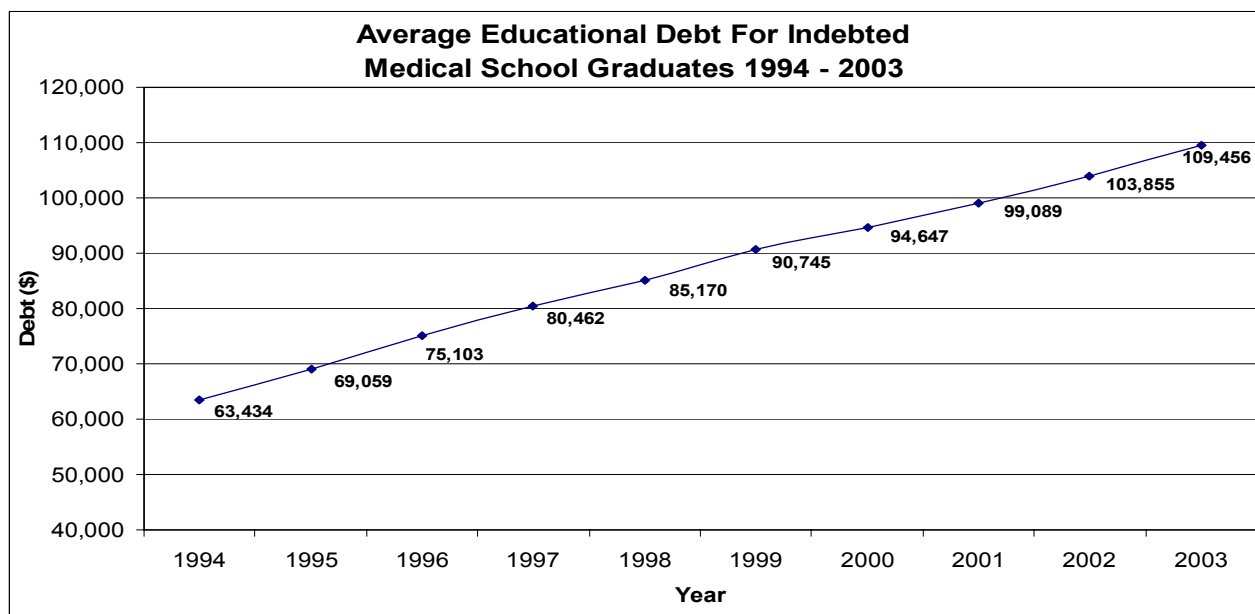
Utah has a high number of specialists serving both the state and regional population. The unique forces that control the demand and supply patterns of each specialty make it difficult to pinpoint a single number that is ideal for a given population. In an attempt to better understand and prioritize the specific workforce needs of the state, the UMEC has developed profiles on the specialties that make up the physician workforce in Utah. Although these profiles only highlight a few of the complex issues associated to each specialty, they provide enough of a starting point from which more research can be conducted. The detailed analysis of each specialty can be found in Appendix D.

Other Trends

A. Student Debt

The rising cost of higher education is a reality that affects students in every profession, but for those pursuing a career in medicine, the burden of financing a medical education continues to escalate. Current figures show that today's medical students are being forced to leverage more of their future earnings in order to become physicians. As of 2002, the average US medical student carried \$104,000 in debt upon graduation, nearly twice the amount of educational debt held by medical school graduates in 1992.²⁷

Figure 32. Average Educational Debt for Medical School Graduates, 1994-2003



The correlation between student debt and physician career choice has changed over time. Studies conducted in the early '80s indicated that student debt had little influence on a resident's decision to enter a particular specialty, but by the end of the '90s, this conclusion no longer held true. A 1996 study by W.L. Colquitt, et al, found that educational debt significantly influenced a physician's decision to enter primary care.²⁸ Other data, such as that of the 2002 AAMC Graduate Questionnaire support this finding citing that 32% of medical students indicated debt as a factor in their decision making process. As the level of educational debt rises, the U.S. can expect to see more medical students exhibiting greater interest in higher paying specialties.

²⁷ American Medical Student Association, "Student Debt: What You Should Know."

²⁸ Colquitt, WL, Zeh, MC, Killian, CD, Cultice, JM Effect of debt on U.S. medical school graduates' preferences for family medicine, general internal medicine, and general pediatrics Acad Med 1996 71: 399-411

B. Lifestyle Choices

Along with concerns over loan repayment obligations, young physicians are also worried about the ability to control their lifestyle. The desire for a family life and outside interests is playing a greater role in the professional decisions of U.S. medical students. The influence of this variable was measured in a study published in the September 2003 issue of the *Journal of the American Medical Association*. Authors examined 1996-2002 data from the National Resident Matching Program, the San Francisco Matching Program, and the American Urological Association Match Program to determine the relationship between lifestyle preference (controllable and uncontrollable) and specialty choice. When controlled for income, work hours, and years of graduate medical education, controllable lifestyle explained 55% of the variability in specialty preference of graduating US medical students.

Figure 33. List of Specialties and their Perceived Associated Lifestyles

Specialties associated with a CONTROLLABLE LIFESTYLE	Specialties associated with an UN CONTROLLABLE LIFESTYLE
Anesthesiology	Family Practice
Dermatology	General Surgery
Emergency Medicine	Internal Medicine
Neurology	Obstetrics/Gynecology
Ophthalmology	Orthopedic Surgery
Otolaryngology	Pediatrics
Pathology	Urology
Psychiatry	
Radiology	

C. Physician Liability Insurance Premiums

Medical malpractice insurance has been a hot topic of debate on both the national and local agenda. Larger payouts to successful plaintiffs coupled with decreasing investment income for insurance companies has forced major carriers to exit the market reducing the supply of insurers available to provide physician coverage. This has resulted in double digit premium increases in many specialties causing physicians to reduce their scope of practice, leave states, or choose early retirement.

The status of medical liability varies significantly by specialty and by state. Specialties considered “high risk” such as emergency medicine, general surgery, orthopedic surgery, neurosurgery, obstetrics/gynecology and radiology, carry insurance premium rates that can cost up to ten times that of other specialties. Data from the Utah Medical Insurance Association (UMIA) showed that in 2005, family practitioners who did not perform surgery paid an annual premium of \$15,488 whereas neurosurgeons paid \$92,257.²⁹ Although the compensation for physicians in “high risk” specialties may allow for the absorption of higher premiums, a variance

²⁹ Rates indicated are for physicians no longer in training and are before any qualifying discounts.

of this magnitude has made it difficult for many providers to maintain the same level of service. This is most notable in the field of obstetrics where some providers have ceased to deliver babies in an attempt to reduce their liability costs. If current trends continue, it is highly likely that fewer physicians will enter “high risk” specialties exacerbating the national shortage of physicians.

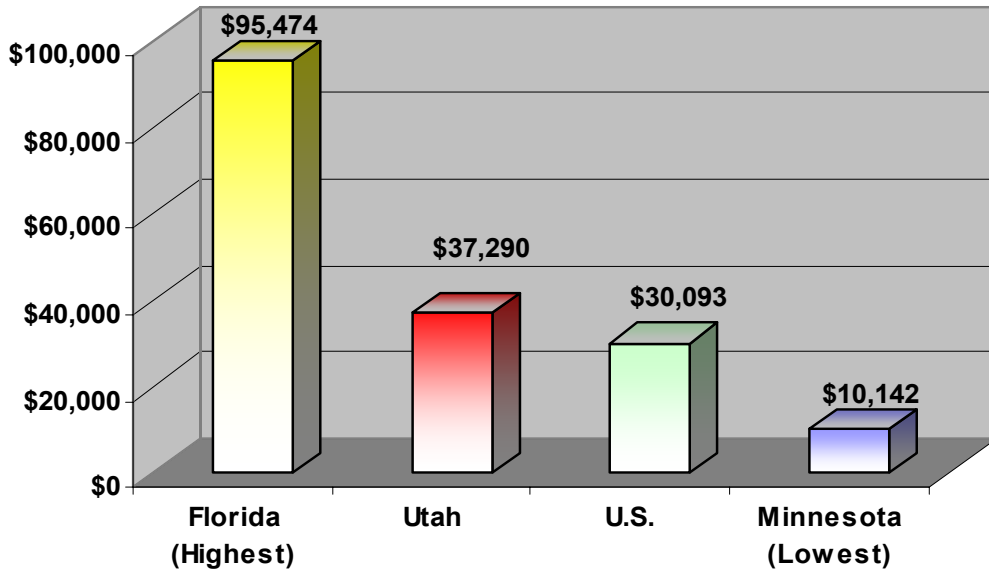
Figure 34. Utah Malpractice Insurance Rates for Selected Specialties, 2005

Allergy Pathology Physical Medicine & Rehabilitation Psychiatry	\$10,285	General Surgery Hand Surgery Plastic Surgery Cardiovascular Surgery Orthopedics Thoracic Surgery Vascular Surgery	\$60,649
Internal Medicine (Non Invasive) Pediatrics (No Surgery)	\$11,359	Obstetrics & Gynecology	\$85,649
Family Practice (No Surgery)	\$15,488	Neurosurgery	\$92,257

Source: Utah Medical Insurance Association, \$1 million/ \$3 million policy

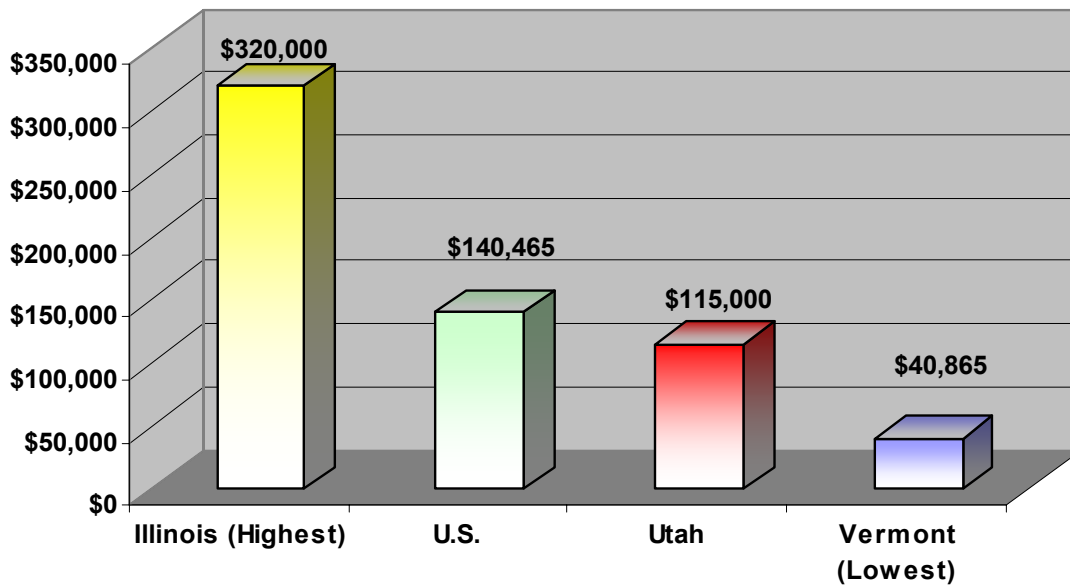
A comparative analysis of malpractice data by state revealed significant differences in premiums paid by physicians in various states. Industry statistics by Weiss Ratings, Inc., an independent insurance rating agency, showed that in 2002, the median premium in Utah was 24% higher than the national rate, but over 60% lower than Florida, the state with the highest insurance premium (*See Figure 35*). These differences are primarily due to the frequency of lawsuits in a state, amount of insurance payouts, and profitability of insurance carriers. In an attempt to alter these variables and control malpractice costs, some states have implemented strategies to place limits on both the number of lawsuits and the amount of jury awards. In 1996, Utah joined in the tort reform movement and placed a cap of \$250,000 on non-economic damages to limit the amount of money that could be awarded to patients for intangible injuries such as pain and suffering. Ironically, data from Weiss Ratings, Inc. show that states that have imposed caps experienced sharper increases in median annual premiums than those that did not suggesting that other variables need to be examined to effectively control malpractice costs.

Figure 35. Median Medical Malpractice Premiums, Selected States, 2002



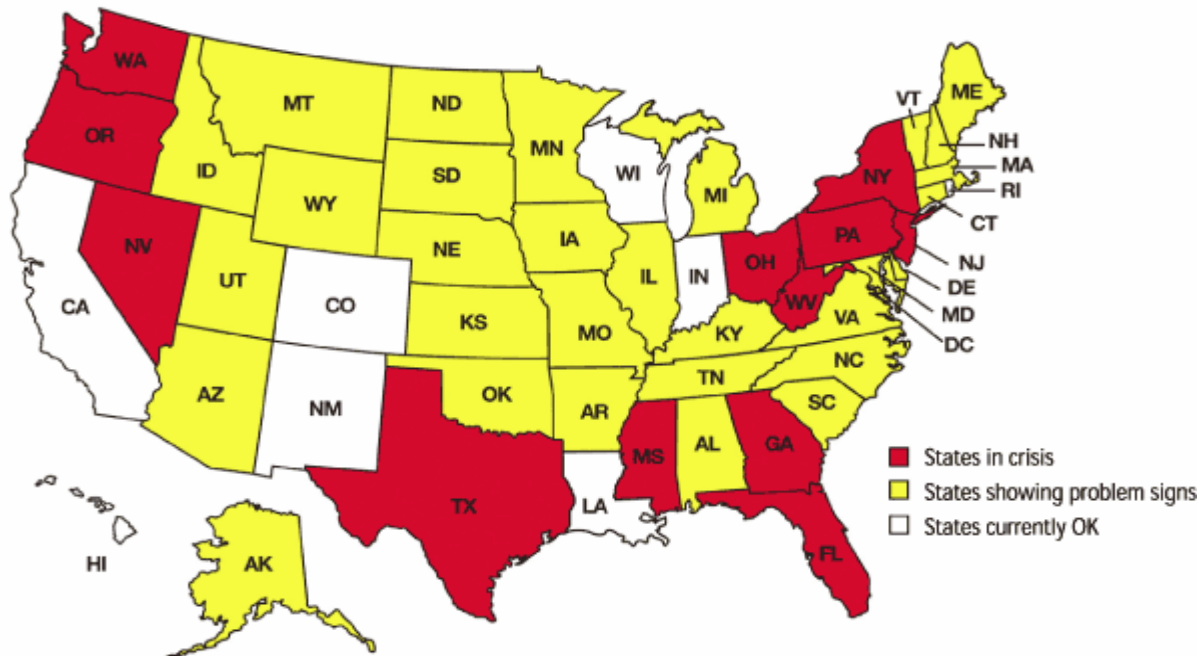
Source: Weiss Ratings, Inc.

Figure 36. Median Medical Malpractice Payout, Selected States, 2002



Source: Weiss Ratings, Inc.

Figure 37. Status of Medical Liability System, by State, 2002



Source: American Medical Association analysis, June 2002. Available at: www.ama-assn.org

Physician Reimbursement Rates

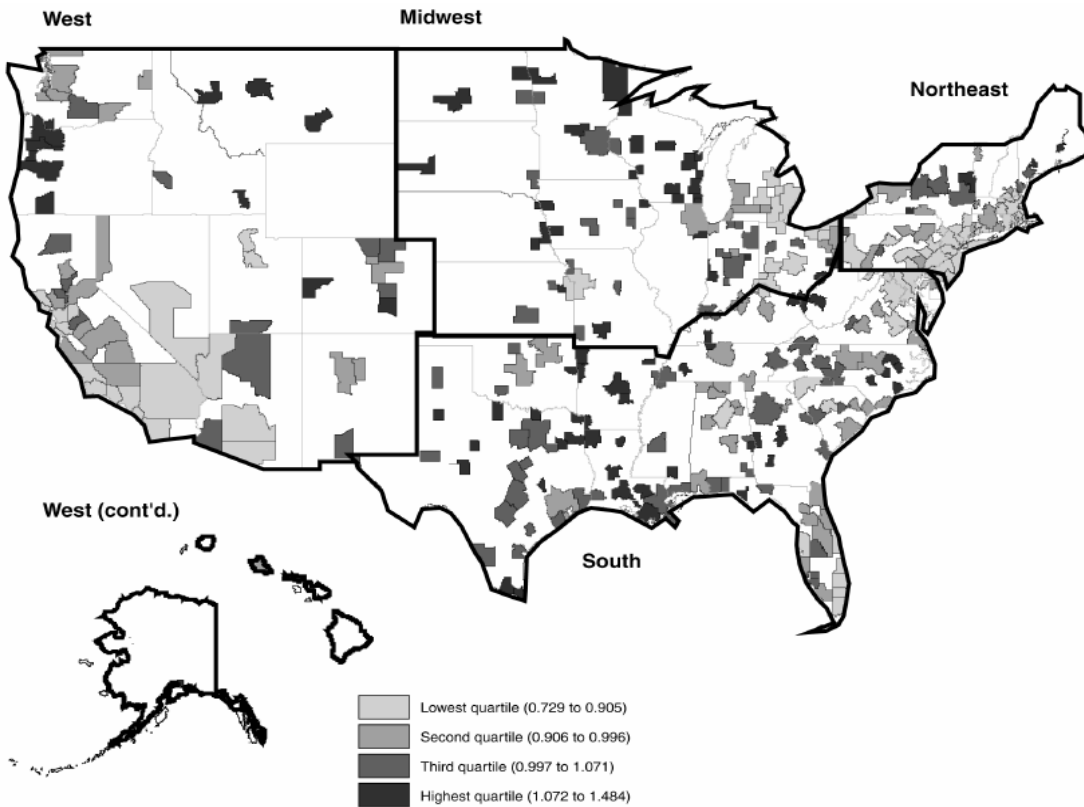
Physician reimbursement rates vary significantly by specialty and by state and are based on a variety of factors such as physician work, practice expense, malpractice expense, and geography. Data obtained from the Kaiser Family Foundation revealed that physicians in Utah are being reimbursed by Medicare and Medicaid at rates that are lower than many other states. A review of the Medicaid Physician Fee Index for 2003 showed that Utah physician fees for all services were above the national average by 1%, but below that of 32 other states. States such as Alaska (128% higher), Arizona (55% higher), Delaware (49% higher), and Nevada (43% higher) had fees that were significantly higher than the national average.³⁰ Although Medicaid physician fees in many states are above the national average, most are still below Medicare payments by approximately 38%. Alaska, Arizona, Delaware, and Wyoming were the only states to pay above Medicare rates.

A review of Medicare Program Payment data for 2001 showed that the U.S. paid approximately \$6,474 per person served by Medicare. Over 16 states received payments that were higher than this amount, with the District of Columbia topping the list at \$9,262. In contrast, Utah received \$4,860 per person, which was 33% below the national average. Data from the United States Government Accountability Office (GAO) show that private insurers also vary the amount by which they pay their providers according to geography. In August 2005, the GAO published a report that looked at the factors linked to the wide variation in healthcare prices paid by the

³⁰ These fees represent only those payments made under FFS Medicaid. The Medicaid fee index is a weighted sum of the ratios of each state's fee for a given service to the national average, using 2000 expenditure weights.

Federal Employees Health Benefits Program (FEHBP).³¹ Their study found that FEHBP paid higher prices for physicians in metropolitan areas of the Midwest and lower prices for physicians in metropolitan areas of the Northeast. When looked at by state, Utah’s two metropolitan areas fell into the lowest quartiles of the adjusted physician price index (*See Figure 38*). In 2001, physicians in the Salt Lake City-Ogden metropolitan area were paid at 83.3% of the national index (1.0) and those working in the Provo-Orem metropolitan area were paid at 90.6% of the national index, ranking them at 295 and 240 out of 319 metropolitan areas.³² At this time it is difficult to determine the exact level of variability in Utah due to the proprietary nature of private insurance fee schedules, however the preceding data help confirm anecdotal reports of physicians in Utah being underpaid relative to their national counterparts. Further research is required to determine the impact of reimbursement on the state workforce and the future implications of an increasingly national physician market.

Figure 38. FEHBP PPO Adjusted Physician Price Index Quartiles in 319 Metropolitan Areas, 2001

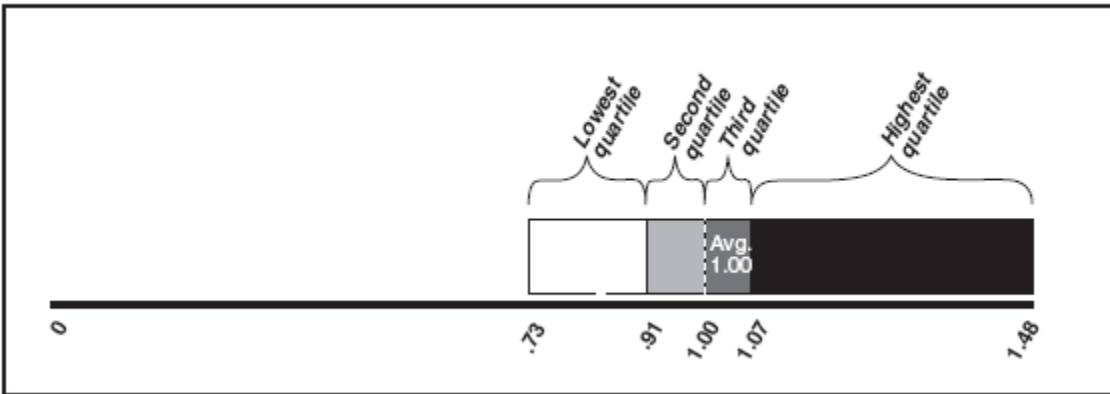


Source: GAO, “Federal Employees Health Benefits Program: Competition and Other Factors Linked to Wider Variation in Health Care Prices.” August 2005.

³¹ The Federal Employees Health Benefits Program (FEHBP) provides health insurance to federal civilian employees, their families, and retirees. Administered by the Office of Personnel Management (OPM), FEHBP contracts with private insurers to provide health benefits. As such it is the largest private health insurance program in the country, covering nearly 8 million enrollees (GAO 11).

³² Physician prices were adjusted to remove the effect of geographic variation in the costs of doing business (wages, rents, etc.) and differences in the mix of services among metropolitan areas. Physician prices were converted to an index by dividing the average physician price per service in a metropolitan area by the average physician price in 319 metropolitan areas. The average physician price index value is 1.00.

Figure 39. Distribution of Physician Price Indices Across 319 Metropolitan Areas, 2001



Source: GAO, "Federal Employees Health Benefits Program: Competition and Other Factors Linked to Wider Variation in Health Care Prices." August 2005.

Summary of Findings

- 1) In 2003, there were 4,484 physicians working in Utah. Of those, 3,894 were active patient care providers, meaning they spent more than 50% of their workweek on direct patient care or teaching. This supply equates to approximately 165 physicians per 100,000 population which is below the recommended range for physician workforce adequacy (290 per 100,000).
- 2) The characteristics of the Utah physician workforce mirror that of the national workforce. There is little variance among local and national data on variables such as age, race, and gender, but there is significant difference in income levels between Utah physicians and their national counterparts. On average, Utah physicians earn less than their national counterparts in both primary care and specialty care.
- 3) Over 86% of the physicians practicing in Utah have had some previous contact with the state either through upbringing, medical education, or residency training. Of the physicians that have a Utah connection, the greatest proportion consists of those that did not attend high school or medical school in Utah, but completed a residency in Utah.
- 4) In 2003, nearly one-third (29%) of Utah physicians practiced in generalist fields while the rest (71%) practiced in subspecialty areas. There is growing concern over whether or not the current state training capacity is enough to meet the statewide needs in primary care. Decreased national interest in family practice has forced a reduction in both the number of family practice training programs as well as the size of the remaining programs. For the next few years, it will be important for Utah to maintain the size of the four family medicine residency programs to help fulfill the primary care needs of the state.

- 5) Although there is a high ratio of physicians in specialty practice in Utah, shortages still exist in many specialties. The specialties with the greatest need include: pediatric neurology, child & adolescent psychiatry, adult psychiatry, obstetrics & gynecology, general surgery, dermatology, urology, and cardiology.
- 6) Despite efforts at improving geographic distribution, the percentage of physicians practicing in rural Utah is still far below optimum levels. In 2003, approximately 24% of Utah's population lived in rural counties, but only 12% of the physician workforce provided services in those areas.
- 7) Under current conditions, Utah will need to recruit up to 270 physicians per year due to population growth, age polarization, loss in FTEs, and physician retirement. State residency programs will only be able to meet 19% to 22% of the projected annual demand (52 to 60 physicians), leaving a huge deficit to be covered by out-of-state recruits (210 to 218 physicians). However, current studies indicate that lack of expansion in the national pool will result in a nation-wide shortage of physicians making it difficult to import providers from other states. Even if Utah was successful in adding out-of-state recruits at the same level that it has in the past, the state will still face an annual shortage of 84 physicians.
- 8) The physicians graduating from today's medical schools are faced with many issues that may affect their practice choices. Student debt, future lifestyle, malpractice insurance, and reimbursement are all factors that can play a key role in specialty selection and geographic distribution. The high number of variables influencing physician practice location and specialty selection necessitates increased efforts by both public and private entities to enhancing the state's appeal in the national market.

Policy Recommendations

- ❖ **Develop a Comprehensive State Healthcare Workforce Plan:** Utah has a high number of health profession training programs working independently to meet state workforce needs. Although their autonomous efforts have produced many well trained professionals, lack of coordination makes it difficult to determine the need and the contribution of each profession within the increasingly integrated and structured team approach of today's healthcare system. In some instances, the presence of providers in one profession may eliminate the need for or lessen the shortage of providers in another. Therefore, the UMEC encourages the development of a comprehensive state healthcare workforce plan that outlines the need for each health profession as they relate to one another and coordinates the training of such to maximize limited state resources, i.e. funding, faculty, and infrastructure.
- ❖ **Identify and target students that are most likely to remain in Utah practice:** National and local data show that the greatest predictor of future practice location is graduate medical education. Therefore, the UMEC highly encourages program directors to identify students that are likely to remain in Utah practice and assist in finding local opportunities for them while they are enrolled in the residency or fellowship program. Methods that have been used to assist trainees include: posting job opportunities on websites, coordinating with community physicians, and hosting job fairs.
- ❖ **Prioritize Statewide Needs by Specialty:** Since there are limited funds and faculty for state residency programs, Utah should prioritize its statewide needs by specialty so the specialties in greatest need by the population receive the most urgent consideration. Even with the increasing presence of mid-level providers in subspecialty practice, emphasis must still be placed upon enhancing and increasing the physician workforce due to the high level of expertise required in many specialty areas.
- ❖ **Explore Ways to Increase Program Output:** It is apparent that the current number of residents graduating from Utah training programs is not enough to meet the growing needs of the state; therefore action should be taken to expand program output either locally or regionally to maximize the supply of providers for the growing population. This includes exploring new sources of GME funding for residency program expansion, increasing faculty recruitment either through economic incentives or professional opportunities, and collaborating with out-of-state training programs to share resources and swap resident training experiences in specialties in which there is limited local capacity.
- ❖ **Increase Rural Training:** Despite efforts to increase the number of physicians in rural areas, Utah still has a disproportionately low number of providers serving the state's rural population. Efforts should be made to increase exposure to rural medical practice so trainees have an opportunity to familiarize themselves to a rural environment increasing the likelihood of future practice in those areas.
- ❖ **Explore Recruitment and Retention Incentives:** Current data suggest that physicians in Utah are underpaid relative to physicians in other states. This discrepancy needs to be

addressed if Utah wants to maximize its ability to recruit and retain more physicians. It is highly encouraged that policymakers explore ways to increase the state's competitiveness in the national market either through the use of financial incentives or through increased promotion of the state's positive characteristics such as quality of life and practice control.

- ❖ **Investigate New Healthcare Delivery Models:** The growing national and local shortage of physicians will inevitably translate into increased reliance upon other professionals within the healthcare system. The UMEC encourages increased exploration of new healthcare delivery models to help increase provider effectiveness and efficiency. Some options to consider include increased use of technology, team oriented approaches, and systematic referrals.
- ❖ **Improve Data Collection:** In a time of limited resources, access to quality information is critical to the development and implementation of effective and fiscally sound policies. Unfortunately, there is little concurrence on the best methodology to be used for obtaining workforce information. A review of the data published by various organizations reveals a multitude of techniques used for estimating the size of the workforce. The technical differences between each methodology produce wide variances among sources making it difficult to assess the true size of the workforce.

Resolving the inconsistencies that exist among various sets of data is a challenging task. The unique mission of each organization makes it difficult to implement a uniform approach to data collection. What may be sufficient for one organization may not be enough for another. However, there are times when the data collected by various organizations overlap. In this case, time and money has been wasted in the collection of duplicate data. The UMEC highly encourages collaboration among various agencies in the collection of physician data so that policy recommendations can be made using the best available information.

APPENDIX A – Survey Methodology

A. Research Sample

The UMEC's data collection efforts were greatly aided through the collaboration of the Utah Department of Commerce's Division of Professional Licensing (DOPL). Through DOPL, the UMEC was able to obtain a list of every licensed physician in Utah. In 2003, there were 7,410 physicians listed as being licensed in the state. Access to this critical information allowed a census of the entire physician population. The ability to contact every licensed physician eliminated the need to establish selection criteria and removed the errors associated with sampling a population.

B. Design of Survey Instrument

In designing the 2003 physician survey, the UMEC critically analyzed the strengths and weaknesses of the 1998 survey. One of the primary goals was to simplify the questionnaire and reduce the amount of time it took for a physician to accurately fill in the responses. In order to achieve this, it was necessary to review each question and determine its contribution to the overall assessment of the physician workforce. Similar questions pertaining to a physician's practice characteristics were consolidated, while questions asking for information that could be obtained through DOPL were eliminated from the survey. The result was a more streamlined version of the questionnaire that would be able to yield more useful information.

Another goal in designing the workforce survey was to increase the comparability of the data with other agencies assessing the physician workforce. The UMEC compared the workforce surveys of various

public and private agencies and found that many of them had borrowed questions from the 2001-2003 New York State Education Department Physician Survey. In reviewing the New York survey, the UMEC gained many valuable insights on the various techniques used to survey physicians. We chose to borrow and incorporate a few elements of the New York survey into the Utah survey to better facilitate cross comparison between states. After multiple internal and external reviews, the UMEC approved a three-page, 22 question survey.

C. Survey Timeline

Once the final version of the survey was complete, the UMEC entered into an agreement with DOPL to mail out the survey along with their physician license renewal notice. This arrangement added validity to the survey and increased the likelihood of a response from the physicians. The first mailing of the survey went out on December, 2002. The close proximity of this date to the holiday season made it necessary to allot additional time for the physicians to return the survey. Once responses from the first mailing were entered, the UMEC sent out a second mailing to the non-respondents on February 15, 2003. The third mailing was eventually sent out by April 15, 2003.

D. Data Entry and Analysis

The 2003 Utah Physician Survey was processed using forms and databases created in Microsoft Access. Once the data entry was complete, the information was imported into a software package known as SPSS for statistical analysis.

APPENDIX B – Utah Physician Survey

This survey is designed to help in the assessment of healthcare services offered in Utah. The information you provide will help Utah to improve the quality of healthcare rendered to its residents. Each question is calculated to give measurable results and comparisons. By not answering a question, our ability to accurately measure Utah’s healthcare needs and actions for remedy are greatly hampered. Please participate by answering all of the 22 questions. The survey will take about six minutes to complete. *Thank you!*

1. Are you employed within the healthcare industry in the state of Utah? YES NO
If no, please list reasons why you maintain a Utah license. _____

2. What is your professional e-mail address? _____

3. What race/ethnicity are you? (*specify all that apply*)
 - White/Caucasian
 - Black/African American
 - Native American/Alaskan Native
 - Spanish/Hispanic/Latino
 - Asian
 - Asian Indian
 - Pacific Islander
 - Other (*please specify*) _____

4. What is the estimated population of the city/town where you attended high school?
 - less than 2,500
 - 2,500 to 19,999
 - 20,000 to 250,000
 - above 250,000
5. The state or country where you attended high school: State _____ Country _____

6. The institution from which you received your MD or DO degree: _____
 City: _____ State: _____ Year of Graduation: _____

7. The city and state where you performed/are performing your residency/internship and the year of completion:
 City: _____ State: _____ Year of Completion: _____
 City: _____ State: _____ Year of Completion: _____

8. How many hours per week do you practice medicine in each of the following categories?

	Hrs / Week in Utah	Hrs / Week Outside Utah
PATIENT CARE.....	_____	_____
TEACHING.....	_____	_____
RESEARCH.....	_____	_____
ADMINISTRATION / MANAGEMENT.....	_____	_____

9. In how many years do you plan on retiring? _____

Physician Workforce in Utah

10. Prior to retirement, do you plan on reducing the number of hours per week you practice? YES NO

If yes, please specify:

How many years before you plan to reduce your hours? _____ Yrs

How many hours per week will you work *after* the reduction? _____ Hrs

11. Please mark your Primary certification, Secondary certification (if applicable), and specialty practice in which you spend most of your time.

Primary	Secondary	Practice	Primary	Secondary	Practice
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Allergy and Immunology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Obstetrics and Gynecology (Subs) Specify _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Anesthesiology (General)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Ophthalmology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Anesthesiology (Pain Management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Otolaryngology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other Anesthesiology Subspecialty Specify _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Pathology (General)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Dermatology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Pathology (Subspecialty) Specify _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Emergency Care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Pediatrics (General)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Family Practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Pediatrics (Subspecialty) Specify _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Hospice & Palliative Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Physical Medicine and Rehabilitation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Internal Medicine (General)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Preventive Medicine / Public Health / Occupational Medicine
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Cardiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Psychiatry
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Critical Care Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Child and Adolescent Psychiatry
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Endocrinology and Metabolism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other Psychiatry Subspecialty Specify _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Gastroenterology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Radiology (Diagnostic)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Geriatrics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Radiology (Therapeutic)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Hematology/Oncology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Surgery (General)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Infectious Diseases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Cardio-Thoracic Surgery
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Nephrology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Orthopedic Surgery
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Pulmonary Disease / CCM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Plastic Surgery
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Rheumatology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other Surgical Subspecialty Specify _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other Internal Medicine Subspecialty Specify _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Urology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Internal Medicine and Pediatrics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other Specialty: _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Neurology	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Nuclear Medicine	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Obstetrics and Gynecology (General)	<input type="checkbox"/>	<input type="checkbox"/>	

12. What percent of your direct patient care time is spent in your principal specialty?

- 0-20% 21-40% 41-60% 61-80% 81-100%

13. Mark the response that best describes your patient care practice status or activities:

- I cannot accept any new/additional patients; my practice is *full*.
 I can accept some new/additional patients; my practice is *nearly full*.
 I can accept many new/additional patients; my practice is *far from full*.
 Not applicable.

14. In an average **week**, how many **out-patients** do you see? Office _____ Urgent Care _____ ER _____

15. In an average **week**, how many **in-patients** do you see? Hospital _____ Nursing Home _____

16. Number of days waiting for an appointment in your primary specialty practice:

FOR A NEW PATIENT: _____
 FOR AN ESTABLISHED PATIENT: _____
 FOR AN EMERGENCY CARE PATIENT: _____

17. Are you providing patient care using a structured team approach? YES NO

If YES, Please specify which health professionals are apart of your team:

PHYSICIAN ASSISTANTS _____
 ADVANCED PRACTICE NURSES _____
 PHARMACISTS _____
 OTHER (i.e. *Physical Therapist*) _____

18. Are you limiting the number of new:

	YES	NO
MEDICAID PATIENTS	<input type="checkbox"/>	<input type="checkbox"/>
MEDICARE PATIENTS	<input type="checkbox"/>	<input type="checkbox"/>
NON-PAYING PATIENTS	<input type="checkbox"/>	<input type="checkbox"/>
OTHER NEW PATIENTS	<input type="checkbox"/>	<input type="checkbox"/>

19. What percent of your patients are: (**total should equal 100%**)

MEDICAID.....	_____%
MEDICARE.....	_____%
SELF PAY.....	_____%
MANAGED CARE (HMO's, IPA's, PPO's).....	_____%
TRI-CARE (CHAMPUS).....	_____%
CHARITY (Uncompensated care, including uncollected billings).....	_____%
Total	100%

20. What is your average yearly compensation? \$_____ (Gross Amount)

21. Locations of sites where you spend the most time providing direct **patient care**. Print the address of your practice location(s) including your 5-digit zip code. Also indicate the average hours per week you spend at each practice location.

Principal Location: _____

City/State	Zip Code	Patient Care Hrs
------------	----------	-------------------------

Secondary Location: _____

City/State	Zip Code	Patient Care Hrs
------------	----------	-------------------------

22. What best describes the **patient care** practices in question 21? Mark one box for principle and one for secondary practice location where applicable.

Principle	Secondary	Principle	Secondary
<input type="checkbox"/>	<input type="checkbox"/> Solo Practice	<input type="checkbox"/>	<input type="checkbox"/> Physician Partnership
<input type="checkbox"/>	<input type="checkbox"/> Group Practice – Owner/Operator	<input type="checkbox"/>	<input type="checkbox"/> Group Practice – Employee/Staff
<input type="checkbox"/>	<input type="checkbox"/> Staff Model	<input type="checkbox"/>	<input type="checkbox"/> Free-standing health center or clinic
<input type="checkbox"/>	<input type="checkbox"/> Hospital - Inpatient	<input type="checkbox"/>	<input type="checkbox"/> Hospital – OPD
<input type="checkbox"/>	<input type="checkbox"/> Hospital – Satellite	<input type="checkbox"/>	<input type="checkbox"/> Hospital – Emergency Room
<input type="checkbox"/>	<input type="checkbox"/> Nursing Home	<input type="checkbox"/>	<input type="checkbox"/> Home Health
<input type="checkbox"/>	<input type="checkbox"/> State or Local Health Department	<input type="checkbox"/>	<input type="checkbox"/> Other Setting

**Thank you very much for your participation.
Please return the survey in the provided envelope.**

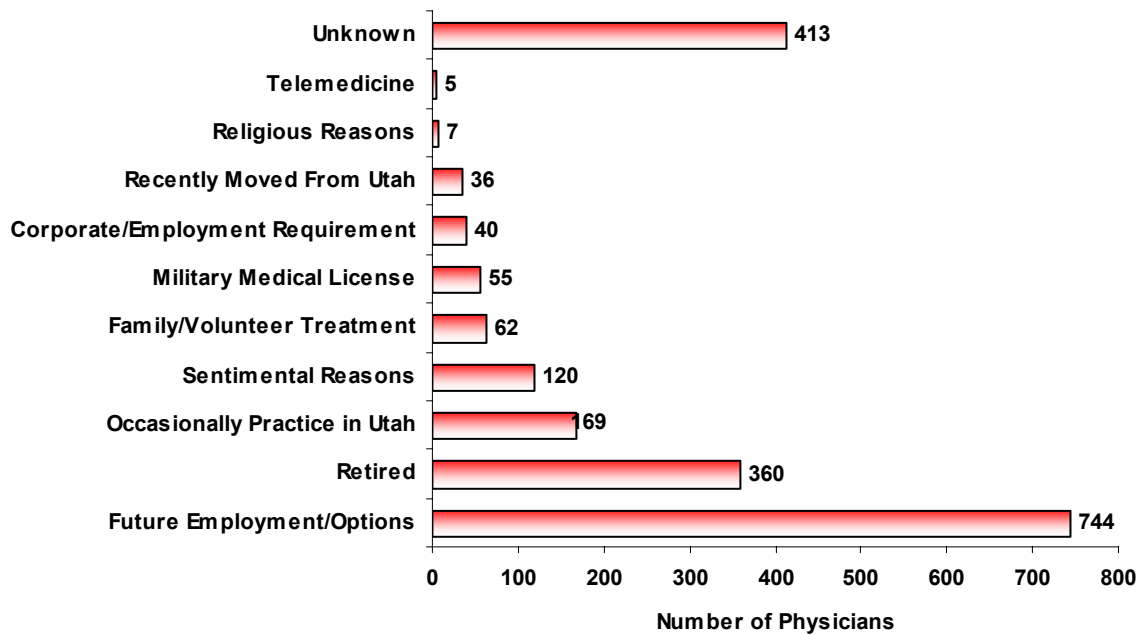
APPENDIX C – Descriptive Data & Statistics

The data contained in this appendix represent additional information collected through the 2003 physician survey not included in the narrative. Data in this section are organized according to the order of the survey questions and are presented with the original verbiage that was used to obtain such information. The offered results are for all physicians providing services in Utah. For more detailed analysis of physicians by specialty, refer to Appendix D.

Q1. Are you employed within the healthcare industry in the state of Utah? If no, please list the reasons why you maintain a Utah license.

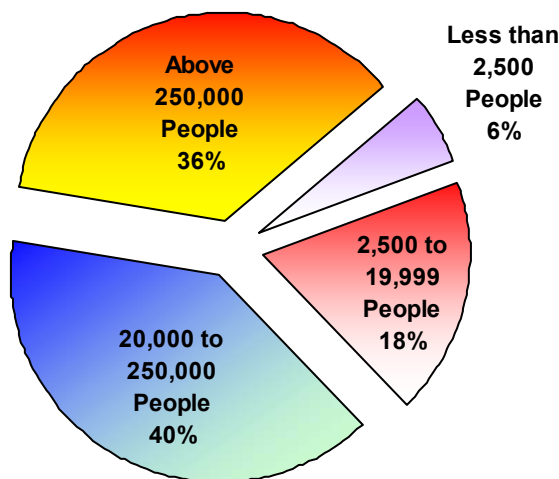
Out of 5,175 respondents, 2,011 physicians indicated that they were not employed within the healthcare industry of Utah. The following are their primary reasons for maintaining a Utah license.

Figure 1. Reason for Maintaining a Utah License, 2003



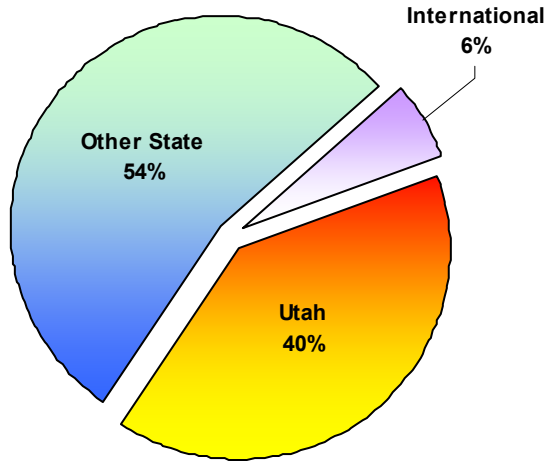
Q4. What is the estimated population of the city/town where you attended high school?

Figure 2. Size of Town in Which Utah Physician Attended High School



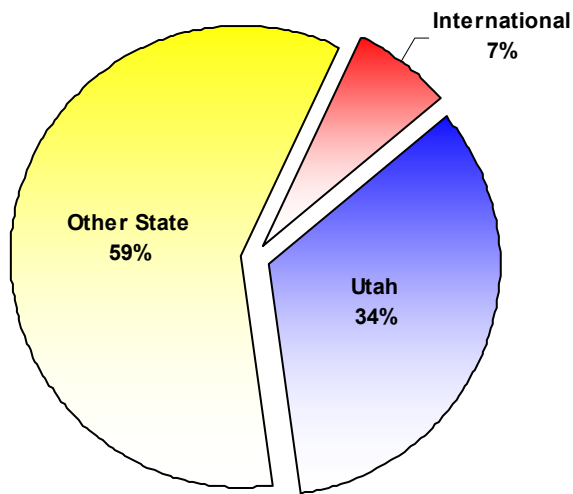
Q5. List the state or country where you attended high school.

Figure 3. State or Country in Which Utah Physicians Attended High School



Q6. List the institution from which you received your MD or DO degree (City, State).

Figure 4. State from Which Utah Physicians Received MD or DO Degree



Q7. List the city and state where you performed or are performing your residency/internship and year of completion.

The data presented in Figures 5.1 – 5.7 are un-weighted for accuracy.

Figure 5.1 State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency	
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO
Alabama	8	Alabama	2	California	276	Alabama	1
		Utah	1			Arizona	1
		Total	3			California	61
Alaska	0					Colorado	2
Arizona	116	Arizona	9			Illinois	2
		California	5			Iowa	1
		Florida	1			Maryland	1
		Georgia	1			Massachusetts	1
		Hawaii	1			Michigan	2
		Indiana	1			Minnesota	1
		Iowa	1			Missouri	2
		Massachusetts	1			Nevada	1
		New York	1			New York	3
		North Carolina	2			North Carolina	1
		Oklahoma	1			Ohio	3
		Oregon	1			Oregon	1
		Texas	1			Pennsylvania	2
		Utah	16	Tennessee	2		
Virginia	1	Texas	6				
Total	43	Utah	36				
Arkansas	5	Arkansas	1	Virginia	1		
		New Jersey	1	Washington	2		
		Utah	1	Wisconsin	1		
		Total	3	Total	134		

Figure 5.2. State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency	
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO
Colorado	77	Arizona	2	Hawaii	19	California	3
		California	2			Hawaii	1
		Colorado	7			Texas	4
		Hawaii	2			Utah	3
		Kentucky	1			Washington DC	1
		Louisiana	1			Total	12
		Maryland	1			Idaho	12
		Michigan	1	Utah	2		
		Minnesota	1	Washington	1		
		New Mexico	1	Total	4		
		New York	1	Illinois	90	Colorado	1
		Ohio	1			Illinois	10
		Oregon	1			Iowa	1
		Texas	1			Louisiana	1
		Utah	11			Massachusetts	1
		Washington	1			Minnesota	1
		Washington DC	1			Pennsylvania	2
Total	36	Utah	8				
Connecticut	22	Connecticut	5	Indiana	18	Total	25
		Maryland	1			Indiana	1
		Utah	1			Michigan	1
		Total	7			Missouri	1
Delaware	2	Pennsylvania	1			Utah	2
Florida	23	Florida	4	Iowa	32	Total	5
		Illinois	1			Arizona	1
		Utah	4			California	1
		Wyoming	1			Iowa	8
		Total	10			Michigan	1
Georgia	22	Georgia	7			North Carolina	1
		New York	1			Wyoming	1
		North Carolina	1			Total	13
		Texas	1	Kansas	24	Florida	2
		Utah	3			Illinois	1
		Washington	1			Kansas	4
		Total	14			Ohio	1
		Utah	5				
		Total	13				

Figure 5.3. State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency			
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO		
Kentucky	21	California	1	Michigan	111	California	1		
		Kentucky	2			Colorado	2		
		Total	3			Illinois	1		
Louisiana	23	California	1			Indiana	1		
		Louisiana	4			Louisiana	1		
		Minnesota	1			Michigan	11		
		Texas	1			Minnesota	2		
		Utah	1			New Jersey	1		
		Wisconsin	1			Ohio	1		
		Total	9			Pennsylvania	1		
Maine	3	Maine	1			Tennessee	1		
Maryland	37	California	1			Utah	12		
		Maryland	5			Washington	1		
		Nebraska	1			Wisconsin	1		
		New York	2			Total	37		
		Pennsylvania	2			Minnesota	62	Massachusetts	1
		Utah	5	Michigan	1				
		Total	16	Minnesota	10				
Massachusetts	44			North Carolina	1				
				California	5			Pennsylvania	1
				Colorado	1			Utah	6
				Florida	1			Washington	1
				Massachusetts	4	Washington DC	1		
				Michigan	2	Total	22		
				New Hampshire	1	Mississippi	8	Minnesota	1
				Ohio	2			Mississippi	1
				Oregon	2			Missouri	1
				Pennsylvania	2			Wisconsin	1
				Rhode Island	1			Total	4
				Texas	2			Total	4
				Utah	3				
Total	26								

Figure 5.4. State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency	
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO
Missouri	63	Arizona	1	New York	91	Alabama	1
		California	1			California	4
		Kansas	1			Maryland	2
		Kentucky	1			Massachusetts	1
		Massachusetts	1			Michigan	2
		Michigan	1			Minnesota	2
		Minnesota	1			New York	22
		Missouri	10			Pennsylvania	2
		New York	1			Rhode Island	1
		Texas	1			Tennessee	1
		Utah	5			Texas	1
		Washington	1			Utah	11
		Total	25			Virginia	1
Montana	1	Maryland	1	Total	51		
Nebraska	23	Arizona	3	North Carolina	59	Alabama	1
		Nebraska	4			Michigan	1
		North Carolina	1			North Carolina	12
		Utah	3			Texas	1
		Total	11			Utah	11
Nevada	8	Nevada	2	North Dakota	4	Total	26
		Utah	2			Alabama	1
		Total	4			Texas	1
New Hampshire	12	Connecticut	1	Ohio	74	Utah	1
		Illinois	1			Total	3
		Massachusetts	1			California	3
		Minnesota	1			Indiana	1
		New Hampshire	1			Louisiana	1
		Utah	1			Massachusetts	2
		Total	6			Ohio	12
New Jersey	13	Massachusetts	1	Oregon	1		
		New York	2	Texas	3		
		Total	3	Utah	10		
New Mexico	15	Minnesota	1	West Virginia	1		
		New Mexico	4	Total	34		
		Utah	2				
		Washington	1				
		Total	8				

Figure 5.5. State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency	
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO
Oklahoma	20	Arkansas	1	Rhode Island	6	Texas	1
		Colorado	2			Wisconsin	1
		Florida	1			Total	2
		Georgia	1	South Carolina	8	South Carolina	1
		Minnesota	1			Tennessee	2
		Oklahoma	3			Utah	2
		Tennessee	1			Total	5
		Utah	2	South Dakota	5	Minnesota	1
		Wisconsin	1			New Hampshire	1
		Total	13			Total	2
Oregon	47	California	5	Tennessee	16	Illinois	1
		International	1			Maryland	1
		Maryland	1			New York	1
		Michigan	2			Tennessee	3
		Missouri	1			Utah	1
		New Mexico	1			Washington	1
		North Carolina	1			Total	8
		Oregon	5			Texas	131
		Utah	9	Colorado	4		
		Washington	1	Connecticut	1		
Total	27	Florida	1				
Pennsylvania	68	California	1	Hawaii	2		
		Colorado	1	Idaho	1		
		Florida	2	International	1		
		Iowa	1	Kansas	1		
		Massachusetts	1	Maryland	1		
		New Jersey	1	Michigan	1		
		Ohio	2	Minnesota	2		
		Oregon	1	New York	1		
		Pennsylvania	9	Ohio	2		
		Tennessee	1	Tennessee	1		
		Utah	7	Texas	29		
		West Virginia	1	Utah	9		
		Wisconsin	1	Washington	1		
Total	29	Washington DC	4				
		Wisconsin	1				
		Total	65				

Figure 5.6. State in Which Utah Physicians Completed Residency Training

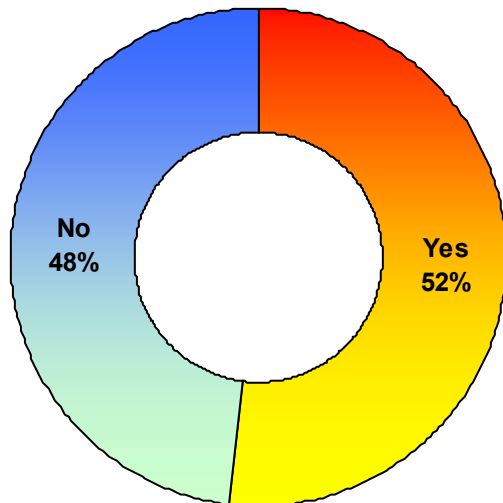
Primary Residency		Secondary Residency		Primary Residency		Secondary Residency			
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO		
Utah	995	Arizona	7	Virginia	29	California	2		
		Arkansas	1			Massachusetts	1		
		California	23			New York	1		
		Colorado	5			Texas	1		
		Connecticut	2			Utah	4		
		Florida	3			Virginia	3		
		Georgia	2			Washington DC	1		
		Illinois	1			Total	13		
		Indiana	1			Washington	79	California	4
		International	1					Colorado	2
		Iowa	5	Illinois	1				
		Kansas	3	International	1				
		Kentucky	1	Kansas	1				
		Louisiana	1	Massachusetts	2				
		Maryland	4	Minnesota	1				
		Massachusetts	6	New Hampshire	1				
		Michigan	1	New Jersey	1				
		Minnesota	8	New York	1				
		Missouri	4	Ohio	1				
		New Hampshire	2	Oregon	1				
		New Mexico	2	Texas	1				
		New York	4	Utah	12				
		North Carolina	3	Virginia	1				
		Ohio	8	Washington	12				
		Oklahoma	2	Total	43				
		Oregon	3	Washington DC	23			California	1
		Pennsylvania	6					Colorado	1
		Texas	12			Maryland	1		
		Utah	180			Minnesota	1		
		Washington	3			New Jersey	1		
Washington DC	5	Pennsylvania	1						
Total	309	Texas	2						
Vermont	8	Minnesota	1			Utah	1		
		Utah	3			Washington	1		
		Vermont	1			Washington DC	2		
		Total	5	Total	12				

Figure 5.7. State in Which Utah Physicians Completed Residency Training

Primary Residency		Secondary Residency		Primary Residency		Secondary Residency			
State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO	State	No. of MD/DO		
West Virginia	9	Pennsylvania	1	Wyoming	1	Wyoming	1		
		Utah	2			California	1		
		West Virginia	2			Colorado	1		
		Total	5			Delaware	1		
Wisconsin	38	Indiana	1			International	44	Illinois	2
		Kansas	1					International	11
		Minnesota	1					Massachusetts	1
		Nebraska	1					North Carolina	1
		New Mexico	1					Ohio	1
		Ohio	1					Tennessee	1
		South Carolina	1					Texas	1
		Utah	3					Utah	5
		Washington	1					Washington	1
		Wisconsin	5					Total	27
		Total	16						

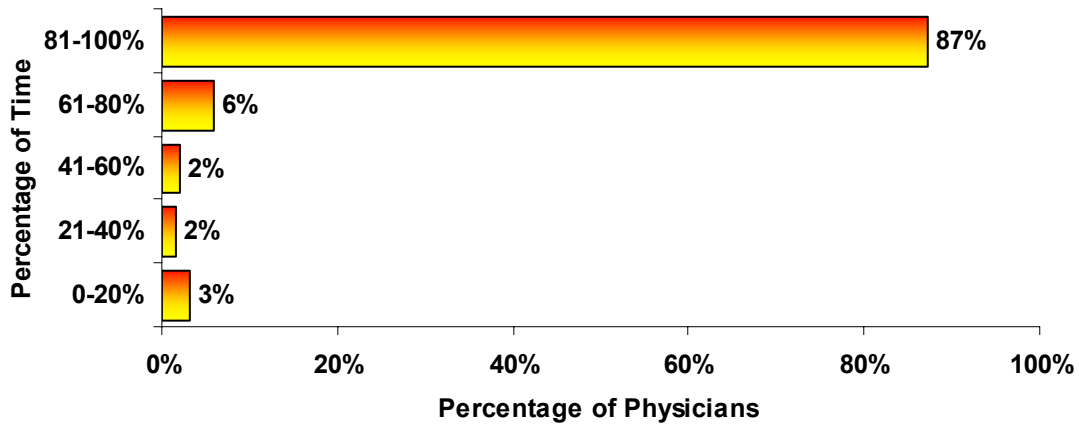
Q10. Prior to retirement, do you plan on reducing the number of hours per week you practice?

Figure 6. Percentage of Utah Physicians that Plan on Reducing Work Hours Prior to Retirement



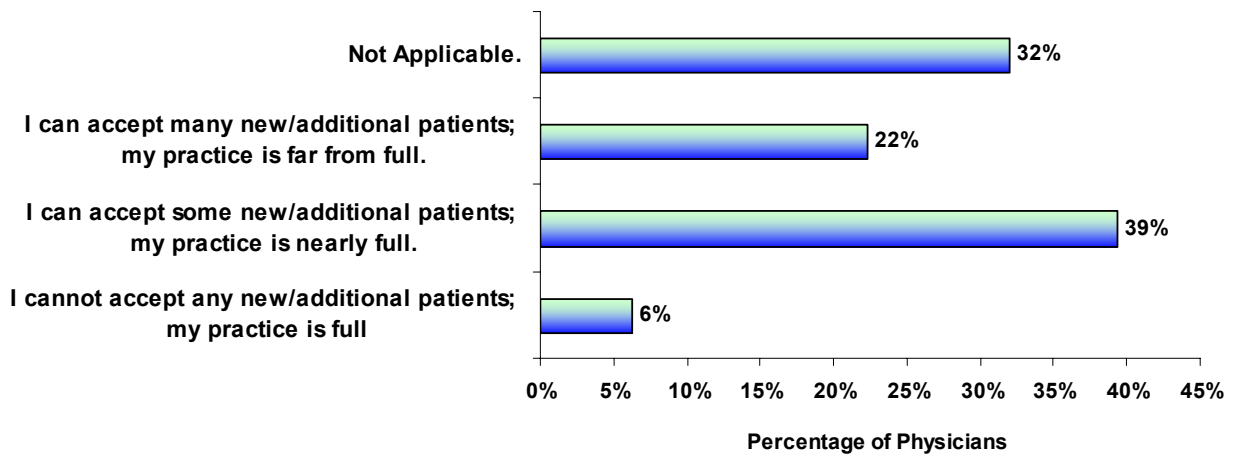
Q12. What percent of your direct patient care time is spent in your principle specialty?

Figure 7. Percentage of Patient Care Time Utah Physicians Spend in Principle Specialty, 2003



Q13. Mark the response that best describes your patient care practice status or activities:
Full, nearly full, far from full, or not applicable.

Figure 8. Patient Care Practice Status of Utah Physicians, 2003



Q14. In an average week, how many outpatients do you see in an office, urgent care, and ER?

Q15. In an average week, how many inpatients do you see in a hospital and nursing home?

Figure 9. Number of Patients Seen Per Week by Utah Physicians, 2003

	Out-patients			In-patients	
	Office	Urgent Care	ER	Hospital	Nursing Home
Rural Physicians	60	4	7	9	1
Urban Physicians	58	4	6	10	1

Q16. Number of waiting days for an appointment in your primary specialty practice for: new patients, established patients, and emergency care patients?

Figure 10. Number of Days Patients Must Wait for an Appointment with a Utah Physician, 2003

Type of Patient	All Physicians	Primary Care	Specialty Care
New Patient	18	13	21
Established Patient	11	6	13
Emergency Patient	1	0	1

Q17. Are you providing patient care using a structured team approach? If yes, please specify which health professional is part of your team.

Figure 11. 1 Percentage of Utah Physicians Using a Structured Team Approach, 2003

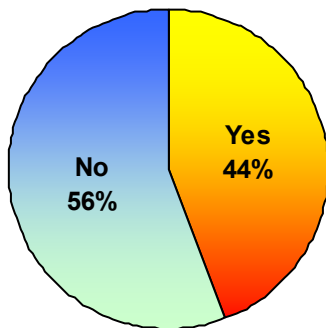
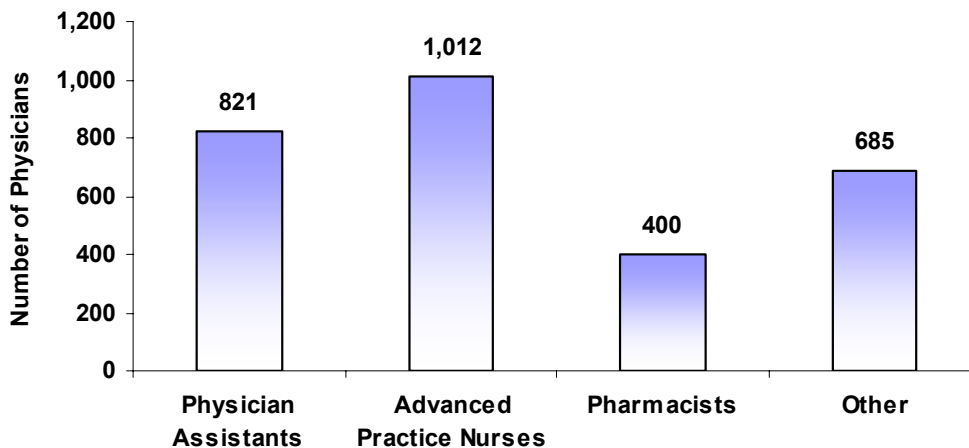


Figure 11.2 Number of Utah Physicians Using Other Health Professionals to Administer Patient Care, 2003



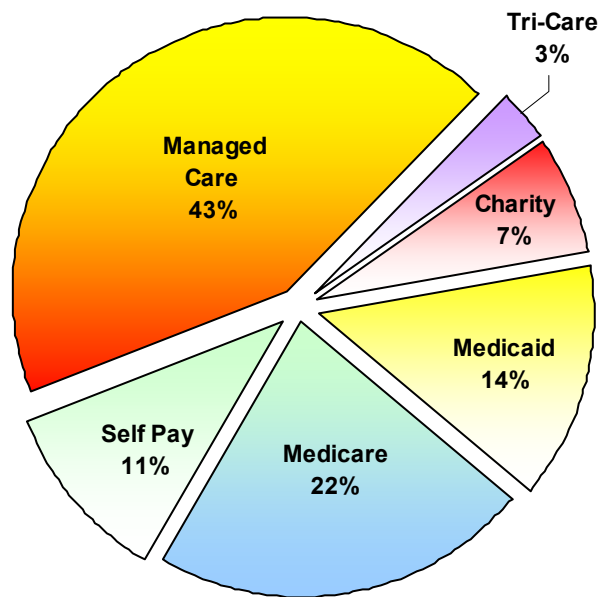
Q18. Are you limiting the number of new Medicaid patients, Medicare patients, Non-paying patients, and Other new patients?

Figure 12. Percentage of Utah Physicians Limiting Medicaid, Medicare, Non-Paying, and Other New Patients, 2003

Type of Patient	YES	NO
Medicaid Patient	23%	77%
Medicare Patient	17%	83%
Non-Paying Patient	23%	77%
Other New Patient	12%	88%

Q19. What percentage of your patients are Medicaid, Medicare, self-pay, managed care, Tri-Care, and charity?

Figure 13. Types of Patients Being Served by Utah Physicians, by Payer Source, 2003



Q20. What is your average yearly compensation?

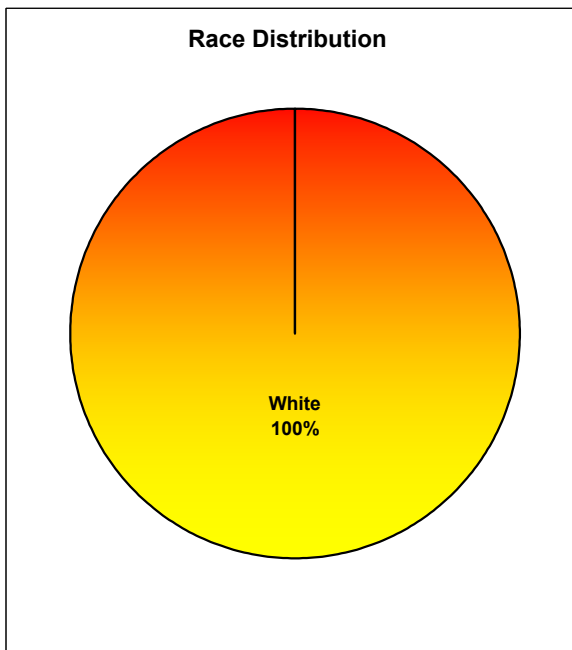
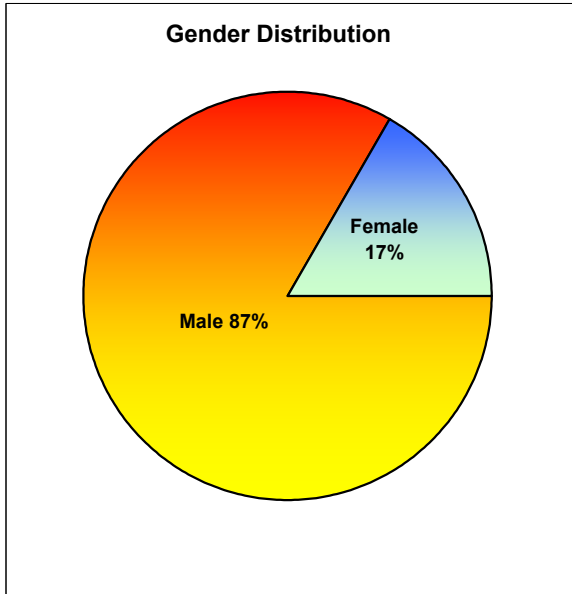
Figure 14. Mean Annual Income of Utah Physicians, by Specialty, 2003

PRIMARY CARE	
Family Practice	\$138,750
Internal Medicine (General)	\$129,119
Pediatrics (General)	\$131,223

SPECIALTY CARE			
Allergy and Immunology	\$164,500	Obstetrics and Gynecology (General)	\$229,759
Anesthesiology (General)	\$246,864	Obstetrics and Gynecology Subspecialty	\$215,633
Anesthesiology Subspecialty (Other)	\$259,818	Ophthalmology	\$201,069
Anesthesiology-Pain Mgmt	\$233,842	Orthopedic Surgery	\$339,605
Cardiology	\$254,833	Otolaryngology	\$192,442
Cardio-thoracic Surgery	\$338,333	Pathology (General)	\$136,054
Child and Adolescent Psychiatry	\$124,484	Pathology Subspecialty	\$165,461
Critical Care Medicine	\$171,142	Pediatrics Subspecialty	\$124,736
Dermatology	\$235,500	Physical Medicine and Rehabilitation	\$164,844
Emergency Care	\$203,528	Plastic Surgery	\$264,375
Endocrinology and Metabolism	\$120,000	Preventive Medicine/Public Health/Occupational	\$137,105
Gastroenterology	\$296,319	Psychiatry	\$133,750
Geriatrics	\$137,062	Psychiatry Subspecialty (Other)	\$144,857
Hematology/Oncology	\$230,955	Pulmonary Disease/CCM	\$186,000
Hospice and Palliative Medicine	\$157,000	Radiology (Diagnostic)	\$286,552
Infectious Diseases	\$117,500	Radiology (Therapeutic)	\$230,000
Internal Medicine and Pediatrics	\$93,312	Rheumatology	\$161,875
Nephrology	\$187,769	Surgery (General)	\$207,674
Neurological Surgery	\$371,375	Surgical Subspecialty (Other)	\$286,468
Neurology	\$162,444	Urology	\$245,577
Nuclear Medicine	\$204,500		

APPENDIX D – Specialty Profiles

The specialty-specific analysis provided in this section of the report was compiled primarily through the use of the 2003 physician survey data. All graphs and charts have been developed using survey responses, however, cumulative physician counts may be from different sources. In cases where external sources provided more accurate physician counts, the UMEC chose to display such data with the cited source. The inclusion of external information serves several purposes: 1) to increase the validity of the UMEC data through comparison, 2) to provide a benchmark against which to measure the state workforce, 3) to correct any errors or inconsistencies of the state survey. Through collaboration with entities such as residency program directors, GME Offices, professional organizations, hospitals, and other healthcare research organizations, the UMEC was able to uncover some of the hidden workforce trends that were not captured by the survey data. The following is a summary of our findings.



ALLERGIST & IMMUNOLOGISTS: 24 (PEHP Estimate)

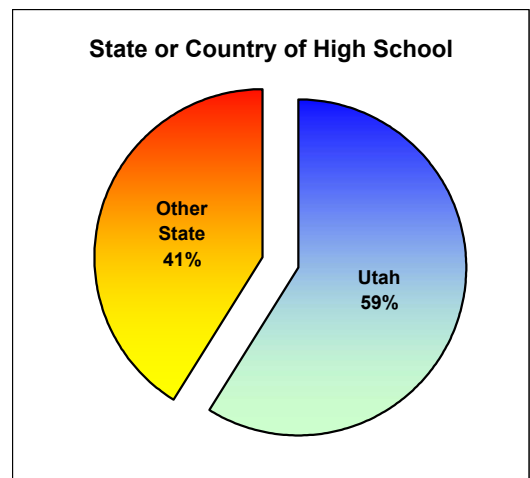
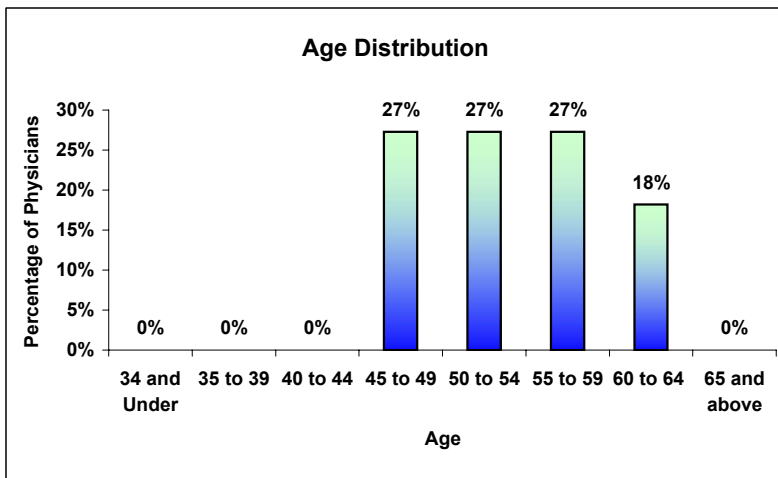
1. In 2003 the American Academy of Allergy Asthma & Immunology reported that there were 3,314 FTE physicians providing allergy & immunology patient care services in the United States. This equates to a ratio of approximately 1.17 per 100,000 population. Although providers reported volume increases in their respective practices, it appears that the current ratio is adequate to provide necessary services.

2. The physician to population ratio of allergists & immunologists in Utah is not far below the national average. In 2003, there were 1.02 providers per 100,000 population. It appears that this ratio is adequate for the state's population due to the low number of days in which new patients must wait for an appointment and the high percentage (56%) of practices that were far from full.

3. The primary concern associated to this specialty is the high number of providers in older age cohorts both nationally and in Utah. The 2003 Utah survey indicated that there were no providers under the age of 45 and that over 63% of them would be retiring over the next 10 years.

4. The limited number of fellows being trained in this specialty is not enough to keep up with the number of retiring allergists & immunologists. Currently over 63 FTEs exit the U.S. workforce each year, but only 54 program graduates are available to replace them.

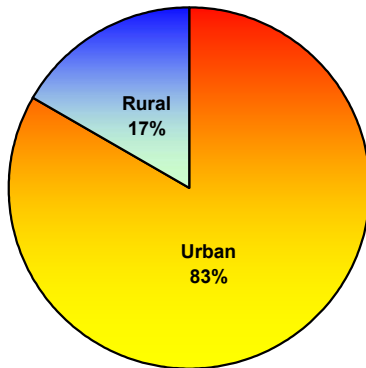
5. Utah has no fellowship training program for this specialty. Since there is a national deficit between the number of new graduates entering the workforce and the number of retiring allergists & immunologists exiting the workforce, Utah can expect a shortage in this specialty in the next 5 to 10 years.



SPECIALTY PROFILE:

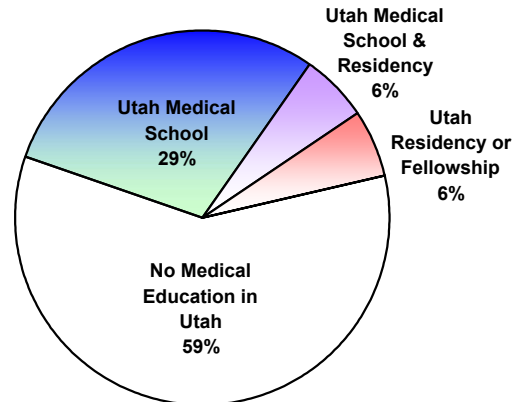
ALLERGY & IMMUNOLOGY

Urban / Rural Distribution



Urban Counties = Davis, Salt Lake, Utah, Weber

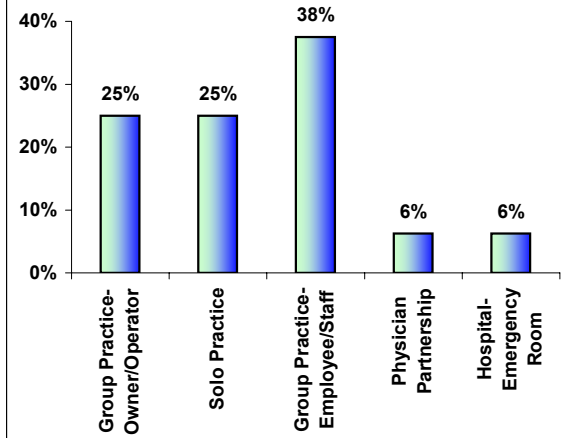
Utah Education Connection



Board Certification of Allergy & Immunology Physicians

Primary Board Certification	Secondary Board Certification	
	Pediatric Subspecialties	Allergy and Immunology
Allergy and Immunology	9 (53%)	1
Internal Medicine (General)	7 (41%)	7
Pediatrics (General)	1 (6%)	1
N =	17 (100%)	8

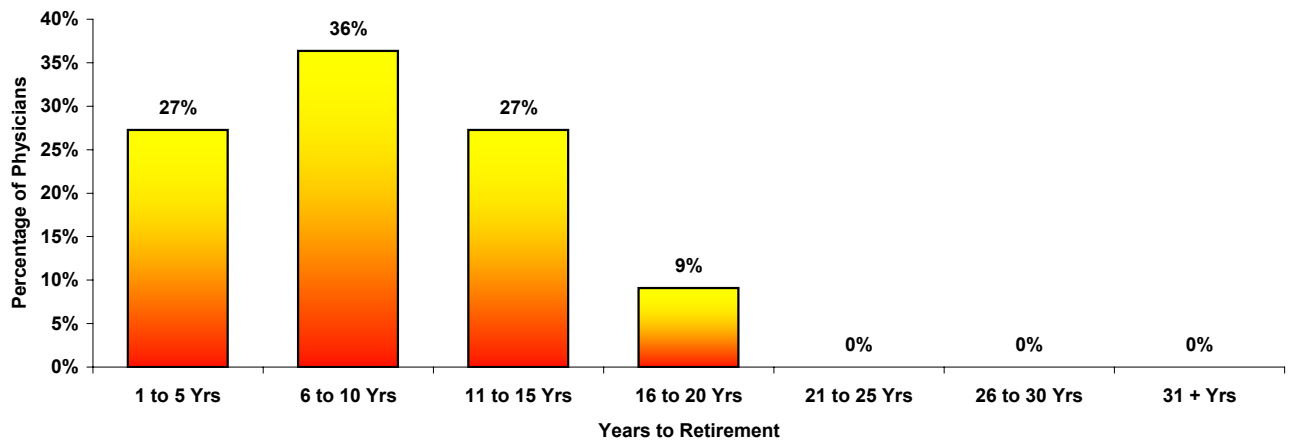
Patient Care Practice Setting



Gross Annual Earnings

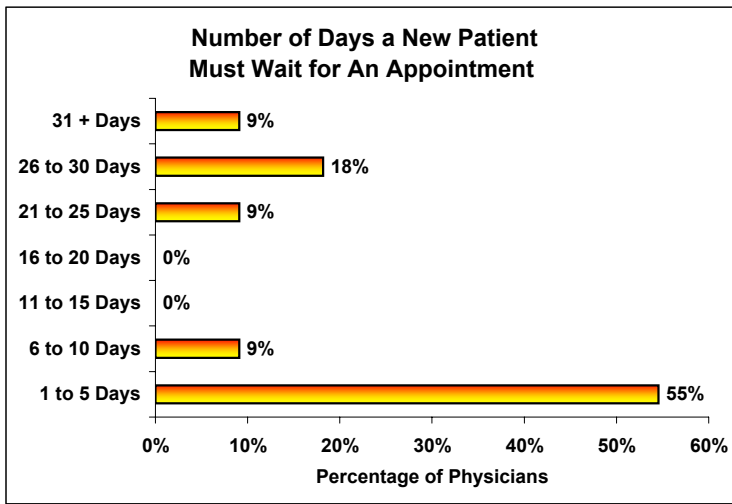
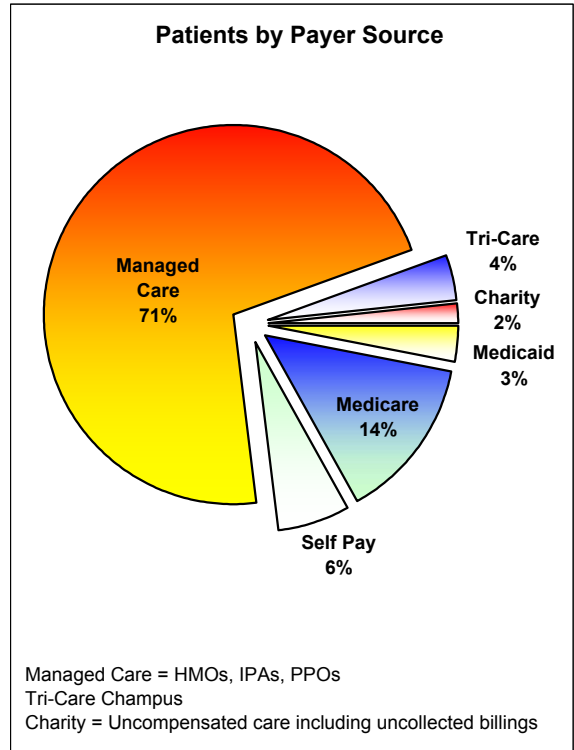
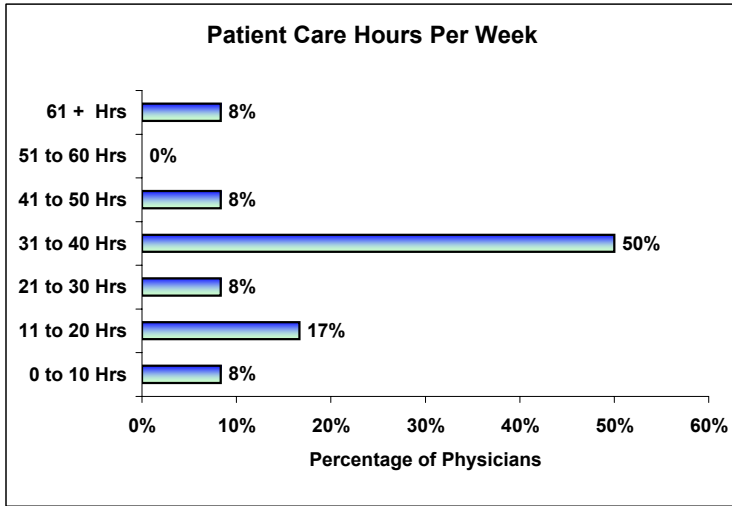
Mean	Median	Mode
\$164,500	\$155,000	\$150,000

Self-Reported Years to Retirement



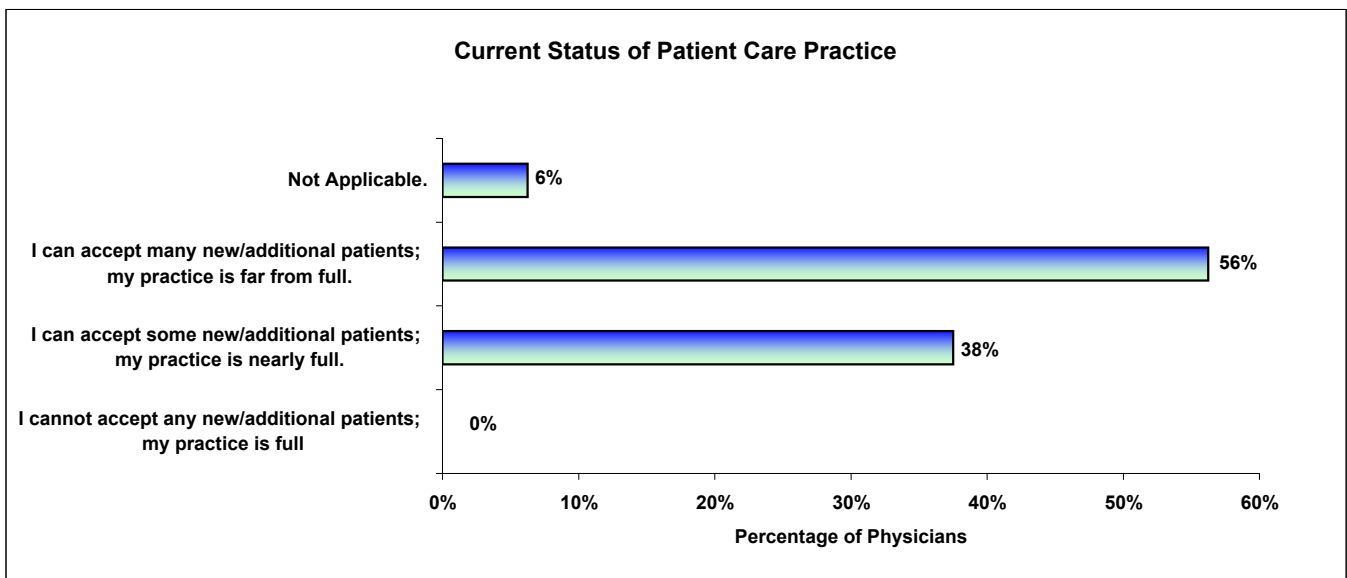
SPECIALTY PROFILE:

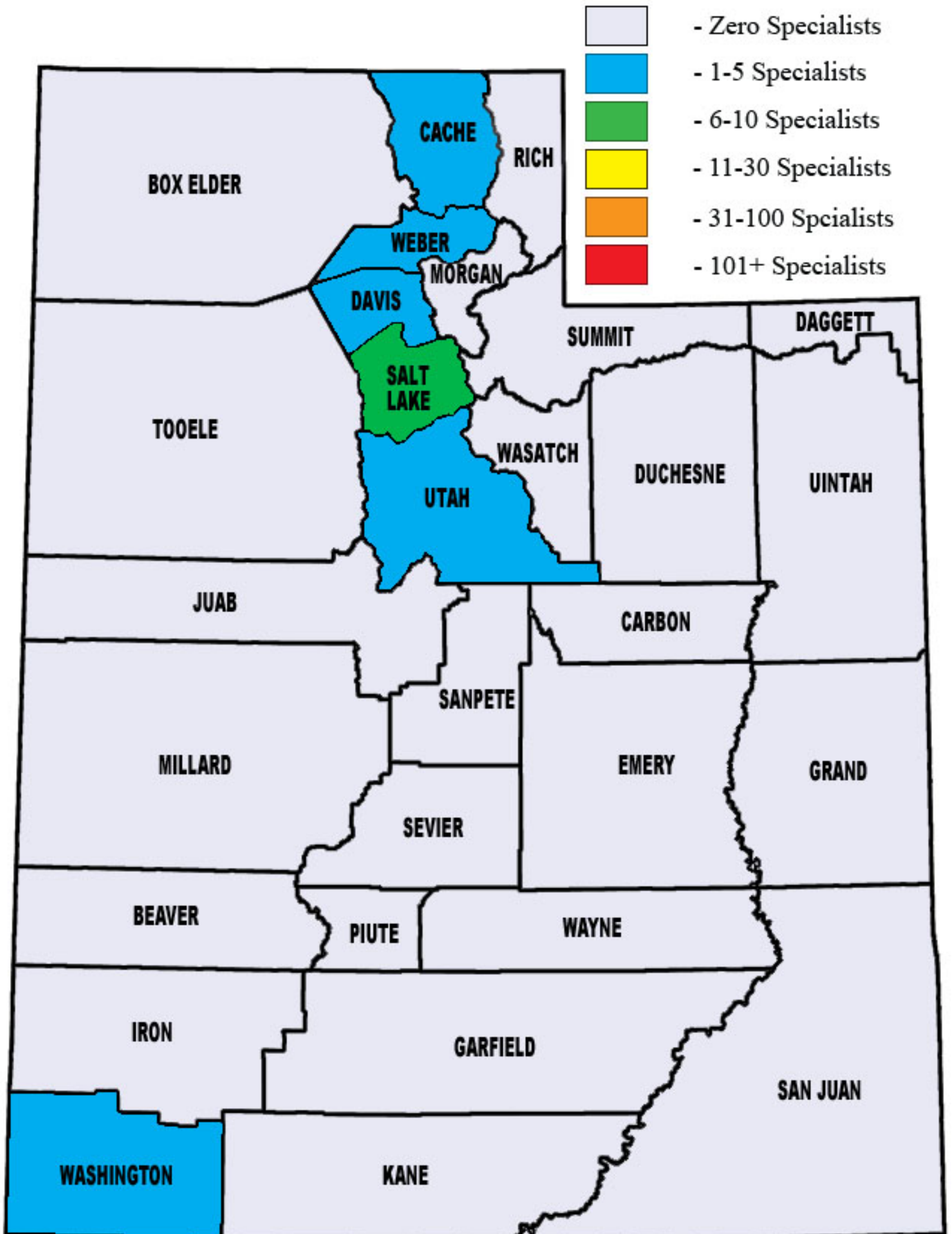
ALLERGY & IMMUNOLOGY

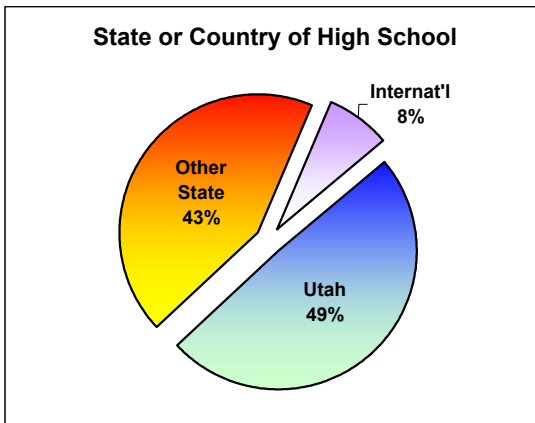
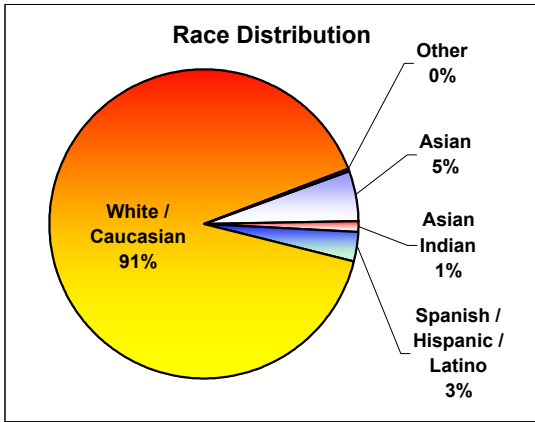
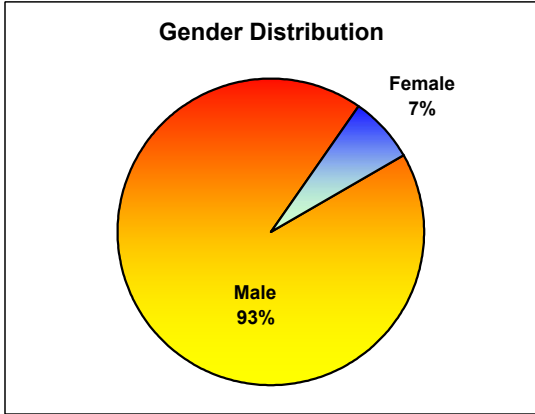


Average Number of Patients Seen Per Week

Patient Type	Office	Urgent Care	ER
	47	0	2
In-patients	Hospital	1	
	Nursing Home	0	







GENERAL ANESTHESIOLOGISTS: 243 (UMEC estimate)

ANESTHESIOLOGY SUBSPECIALISTS: 26

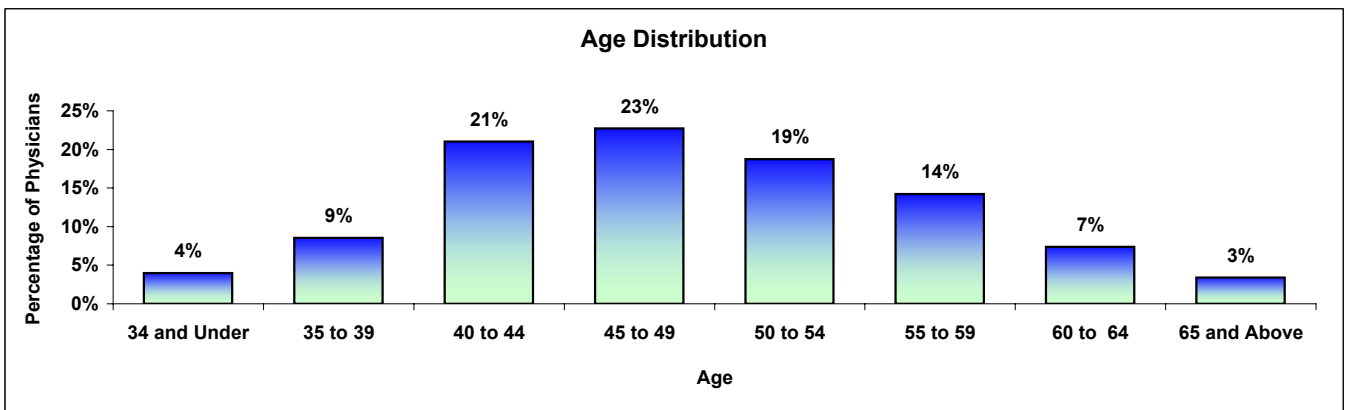
(Ambulatory: 2, Cardiothoracic: 2, Obstetrics: 4, Outpatient: 1, Pediatrics: 11, Unknown: 6)

1. In 2001 doctors from the Cleveland Clinic Foundation and the University of Michigan collaborated on a study of the anesthesia workforce and found that the United States had a shortfall of 1,100 to 3,900 anesthesiologists (Schubert, et al.). By 2003, they updated their forecast using the latest workforce estimates and found that little had changed since the time of the initial analysis. Their projections showed that by 2004, the U.S. should have at least 37,236 anesthesiologists, or 1 provider for every 7,886 persons, however training and recruitment patterns indicated that the U.S. would not be able to meet this demand.

2. In 2003, Utah had 269 anesthesiologists, or 1 provider for every 8,767 persons, which is below the recommended number of providers needed to serve the state population. To bring the state ratio up to the recommended ratio, Utah would need to recruit 30 new anesthesiologists to the state.

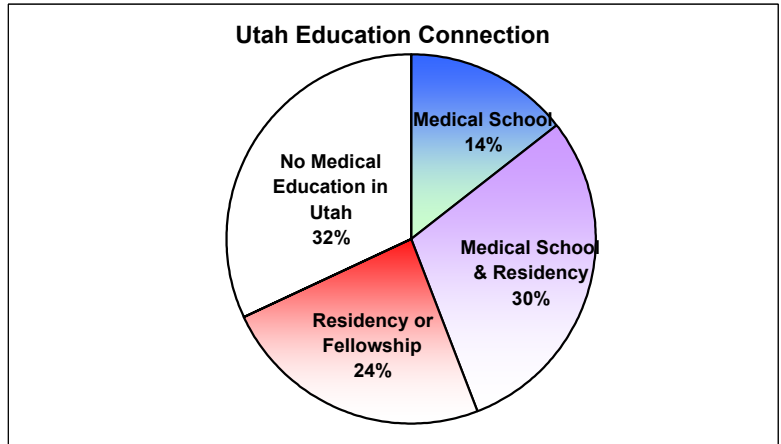
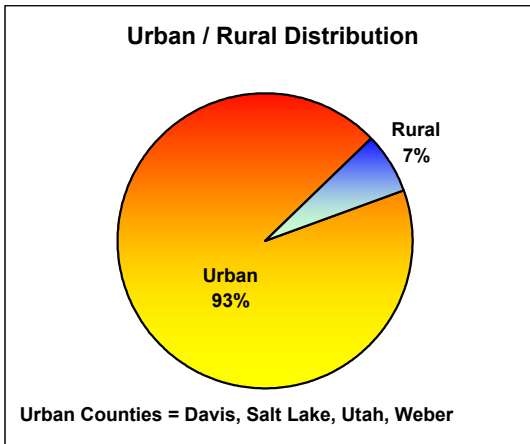
3. In order to maintain the current ratio of 11.41 anesthesiologists per 100,000 population (pain management not included), Utah will need to recruit 15 anesthesiologists to the workforce each year (retirement: 8, population growth: 7). However, since this is below optimum levels, it is highly encouraged that recruitment increase to meet national averages (17 to 20 per year). Current recruitment patterns show that that the state has been able to meet this demand, although vacancies still exist at many institutions. Since 1998, Utah has recruited an average of 23 anesthesiologists to the workforce each year producing a net annual gain of 3%.

4. Utah currently has 102 certified registered nurse anesthetists (CRNAs) that contribute to the clinical capacity of this specialty.

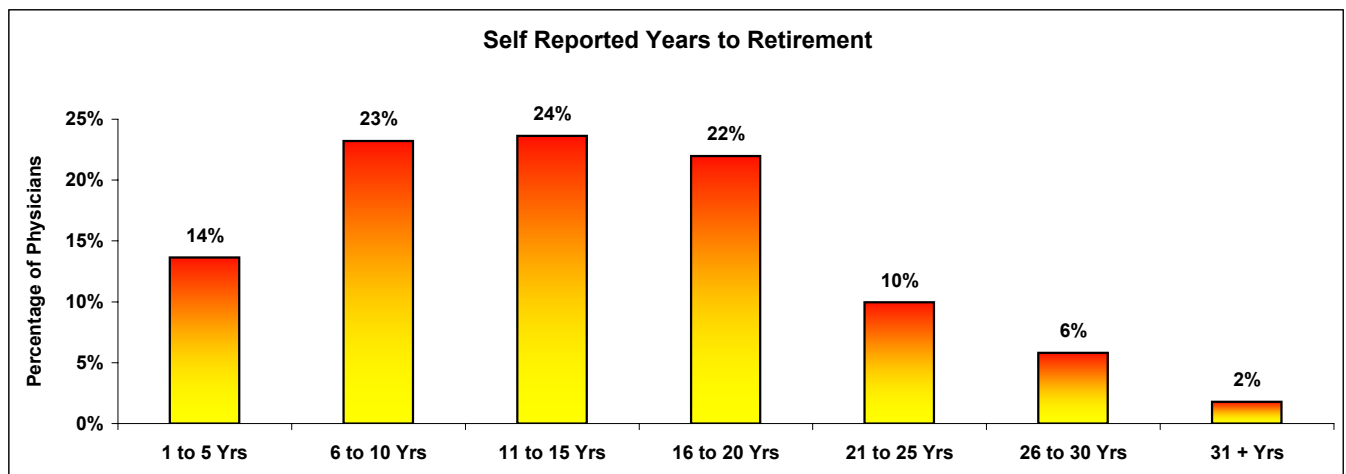
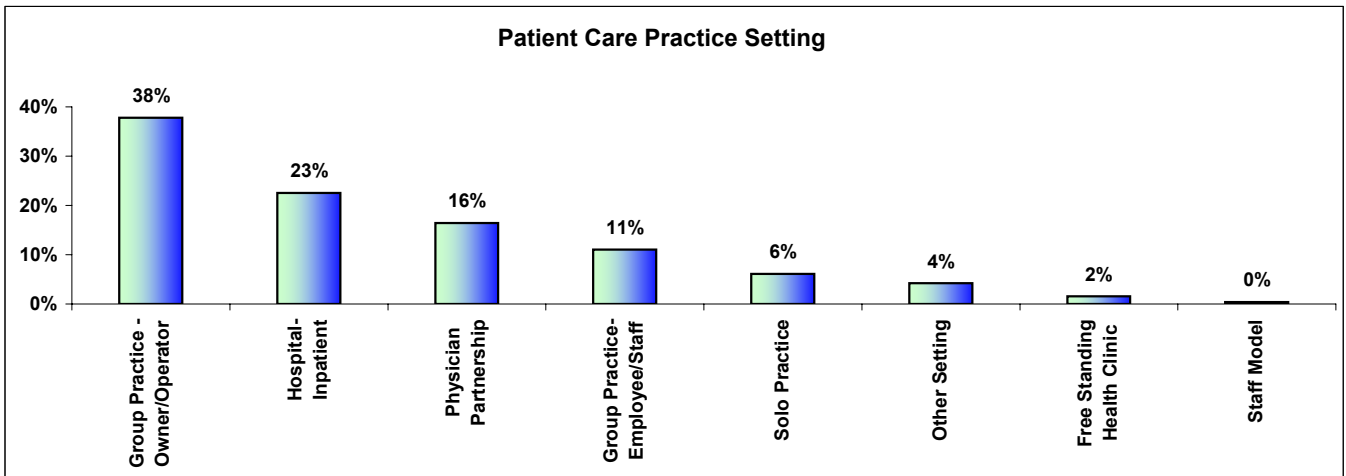


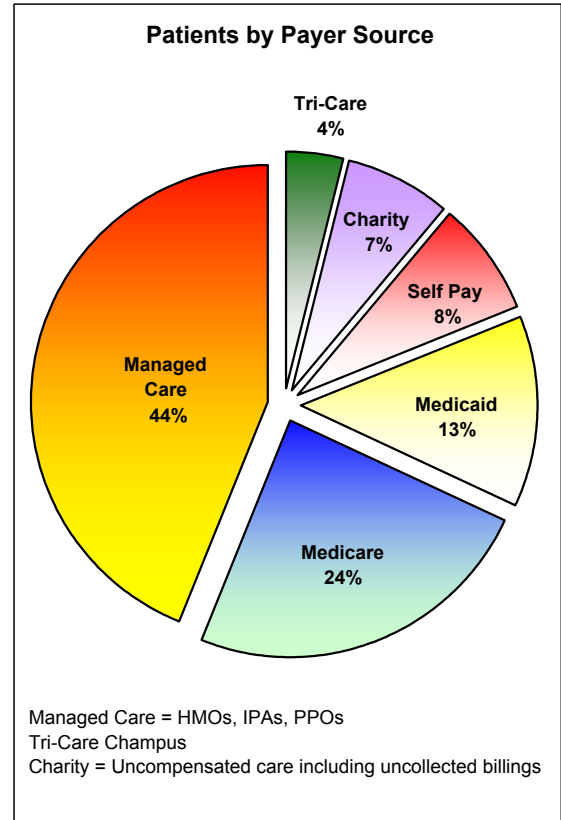
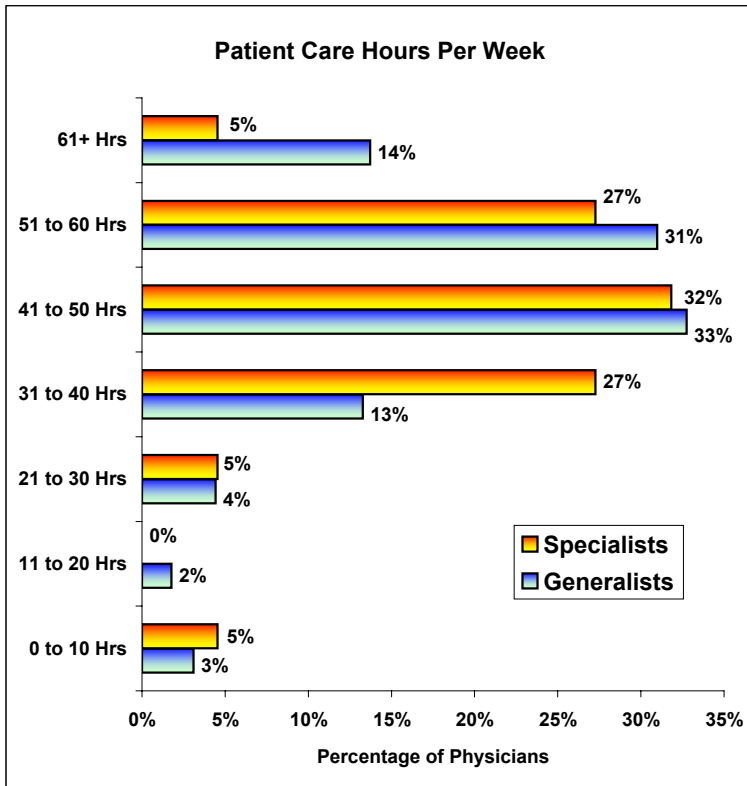
SPECIALTY PROFILE:

ANESTHESIOLOGY



Board Certification of Anesthesiology Physicians												
Primary Board Certification			Secondary Board Certification									
			General Anesthes.	Pain Mgt.	Other Anesthes.	Family Practice	Internal Medicine (General)	Critical Care Medicine	Pediatrics (General)	Other Specialty		
Anesthesiology (General)	247	95%	0	33	24	1	4	1	3	1		
Other Anesthesiology Subspecialties	11	4%	1	0	0	0	0	0	0	0		
Pediatrics (General)	2	1%	0	0	1	0	0	0	0	0		
N =			260	100%	1	33	25	1	4	1	3	1



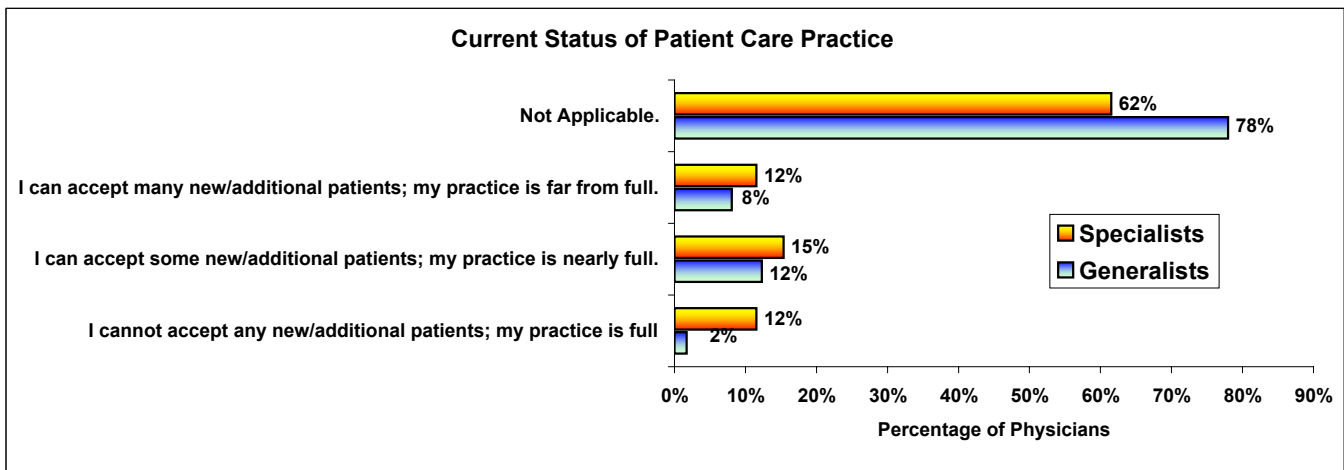


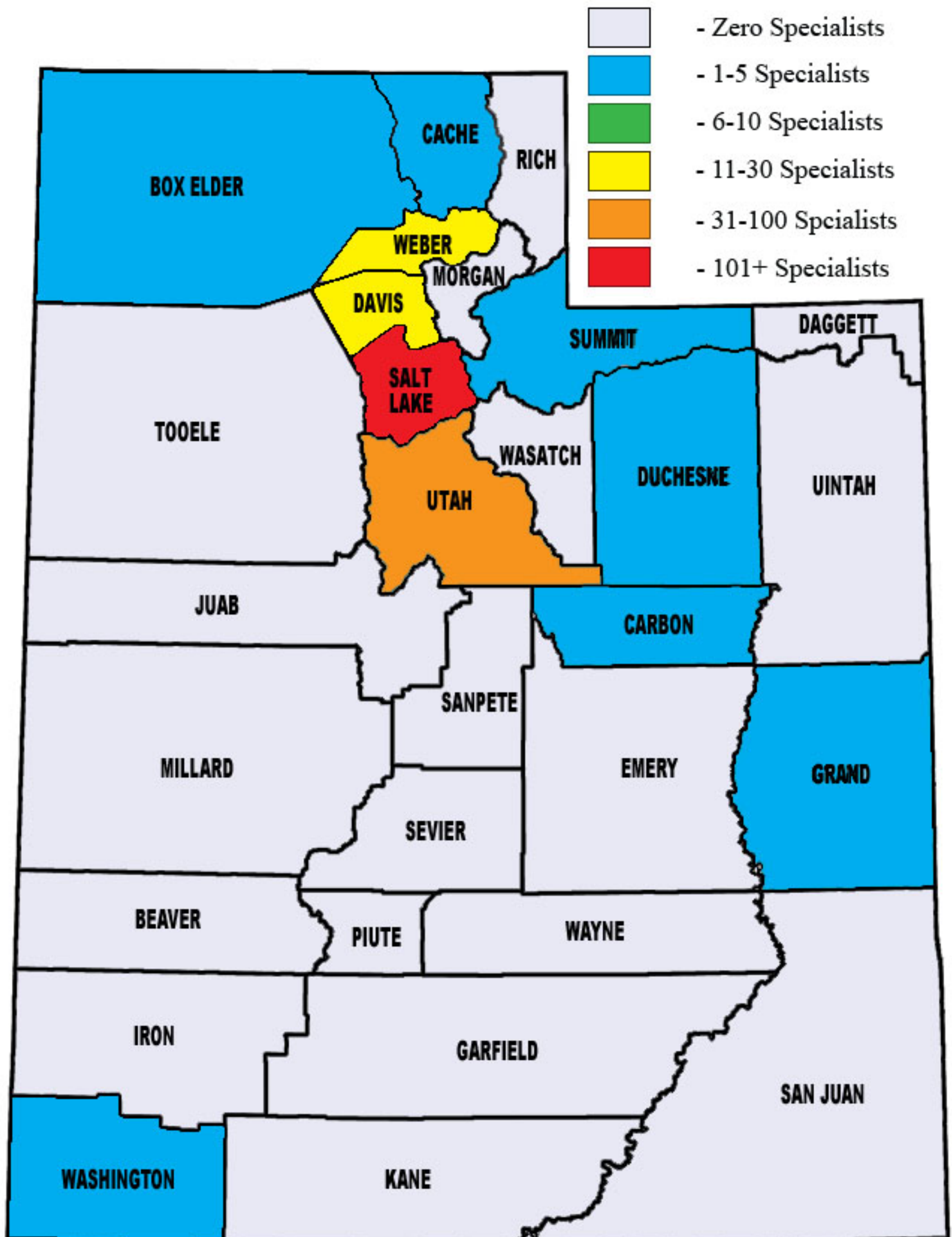
Average Number of Patients Seen Per Week

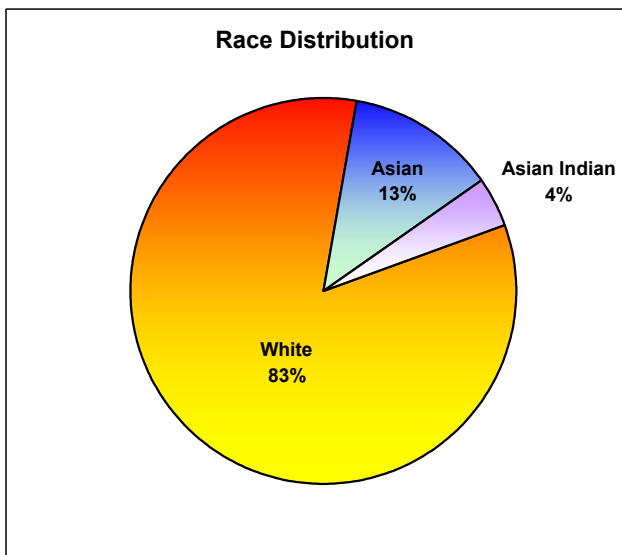
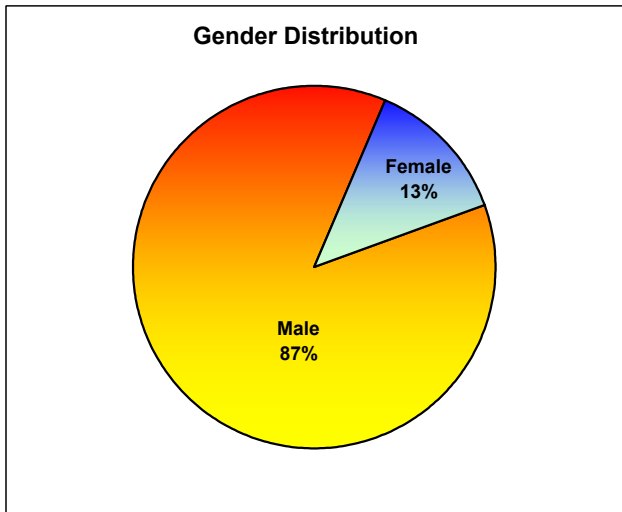
		Generalist	Specialist
Out-patients	Office	5	11
	Urgent Care	0.11	0
	ER	0.51	0
In-patients	Hospital	26	17
	Nursing Home	0.05	0

Gross Annual Earnings

	Mean	Median	Mode
Generalists	\$246,864	\$250,000	\$250,000
Specialists	\$259,818	\$260,000	\$225,000 \$300,000







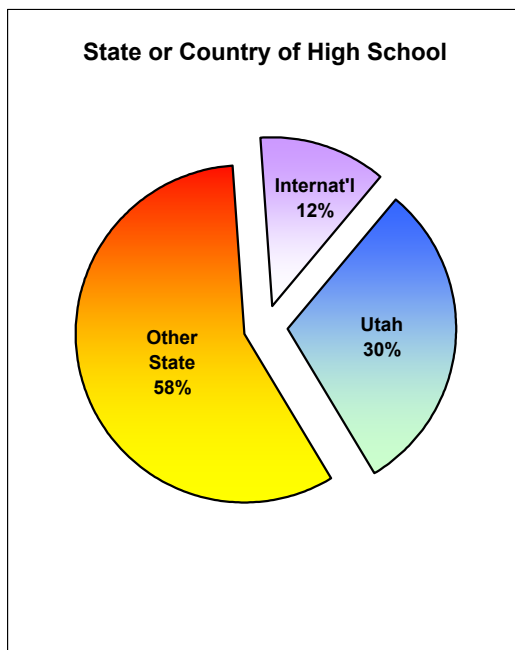
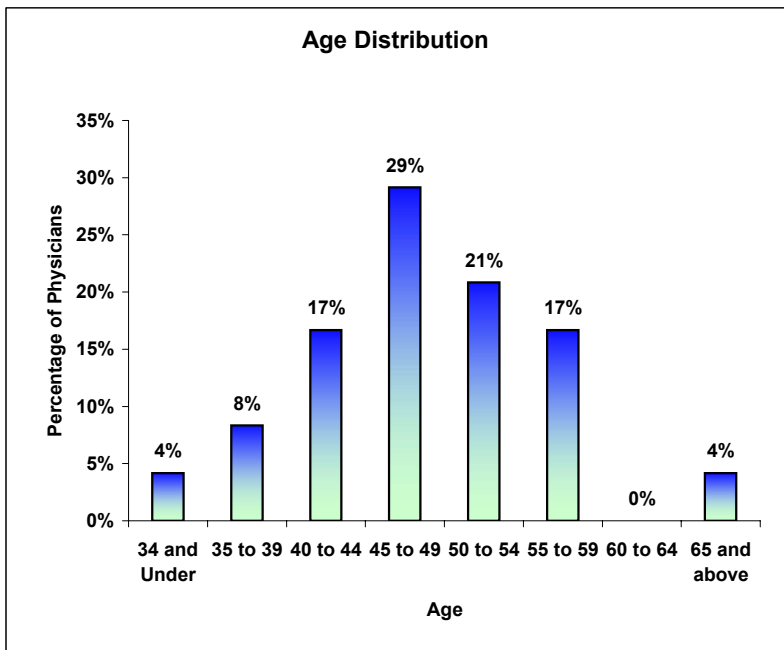
PAIN MANAGEMENT: 36 (UMEC Estimate)

1. Utah currently has 36 anesthesiologists practicing pain medicine. This equates to a physician to population ratio of 1.53. It is difficult to determine whether or not this ratio is above or below the national average because pain management data is often combined with all other counts of anesthesiology.

2. Nationally there are 98 fellowship programs in this specialty, and together they train 200 to 250 physicians per year. Data from the the Accreditation Council for Graduate Medical Education (ACGME) reveal a steady increase in the number of positions being offered and filled each year in pain management.

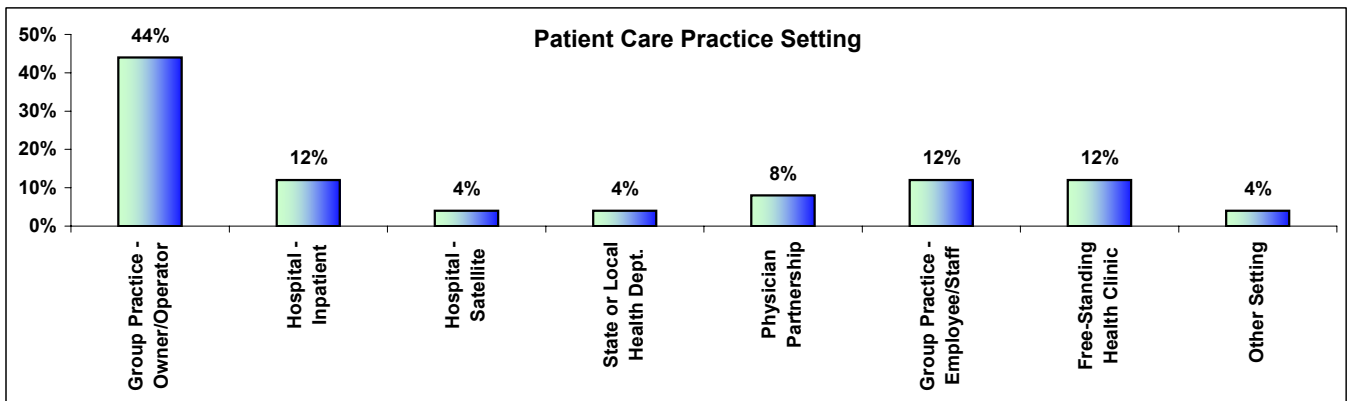
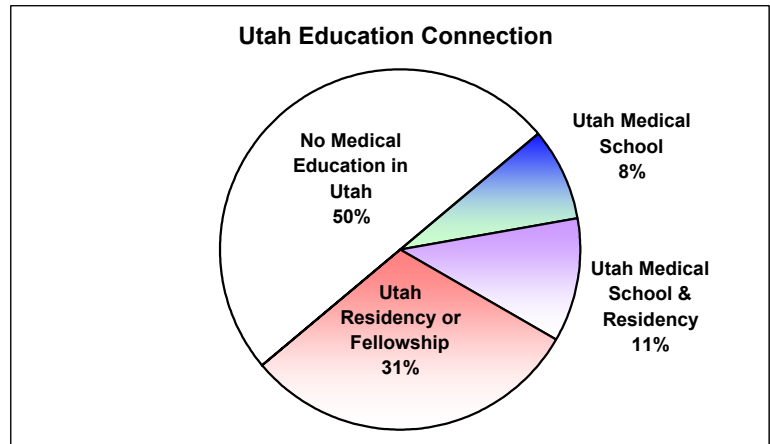
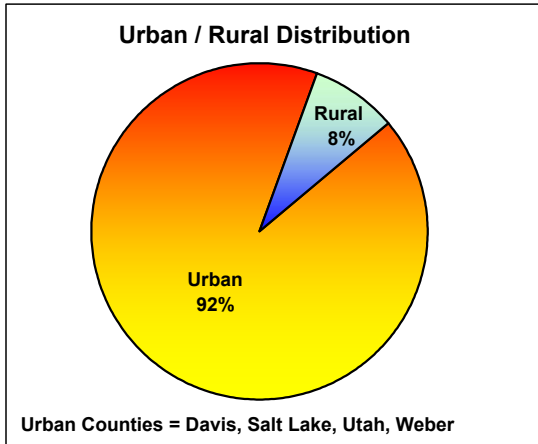
3. The Utah anesthesiology pain management fellowship trains 2 fellows per year for 1 year and retains approximately 50% of its program graduates. To maintain the same level of service, Utah needs to recruit at least 2 providers per year - meaning 1 anesthesiologist must come from the national pool. With the steady increase in program output of U.S. pain management programs, it does not appear as though Utah will have difficulty meeting local needs through out of state recruitment.

4. The primary concern for this specialty in Utah is the high number of providers approaching retirement. Current data show that approximately 63% of the workforce will retire in less than 15 years accelerating the need to recruit more physicians in this specialty.



SPECIALTY PROFILE:

ANESTHESIOLOGY (PAIN MANAGEMENT)

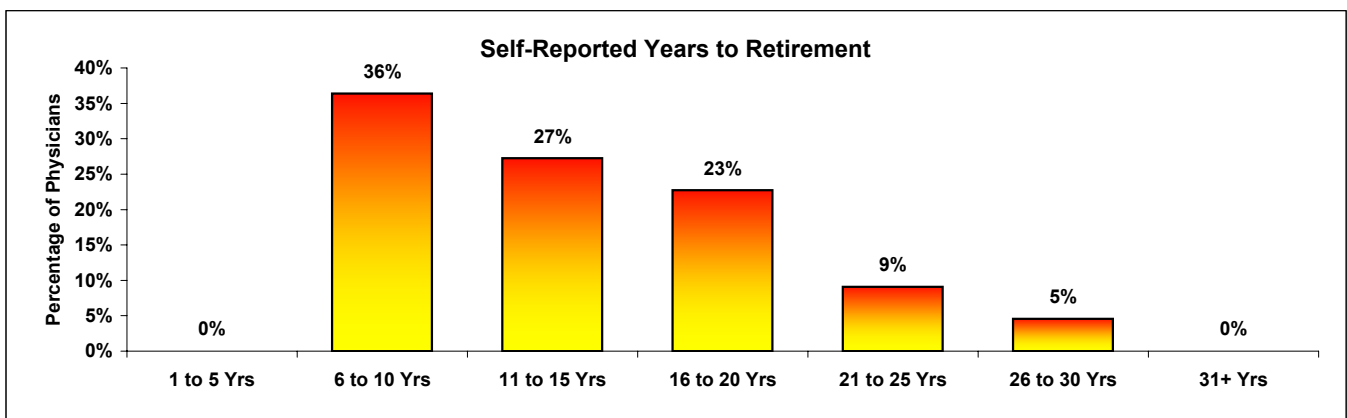


Board Certification of Pain Management Physicians

Primary Board Certification	Secondary Board Certification	
	Anesthes. (General)	Anesthes. (Pain Mgt.)
Anesthesiology (General)	20 (61%)	20
Anesthesiology (Pain Management)	10 (30%)	4
Pediatrics (General)	3 (9%)	3
N =	33 (100%)	4 (23)

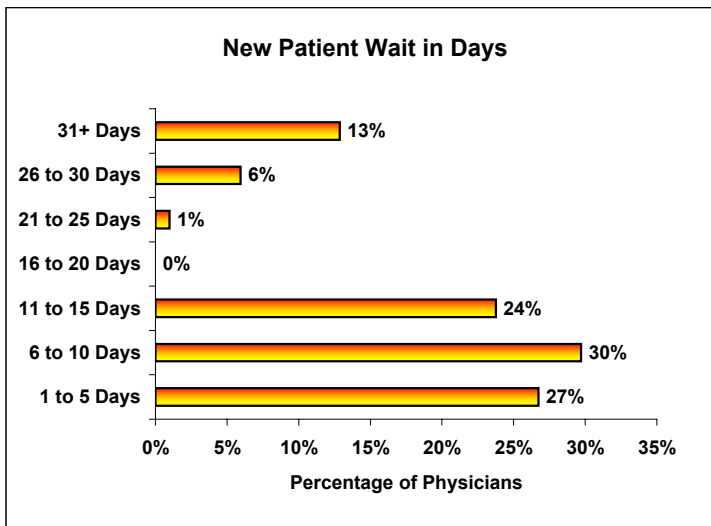
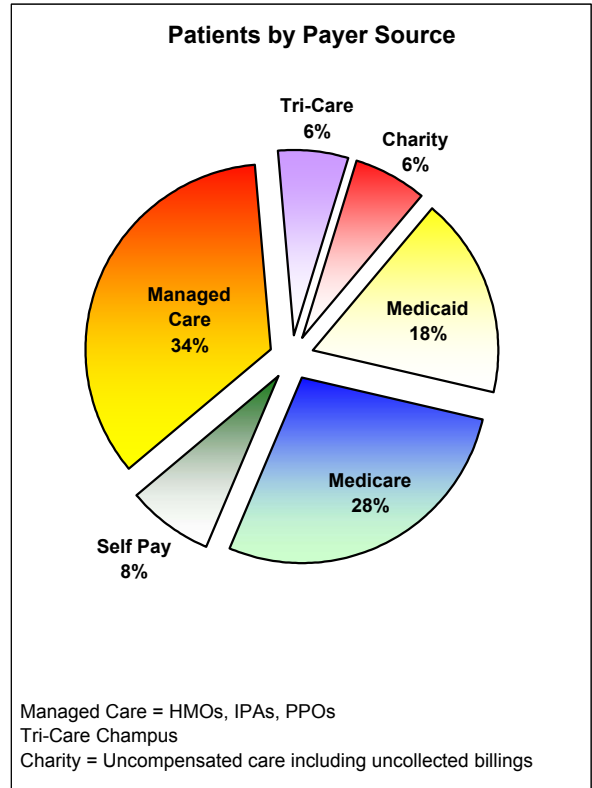
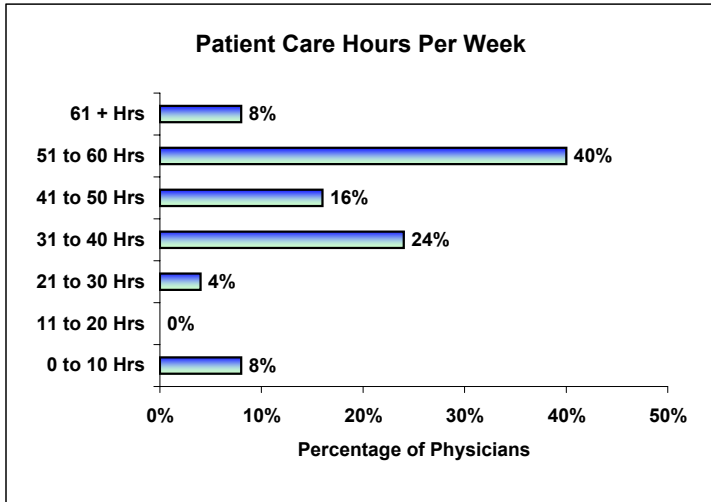
Gross Annual Earnings

Mean	\$233,842
Median	\$220,000
Mode	\$250,000 \$300,000



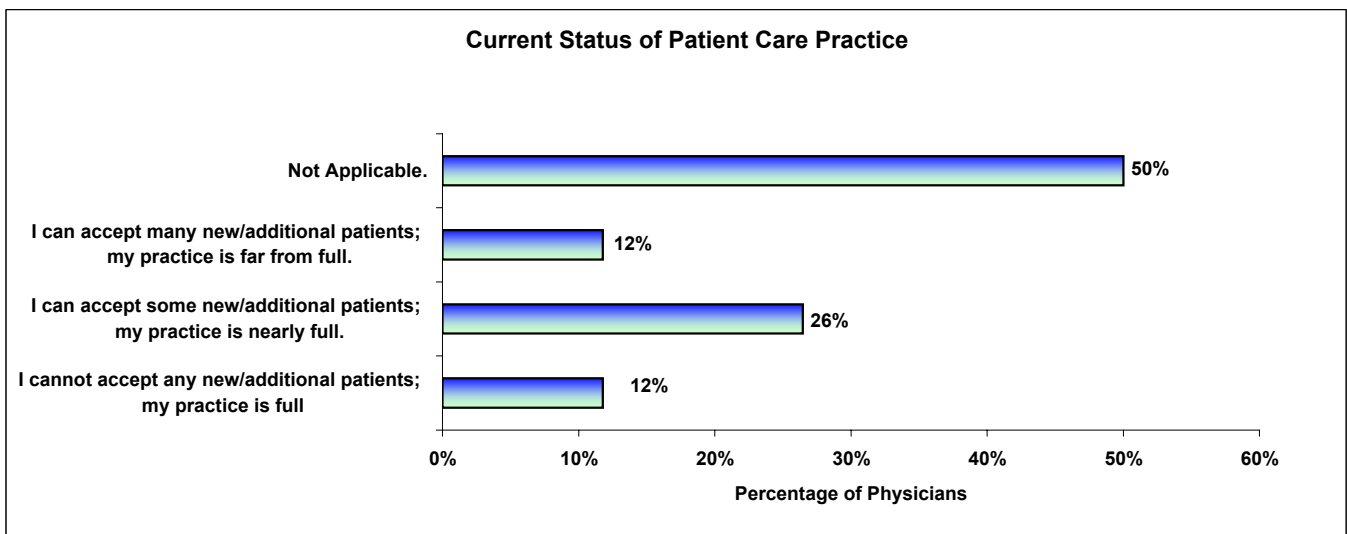
SPECIALTY PROFILE:

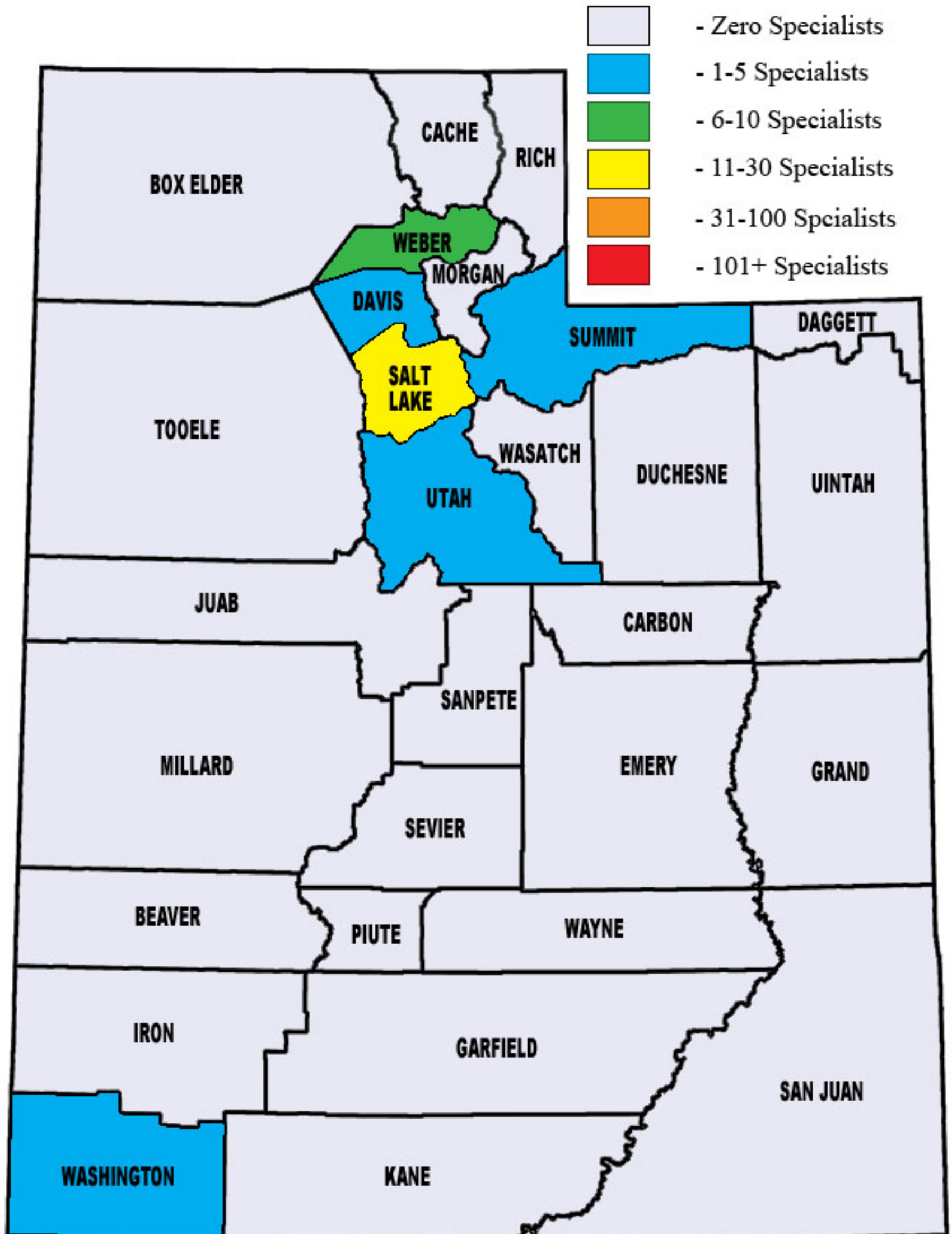
ANESTHESIOLOGY (PAIN MANAGEMENT)



Average Number of Patients Seen Per Week

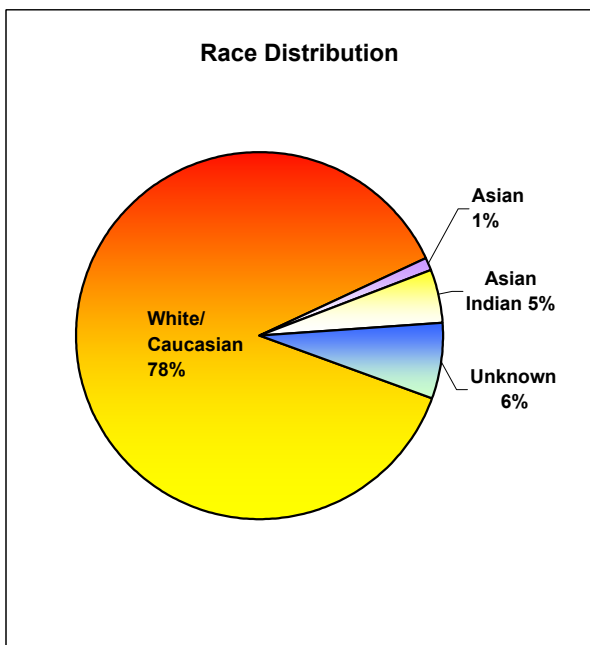
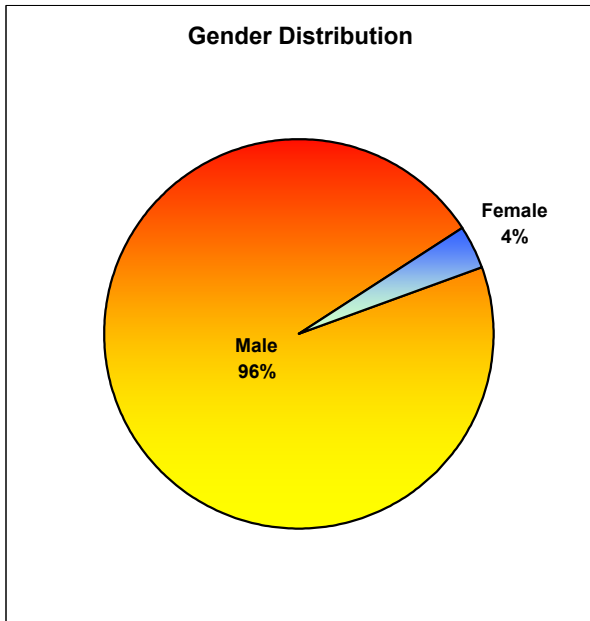
Out-patients	Office	41
	Urgent Care	0
	ER	0.11
In-patients	Hospital	16
	Nursing Home	0





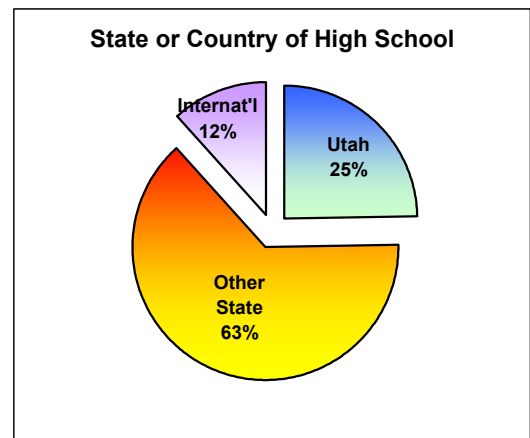
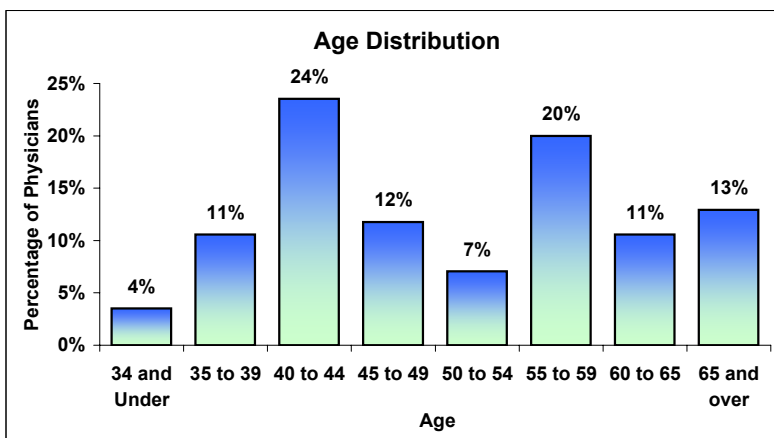
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - CARDIOLOGY



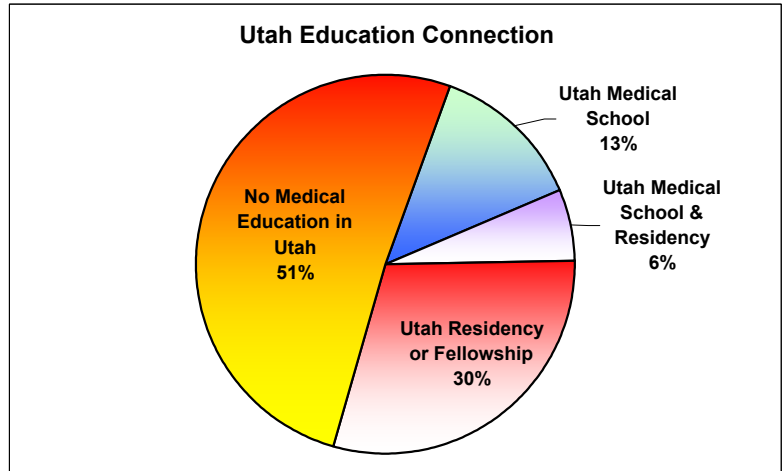
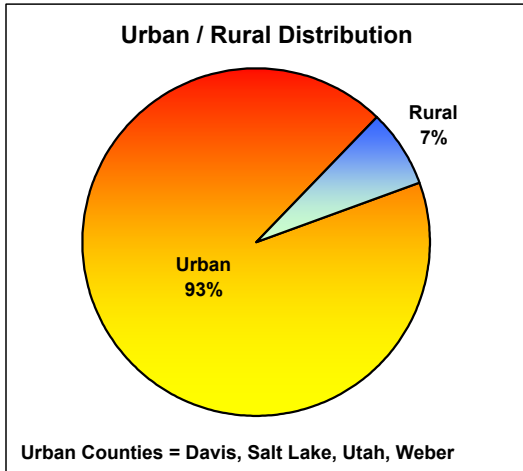
CARDIOLOGISTS: 99 (PEHP Estimate)

1. In 2001 the American College of Cardiology (ACC) conducted a review of the cardiology workforce and concluded that the U.S. is facing a serious shortage of cardiovascular specialists.
2. Although the ACC asserted that there was a national shortage of cardiologists, they made no recommendation on the appropriate number of cardiologists required for a given population. The lack of a national benchmark makes it difficult measure the local workforce, however all variables indicate that the state is headed towards a serious cardiologist shortage.
3. The UMEC survey showed that 44% of Utah cardiologists are over the age of 55, and approximately 46% plan on retiring in the next 10 years. When asked about the current status of their patient care practice, 55% indicated that their practice is nearly full and 10% indicated that their practice was completely full and were unable to accept new patients.
4. The challenge of adding more cardiologists to Utah is no easy task. Current estimates show that Utah will need to add at least 6 cardiologists to the workforce each year just to maintain current capacity with the anticipated likelihood of increased demand by the baby boomer population.
5. Currently, the state has only one cardiology training program that graduates 4 fellows per year in general cardiology, 3 in transplant cardiology, 2 in electrophysiology, and 2 in interventional cardiology. Out of the 4 fellows that graduate from general cardiology, approximately 50% to 75% go on to further subspecialty training, leaving 1 cardiologist available for the workforce with only a 30% likelihood of Utah practice. As for the fellows in subspecialty training, nearly 100% leave Utah upon graduation for practice in another state. Under current conditions, Utah is likely to encounter problems recruiting from the national pool resulting in a shortage of providers in this specialty over the next 5 to 10 years.



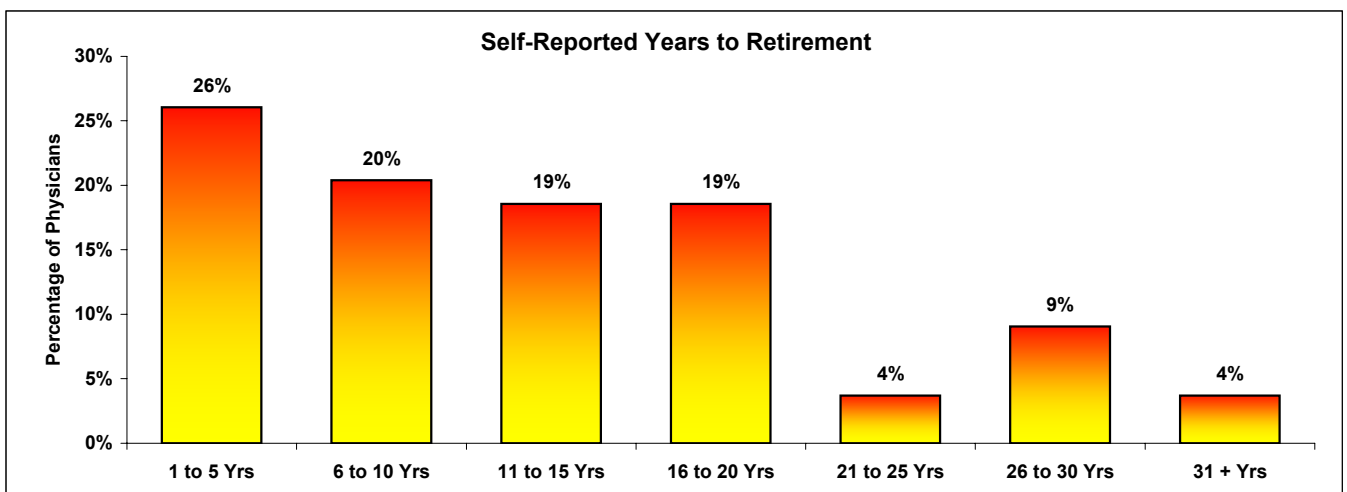
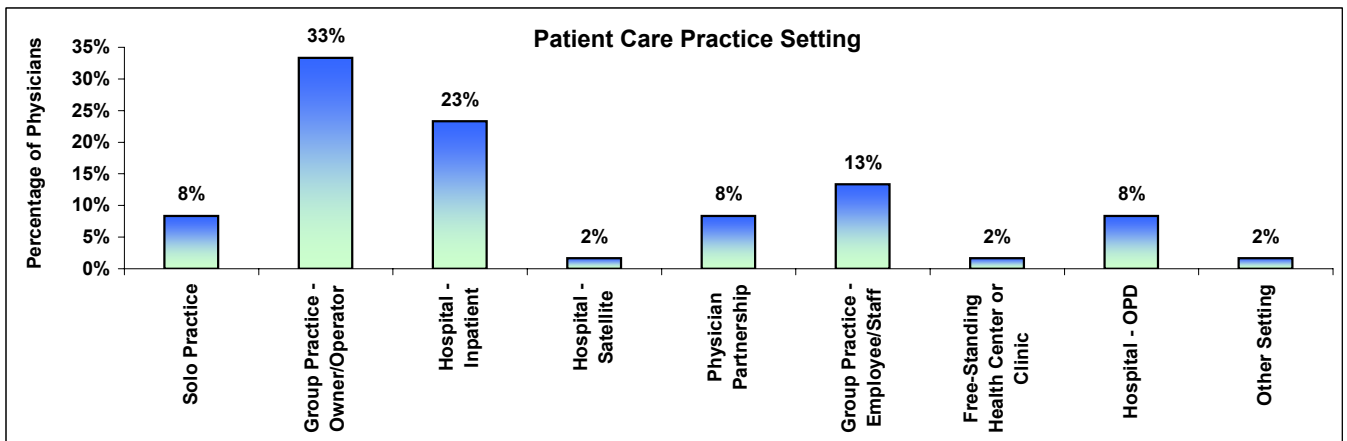
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - CARDIOLOGY



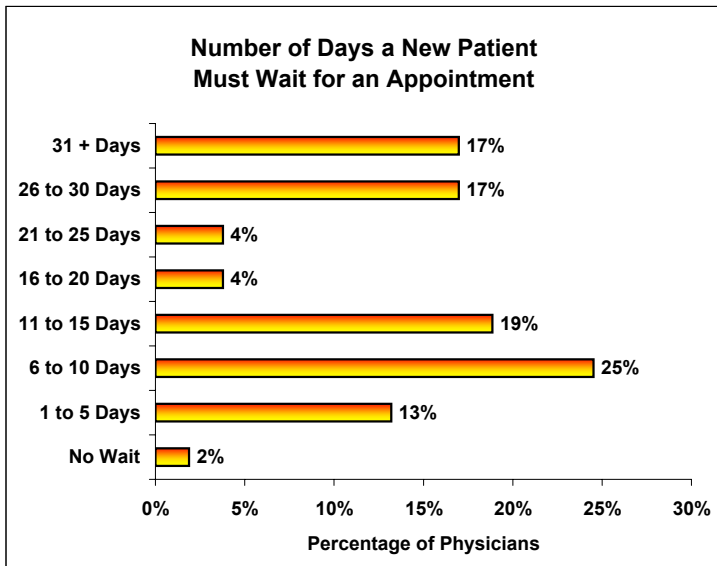
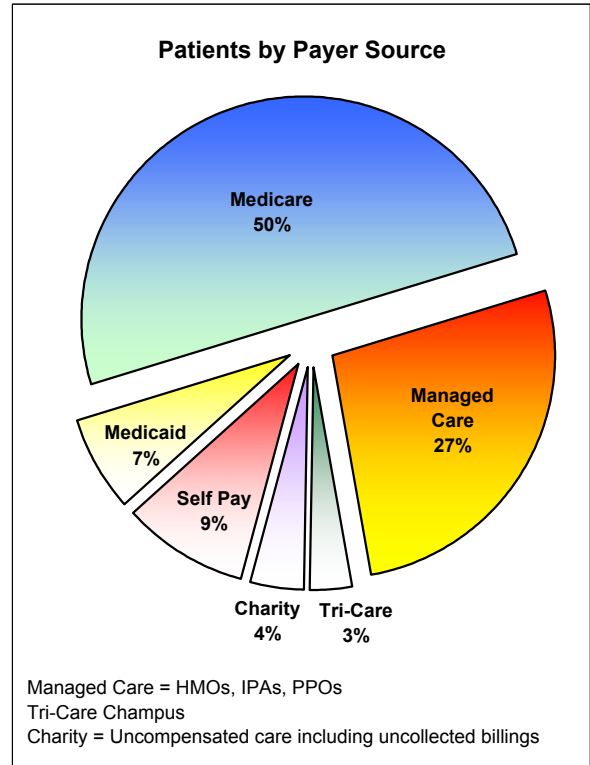
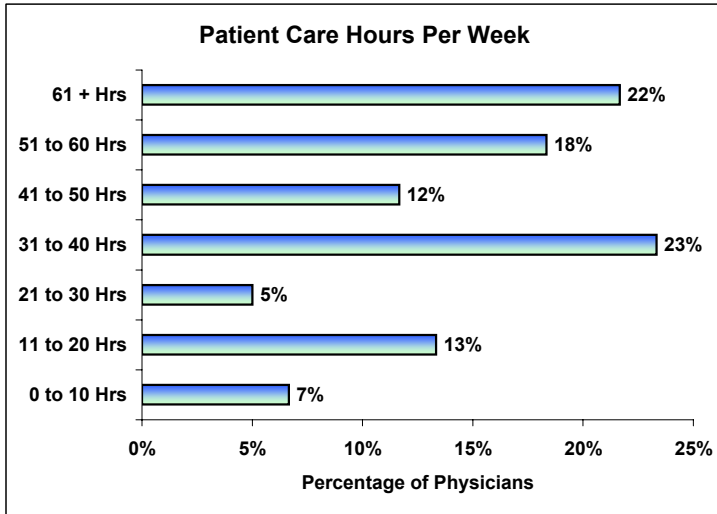
Board Certification of Cardiologists				
Primary Board Certification			Secondary Board Certification	
			Internal Medicine (General)	Cardiology
Internal Medicine (General)	66	75%	0	60
Cardiology	20	23%	9	1
Surgery (General)	1	2%	0	1
N =		87	100%	9
				62

Gross Annual Earnings		
Mean	Median	Mode
\$254,833	\$215,000	\$200,000



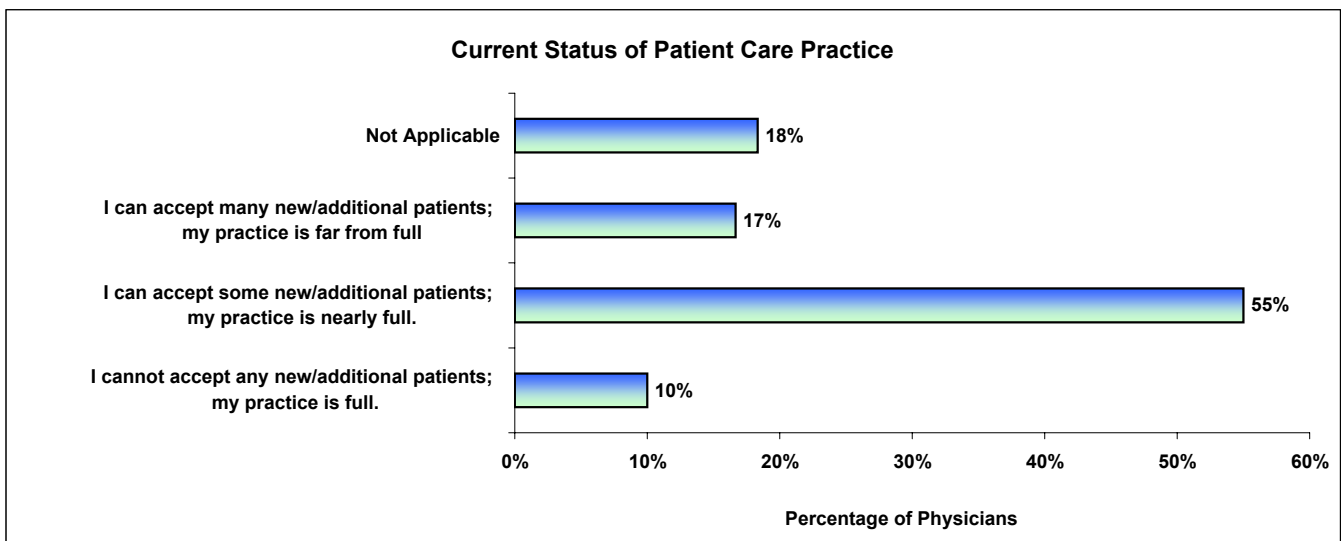
SPECIALTY PROFILE:

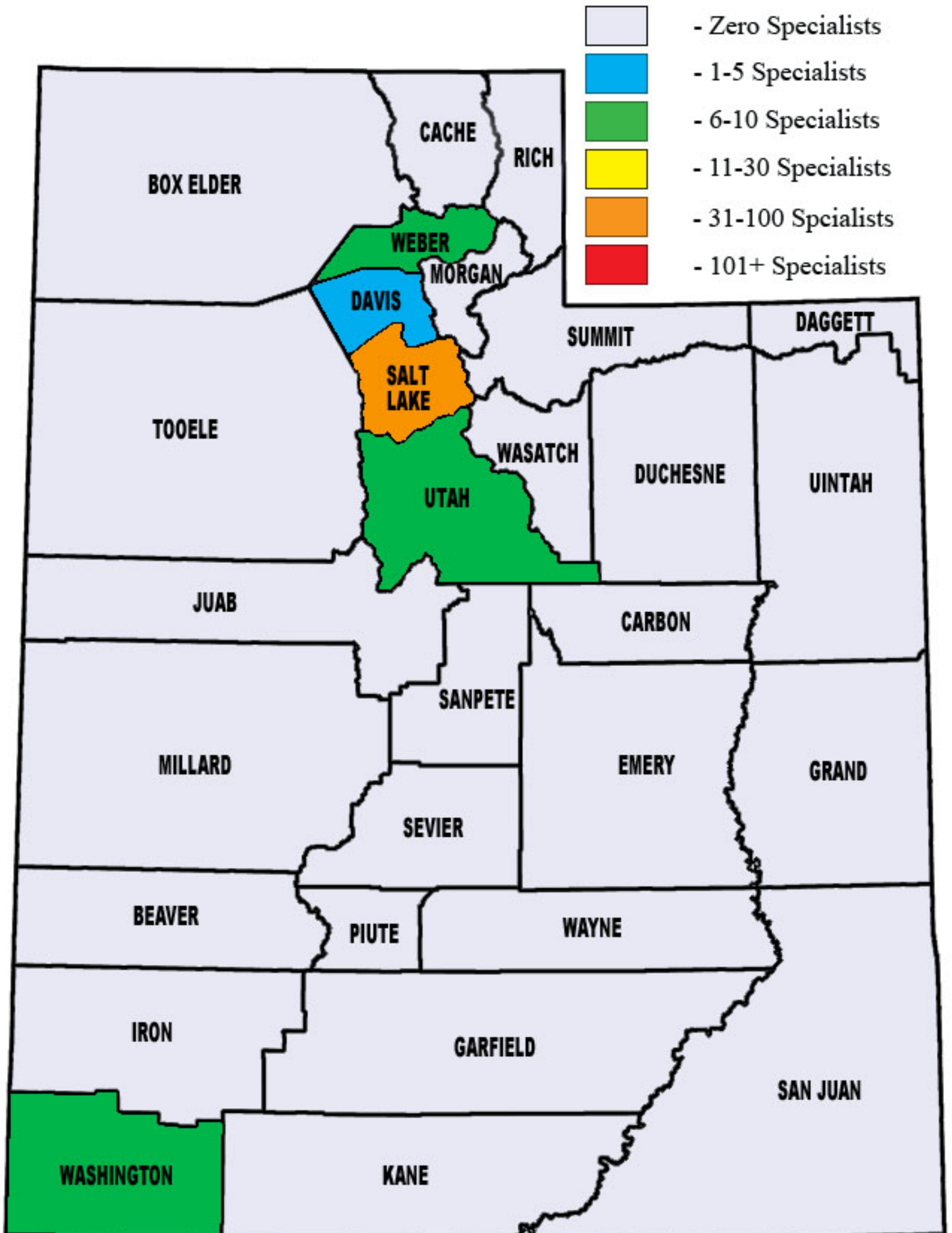
I.M. SUBSPECIALTY - CARDIOLOGY



Average Number of Patients Seen Per Week

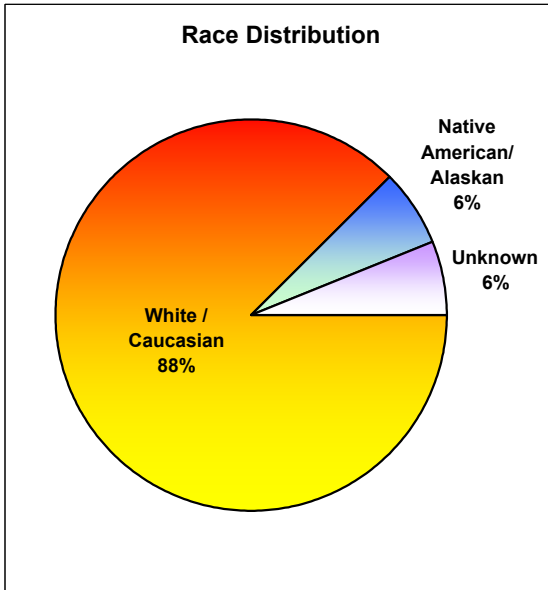
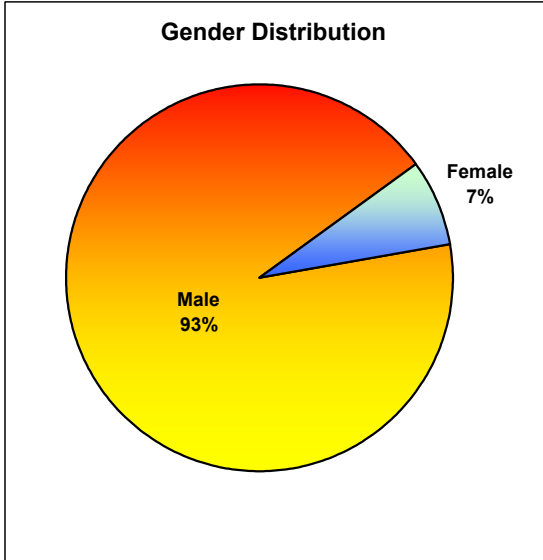
Patient Type	Office	Urgent Care	ER
	45	2	3
In-patients	Hospital	20	
	Nursing Home	0.05	





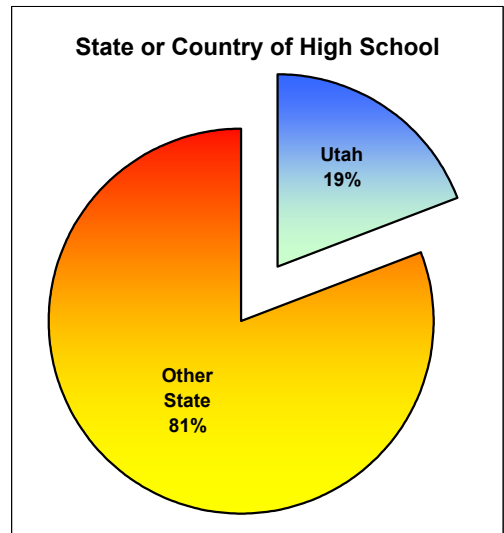
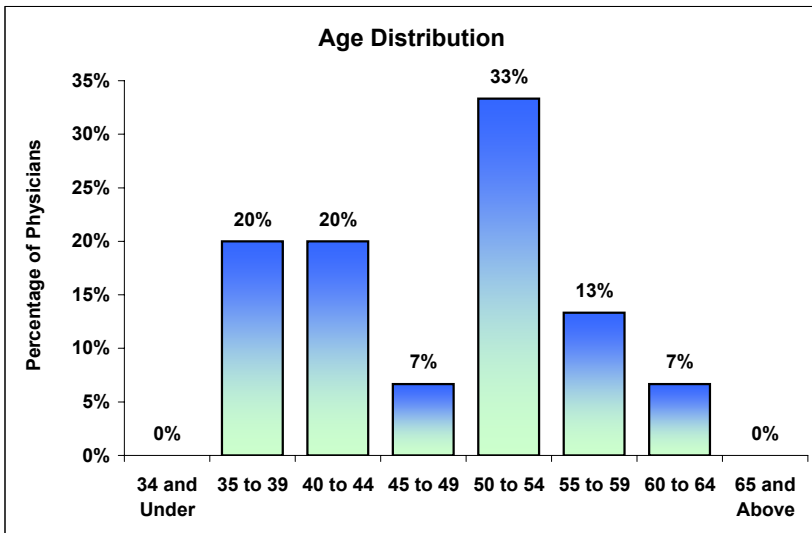
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - CRITICAL CARE MEDICINE

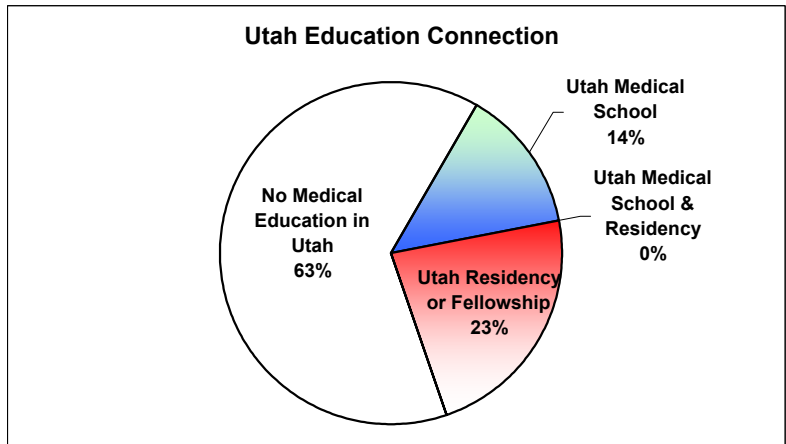
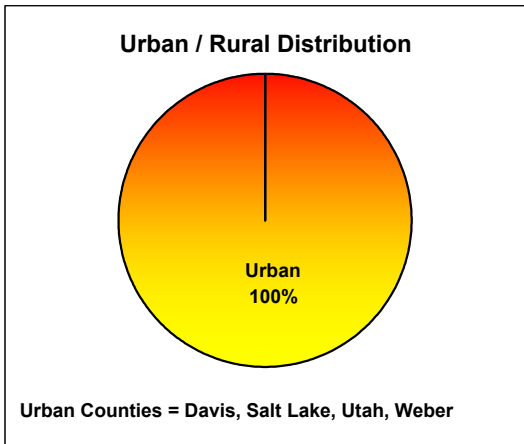


CRITICAL CARE MEDICINE: 35 (ABMS Estimate)

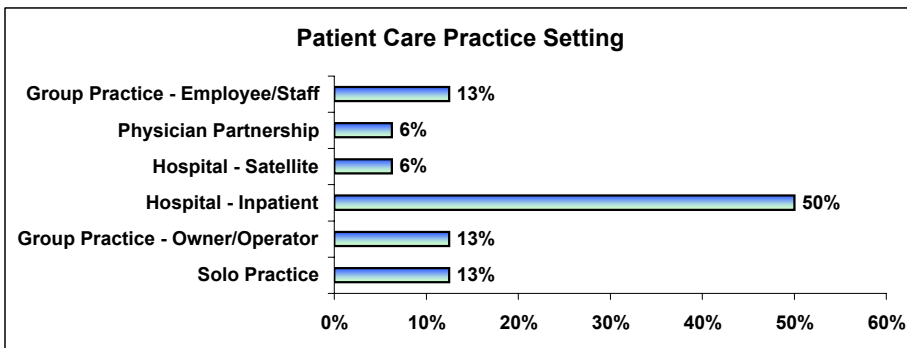
- The field of critical care medicine is composed of physicians from various training backgrounds each with special emphasis on the diagnoses and treatment of multiple organ dysfunction. The American Board of Medical Specialties (ABMS) currently lists critical care medicine as a subspecialty of anesthesiology, internal medicine, obstetrics & gynecology, pediatrics, and pulmonary disease. In addition, physicians in many other specialties such as general surgery have also been known to practice critical care medicine.
- In 2003 the ABMS reported that there were 31 critical care training programs in the United States with 190 offered positions, of which 155 were filled with residents in training. The 82% fill rate implies declining interest among residents for this particular specialty.
- In an attempt to understand the critical care workforce, the American College of Chest Physicians, American Thoracic Society, and Society of Critical Care Medicine formed the Committee on Manpower for Pulmonary and Critical Care Societies (COMPACCS). The committee conducted a three year study and found that the national program output is not enough to keep up with the growing demand for critical care services. They predicted that the supply and demand for this specialty will remain unchanged until 2007, after which demand will rapidly outstrip supply producing a shortfall of 22% by 2020 and 35% by 2030 (Angus, et al.).
- Utah currently has 35 physicians practicing critical care medicine which equates to approximately 1.48 per 100,000 population. Although this is below the national average of 1.99 per 100,000, it is likely that a number of physicians practicing critical care medicine may be reported under different specialties. Even so, current data suggest that the number of Utah physicians in critical care medicine may be below optimum levels due to the percentage of providers reporting practices that are full or nearly full (40%).
- Utah does not have a free-standing residency program in critical care medicine, however there is a critical care component in the pulmonary disease residency, as well as a pediatrics critical care program. At this time it is unclear as to the percentage of graduates that remain in Utah practice from these residency training programs.



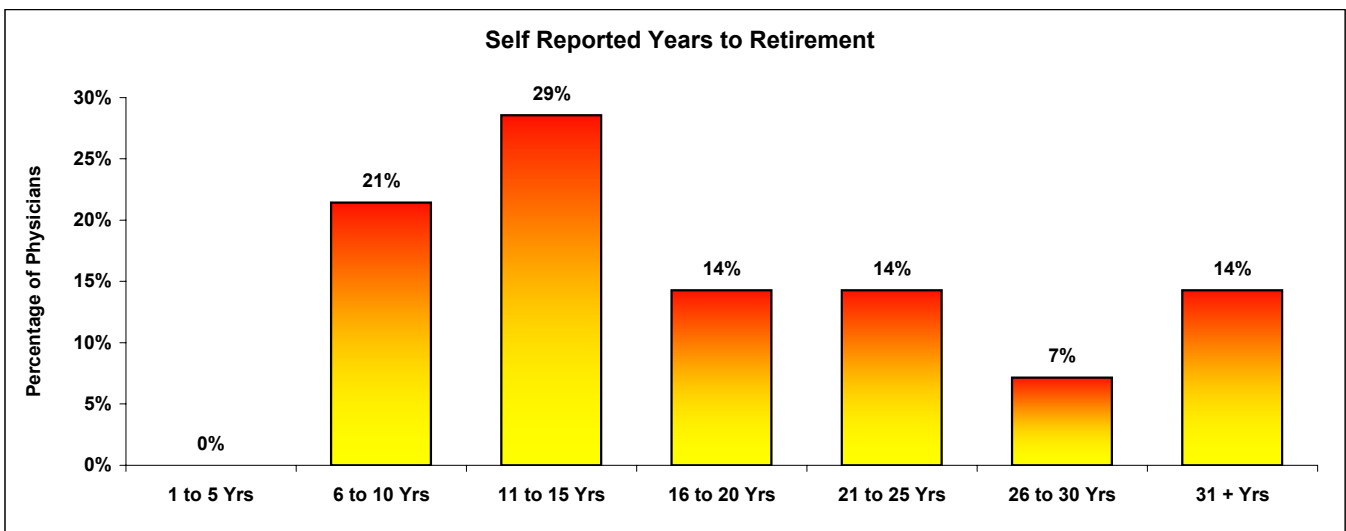
SPECIALTY PROFILE: I.M. SUBSPECIALTY - CRITICAL CARE MEDICINE



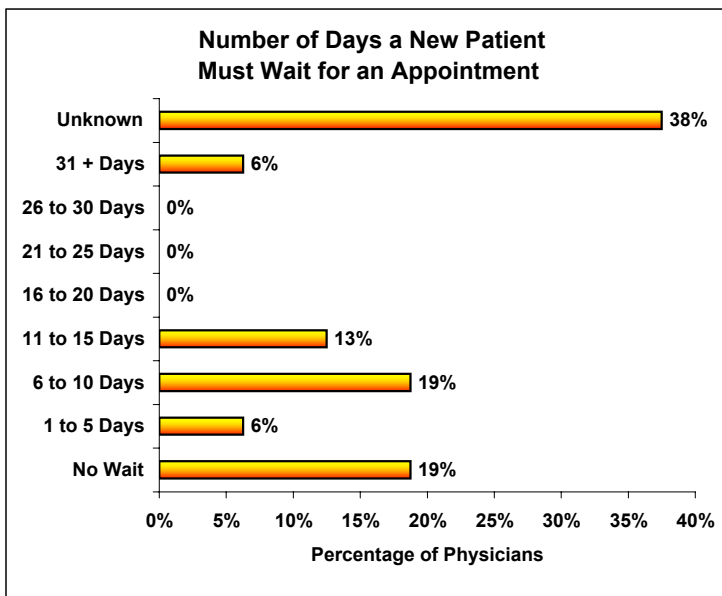
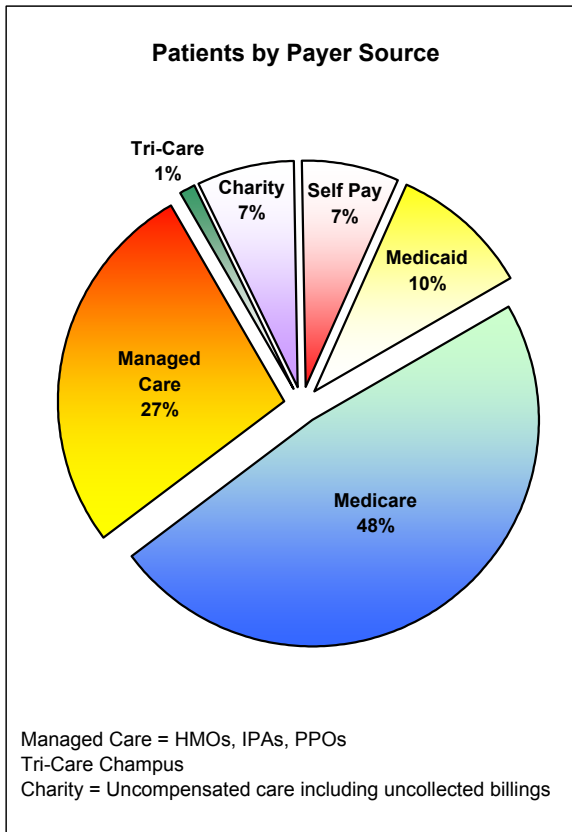
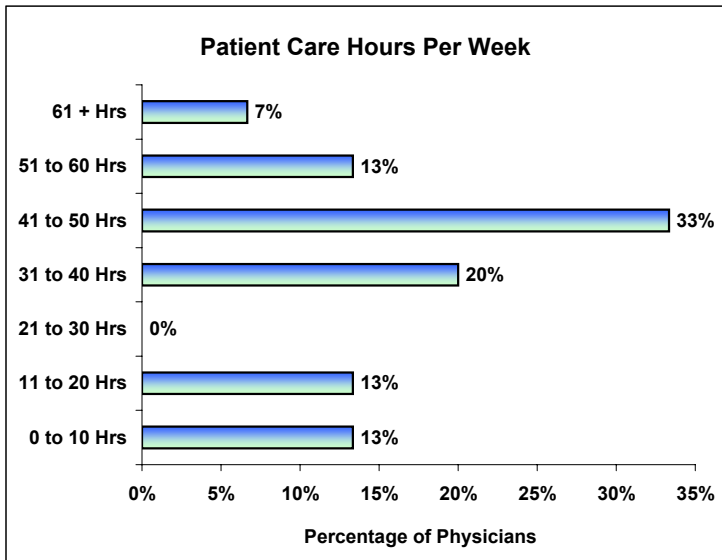
Board Certification of Physicians in Critical Care Medicine						
Primary Board Certification			Secondary Board Certification			
			Internal Medicine (General)	Critical Care Medicine	Nephrology	Pulmonary Diseases
Emergency Care	1	6%				
Internal Medicine (General)	13	56%		9	1	
Critical Care Medicine	6	25%	1		3	
Pulmonary Diseases	1	6%				1
Neurology	1	6%		1		
N =	23	100%				



Gross Annual Earnings	
Mean	\$171,143
Median	\$175,000
Mode	\$200,000

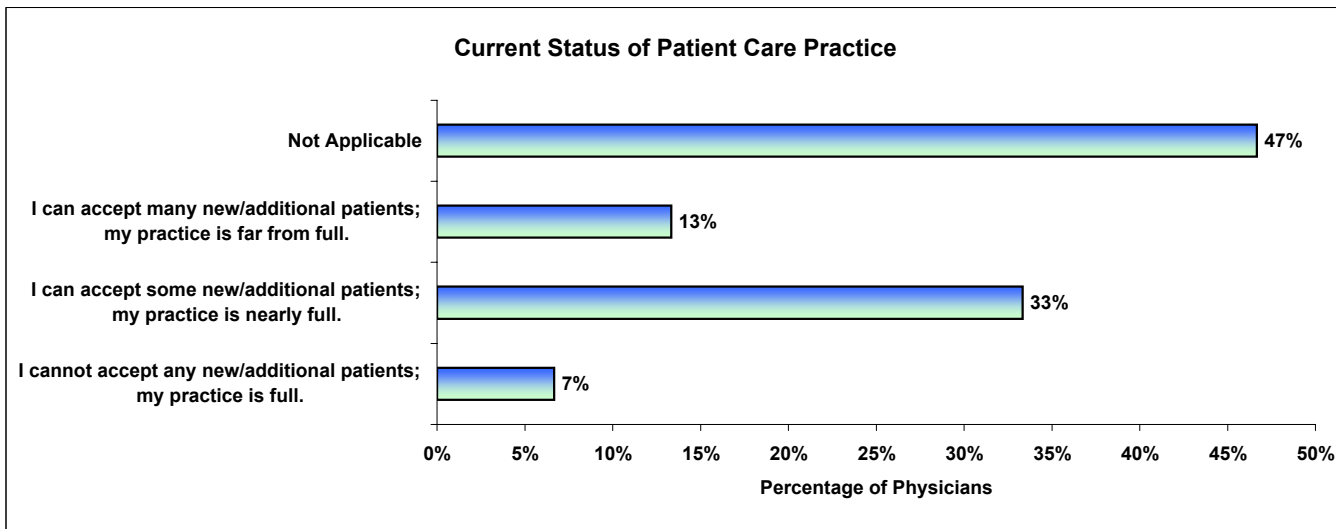


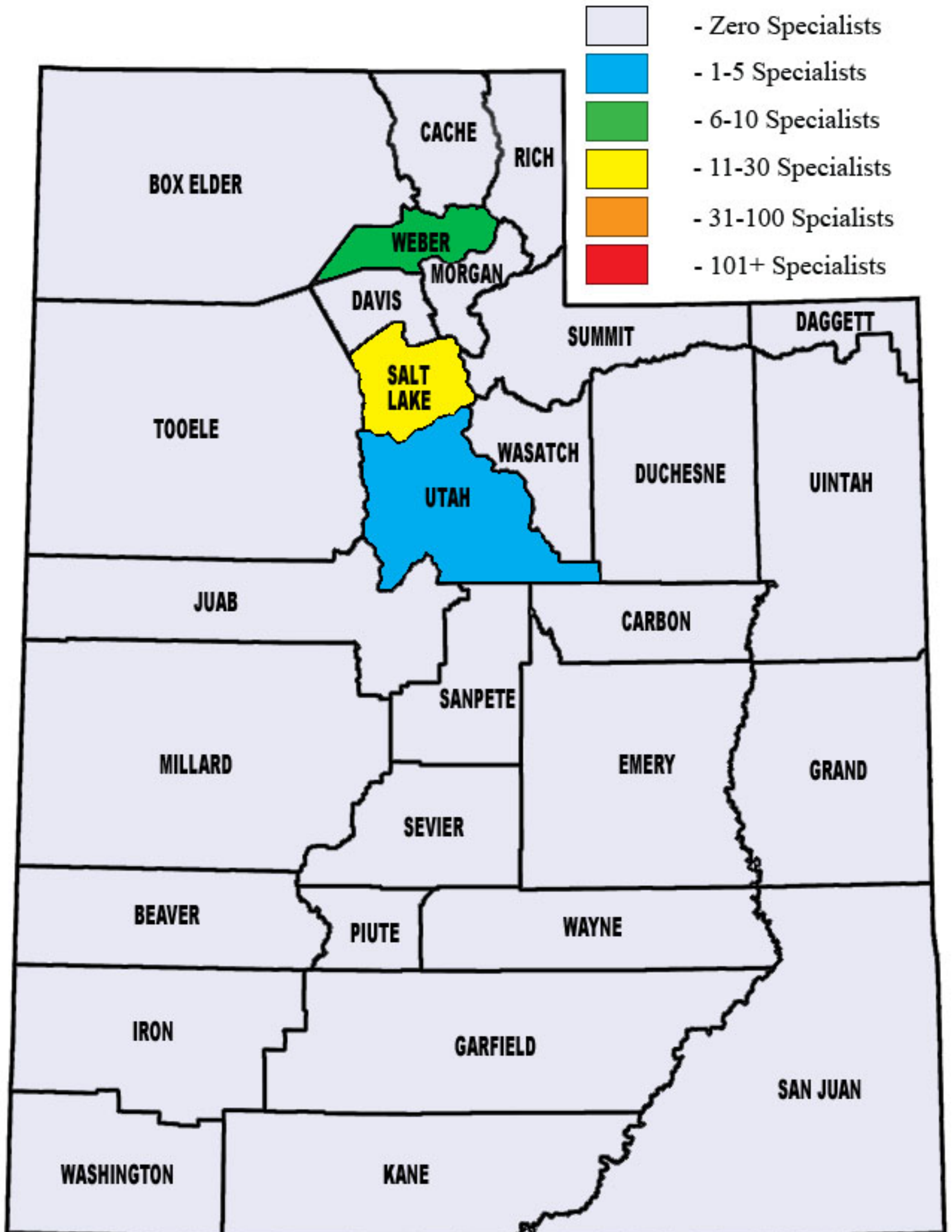
SPECIALTY PROFILE: I.M. SUBSPECIALTY - CRITICAL CARE MEDICINE

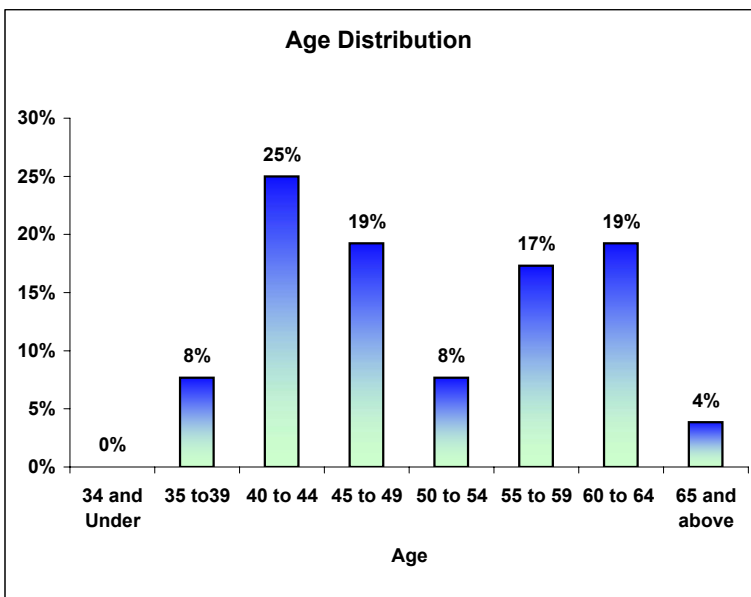
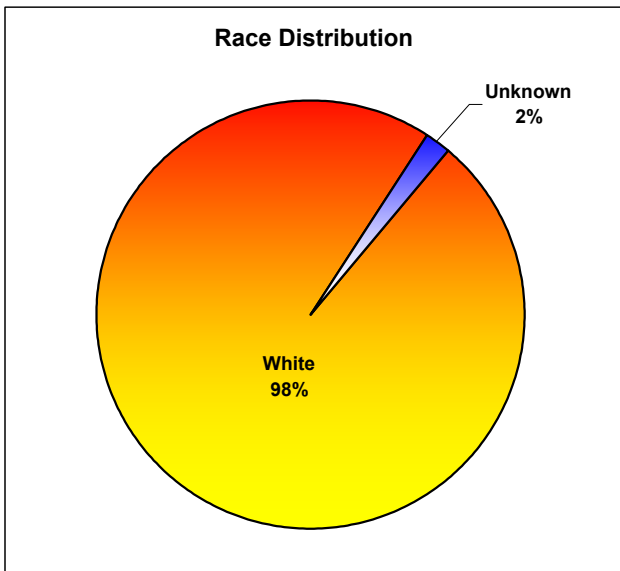
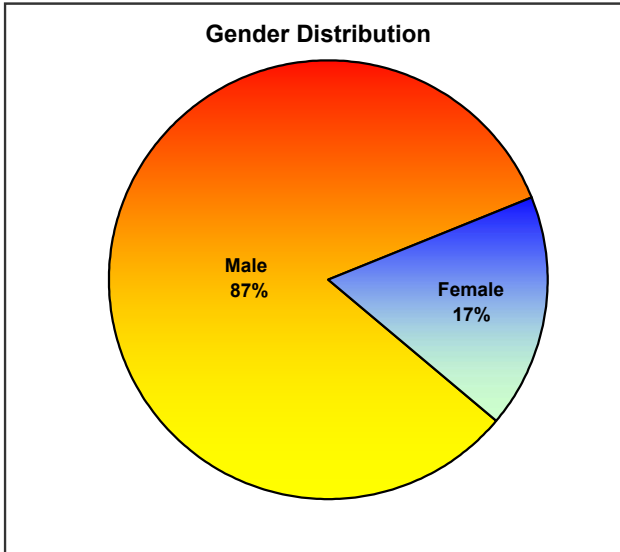


Average Number of Patients Seen Per Week

Patient Type	Average Number of Patients Seen Per Week	
	Setting	Count
Out-patients	Office	10
	Urgent Care	0
	ER	1
In-patients	Hospital	38
	Nursing Home	0

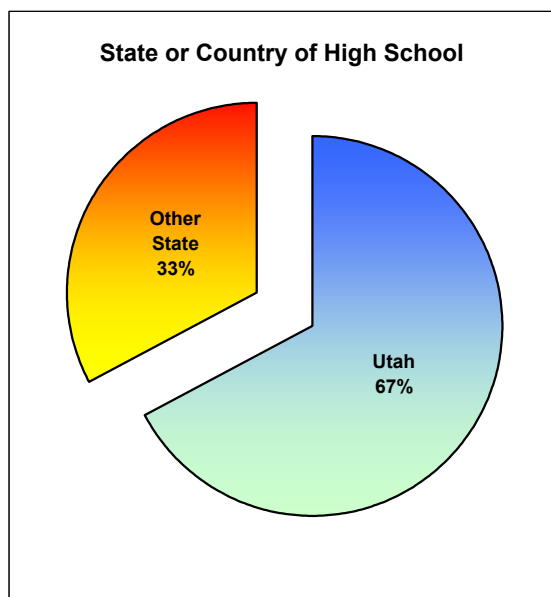






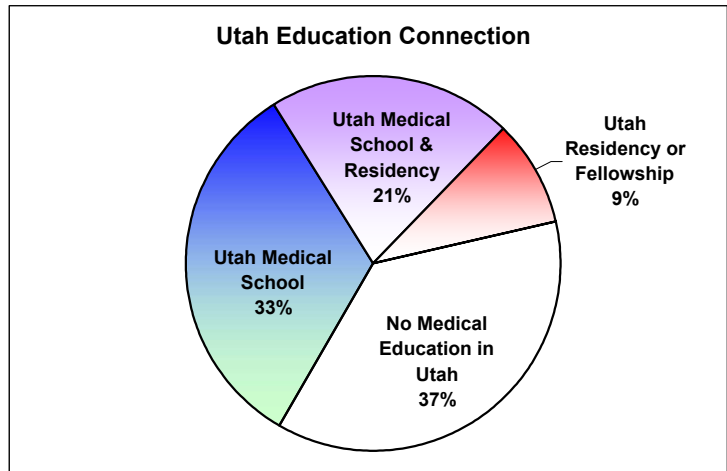
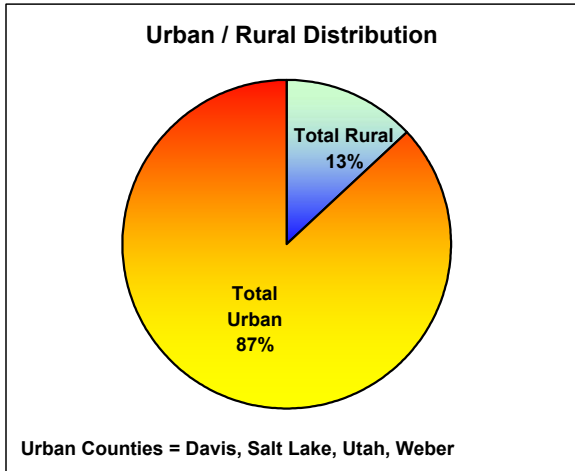
DERMATOLOGISTS: 77 (UMEC Estimate)

1. In January 2004, the American Academy of Dermatology released the results of their workforce study indicating that all signs were pointed towards a dermatology workforce shortage.
2. Comparative AMA data shows that the dermatologist to population ratio in Utah is very close to the national average. In 2001, the U.S. had a dermatologist to population ratio of 3.34, while Utah had a ratio of 2.94, a difference of only 0.4 providers.
3. Several indicators show that the current physician to population ratio is not enough to serve the state population. In 2003, over 39% of the dermatologists in Utah reported extended wait times for new patient appointments (31 days or more), with the longest wait time being 120 days for several providers. Approximately 66% of the providers in Utah reported having practices that were full or nearly full.
4. The limited supply of dermatologists has been a result of the fixed number of residents graduating from U.S. dermatology programs. Over the past 20 years, there has been no funding to increase training positions despite the high number of applicants interested in pursuing this specialty.
5. Only 2 residents graduate from the Utah training program each year. Of those that complete training in Utah, only 27% end up practicing in state while the rest are lost to national competition. This means that on average, Utah only recruits 1 resident every 4 years, which is not enough to meet the growing statewide demand.



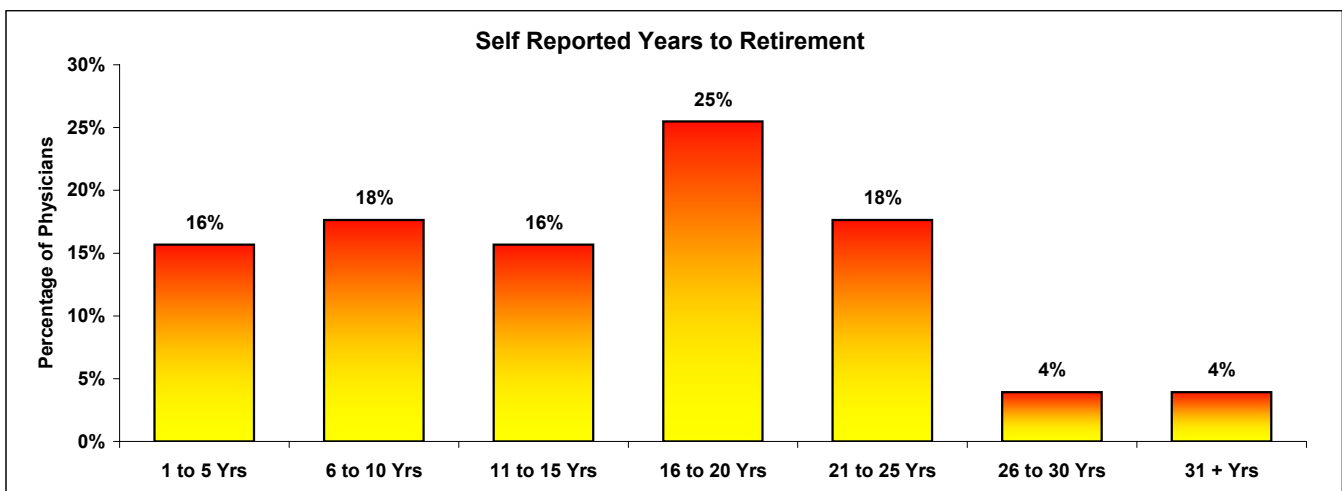
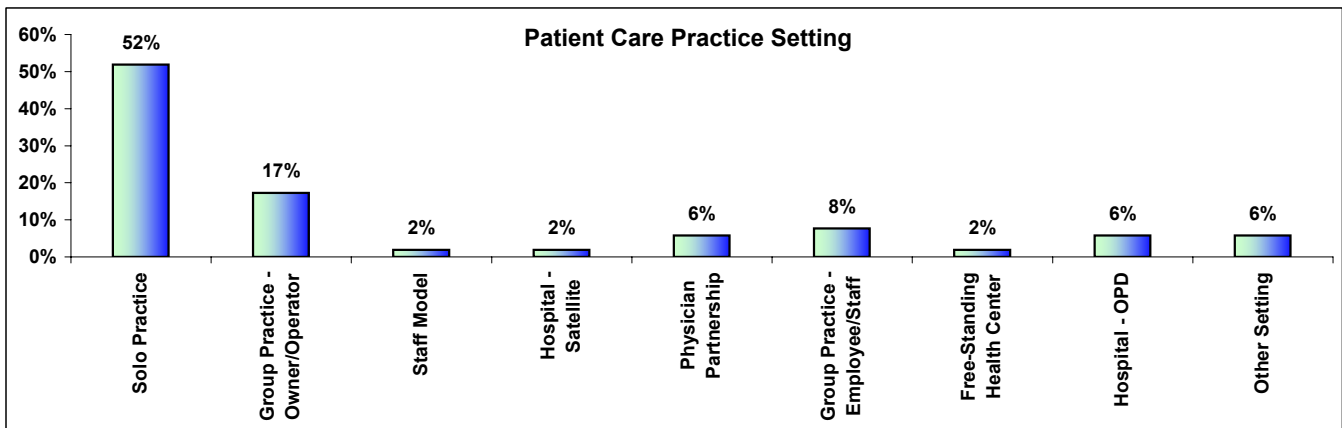
SPECIALTY PROFILE:

DERMATOLOGY



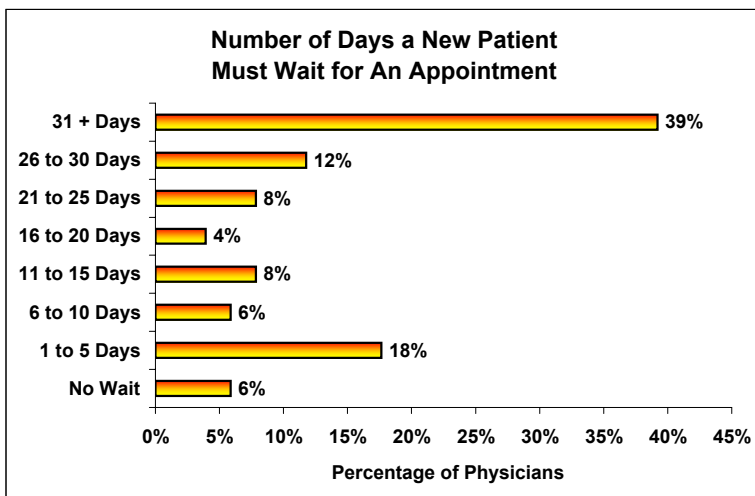
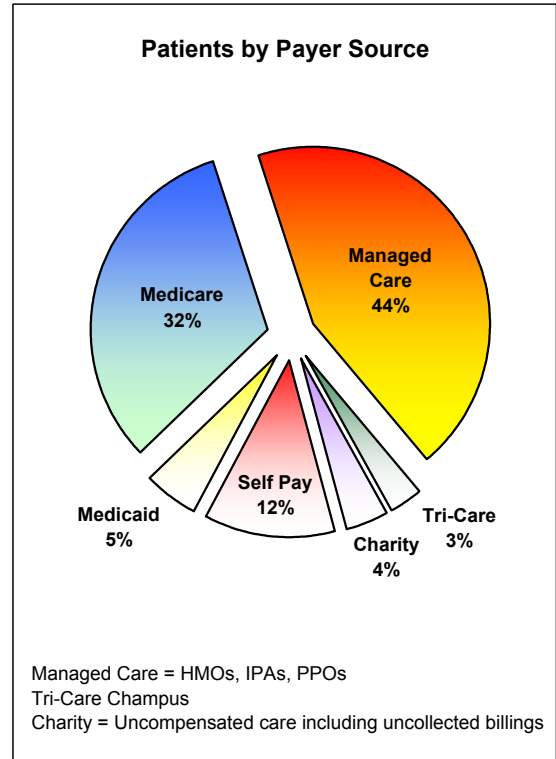
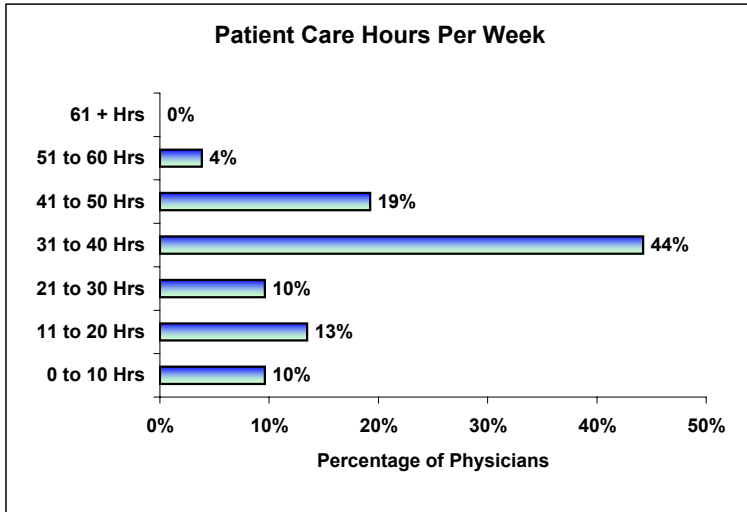
Board Certification of Dermatologists					
Primary Board Certification		Secondary Board Certification			
		Dermatology	IM (General)	Pathology Subspecialties	
Dermatology	64	93%		4	9
Internal Medicine (General)	4	6%	3		
Internal Medicine & Pediatrics	1	1%			
N =	69	100%	3	4	9

Gross Annual Earnings	
Mean	\$235,500
Median	\$200,000
Mode	\$200,000



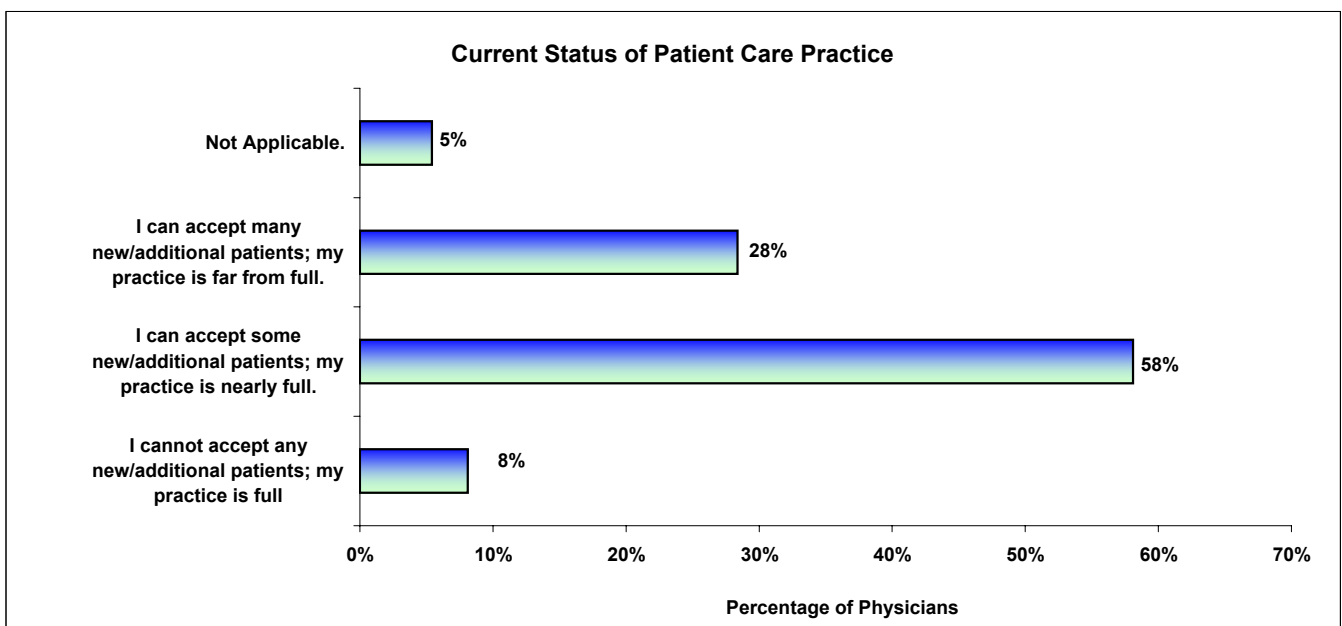
SPECIALTY PROFILE:

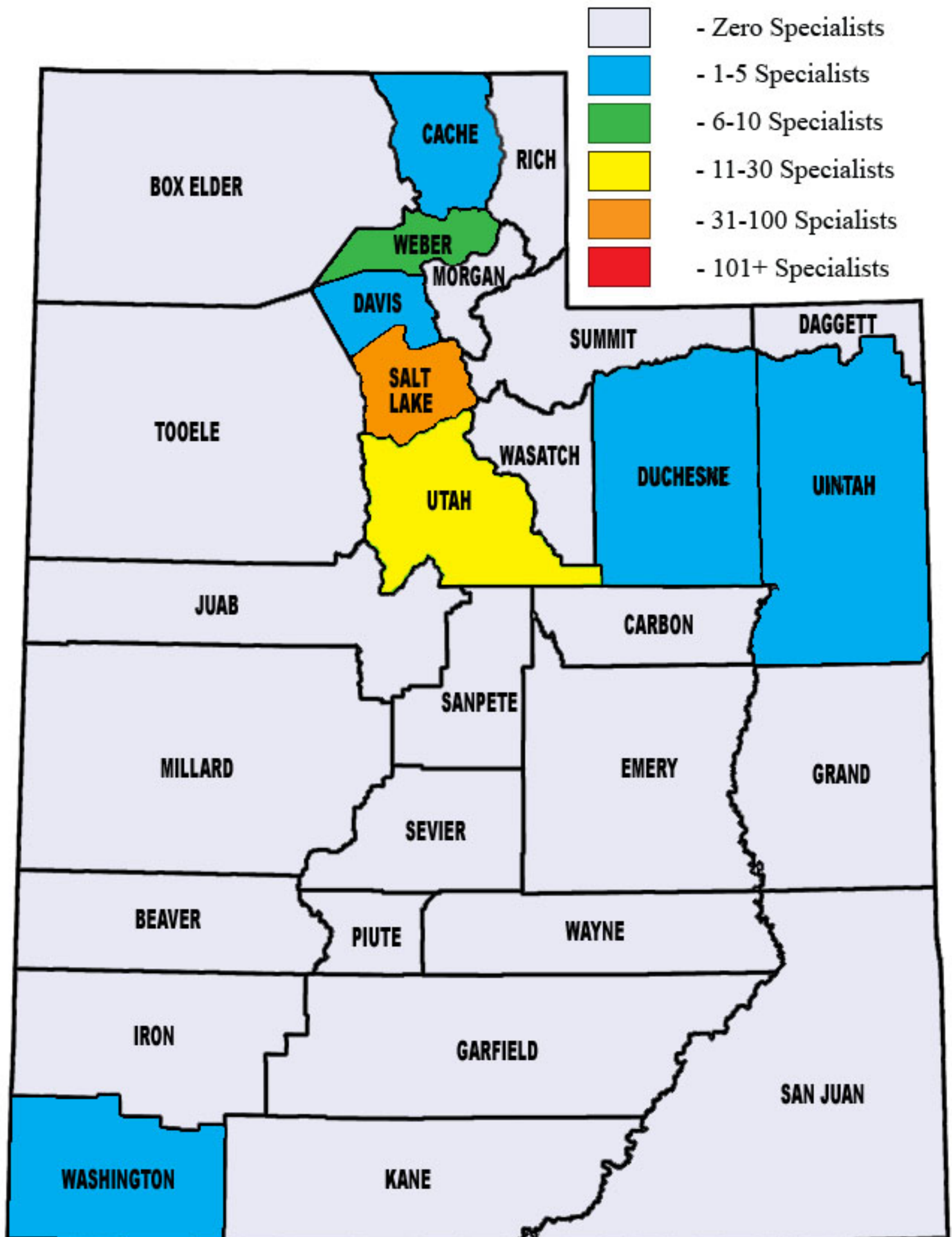
DERMATOLOGY

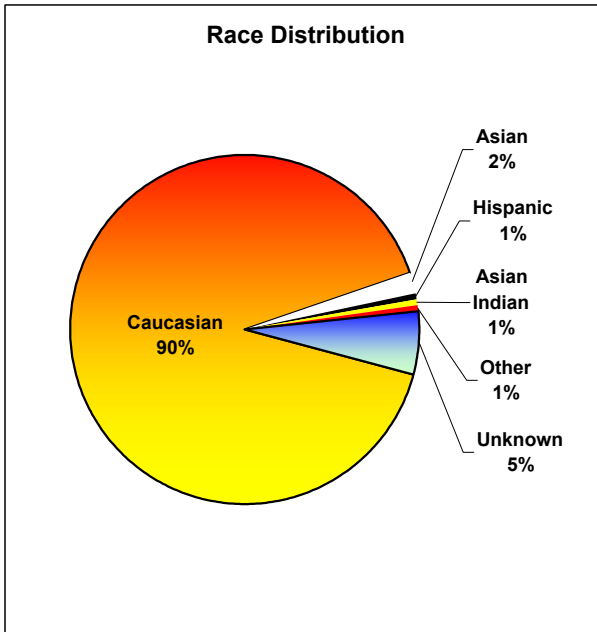
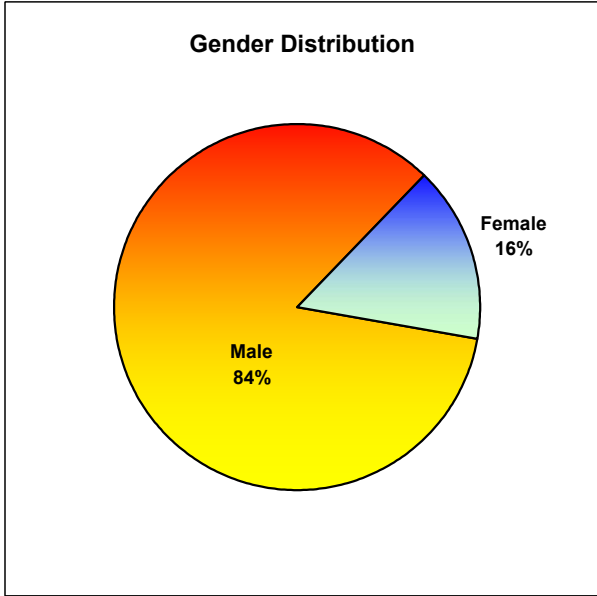


Average Number of Patients Seen Per Week

Out-patients	Office	129
	Urgent Care	0.48
	ER	3
In-patients	Hospital	0.43
	Nursing Home	0.04

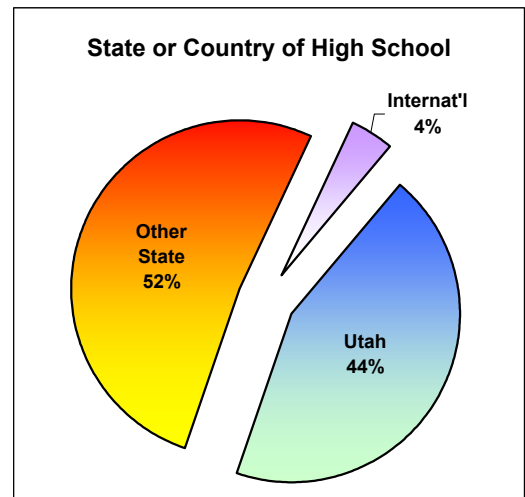
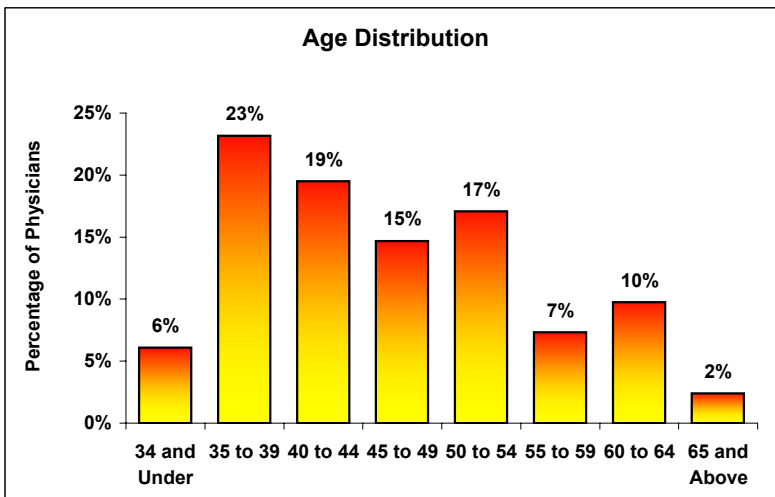






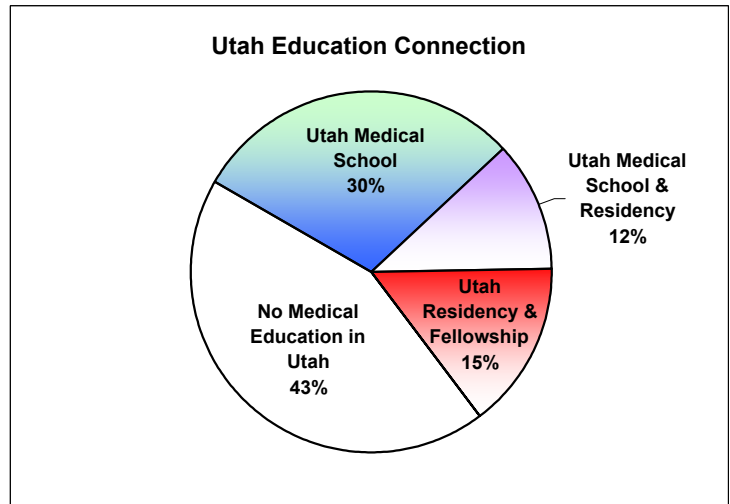
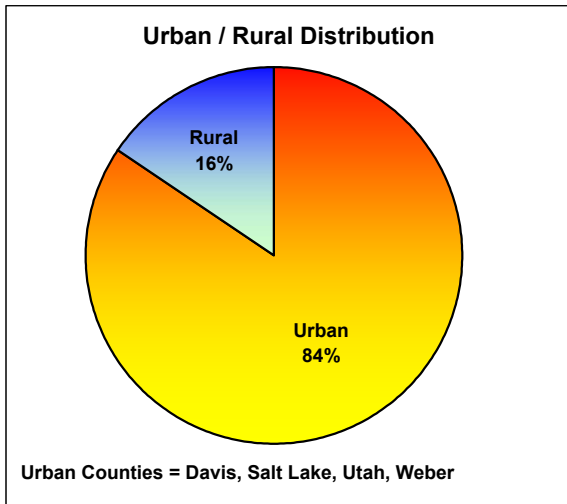
EMERGENCY CARE: 246 (UMEC Estimate)

1. The most recent data from the American College of Emergency Physicians (ACEP) showed that only 62% of emergency physicians are board certified or residency trained in emergency medicine. In Utah, approximately 63% of those practicing emergency medicine are board certified in the specialty.
2. Although the percentage of physicians board certified in emergency medicine may be lower than expected, current data show that many visits to the ED may not always require an emergency physician. A 2004 study by the Office of Health Care Statistics in the Utah Department of Health showed that four out of every ten ED visits in 2001 were primary care sensitive ED visits, meaning they fell into one of the following three categories: (1) non-emergent, (2) emergent but primary care treatable, (3) emergent - ED needed but preventable/avoidable.
3. National studies have concluded that approximately 5 FTEs are required for adequate clinical staffing of an emergency department (ACEP, Holliman, et. al.). Under this criterion, Utah does not appear to be experiencing a shortage of ED physicians since the state averages 5.15 FTEs per hospital. However, data from the Utah Office of Health Care Statistics show that demand for emergency physicians may be rising due to the continuous increase in visits to emergency departments.
4. In July 2005, the University of Utah in conjunction with LDS Hospital and the VA Medical Center, officially opened an emergency residency training program with 8 residents in each program level. At this time it is unclear as to the percentage of residents that will remain in state after completion. The UMEC hopes that the presence of the residency program will, overtime, increase the percentage of board certified emergency physicians in Utah, particularly in rural areas of the state.

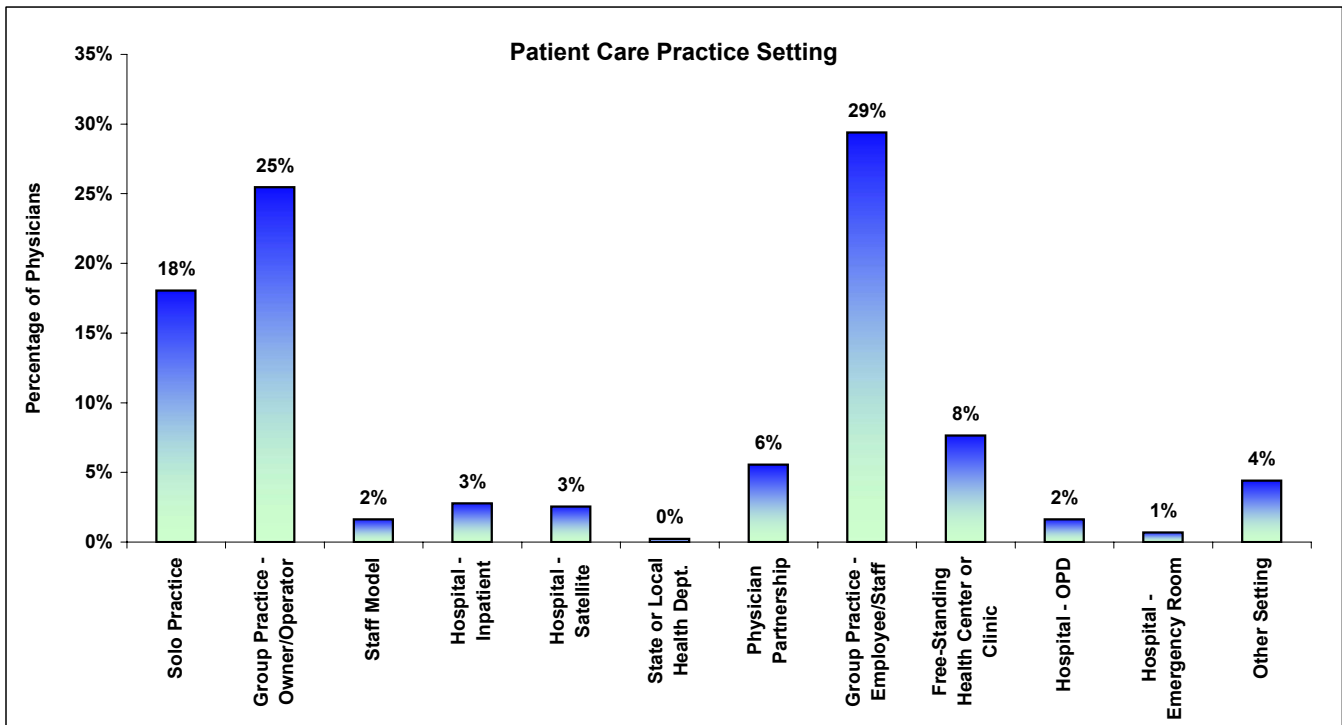


SPECIALTY PROFILE:

EMERGENCY CARE

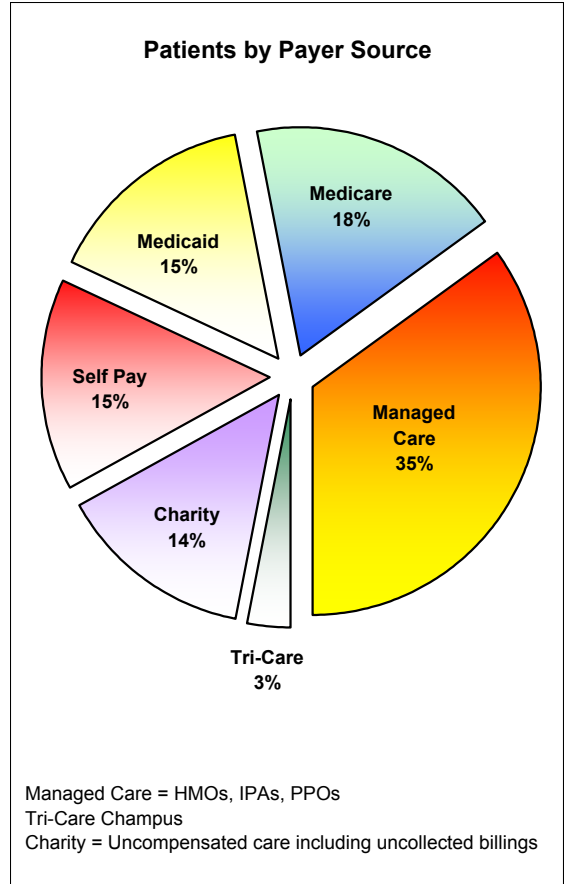
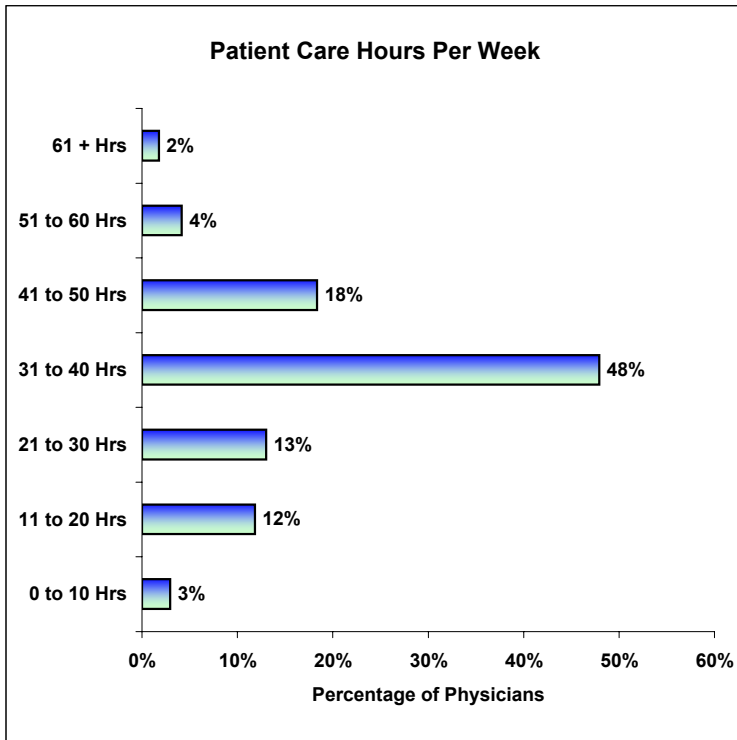


Board Certification of Emergency Medicine Physicians												
Primary Board Certification			Secondary Board Certification									
			Emergency Medicine	Internal Medicine (General)	Family Practice	Geriatrics	Internal Medicine (Subs.)	Pediatrics (Subs.)	Preventive / Occupational Health	Surgery (General)		
Emergency Medicine	140	83%		4	8		1	2	1	1		
Internal Medicine (General)	14	8%										
Family Practice	13	8%	9									
Internal Medicine & Pediatrics	1	1%	6			1						
Surgery (General)	1	1%										
N =			169	100%	15	4	8	1	1	2	1	1



SPECIALTY PROFILE:

EMERGENCY CARE

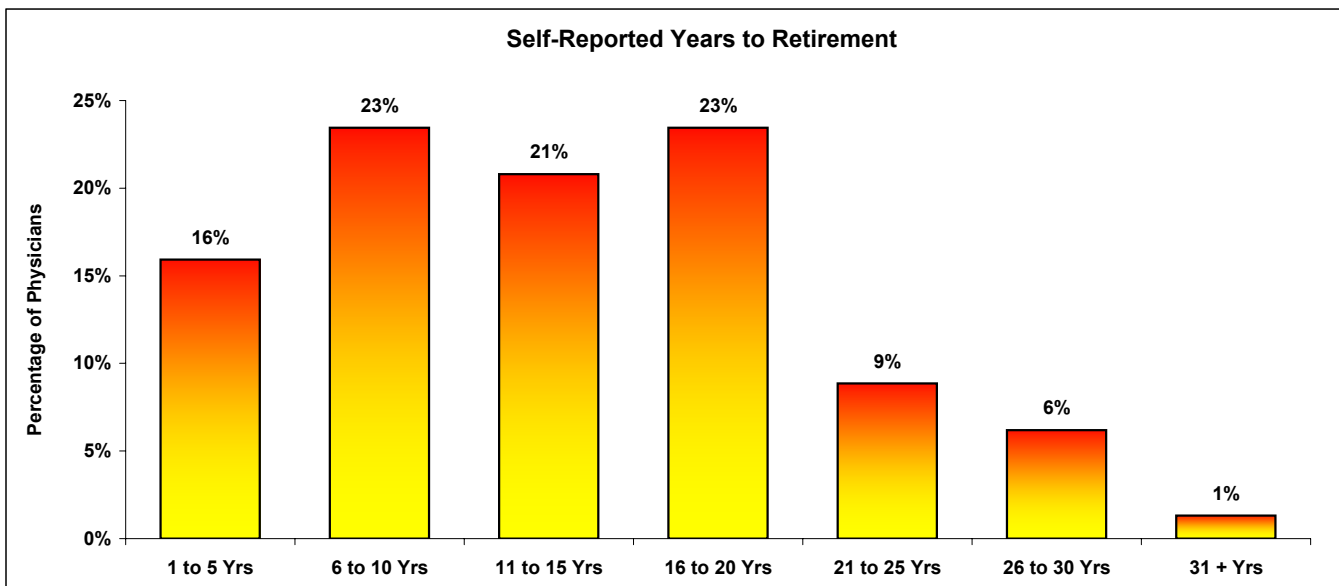


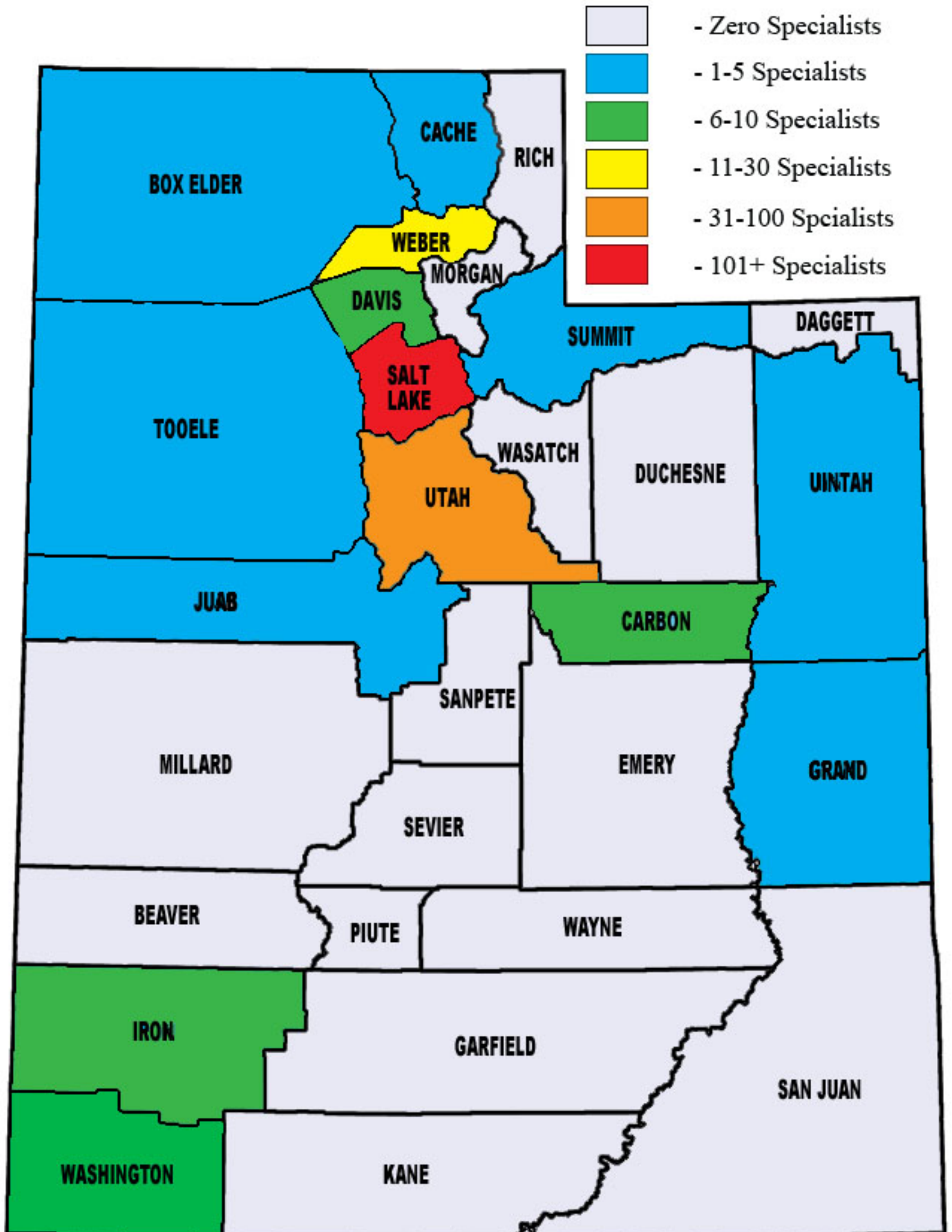
Average Number of Patients Seen Per Week

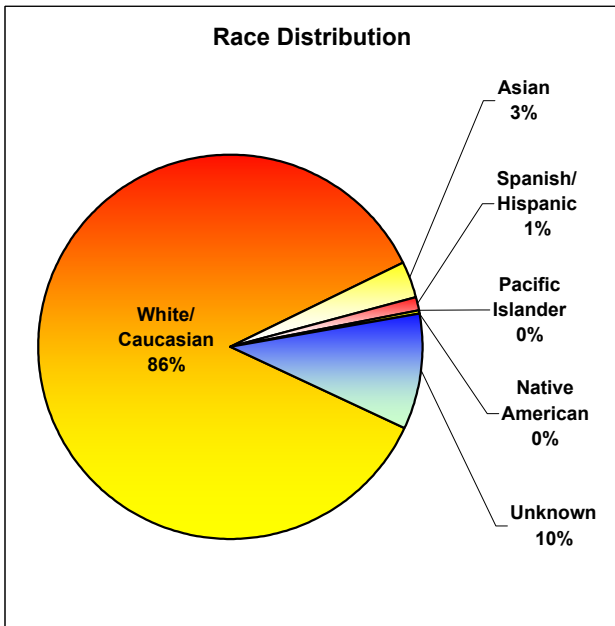
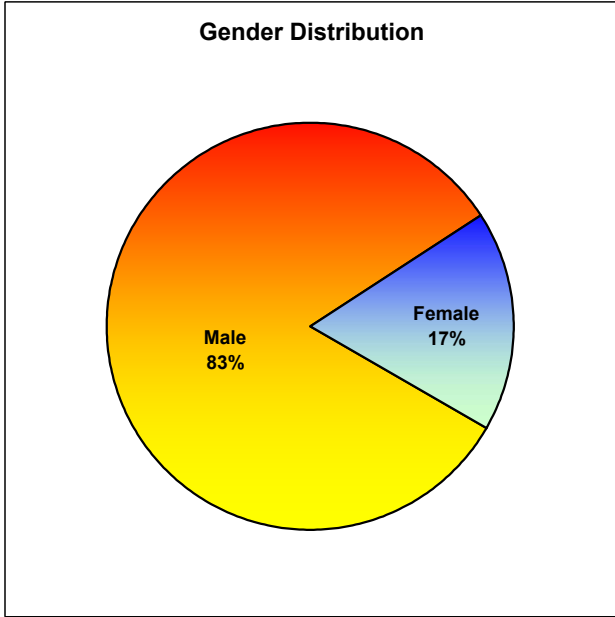
Patient Type	Average Number of Patients Seen Per Week	
	Setting	Count
Out-patients	Office	3
	Urgent Care	10
	ER	83
In-patients	Hospital	0.23
	Nursing Home	0.03

Gross Annual Earnings

Mean	Median	Mode
\$203,528	\$185,000	\$200,000







FAMILY PRACTITIONERS: 641 (UMEC Estimate)

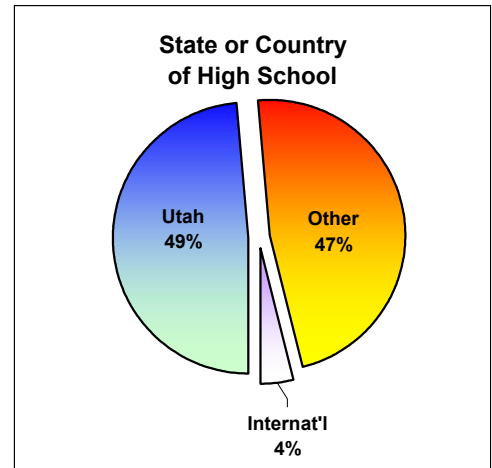
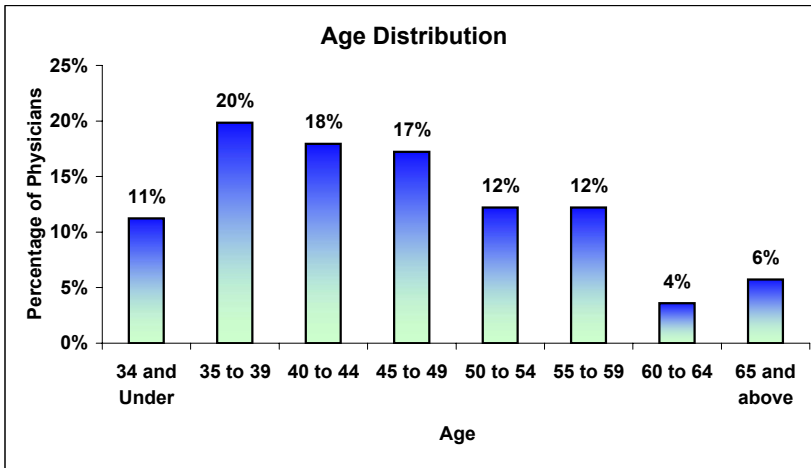
1. Since 1998 there has been a significant decline in interest in family practice by U.S. medical students. Data from the National Resident Matching Program (NRMP) reveal a 12% decrease in the number of family practice positions offered between 1998 and 2005. Even with the decrease in offered positions, residency programs have been able to fill only 70% of their offered positions, of which, only 55% are U.S. medical school graduates.

2. The shrinking pool of interested and qualified applicants has made it difficult to increase the number of family practice residents in Utah. Since 2005, there has been a 15% decrease in the number of residency positions offered by Utah family practice residency programs.

3. Conservative estimates show that Utah needs to recruit at least 35 family practitioners per year just to maintain current capacity. Even if Utah residency programs can fill all of their offered positions and retain residents at the same level that it has in the past (75%), the state would still need to recruit 18 physicians from the national pool to fill workforce needs.

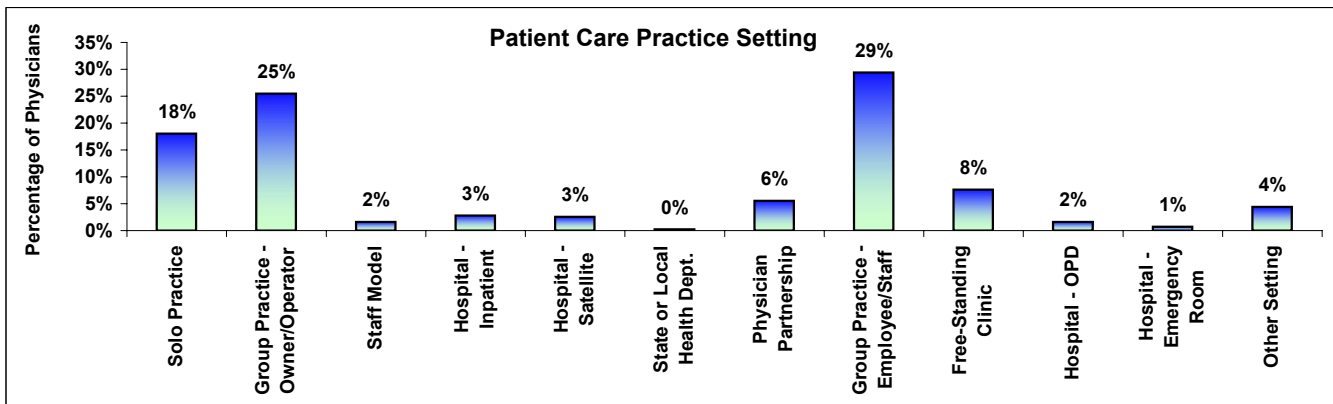
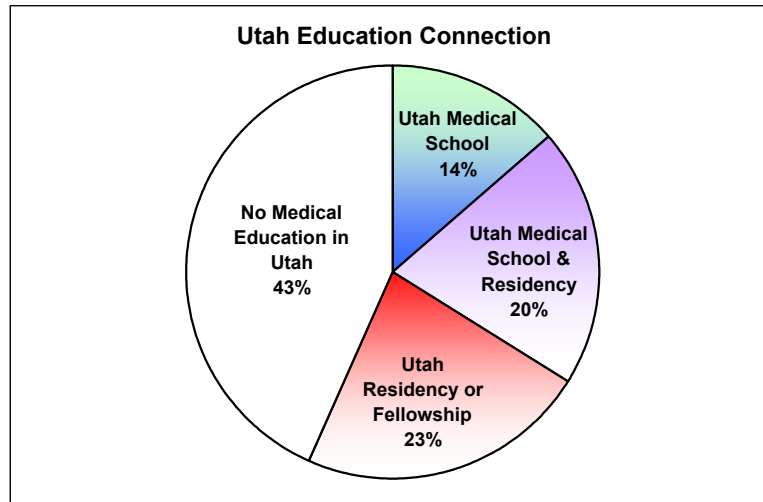
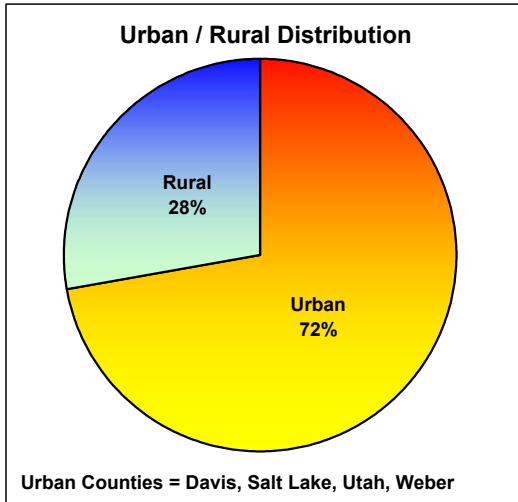
4. Family practitioners currently constitute the greatest percentage of providers in rural areas. In Utah, this equates to approximately 30% of the rural physician workforce. The national decline of family practitioners will contribute to the burgeoning problem of patient access in rural communities.

5. The limited number of primary care physicians will increase demand for mid-level providers. It is apparent that this is already happening in Utah as is evident by the annual increase of 9.3% in PAs and 12% in APRNs between 1998 and 2003. The 2003 UMEC survey data show that 39% of Utah PAs work in family medicine.



SPECIALTY PROFILE:

FAMILY PRACTICE

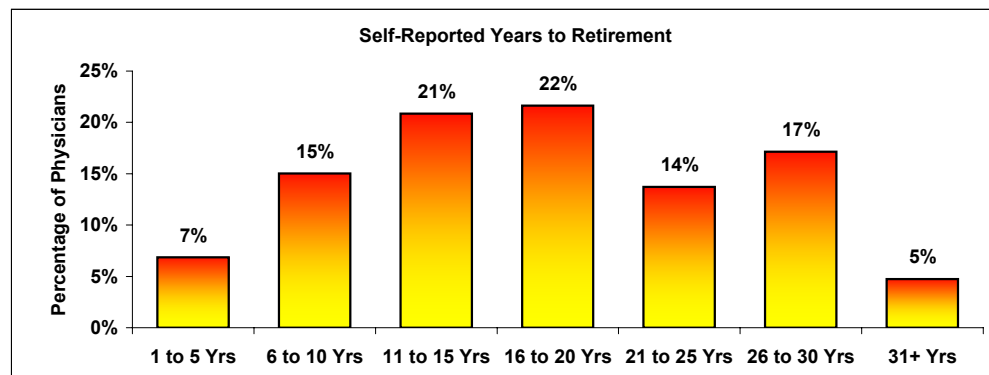


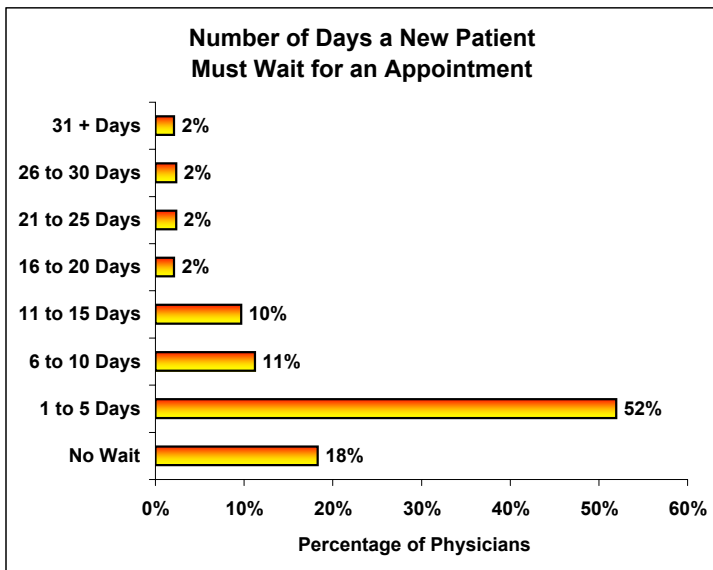
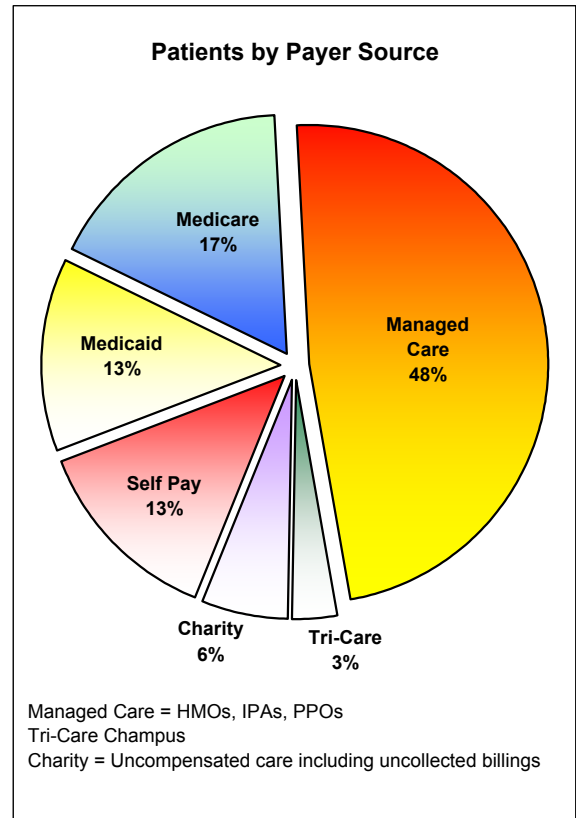
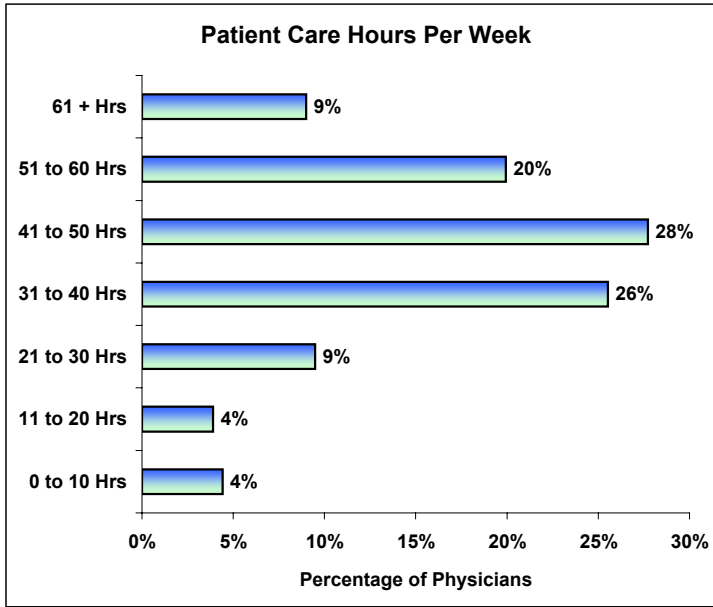
Board Certification of Family Practice Physicians

Primary Board Certification	Secondary Board Certification										
	Allergy & Immun.	Emergency Care	Family Practice	Hospice & Palliative Medicine	Internal Medicine (General)	Geriatrics	OB/GYN (General)	OB/GYN (Subs.)	Physical Medicine & Rehab.	Other	
Family Practice	601	98%	6	20	3	3	4	11	1	1	16
Emergency Medicine	7	1%		4							
Gastroenterology	1	0%									
Preventive / Occupational Health	1	0%									
Surgery (General)	1	0%		1							
N =	611	100%	6	20	5	3	4	11	1	1	16

Gross Annual Earnings

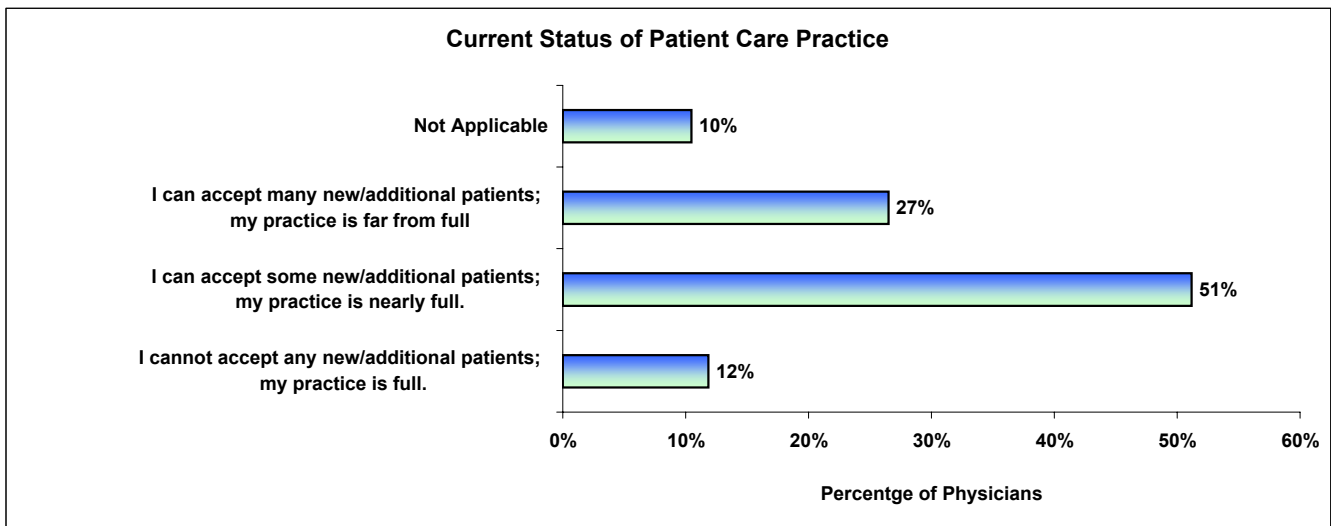
Mean	\$138,750
Median	\$130,000
Mode	\$150,000

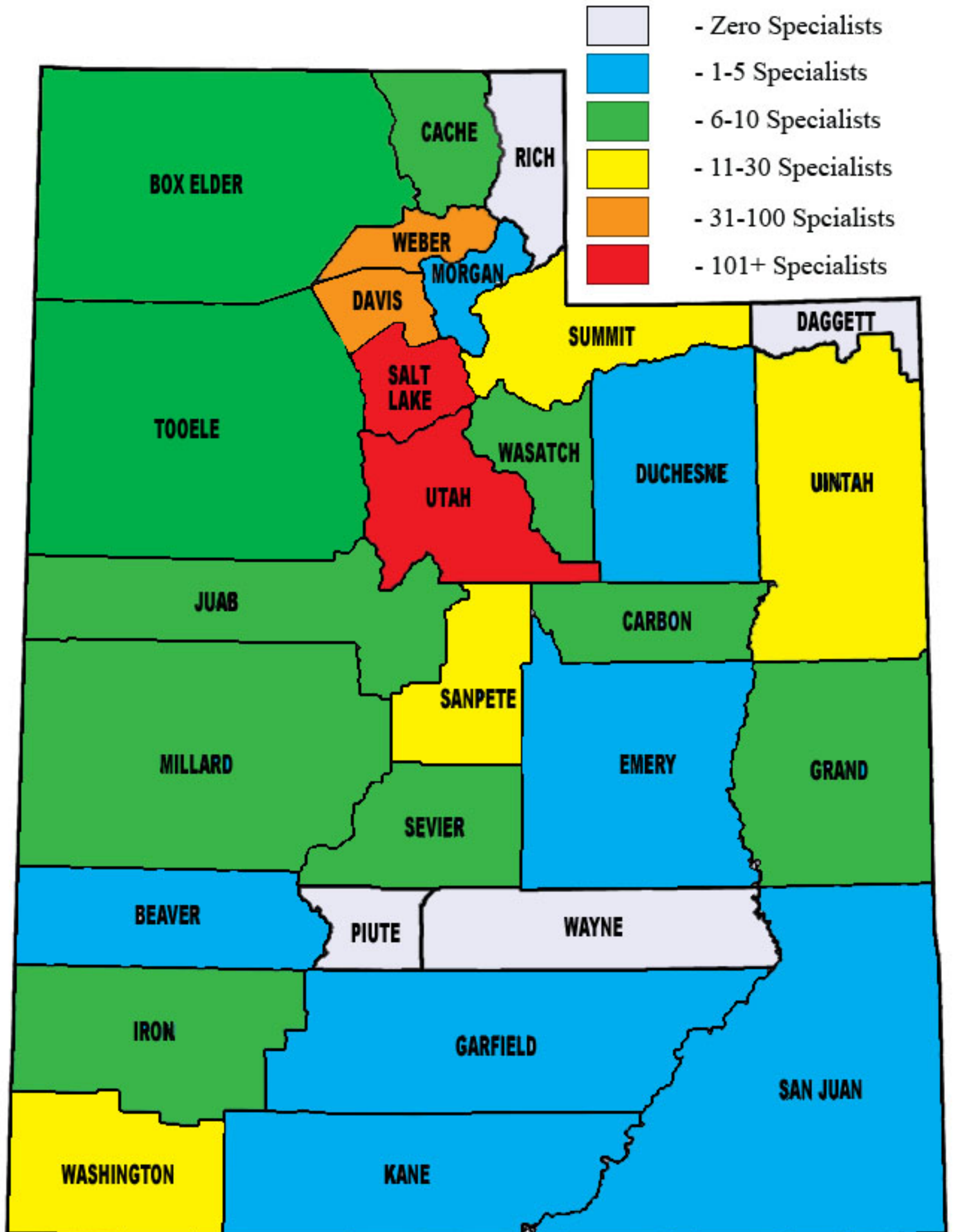




Average Number of Patients Seen Per Week

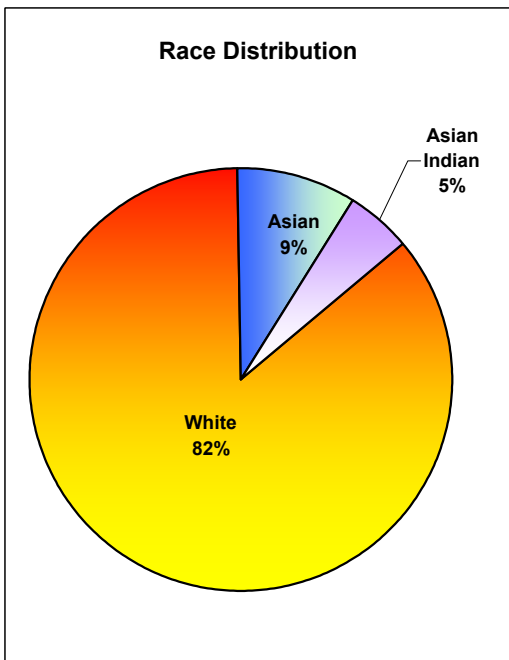
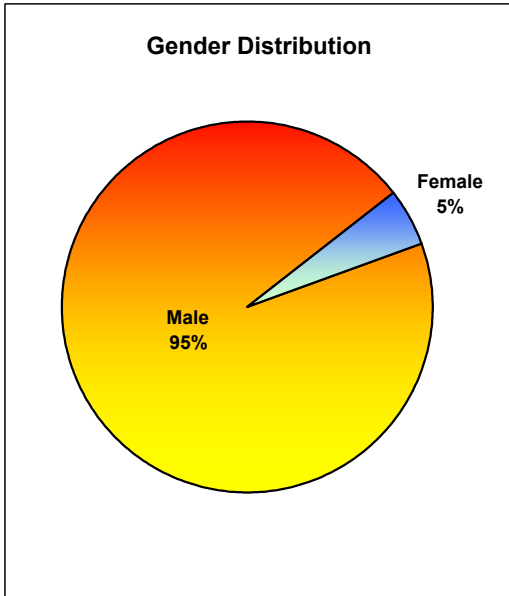
Out-patients	Office	91
	Urgent Care	9
	ER	3
In-patients	Hospital	3
	Nursing Home	1





SPECIALTY PROFILE:

I.M. SUBSPECIALTY - GASTROENTEROLOGY



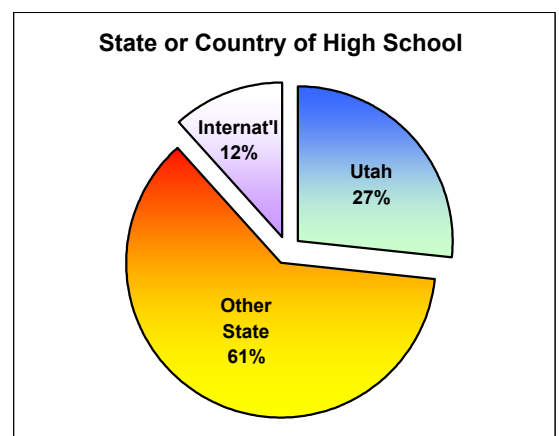
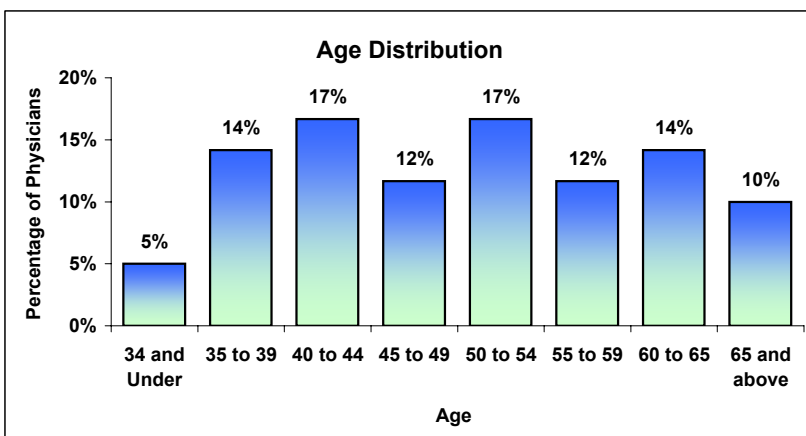
GASTROENTEROLOGISTS: 64 (UMEC Estimate)

1. In 1996 the Gastroenterology Leadership Council (GLC) conducted a workforce study and concluded that there was a surplus of gastroenterologists and recommended that the number of training positions be reduced by 25% to 50% over a period of five years (Meyer, et. al). The GLC recommendation set into a motion a series of events that eventually led to the current shortage of gastroenterologists in the United States.

2. The breakdown of the gastroenterology match began after the the release of the GLC recommendation. Lack of participation and compliance to uniform guidelines and timetables ultimately lead to the closure of the match in 2000 forcing program directors to develop their own recruitment mechanisms. This led to the abandonment of uniform appointment dates and increased use of rush interview schedules to force residents to commit early on in the application process. Some programs provided applicants with a 24 to 48 hour window in which to decide before the offer was rescinded. The pressure to commit to studying gastroenterology so early on in residency training made this specialty less appealing to residents thus decreasing the number of gastroenterology applicants producing a shortage of physicians in this specialty.

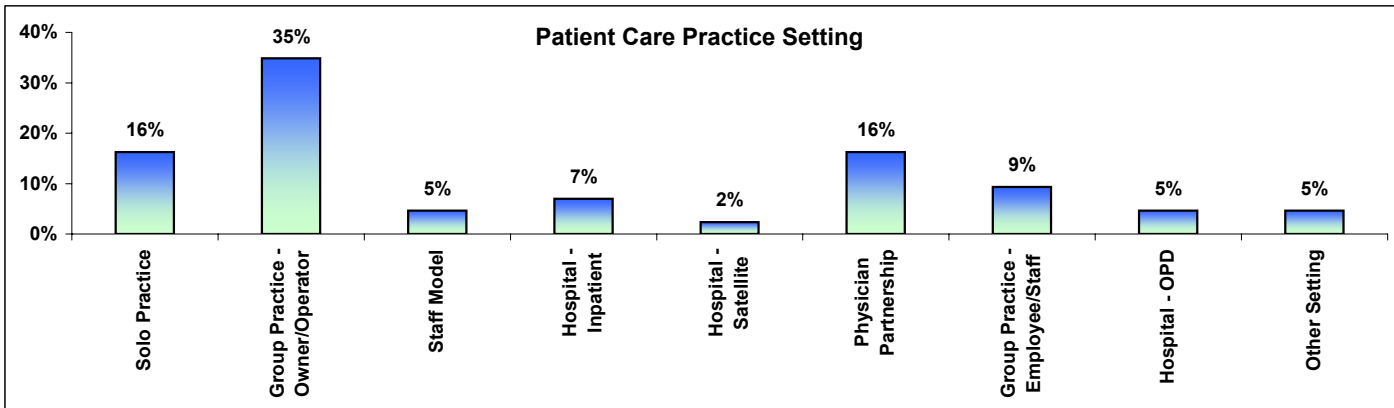
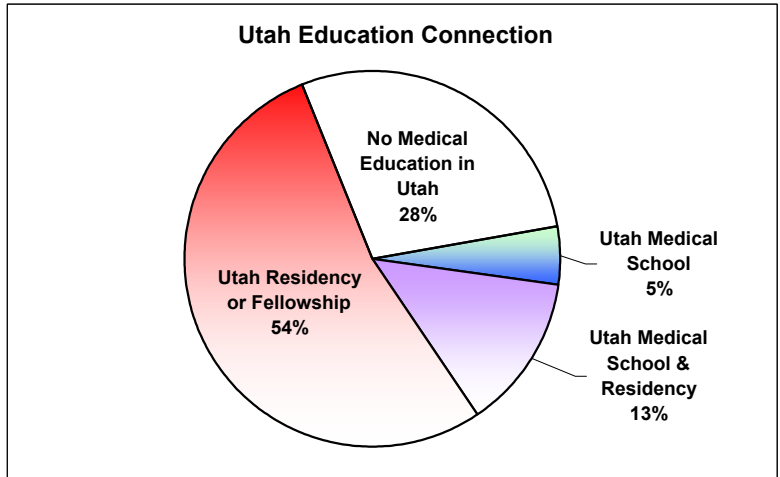
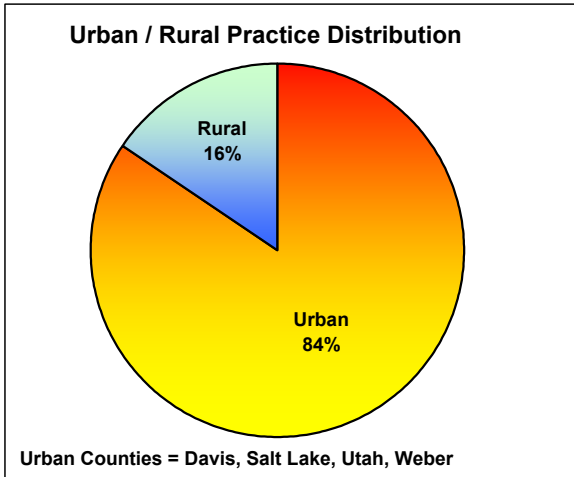
3. In 2006, the national gastroenterology societies made a joint decision to re-enter the match to eliminate the chaos of gastroenterology fellowship recruitment. At this time it is unclear as to whether or not this will help increase the supply of gastroenterologists in the United States.

4. Utah currently has one gastroenterology fellowship training program that trains 2 physicians per year for 3 years, and retains retain 75% to 80% of its graduates in Utah, or approximately 1.5 physicians every year. Conservative estimates show that Utah needs to recruit at least 4 gastroenterologists per year just to maintain current capacity. The deficit of gastroenterologists from the local training program means that the state must rely heavily upon the national pool of physicians in order to meet state workforce needs. Under current conditions it will be difficult to determine whether or not we will be able to do so until the NRMP match stabilizes the recruitment of residents in this specialty.



SPECIALTY PROFILE:

I.M. SUBSPECIALTY - GASTROENTEROLOGY

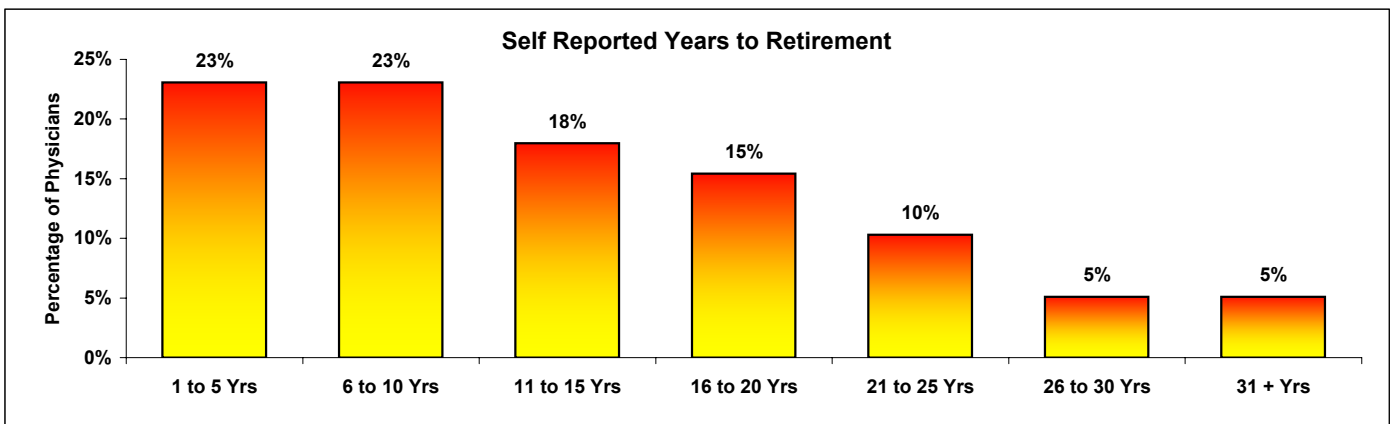


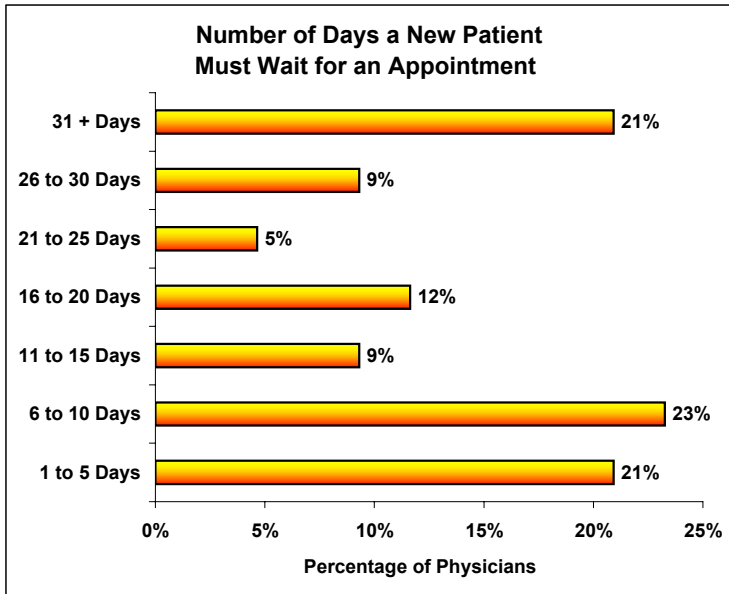
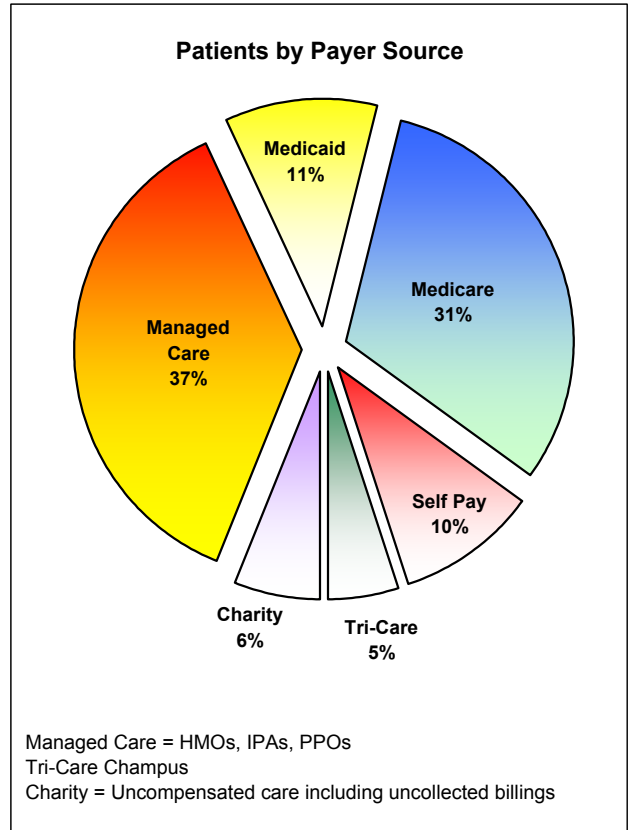
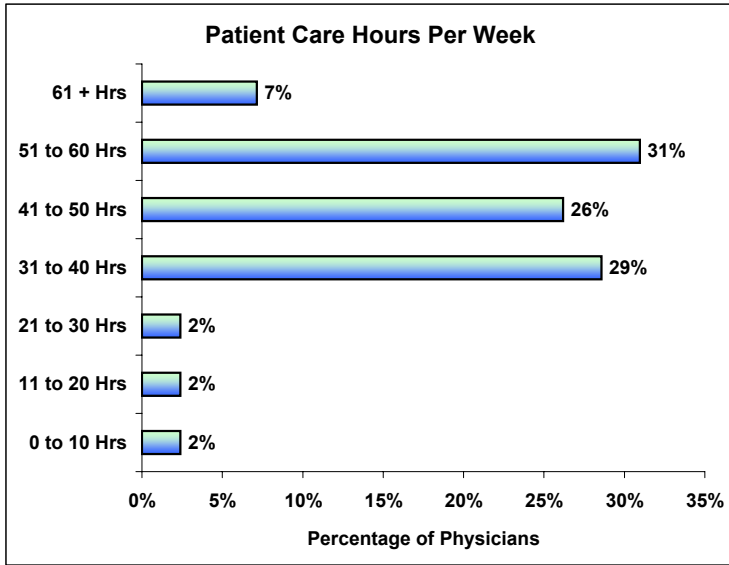
Board Certification of Gastroenterologists

Primary Board Certification	Secondary Board Certification			
	Surgery (General)	Gastroenterology	Internal Medicine (General)	Pediatrics Subs.
Family Practice	1	2%	1	
Internal Medicine (General)	37	59%		33
Gastroenterology	20	32%		3
Pediatrics (General)	1	2%		1
Radiology (Diagnostic)	1	2%		1
Surgery (General)	1	2%	1	
N =	63	100%		

Gross Annual Earnings

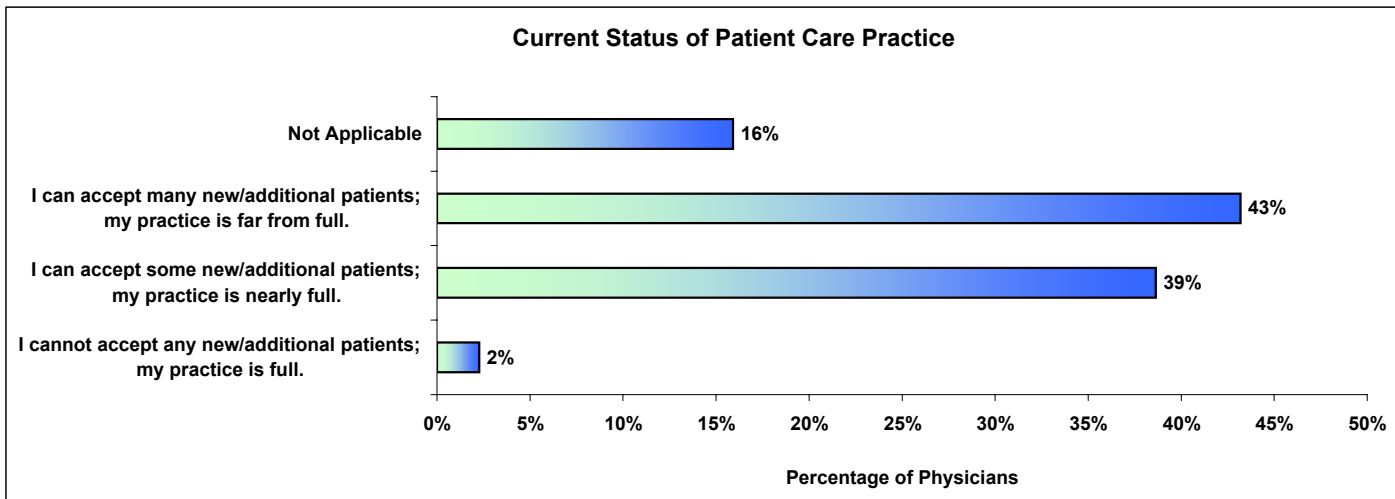
Mean	\$296,319
Median	\$240,000
Mode	\$180,000 \$300,000

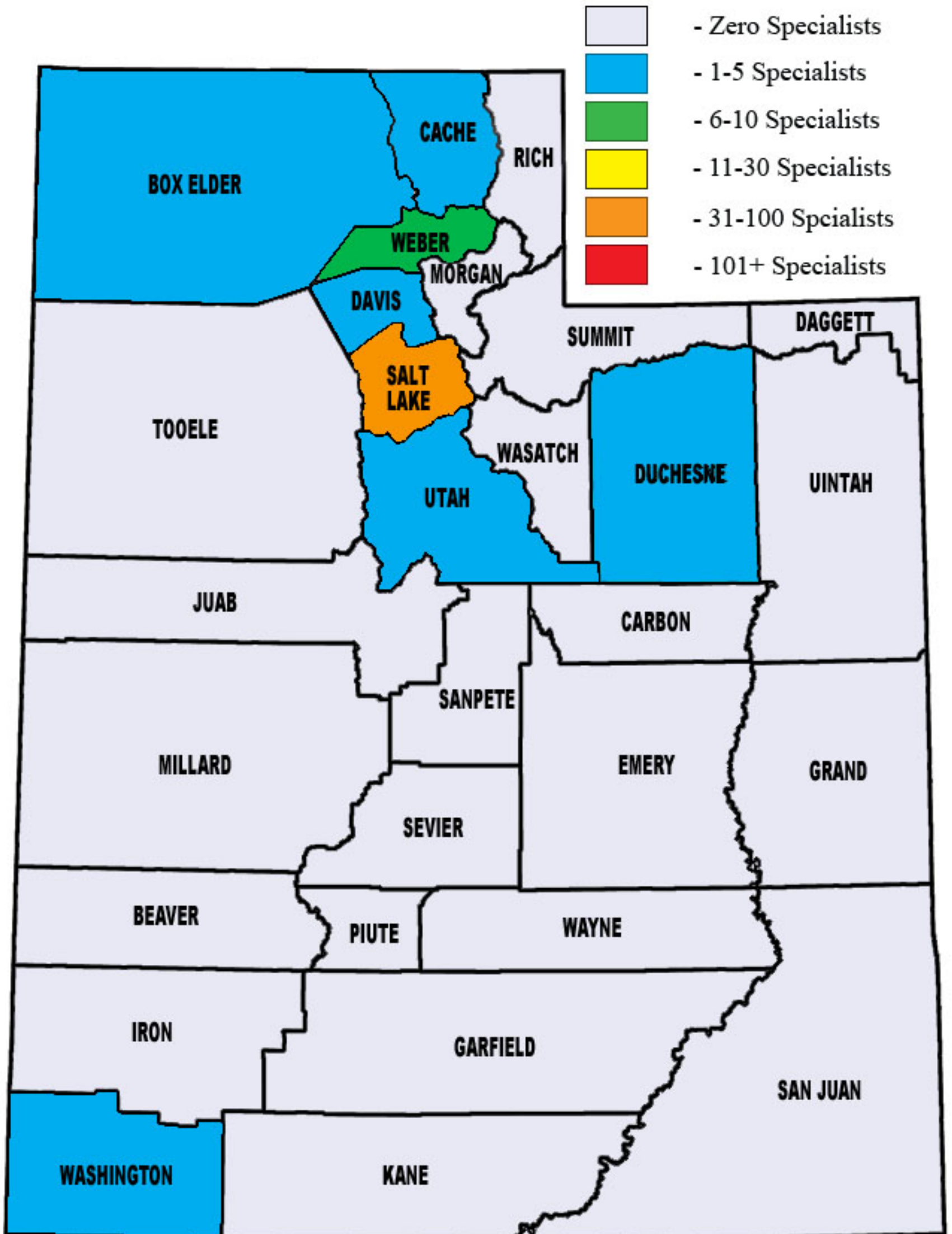




Average Number of Patients Seen Per Week

Patient Type	Office	Value
	Out-patients	44
In-patients	Urgent Care	1
	ER	9
	Hospital	1
	Nursing Home	

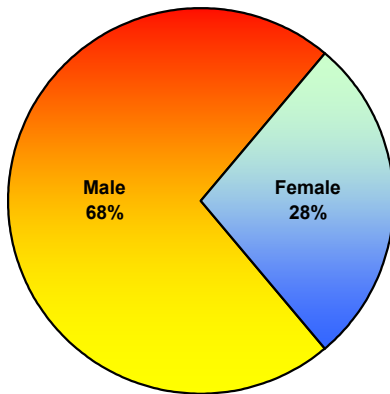




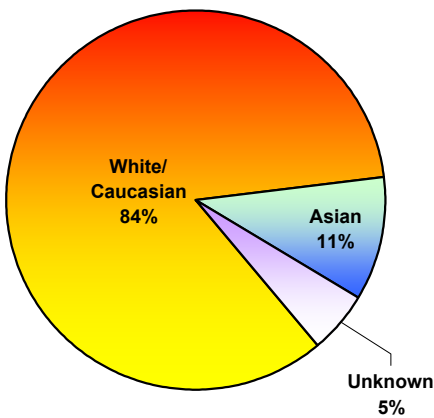
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - GERIATRICS

Gender Distribution



Race Distribution



GERIATRICIANS: 27 (UMEC Estimate)

1. Baby boomers (those born between 1946-1964) are the largest single demographic group to pass through American society, and by 2010, the first wave of them will enter retirement. As these 76 million begin to age and exit the workforce they will place increased demand on both the economy and the healthcare of the nation. In Utah, this segment of the population is expected to increase by over 62% by 2020.

2. Currently, there are approximately 7,600 certified geriatricians in the United States which is not enough to meet the needs of the elderly population. The American Geriatrics Society (AGS) estimates that an additional 14,000 are needed to adequately care for the elderly, and project that by 2030, the nation will need up to 36,000 trained geriatricians.

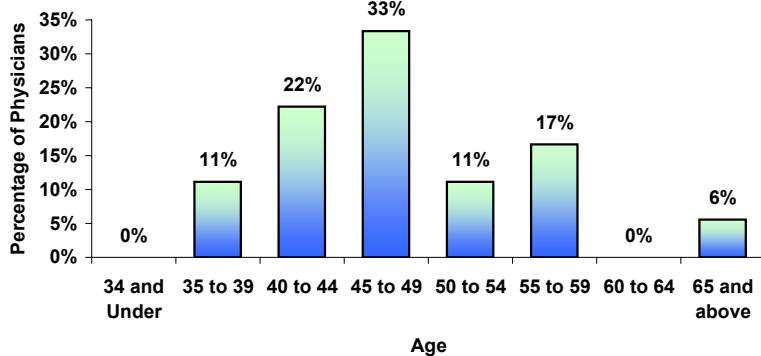
3. Data from the American Board of Medical Specialties (ABMS) show that since 1994, only 4,077 certificates (average of 408 per year) have been issued in geriatric medicine which is significantly below the 1,136 geriatricians needed on annual basis to keep up with growing demand.

4. There are currently 27 geriatricians serving the elderly population in Utah. This equates to approximately 1.38 geriatricians per 10,000 population age > 65 which is below the national average of 2.06. A unit of 10,000 (ten thousand) was used to calculate the physician to population ratio for geriatrics due to number of people in this segment of the population.

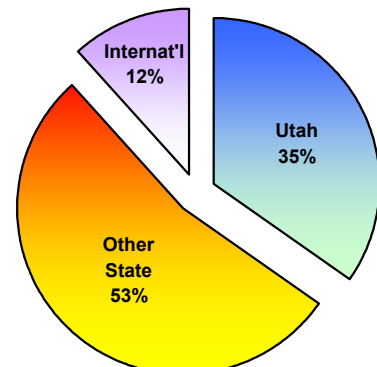
5. The University of Utah currently trains 2 fellows per year for 2 years. Over the last 5 years, they have been able to retain 80% of their program graduates, but only 20% (2 physicians) have gone on to private practice while the rest are engaged in research within the university system.

6. To maintain the current capacity, Utah would need to recruit 2 geriatricians per year. It is anticipated that demand will increase beyond this level due to the rapid aging of the population. There is currently enough capacity to expand the geriatrics program to 4 fellows per year and it is highly recommended that the state do so in order to meet anticipated demand.

Age Distribution

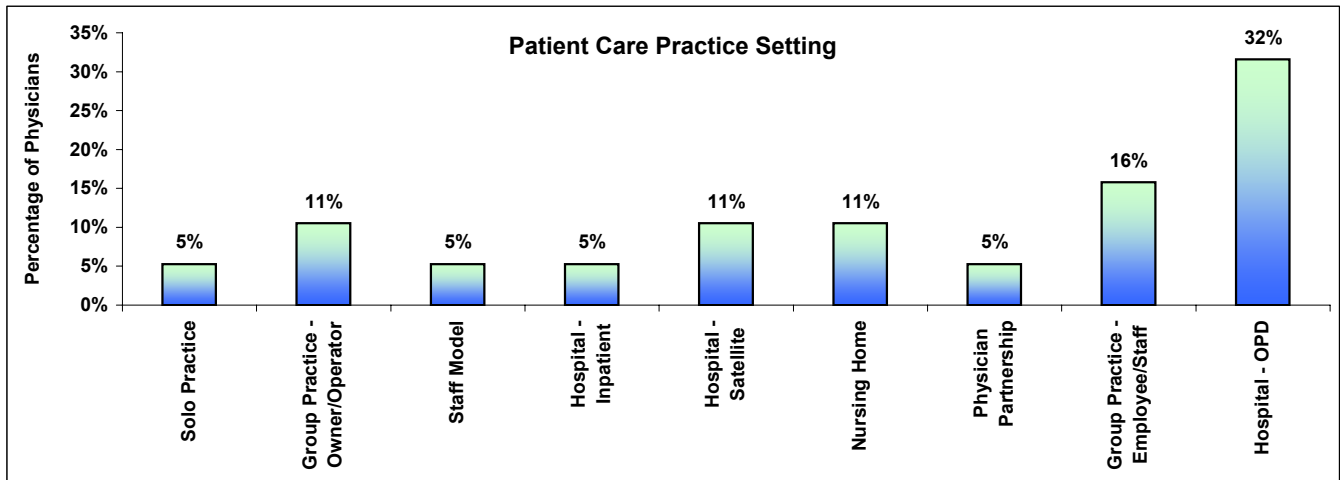
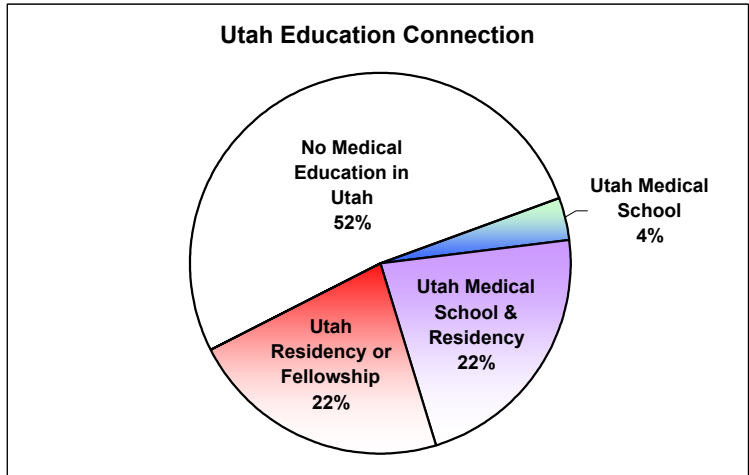
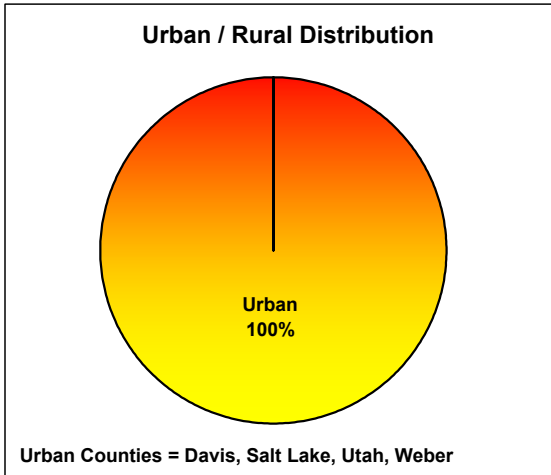


State or Country of High School



SPECIALTY PROFILE:

I.M. SUBSPECIALTY - GERIATRICS

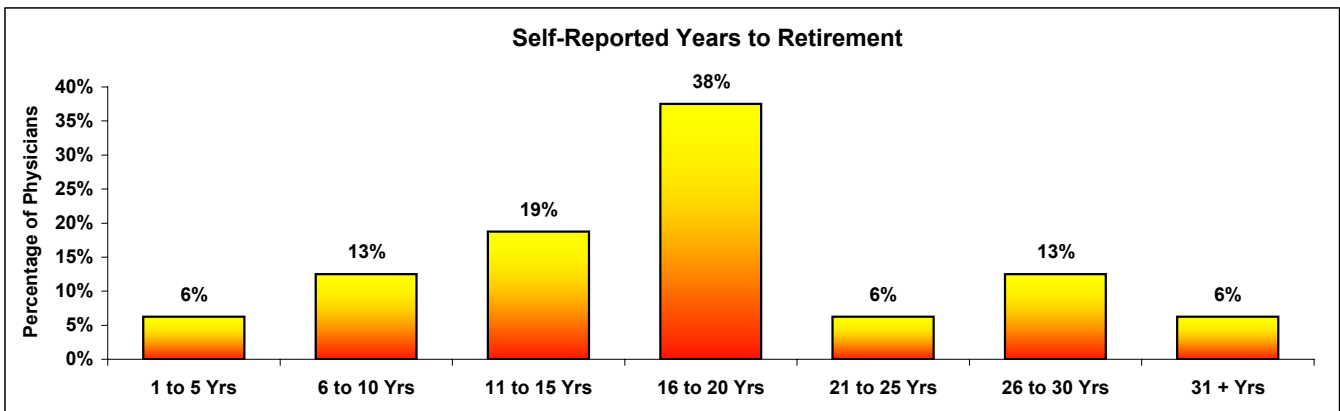


Board Certification of Geriatric Physicians

Primary Board Certification	Secondary Board Certification			
	Dermatology	Internal Medicine (General)	Geriatrics	Hematology / Oncology
Family Practice	3	11%		
Internal Medicine (General)	20	74%	1	1
Geriatrics	3	11%	1	
Pediatrics (General)	1	5%	1	
N =	27	100%		

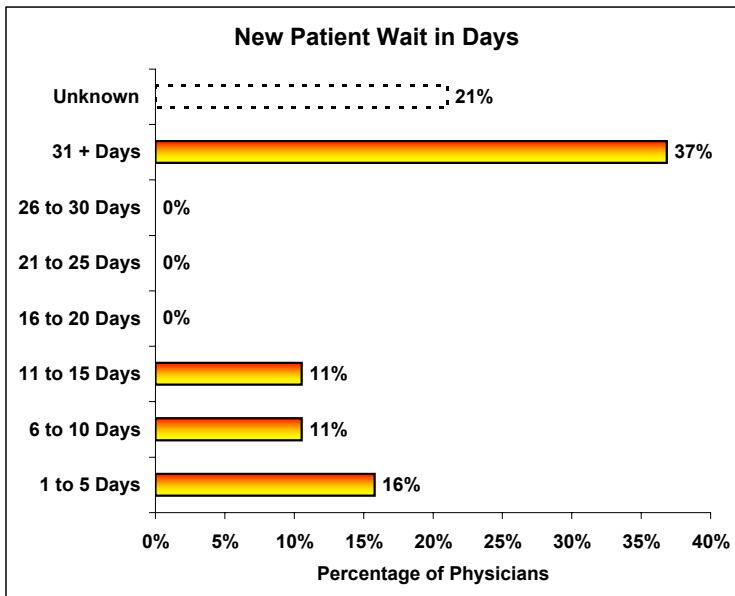
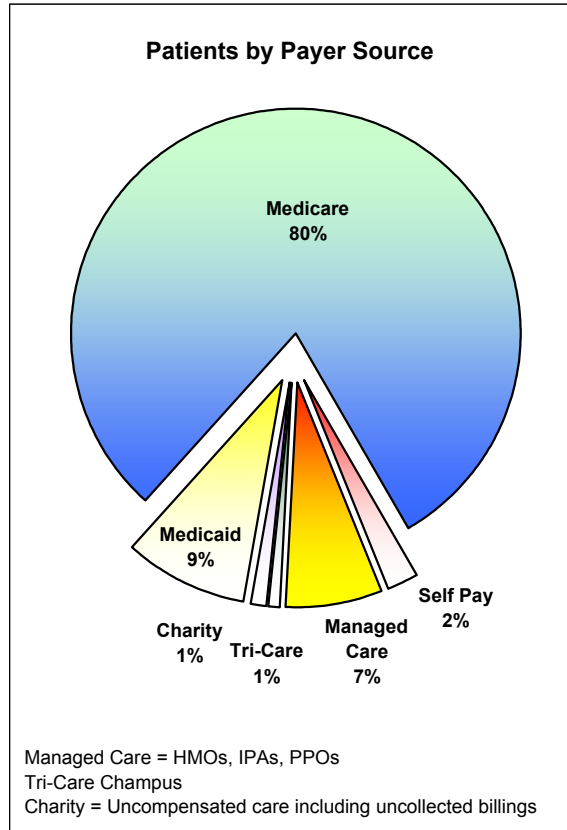
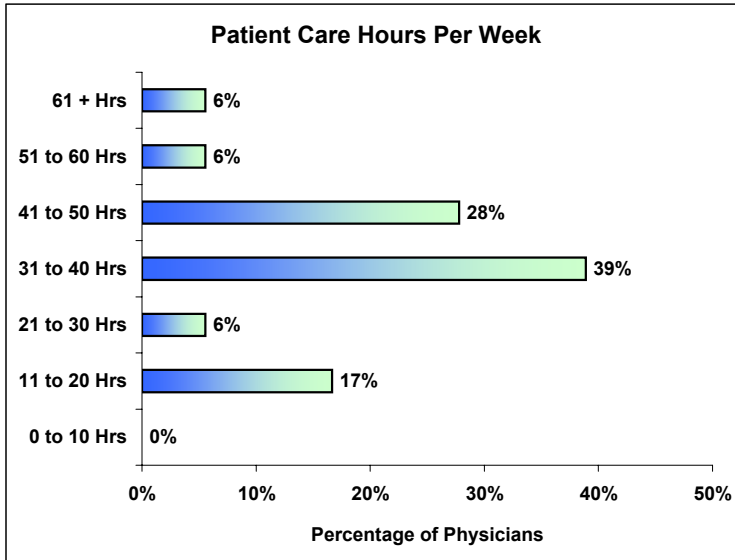
Gross Annual Earnings

Mean	\$137,063
Median	\$130,000
Mode	\$120,000
(Multiple modes exist)	\$130,000
	\$150,000



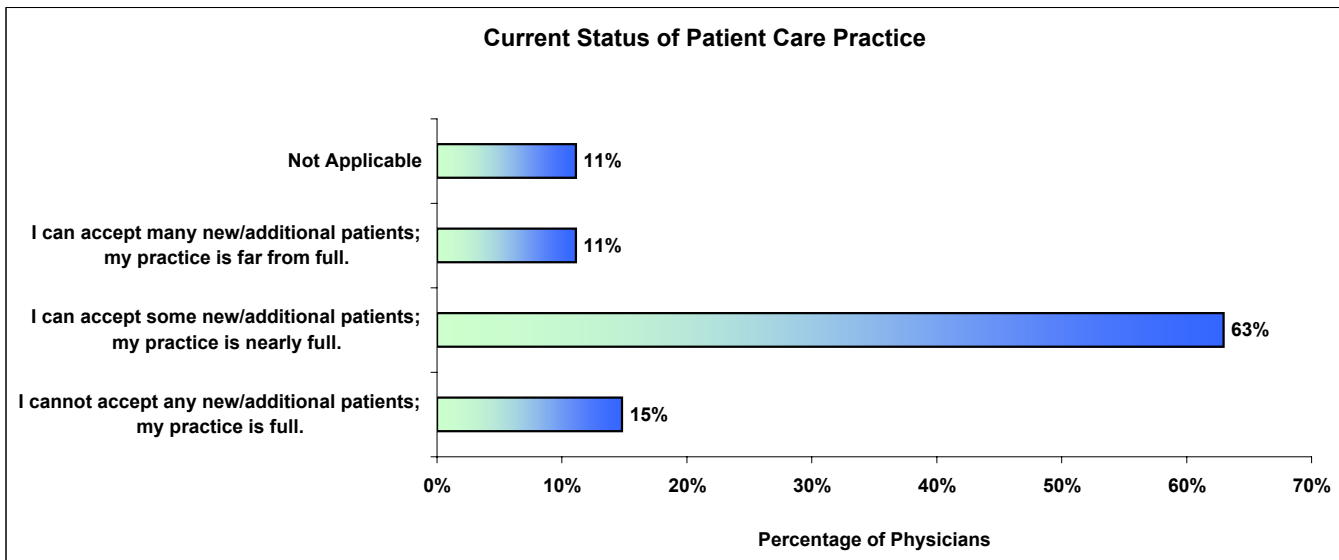
SPECIALTY PROFILE:

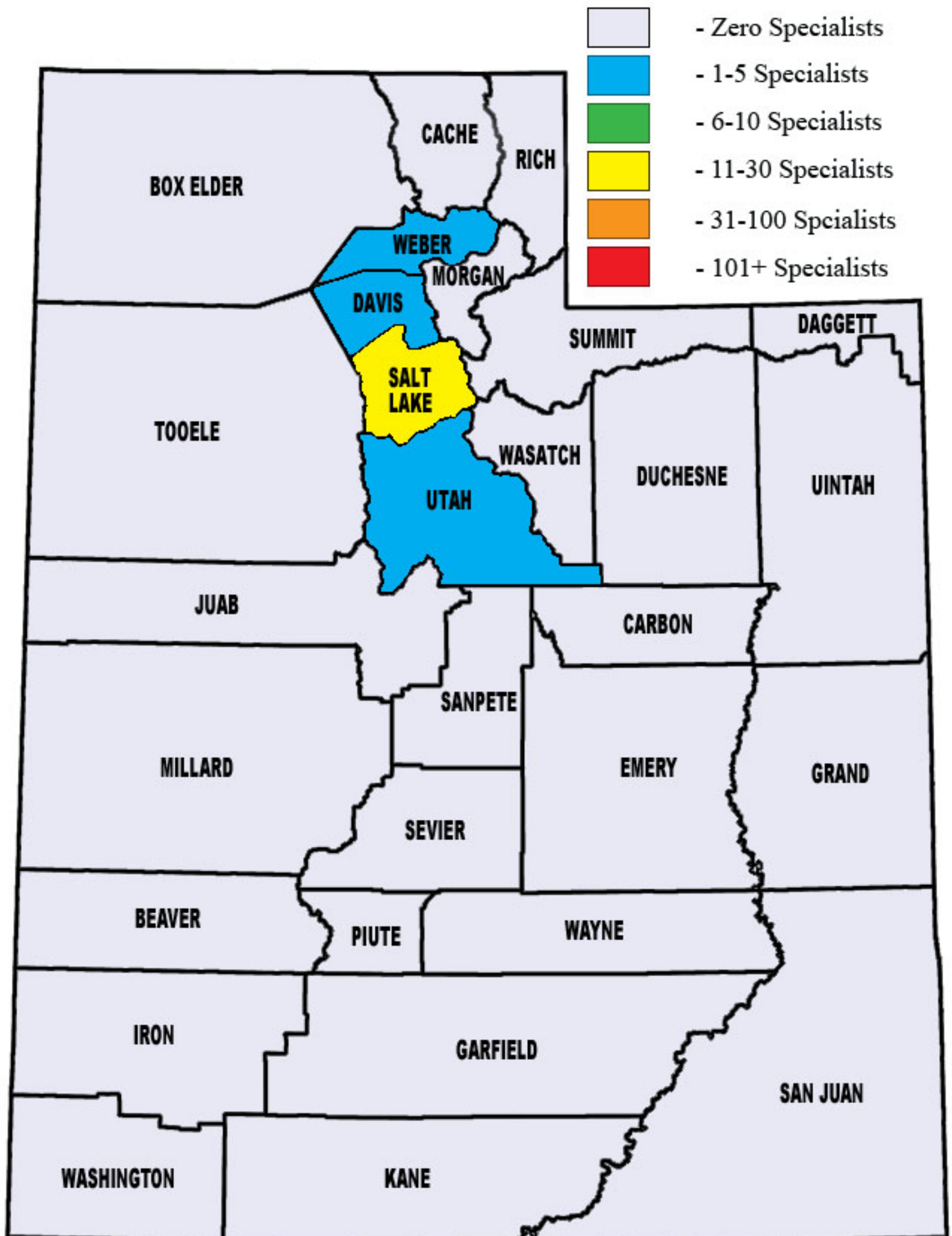
I.M. SUBSPECIALTY - GERIATRICS



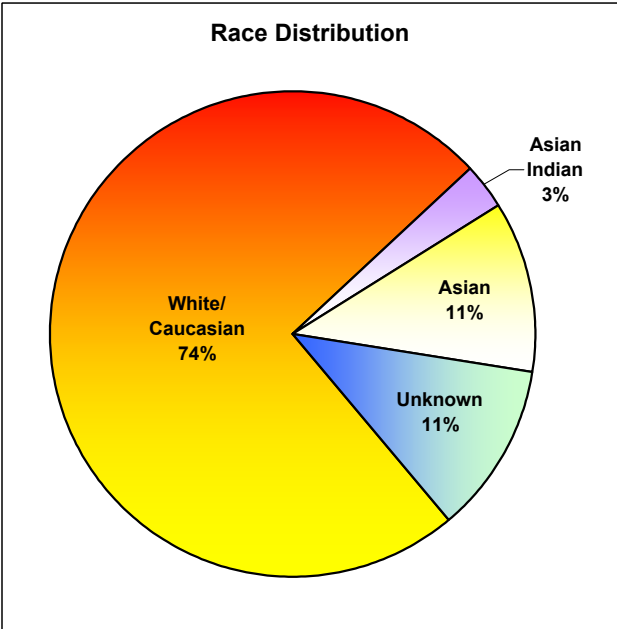
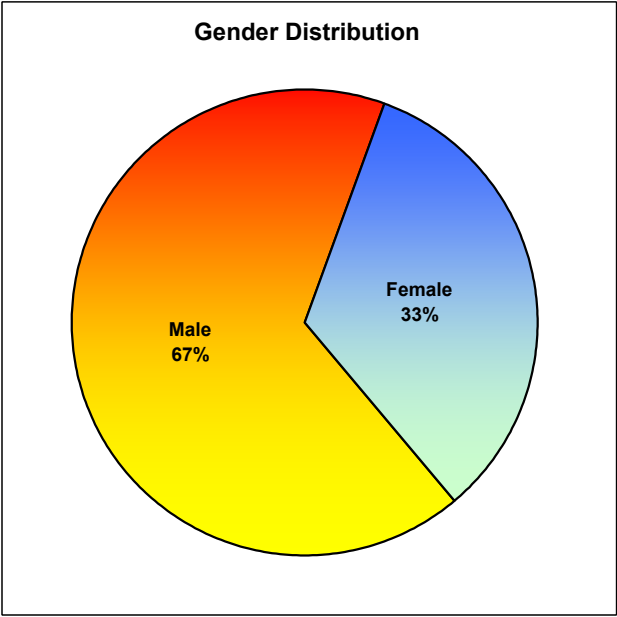
Average Number of Patients Seen Per Week

Out-patients	Office	41
	Urgent Care	0.31
	ER	1
In-patients	Hospital	6
	Nursing Home	18



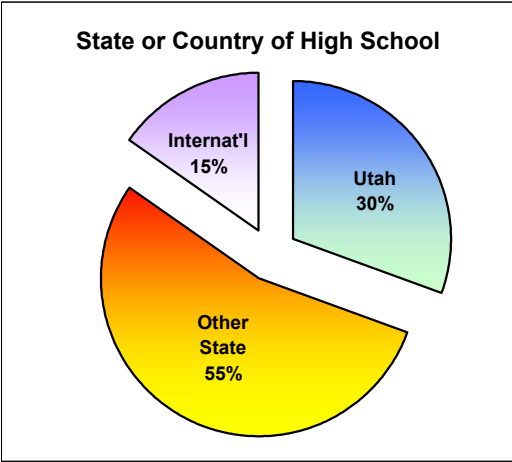
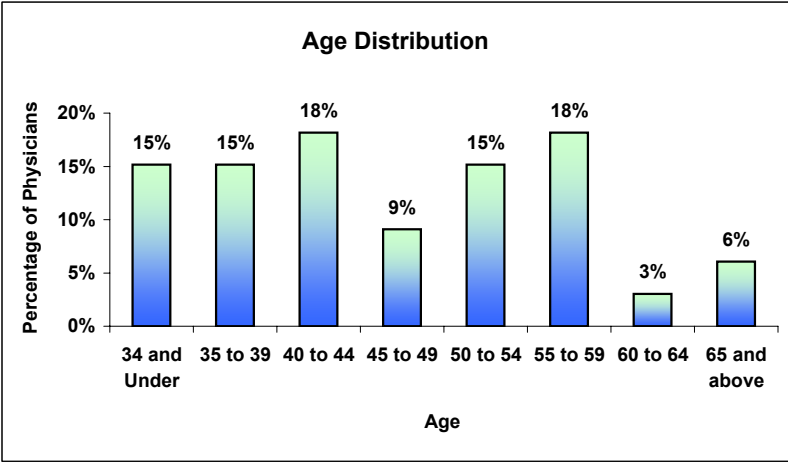


SPECIALTY PROFILE: I.M. SUBSPECIALTY - HEMATOLOGY/ONCOLOGY

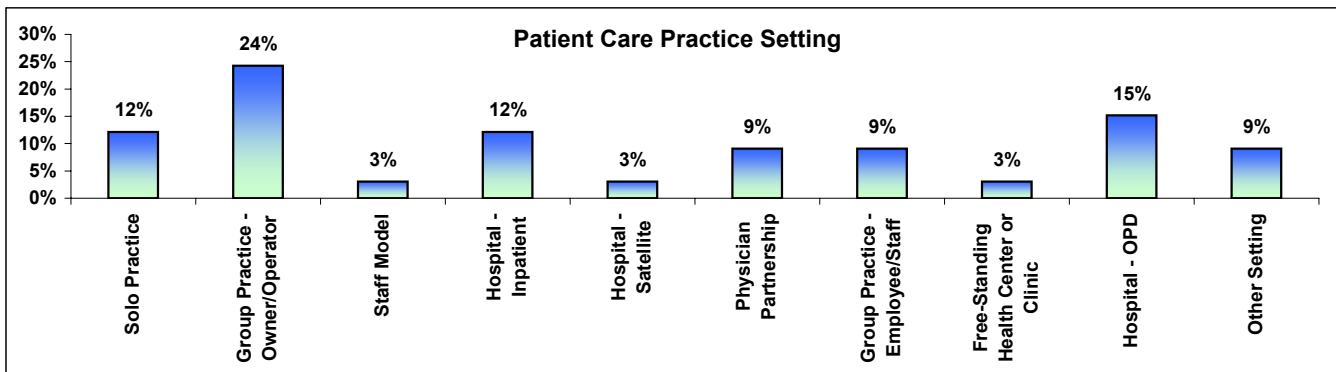
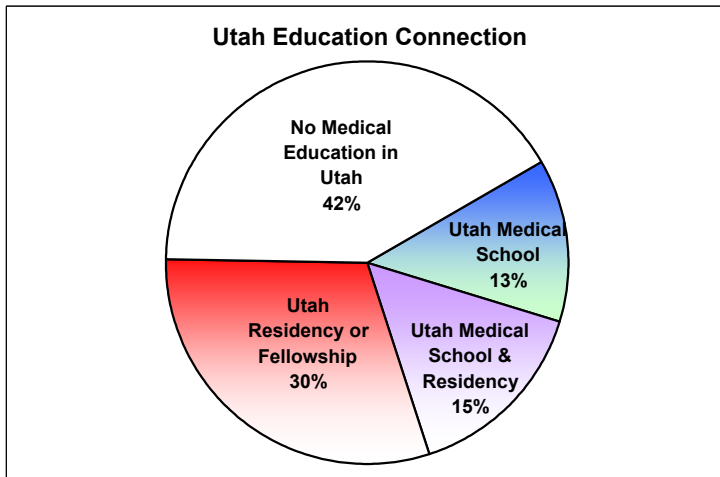
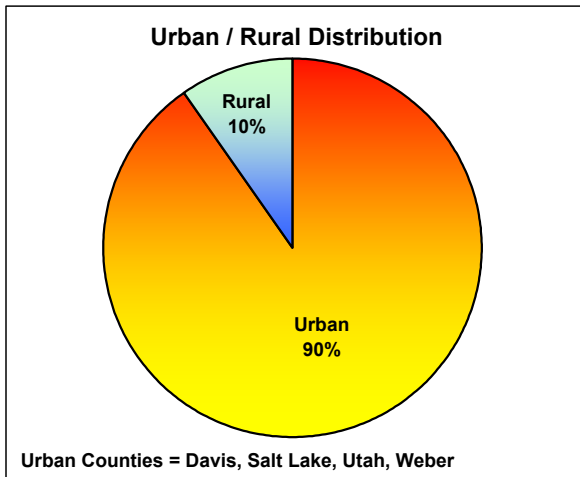


HEMATOLOGISTS: 35 (UMEC Estimate)

- In 2003, 35 physicians reported practice in the field of hematology/oncology in Utah. However, data from the American Board of Medical Specialties (ABMS) showed that only 23 certificates have been issued in this specialty for the state. This discrepancy may be due to the changing nature of the hematology workforce, i.e. its increasing incorporation into general oncology. In an effort to reverse this growing trend, the American Society of Hematology is currently pushing the need to reassert the identity of clinical hematologists to prevent misdiagnosis of patients by unqualified oncologists (those not trained in hematology).
- The U.S. has 1.8 hematologists per 100,000 population; a ratio considered to be adequate for the current population. However, the Association of Community Cancer Centers projects that the growth and aging of the U.S. population will drive demand up to 3.6 per 100,000 population--more than twice the currently supply.
- Utah has roughly 1 to 1.50 hematologists per 100,000 population. To maintain current capacity, the state would need to recruit 2 hematologists per year. However, to meet nationally recommended ratios, Utah would have to immediately add 8 hematologists to the workforce.
- There is currently one hematology/oncology fellowship training program in the state that trains 3 to 4 fellows per year for 2 to 3 years depending upon the selected program course. UMEC data shows that the retention rate for this program approximates 25%, meaning less than one hematologist per year will come from the Utah training program. This means that Utah will have to recruit from the national pool of providers, and with the projected shortage of hematologists, it is highly anticipated that the state will experience a shortage in this specialty.

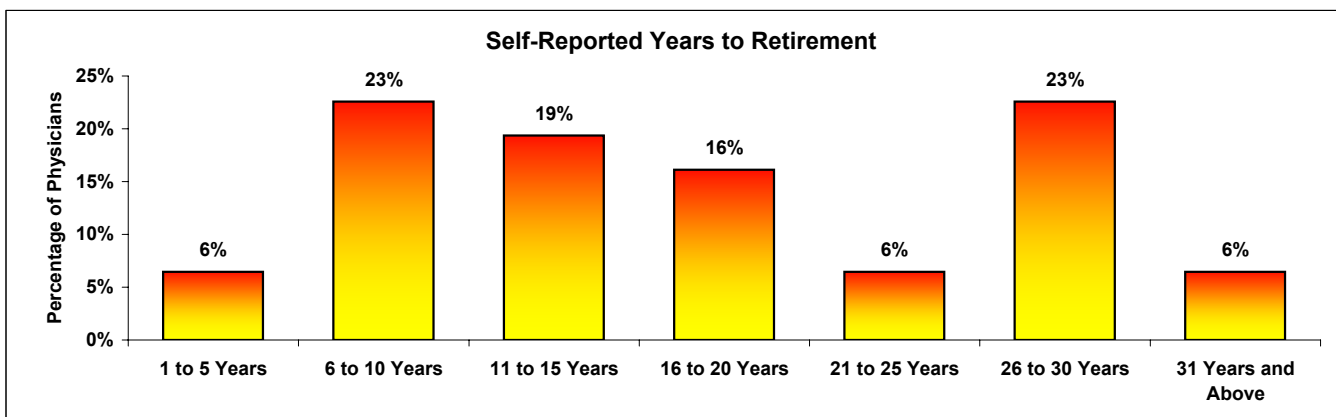


SPECIALTY PROFILE: I.M. SUBSPECIALTY - HEMATOLOGY/ONCOLOGY

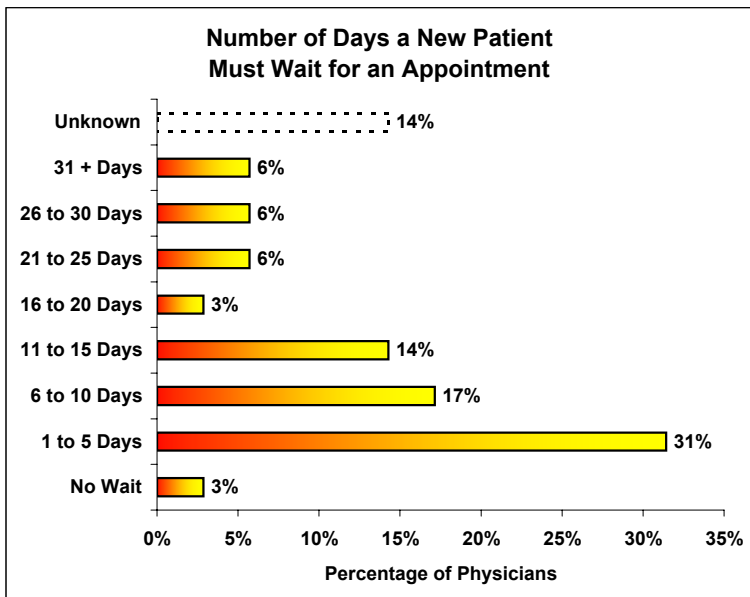
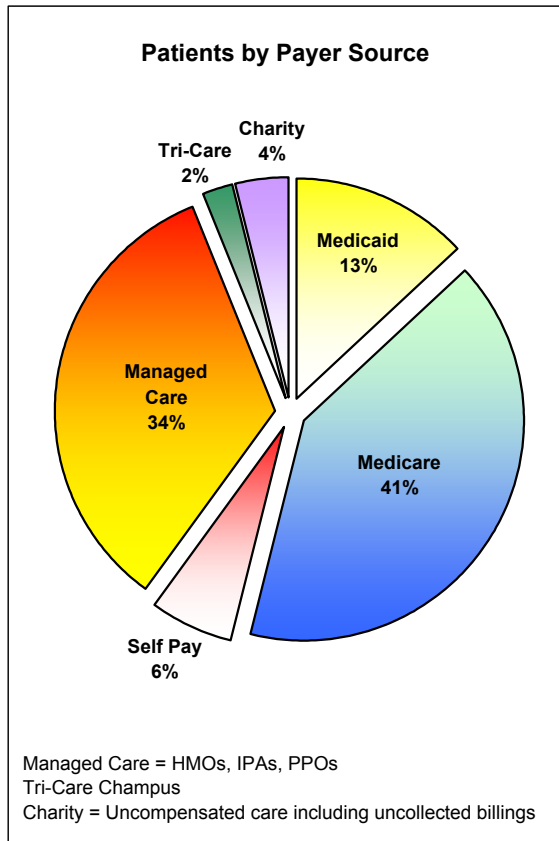
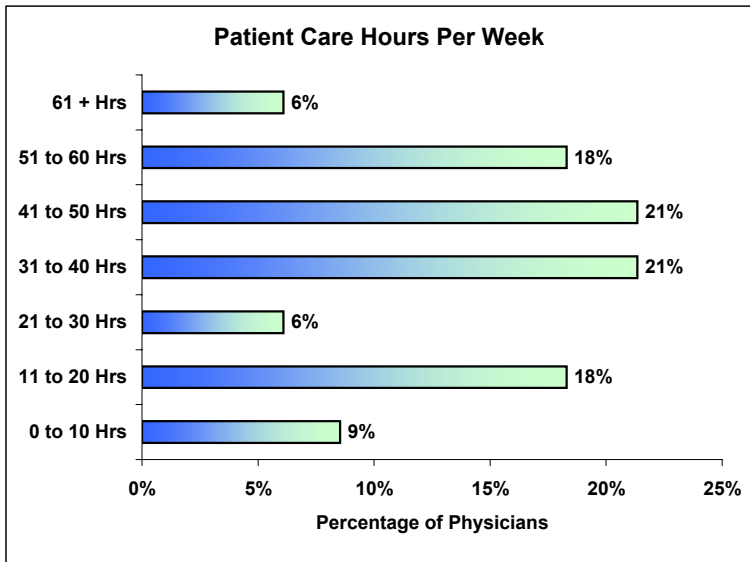


Board Certification of Hematology / Oncology Physicians				
Primary Board Certification		Secondary Board Certification		
Internal Medicine (General)	21	59%	Geriatrics	1
			Hematology/Oncology	18
Hematology/Oncology	13	37%	Hospice & Palliative Medicine	1
			Internal Medicine (General)	2
			Pediatrics Subspecialties	1
Pathology (General)	1	4%	Hematology/Oncology	1
N =	35	100%		

Gross Annual Earnings	
Mean	\$230,955
Median	\$170,000
Mode	\$120,000

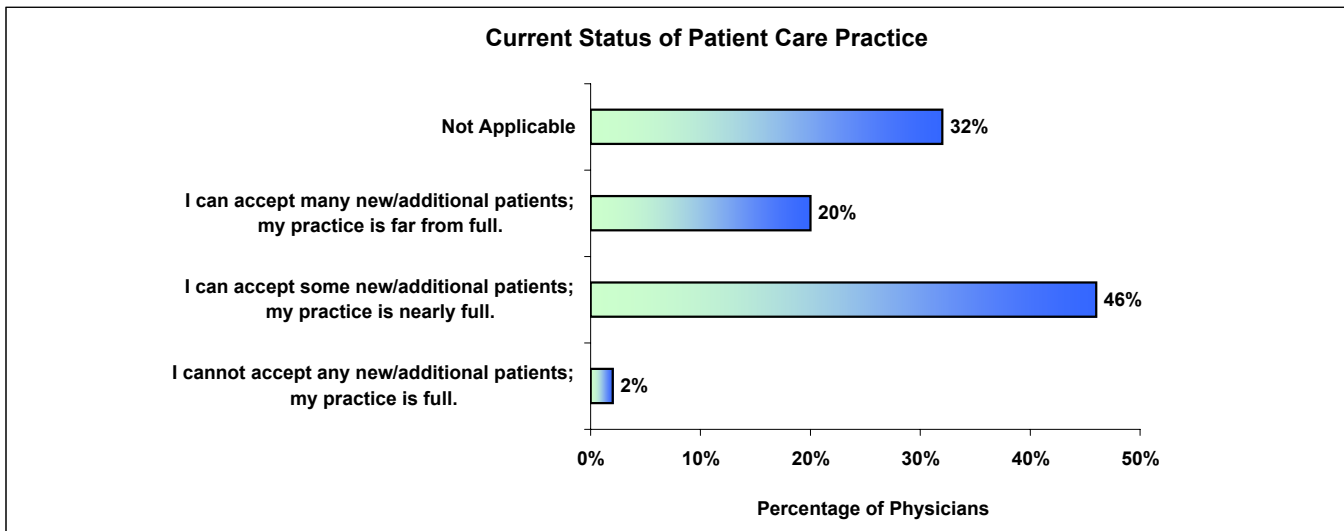


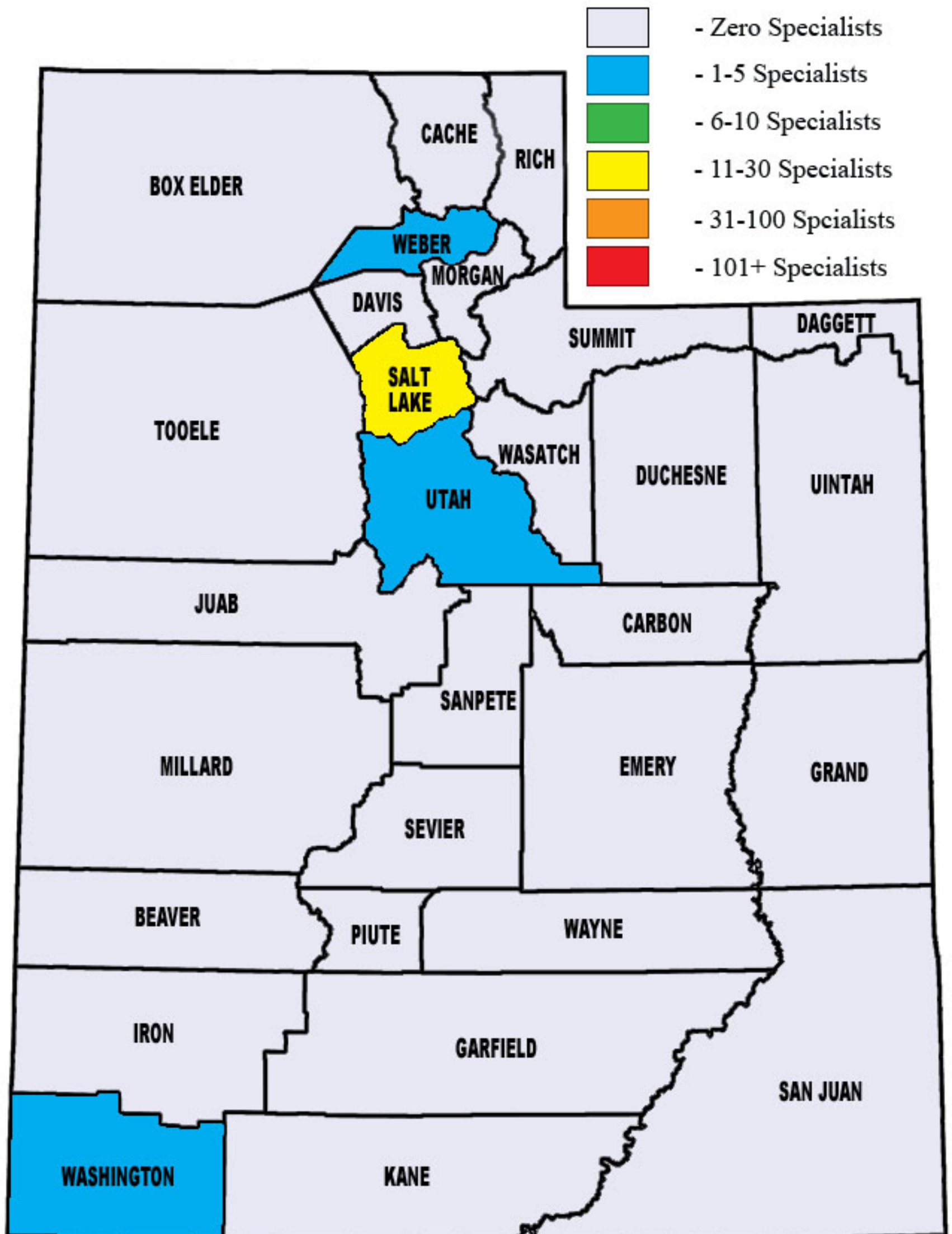
SPECIALTY PROFILE: I.M. SUBSPECIALTY - HEMATOLOGY/ONCOLOGY



Average Number of Patients Seen Per Week

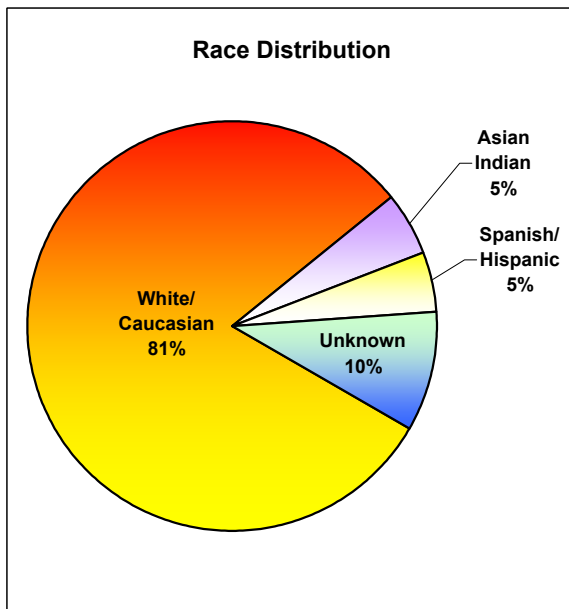
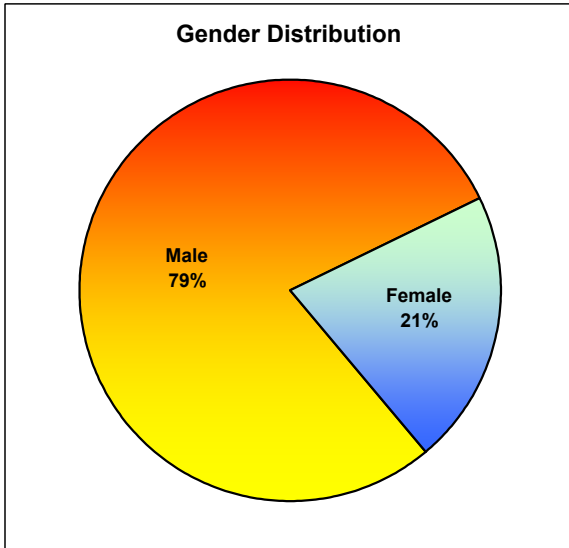
Out-patients	Office	45
	Urgent Care	0.17
	ER	0.35
In-patients	Hospital	8
	Nursing Home	0





SPECIALTY PROFILE:

I.M. SUBSPECIALTY - INFECTIOUS DISEASES



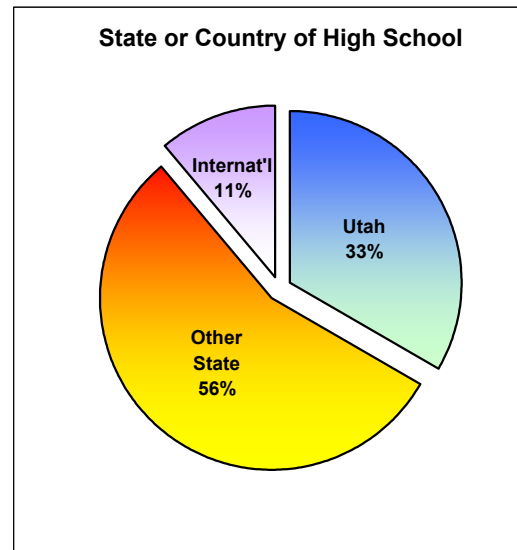
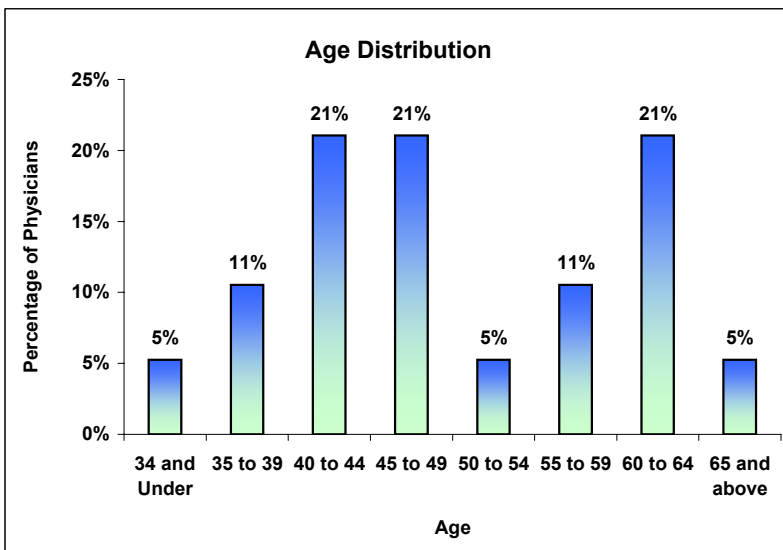
INFECTIOUS DISEASES: 30 (UMEC Estimate)

1. In 2001, the American Medical Association reported that the U.S. had approximately 5,392 physicians specializing in infectious diseases. This equates to a physician to population ratio of approximately 1.89 per 100,000 population. During the same time period, Utah had ratio of approximately 1.40 per 100,000 population. Since that time, the ratio has slipped down to 1.27 per 100,000 population.

2. At the current time there is little published data on the number of infectious disease specialists required to serve a given population, however the UMEC data suggest that the current ratio of providers in this specialty is adequate for the state population. A comparative analysis of self-reported data revealed that infectious disease specialists in the state of Utah had lower patient volumes than their national counterparts. In 2003, Utah physicians saw an average of 35 patients per week whereas physicians nationwide reported an average of 65.8 patients per week (Hospital & Healthcare Compensation Service's Physician Salary Survey Report 2005).

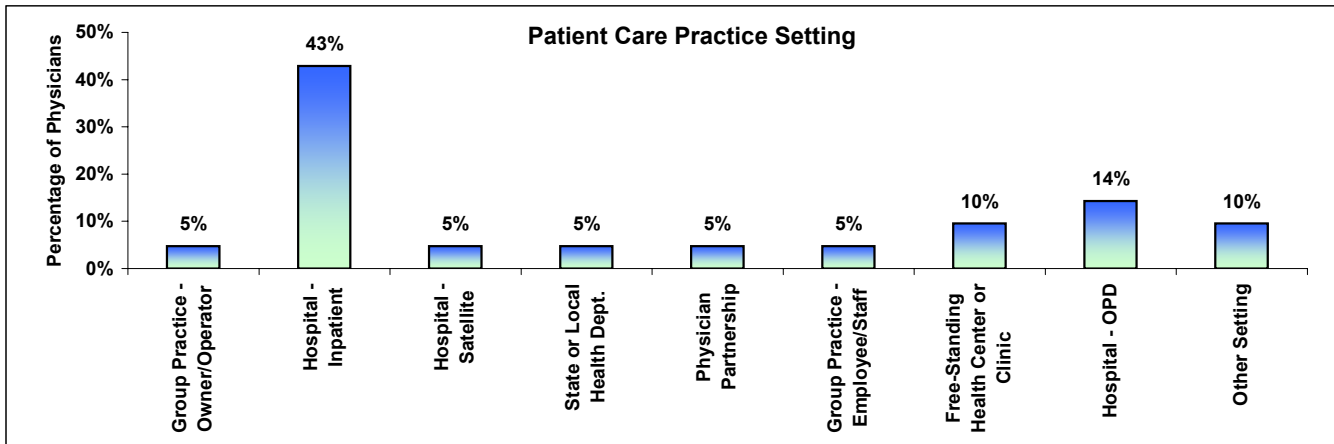
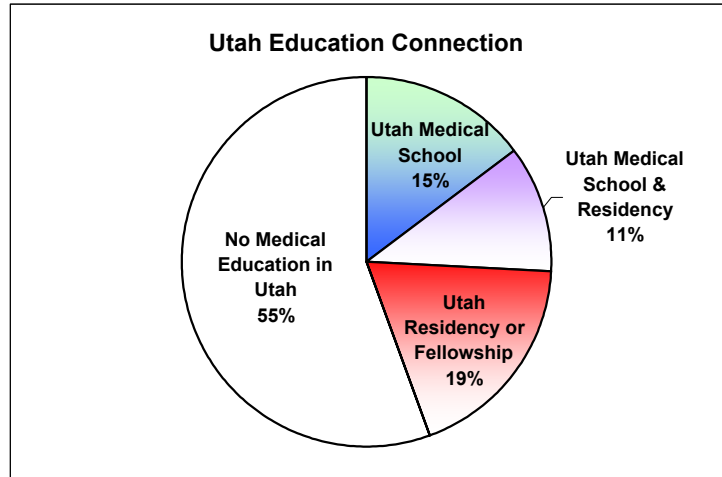
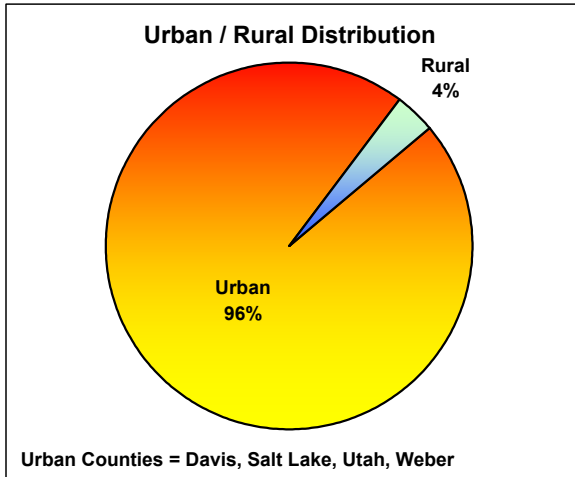
3. Although the level of direct patient care for infectious disease specialists appears lower than that of other specialties, providers in this specialty must also spend significant time in other activities, including administrative duties regarding infection control for hospitals and health care organizations. In Utah, this equates to approximately 52% of the total work hours in infectious disease.

4. Utah currently has one fellowship training program that trains 2 fellows per year for either 2 or 3 years. Over the past 10 years, they have retained approximately 50% of their graduates (1 per year) in Utah. To maintain the current capacity, Utah would need to recruit 2 infectious disease specialists per year. However, current practice patterns as reported by survey respondents, suggest that the state does not require more than the current number being retained by the local training program.



SPECIALTY PROFILE:

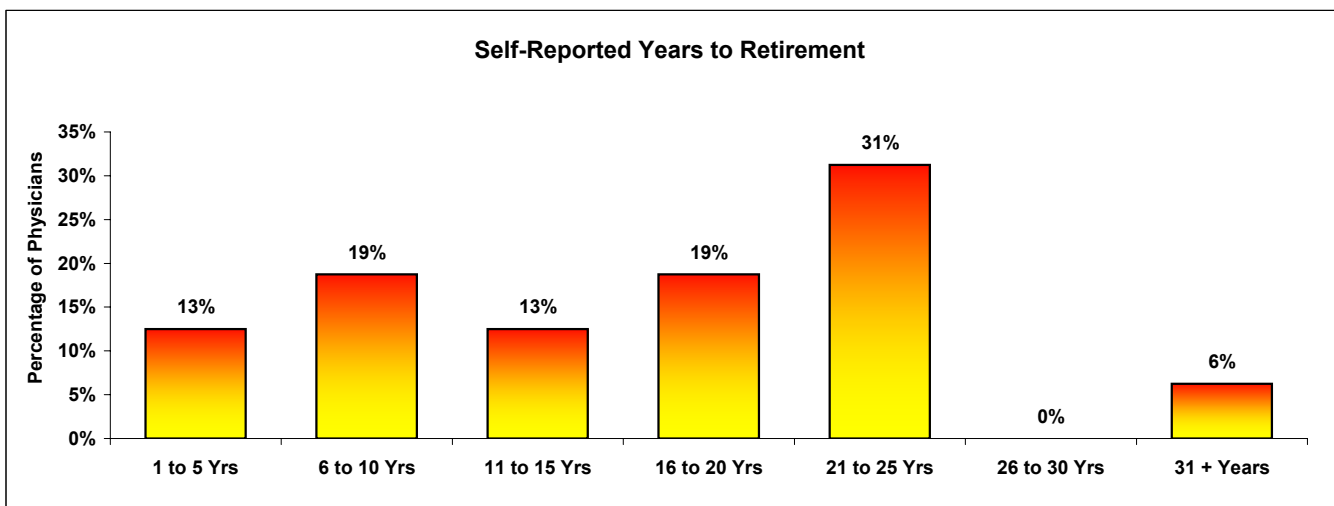
I.M. SUBSPECIALTY - INFECTIOUS DISEASES



Board Certification of Physicians in Infectious Diseases					
Primary Board Certification	Secondary Board Certification				
	Internal Medicine (General)	Infectious Diseases	Pediatrics Subspecialties		
Internal Medicine (General)	20	70%	0	17	0
Infectious Diseases	9	30%	4	0	1
N =	29	100%			

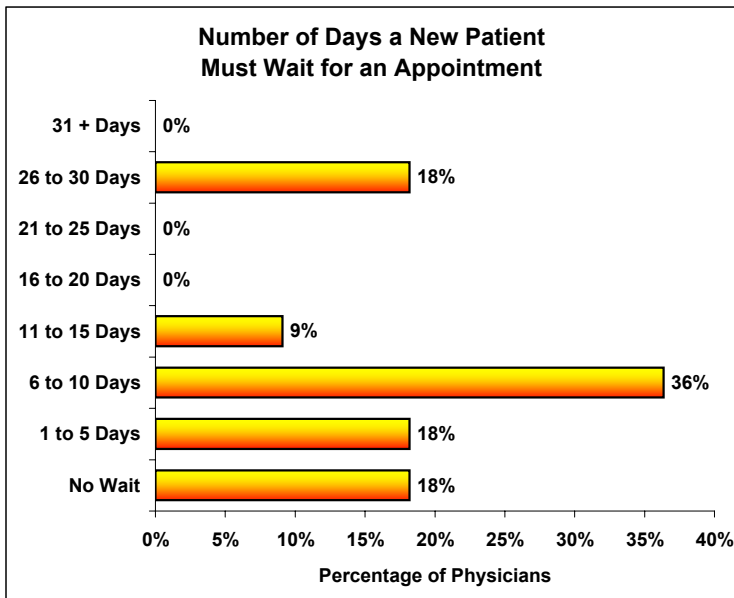
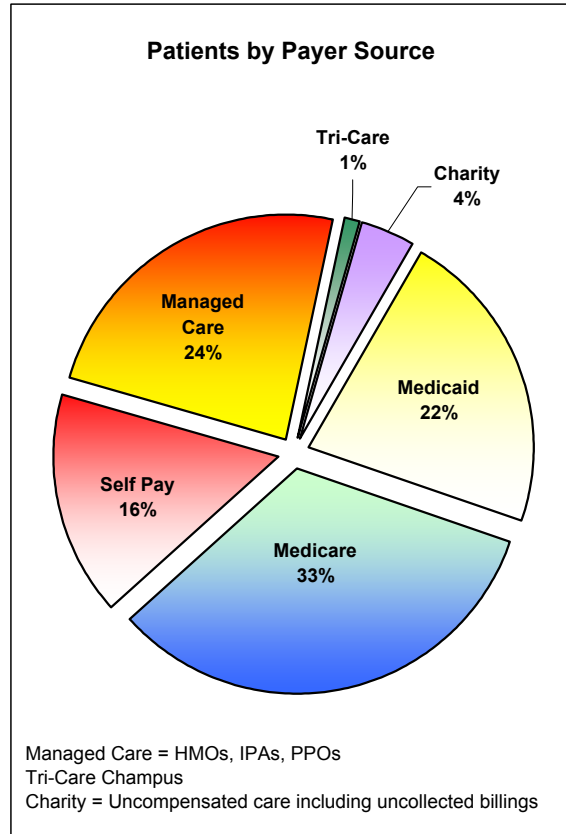
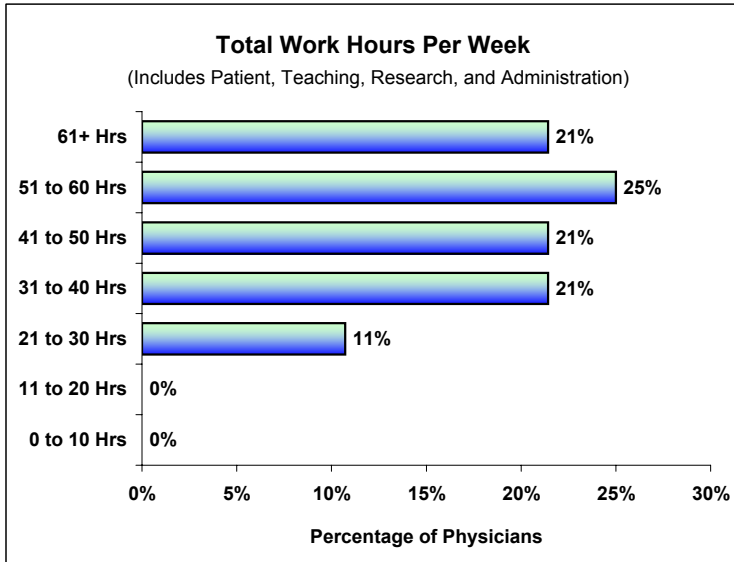
Gross Annual Earnings		
Mean	Median	Mode ¹
\$117,500	\$135,000	\$100,000

1. Multiple modes exist, the smallest is shown.



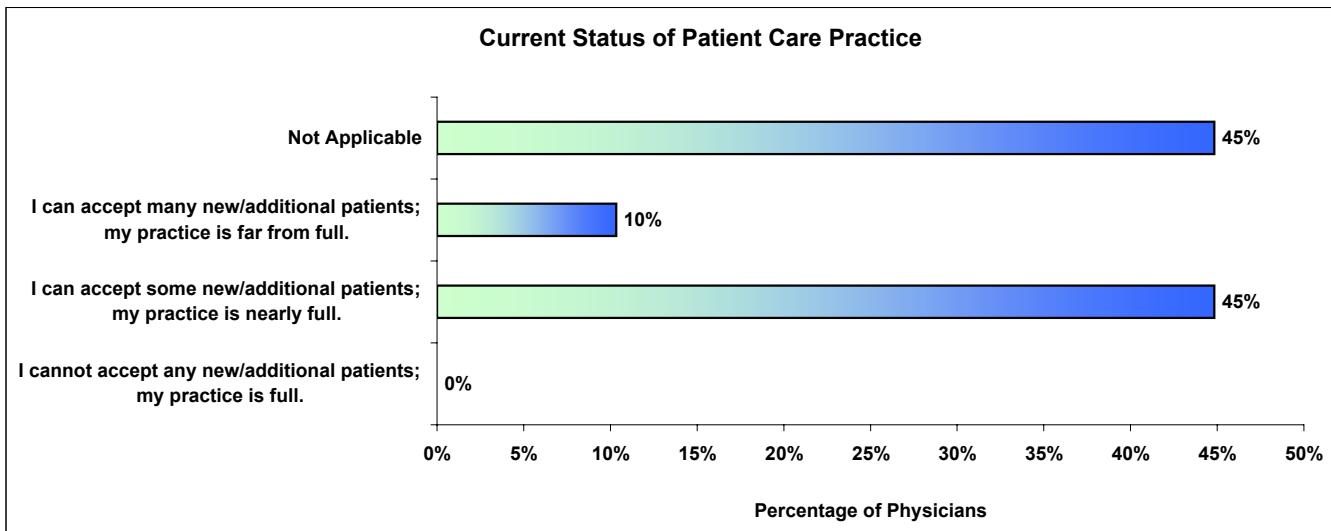
SPECIALTY PROFILE:

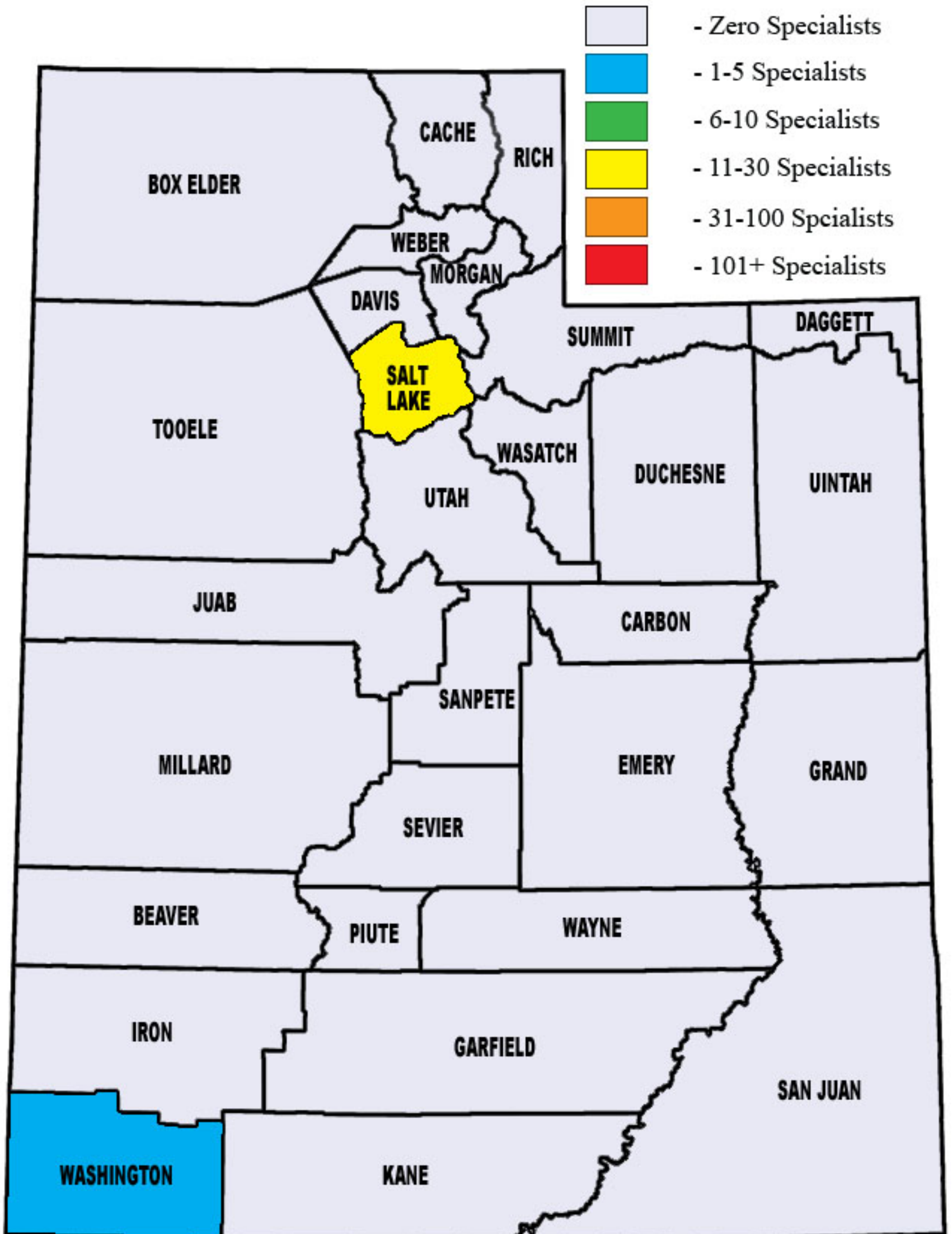
I.M. SUBSPECIALTY - INFECTIOUS DISEASES



Average Number of Patients Seen Per Week

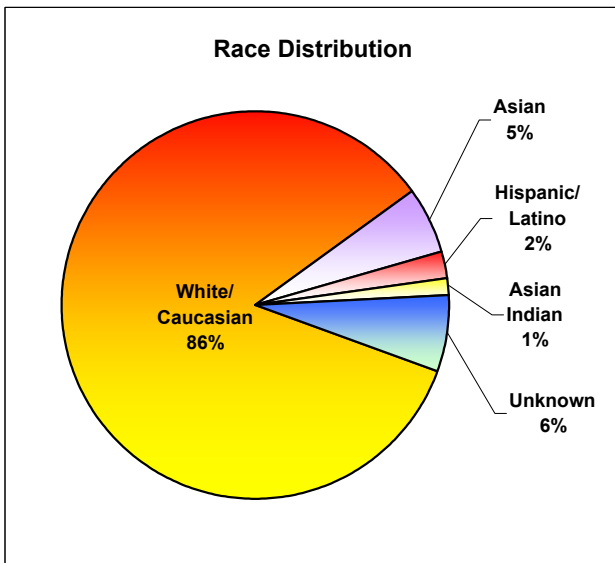
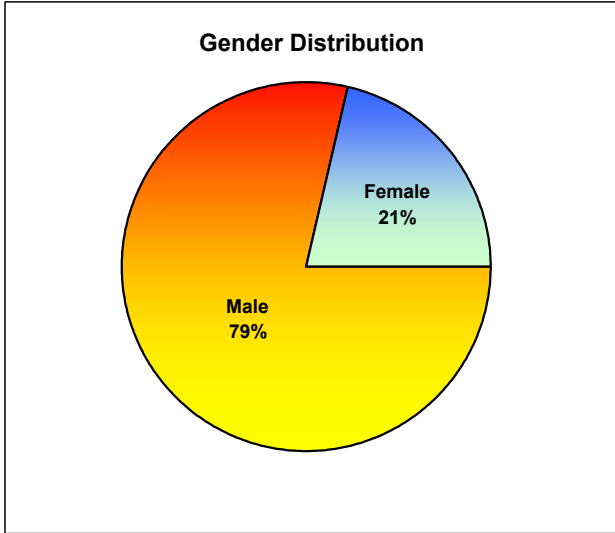
Out-patients	Office	17
	Urgent Care	4
	ER	0.35
In-patients	Hospital	14
	Nursing Home	0





SPECIALTY PROFILE:

INTERNAL MEDICINE (GENERAL)

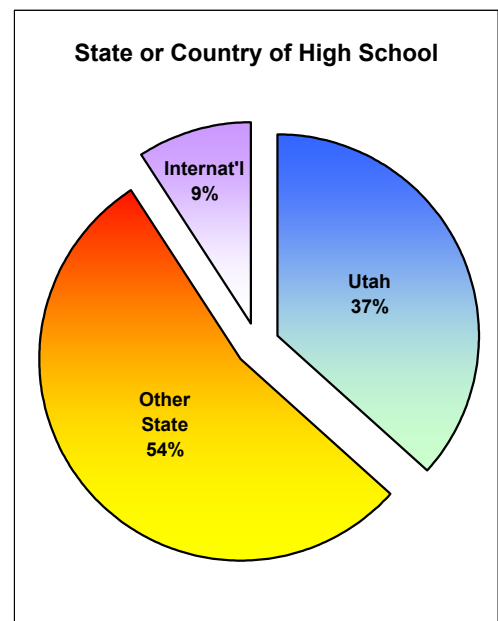
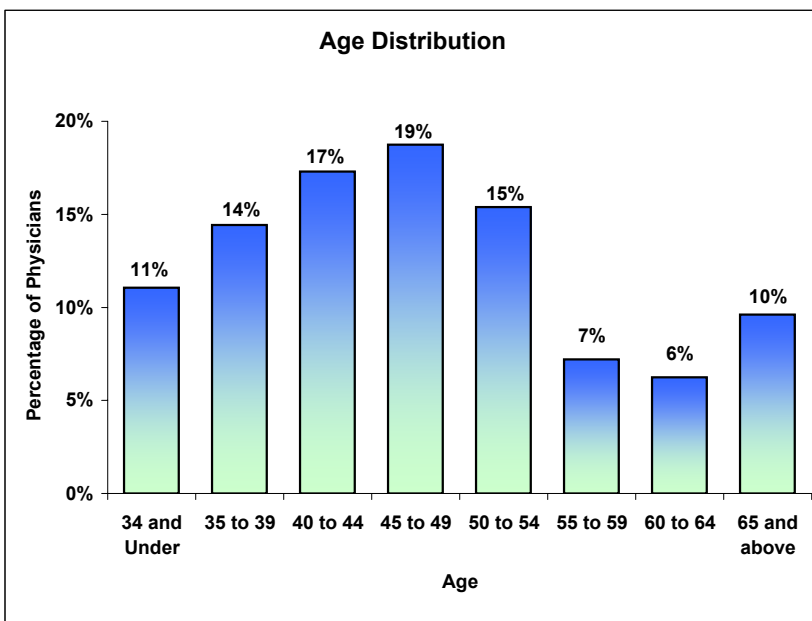


GENERAL INTERNIST: 361 (American Board of Medical Specialties estimate)

1. Utah has approximately 15.2 general internists per 100,000 population which is significantly below the national average of 25.6 per 100,000 population. The UMEC data suggest that this is not enough to meet the current needs of the population. In 2003, approximately 27% of Utah general internists reported wait times of over 30 days for an appointment, with 48% claiming that their practice was nearly full, and 14% stating that they were unable to accept new patients.

2. Despite the apparent need for more general internists, it is becoming more difficult to attract graduates into this specialty. Since 1999, there has been a cumulative increase of 1.3% in internal medicine residency positions, but a 2.1% decrease in the primary care program track. As more residents choose to pursue subspecialty training in internal medicine, it is anticipated that there will be a reduction in the number internists available to provide primary care services.

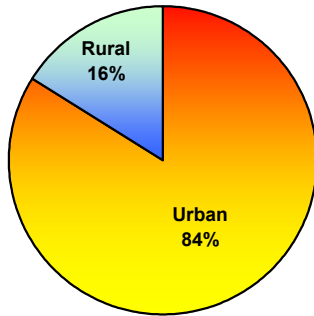
3. To maintain the current capacity, Utah needs to recruit a minimum of 20 general internists per year to the state. The University of Utah currently trains 27 categorical residents and 4 med/peds residents for a total of 31 graduates per year. Of those that graduate from the state training program, only 13 (41%) go on to general internal medicine practice in Utah, while the rest leave the state or pursue further subspecialty training.



SPECIALTY PROFILE:

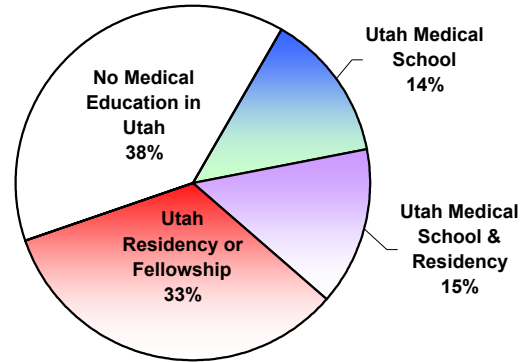
INTERNAL MEDICINE (GENERAL)

Urban / Rural Practice Distribution



Urban Counties = Davis, Salt Lake, Utah, Weber

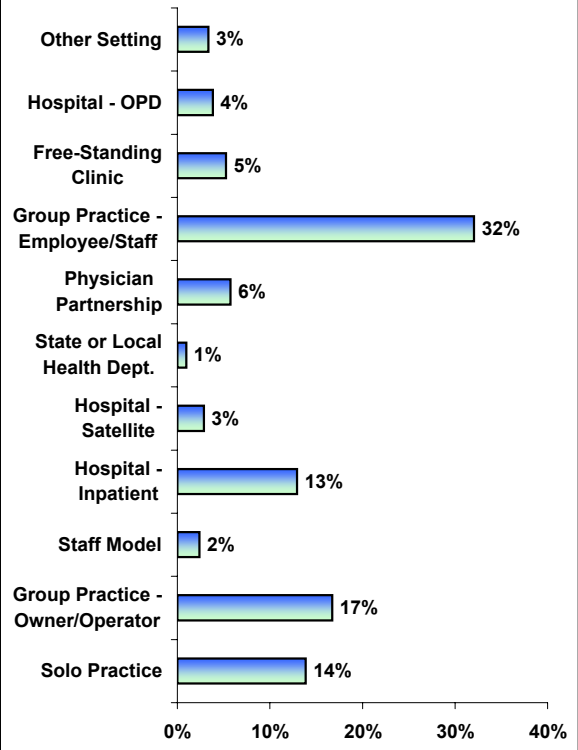
Utah Education Connection



Board Certification of Internal Medicine Physicians

Primary Board Certification	N	%	Secondary Board Certification	N	%
Internal Medicine (General)	296	99%	Dermatology	1	
			Emergency Care	1	
			Cardiology	4	
			Endocrinology & Metabolism	4	
			Gastroenterology	3	
			Geriatrics	6	
			Hematology/Oncology	3	
			Infectious Diseases	6	
			Pulmonary Diseases	3	
			Rheumatology	1	
			Pediatrics (General)	3	
			Psychiatry	1	
			Other Specialty	4	
Cardiology	1	0.3%	Internal Medicine (General)	1	
Endocrinology & Metabolism	1	0.3%	Internal Medicine (General)	1	
Geriatrics	1	0.3%	Internal Medicine (General)	1	
Other Surgical Subspecialties	1	0.3%	N/A		
N =	300	100%	N/A		

Patient Care Practice Setting



Gross Annual Earnings

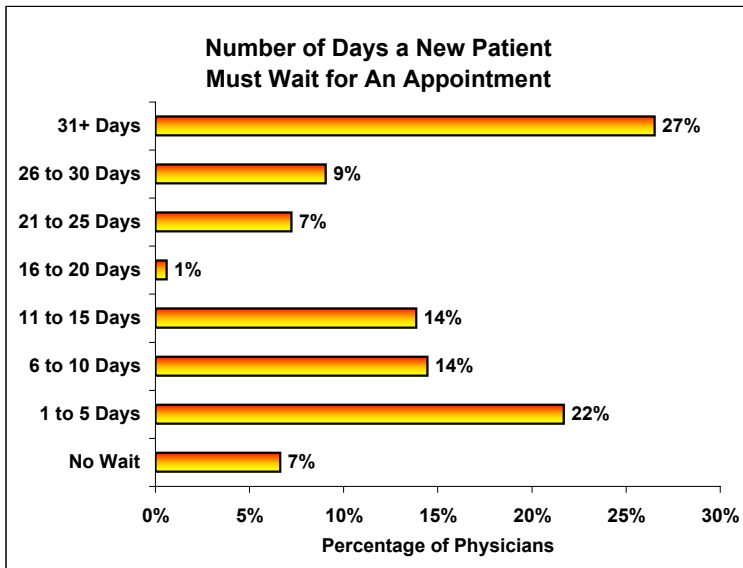
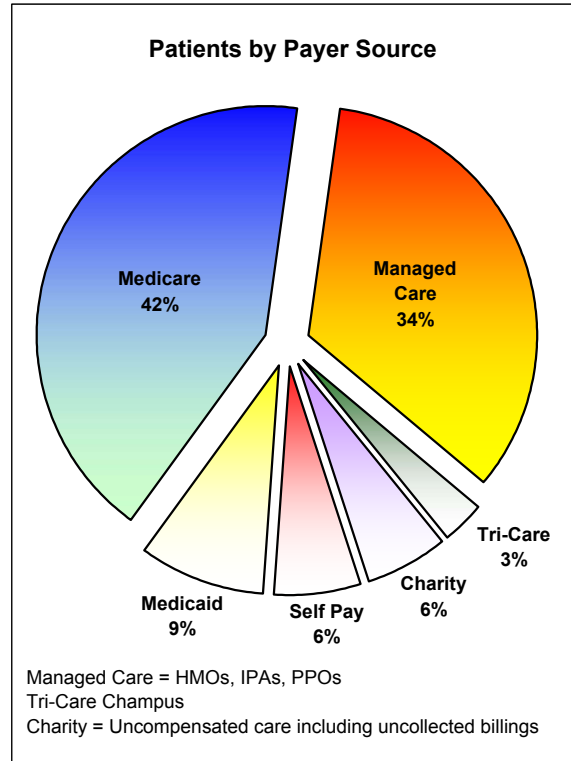
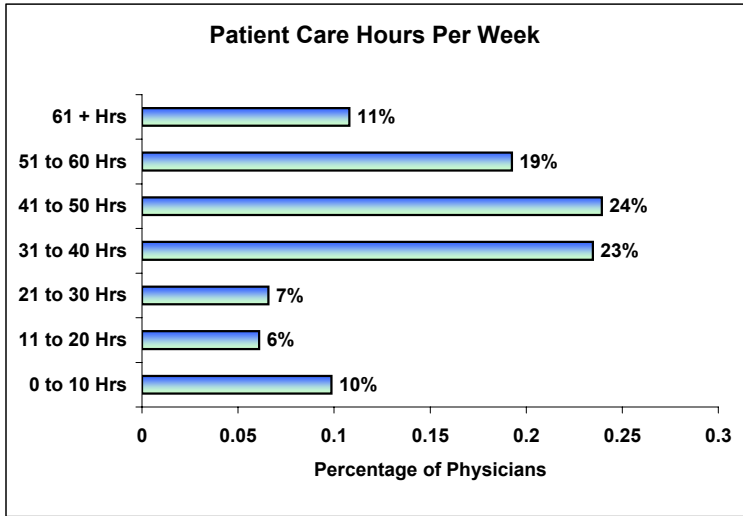
Mean	Median	Mode
\$129,119	\$130,000	\$150,000

Self-Reported Years to Retirement



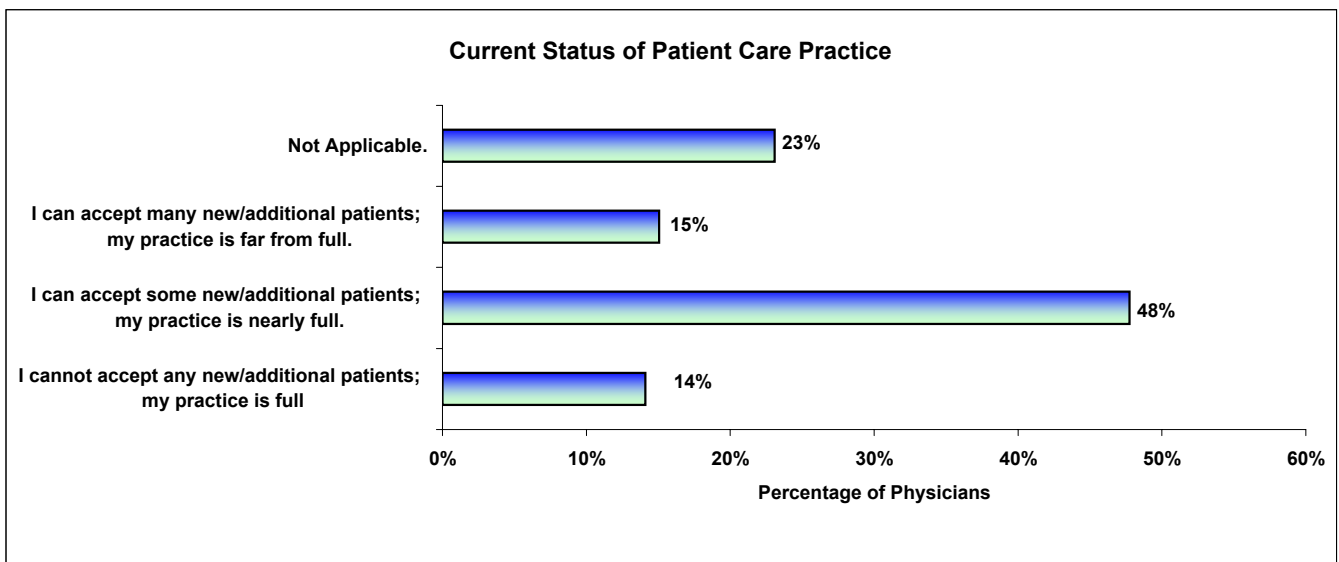
SPECIALTY PROFILE:

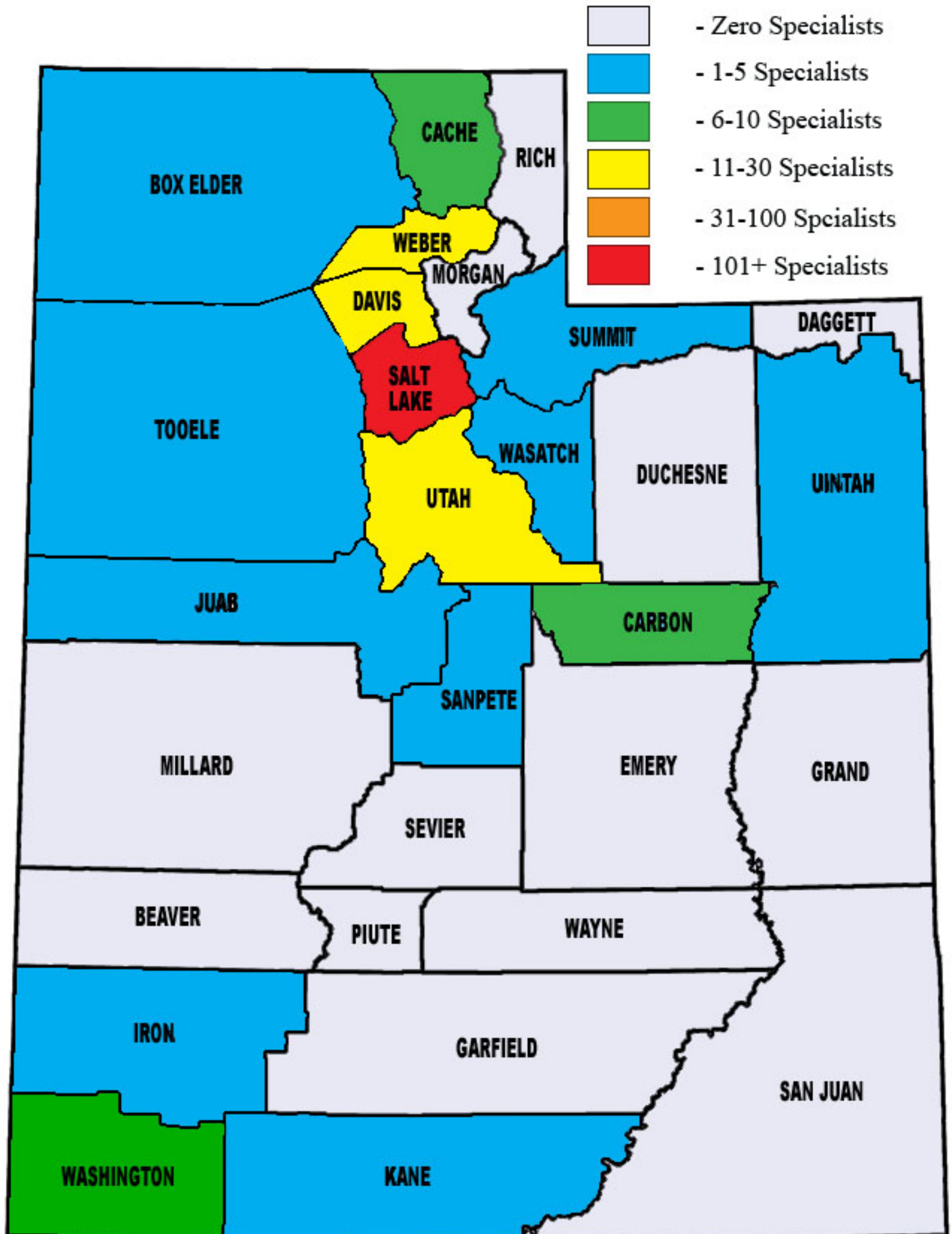
INTERNAL MEDICINE (GENERAL)



Average Number of Patients Seen Per Week

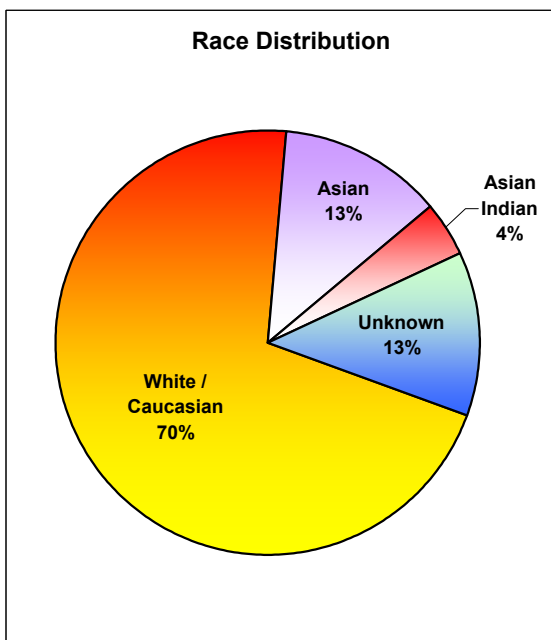
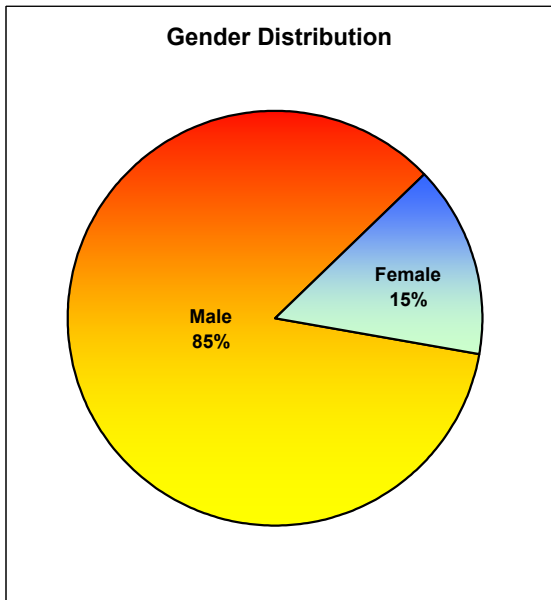
Patient Type	Office	62
	Out-patients	Urgent Care
	ER	0.53
In-patients	Hospital	9
	Nursing Home	1





SPECIALTY PROFILE:

I.M. SUBSPECIALTY - NEPHROLOGY



NEPHROLOGISTS: 26 (UMEC Estimate)

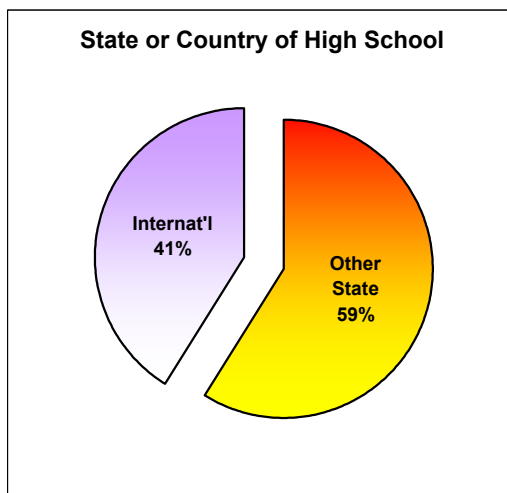
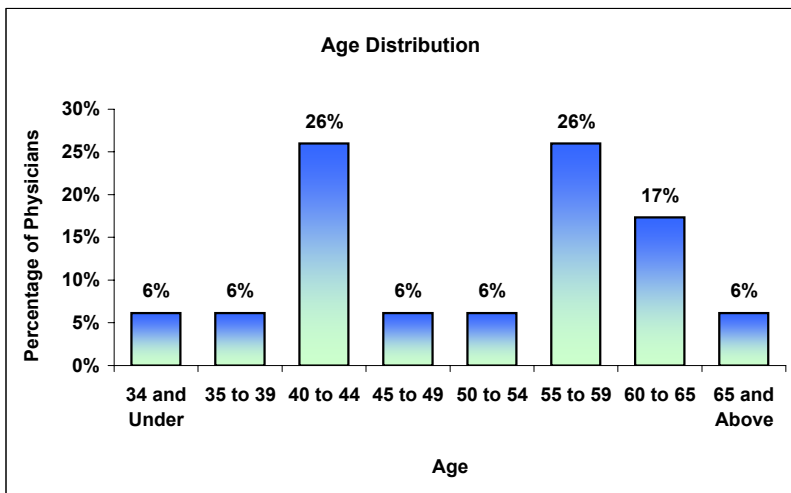
1. In 1997 the American Society of Nephrologists (ASN) commissioned a workforce study entitled, "Estimating Workforce and Training Requirements for Nephrologists through the Year 2010" and concluded that the demand for nephrologists will significantly increase through 2010 largely due to the growth in end stage renal disease (ESRD) patients. Since that time, there has been no dramatic change to the nephrologist workforce or the ESRD population to decrease the need for more nephrologists in the U.S.

2. In 2004, the AMA reported that there were 6,943 nephrologists for a ratio of 2.36 per 100,000 population. The adequacy of this supply is best represented in terms of ESRD patients per provider. In 2003, the Renal Physicians Association (RPA) conducted a benchmark survey and found that there were 68 renal patients per physician. Although this count was found to be manageable by nephrologists, current statistics show that the number of ESRD patients is rapidly outstripping the growth of nephrologists in the U.S. Estimates from the United States Renal Data System's 2005 Annual Data report show that by 2003, the number of renal patients per physicians had already gone up to 70. Further projections by the UMEC indicate that this ratio may be as high as 83 patients per physician by 2010.

3. Data on the nephrologist workforce in Utah reveal that the state is experiencing a shortage even greater than the nation. Estimates from 2003 showed that there were 79 ESRD patients per physician -- a ratio that is 13% higher than the national average and 16% higher than the 2003 RPA benchmark. The impact of this shortage has been documented in the UMEC survey where over 44% indicated new patient wait times of 26 days or greater, and 80% reported practices that were nearly full.

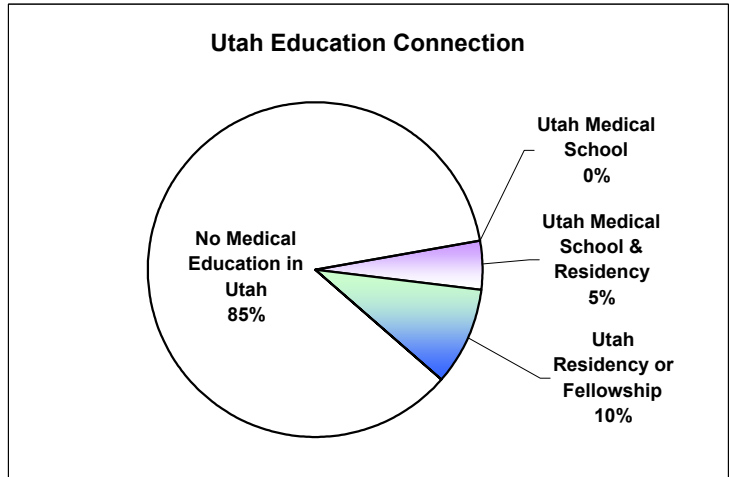
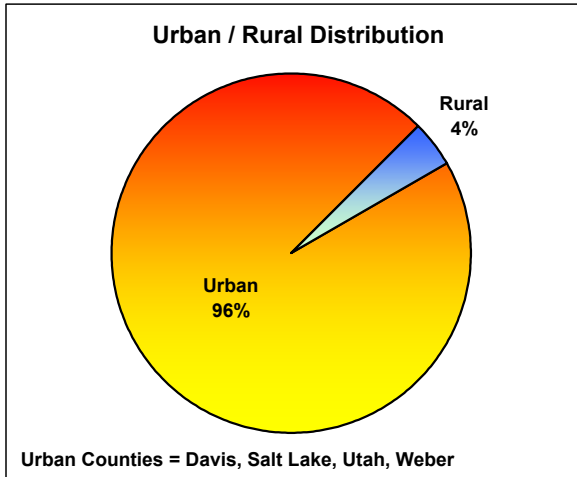
4. To maintain the current capacity, Utah would need to recruit 1 nephrologist to the workforce every year. However, due to the present shortage, the UMEC highly encourages that the state increase recruitment to 2 nephrologists per year for the next 10 years to help decrease the number of patients per provider and increase access to care.

5. The Utah nephrology program currently trains 2 fellows per year and retains 26% of its graduates or approximately 1 nephrologist every 2 years. In order to meet projected demand, the state must increase efforts to retain 75% to 100% of these graduates due to the growing national shortage of nephrologists.



SPECIALTY PROFILE:

I.M. SUBSPECIALTY - NEPHROLOGY



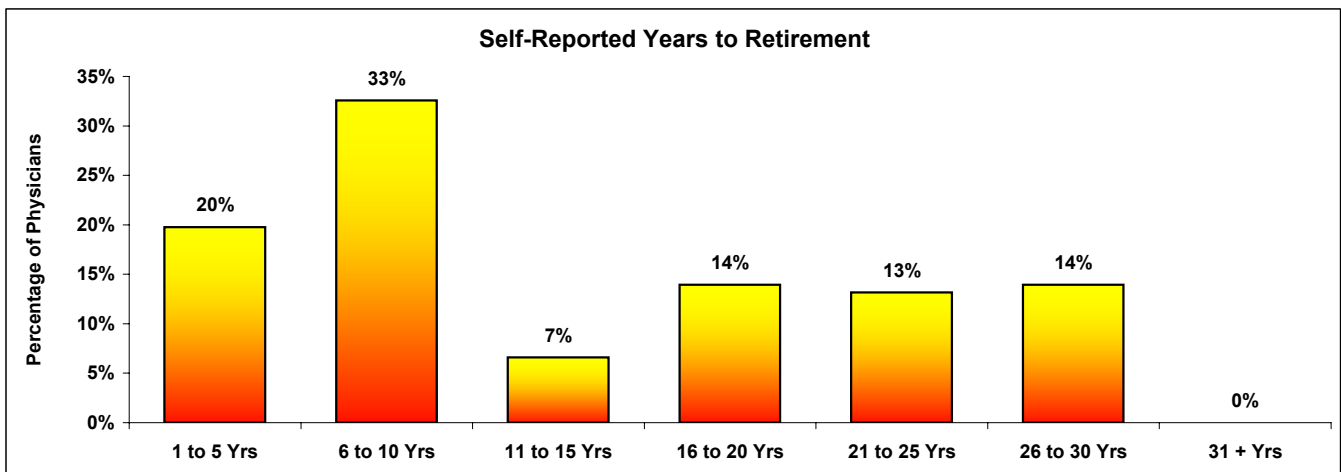
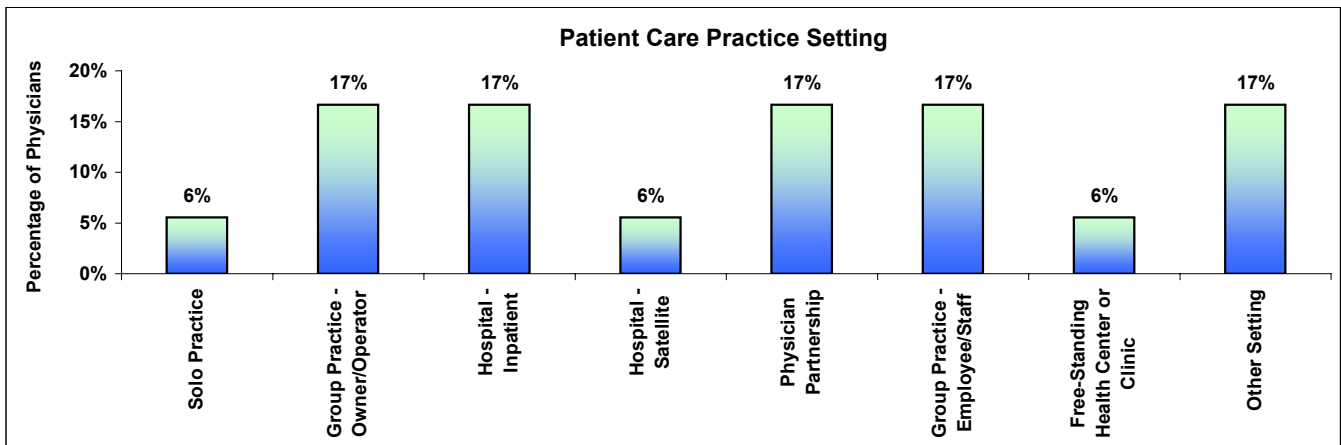
Board Certification of Nephrologists

Primary Board Certification			Secondary Board Certification	
			Internal Medicine (General)	Nephrology
Internal Medicine (General)	16	61%	0	16
Nephrology	10	39%	6	0
N =		26	100%	

Gross Annual Earnings

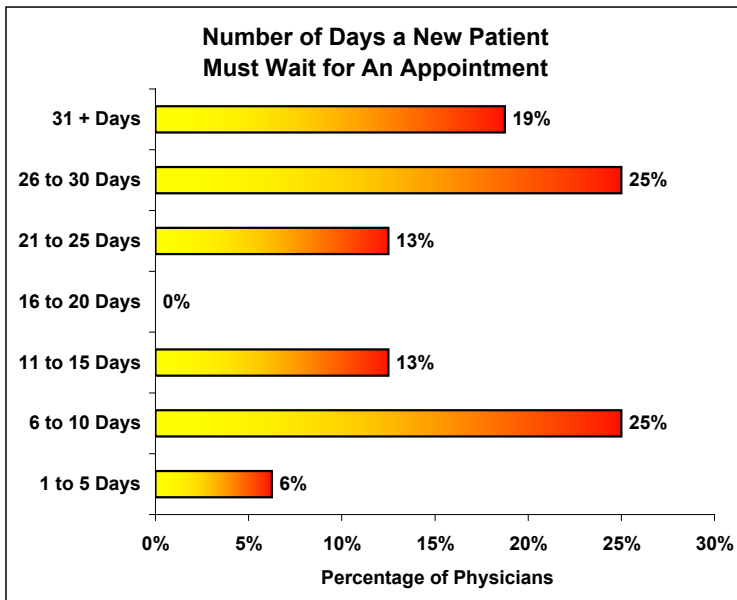
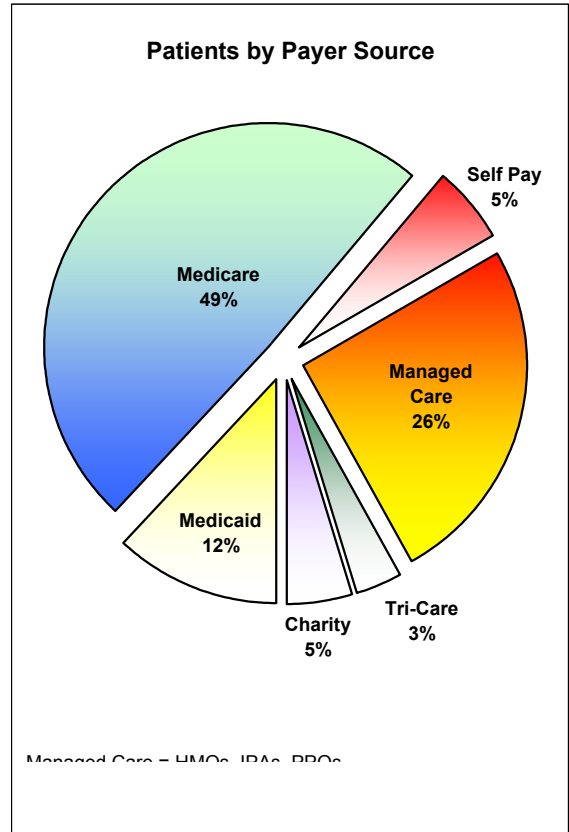
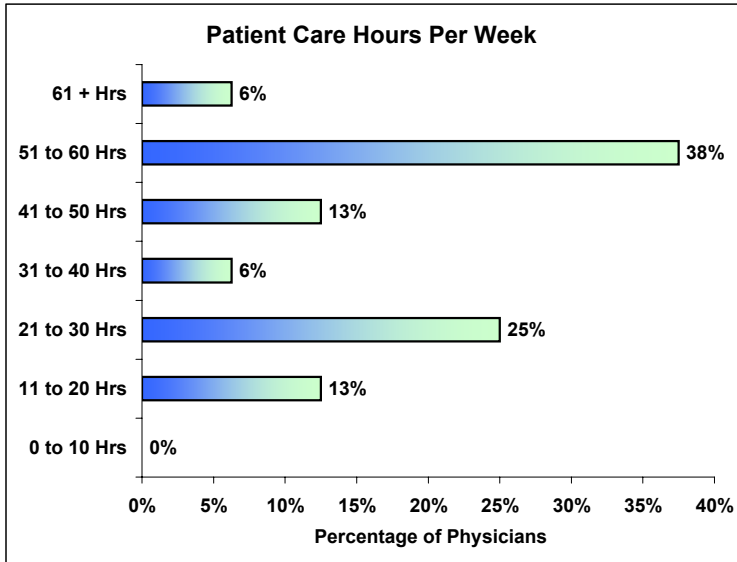
Mean	Median	Mode ¹
\$187,769	\$170,000	\$250,000

1. Multiple modes exist. The smallest is shown.



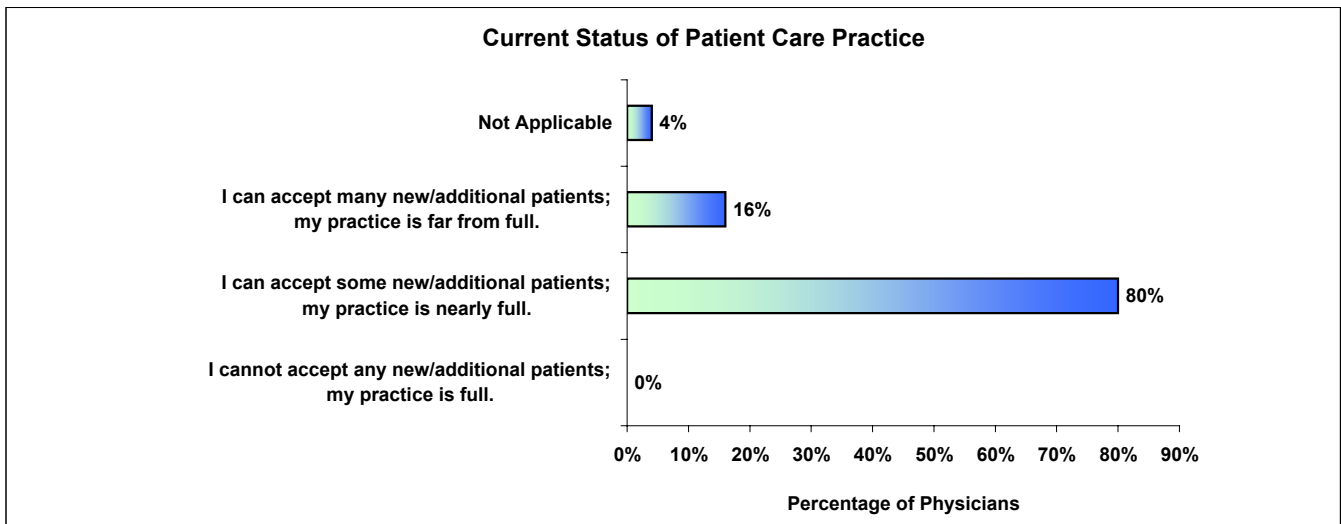
SPECIALTY PROFILE:

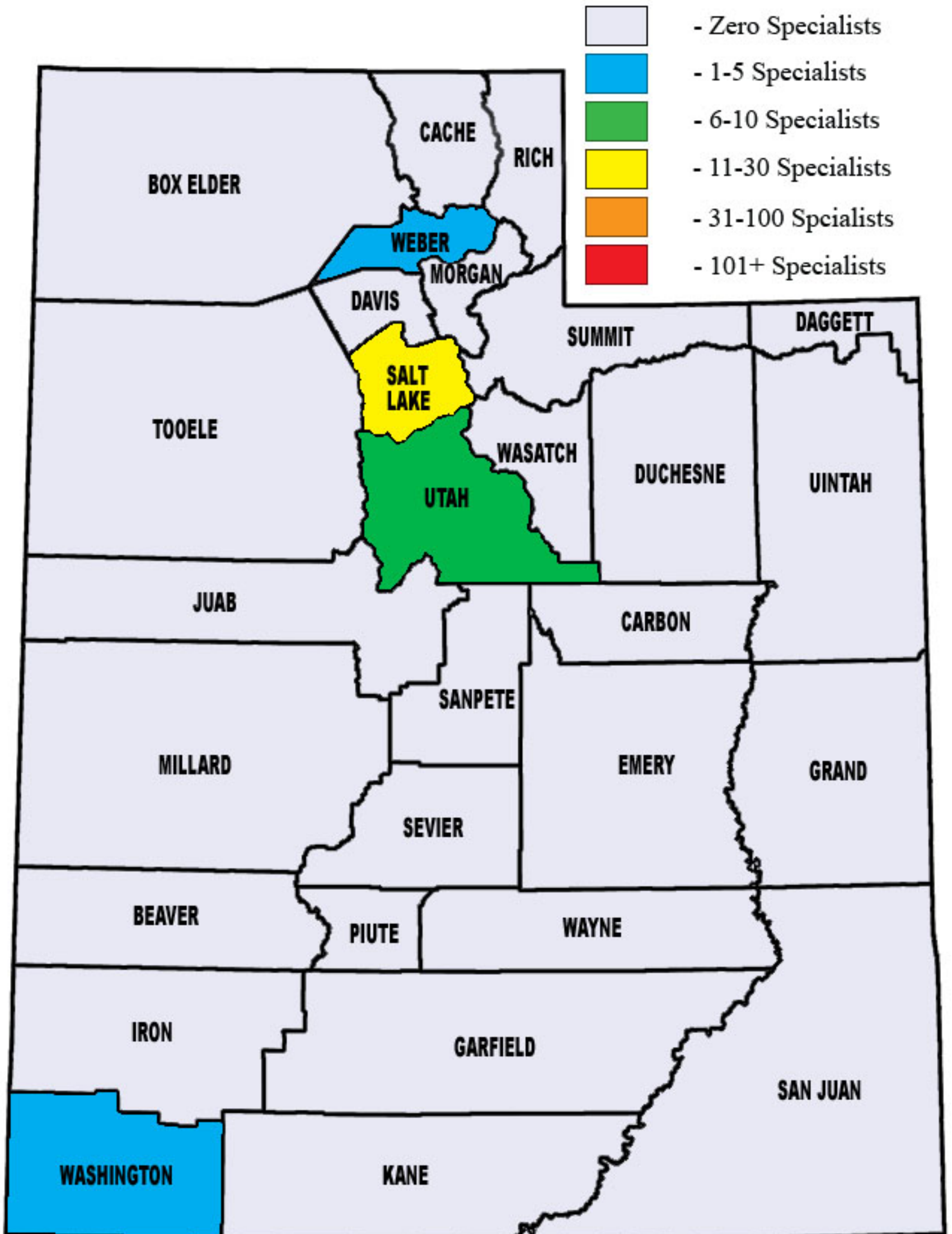
I.M. SUBSPECIALTY - NEPHROLOGY

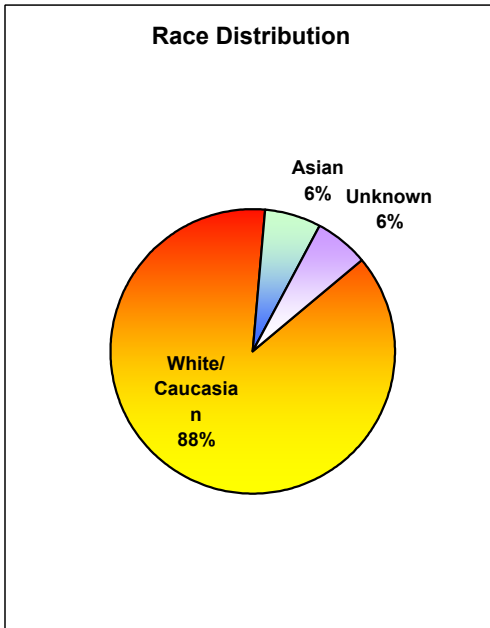
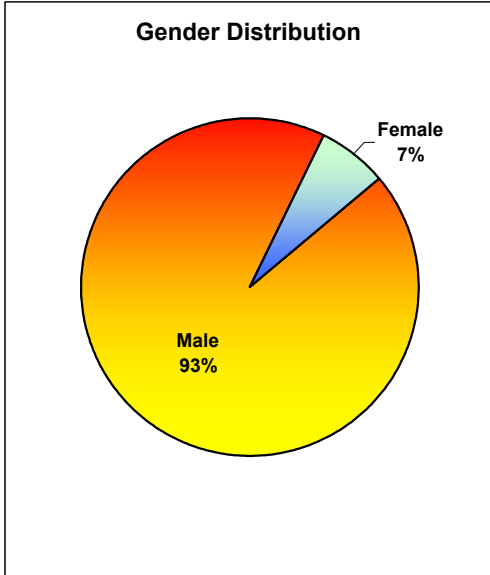


Average Number of Patients Seen Per Week

Out-patients	Office	29
	Urgent Care	0
	ER	7
In-patients	Hospital	25
	Nursing Home	1





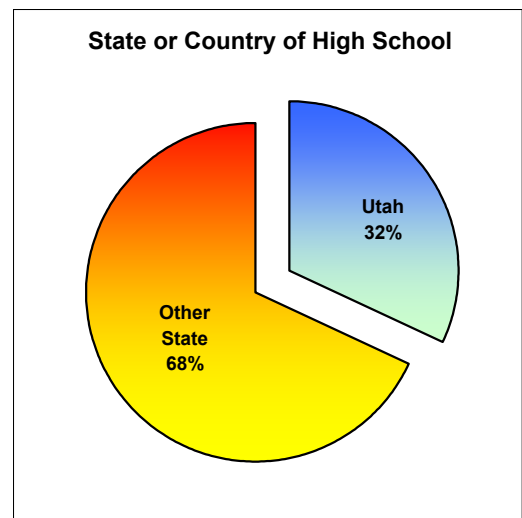
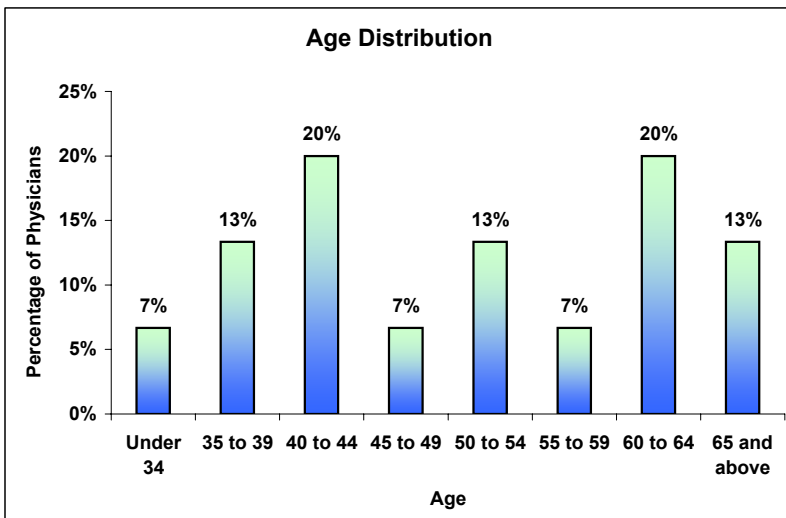


NEUROLOGICAL SURGEONS: 36 (AANS Estimate)

1. In 2003, data from the American Board of Neurological Surgeons (ABNS) showed that there were 3,080 actively practicing neurosurgeons in the United States for a ratio of 1.06 per 100,000 population. According to the American Association of Neurological Surgeons (AANS), the recommended physician to population ratio should be closer to 1.54 per 100,000 population, or 1 neurosurgeon for every 65,000 people. Under this criterion, the U.S. is short 1,394 neurosurgeons.

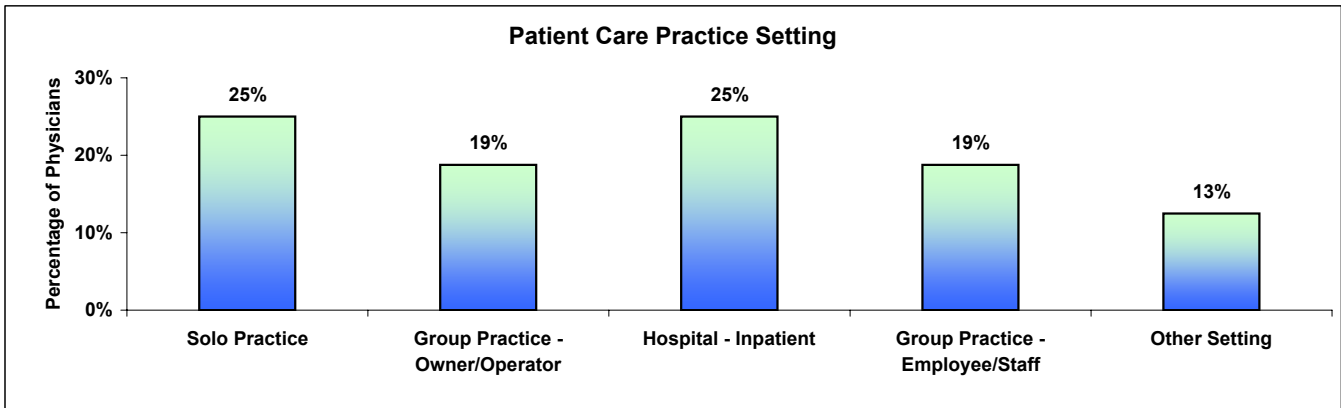
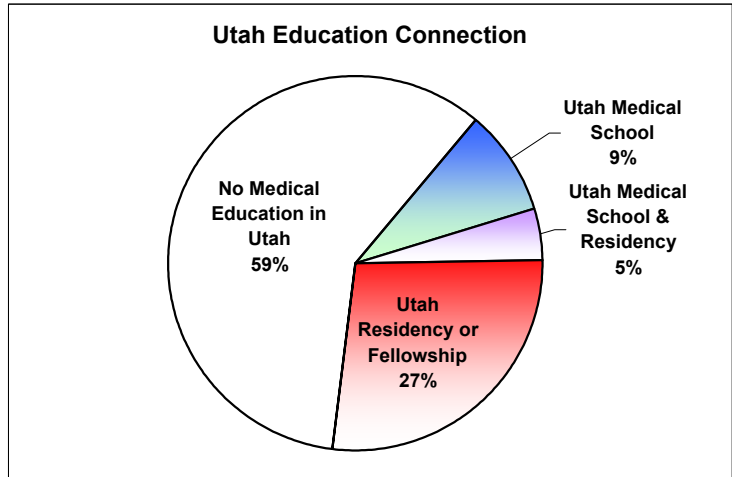
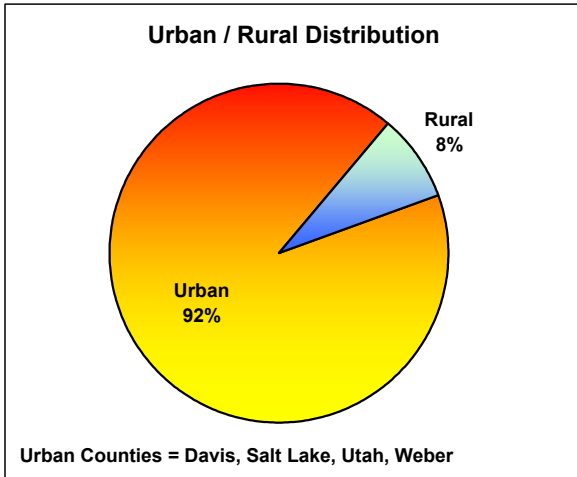
2. National trends suggest that the gap between the supply and demand of neurosurgeons is becoming even greater. In 2004, physicians from the University of Utah conducted a workforce study and found that the number of advertised neurosurgery positions went from 297 in 1995 to 786 in 2002--an increase of 165% (Gottfried, Rovit, Couldwell). In contrast, data from the National Residency Match Program (NRMP) show that the number of training positions offered has remained stable over the past 12 years, meaning there has been no increase in the number of physicians entering this specialty. Reasons that have been cited for the lack of interest include dissatisfaction with the workplace environment, decreasing reimbursement, and the rising cost of malpractice insurance.

3. Despite indication of a national shortage, local data suggest a balance in the supply and demand of neurosurgeons in Utah. At the time of the survey in 2003, there were 36 neurosurgeons in the state for a ratio of 1.53 per 100,000 population. Since that time it has gone up to 1.57, which is above the AANS recommended ratio of 1.54. At this time, it is uncertain as to whether or not Utah can sustain this balance. To maintain the current ratio, the state needs to recruit 2 neurosurgeons per year, however the Utah training program is only providing 0.60 graduates per year, or 1 neurosurgeon every 2 years. In the past the state has been successful in recruiting out of state providers, however with the impending national shortage, it will be difficult to compete for more physicians. At present, the clinical capacity of the state restricts further expansion of the residency program, therefore the UMEC highly encourages increased efforts to improve retention to decrease reliance upon the dwindling national pool.



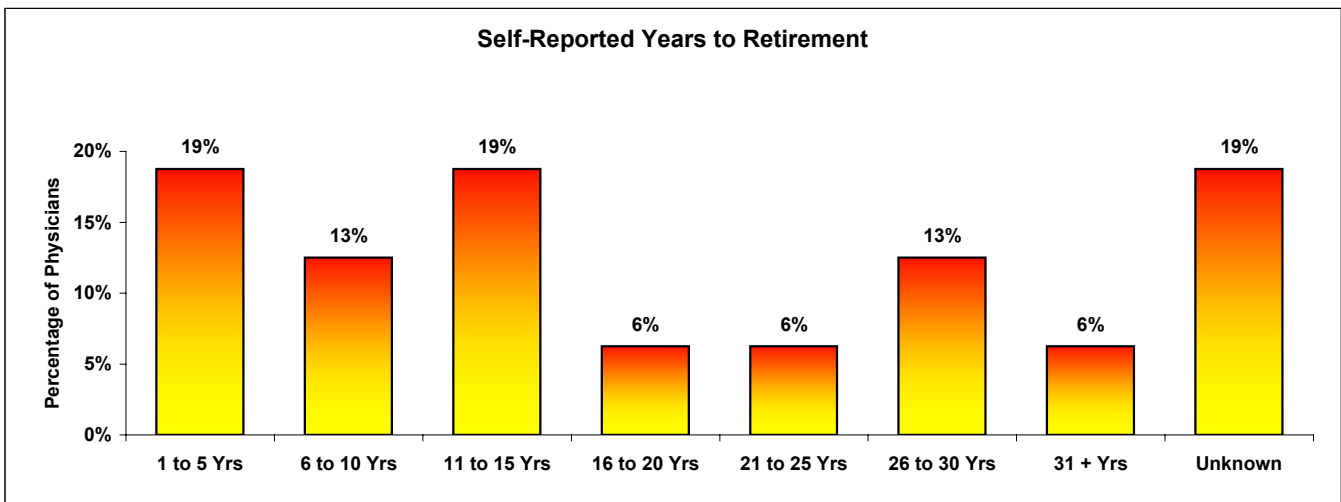
SPECIALTY PROFILE:

NEUROLOGICAL SURGERY



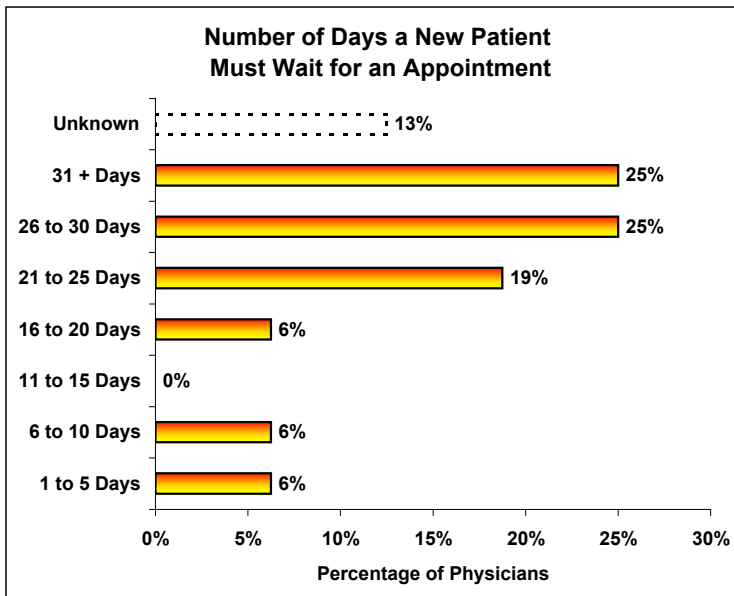
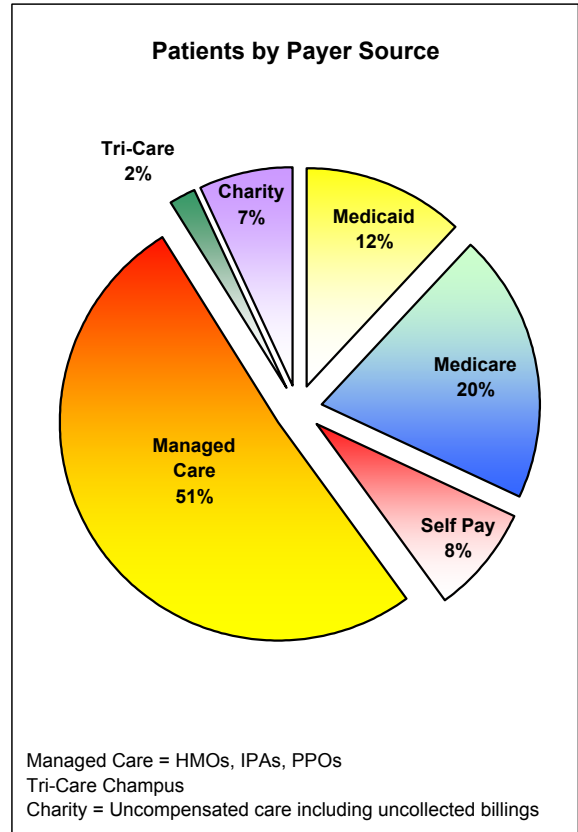
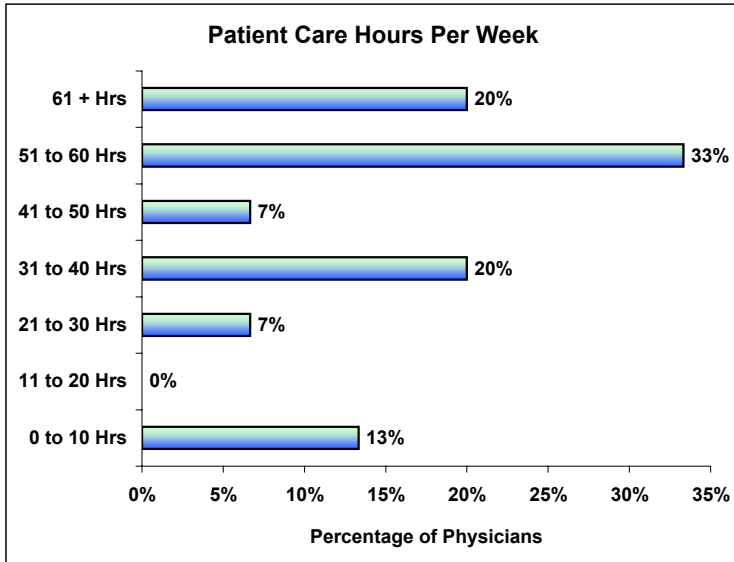
Board Certification of Neurological Surgeons		
Neurological Surgery	19	83%
Unknown	4	17%
N =	23	100%

Gross Annual Earnings		
Mean	Median	Mode
\$371,375	\$328,000	\$250,000 \$500,000



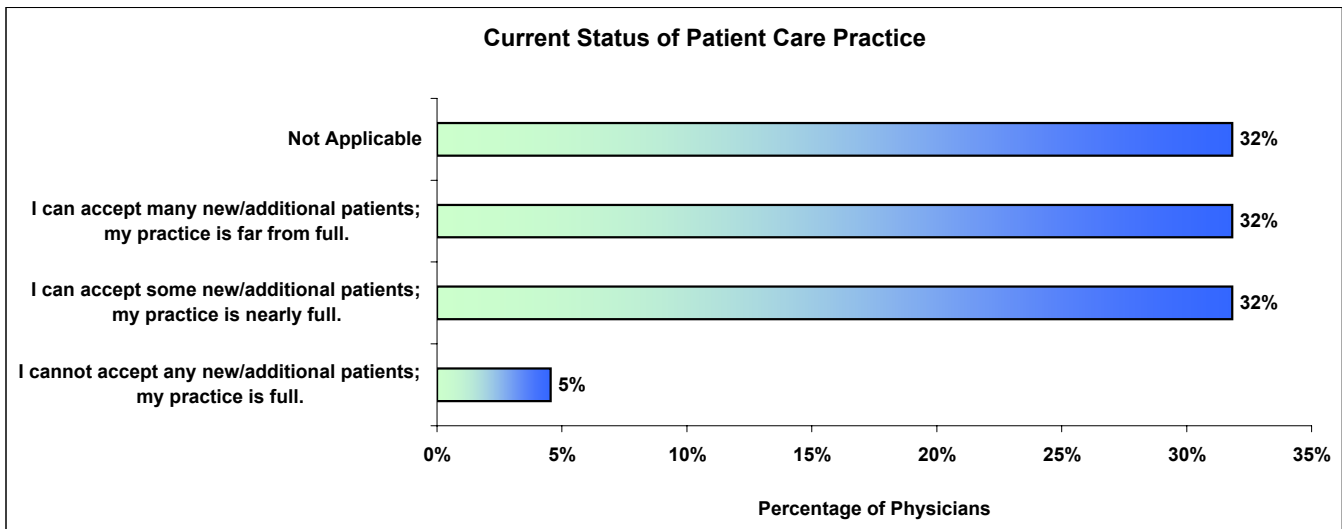
SPECIALTY PROFILE:

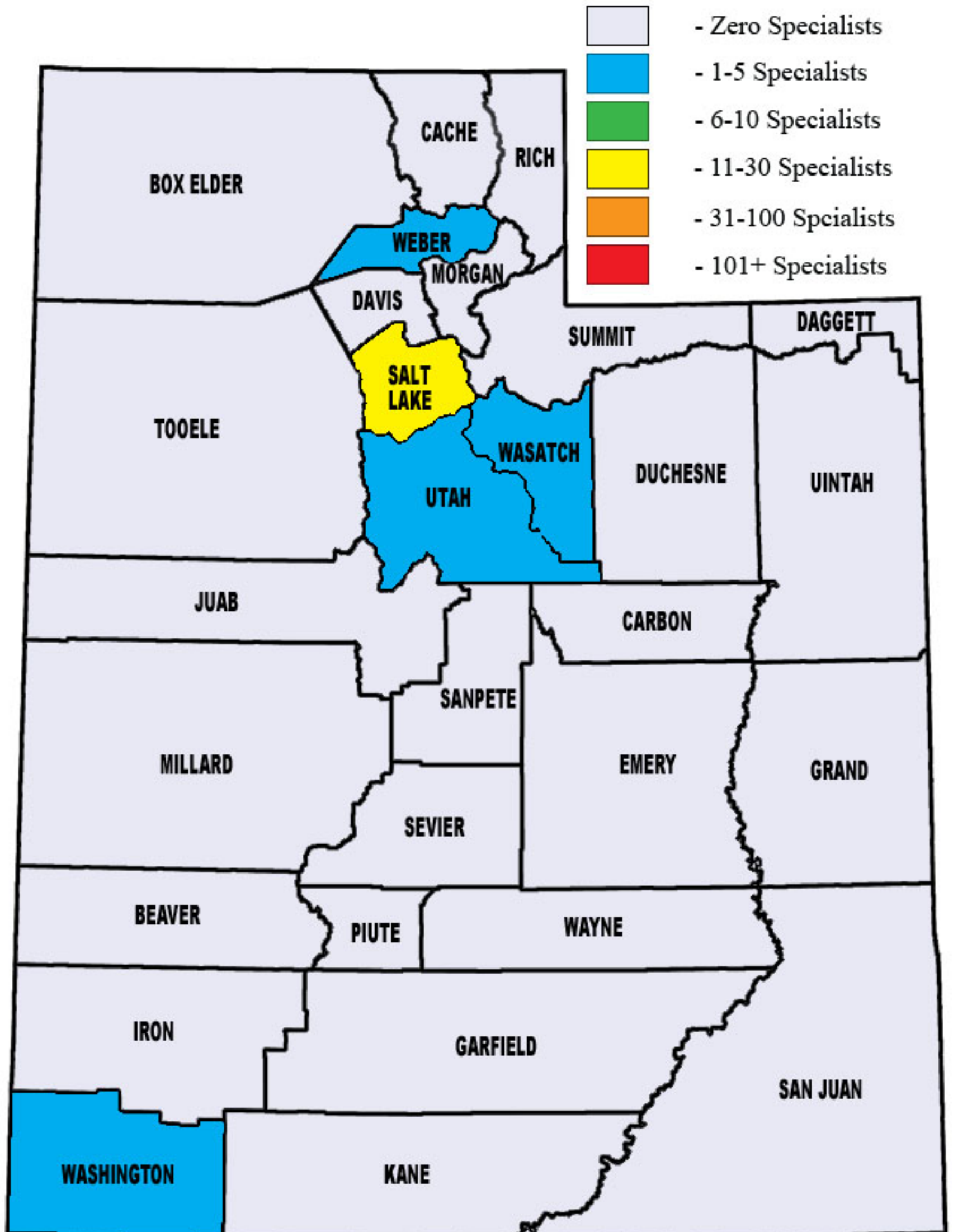
NEUROLOGICAL SURGERY

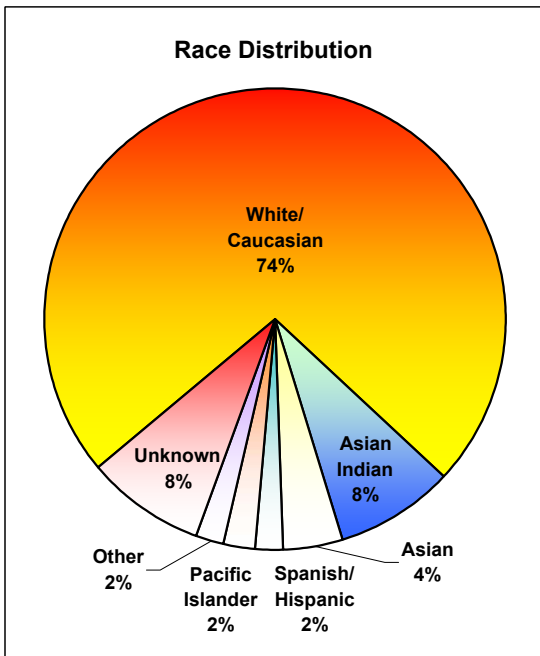
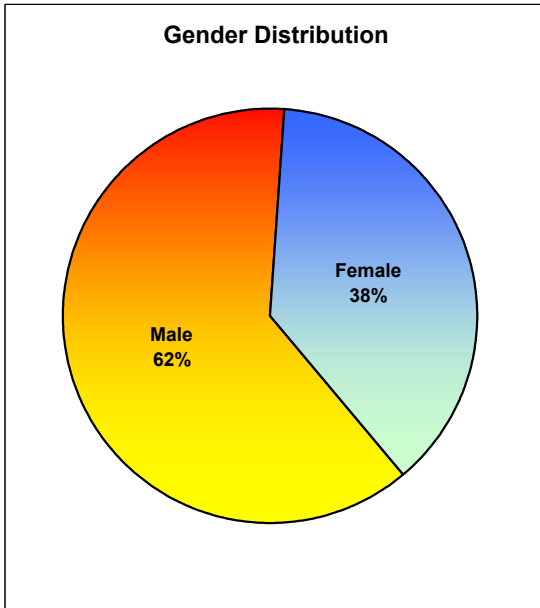


Average Number of Patients Seen Per Week

Out-patients	Office	22
	Urgent Care	2
	ER	3
In-patients	Hospital	6
	Nursing Home	0

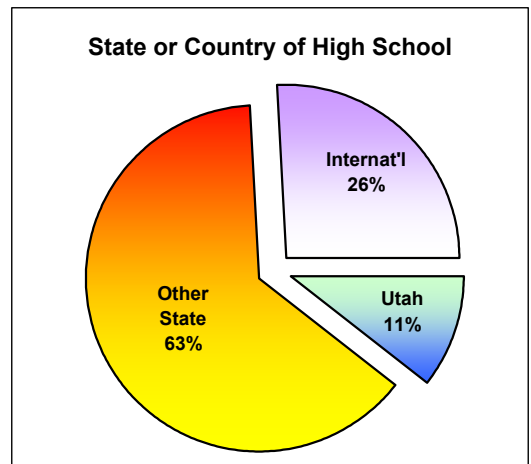
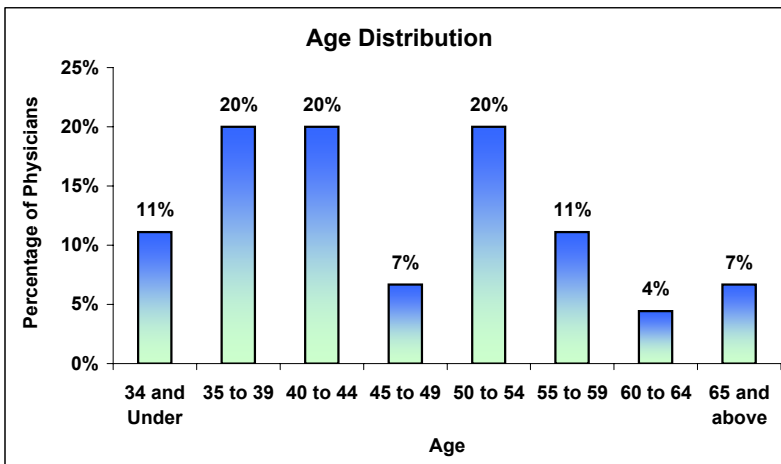






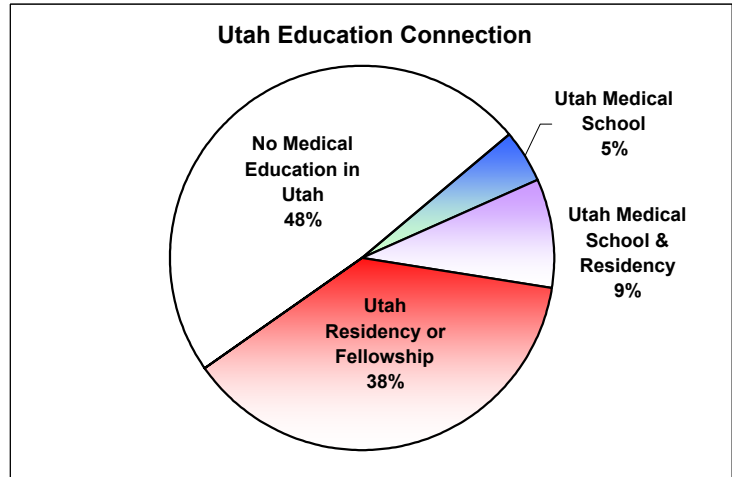
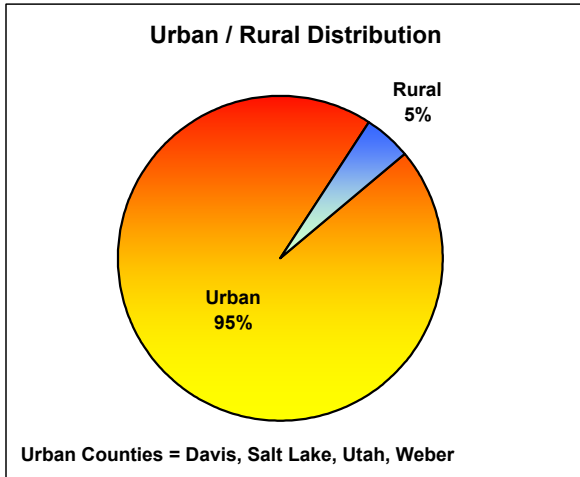
NEUROLOGY: 69 (UMEC Estimate)

1. In 2000, the Workforce Task Force of the American Academy of Neurology (AAN) released the results of their study indicating that the 1998 ratio of 3.68 adult neurologists per 100,000 population was appropriate for the U.S. until 2020, after which, supply will fall 20% below demand.
2. In 2003 there were 4.35 adult neurologists per 100,000 population over the age of 18 in Utah. Although this is above the AAN's recommended ratio, certain indicators suggest that it is not enough to serve the state population. Anecdotal reports and empirical data both indicate that patients are having difficulty accessing providers. In 2003, 49% of Utah neurologists reported wait times of over 31 days, and 55% had practices that were nearly full.
3. Discussions with providers have uncovered some of the causes behind extended wait times for Utah neurologists such as: 1) New technologies are continually changing the scope of practice for neurologists and increasing the demand for neurology services, 2) Neurologists tend to select and prioritize patients according to the severity of the neurological disorder, therefore patients with less severe cases encounter longer wait times, 3) A high number of patients seeking neurologic care do not necessarily require such services. It has been suggested that if more primary care providers are trained to assist in the screening of neurologic cases, then wait times would greatly be reduced.
4. A review of the demographic data for this specialty showed that neurologists in Utah are relatively young with over 51% being under the age of 44. This suggests longevity in the workforce as only 24% indicated retirement in the next 10 years.
5. The University of Utah neurology residency program currently trains 4 residents per year and retains approximately 95% of their graduates here in Utah. The stable pipeline of new neurologists entering the local workforce implies that the state will be able to replace the number of neurologists exiting the workforce should all things remain stable. However, it is recommended that efforts be increased to recruit more providers to the state to reduce patient wait time.



SPECIALTY PROFILE:

NEUROLOGY

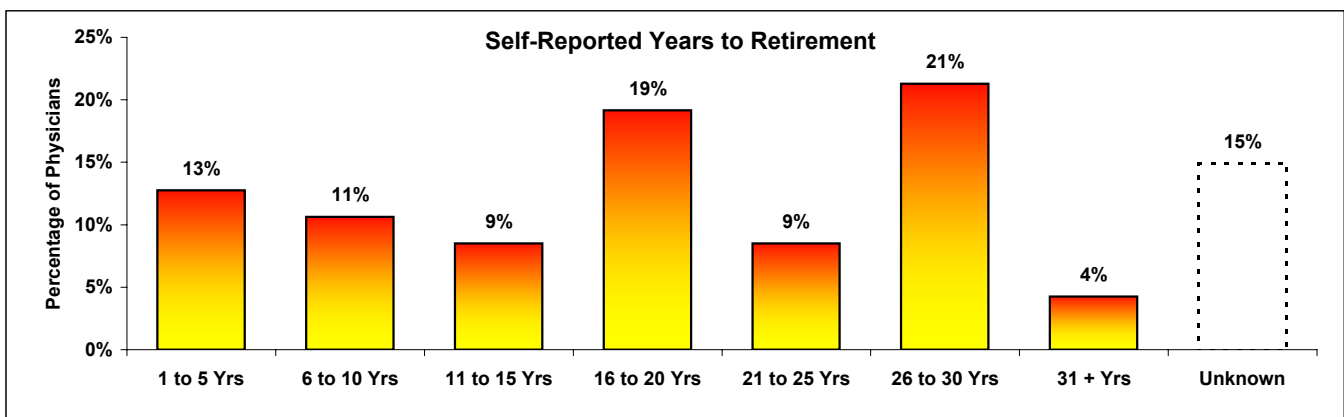
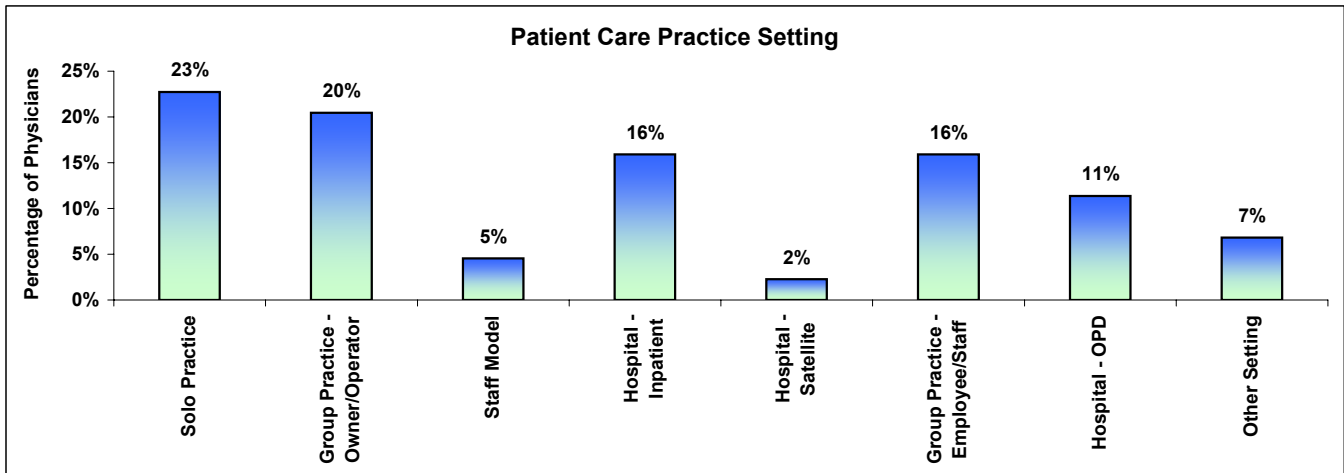


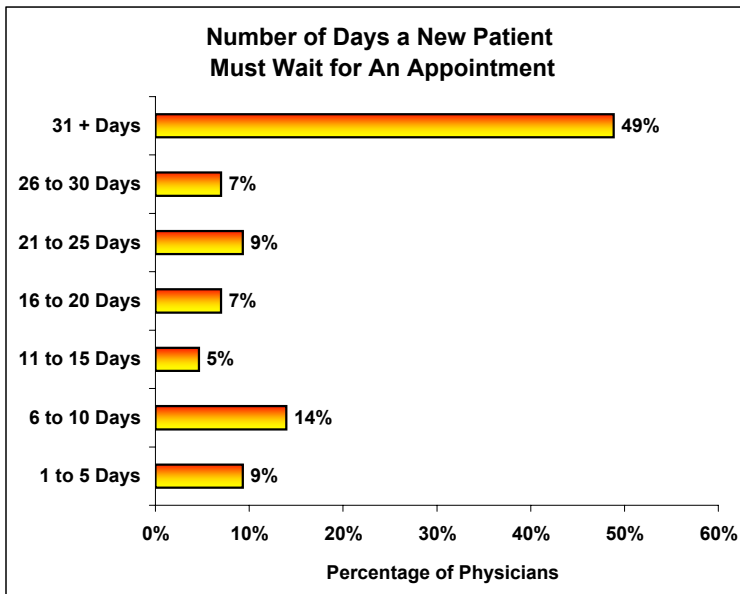
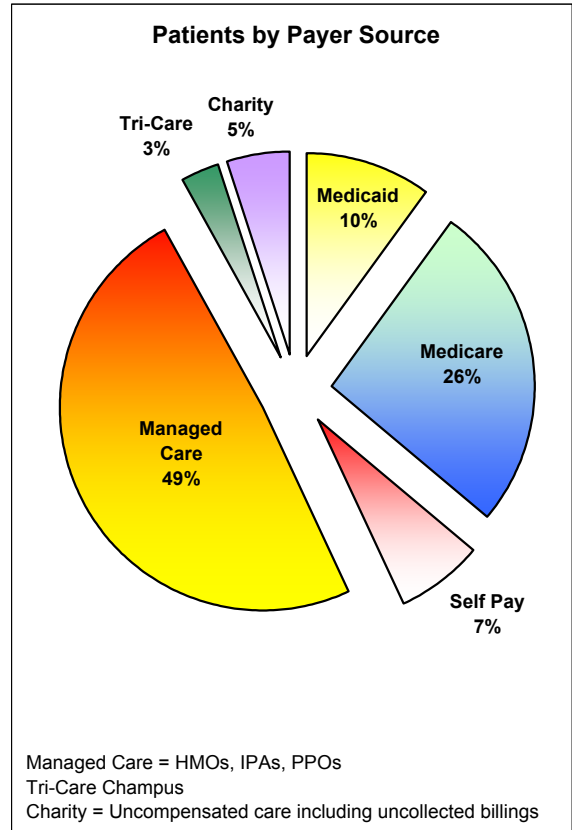
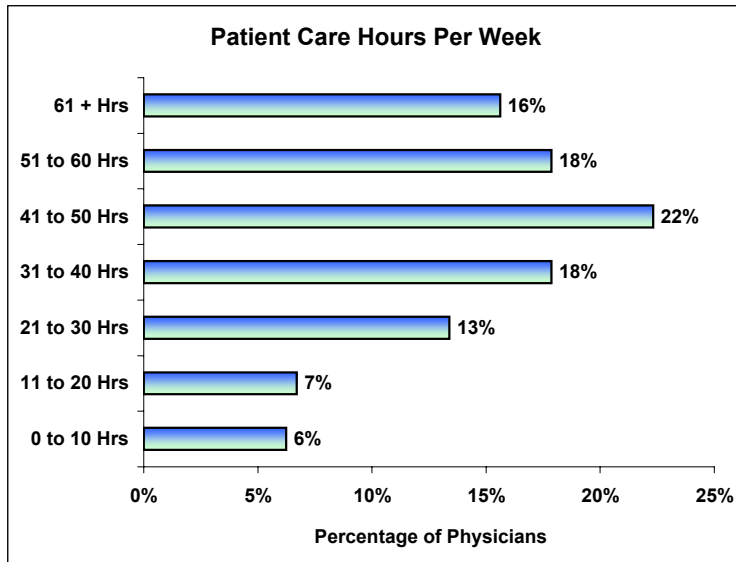
Board Certification of Neurologists

Primary Board Certification			Secondary Board Certification			
			Neurology	Pediatrics Subspecialties	Ophthalmology	Other Specialty
Internal Medicine (General)	1	2%	1	0	0	0
Neurology	57	95%	0	1	1	4
Orthopedic Surgery	1	2%				
N =	60	100%				

Gross Annual Earnings

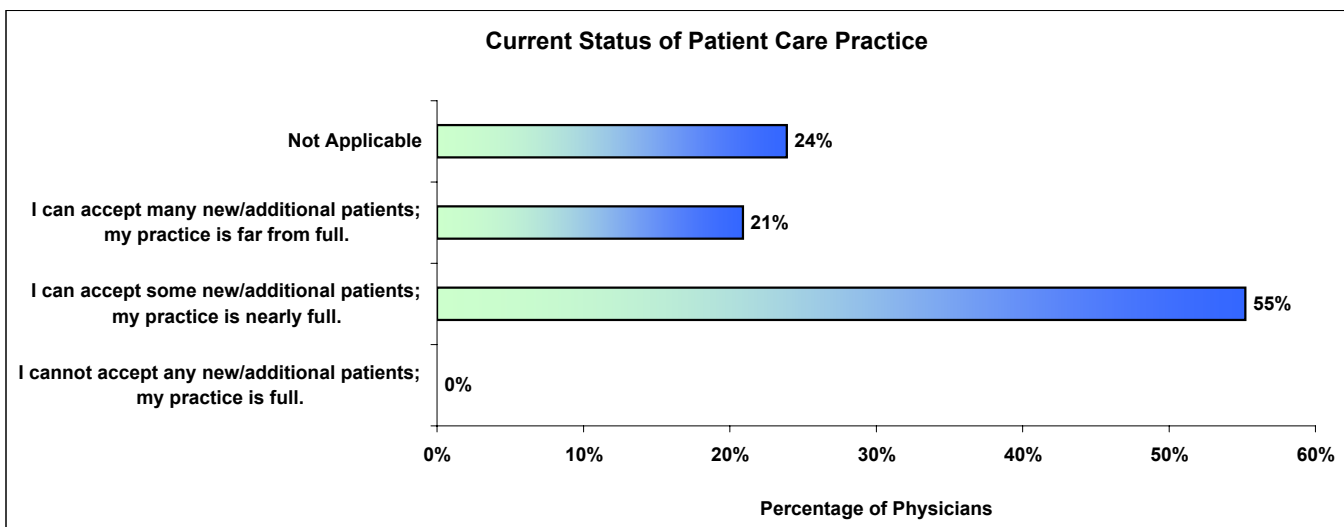
Mean	\$162,444
Median	\$125,000
Mode	\$100,000

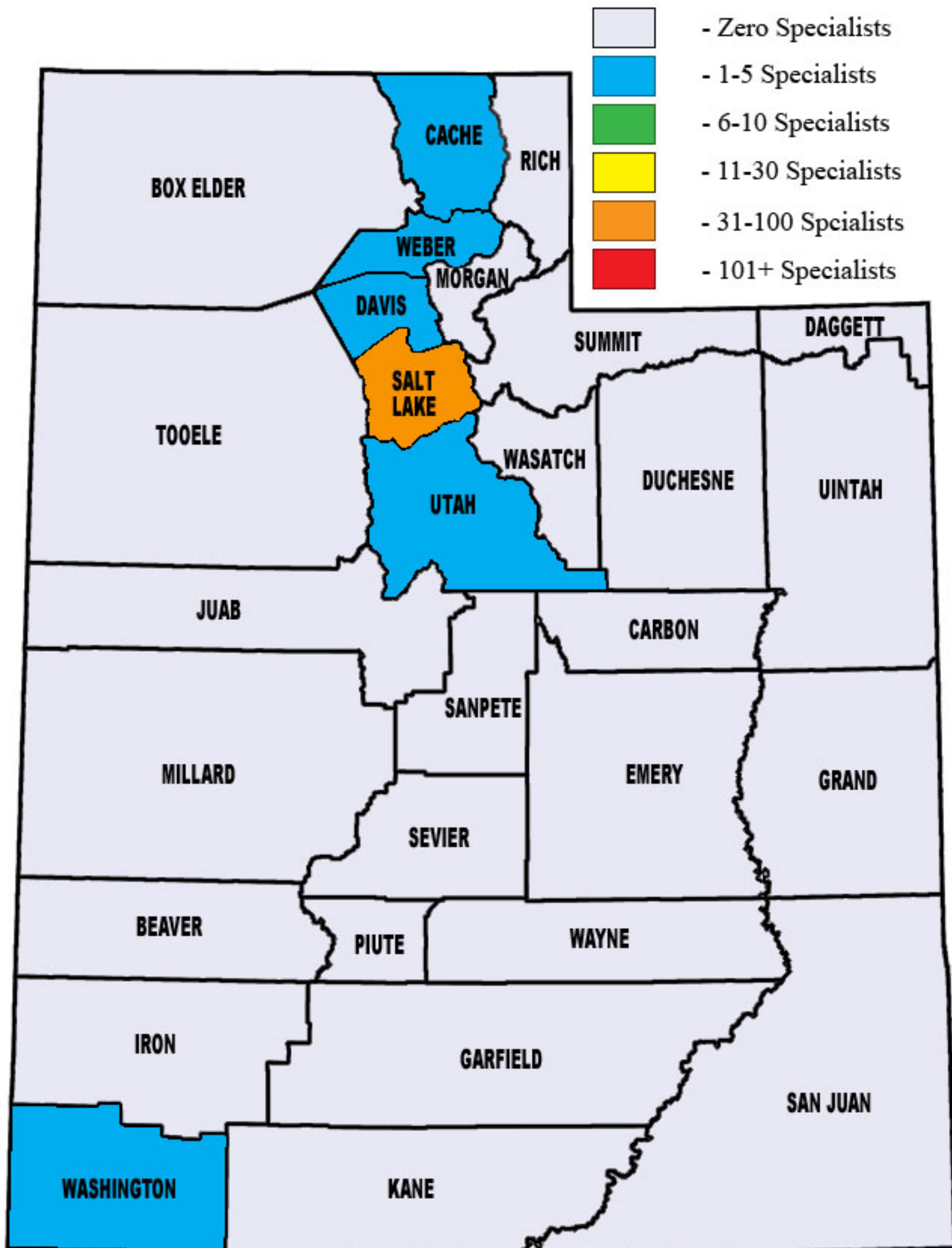


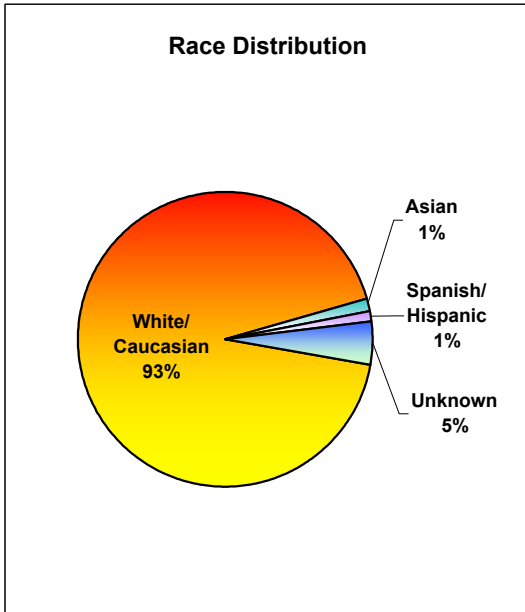
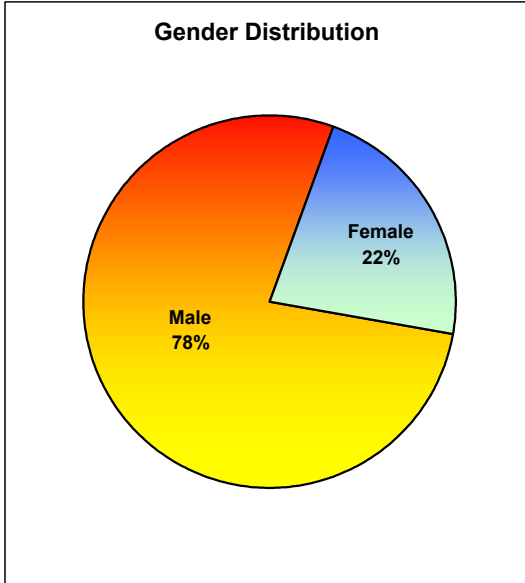


Average Number of Patients Seen Per Week

Patient Type	Average Number of Patients Seen Per Week	
	Setting	Count
Out-patients	Office	37
	Urgent Care	1
	ER	3
In-patients	Hospital	7
	Nursing Home	0.04







GENERAL OB/GYN : 297 (UMEC estimate)

OB/GYN SUBSPECIALISTS: 48

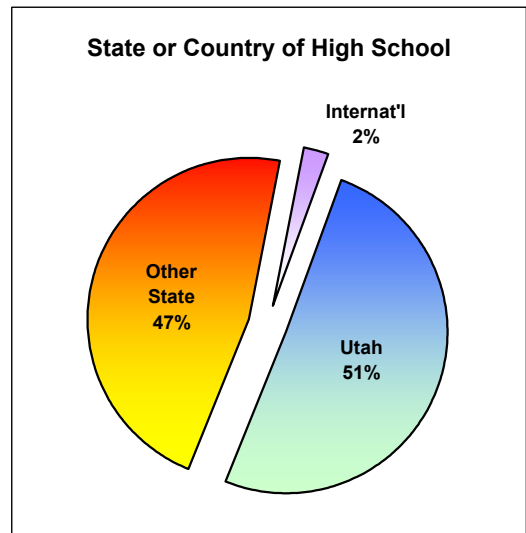
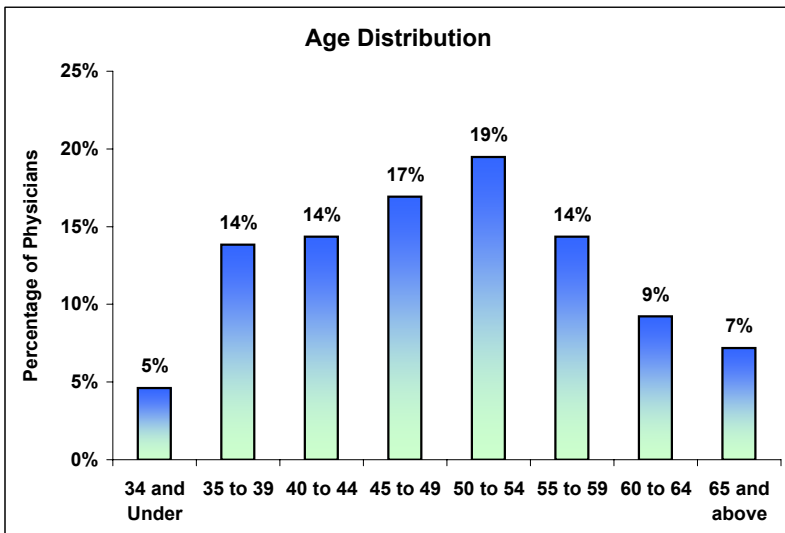
(Unspecified: 31, Gynecology and Pelvic Surgery: 1, Gynecology Oncology: 2, Maternal Fetal Medicine 3, Medical Practice Management (MPM): 1, Reproductive Endocrinology: 4, Urogynecology: 6)

1. In 2001, the AMA reported that the U.S. had 36.31 OB/GYNs per 100,000 female population over the age of 15. In contrast, Utah had 32.5 per 100,000. In 2003, the adjusted number of physicians actually providing services in the state came closer to 28.64 per 100,000 population. This translates into approximately 400 more patients and 68 more deliveries per year per provider for Utah OB/GYNs.

2. The additional workload means increased risk for Utah providers as they struggle to pay for the rising malpractice premiums that are associated with this specialty. A recent poll found that approximately one-third of the state's OB/GYNs are expected to sharply curtail or completely remove the obstetric component of their practice over the next few years due to this reason.

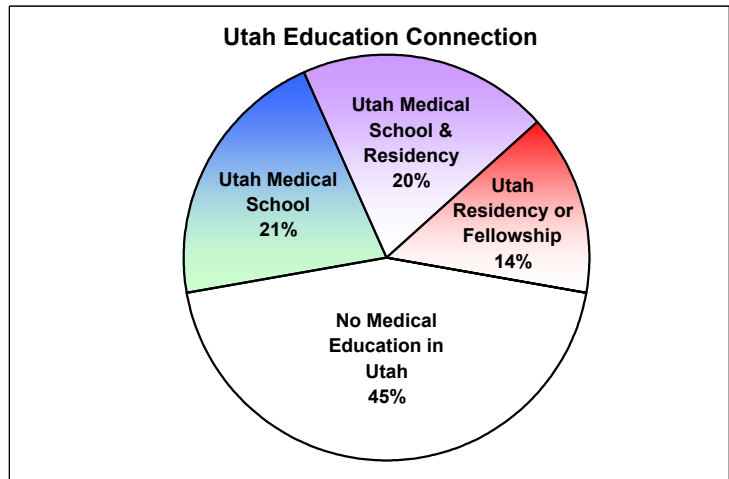
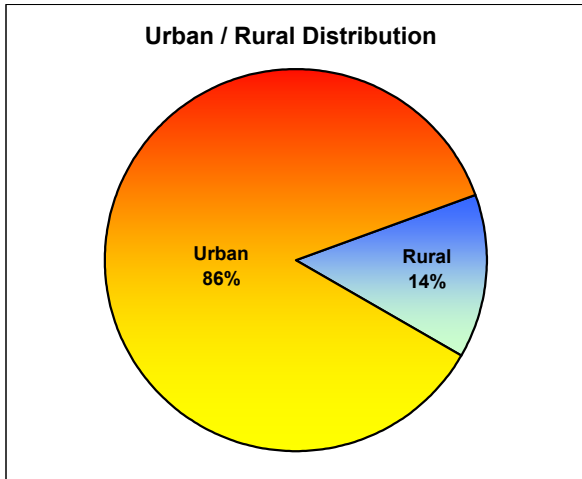
3. The high clinical volume in Utah has significantly increased the use of midlevel providers in the provision of OB/GYN services. Data from the 2003 UMEC APRN survey show that since 1998, there has been a 71.4% increase in the number of certified nurse midwives in the state.

4. To maintain the current level of service, Utah needs to add at least 27 OB/GYNs to the state each year. However, the University of Utah graduates only 5 residents per year with the anticipated likelihood of 6 residents per year pending RRC approval. Of those that graduate, only 50% will stay in Utah practice, while the rest move on to other training or practice in another state. The 2 or 3 physicians that stay are not enough to replace the number of retiring OB/GYNs or to cover the growing demands of state. The combination of above mentioned factors suggest an acute shortage over the next 5 to 10 years.



SPECIALTY PROFILE:

OBSTETRICS & GYNECOLOGY

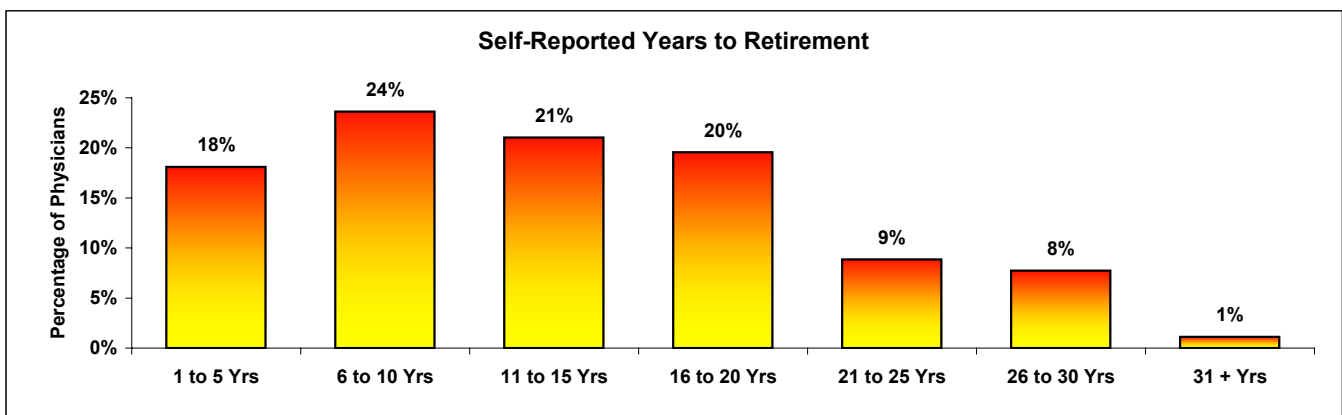
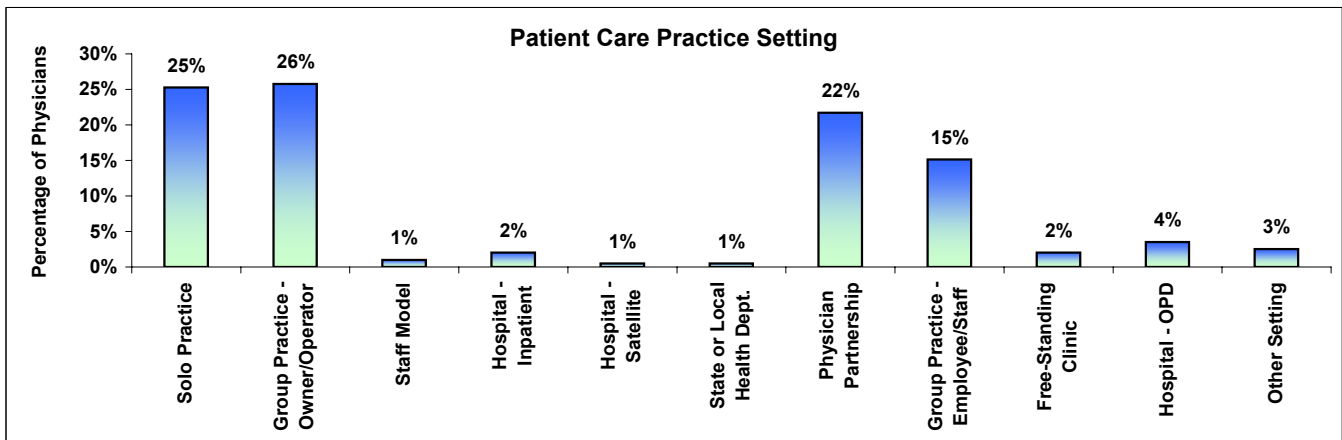


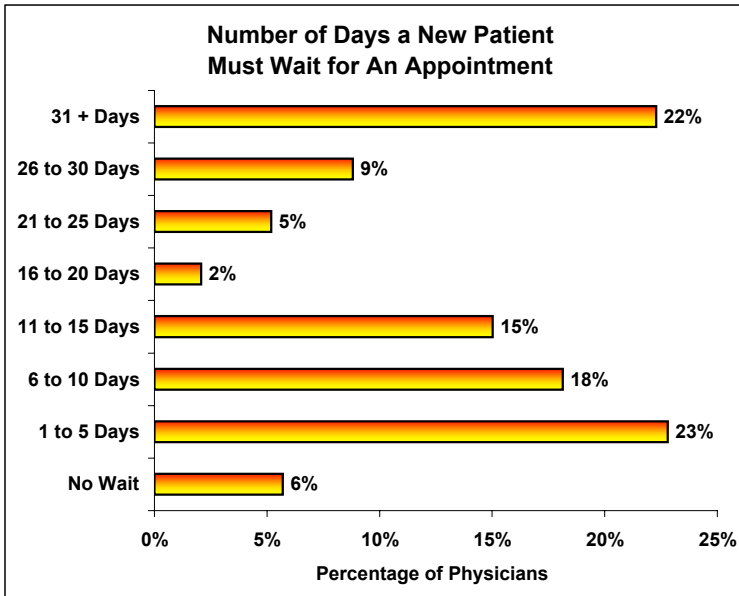
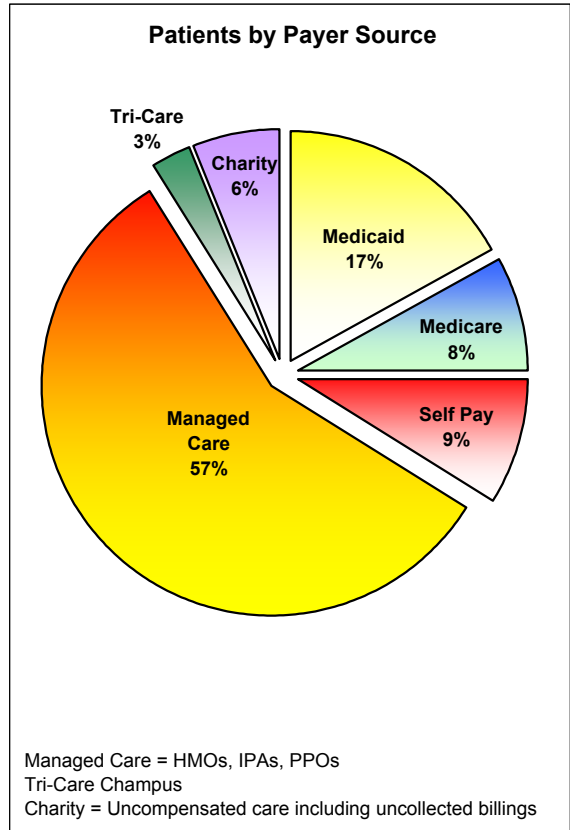
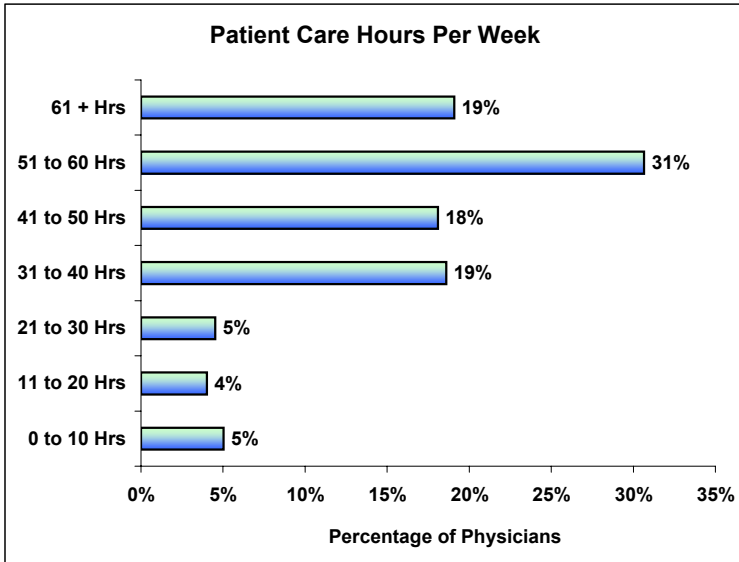
Board Certification of Physicians in Obstetrics / Gynecology

Primary Board Certification			Secondary Board Certification			
			Emergency Care	Ob / Gyn (General)	Ob / Gyn Subspecialties	Other Specialty
Family Practice	14	5%	1	11		
Ob / Gyn (General)	240	86%		1	20	3
Ob / Gyn Subspecialties	26	9%				1
N =	280	100%				

Gross Annual Earnings

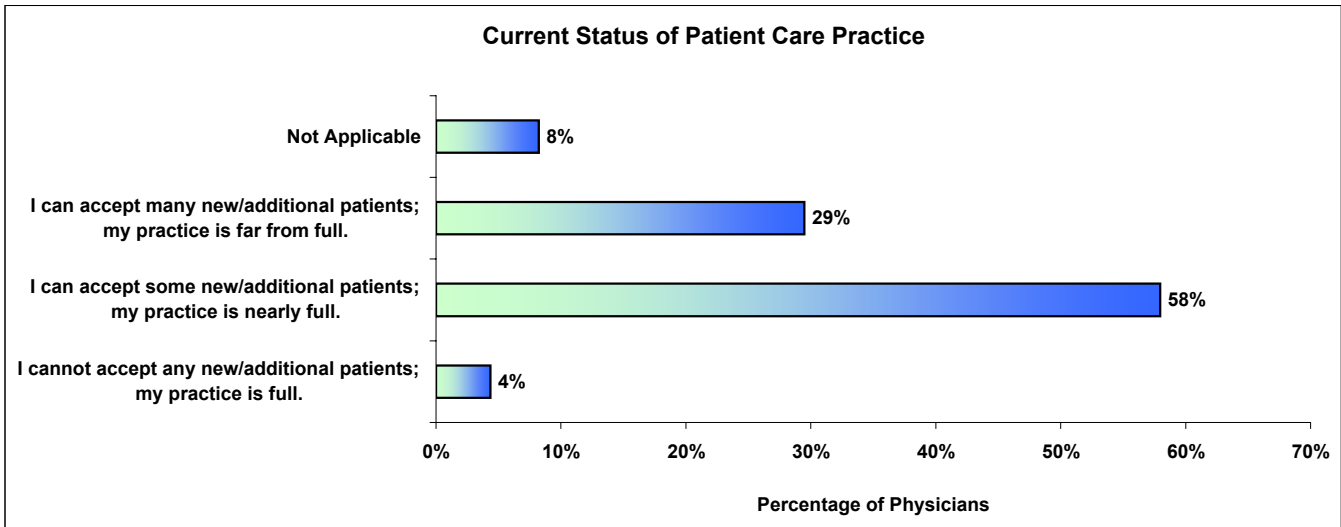
	Generalist	Specialist
Mean	\$229,759	\$215,633
Median	\$200,000	\$172,500
Mode	\$200,000	\$200,000

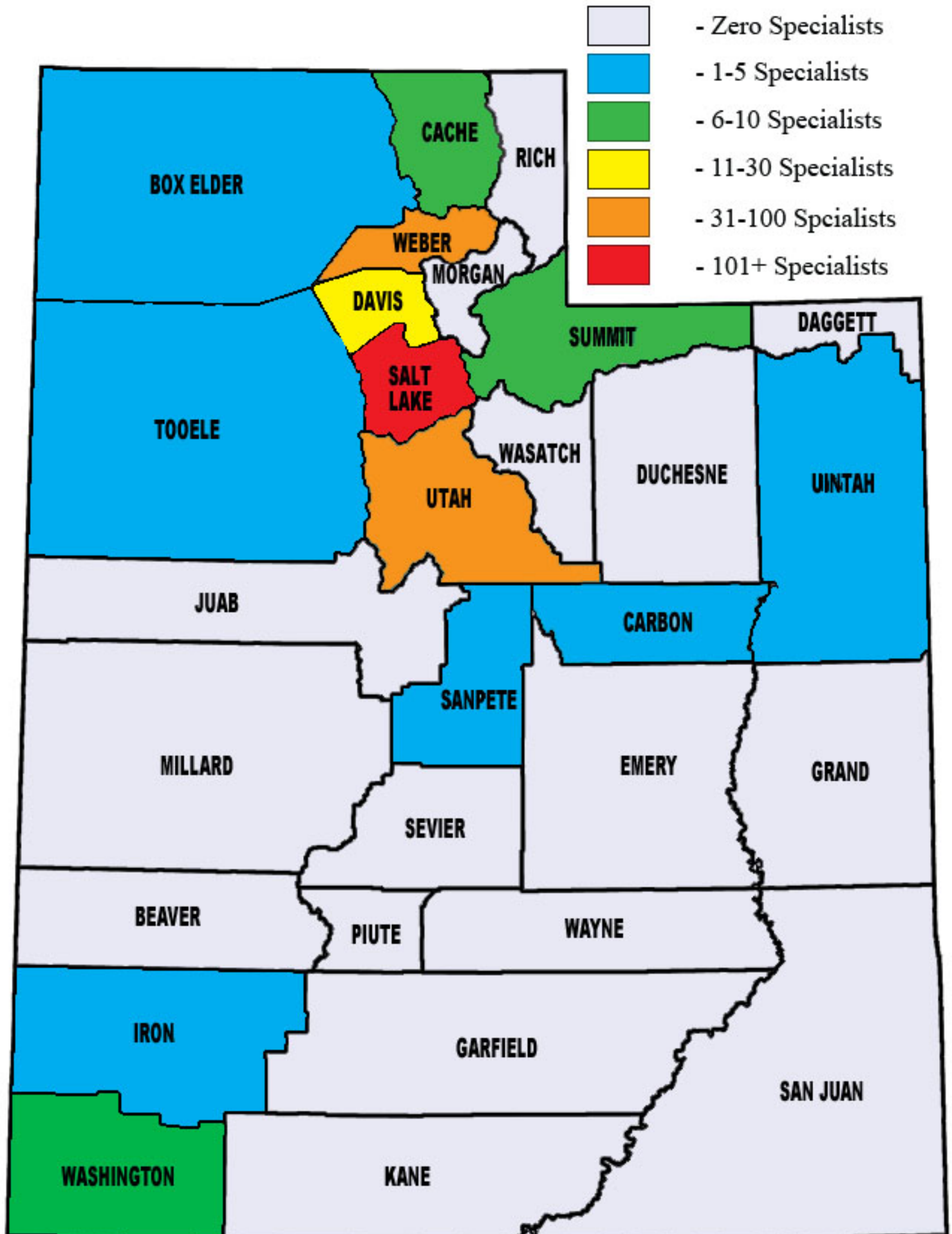


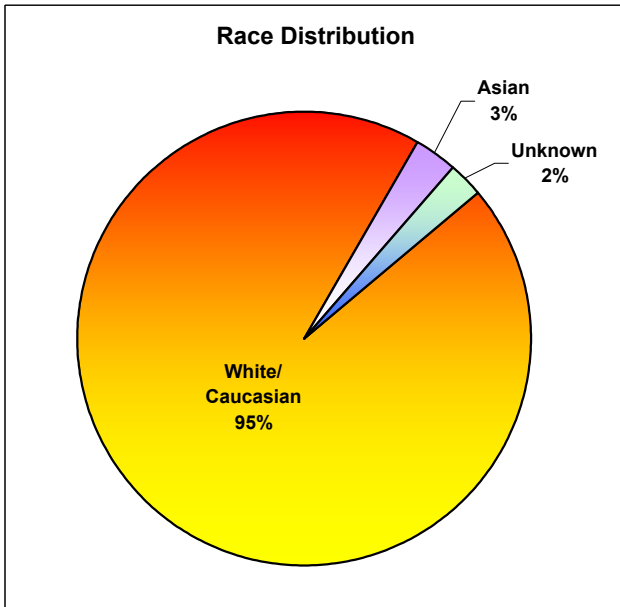
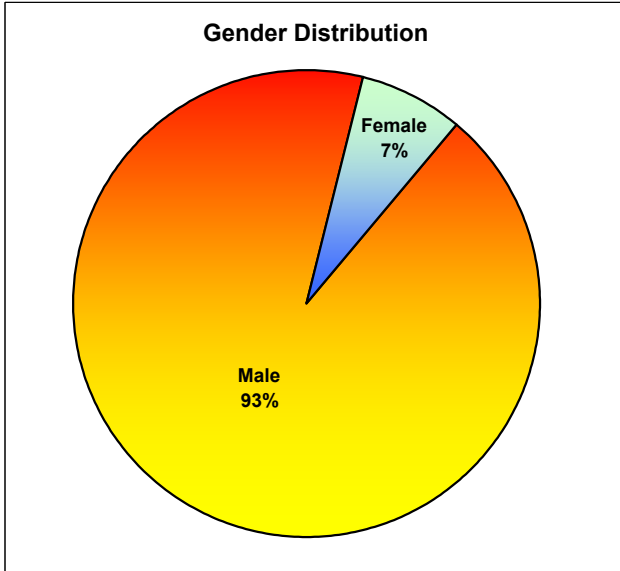


Average Number of Patients Seen Per Week

Out-patients	Office	87
	Urgent Care	2
	ER	1
In-patients	Hospital	8
	Nursing Home	0.02

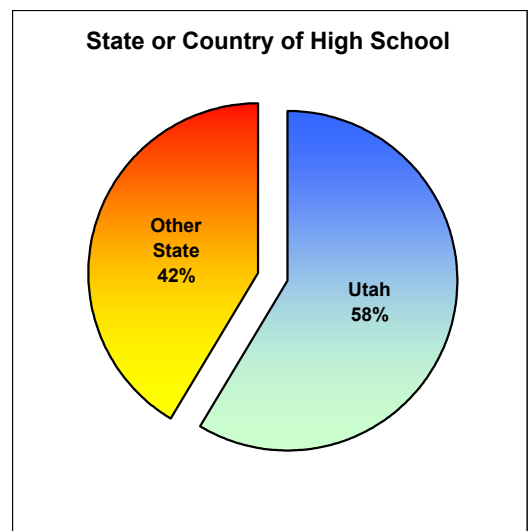
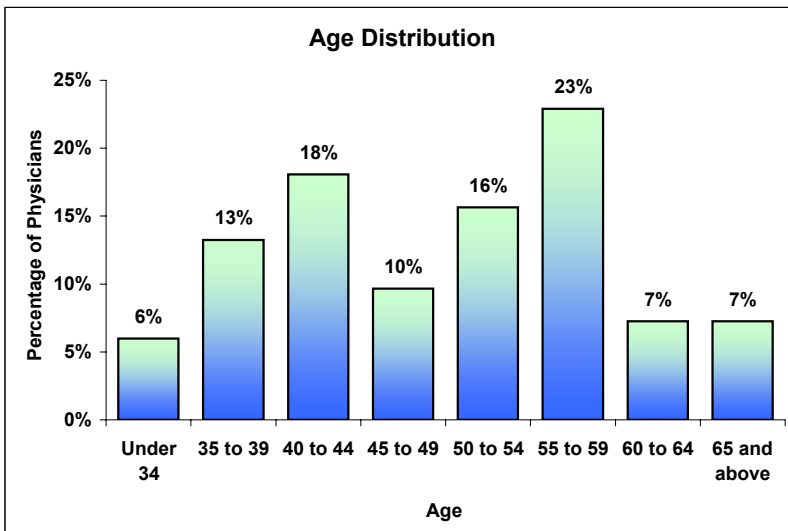






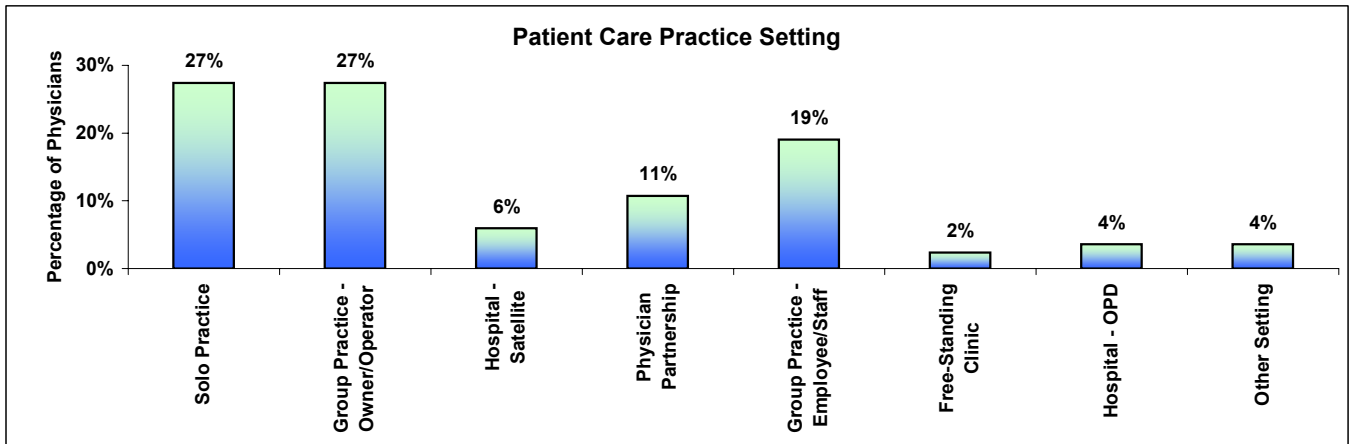
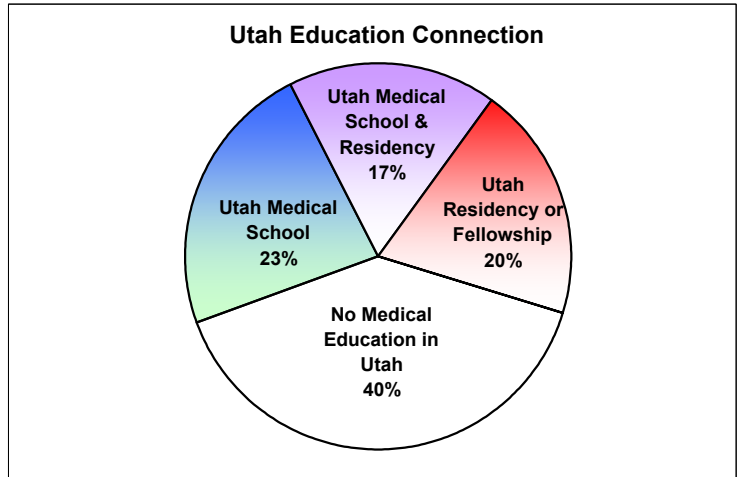
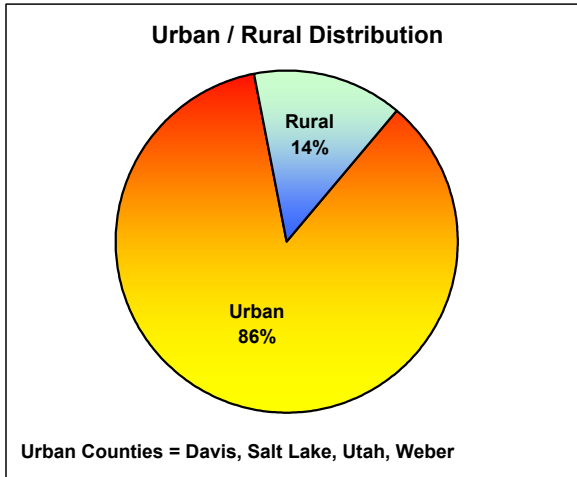
OPHTHALMOLOGISTS: 131 (PEHP estimate)

1. Studies on the ophthalmology workforce show that the U.S. has a surplus of providers in this specialty (White, et al., Lee, et. al.). Workforce projections using various combinations of ophthalmologists to optometrists reveal that ophthalmologists would be in excess under all demand scenarios and all need scenarios where the optometrist to ophthalmologist work-time ratio is greater than 0.6.
2. In 2001, the AMA reported that the U.S. had 18,194 ophthalmologists for a ratio of 6.38 per 100,000 population. During the same period, Utah had approximately 5.16 per 100,000 population. By 2003, the ratio in Utah had increased to 5.55 per 100,000 population. Current data suggest that the current level is adequate for the state population. In 2003, 68% of Utah ophthalmologists reported appointment wait times of 15 days or less for new patients, and 50% indicated that their practices were far from full.
3. To maintain the current level of service, Utah would need to recruit up to 7 ophthalmologists annually. The state currently trains 3 residents per year, of which 50% will remain in Utah practice. Although this translates into less than 2 residents per year, the national surplus of ophthalmologists suggests that it will not be difficult to recruit providers to Utah, therefore residency training should be sustained at current levels.
4. Data from American Optometric Association show that there are also 174 optometrists providing services in Utah



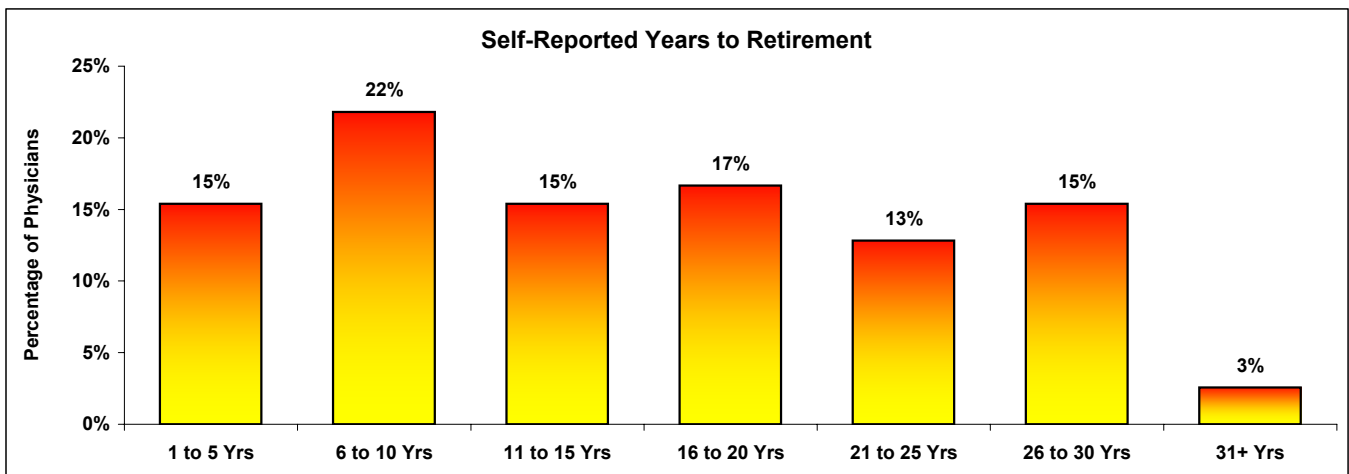
SPECIALTY PROFILE:

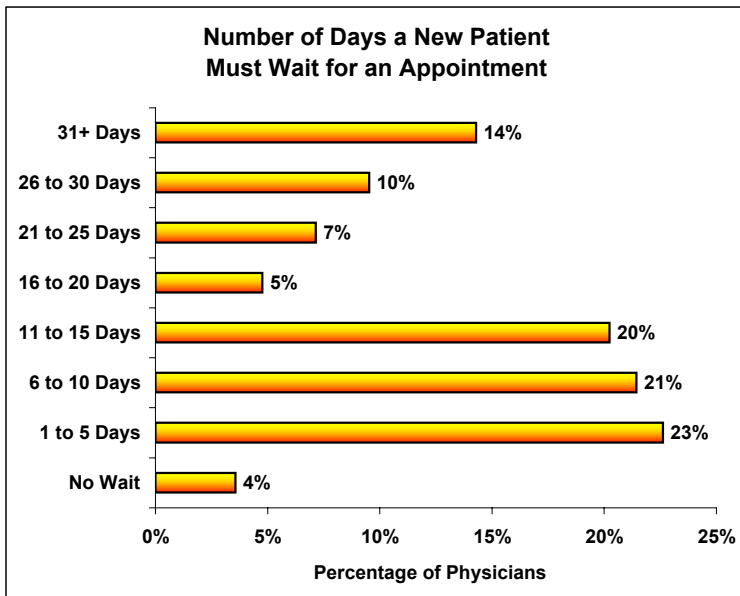
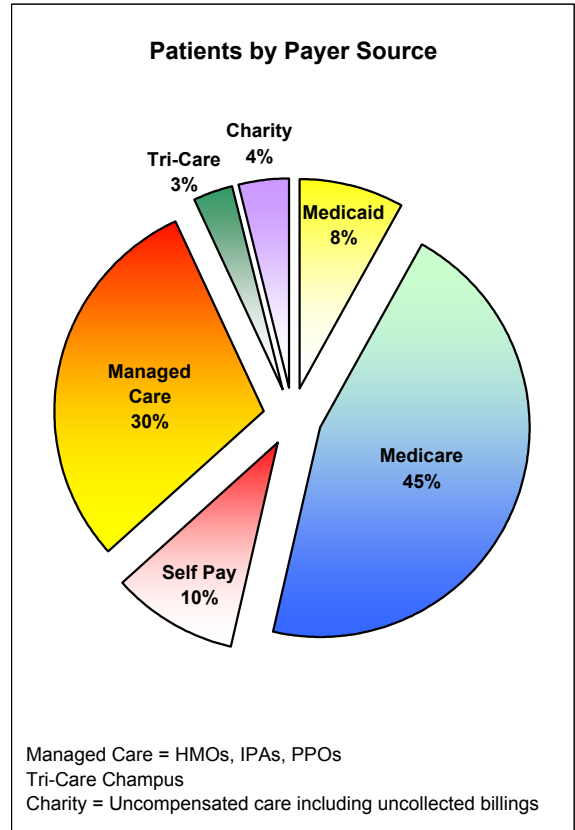
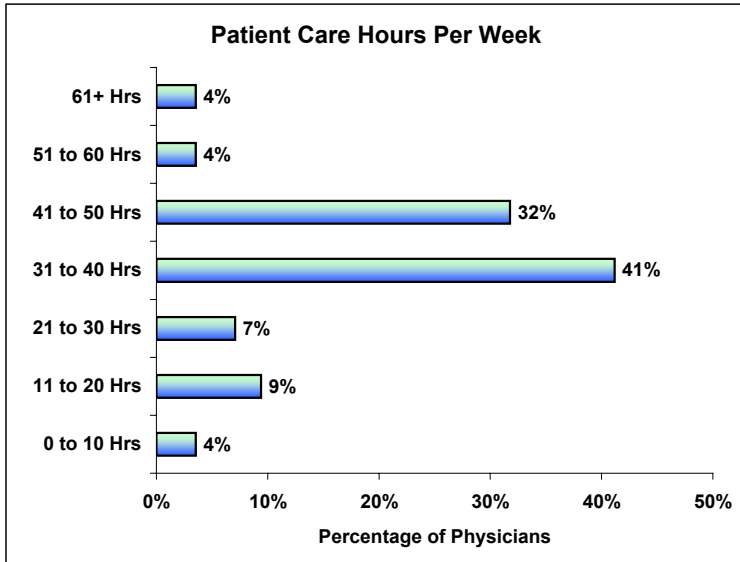
OPHTHALMOLOGY



Board Certification of Ophthalmologists					
Primary Board Certification		Secondary Board Certification			
		Plastic Surgery	Other Surgical Subspecialties	Other Specialty	
Ophthalmology	113	91%	3	3	1
Unknown	11	9%			
N =	124	100%			

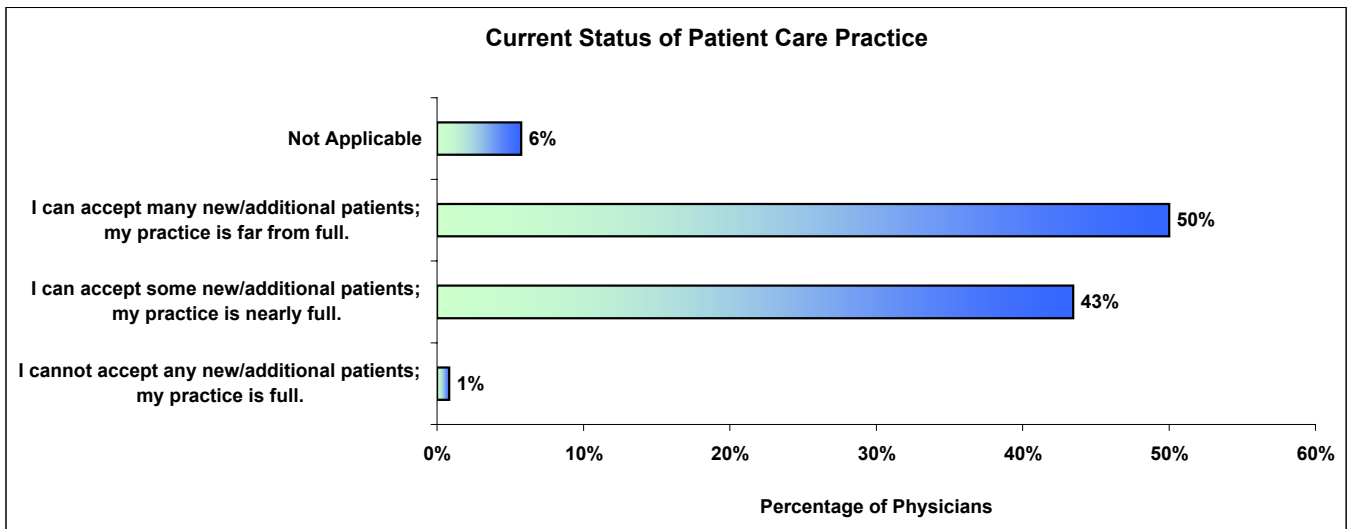
Gross Annual Earnings		
Mean	Median	Mode
\$234,706	\$200,000	\$200,000

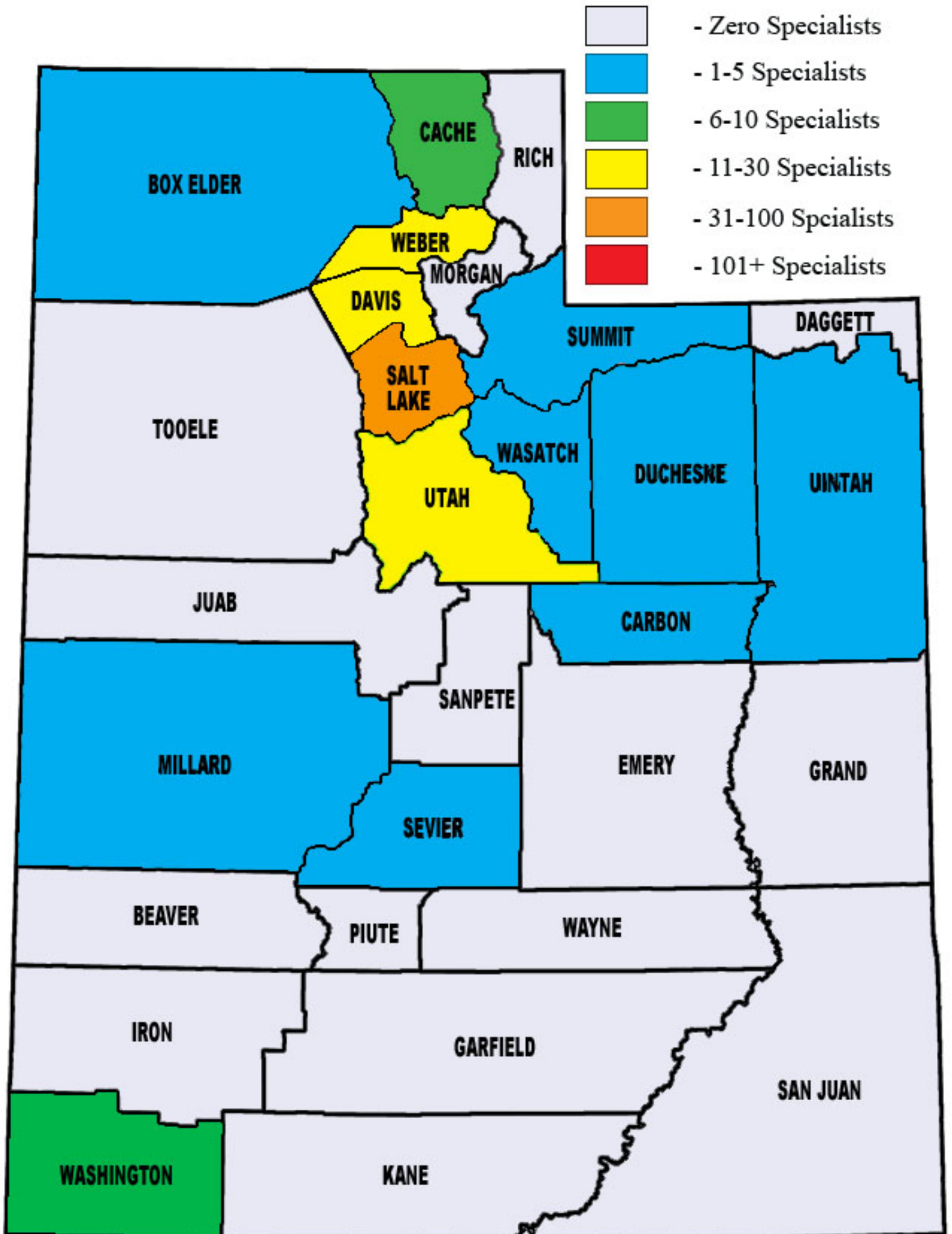




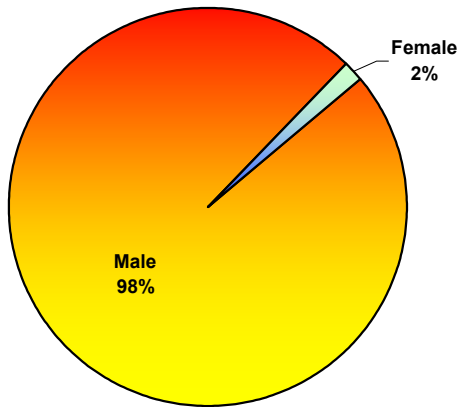
Average Number of Patients Seen Per Week

Patient Type	Average Number of Patients Seen Per Week	
	Location	Count
Out-patients	Office	103
	Urgent Care	3
	ER	1
In-patients	Hospital	1
	Nursing Home	0

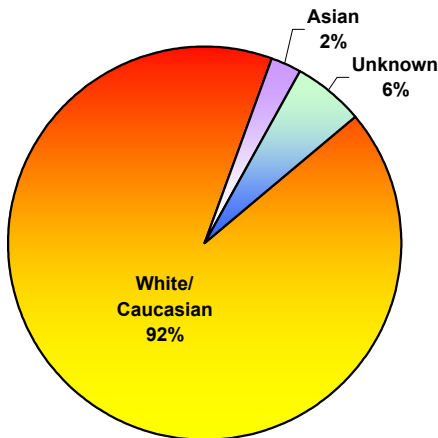




Gender Distribution



Race Distribution



ORTHOPEDIC SURGEONS: 170 (UMEC Estimate)

1. In December 1995 the American Academy of Orthopedic Surgeons (AAOS) commissioned the RAND corporation to conduct a workforce study on the future of orthopedic surgeons in the United States. In 1998, the study was released showing that by 2010 there will be surplus of 4,122 orthopedic surgeons bringing the physician to population ratio up to 7.5 FTEs per 100,000 population--1.5 FTEs above projected demand.

2. In October 2004, The Robert Graham Center released a workforce study that included estimates on the number of people required to sustain certain physician specialties. In it, they stated that in an average orthopedic surgeon could serve 16,130 people, meaning the U.S. required 18,028 orthopedic surgeons to serve the 2004 population, or roughly 6.20 per 100,000 population. At that time, there were 22,038 orthopedic surgeons for a ratio of 7.5 per 100,000 population.

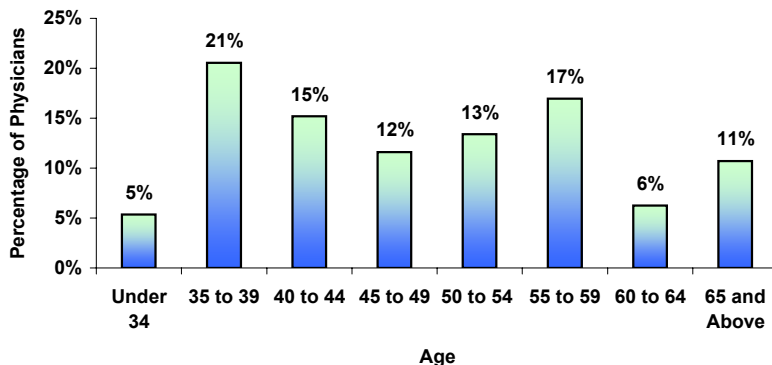
3. The relatively high ratio of orthopedic surgeons implies a surplus in this specialty, however utilization patterns and recruitment statistics indicate that demand is on the rise for orthopedic surgeons. In a study entitled, "The Aging Population and Its Impact on the Surgery Workforce," researchers forecasted that the demand for orthopedics is expected to increase by 28% by 2020 (Etzioni, et. al). Although these gains are smaller than other surgical specialties due to the significant amount of procedures performed in patients under the age of 45, they affect the workload of orthopedic surgeons.

4. In 2003, there were 170 orthopedic surgeons in Utah for a ratio of 7.21 per 100,000 population. Although this is below the national average, statistics on new patient wait times and physician age distribution imply that it is adequate for the current population. At this time, it is unclear as to how long the state can maintain this stasis. If demand increase at the rate projected by Etzioni, i.e. 28%, it is likely that Utah will need to increase the state ratio to 7.67 per 100,000 population.

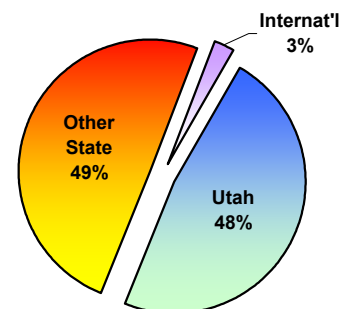
5. Although 34% of Utah orthopedic surgeons are over the age of 55, more than 45% plan on retiring in 10 years or less. Anecdotal reports indicate that this may be due to job dissatisfaction and rising malpractice rates, however further empirical data is needed to confirm this assessment.

6. To maintain the current level of service, Utah needs to recruit up to 9 orthopedic surgeons per year. The local residency program currently trains 5 residents per year and retains 24% of their program graduates, or roughly 1 physician every year. This creates a huge reliance upon the national pool of physicians. The growing national shortage will make it difficult to continue current recruitment practices, therefore the UMEC highly encourages increased efforts to retain Utah graduates.

Age Distribution

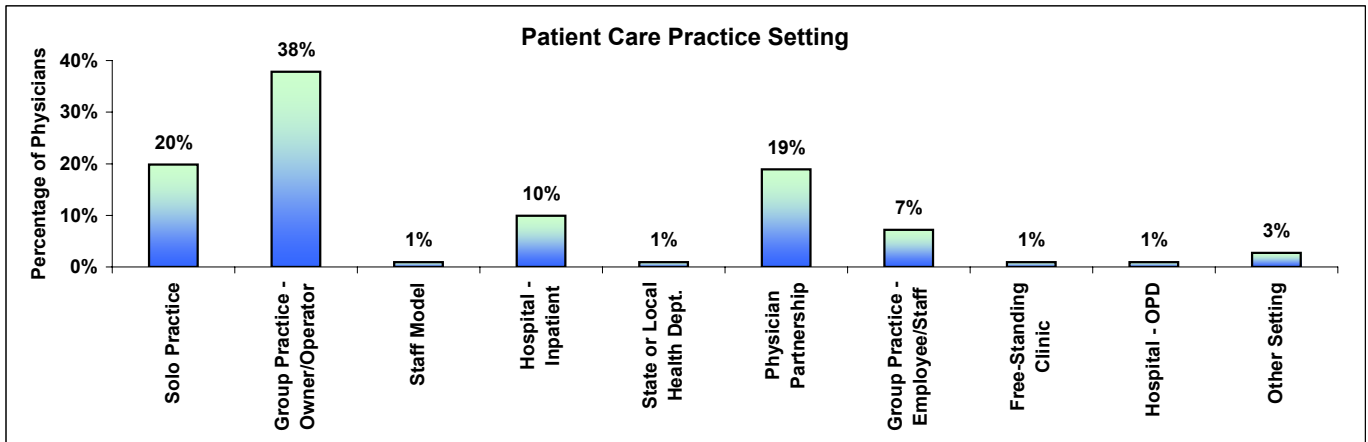
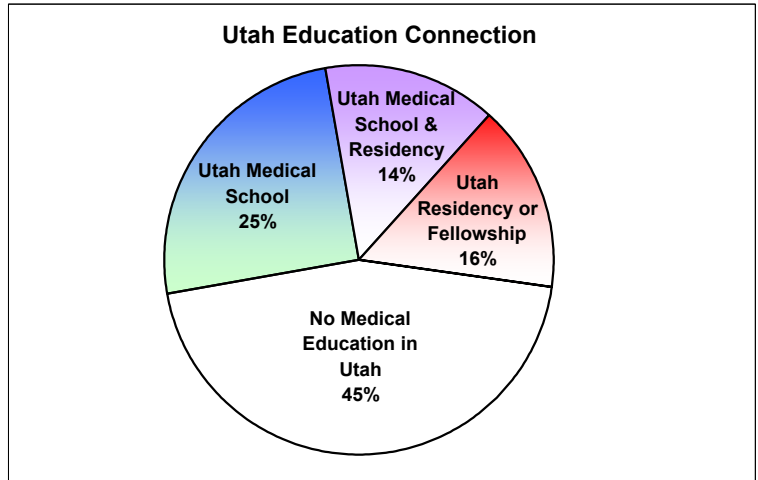
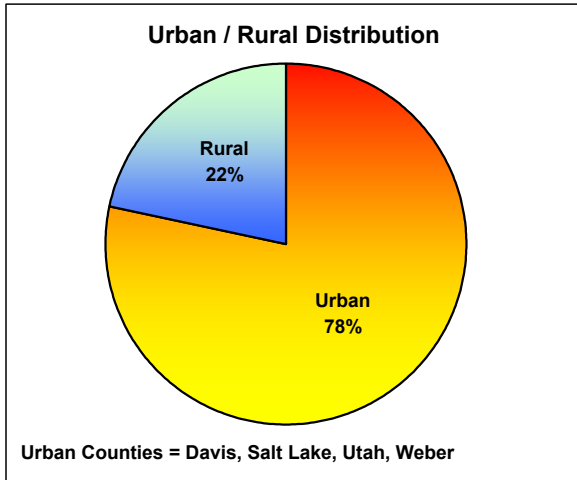


State or Country of High School



SPECIALTY PROFILE:

ORTHOPEDIC SURGERY

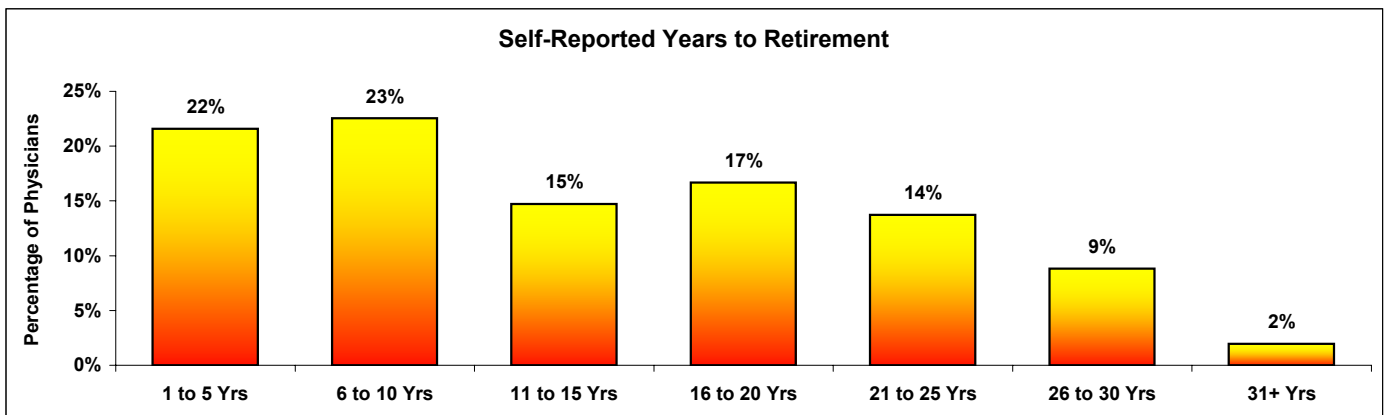


Board Certification of Orthopedic Surgeons

Primary Board Certification			Secondary Board Certification					
			Emergency Care	Pediatrics (Subs)	Preventative/ Occupational/ Public Health	Orthopedic Surgery	Surgical (Subs)	Other Specialty
Orthopedic Surgery	133	99%	1	1	1	3	4	3
Hematology/Oncology	1	1%						
Pediatrics (General)	1	1%				1		
N =	135	100%						

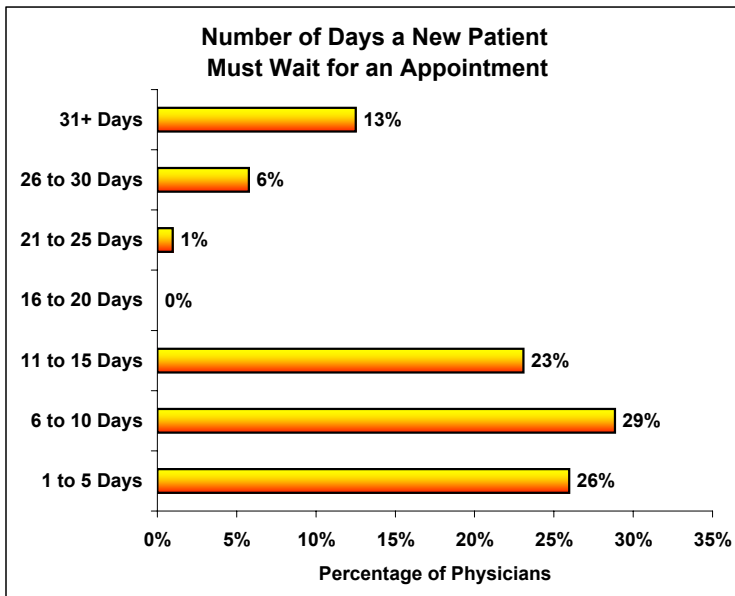
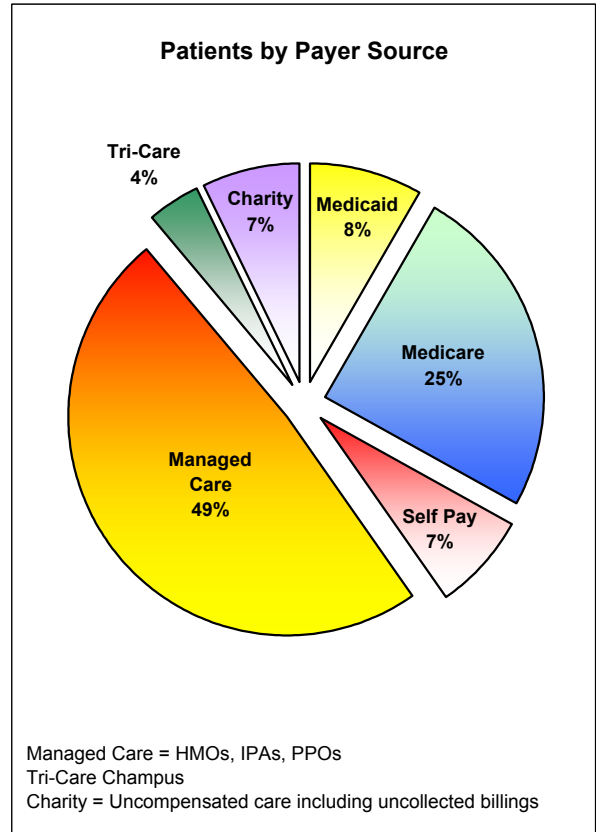
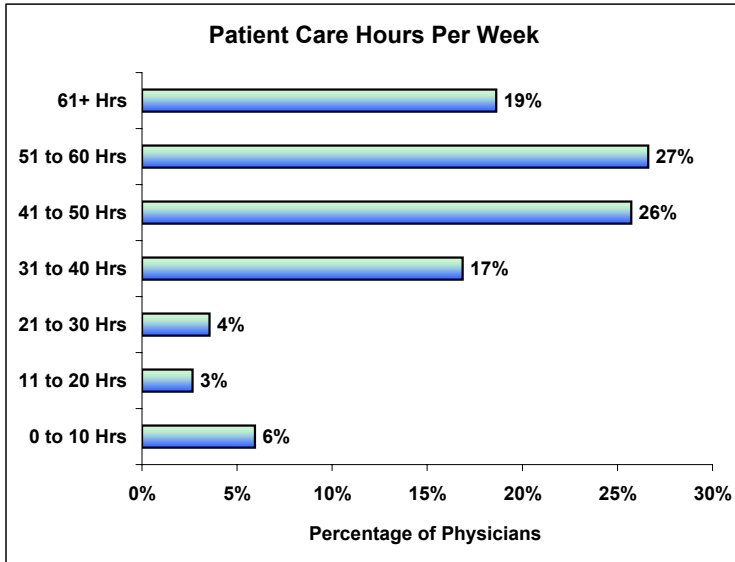
Gross Annual Earnings

Mean	\$339,605
Median	\$250,000
Mode	\$250,000



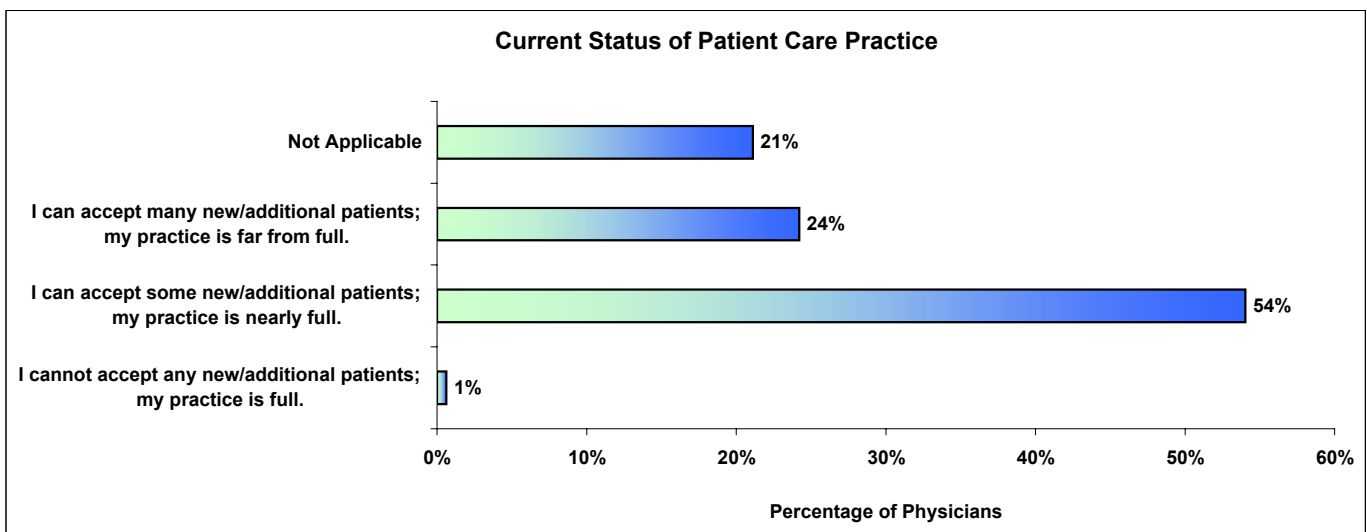
SPECIALTY PROFILE:

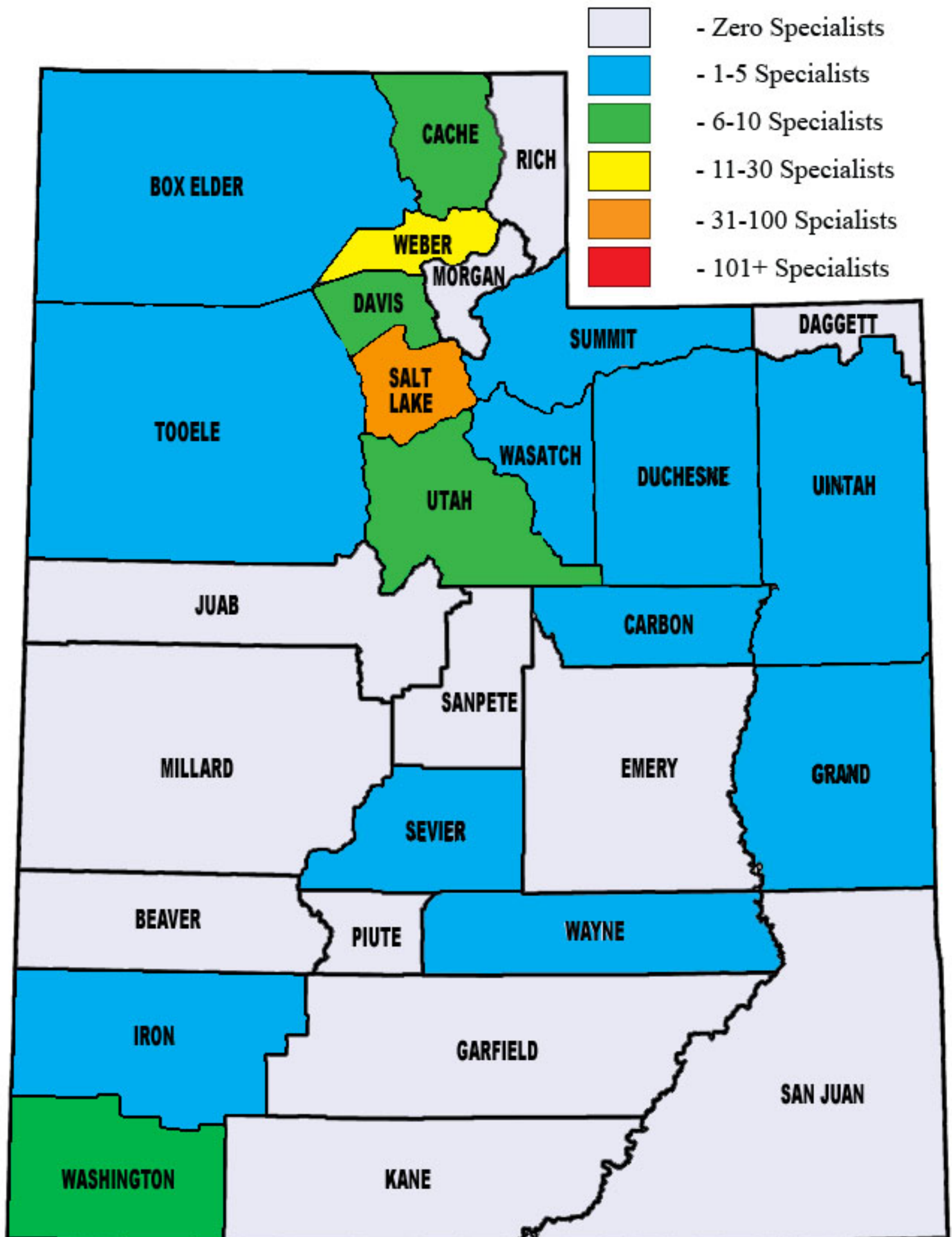
ORTHOPEDIC SURGERY

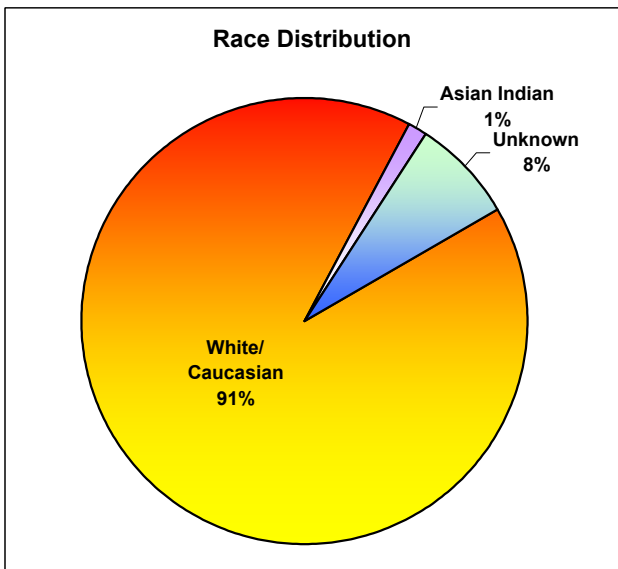
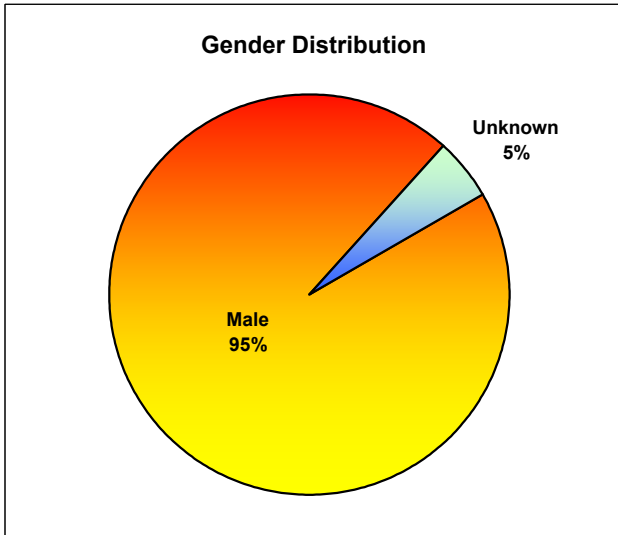


Average Number of Patients Seen Per Week

Out-patients	Office	70
	Urgent Care	2
	ER	3
In-patients	Hospital	6
	Nursing Home	0.22





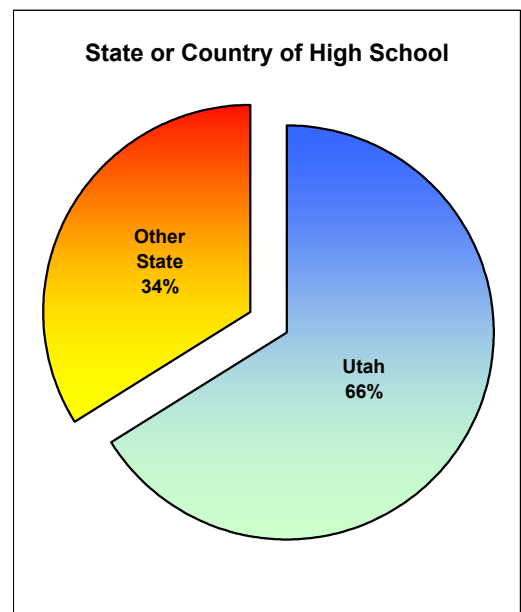
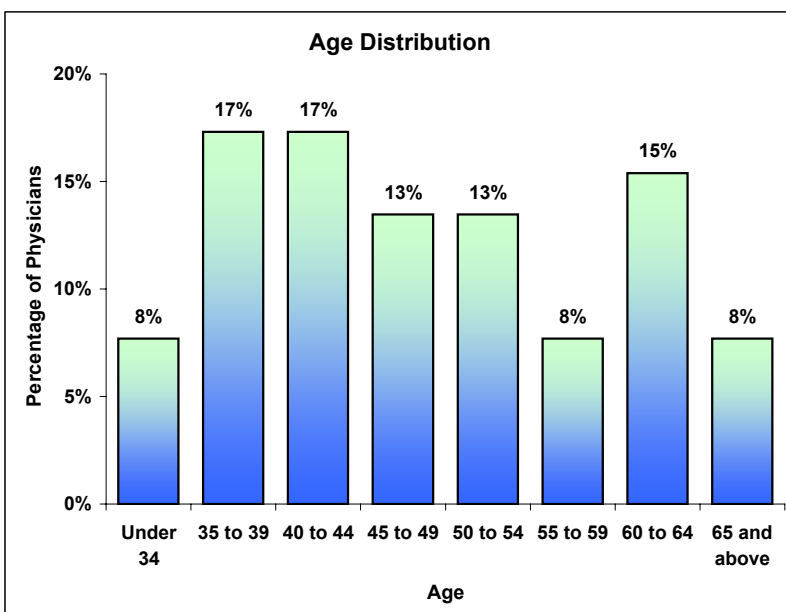


OTOLARYNGOLOGISTS: 63 (AAO-HNS estimate)

1. In 2001, the AMA reported that the U.S. had 9,438 otolaryngologists for a ratio of 3.31 per 100,000 population which was right in line with the American Academy of Otolaryngology - Head and Neck Surgery's (AAO-HNS) recommended ratio of 3 per 100,000. During that same period, the AMA indicated that Utah had 77 providers for a ratio of 3.38 per 100,000 population. However, 2003 data reveal that the supply is closer to 2.67 per 100,000 population-- a deficit of 8 otolaryngologists below the nationally recommended ratio.

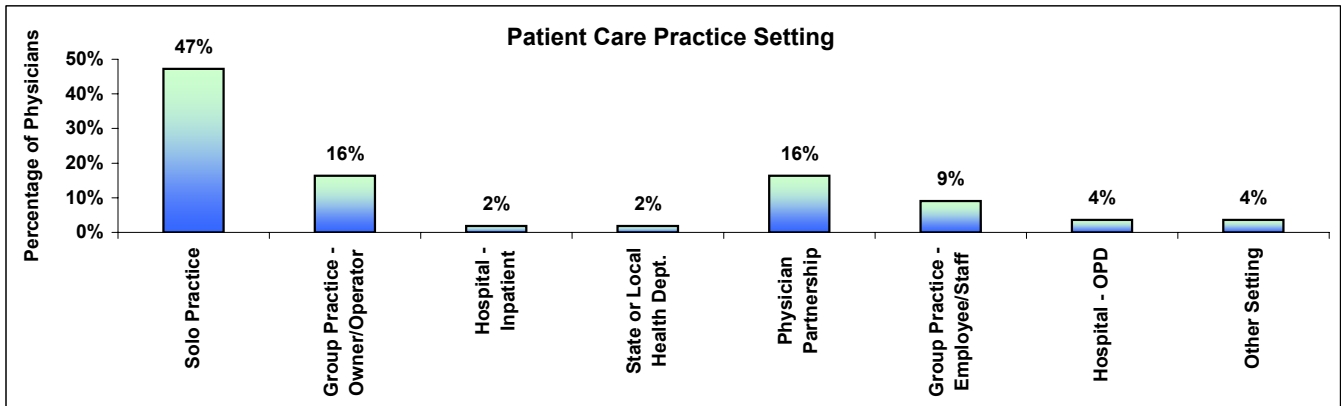
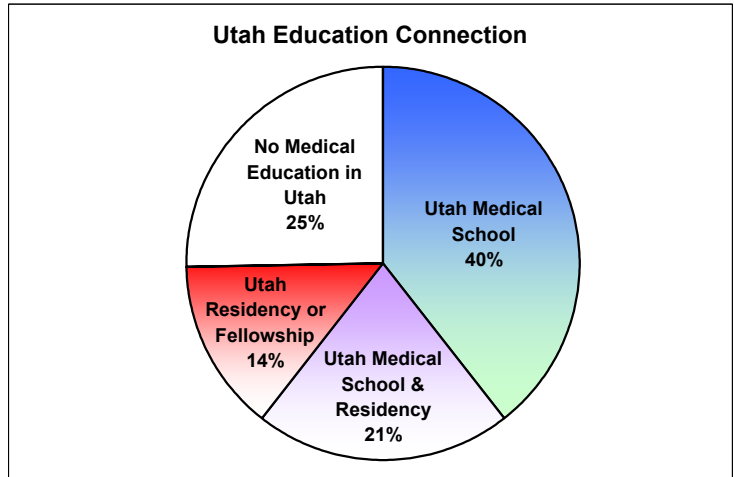
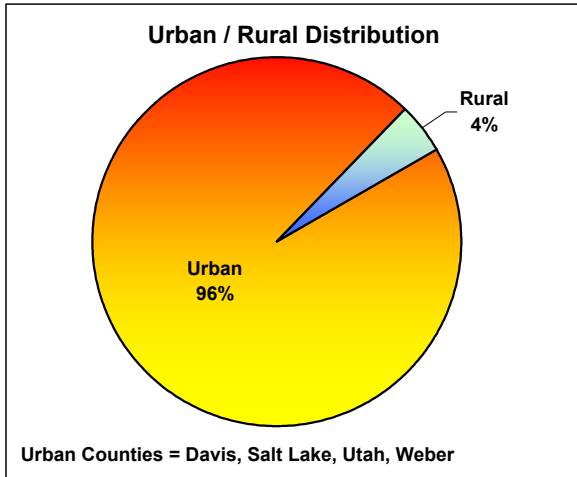
2. Although the supply of otolaryngologists in the state is below the recommended ratio, current data suggest that it is adequate for the state population. In 2003, 71% of Utah otolaryngologists reported wait times of 10 days or less for new patients and over 49% indicated that their practices were far from full.

3. To maintain the current capacity, Utah would need to add up to 4 otolaryngologists per year. Currently, the state training program is producing 3 otolaryngologists per year and retaining only 15% of its program graduates or 1 resident every 2 years. Although this is well below the number required to maintain current capacity, survey results imply that existing providers may be able to take on greater patient loads, therefore it is not necessary to expand local training at this time. It is unclear as to whether or not the state can maintain the current balance due to looming physician shortages so changes in patient utilization patterns will have to be monitored to determine when policy needs to be modified in this specialty.



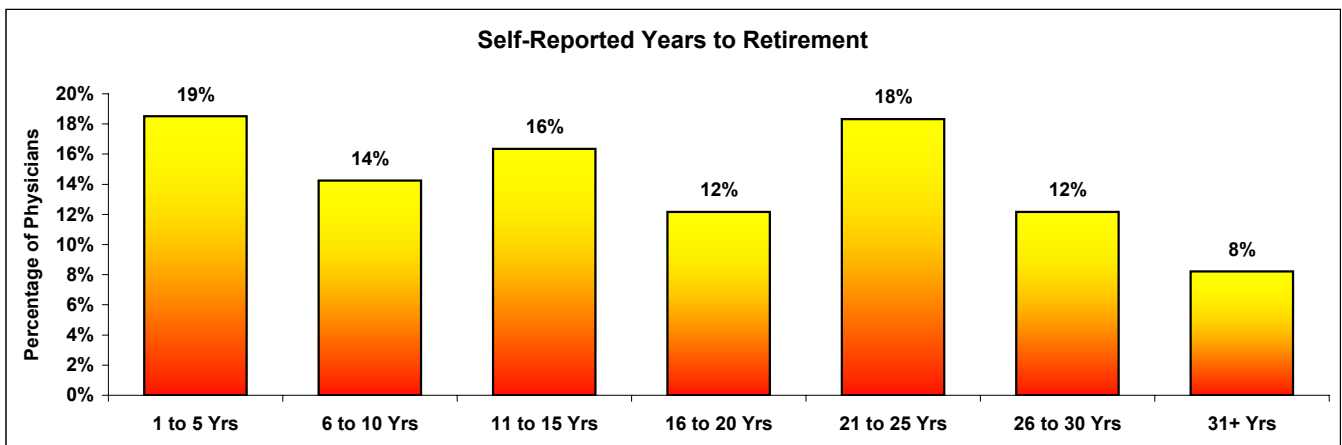
SPECIALTY PROFILE:

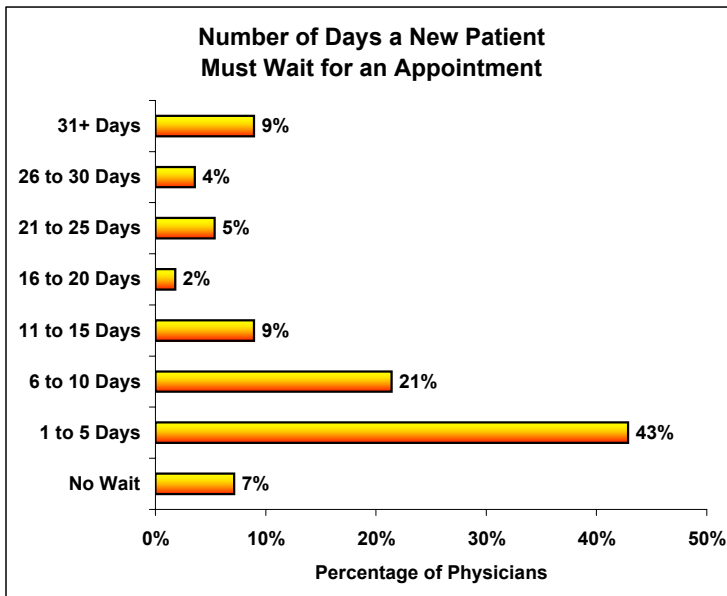
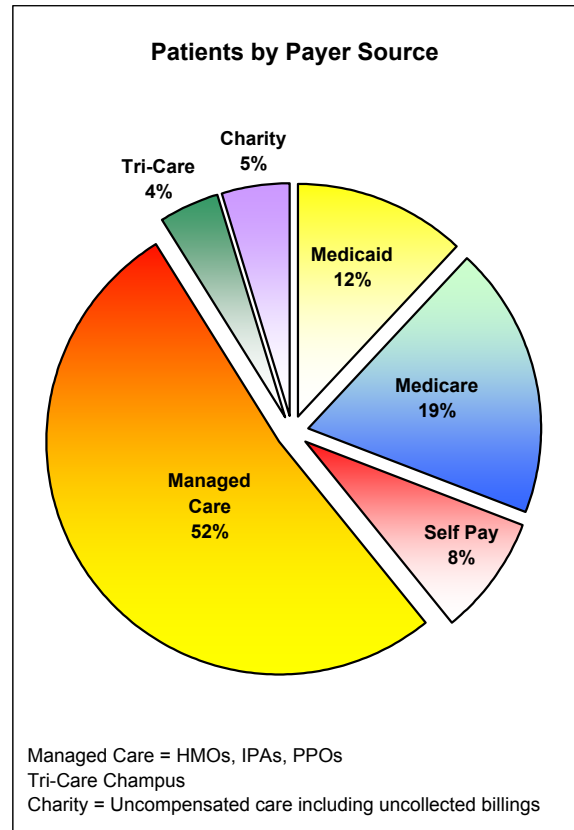
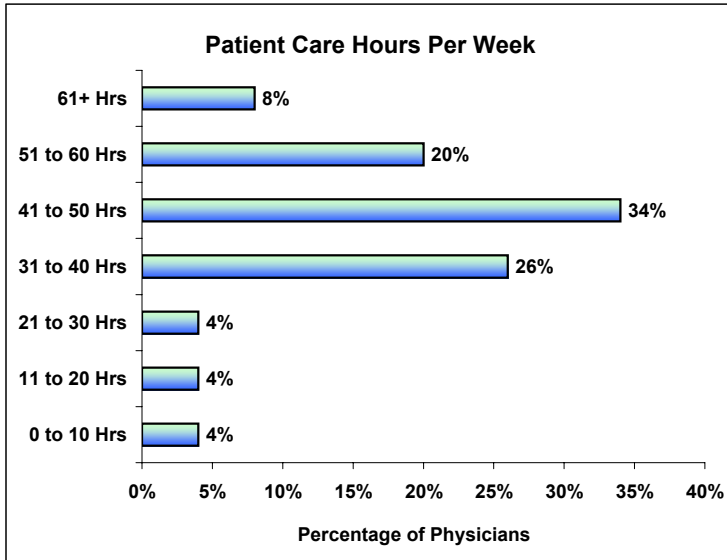
OTOLARYNGOLOGY



Board Certification of Otolaryngologists						
Primary Board Certification	Secondary Board Certification					
	Allergy & Immunology	Family Practice	Otolaryngology	Other Surgical Subspecialties	Other Specialty	
Allergy & Immunology	1	2%				
Otolaryngology	57	93%	4	1	0	1
Plastic Surgery	3	5%	0	0	1	0
N =	61	100%				

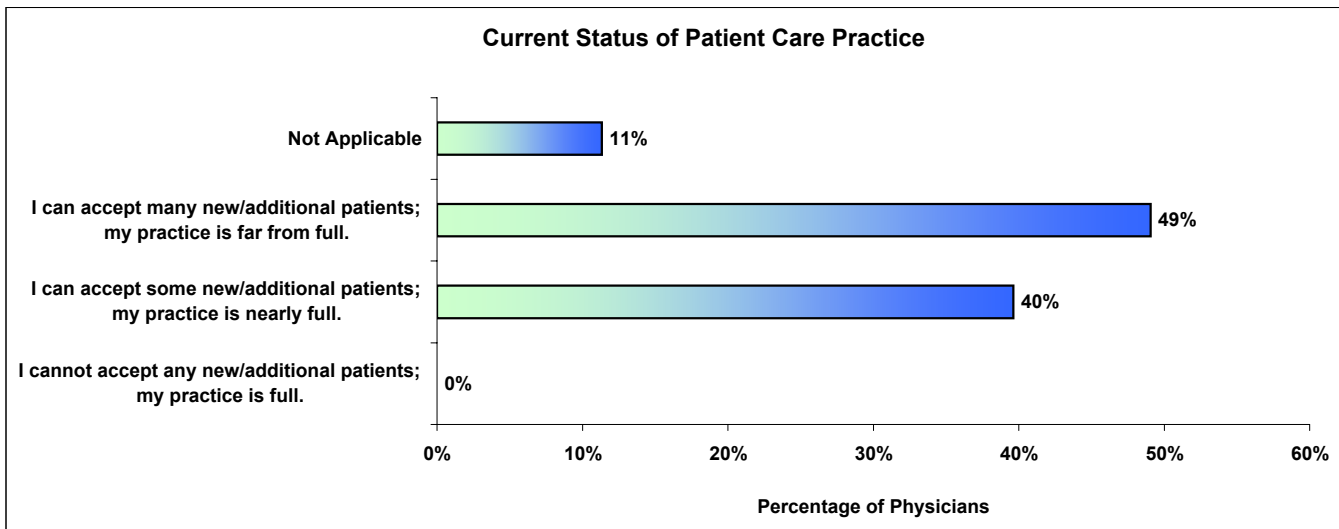
Gross Annual Earnings	
Mean	\$192,442
Median	\$200,000
Mode	\$200,000

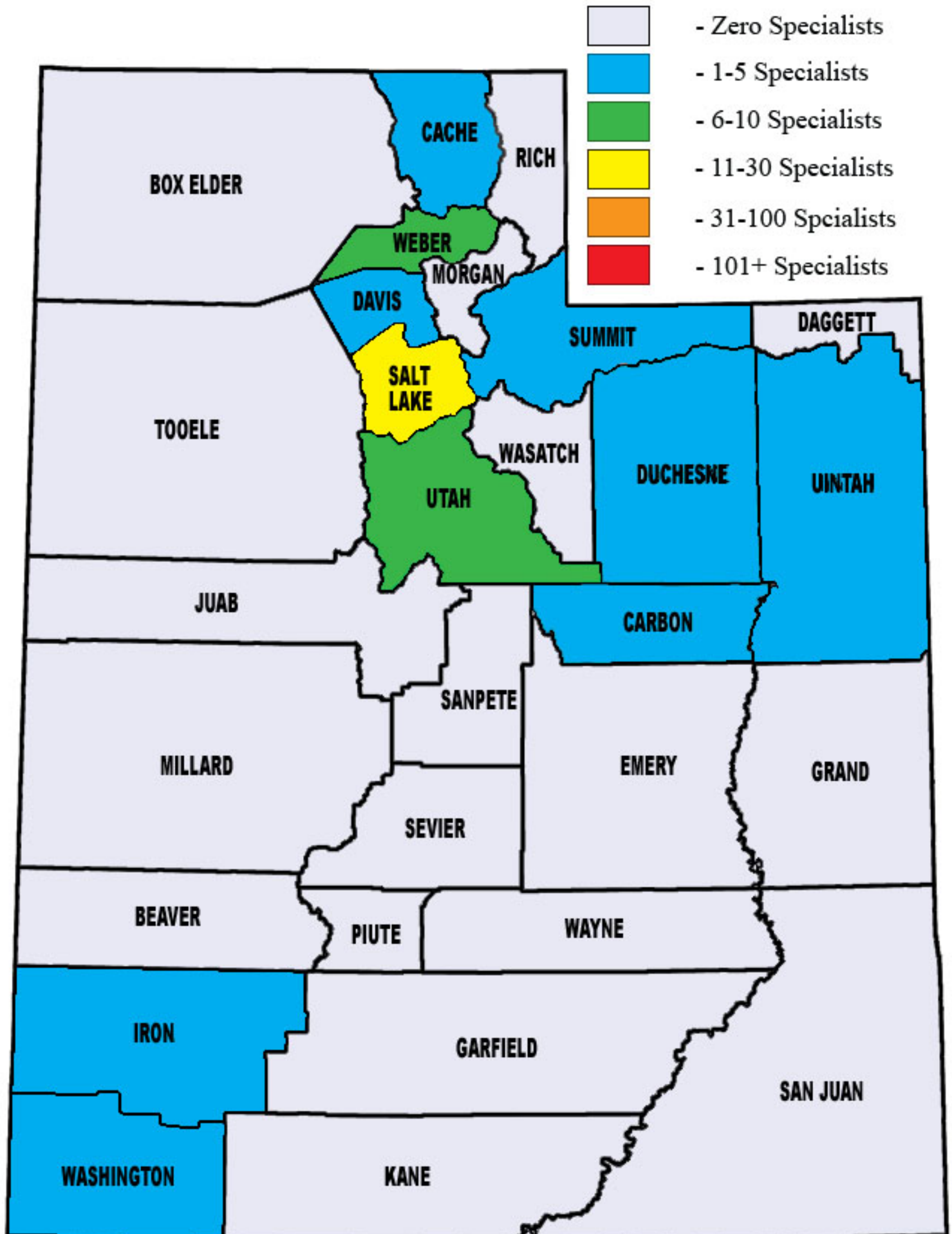


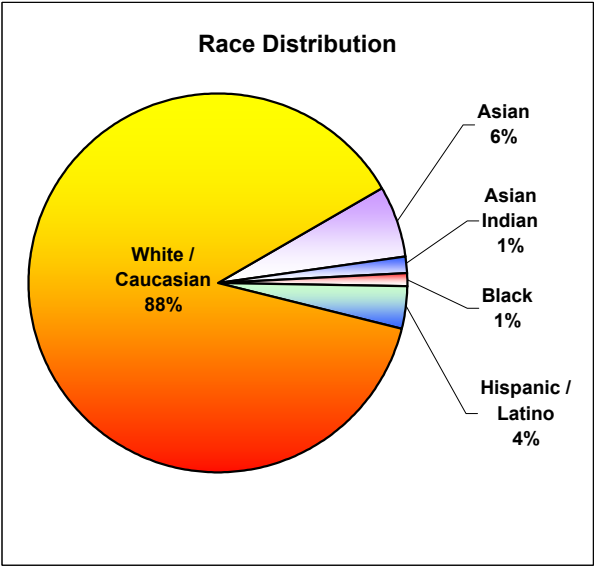
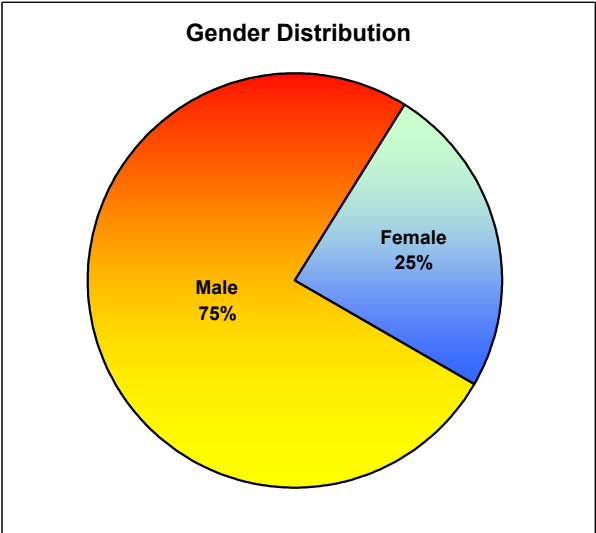


Average Number of Patients Seen Per Week

Out-patients	Office	77
	Urgent Care	2
	ER	2
In-patients	Hospital	5
	Nursing Home	1





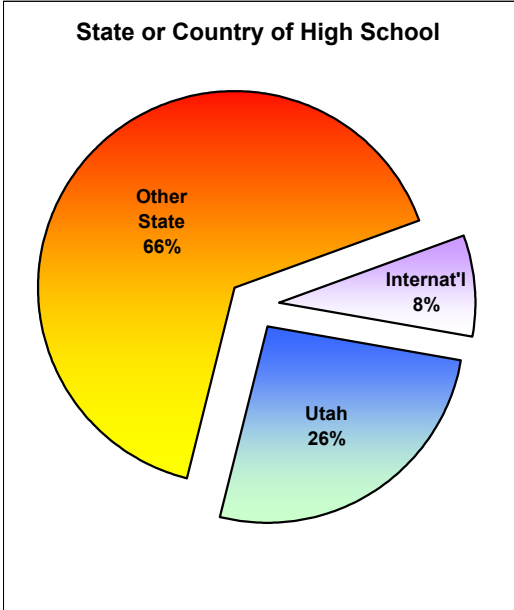
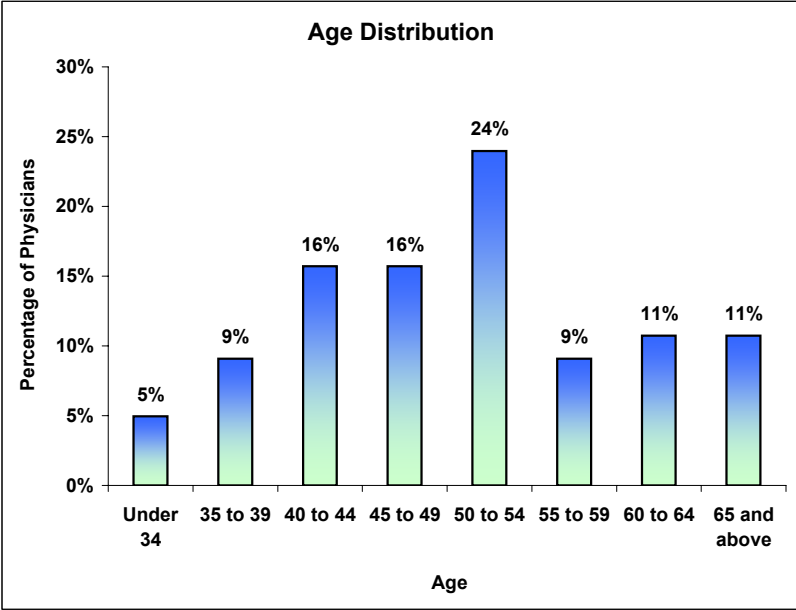


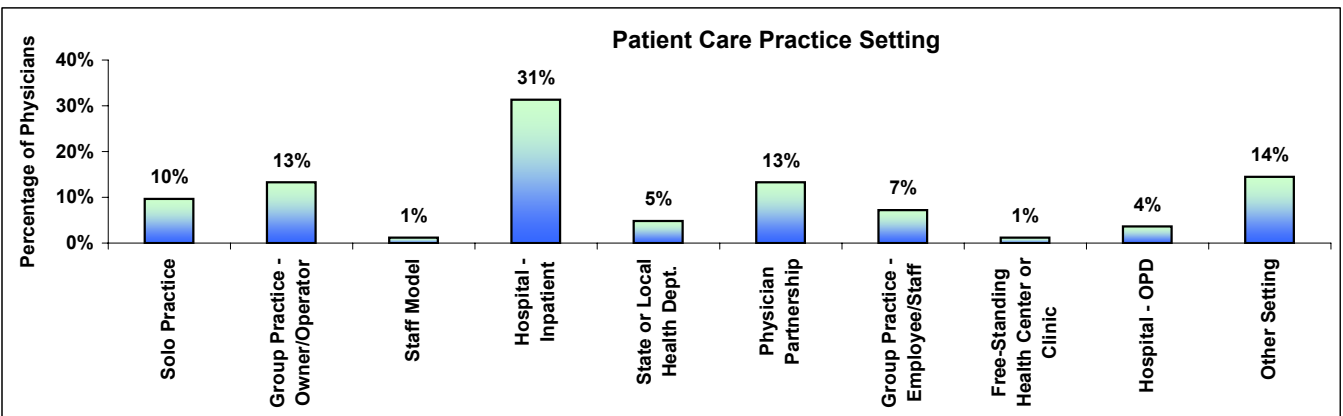
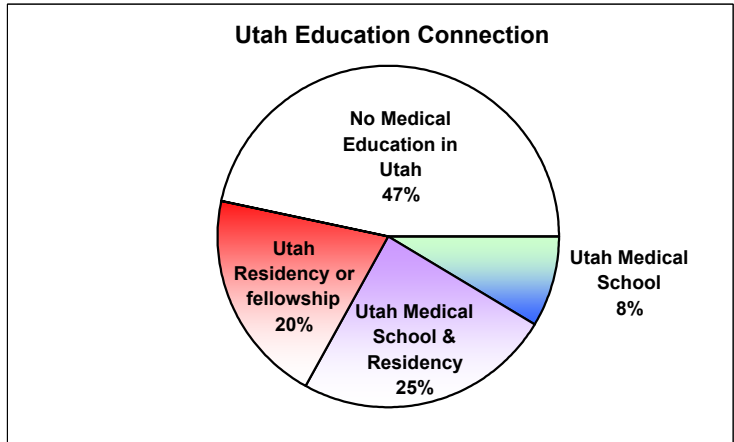
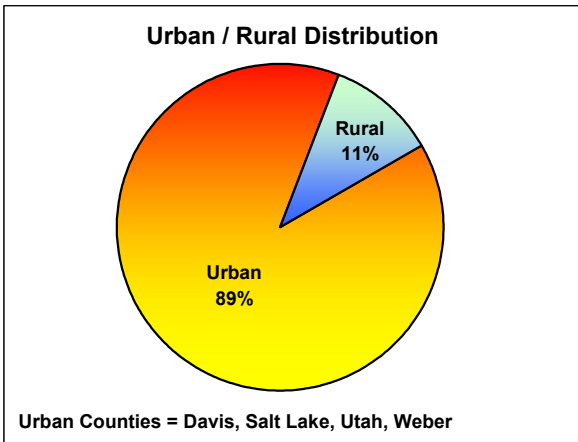
GENERAL PATHOLOGISTS: 95 (UMEC Estimate)

PATHOLOGY SUBSPECIALISTS: 32

(Anatomic: 2, Chemical: 1, Cytopathology: 8, Dermatopathology: 4, Forensics: 4, GT Liver: 1, Hematology: 3, Medical Microbiology: 3, Pediatric: 1, Surgical & Cardiovascular: 2, Transfusion Medicine: 3)

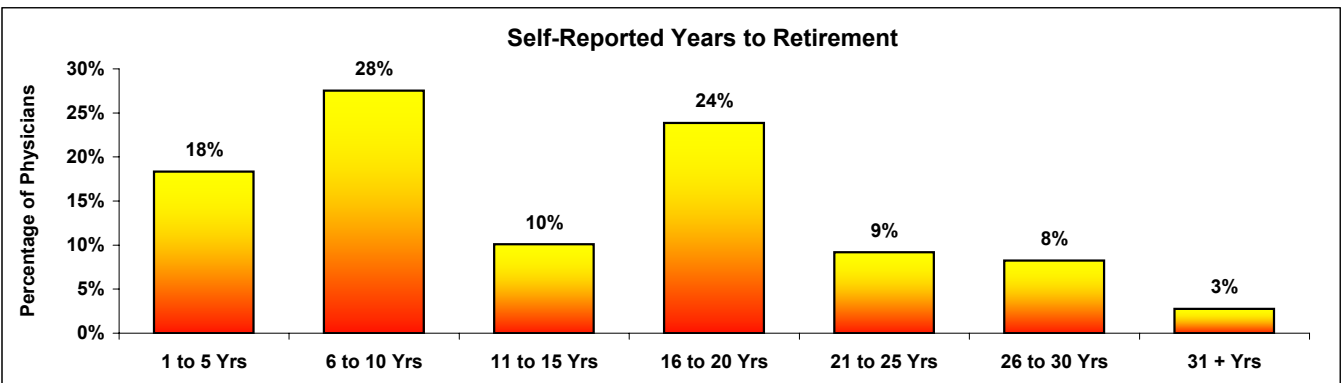
1. In 2004, the AMA reported that the U.S. had 18,271 pathologists for a ratio 6.22 per 100,000 population. In contrast, Utah had a ratio of 5.39 per 100,000 population (2003). Although this ratio is below the national and regional average, both UMEC data and anecdotal reports suggest that it is enough for the state population.
2. Under normal circumstances, Utah would have to recruit up to 7 pathologists per year just to maintain current capacity. However, the state's healthy status and limited practice opportunities imply that demand may actually be closer to 5 pathologists per year.
3. The state currently trains 4 pathologists per year, of which 40% will remain in Utah practice. At this time it is not necessary or tenable to expand the residency program beyond existing levels due to the low number of autopsies available to fulfill RRC training requirements, and the limited number of practice opportunities in the state. Data from the University of Utah pathology training program show that many residents and fellows cannot find positions locally upon graduation and are therefore forced to migrate to surrounding states.

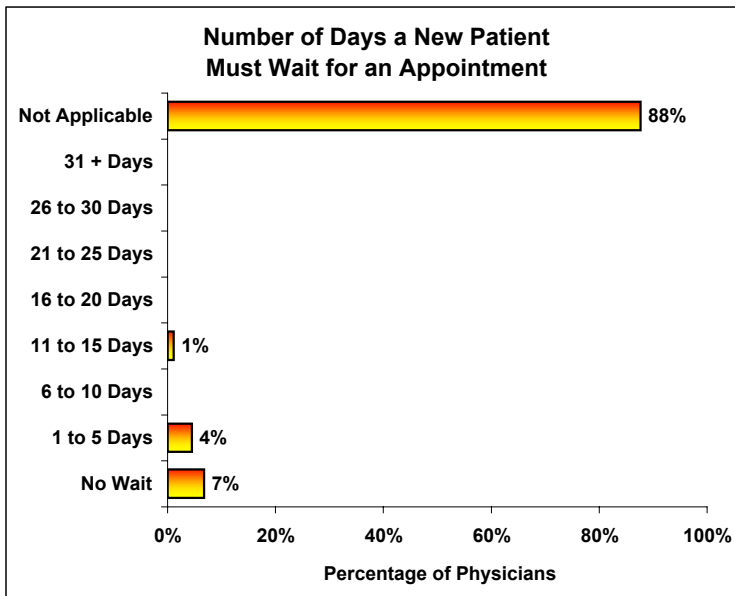
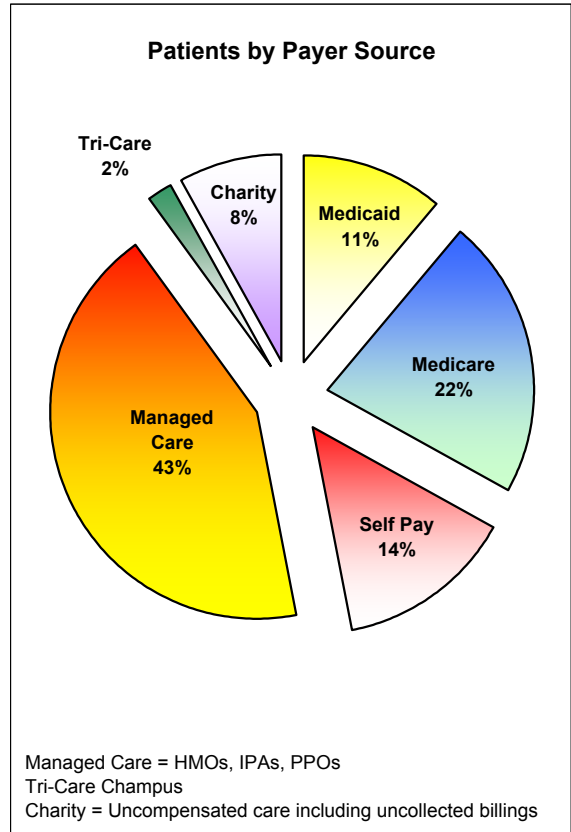
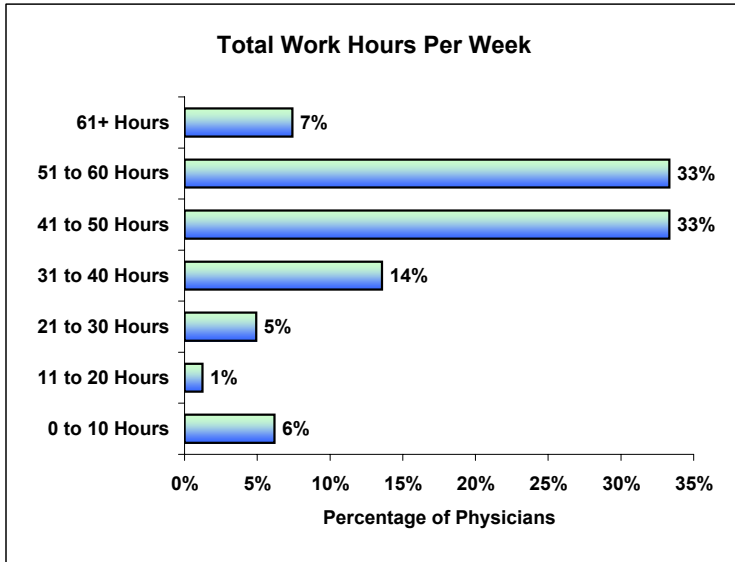




Board Certification of Pathologists				
Primary Board Certification		Secondary Board Certification		
Internal Medicine (General)	1	1%	Pathology (General)	1
Infectious Diseases	1	1%	Pathology Subspecialties	1
Pathology (General)	94	85%	Family Practice	1
			Internal Medicine (General)	3
			Pathology (General)	1
			Pathology Subspecialties	39
			Pediatrics (General)	1
Pathology Subspecialties	14	13%	Dermatology	1
			Family Practice	1
			Infectious Diseases	1
			Pathology (General)	3
			Pathology Subspecialties	1
N =	112	100%		

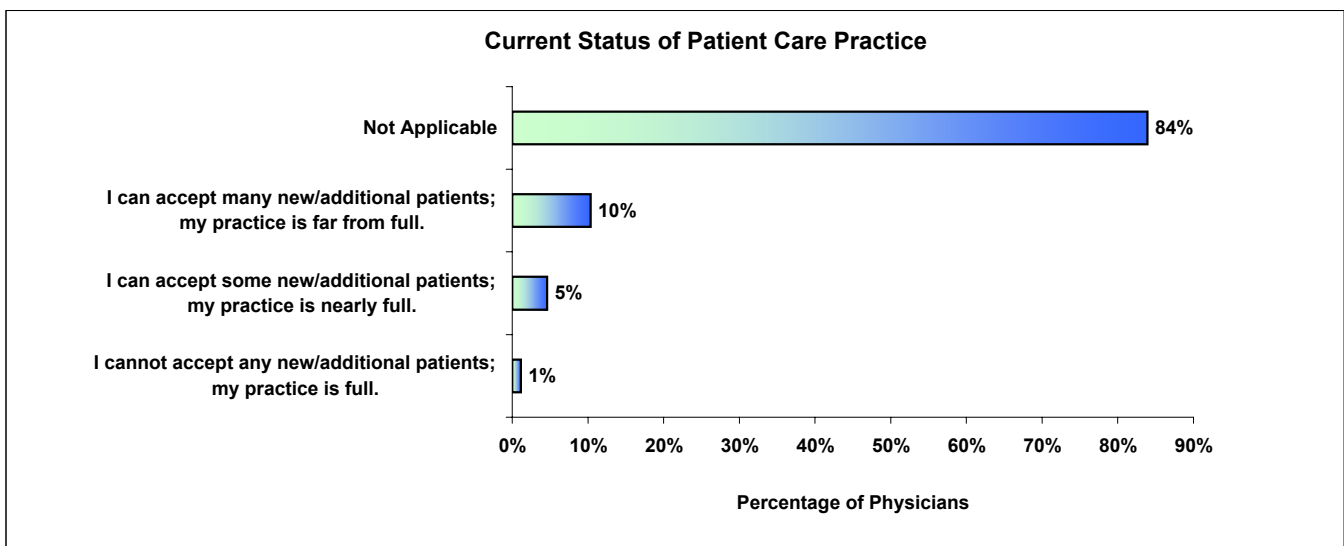
Gross Annual Earnings		
	Generalists	Specialists
Mean	\$136,054	\$165,462
Median	\$140,000	\$150,000
Mode	\$200,000	\$120,000

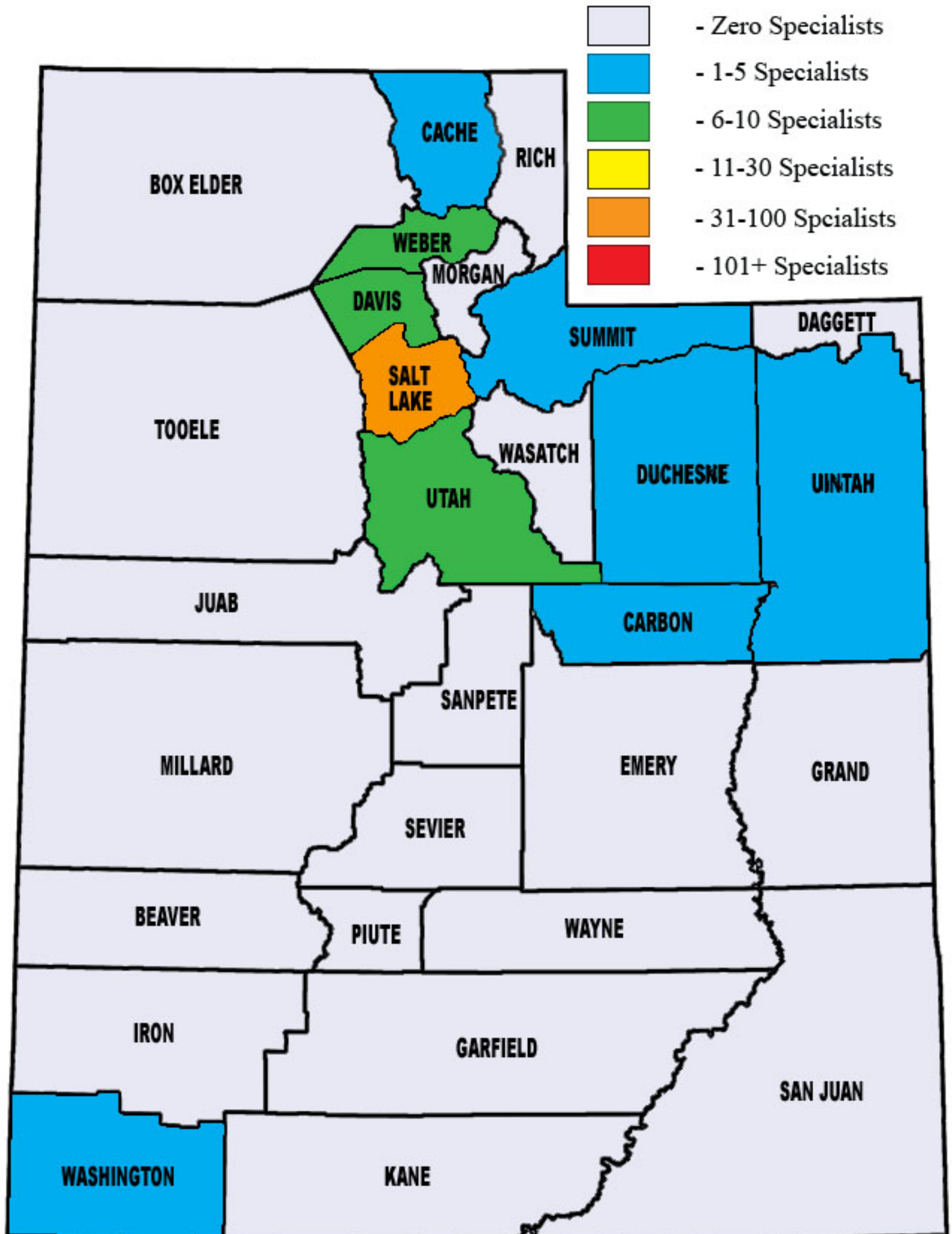


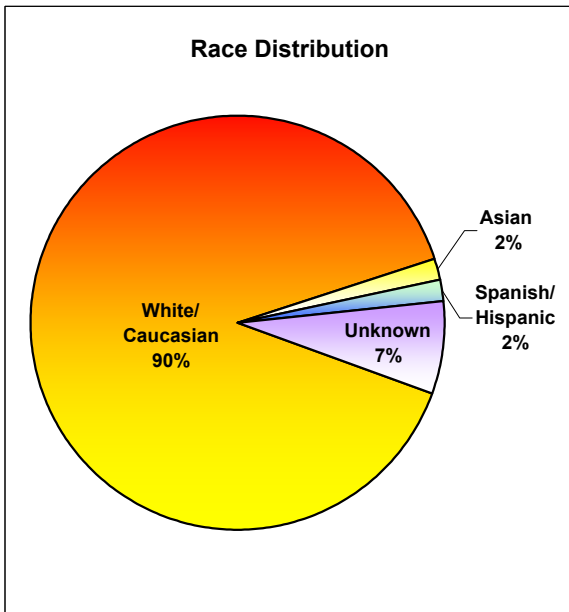
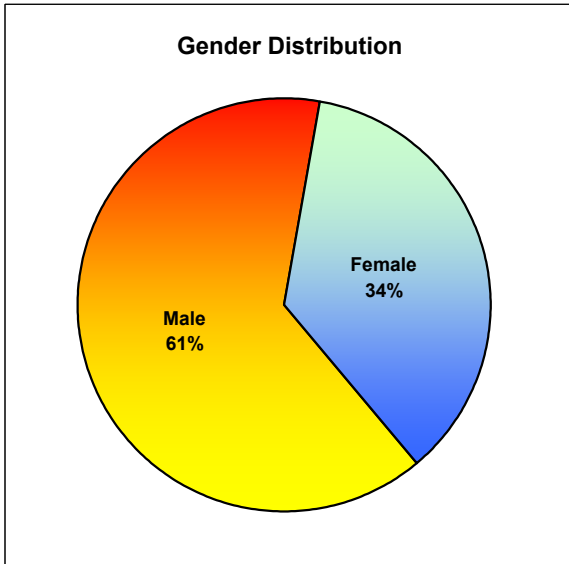


Average Number of Patients Seen Per Week

Patient Type	Average Number of Patients Seen Per Week	
	Setting	Count
Out-patients	Office	20
	Urgent Care	0
	ER	0
In-patients	Hospital	11
	Nursing Home	0

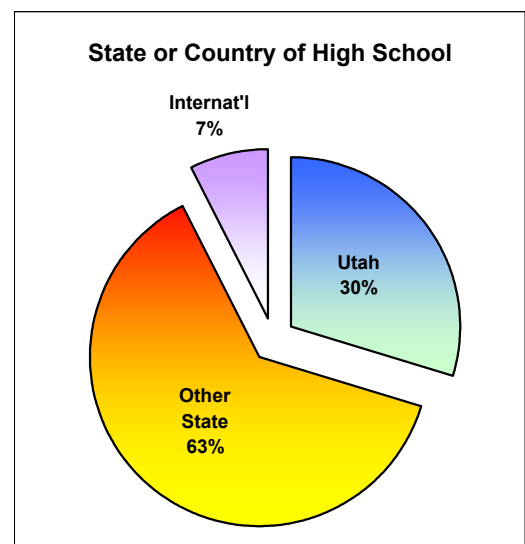
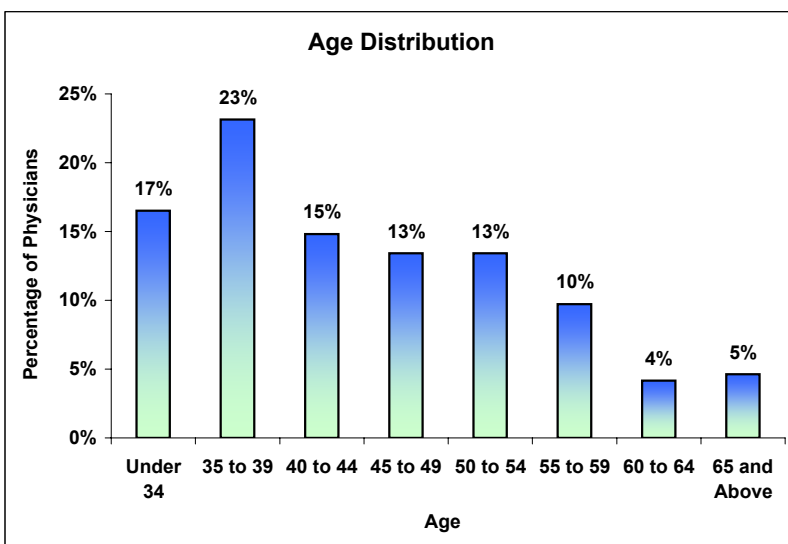






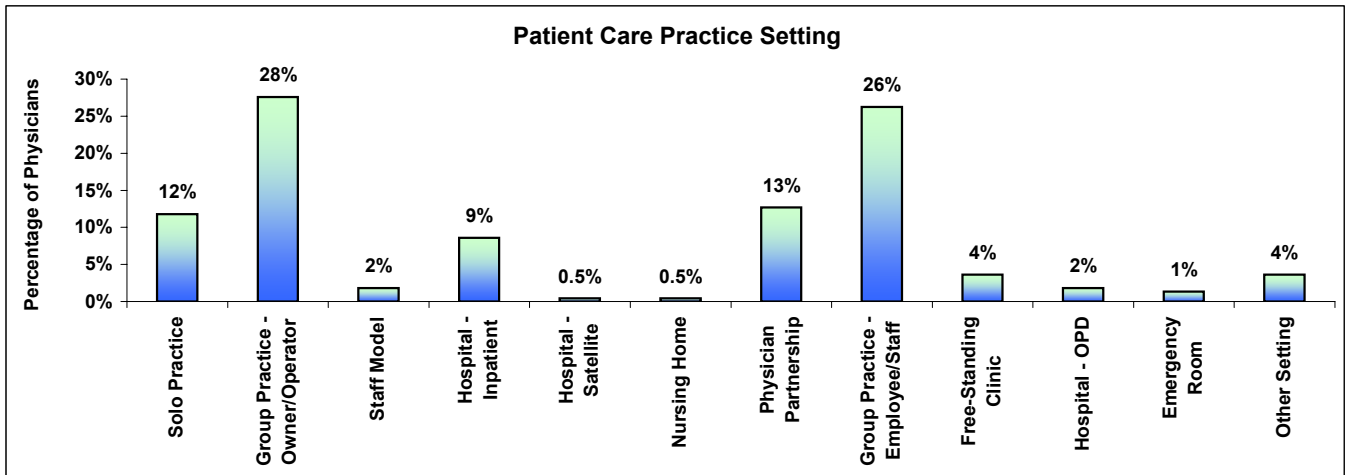
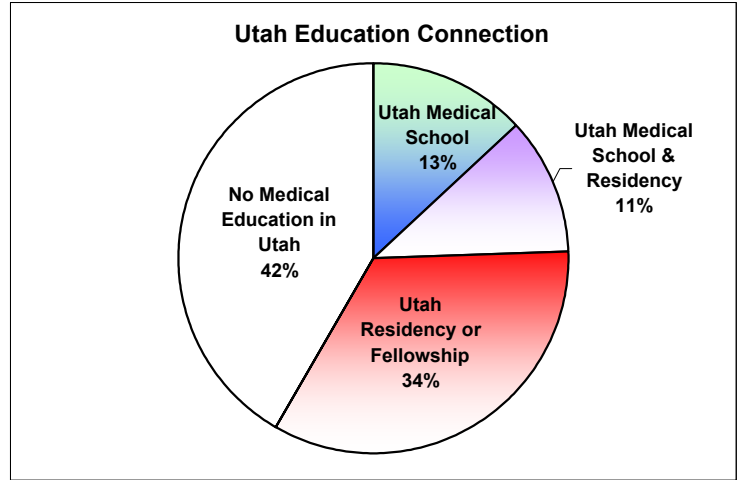
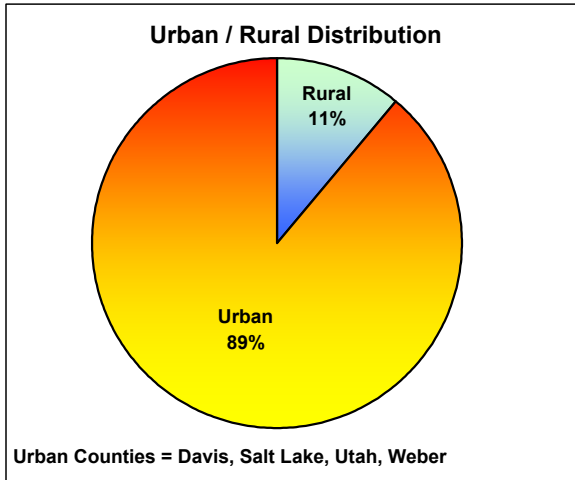
PEDIATRICIANS: 328 (UMEC Estimate)

- Utah has long held its position as the state with the highest birthrate and youngest population in the nation. According to the National Vital Statistics Report by the Centers for Disease Control, Utah had a birth rate of 21.2 and a fertility rate of 90.6 in 2002. In contrast, the national average was just 13.9 and 64.8 respectively.
- The high number of births in Utah translates to a younger state population. Data from the U.S. Census Bureau showed that in 2003 over 31% of the state's population was under the age of 18, and the overall median age was 27 compared to the national average of 36. The high percentage of children in Utah has placed additional strain on the limited number of pediatricians in the state. This problem is further compounded by projected shortages in other primary care specialties making it difficult to meet state workforce needs.
- The American Academy of Pediatrics recommends 1 pediatrician per 1,769 children. Utah currently has 2,252 children for every pediatrician in the state--27% more than the recommended ratio. To meet the national benchmark, Utah would need to recruit an additional 92 pediatricians to the workforce.
- Utah currently trains 19 residents per year in general pediatrics and 2 per year in med/peds with an average retention rate of approximately 50%, or 11 pediatricians per year. To maintain current capacity (though it is below optimum levels), Utah needs to recruit at least 15 pediatricians per year. If the state wanted to increase capacity to nationally recommended ratios, recruitment would have to increase to 20 or more pediatricians per year. The decreasing number of residents selecting primary care fields will make it difficult to recruit more physicians to pediatrics. It is highly likely that mid-level providers will step in to fill the workforce deficit.



SPECIALTY PROFILE:

PEDIATRICS (GENERAL)

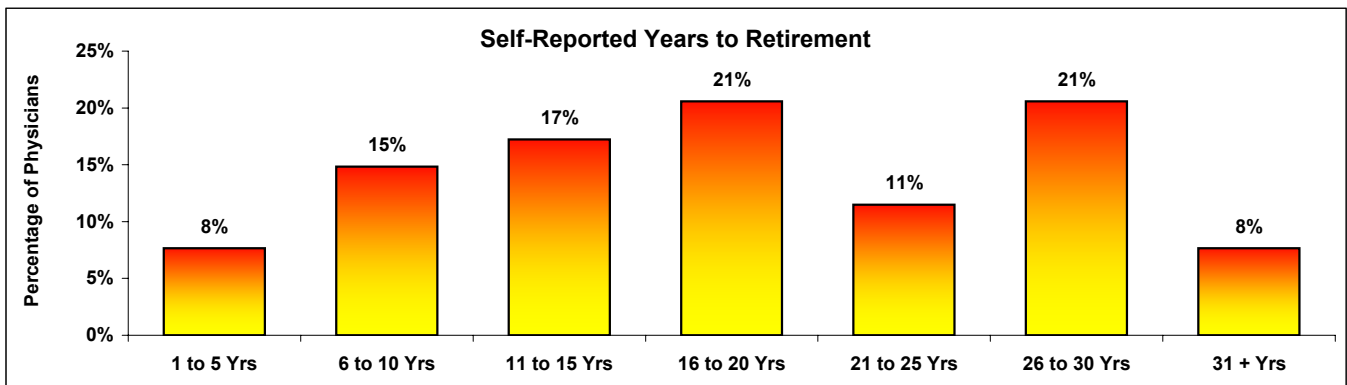


Board Certification of General Pediatricians

Primary Board Certification	Secondary Board Certification			
	Internal Medicine (General)	Pediatrics (General)	Pediatrics Subspecialties	Surgery (General)
Allergy & Immunology	1	1%		1
Family Practice	1	1%		1
Internal Medicine (General)	1	1%		
Pediatrics (General)	273	97%	4	14
Pediatrics Subspecialties	3	1%	1	
N =	280	100%		

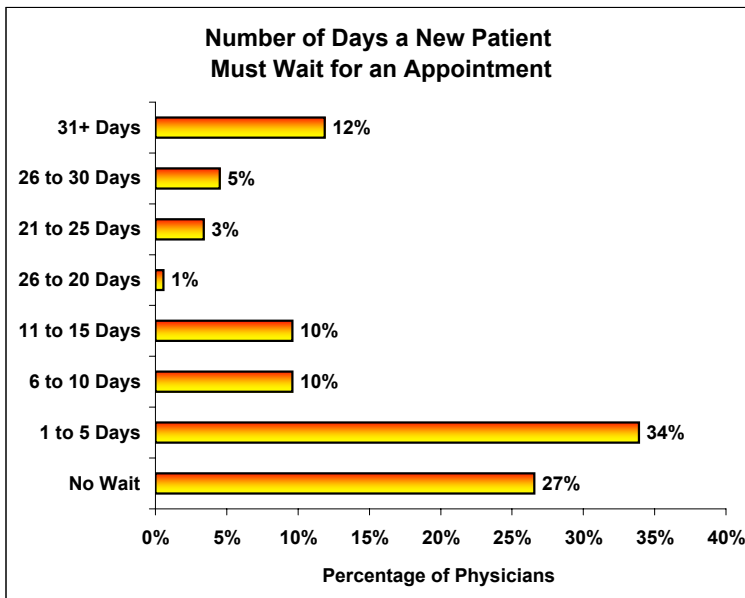
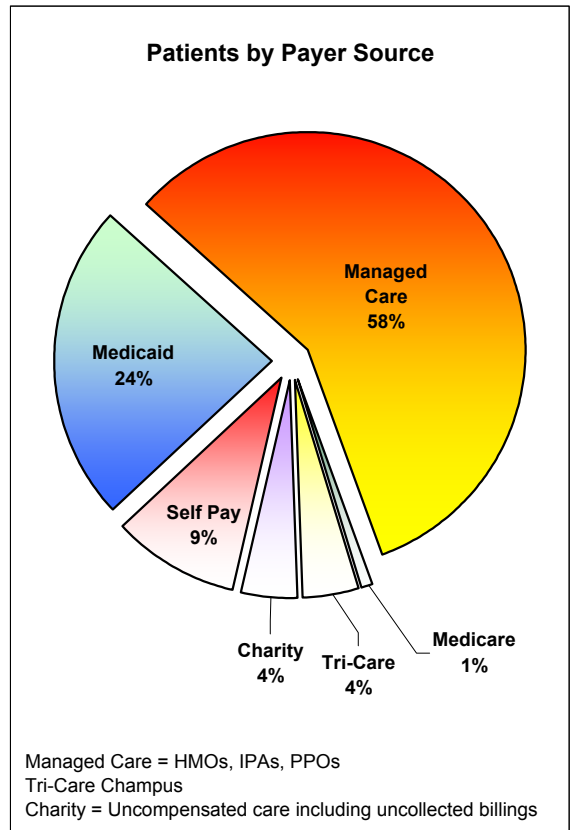
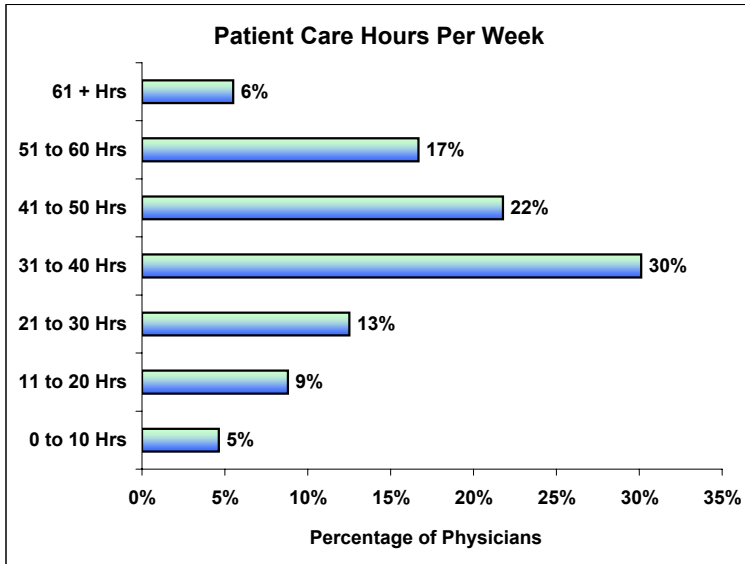
Gross Annual Earnings

Mean	\$131,223
Median	\$120,000
Mode	\$120,000



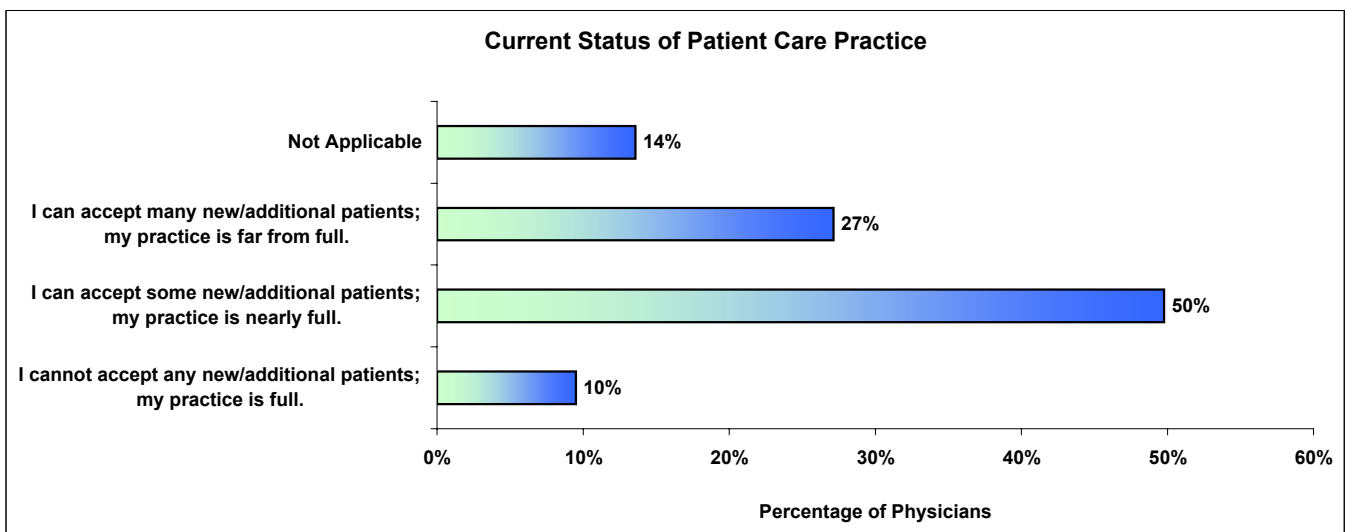
SPECIALTY PROFILE:

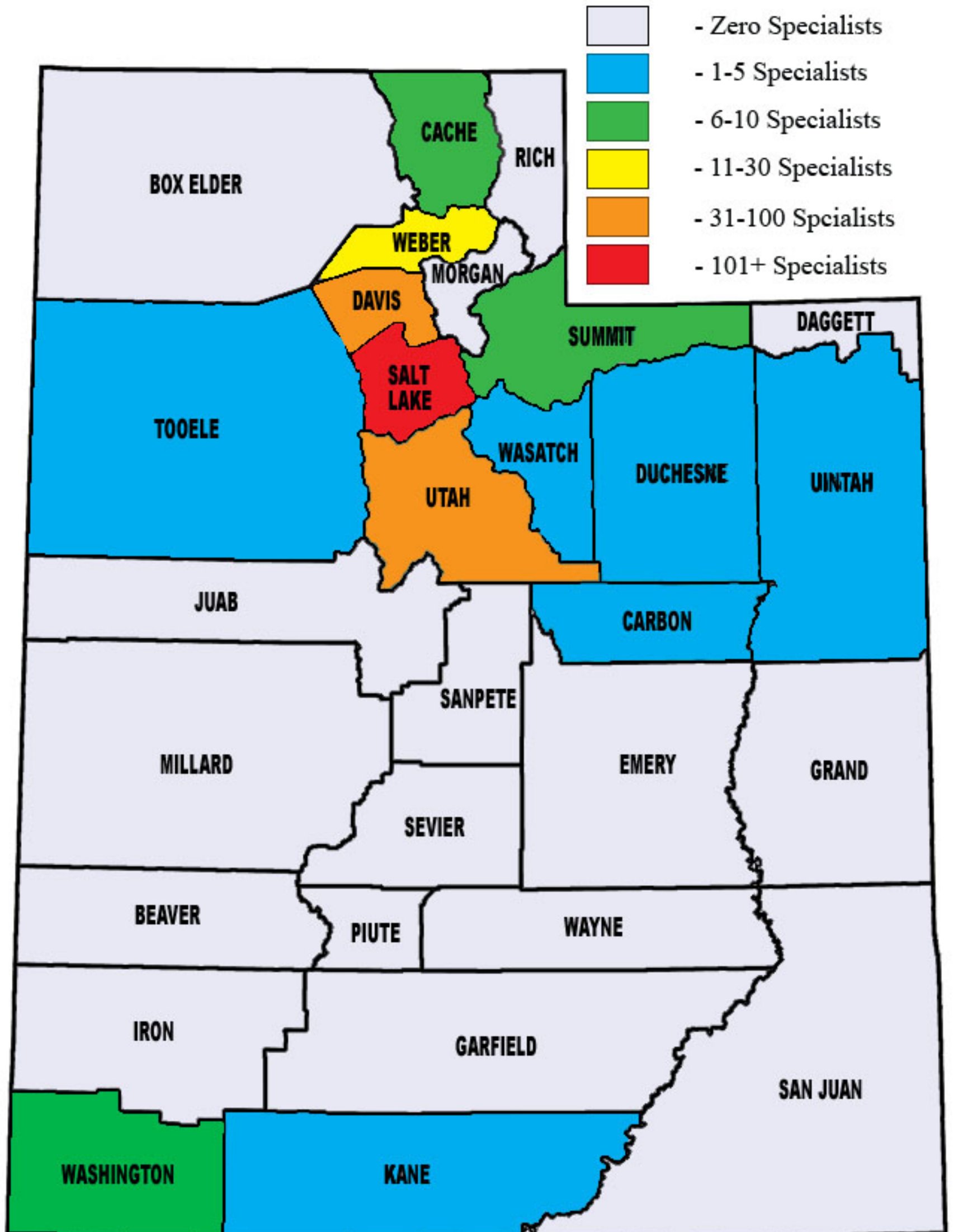
PEDIATRICS (GENERAL)



Average Number of Patients Seen Per Week

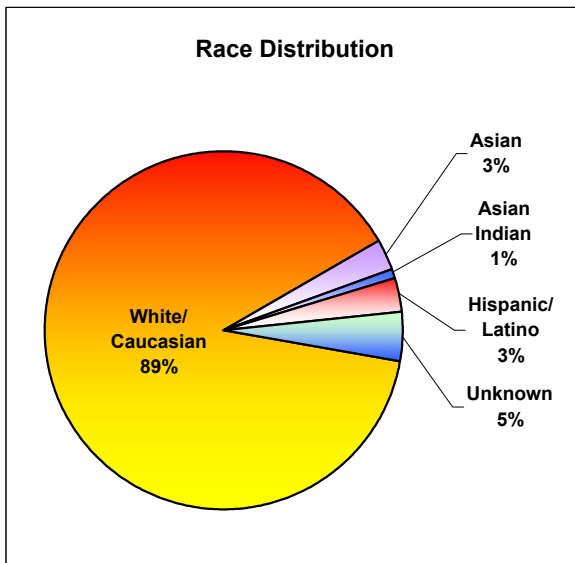
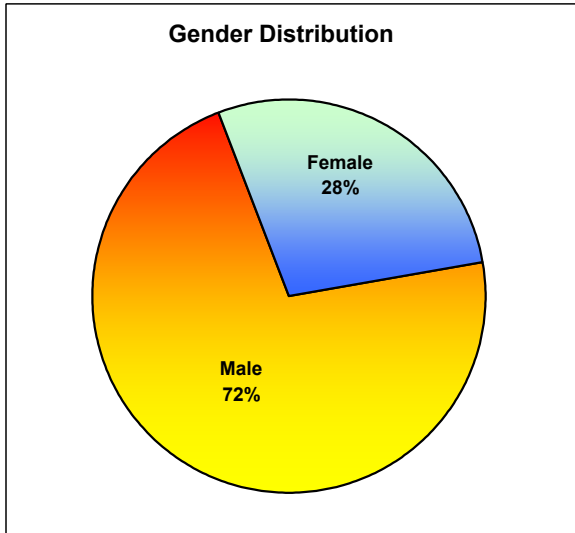
Patient Type	Office	Urgent Care	ER	Hospital	Nursing Home
	Out-patients	81	6	1	9
In-patients					





SPECIALTY PROFILE:

PEDIATRIC SUBSPECIALTIES

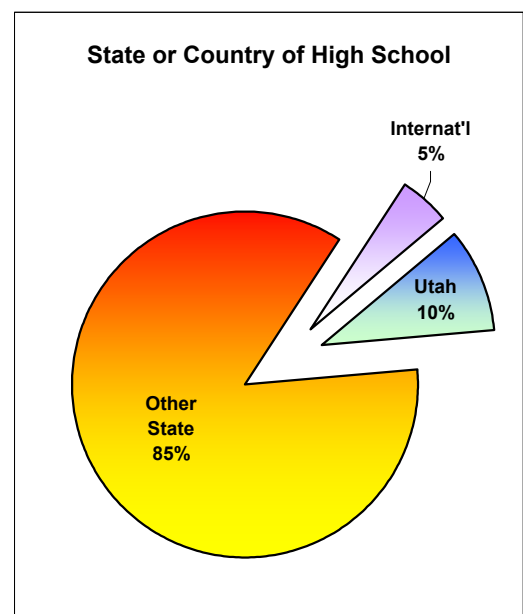
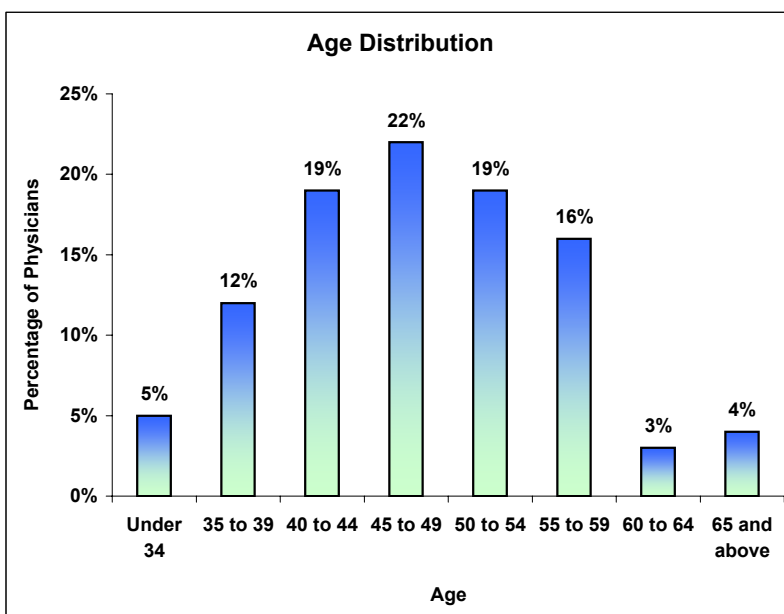


PEDIATRIC SUBSPECIALISTS: 153 (UMEC Estimate)

It is widely acknowledged that shortages exist in many pediatric subspecialty areas. However, due to the limited number of providers in Utah, it is difficult to present a specialty profile on each one without revealing confidential information. Therefore, we present the following consolidated data on all pediatric subspecialists in Utah along with an estimate on the number of providers in each specialty area. The following is a list of identified specialties as indicated by survey respondents, with 30 physicians not specifying their respective subspecialty.

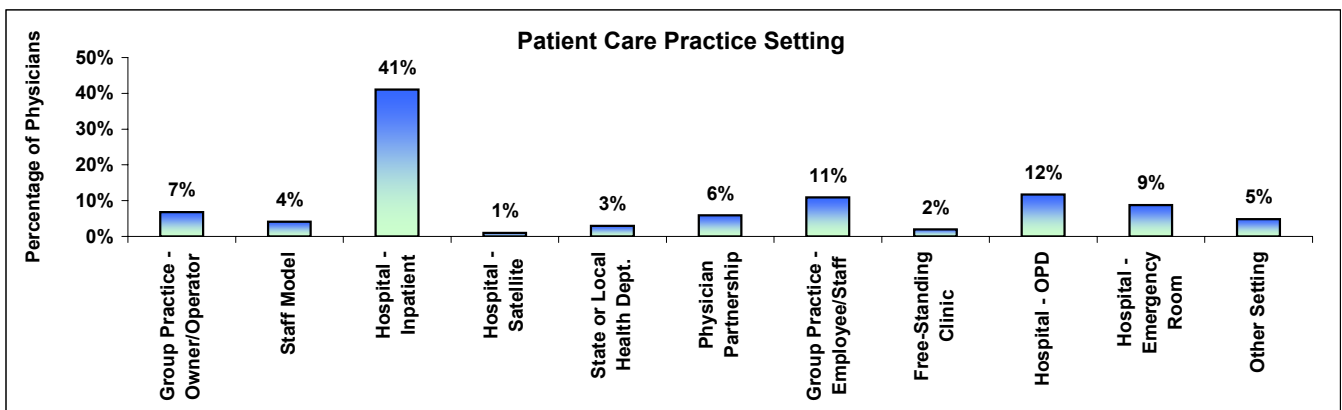
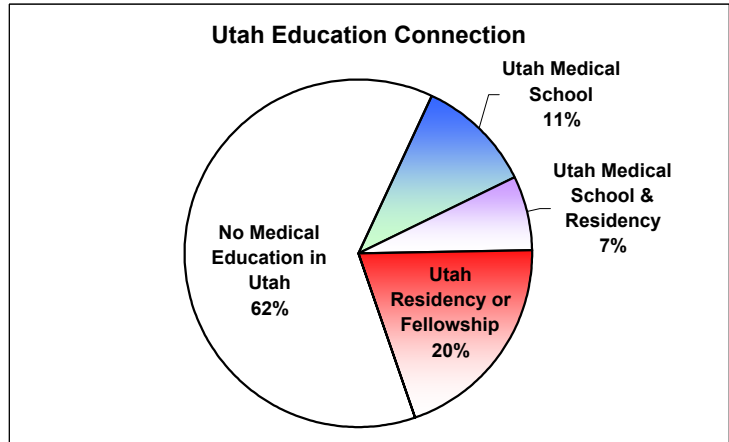
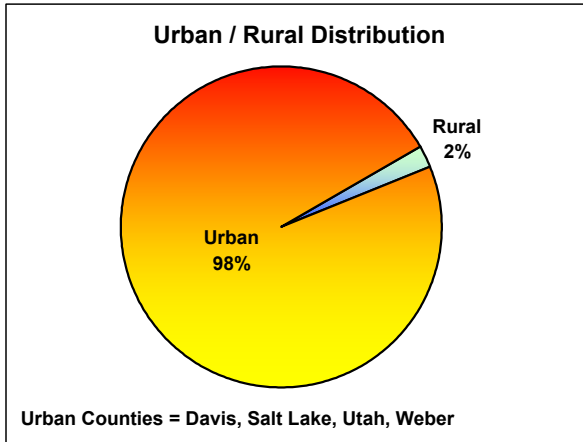
Unspecified: 30

- Pediatric Cardiology 11
- Pediatric Child Protection 1
- Pediatric Critical Care 14
- Pediatric Development/Behavior 4
- Pediatric Diabetes 1
- Pediatric Emergency Medicine 12
- Pediatric Endocrinology 4
- Pediatric Gastroenterology 3
- Pediatric Hematology/Oncology 12
- Pediatric Infectious Disease 1
- Pediatric Internal Medicine 2
- Pediatric Medical Genetics 5
- Pediatric Neonatology 33
- Pediatric Nephrology 1
- Pediatric Neurology 7
- Pediatric Neurosurgery 1
- Pediatric Newborn ICU 1
- Pediatric Ophthalmology 4
- Pediatric Rheumatology 3
- Pediatric Urology 1



SPECIALTY PROFILE:

PEDIATRIC SUBSPECIALTIES

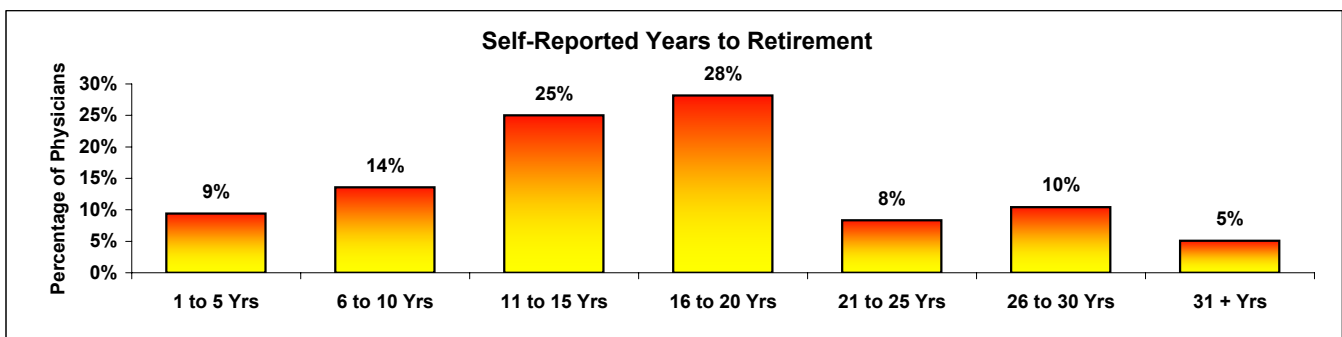


Board Certification of Pediatric Subspecialists

Primary Board Certification			Secondary Board Certification	
Anesthesiology (General)	1	1%	Other Anesthesiology Subspecialties	1
Internal Medicine (General)	1	1%	Pediatrics Subspecialties	1
Pediatrics (General)	99	72%	Other Internal Medicine Subspecialties	1
			Neurology	3
			Pediatrics (General)	1
			Pediatrics Subspecialties	80
			Other	1
Pediatrics Subspecialties	29	21%	Pediatrics (General)	4
			Pediatrics Subspecialties	1
			Other	1
Surgery (General)	3	2%	Other Surgical Subspecialties	1
Neurological Surgery	1	1%	Pediatrics Subspecialties	1
Ophthalmology	1	1%	Pediatrics Subspecialties	1
Other	1	1%	Ophthalmology	1
N =		137	100%	

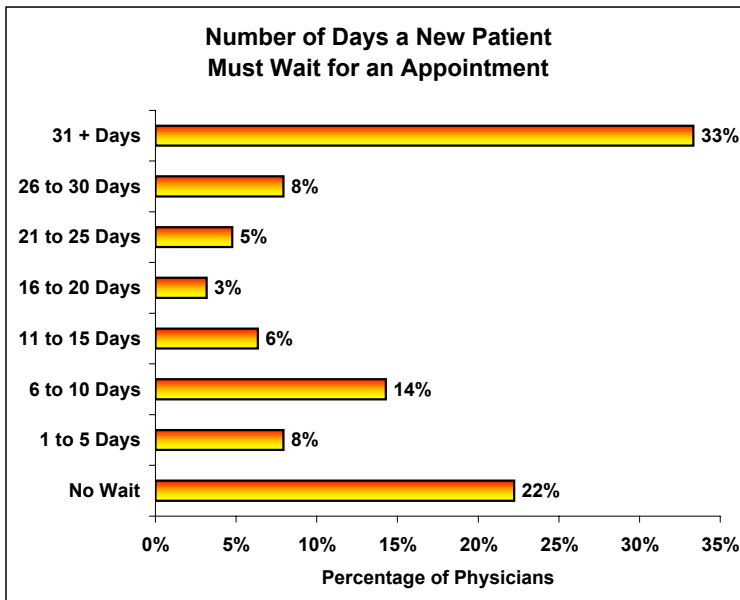
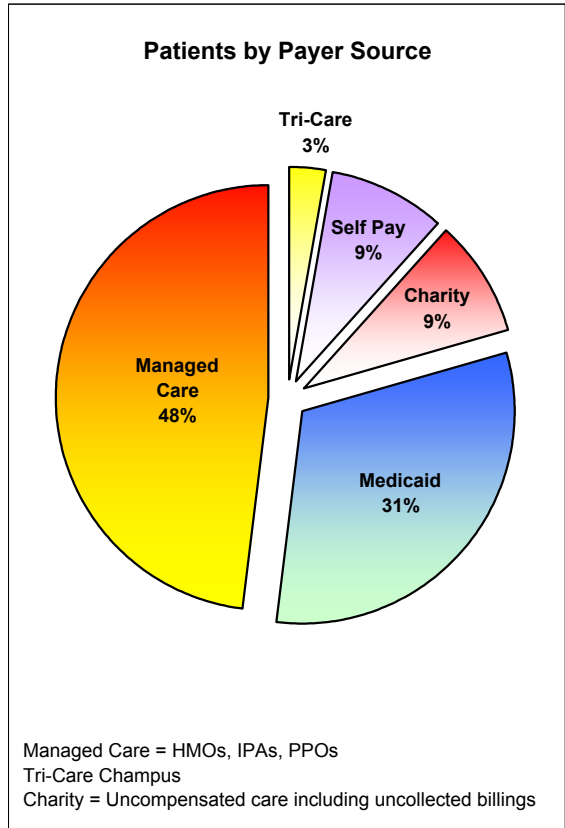
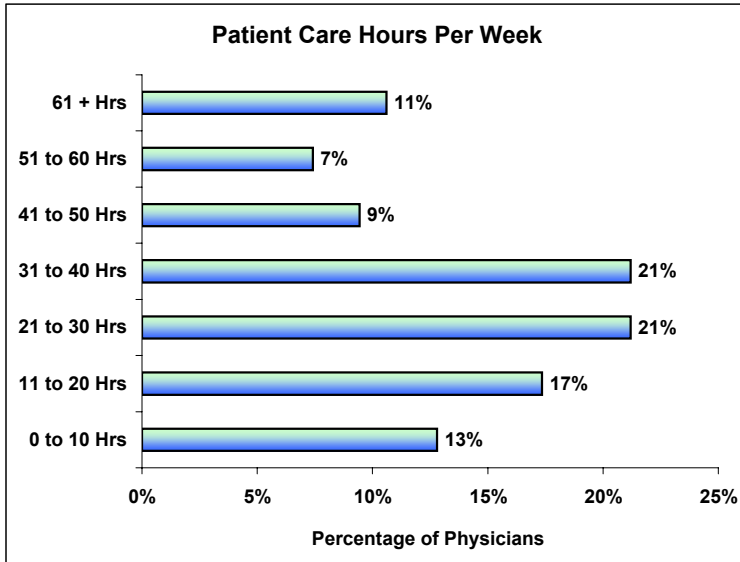
Gross Annual Earnings

Mean	\$125,063
Median	\$125,000
Mode	\$150,000



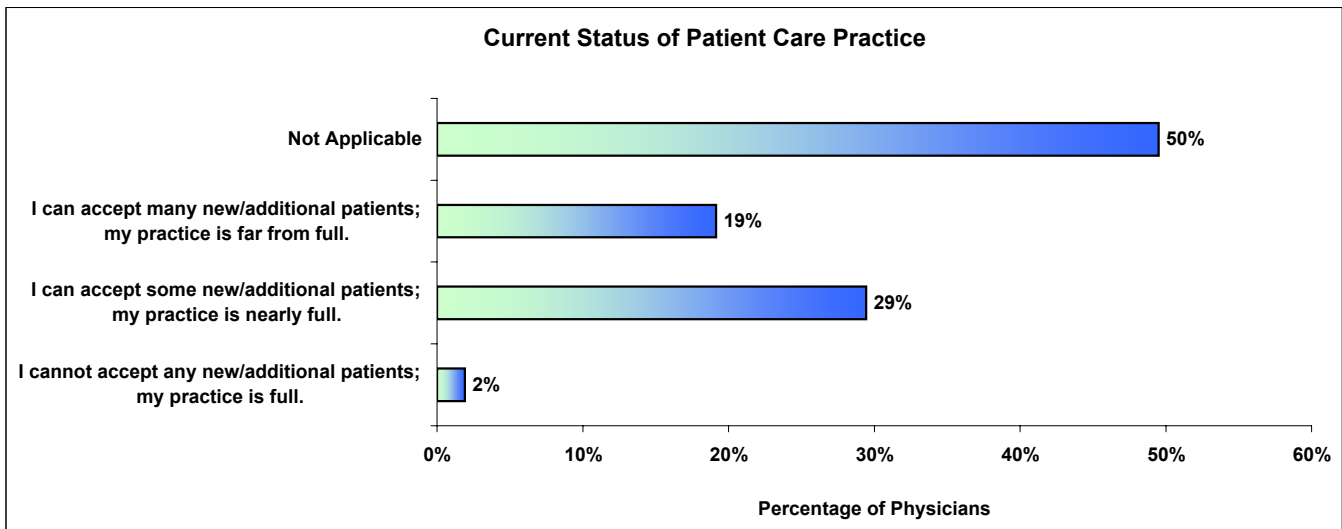
SPECIALTY PROFILE:

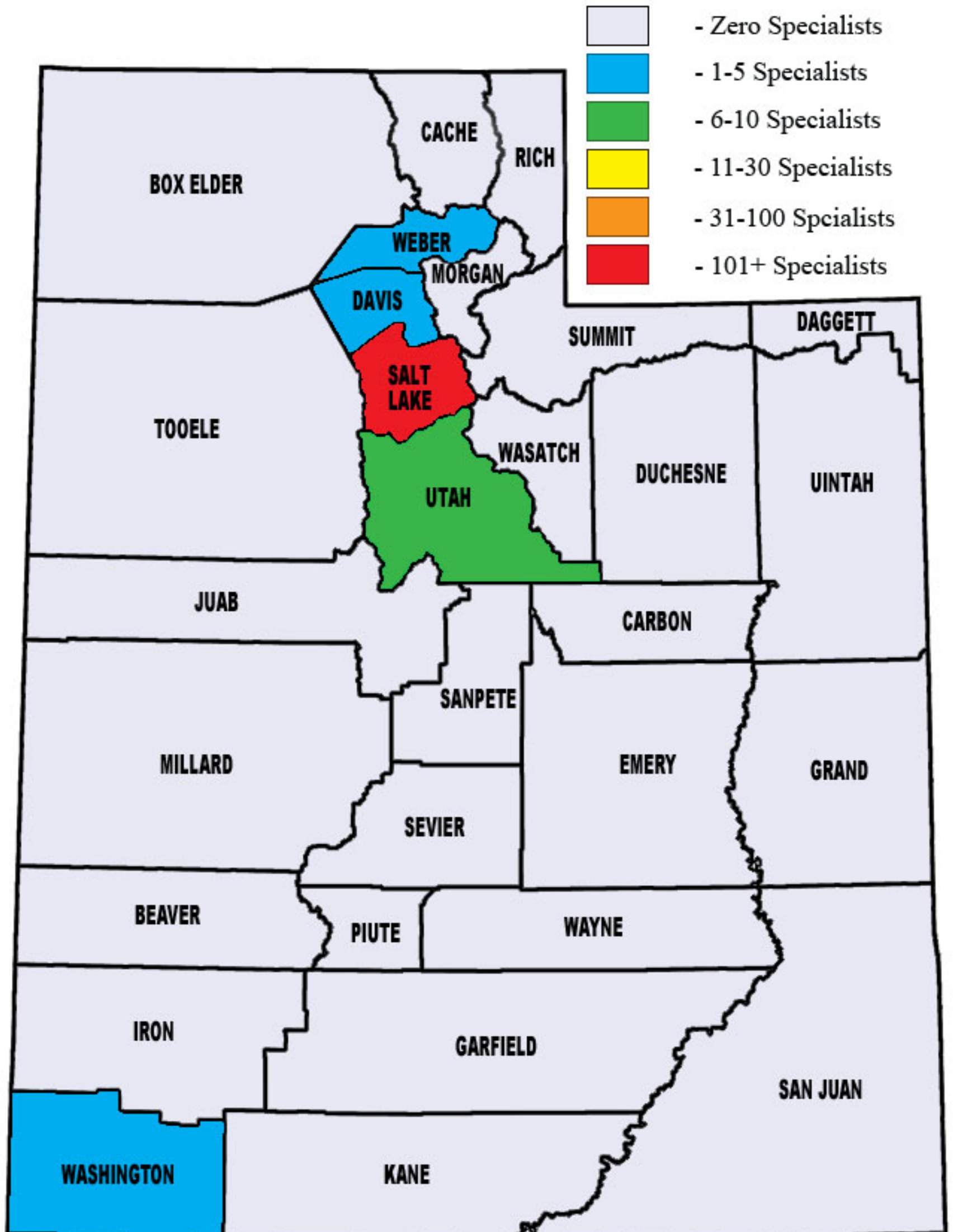
PEDIATRIC SUBSPECIALTIES

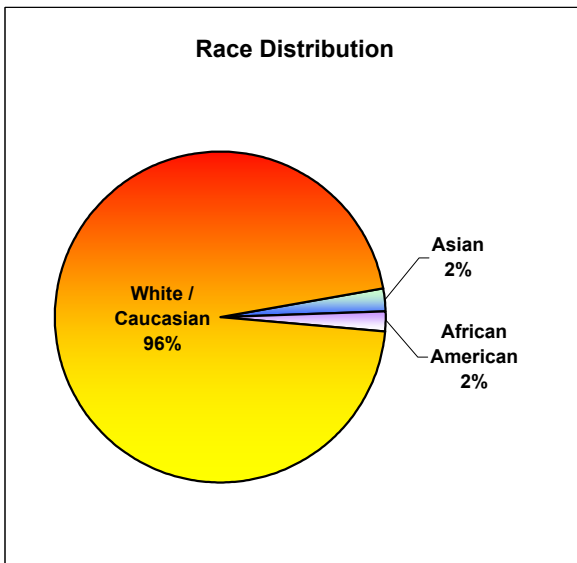
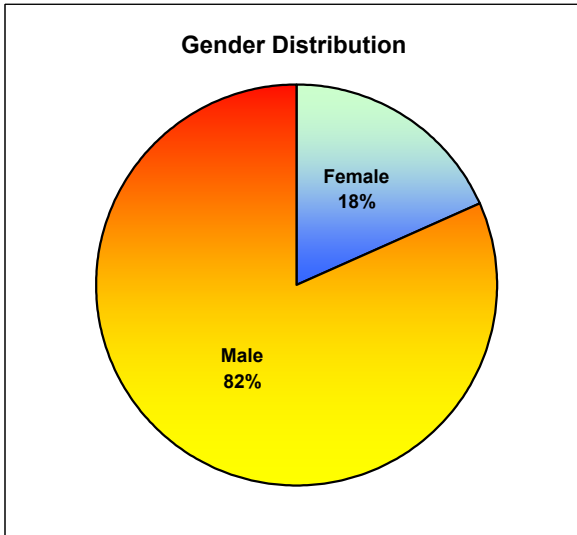


Average Number of Patients Seen Per Week

Patient Type	Office	Urgent Care	ER
	Out-patients	27	2
In-patients	Hospital	23	0
	Nursing Home	0	0







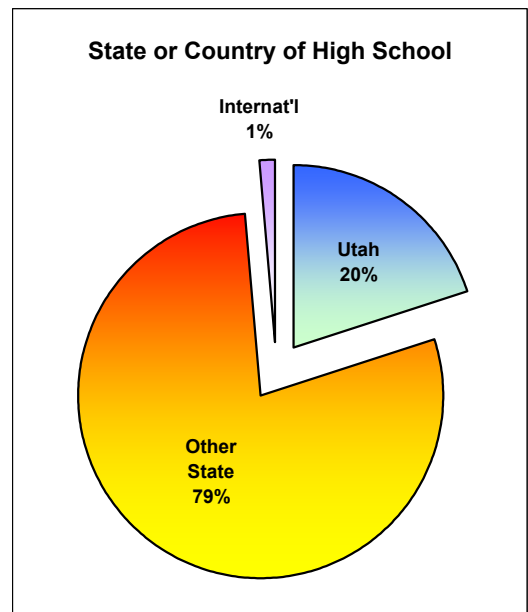
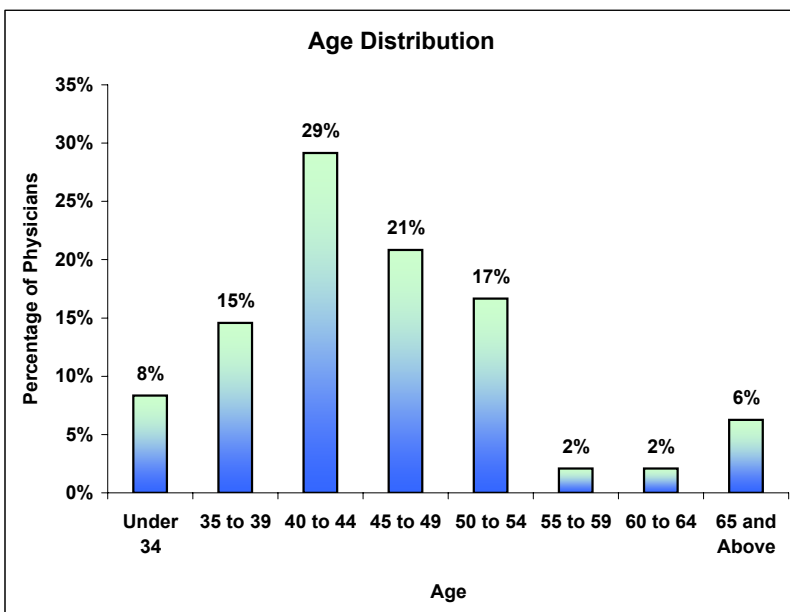
PHYSICAL MEDICINE & REHAB.: 73 (UMEC Estimate)

1. In 2003, the United States had 7,817 physiatrists, [physical medicine & rehabilitation (PMR) physicians] for a ratio of 2.69 per 100,000 population. This was deemed adequate for the given population by the American Academy of Physical Medicine & Rehabilitation (AAPMR). Their workforce analysis showed that the amount of physiatric services demanded will approximately equal the number of physiatrists available to provide those services—at an unchanged price—through the period 1996-2017.

2. Utah currently has 73 physiatrists, or 3.10 per 100,000 population, which is above the national average for this specialty. When broken up into urban and rural distribution, Utah has 3.60 per 100,000 urban population and 1.20 per 100,000 rural population, both of which are above the nationally recommended ratios of 2.85 (urban) and 0.85 (rural).

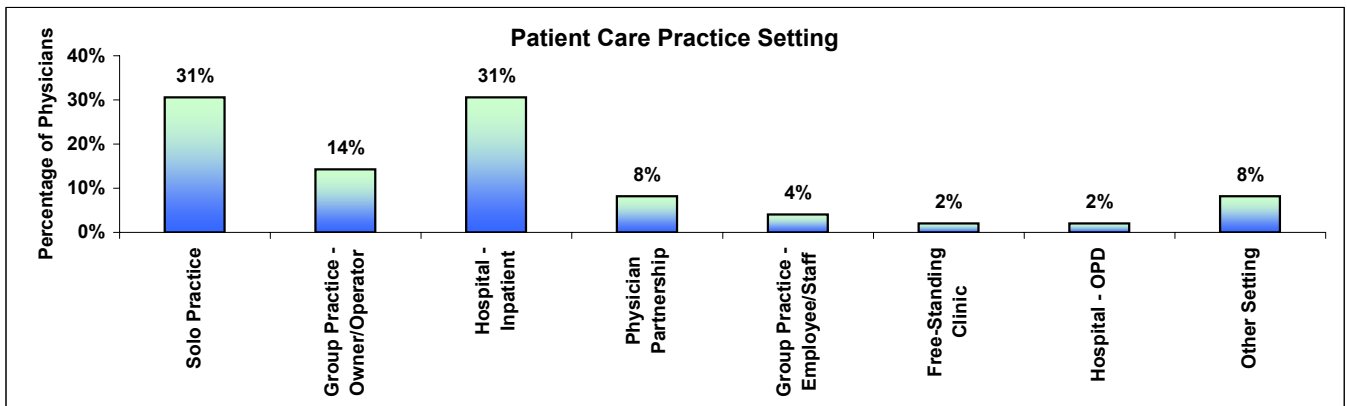
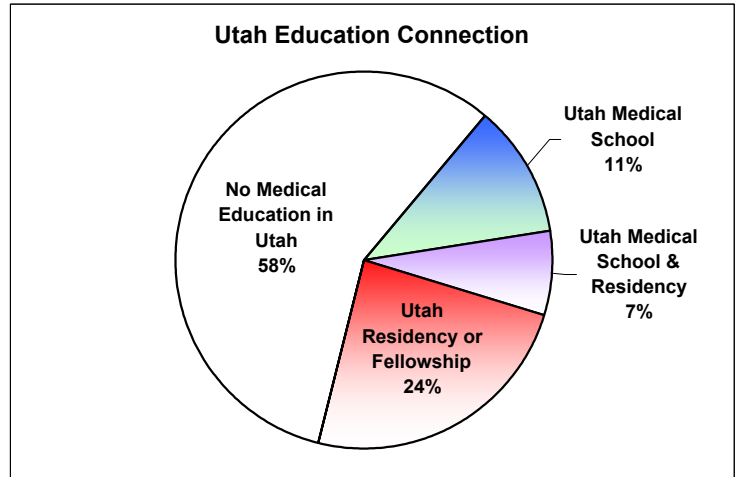
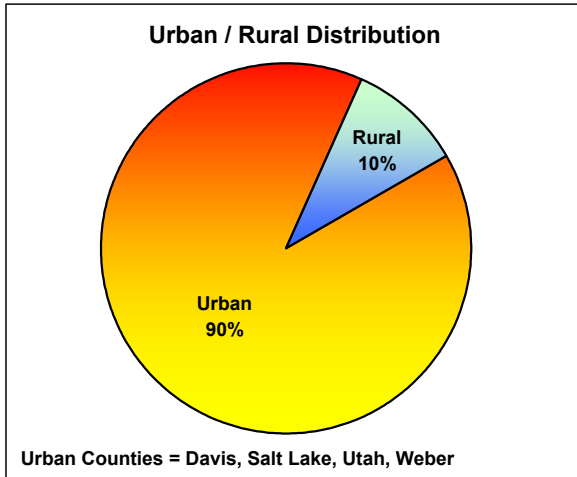
3. The UMEC data suggest that the current supply is adequate for the state population. In 2003, over half (52%) of Utah physiatrists were under the age of 44, and only 14% plan on retiring in the next 10 years. In addition, 63% reported wait times of 15 days or less for new patients and 38% had practices that were far from full.

4. To maintain the current capacity, the state would need to recruit 4 physiatrists per year. The state currently trains 4 residents per year, of which 30% (1 physician) will remain in Utah. The current balance in supply and demand suggests that program training should be sustained at current levels.



SPECIALTY PROFILE:

PHYSICAL MEDICINE & REHABILITATION

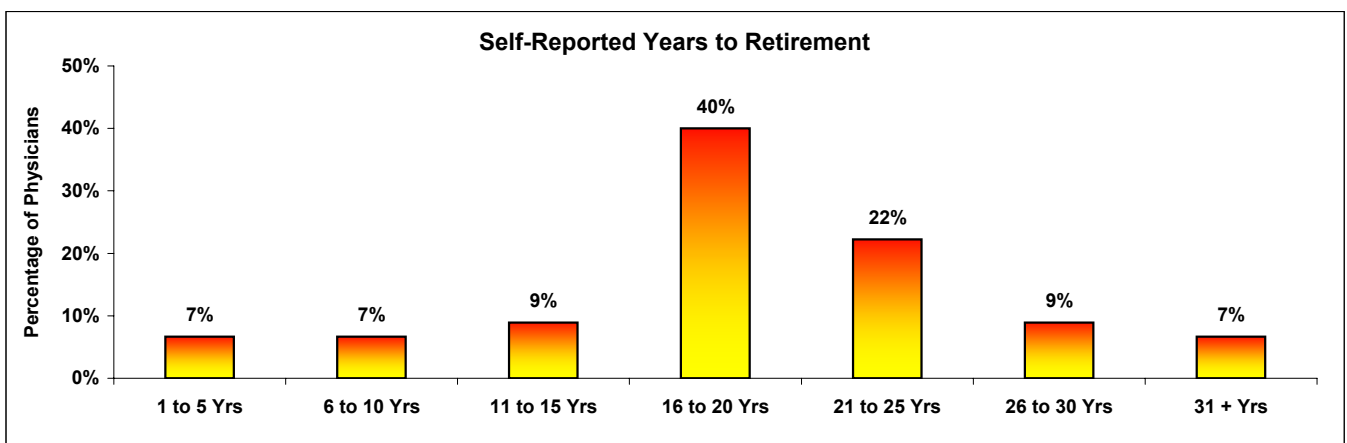


Board Certification of Physicians in Physical Medicine & Rehabilitation

Primary Board Certification			Secondary Board Certification	
Physical Medicine & Rehabilitation	61	97%	Anesthesiology Pain Management	3
			Pediatrics Subspecialties	1
			Physical Medicine & Rehab	1
			Preventative/ Occupational/ Public Health	1
			Other Specialty	9
Internal Medicine (General)	1	1.6%	Physical Medicine & Rehab	1
Neurology	1	1.6%	Other Specialty	1
N =		63	100%	

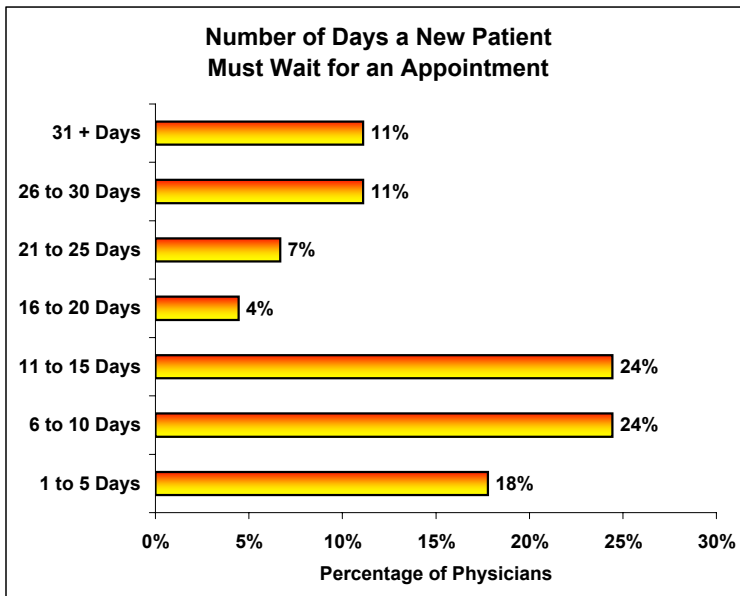
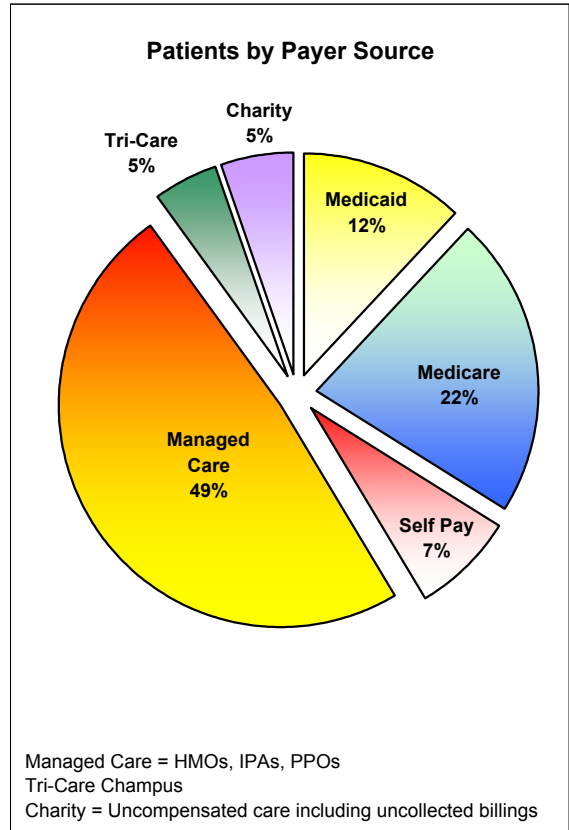
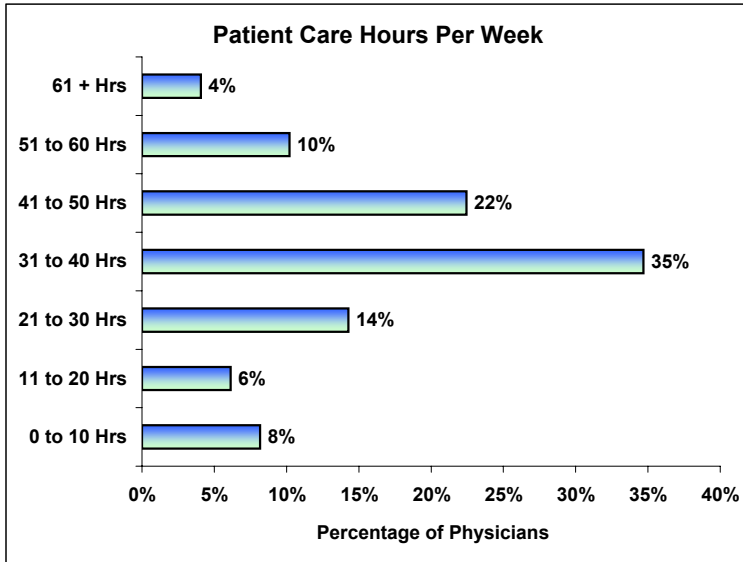
Gross Annual Earnings

Mean	\$164,844
Median	\$150,000
Mode	\$150,000



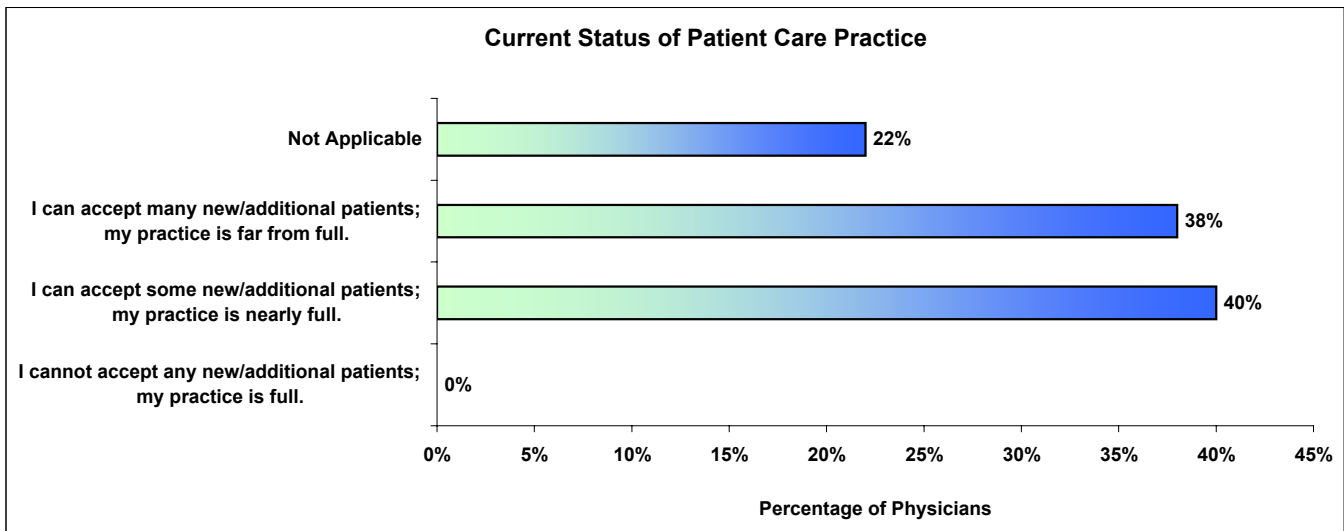
SPECIALTY PROFILE:

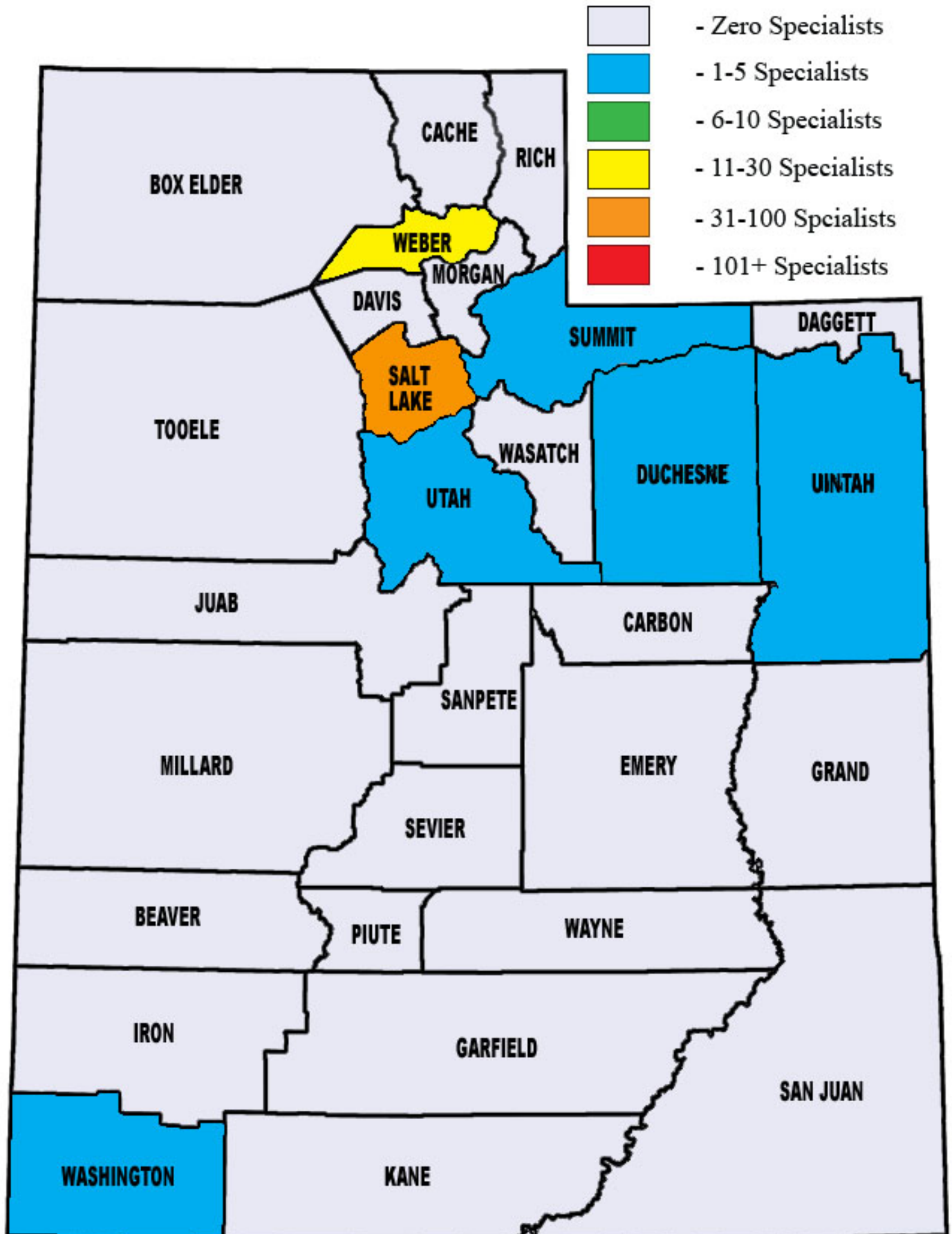
PHYSICAL MEDICINE & REHABILITATION

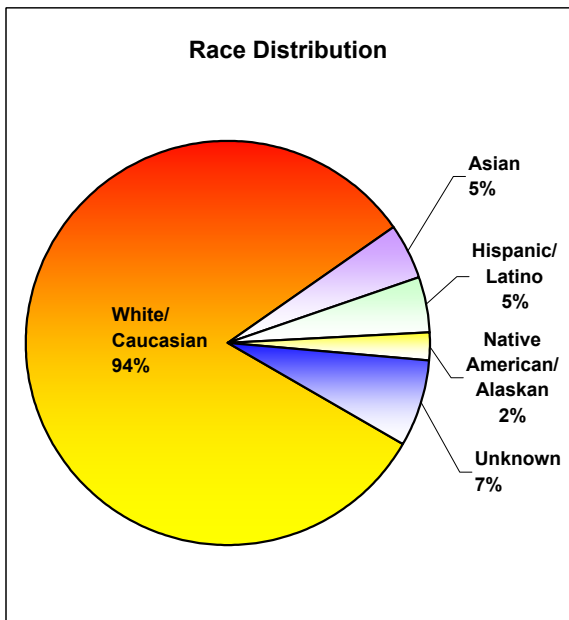
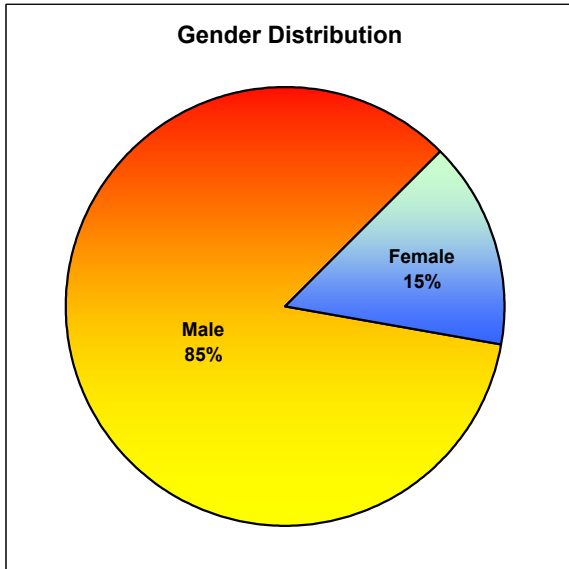


Average Number of Patients Seen Per Week

Out-patients	Office	42
	Urgent Care	0
	ER	0
In-patients	Hospital	12
	Nursing Home	2







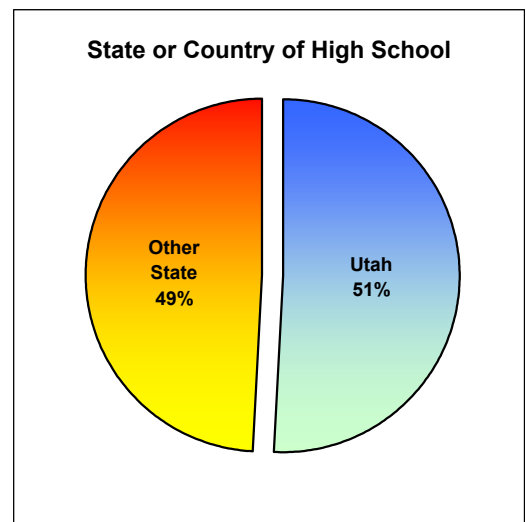
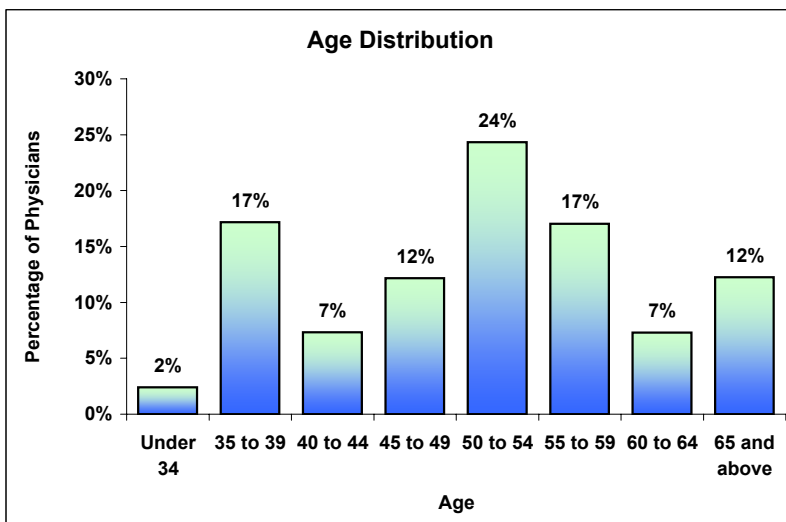
PLASTIC SURGEONS: 63 (UMEC Estimate)

1. In 2004, the AMA reported that the U.S. had 6,449 plastic surgeons for a ratio of 2.2 per 100,000 population. Data from the American Society of Plastic Surgeons suggest that this ratio is adequate for the current population. Between the period of 1992 - 2004, there was a 700% increase in the number of cosmetic procedures performed whereas reconstructive procedures increased by only 40%. Currently over half (59%) of all plastic surgeries are for cosmetic purposes.

2. The growing demand for plastic surgery procedures has increased interest in plastic surgery residencies. Since 1999, the number of plastic surgery positions has increased by over 70%, going from 47 in 1999 to 80 in 2005. In addition, over the last 10 years, plastic surgery residencies have been able to fill over 100% of their positions through the NRMP.

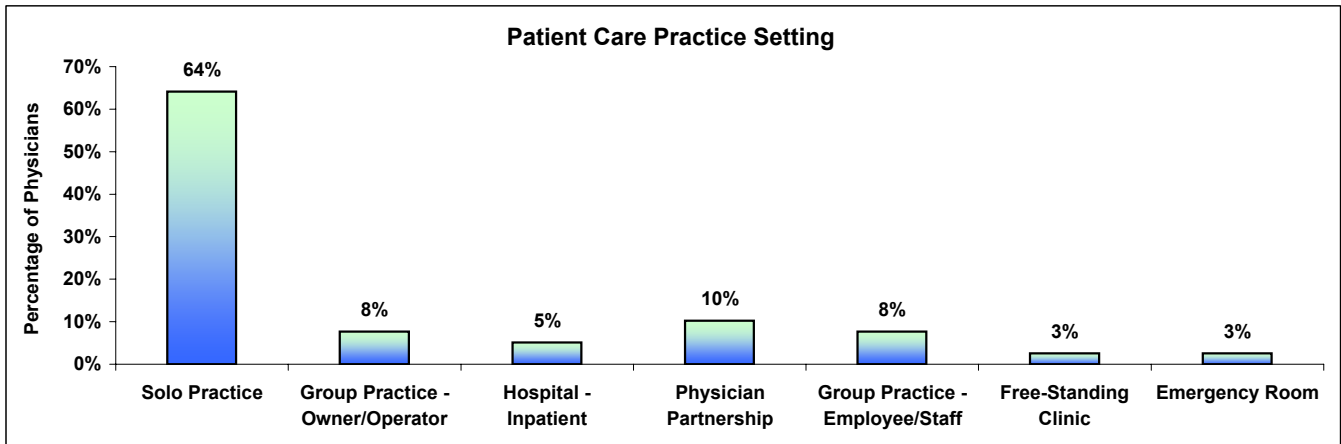
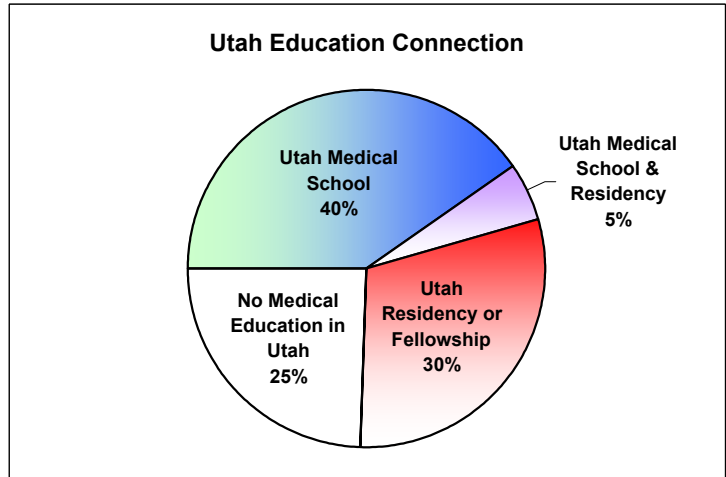
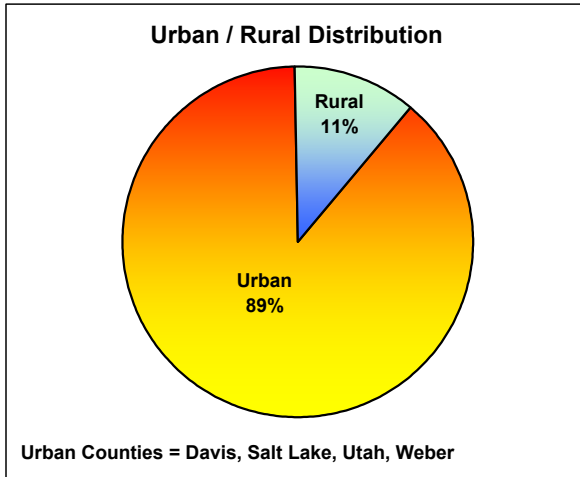
3. Utah currently has 63 plastic surgeons for a ratio of 2.67 per 100,000 population which is above both the regional and national average. Current data suggest that this is enough to serve the state population. In 2003, 73% of Utah plastic surgeons reported wait times of 10 days or less for their new patients, and 46% indicated that their practice was far from full.

4. Utah currently produces 1 to 2 plastic surgeons per year and retains 50% of all program graduates in the state, or roughly 1 plastic surgeon every 1 to 2 years. To maintain the current capacity, the state would have to recruit roughly 3 graduates per year. Although this translates to increased reliance on out of state recruits, current indicators show that the national pool is expanding in this specialty. Furthermore, the high number of procedures that are optional and cosmetic in nature suggest that the population will not be at risk should recruitment drop below existing levels.



SPECIALTY PROFILE:

PLASTIC SURGERY

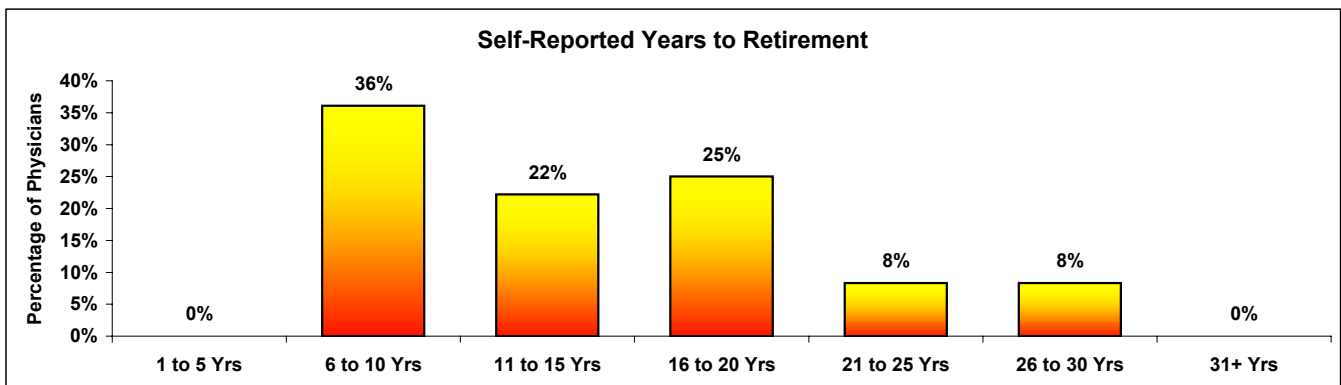


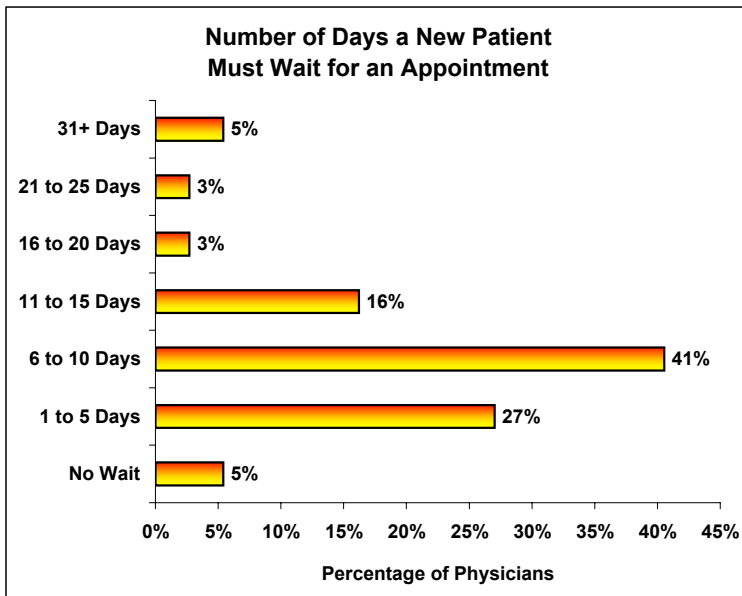
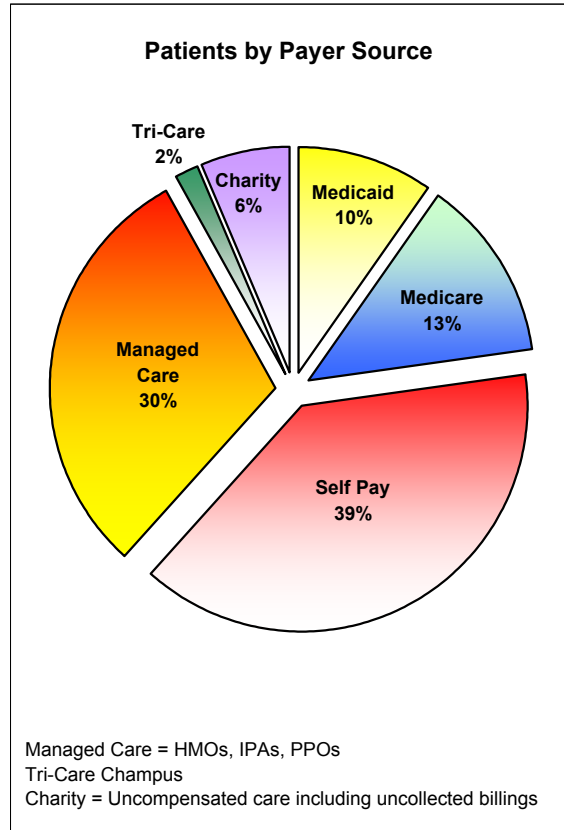
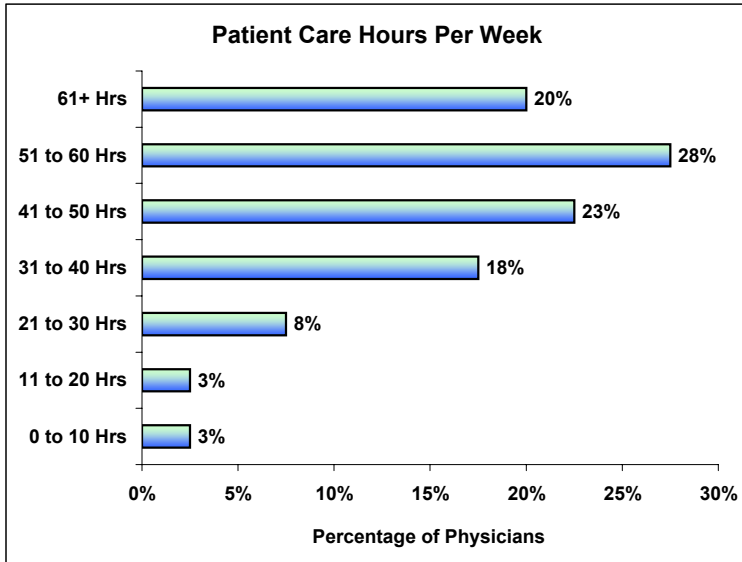
Board Certification of Plastic Surgeons

Primary Board Certification	Secondary Board Certification				
	Allergy & Immunology	Pediatrics (Subs)	Surgery (General)	Plastic Surgery	Other Surgical (Subs)
Plastic Surgery	44	85%	1	6	4
Surgery (General)	3	6%		1	
Ophthalmology	1	2%		1	
Otolaryngology	3	6%	1		
Other Specialty	1	2%		1	
N =	52	100%			

Gross Annual Earnings

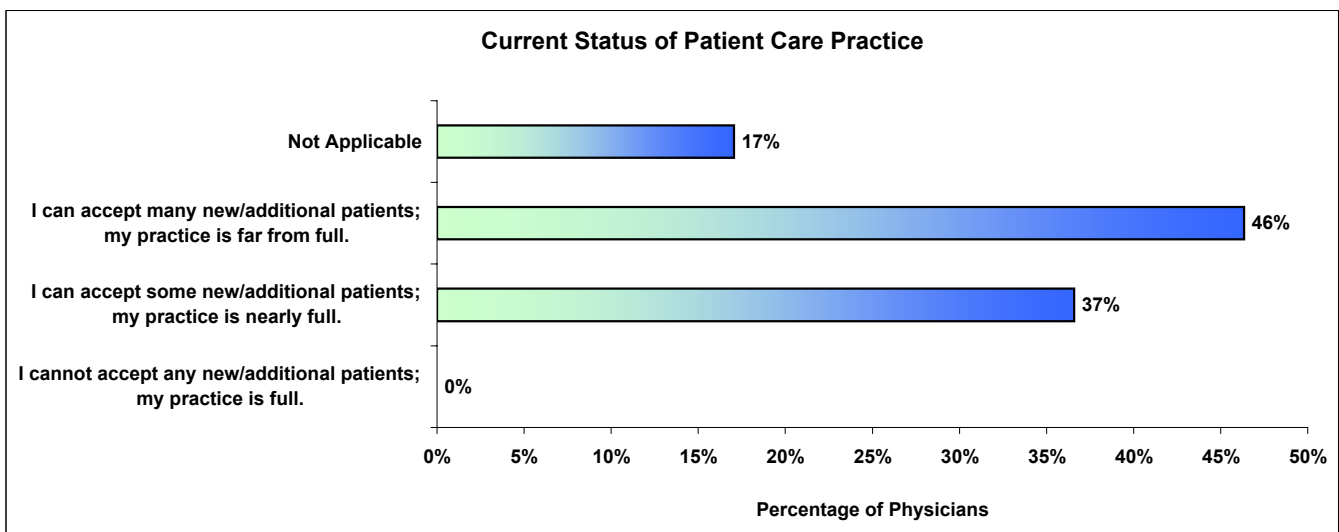
Mean	\$264,375
Median	\$200,000
Mode	\$120,000 \$200,000

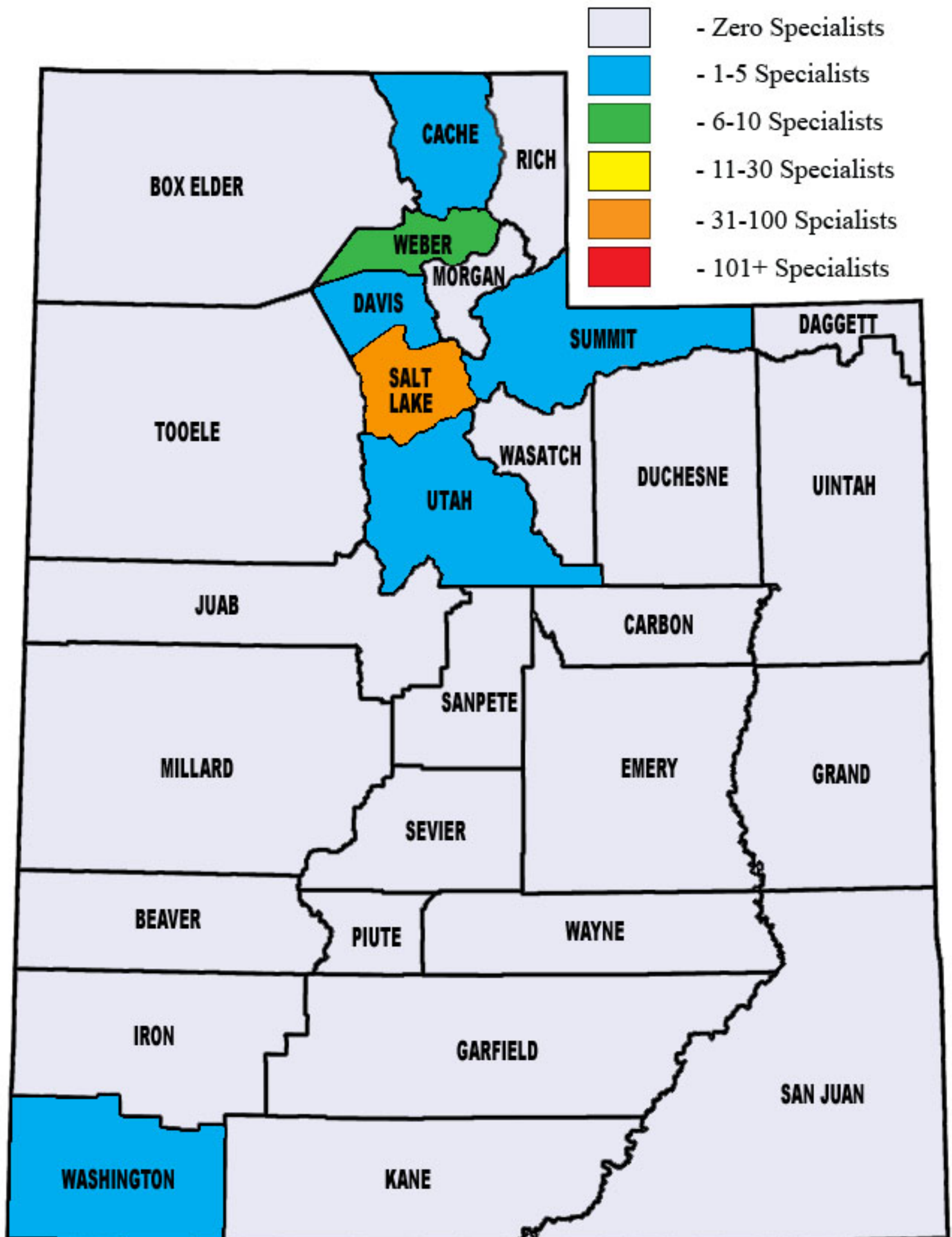




Average Number of Patients Seen Per Week

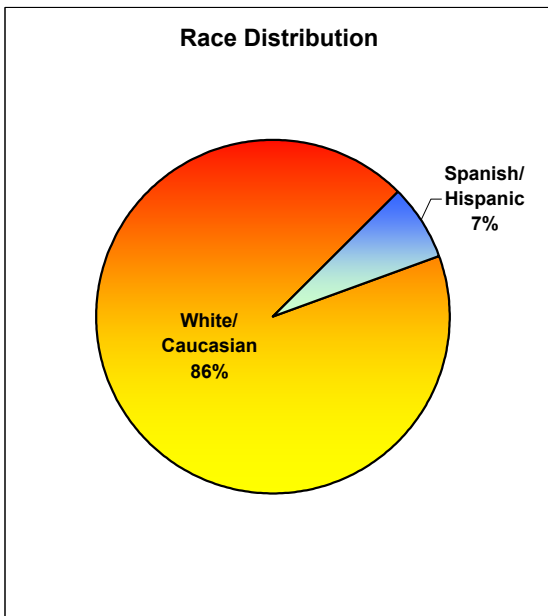
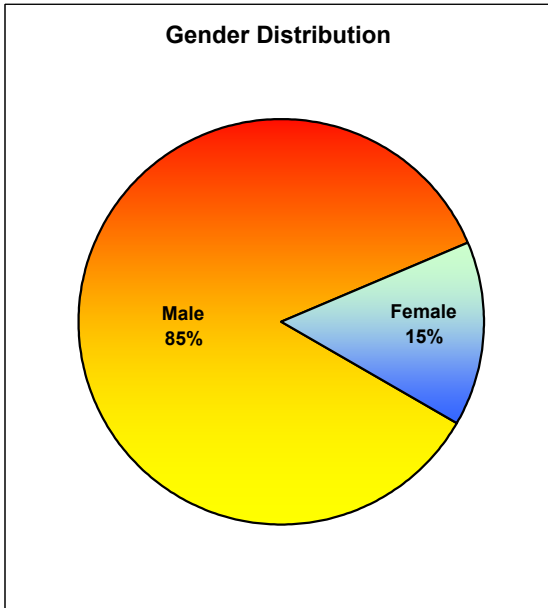
Out-patients	Office	48
	Urgent Care	4
	ER	4
In-patients	Hospital	3
	Nursing Home	0.1





SPECIALTY PROFILE:

PREVENTIVE / OCCUPATIONAL MEDICINE

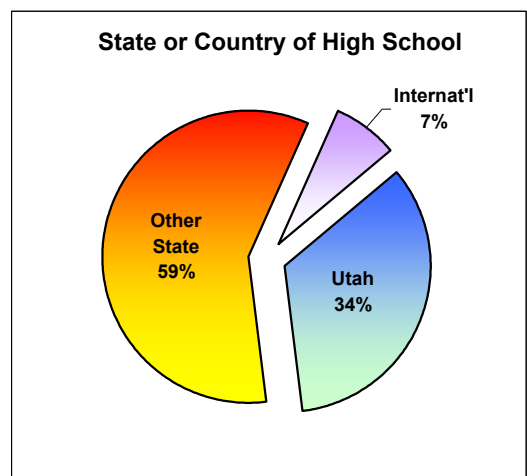
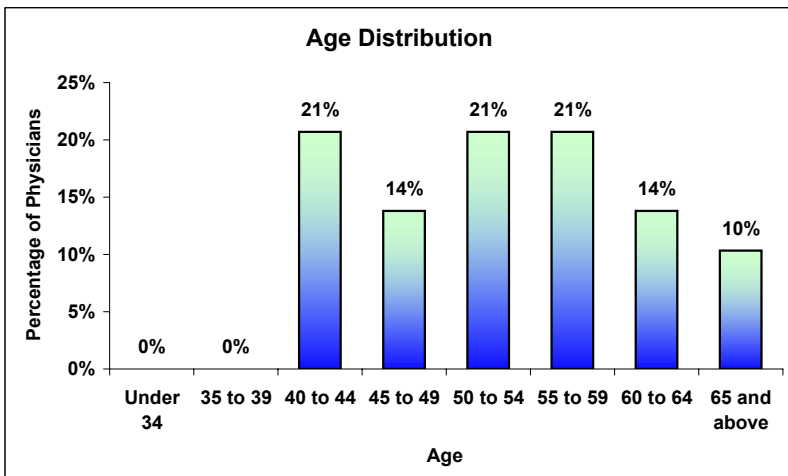


PREVENTIVE / OCCUPATIONAL MEDICINE: 30 (UMEC Estimate)

1. In 2002, the AMA reported that there were 6,893 physicians in preventive/occupational medicine in the U.S. By 2004, the number of physicians in this specialty had decreased by 4%, and it is anticipated that the number will continue to decline over the next few years. At this time, there is limited information available on the number of providers needed in this specialty, however recent policy statements from both the American College of Preventive Medicine (ACPM) and the American College of Occupational and Environmental Medicine (ACOEM) indicate that the current supply is not enough to meet public/occupational health demands or to defend the nation against bioterrorist attacks.

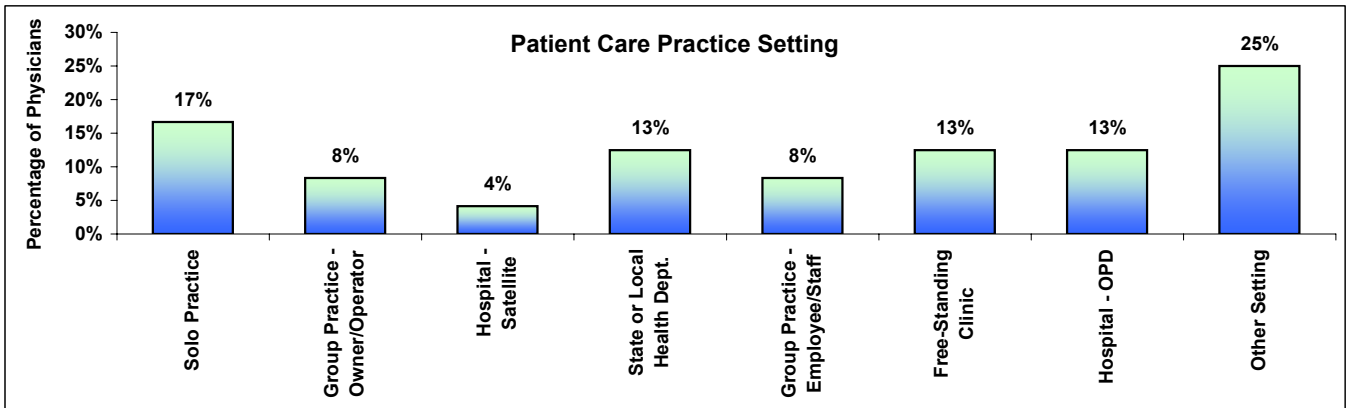
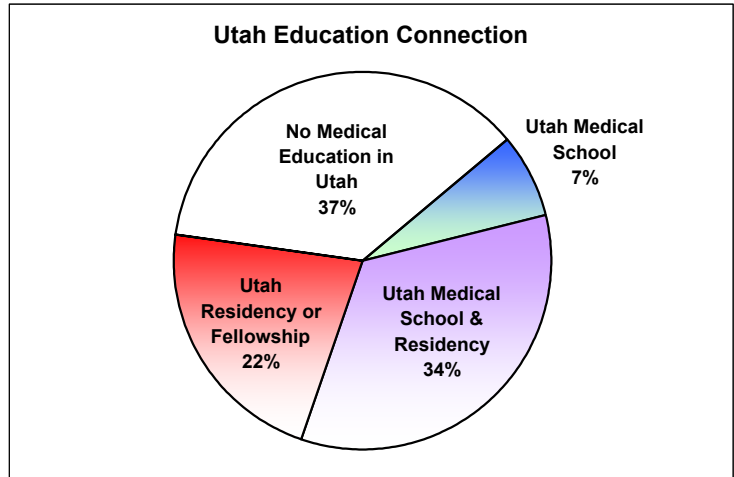
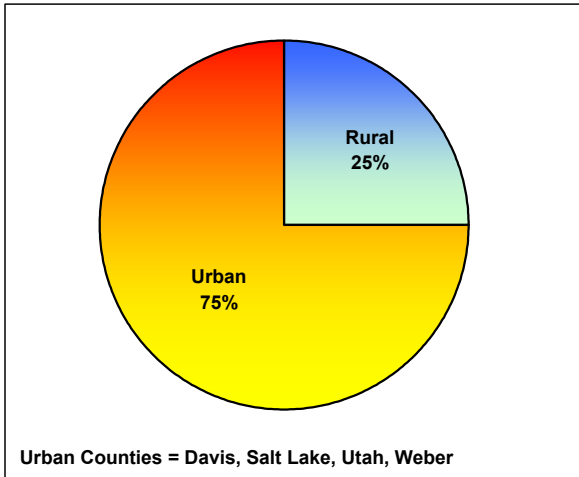
2. In 2003, there were 30 physicians practicing preventive or occupational medicine in Utah. Although this equates to a ratio that 47% below the national average, current data suggest that it is adequate for the state population. The 2003 UMEC survey data showed that approximately 89% of the physicians in this specialty work 50 hours a week or less and see an average of 61 patients per week. In contrast, physicians nationwide saw an average of 63 patients per week (Physician Salary Survey Report 2005, Hospital & Healthcare Compensation Service).

3. To maintain the current capacity, Utah needs to recruit up to 2 physicians per year in this specialty. The University of Utah currently trains 5 residents per year in occupational medicine, but has no residency program for preventive medicine. Of those that graduate from the occupational medicine training program, approximately 33% (2 physicians) remain in Utah practice. Program statistics show that many graduates would like to remain in Utah, however there are limited practice opportunities available in the state. This trend further reinforces the UMEC's assumption that the current supply of physicians in preventive/occupational medicine is adequate for the state population; therefore there is no need to expand training beyond existing levels.



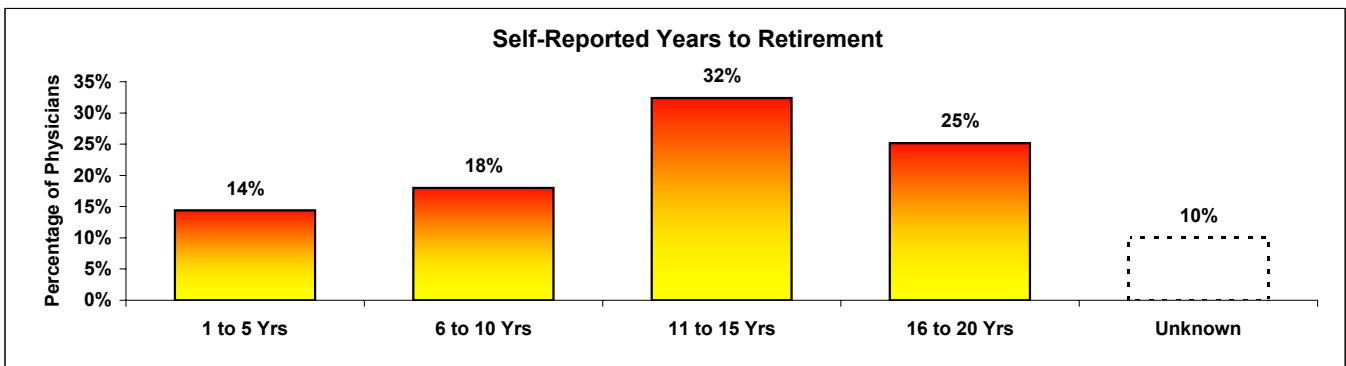
SPECIALTY PROFILE:

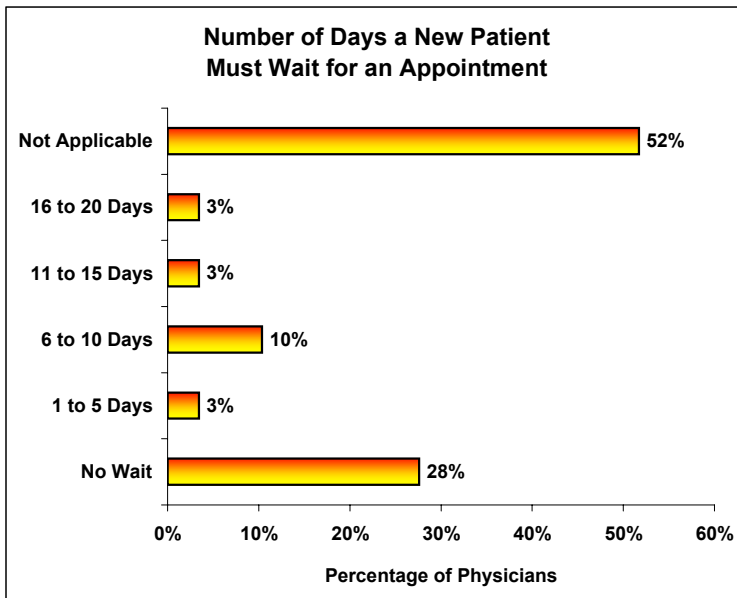
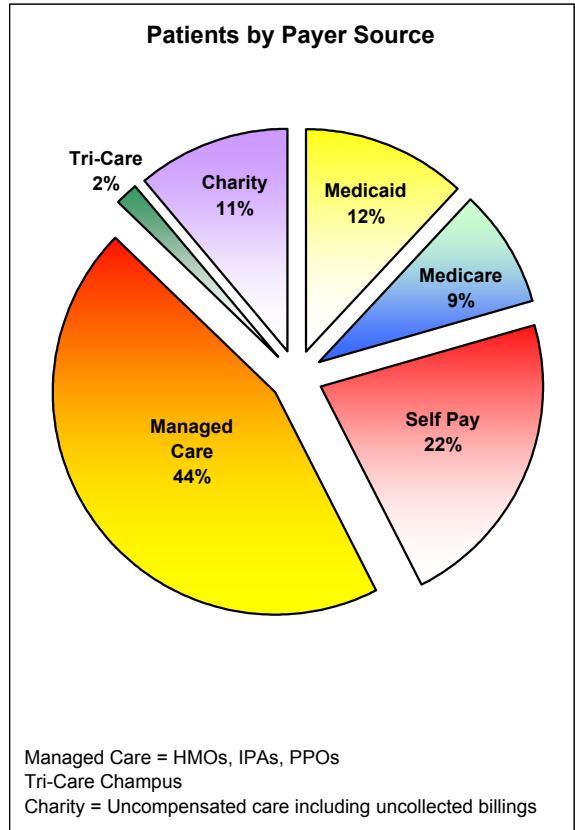
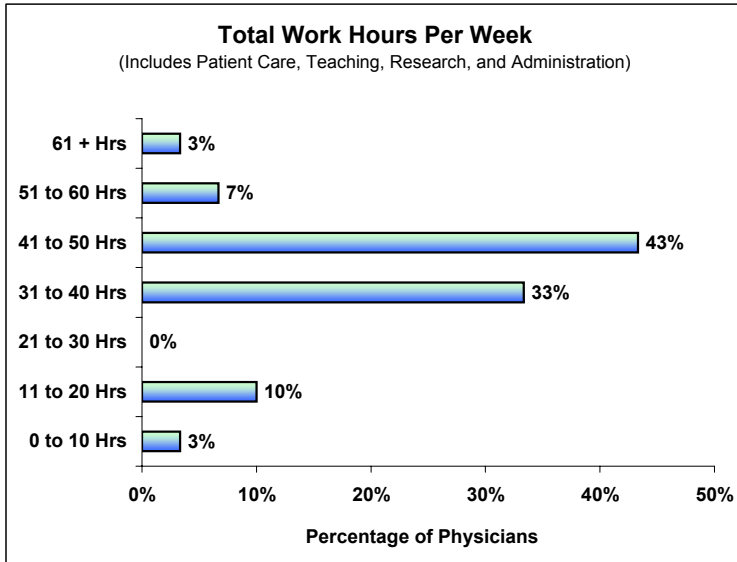
PREVENTIVE / OCCUPATIONAL MEDICINE



Board Certification of Physicians in Preventive Medicine, Public Health, or Occupational Medicine						
Primary Board Certification			Secondary Board Certification			
			Family Practice	Pathology Subs.	Preventative/ Occupational/ Public Health	Other
Preventative/Occupational/ Public Health	17	61%	1	1		1
Family Practice	7	25%			2	
Emergency Care	1	4%			1	
Internal Medicine (General)	1	4%				
Pediatrics Subspecialties	1	4%			1	
Physical Medicine & Rehab	1	4%			1	

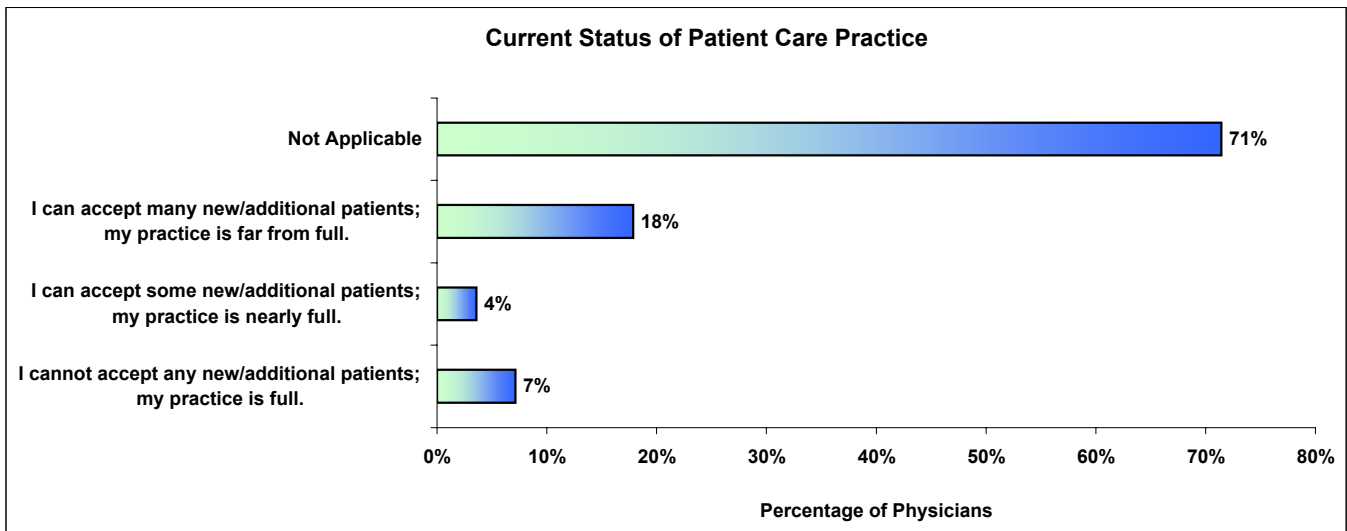
Gross Annual Earnings	
Mean	\$137,105
Median	\$130,000
Mode	\$140,000

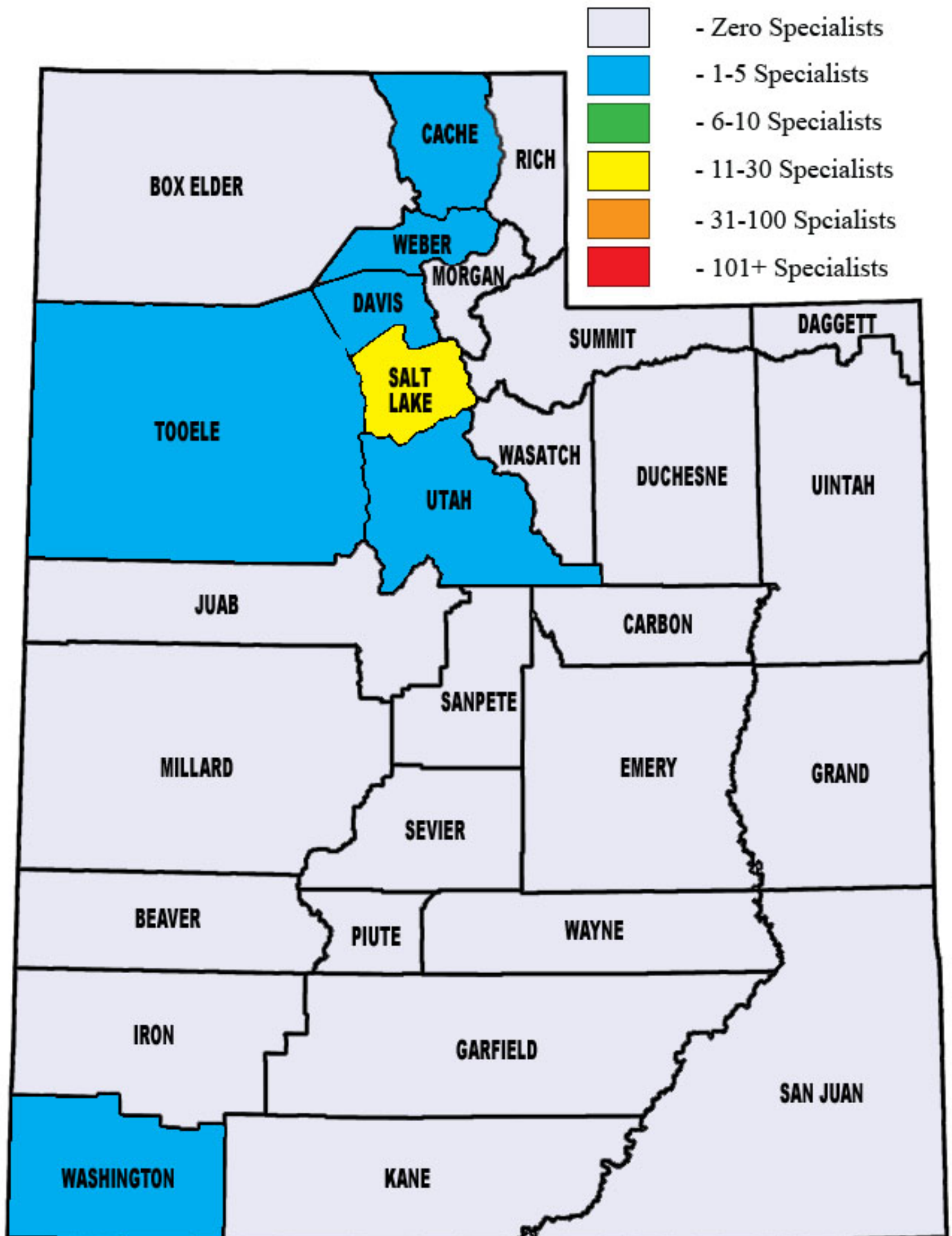


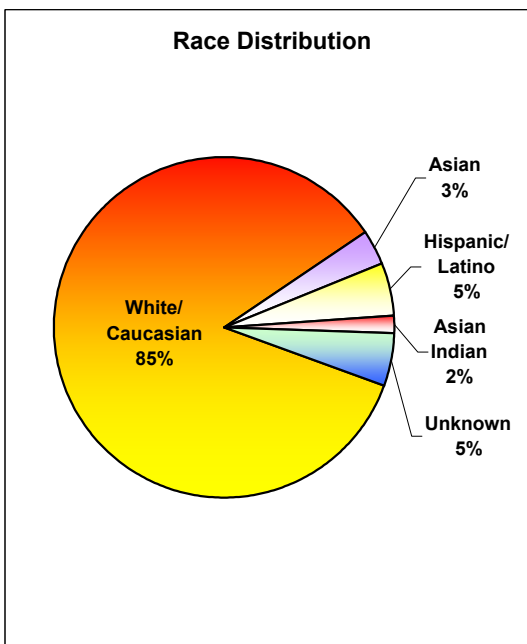
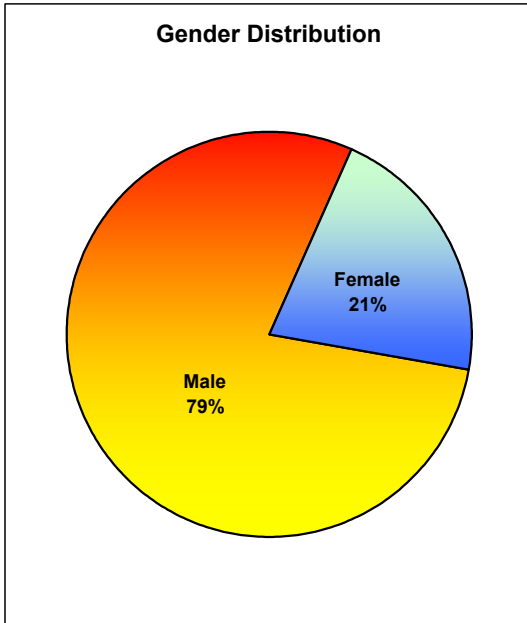


Average Number of Patients Seen Per Week

Out-patients	Office	52
	Urgent Care	8
	ER	0.21
In-patients	Hospital	1
	Nursing Home	0.25







PSYCHIATRISTS: 170 (UMEC estimate)

PSYCHIATRY SUBSPECIALISTS: 11

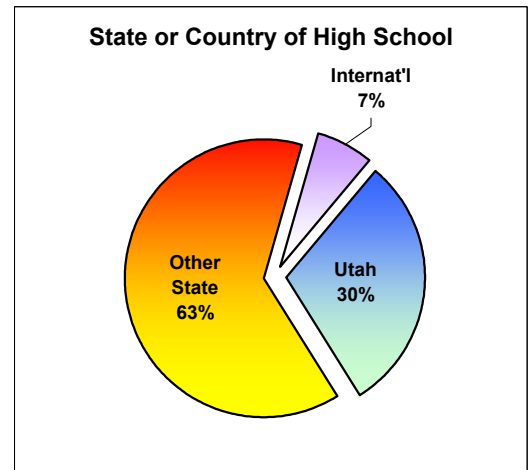
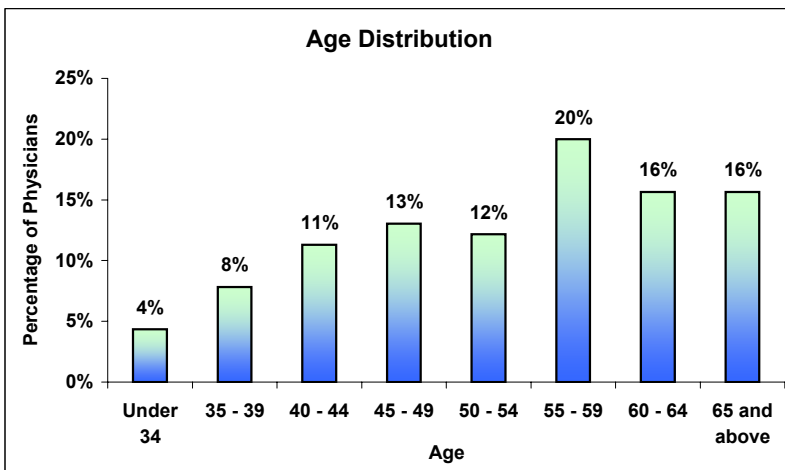
(Addiction: 6, Forensics: 4, Geriatrics: 1)

1. Utah currently has approximately 181 psychiatrists serving the entire state population, most of whom are in urban/suburban areas. This equates to approximately 7.67 psychiatrists per 100,000 population which is significantly below the national average of 13.81 (AMA 2004 estimate).

2. The current supply of psychiatrists is not adequate to serve the number of people suffering from mental illness in Utah. According to a 2003 study conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA), Utah was identified as one of the states with the highest rate of serious mental illness in the nation. In 2003, approximately 10.97% of Utah adults over the age of 18 suffered from serious mental illness, and it is anticipated that this number may be even greater due to the high number of cases that go unreported every year.

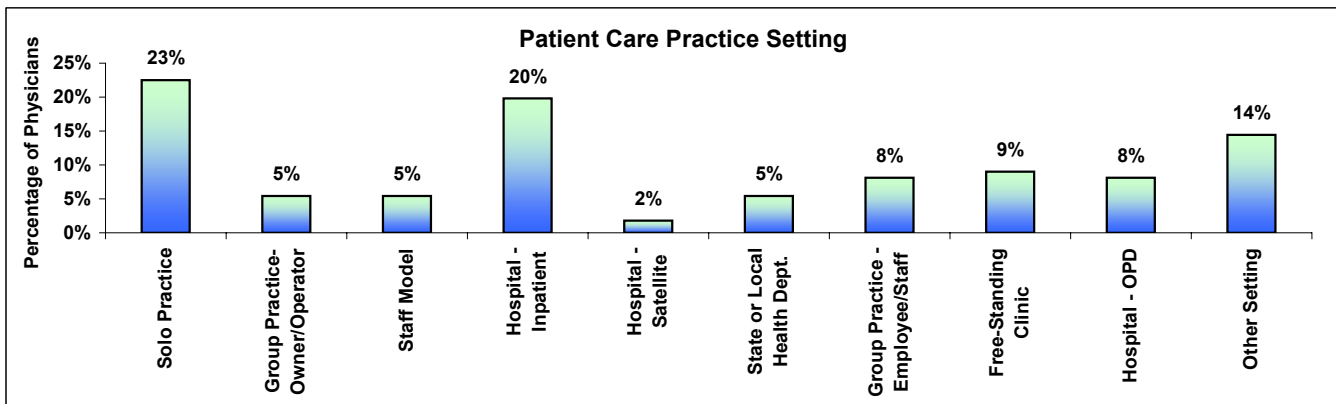
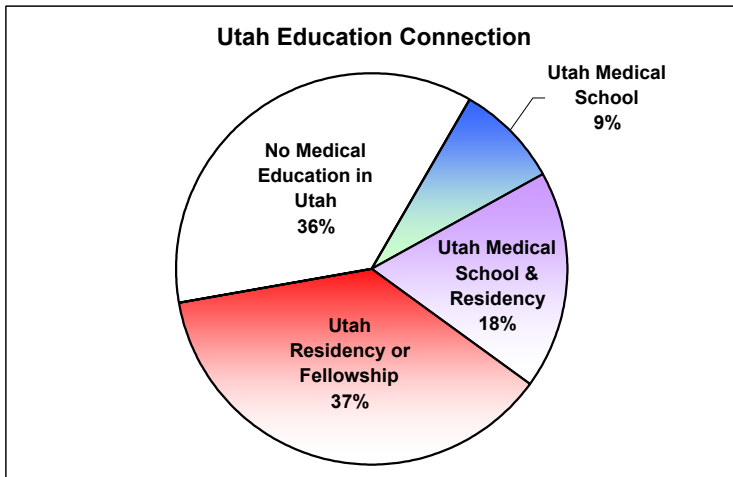
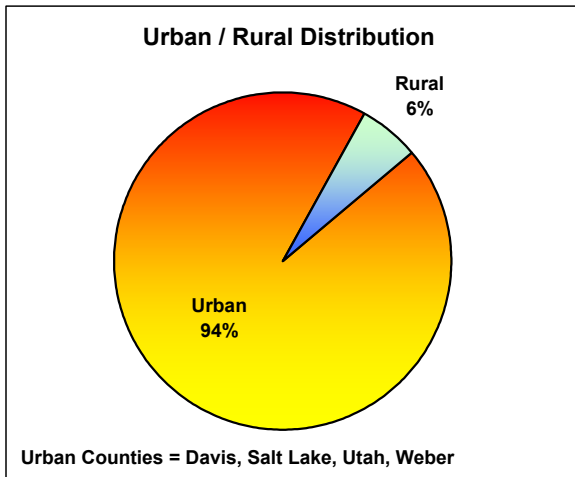
3. The national shortage of psychiatrists makes it difficult to recruit providers to Utah, particularly in rural areas. Currently all 12 mental health districts in the state have reported vacancies. In an attempt to help alleviate the shortage, the Utah psychiatry residency has undergone a program restructuring to require a 30 day rural rotation. However, it has been difficult to maintain due to the lack of faculty and mentors in those areas.

4. To maintain the same level of service, Utah would need to recruit up to 10 psychiatrists per year. However, the rate of mental illness in Utah suggests that the state must significantly increase the ratio of available providers. Currently, the Utah residency program trains 6 residents per year, of which 68% (4 psychiatrists) will remain in Utah practice. This leaves a deficit of 6 physicians that will have to be recruited from the national pool. If current trends continue, the state will experience a severe shortage of psychiatrists in the next 5 to 10 years. Despite high clinical capacity, at this time it will be difficult to expand due to the lack



SPECIALTY PROFILE:

PSYCHIATRY

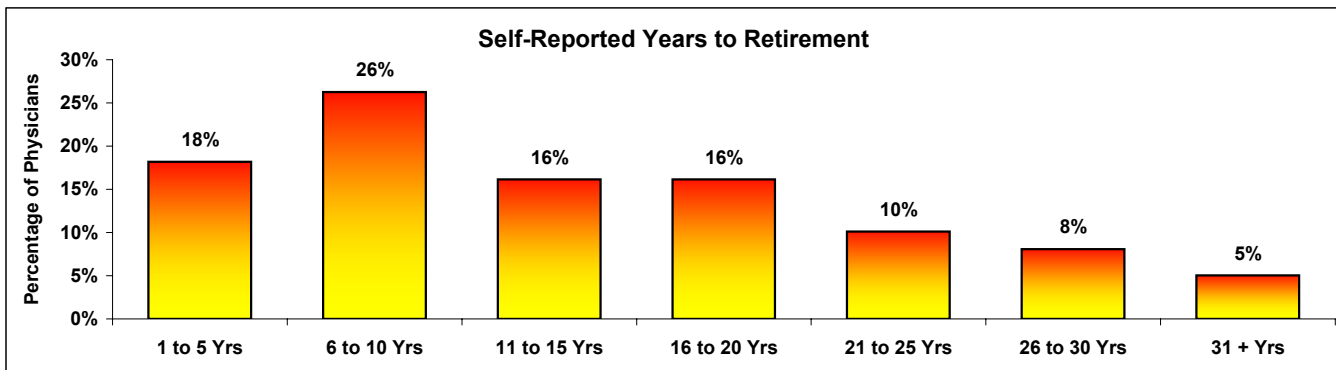


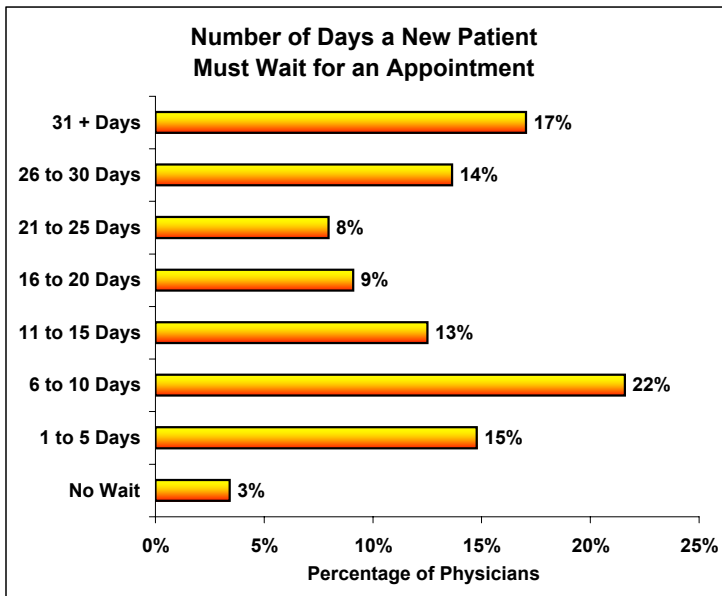
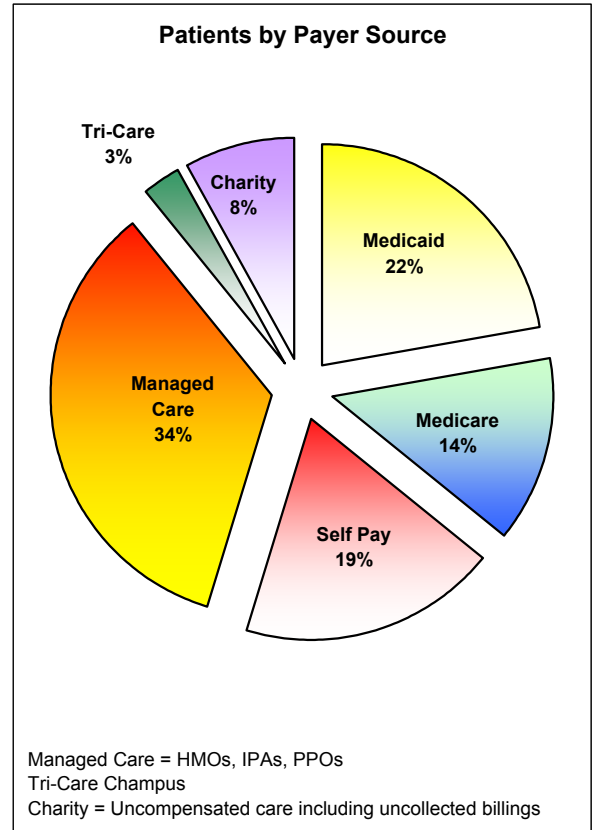
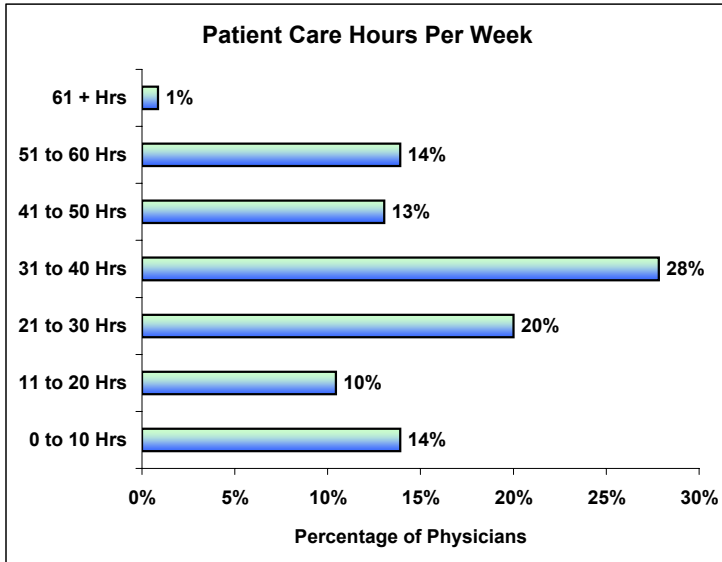
Board Certification of Psychiatrists

Primary Board Certification		Secondary Board Certification		
Psychiatry	140	95%	Family Practice	1
			Geriatrics	1
			Child & Adolescent Psychiatry	19
			Othe Psychiatry Subspecialties	6
			Other Specialty	3
Child & Adolescent Psychiatry	4	3%	Pediatrics (General)	1
			Psychiatry	3
Family Practice	1	1%	Othe Psychiatry Subspecialties	1
Internal Medicine (General)	1	1%	Psychiatry	1
Neurology	1	1%		
N =		147	100%	

Gross Annual Earnings

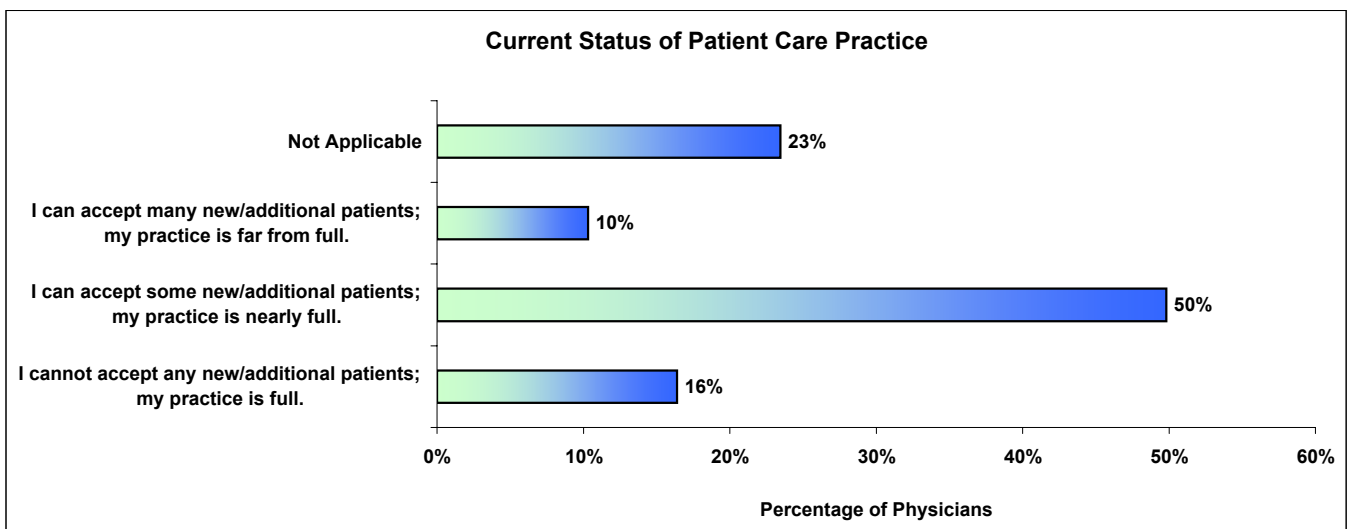
Generalists	
Mean	\$133,750
Median	\$130,000
Mode	\$120,000 \$150,000
Specialist	
Mean	\$144,857
Median	\$160,000
Mode	\$175,000

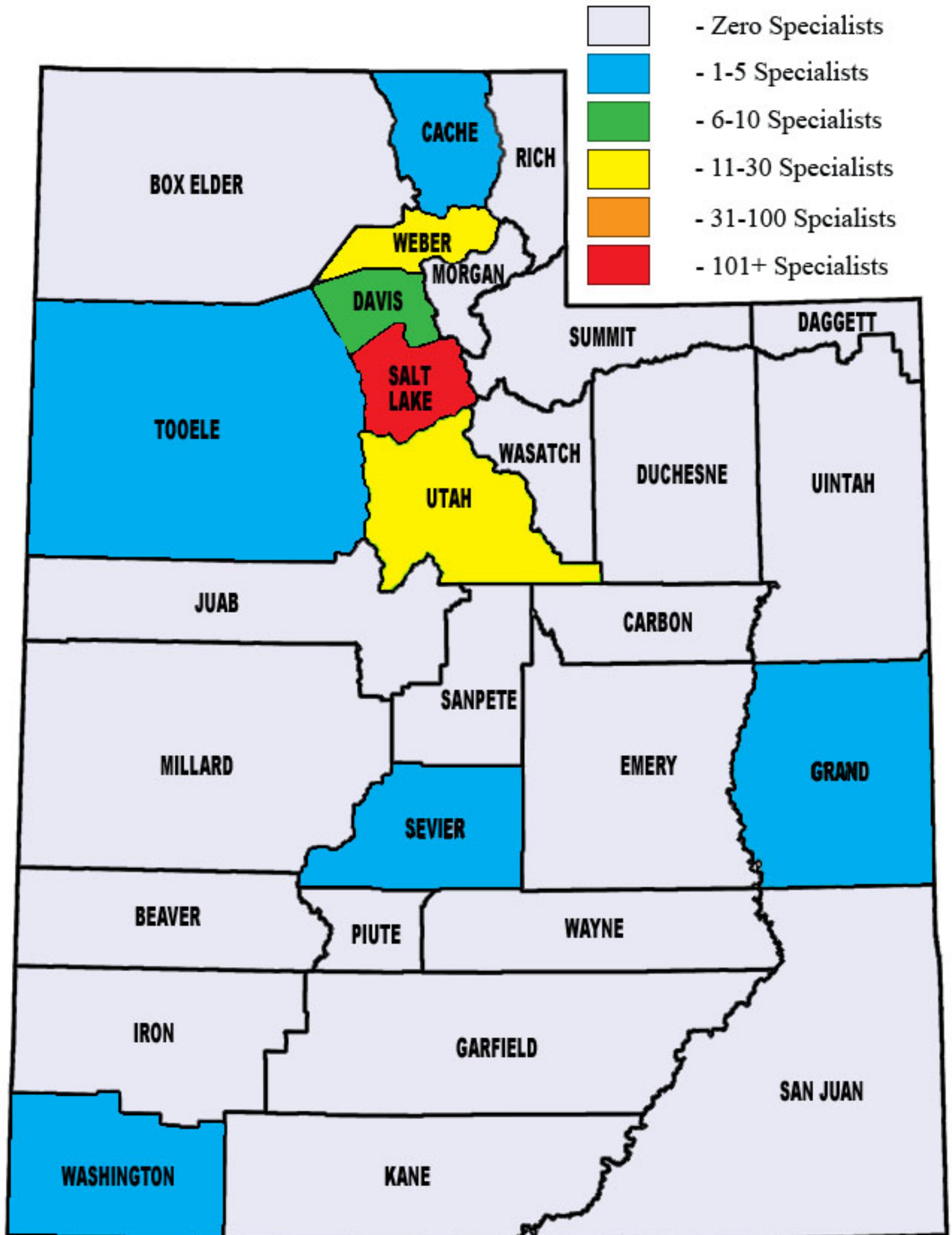


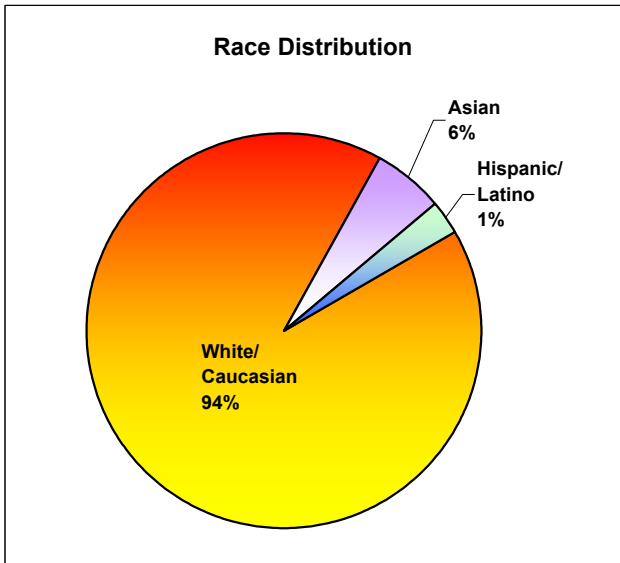
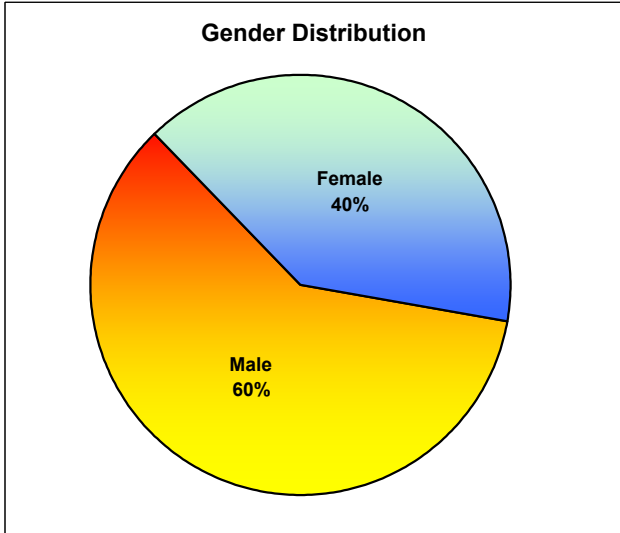


Average Number of Patients Seen Per Week

Out-patients	Office	34
	Urgent Care	0.2
	ER	1
In-patients	Hospital	7
	Nursing Home	1





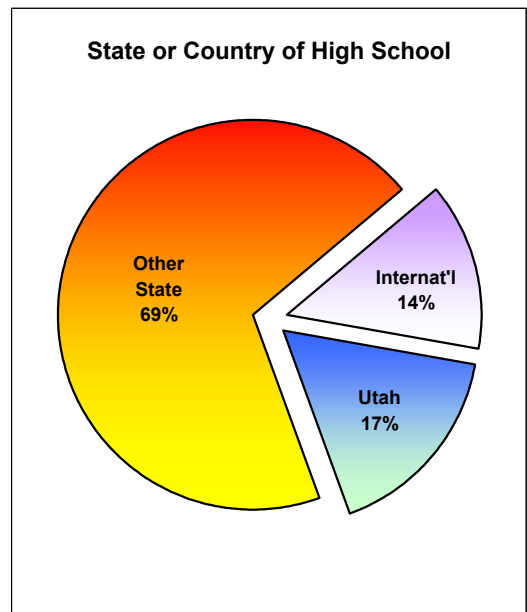
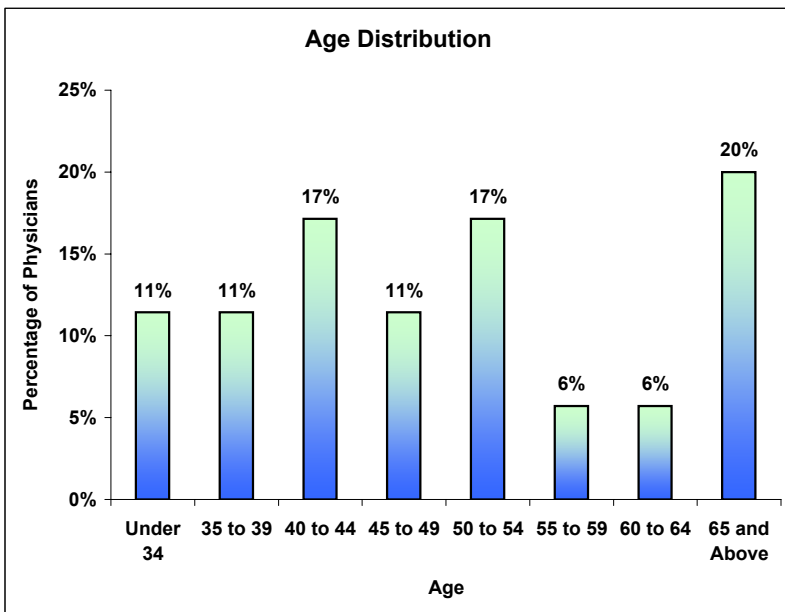


CHILD PSYCHIATRISTS: 36 (UMEC Estimate)

1. The American Academy of Child & Adolescent Psychiatry recommends a physician to population ratio of 6 to 7 per 100,000 population under 18. During that same time period, Utah had a ratio of 5.03 child psychiatrists per 100,000 which is significantly below the recommended ratio as well as regional (6.51) and national (8.67) averages. Since that time, the ratio has slipped even further below recommended guidelines. To bring the state ratio up to national standards, Utah would have to recruit 9 to 15 child psychiatrists to the workforce.

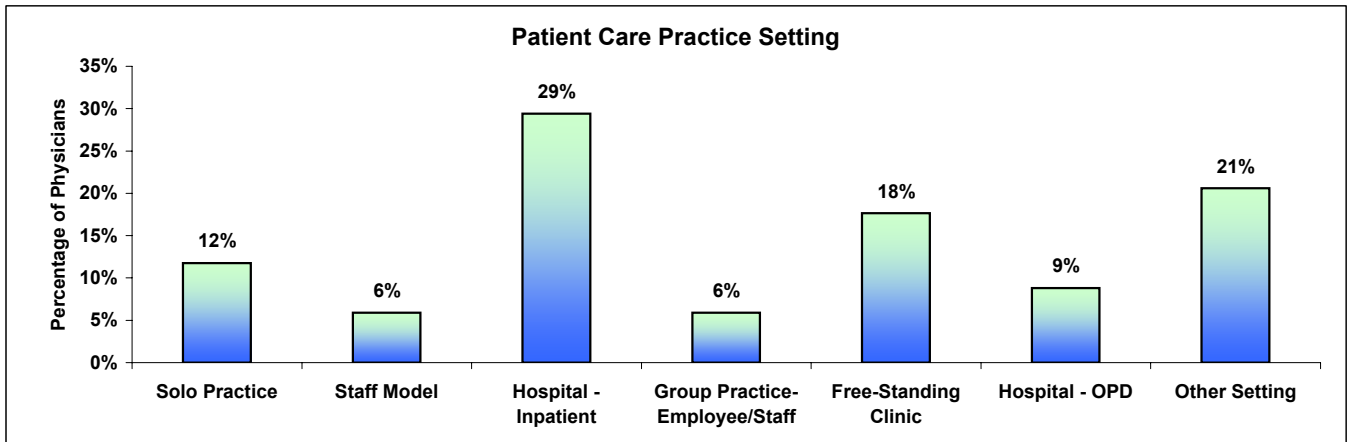
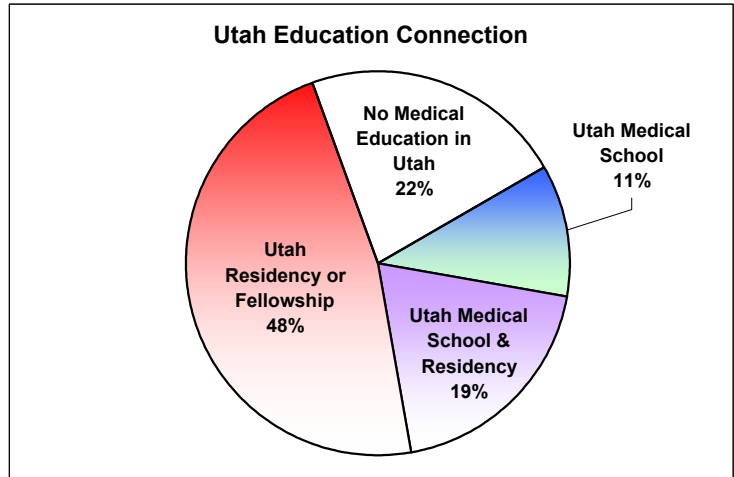
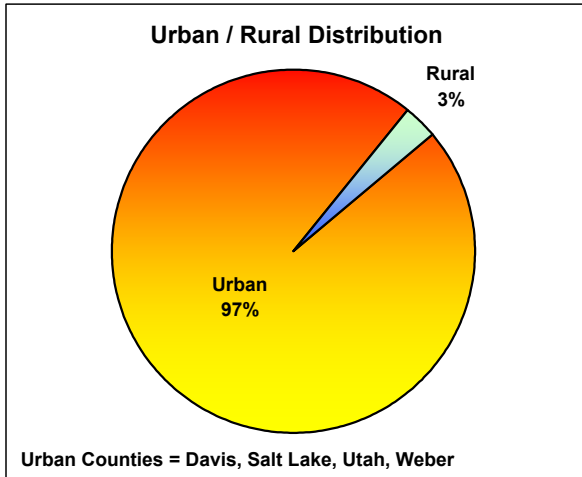
2. To maintain current capacity, Utah needs to recruit 2 child psychiatrists to the workforce each year. The University of Utah currently trains 2 residents per year in child & adolescent psychiatry and 1 resident per year in triple board (program that combines pediatrics, general psychiatry, and child & adolescent psychiatry curriculum). However, they are only able to retain 50% of their program graduates in Utah, i.e. 1.5 child psychiatrists per year. This is not enough to replace the number of child psychiatrists exiting the workforce or to service the demand of the pediatric population.

3. At this time, there is enough clinical capacity to expand resident training beyond current levels, however funding constraints have made it difficult to accommodate the excess capacity. Current resources allow for the training of only 4 child & adolescent residents and 3 triple board residents (total program size), which is the minimum number of residents required by the RRC to maintain the residency program.



SPECIALTY PROFILE:

CHILD & ADOLESCENT PSYCHIATRY

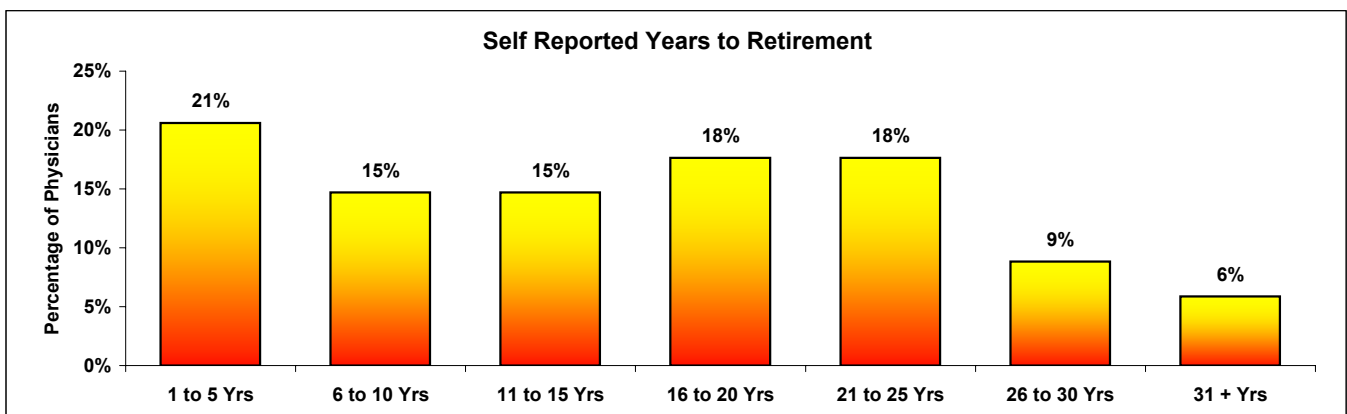


Board Certification of Child & Adolescent Psychiatrists

Primary Board Certification	Secondary Board Certification			
	Pediatrics (General)	Pediatrics Subs.	Psychiatry	Child & Adolescent Psychiatry
Child & Adolescent Psychiatry	10	30%	1	4
Psychiatry	18	55%	1	13
Family Practice	1	3%		
Pediatrics (General)	4	12%	2	2
N = 33		100%		

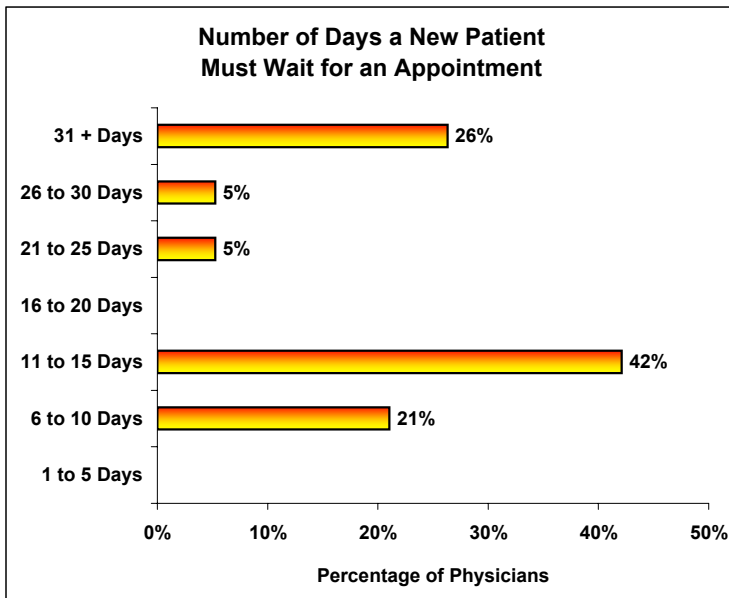
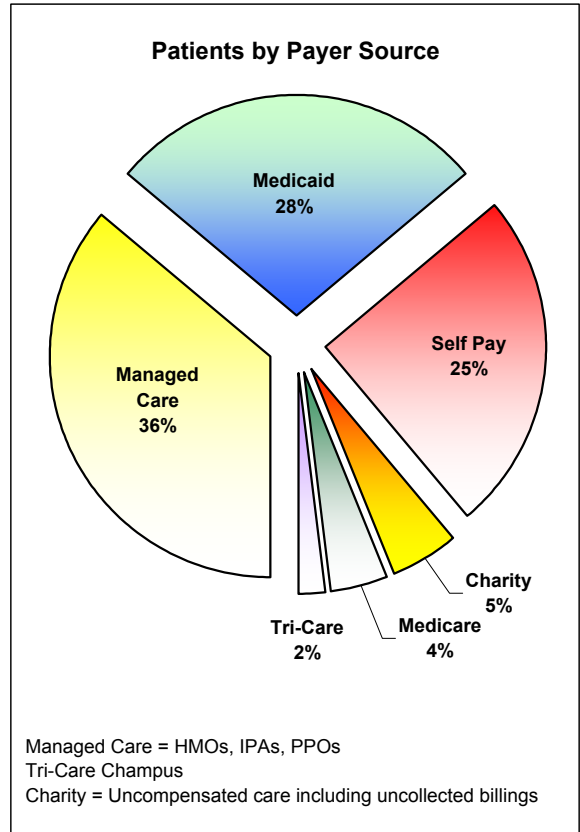
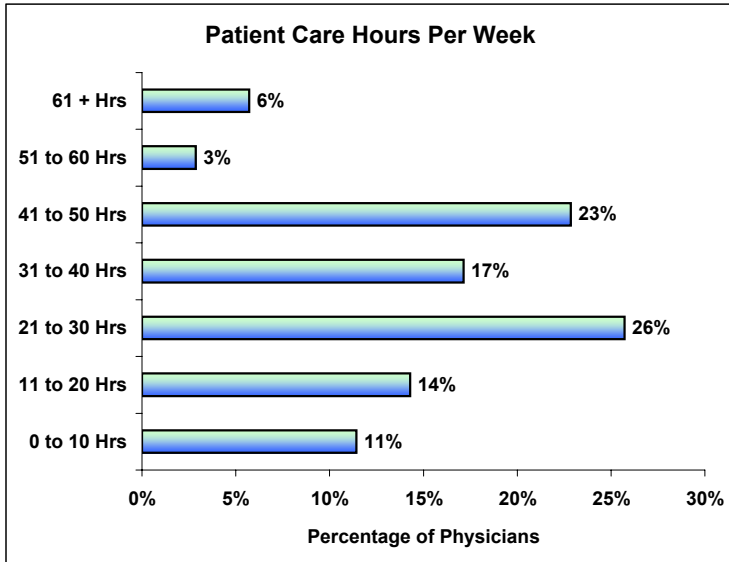
Gross Annual Earnings

Mean	\$124,485
Median	\$131,500
Mode	\$150,000



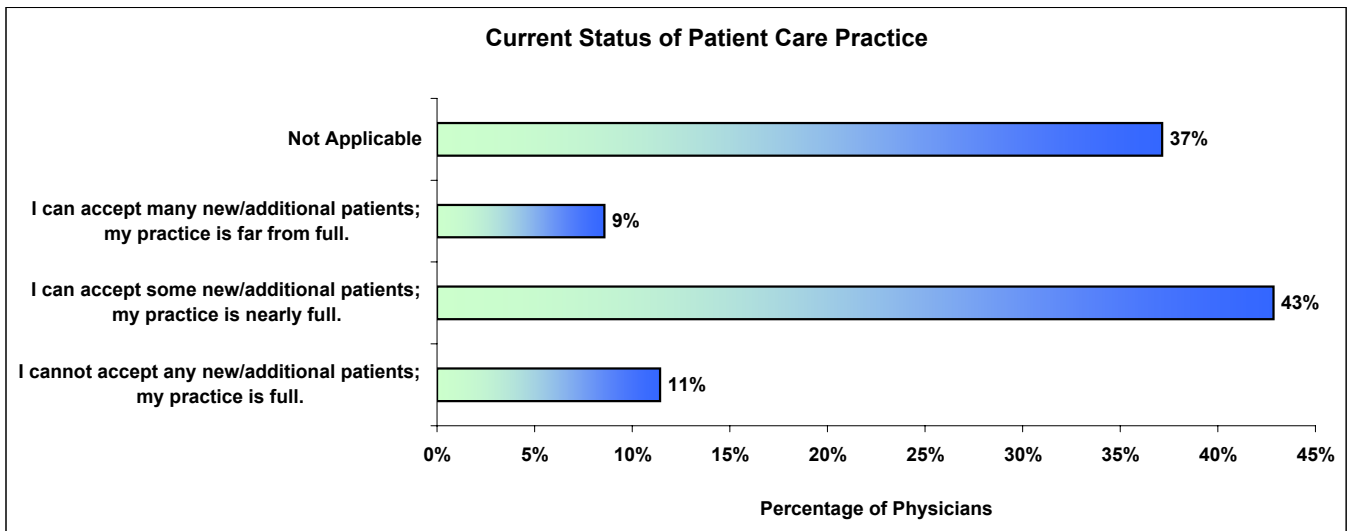
SPECIALTY PROFILE:

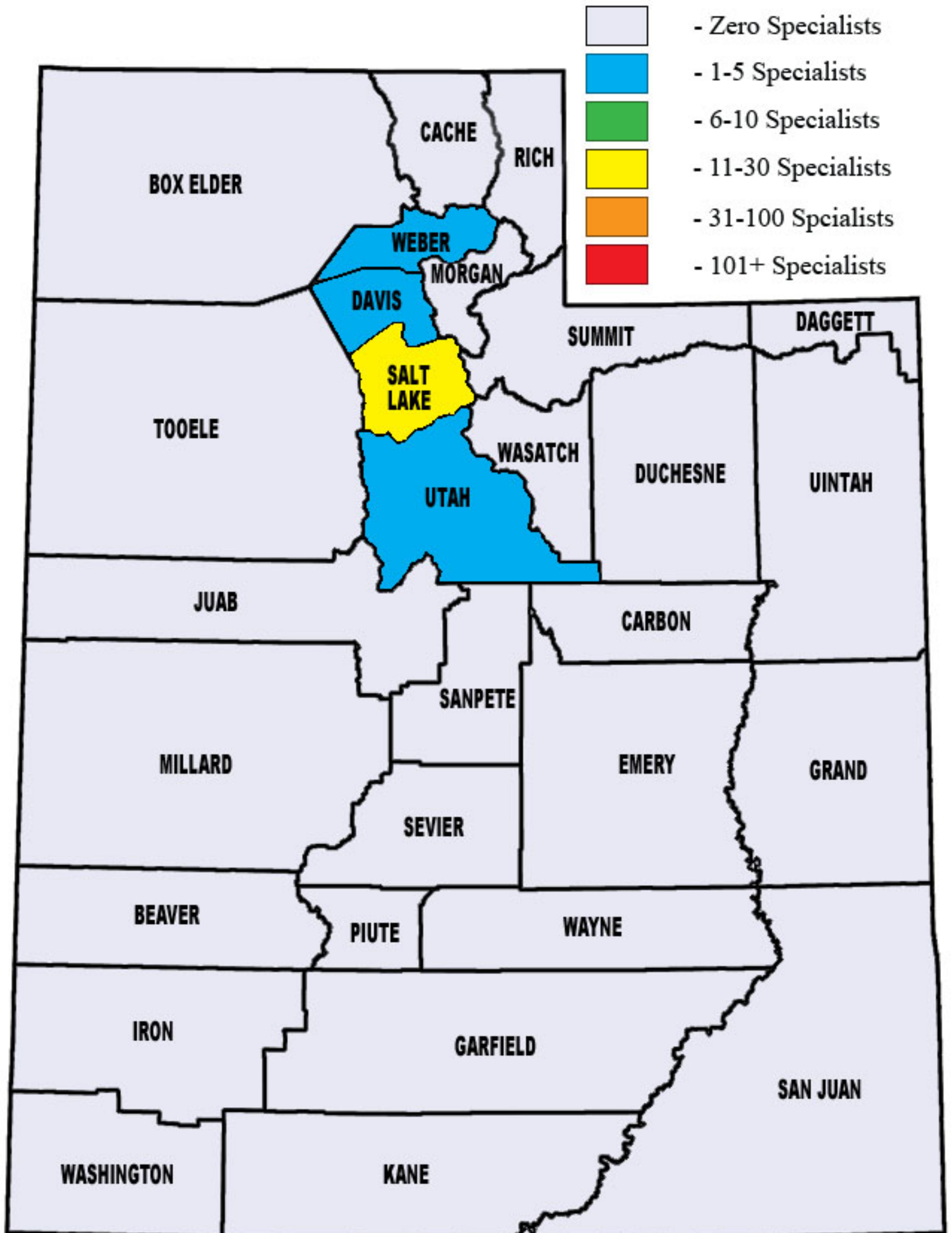
CHILD & ADOLESCENT PSYCHIATRY

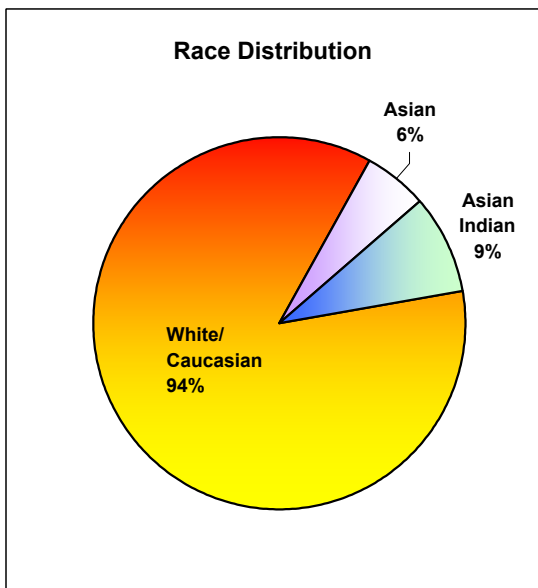
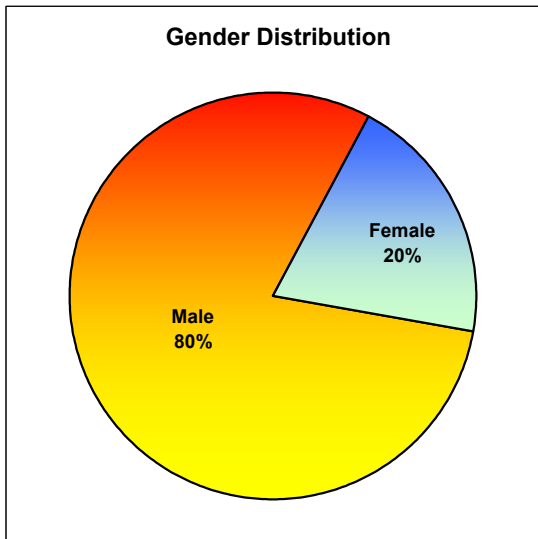


Average Number of Patients Seen Per Week

Out-patients	Office	22
	Urgent Care	0.3
	ER	0
In-patients	Hospital	12
	Nursing Home	0







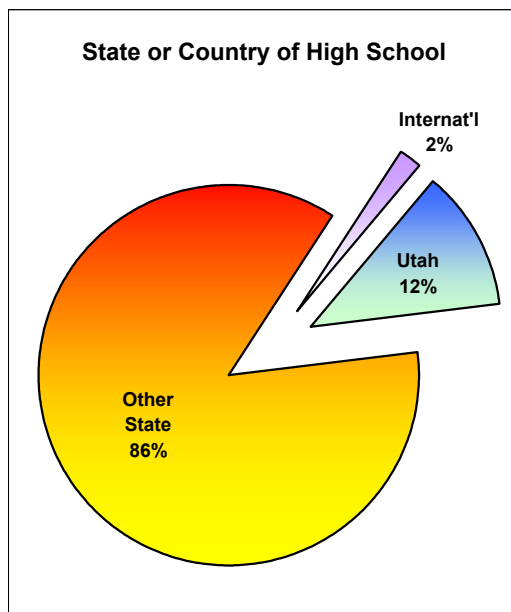
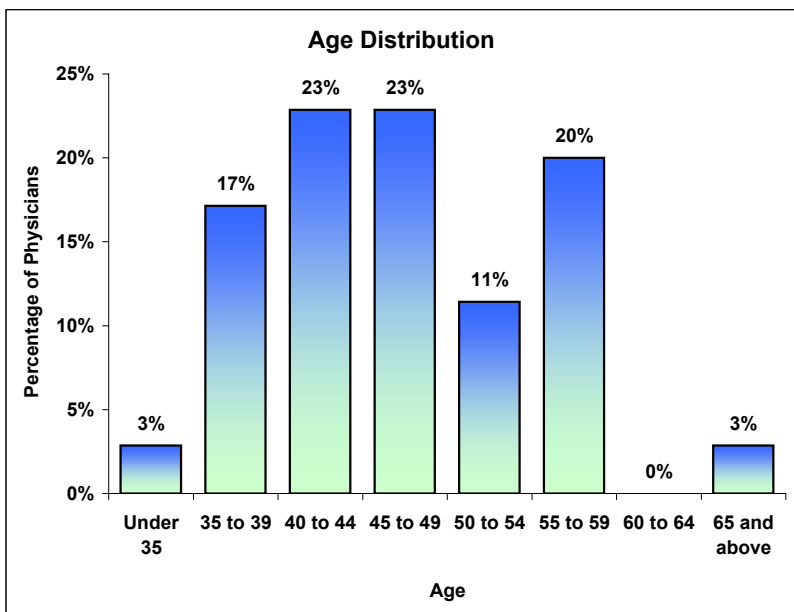
PULMONARY DISEASE: 57 (AMBS Estimate)

1. In 1997, the AMA reported that there were 8,080 pulmonary disease specialists in the United States for a ratio of 3.0 per 100,000 population. By 2004, the number of pulmonologists increased by 23%, bringing the ratio up to 3.38, however the percentage of retiring pulmonologists and aging of the U.S. population has accelerated demand for this specialty leading to a national shortage of providers.

2. In an attempt to understand the pulmonary and critical care workforce, the American College of Chest Physicians, American Thoracic Society, and Society of Critical Care Medicine formed the Committee on Manpower for Pulmonary and Critical Care Societies (COMPACCS). The committee conducted a three year study and found that the supply and demand of pulmonologists was in equilibrium between 1997-1999. However, shortages were predicted to emerge and were anticipated to be as high as 35% by 2020, and 46% by 2030 (Angus, et al.).

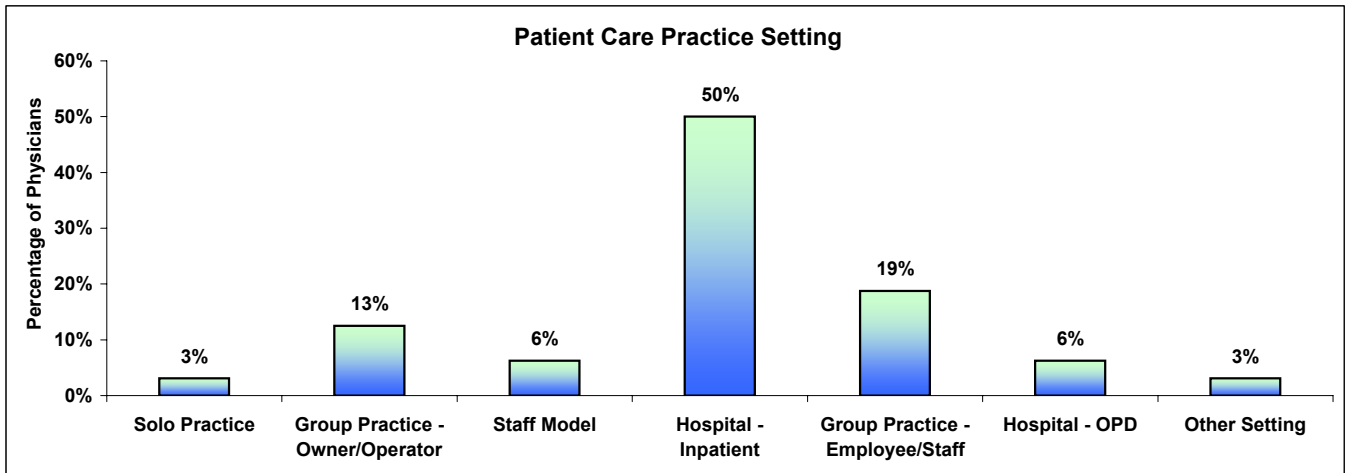
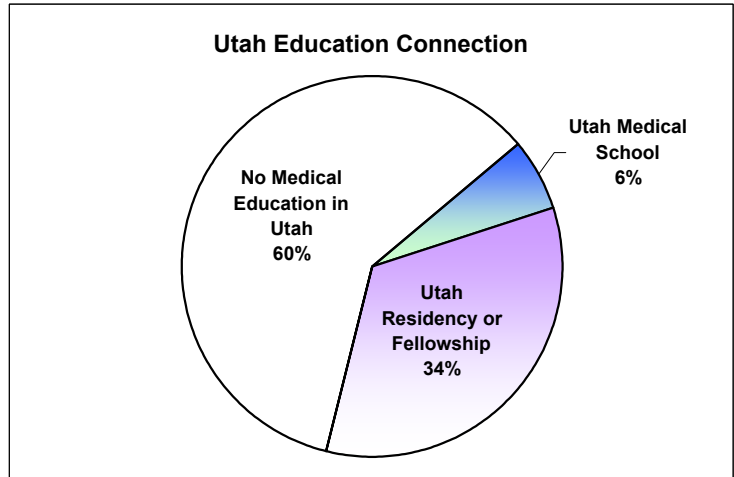
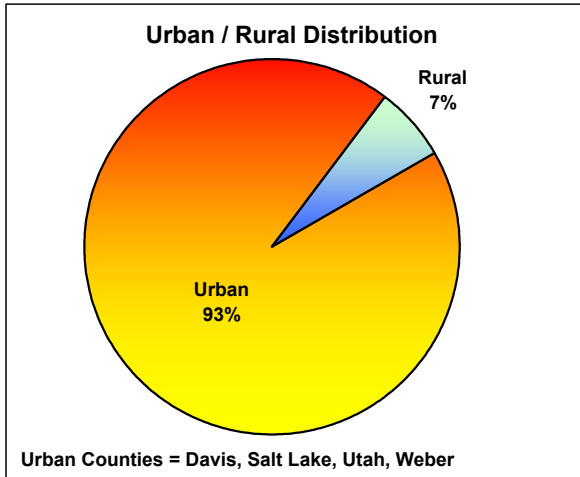
3. In 2003, there were 57 pulmonologists in Utah for a ratio of 2.42 per 100,000 population--28% below the national average. Current data suggest that this is not enough to meet statewide demand for pulmonary services. The UMEC survey data showed that in 2003, 59% of Utah pulmonologists reported that their practices were full or nearly full and 33% indicated wait times of 26 days or greater for their new patients. In addition, over 56% of the state's providers plan on retiring in less than 15 years.

4. To maintain the current level of service, Utah would need to recruit at least 3 pulmonologists per year. However, evidence suggests that there is a clinical need to expand capacity beyond current levels. Due to the healthy demographics of the state, the UMEC suggests a workforce expansion of roughly 30% to bring the state ratio closer to the 1997 U.S. equilibrium ratio of 3.0 per 100,000 population.



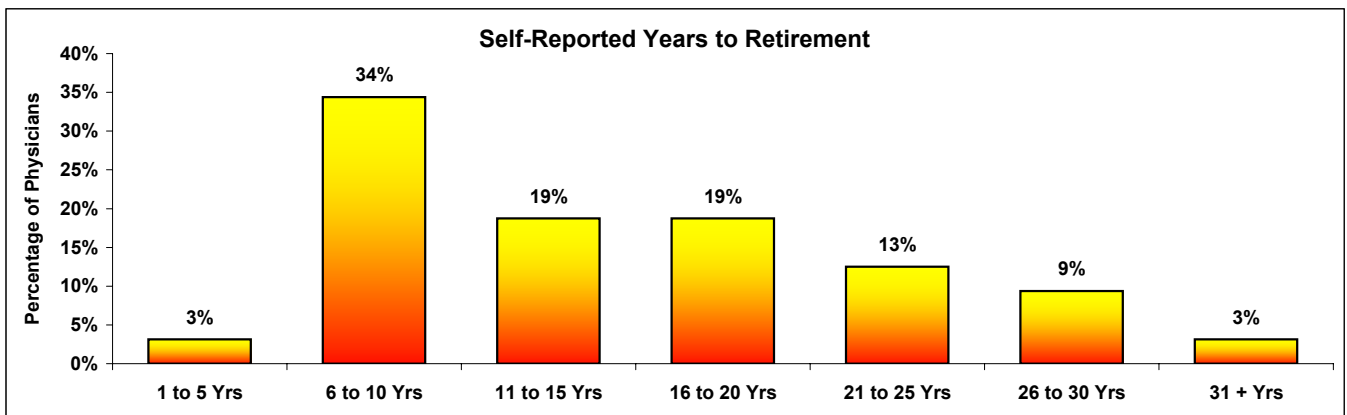
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - PULMONARY DISEASE



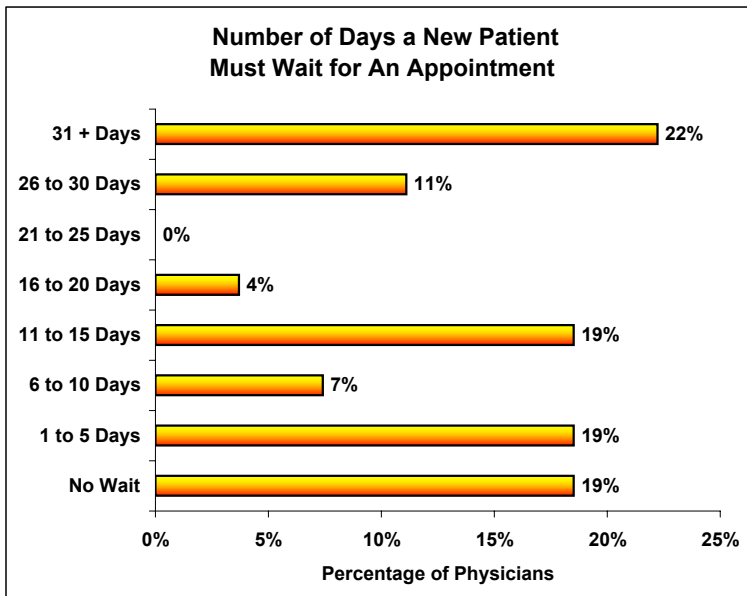
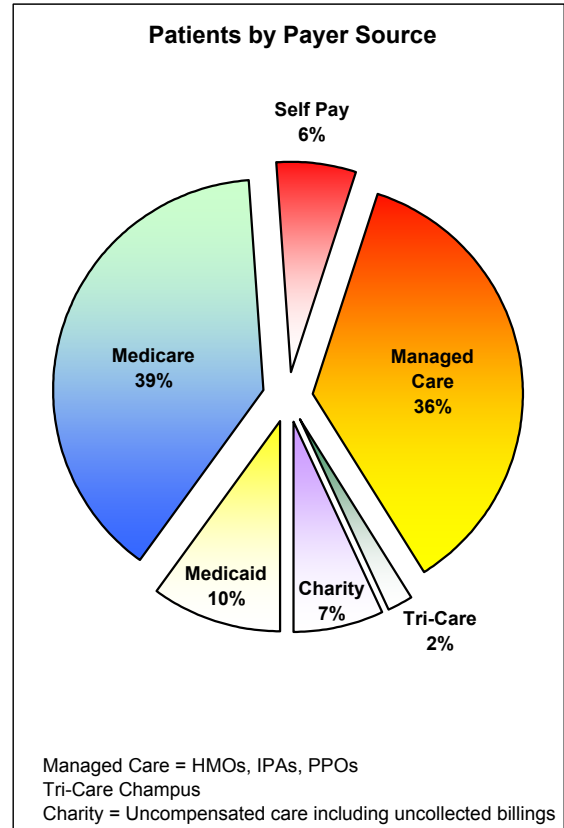
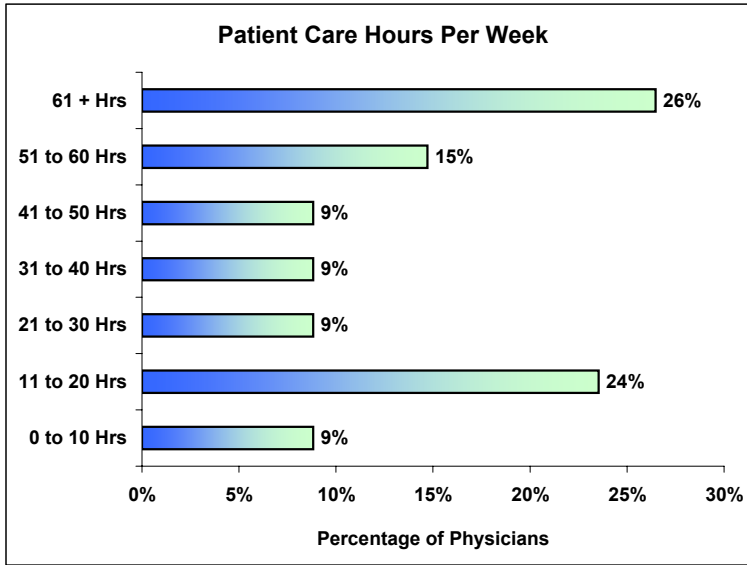
Board Certification of Physicians in Pulmonary Disease / CCM					
Primary Board Certification			Secondary Board Certification		
			Internal Medicine (General)	Critical Care Medicine	Pulmonary Diseases
Internal Medicine (General)	44	90%	0	4	39
Pulmonary Diseases	4	8%	1	0	0
Other Specialty	1	2%	0	0	1
N =			49	100%	

Gross Annual Earnings		
Mean	Median	Mode
\$186,000	\$160,000	\$200,000



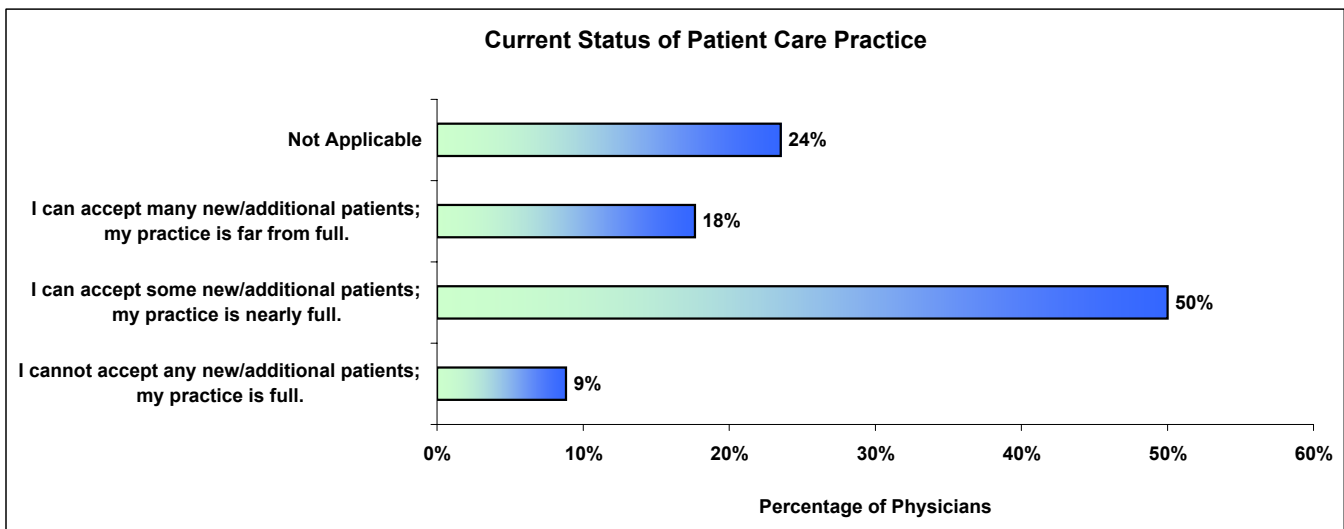
SPECIALTY PROFILE:

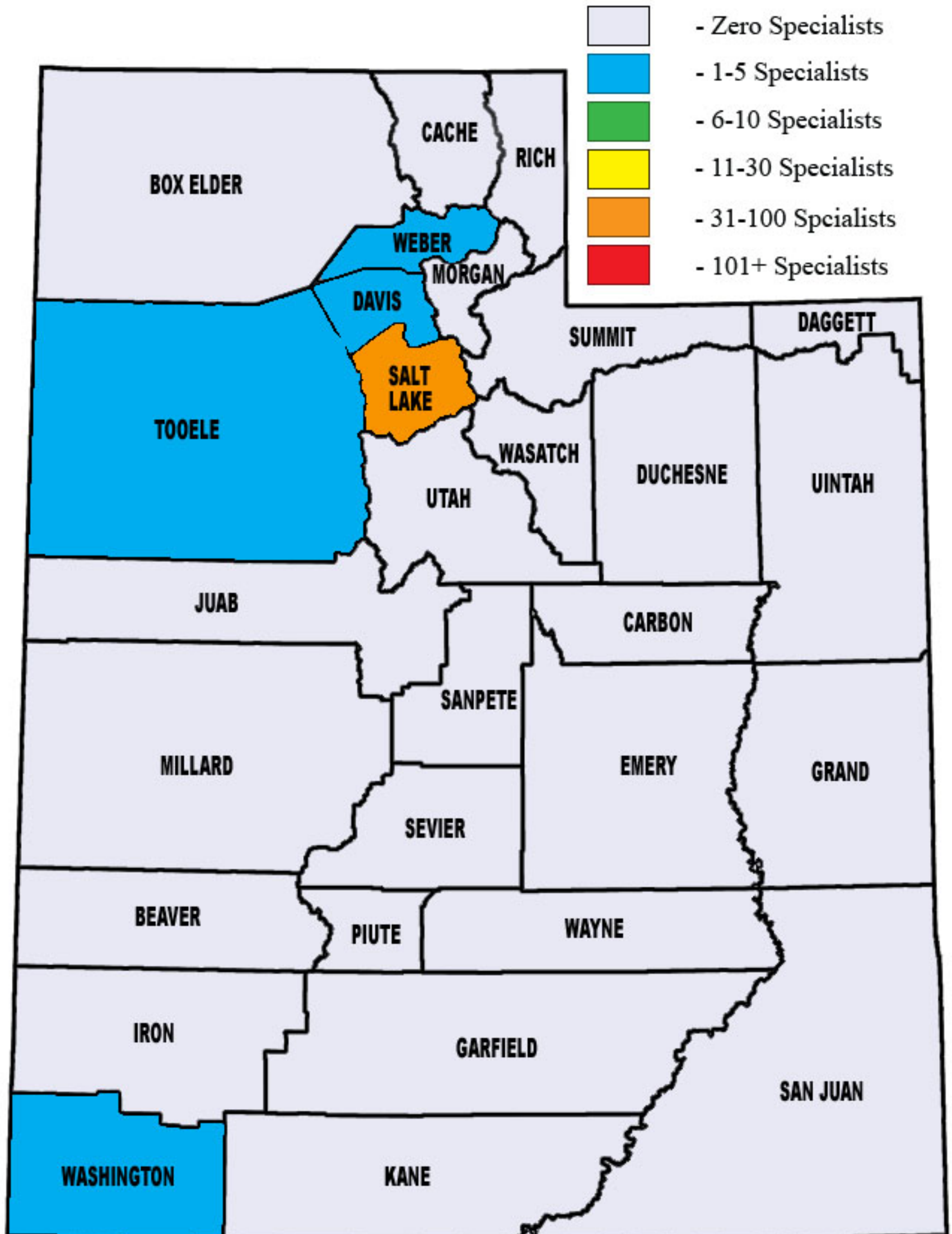
I.M. SUBSPECIALTY - PULMONARY DISEASE



Average Number of Patients Seen Per Week

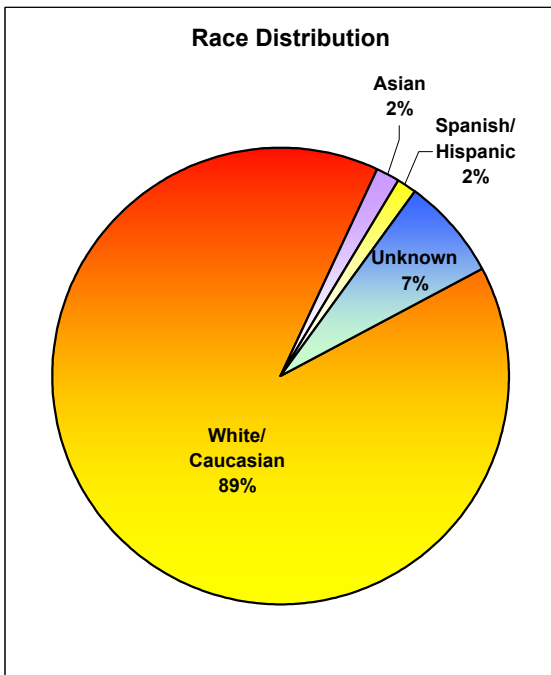
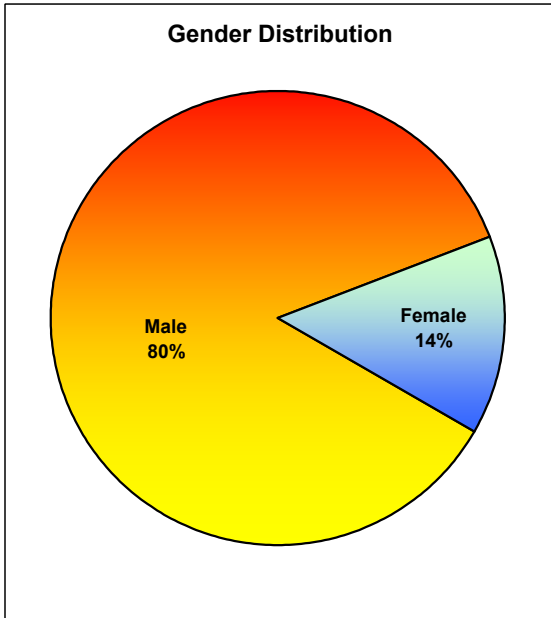
Out-patients	Office	28
	Urgent Care	2
	ER	0.09
In-patients	Hospital	31
	Nursing Home	0.03





SPECIALTY PROFILE:

RADIOLOGY (DIAGNOSTIC)



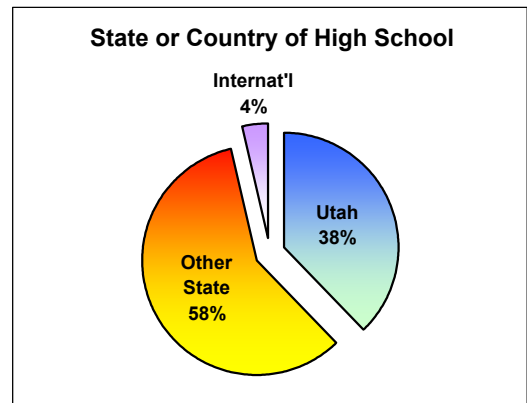
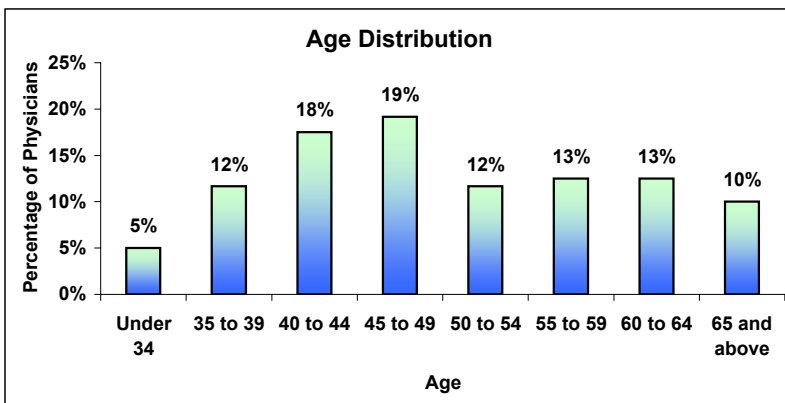
RADIOLOGISTS: 182 (UMEC Estimate)

1. In 2001, the AMA reported that the U.S. had approximately 21,401 diagnostic radiologists for a ratio of 7.52 per 100,000 population. At that time, the American College of Radiology (ACR) feared that the this supply would not be enough to keep up with growing demand for radiology procedures. Earlier projections showed that demand would outpace supply by 1.5% to 3% every year possibly leading to a national shortage in diagnostic radiology.

2. Concern over a radiology shortage required vigilant monitoring of workforce, thus prompting the 2003 Survey of Radiologists by the ACR. Surprisingly, survey results showed a balance in the supply and demand of diagnostic radiologists, and a 34% increase from 2001 to 2005 in the number of graduates taking the radiology board exam. In addition, there has also been an increase in the number of radiologic technicians. In 2005, the American Society of Radiologic Technicians (ASRT) reported a 1.5% decrease in the number of vacancies for radiation therapy, and a 44% increase in the number people certified in radiation therapy.

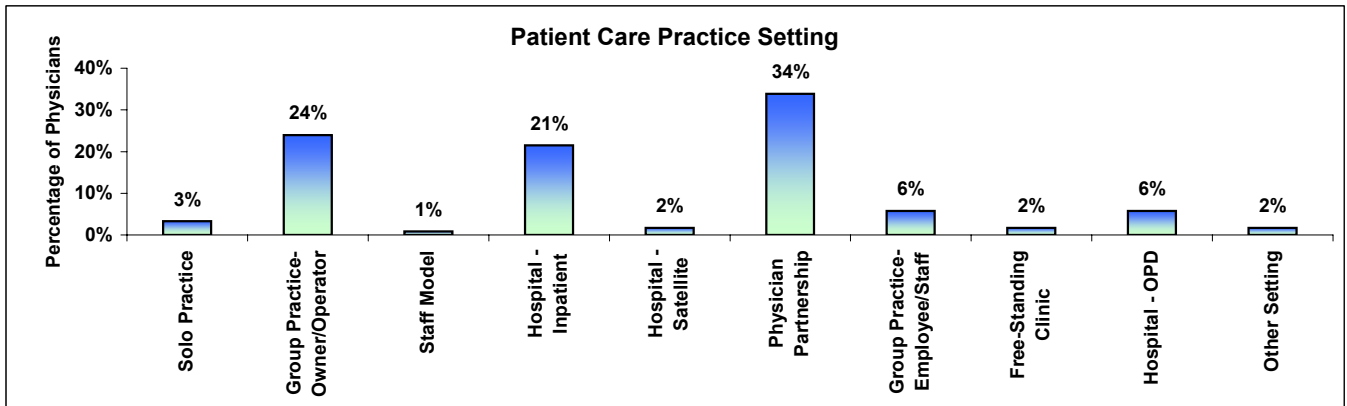
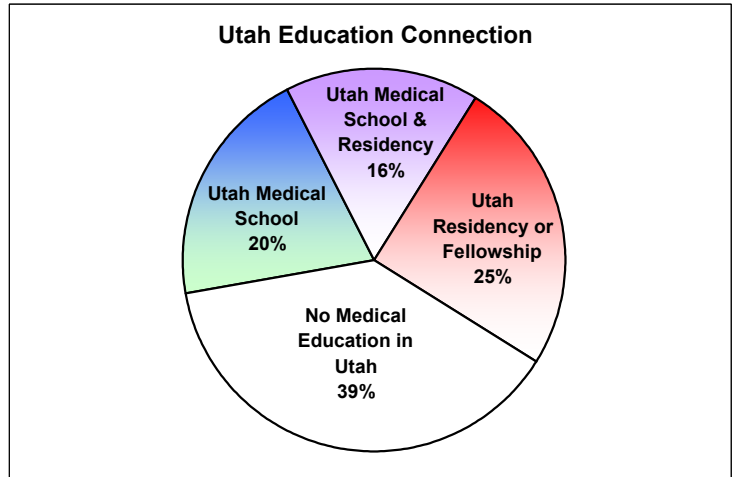
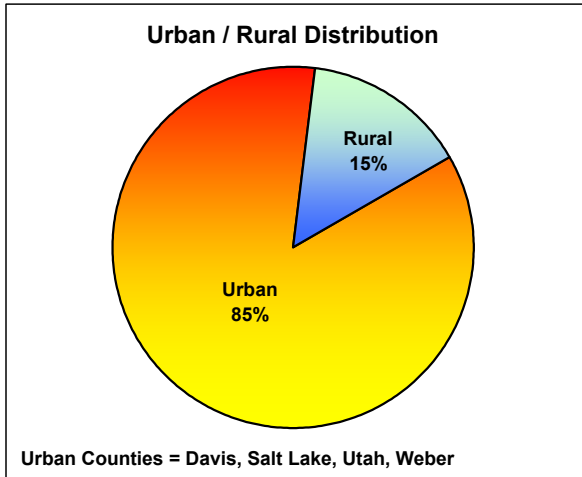
3. There is increasing acknowledgement that the radiologist shortage may be easing, except in area of academic radiology. In 2004, the AMA reported that the U.S. had approximately 24,308 diagnostic radiologists for a ratio of 8.28 per 100,000 population which is deemed adequate for the current population.

4. In 2003, Utah had approximately 182 diagnostic radiologists for a ratio 7.72 per 100,000 population. Although this is below the national average, anecdotal data suggest that it is sufficient for the state population. To maintain the current capacity, Utah would need to recruit up to 10 radiologists per year, only 3 of which will come from the state training program. At this time, it will be difficult to limit Utah's reliance upon the national pool due to the limited number of faculty members available to expand the state residency program. If resources were to be allocated towards radiology, the UMEC highly recommends increased emphasis on academic radiologists as this is an area of great need in both the national and local market.



SPECIALTY PROFILE:

RADIOLOGY (DIAGNOSTIC)

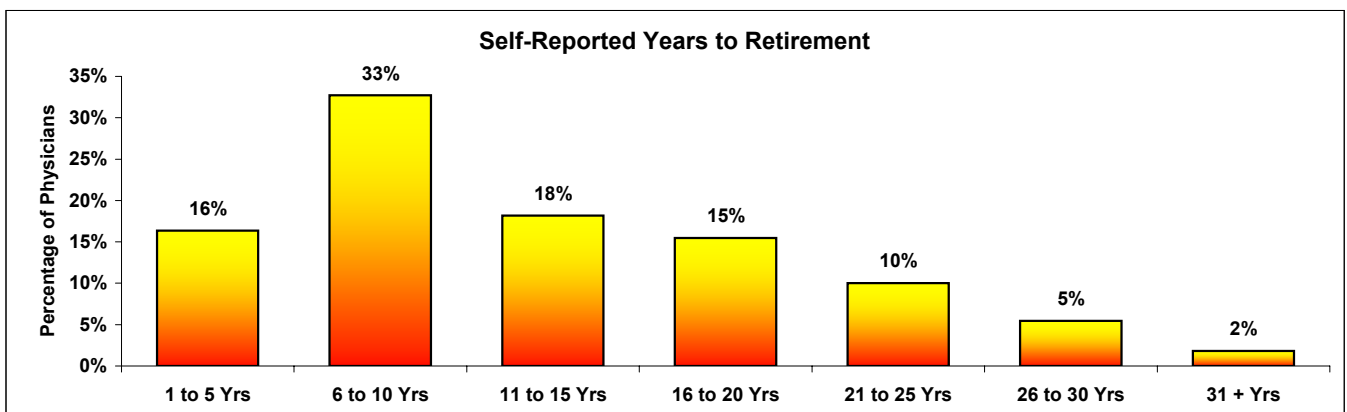


Board Certification of Radiologists

Primary Board Certification			Secondary Board Certification	
Radiology (Diagnostic)	152	99%	Internal Medicine (General)	1
			Nuclear Medicine	13
			Pediatrics Subspecialties	1
			Radiology (Therapeutic)	3
			Neurological Surgery	1
			Radiology	1
Pediatrics Subspecialties	1	1%		
N = 153			100%	

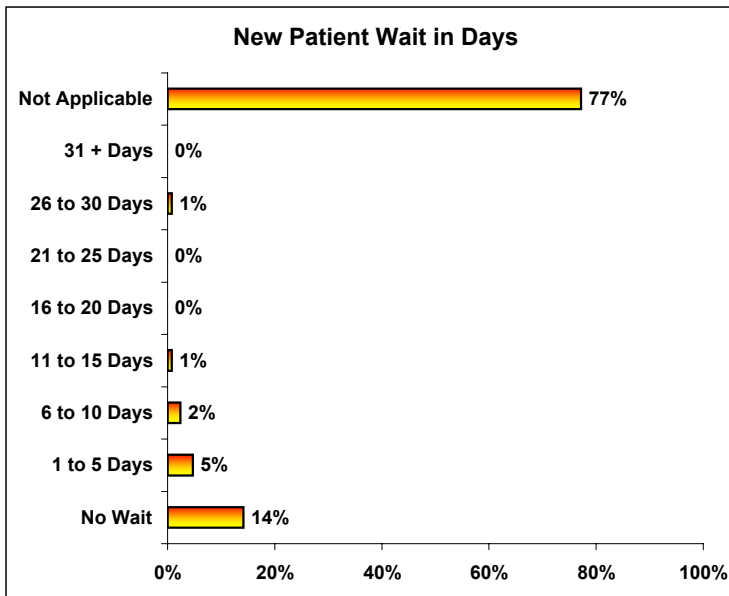
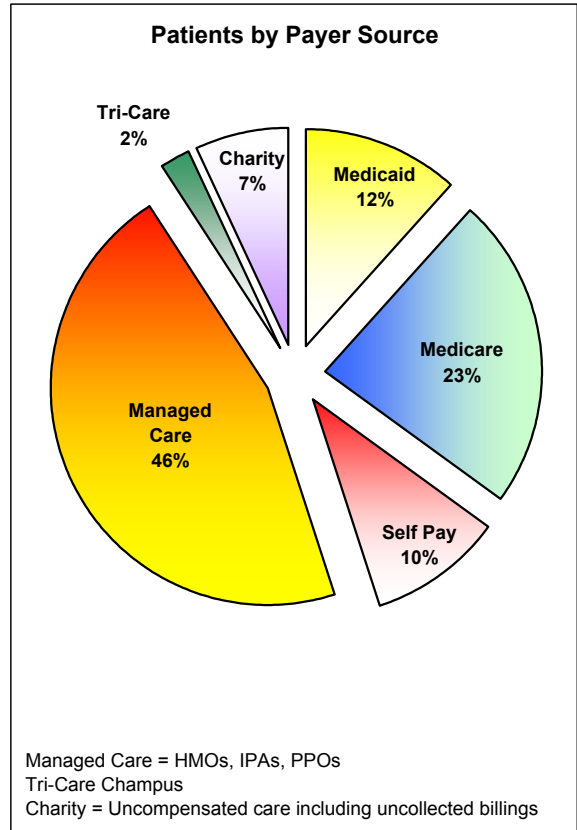
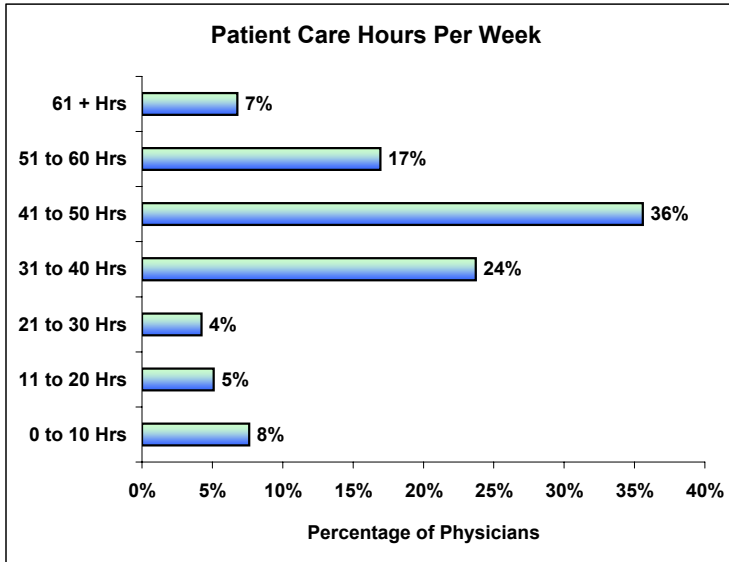
Gross Annual Earnings

Mean	\$286,552
Median	\$300,000
Mode	\$200,000
	\$350,000



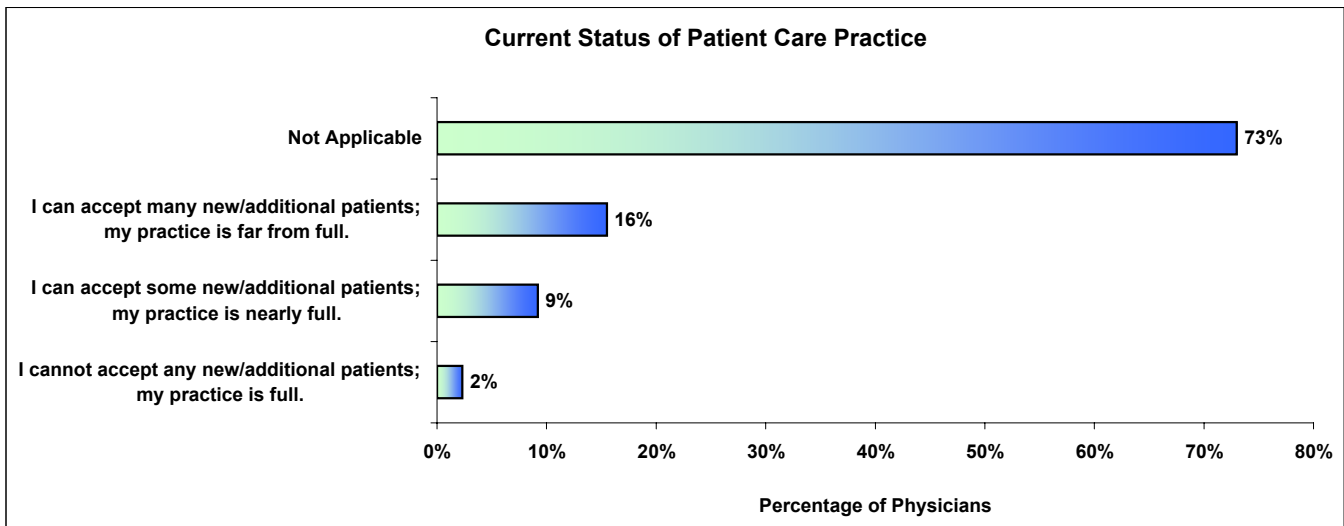
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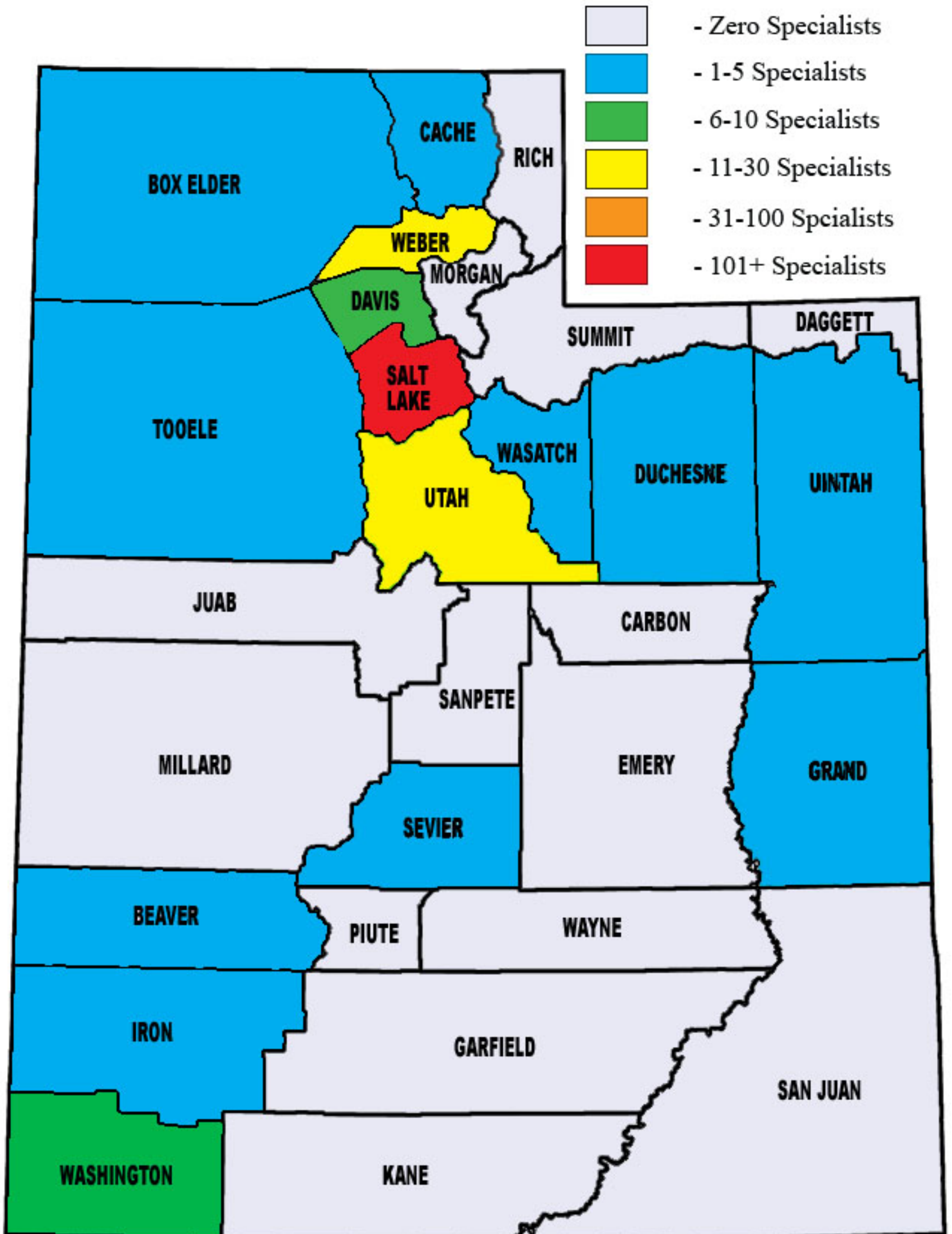
RADIOLOGY (DIAGNOSTIC)

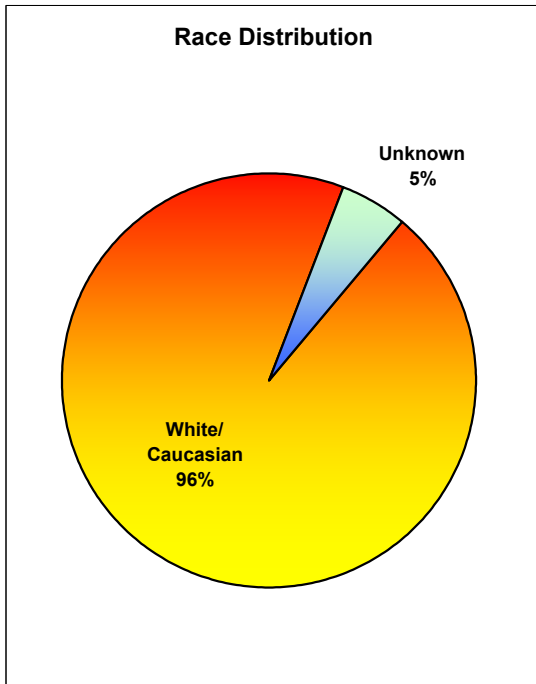
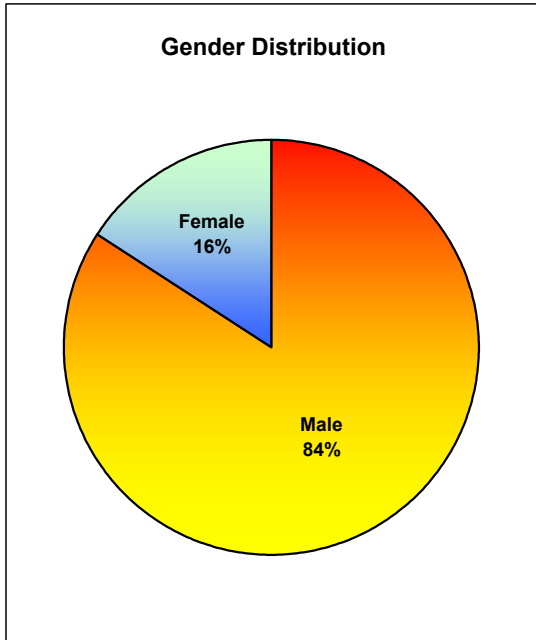


Average Number of Patients Seen Per Week

Out-patients	Office	82
	Urgent Care	6
	ER	28
In-patients	Hospital	46
	Nursing Home	2







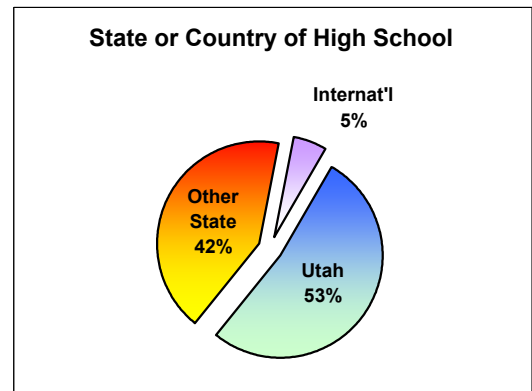
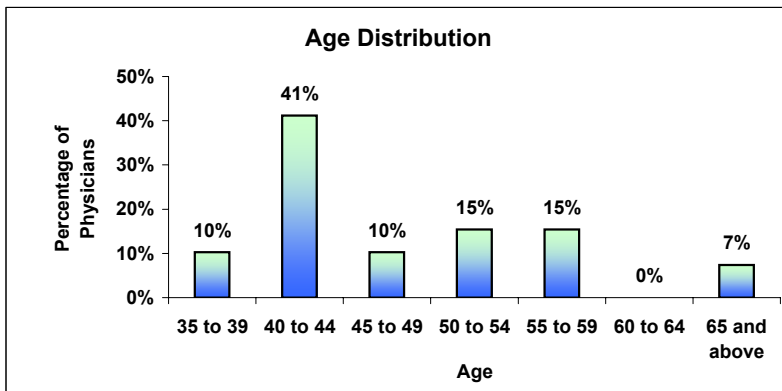
RADIATION ONCOLOGISTS: 19 (UMEC Estimate)

1. In 2004, the AMA reported that there were 4,313 radiation oncologists in the United States for a ratio of 1.47 per 100,000 population. At this time there is no quantitative data on whether or not this is adequate for the given population, but anecdotal information suggests that the aging of the population will significantly increase the need for radiation oncologists because 60% of all cancer diagnosis occur in individuals over the age of 65 [American Society of Clinical Oncology (ASCO), Association of American Medical Colleges (AAMC) April 20, 2005]. To verify this assumption, the AAMC and ASCO are collaborating on a comprehensive study of the oncology workforce to be released June 2006.

2. There are currently 19 radiation oncologists in Utah for a ratio of 0.81 per 100,000 population. Although this ratio is below the national average, statistics from the Utah Cancer Registry at the University of Utah and the National Cancer Institute (NCI) suggest that it is adequate for the state. Both sources show that Utah has a much lower incidence of cancer than other states, making it the third lowest state in the nation.

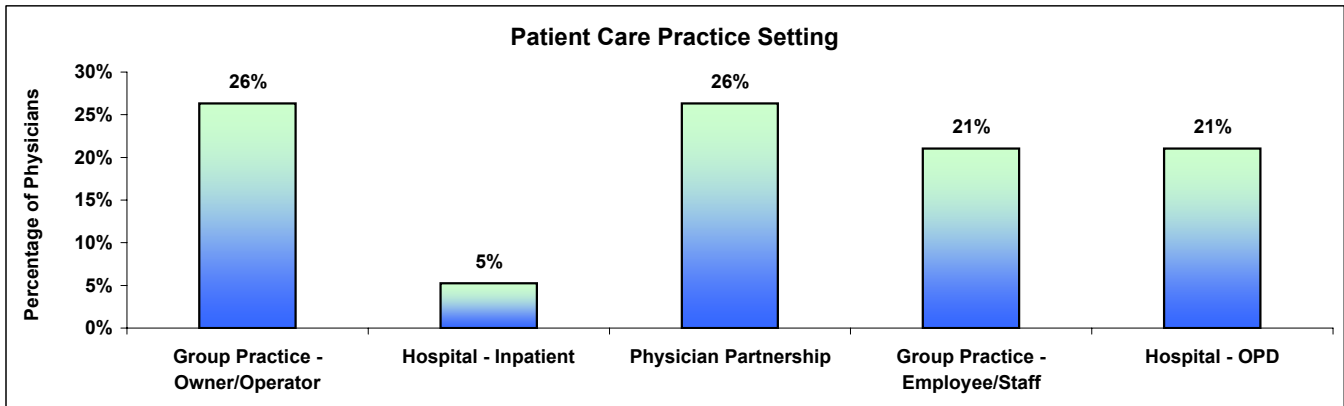
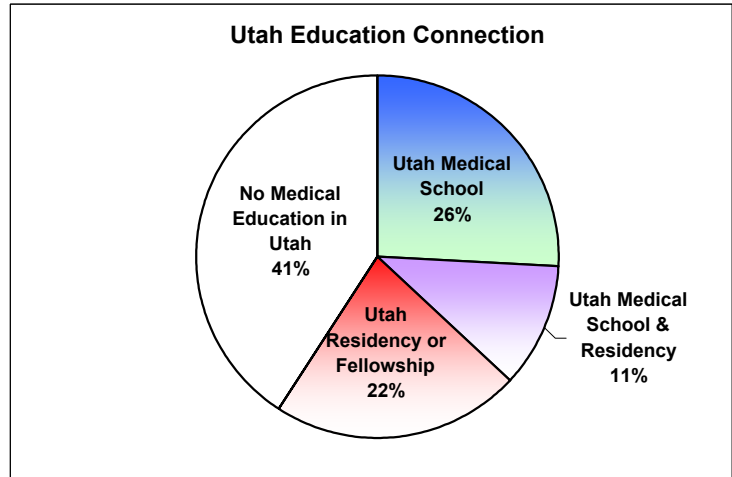
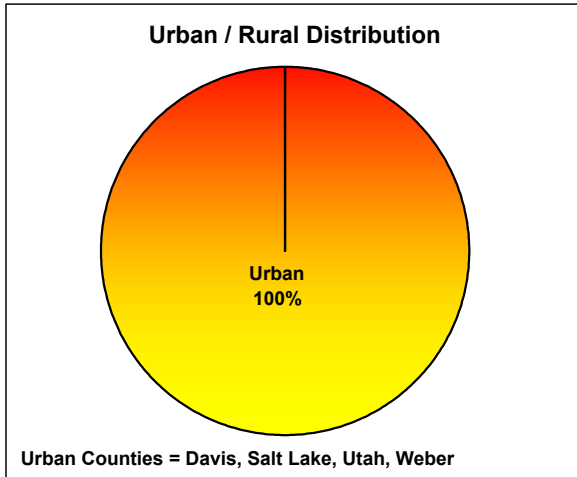
3. To maintain the current level of service, Utah would need to recruit 1 radiation oncologist per year. However, with the opening of the Huntsman Cancer Institute in 2004, it is anticipated that the patient load will increase due to the number of out of state referrals. Estimates from the oncology training program show that the workload is already growing at approximately 35% per year, therefore the UMEC suggests increasing the state ratio from 0.81 to a range of 1.02 to 1.06 per 100,000 population to meet rising demand.

4. The Utah radiation oncology fellowship program currently trains 1 fellow per year and retains 25% of its program graduates. This means that the state gains 1 resident every four years. However, with the presence of the Huntsman Cancer Institute, it is anticipated that retention will increase due to the growth in research and practice opportunities in the state. If retention does not increase and the demand for oncology services continues to grow at consistent rates, it is likely that the state will face a shortage in this specialty in the next 5 to 10 years.



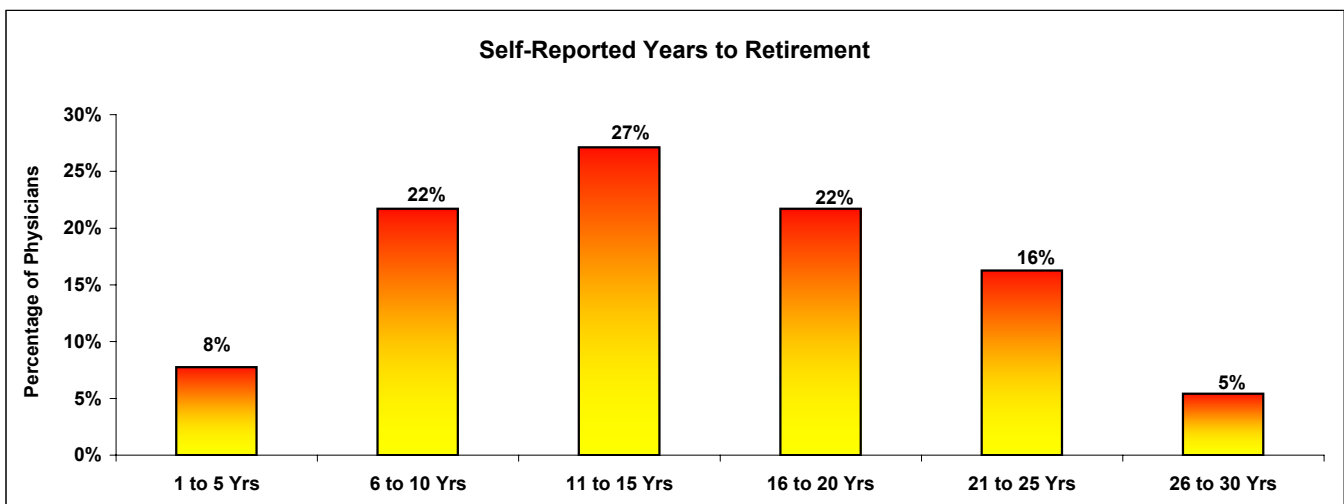
SPECIALTY PROFILE:

RADIATION ONCOLOGY



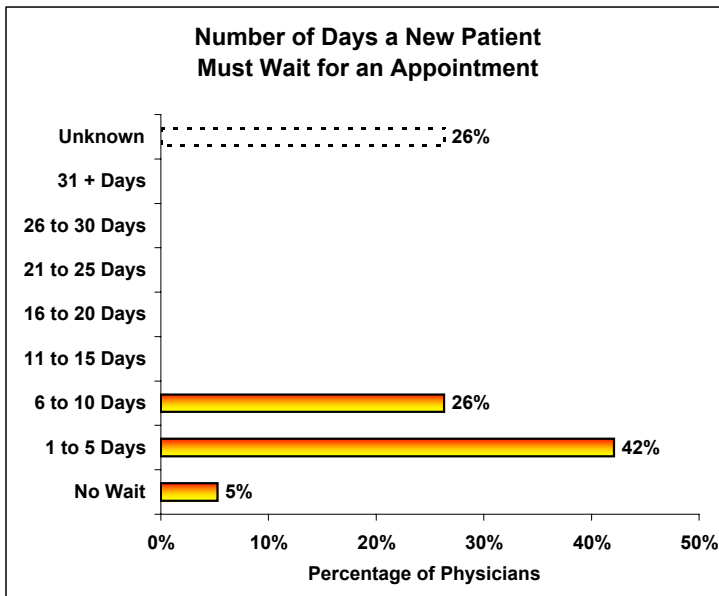
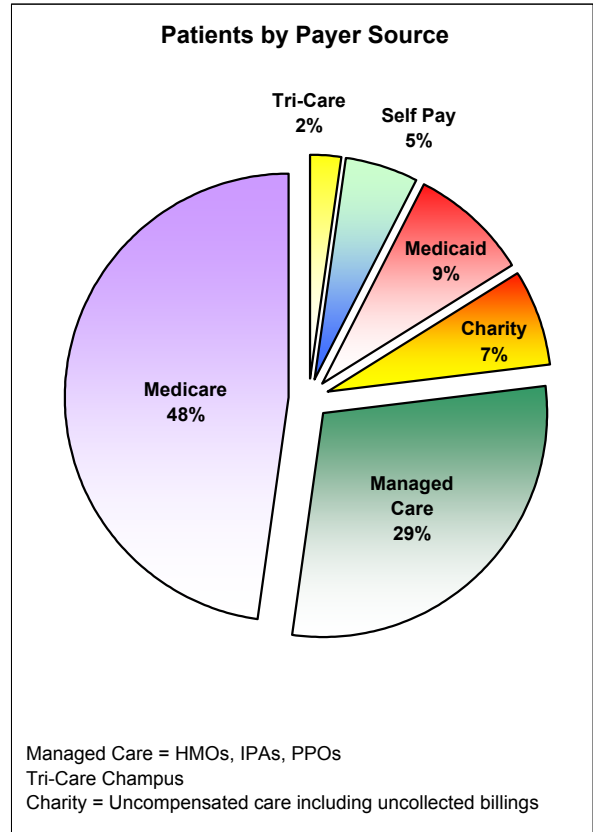
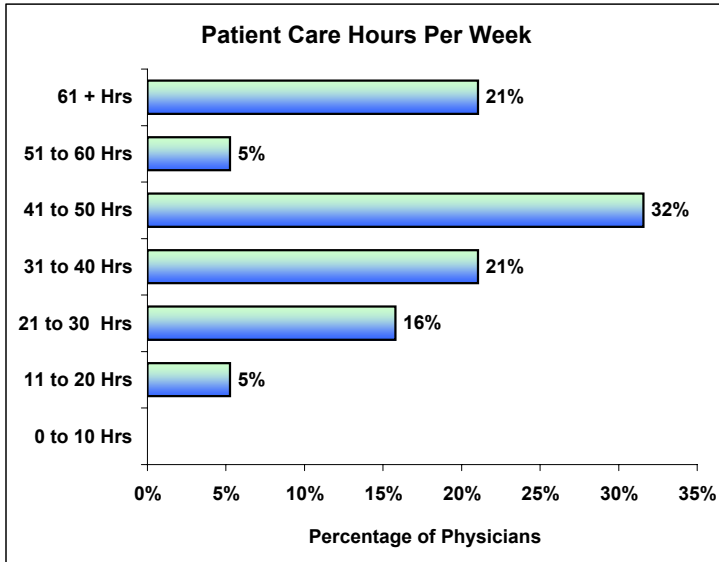
Board Certification of Radiation Oncologists						
Primary Board Certification			Secondary Board Certification			
			Internal Medicine (General)	Nuclear Medicine	Radiology (Diagnostic)	Radiation Oncology
Radiology Oncology	16	89%	1	1	1	0
Radiology (Diagnostic)	2	11%	0	0	0	2
N =	18	100%				

Gross Annual Earnings		
Mean	Median	Mode
\$240,000	\$210,000	\$200,000



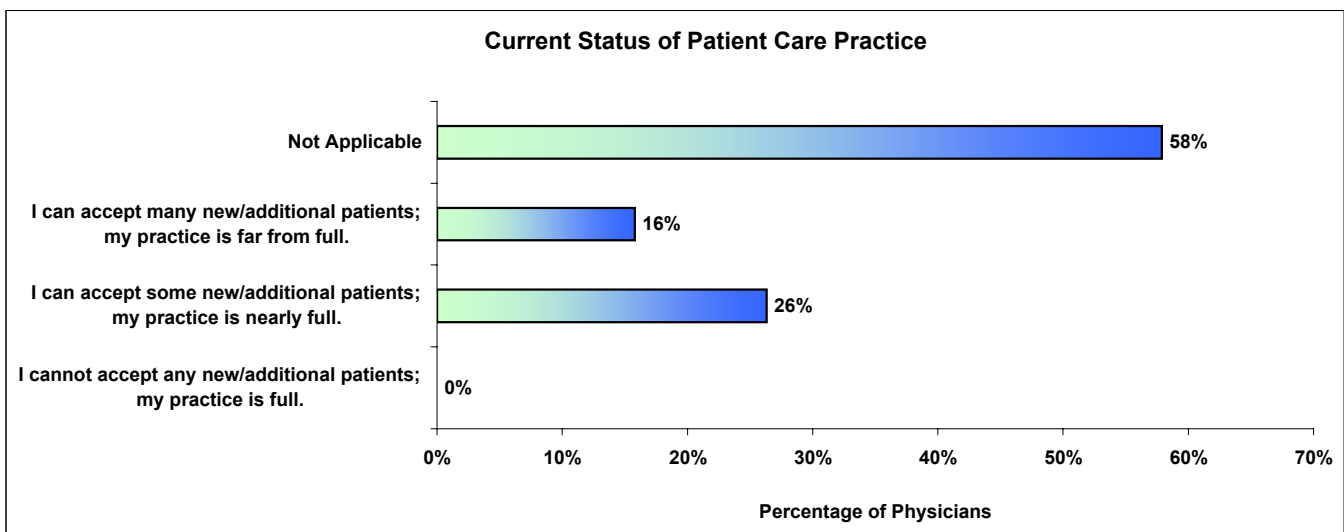
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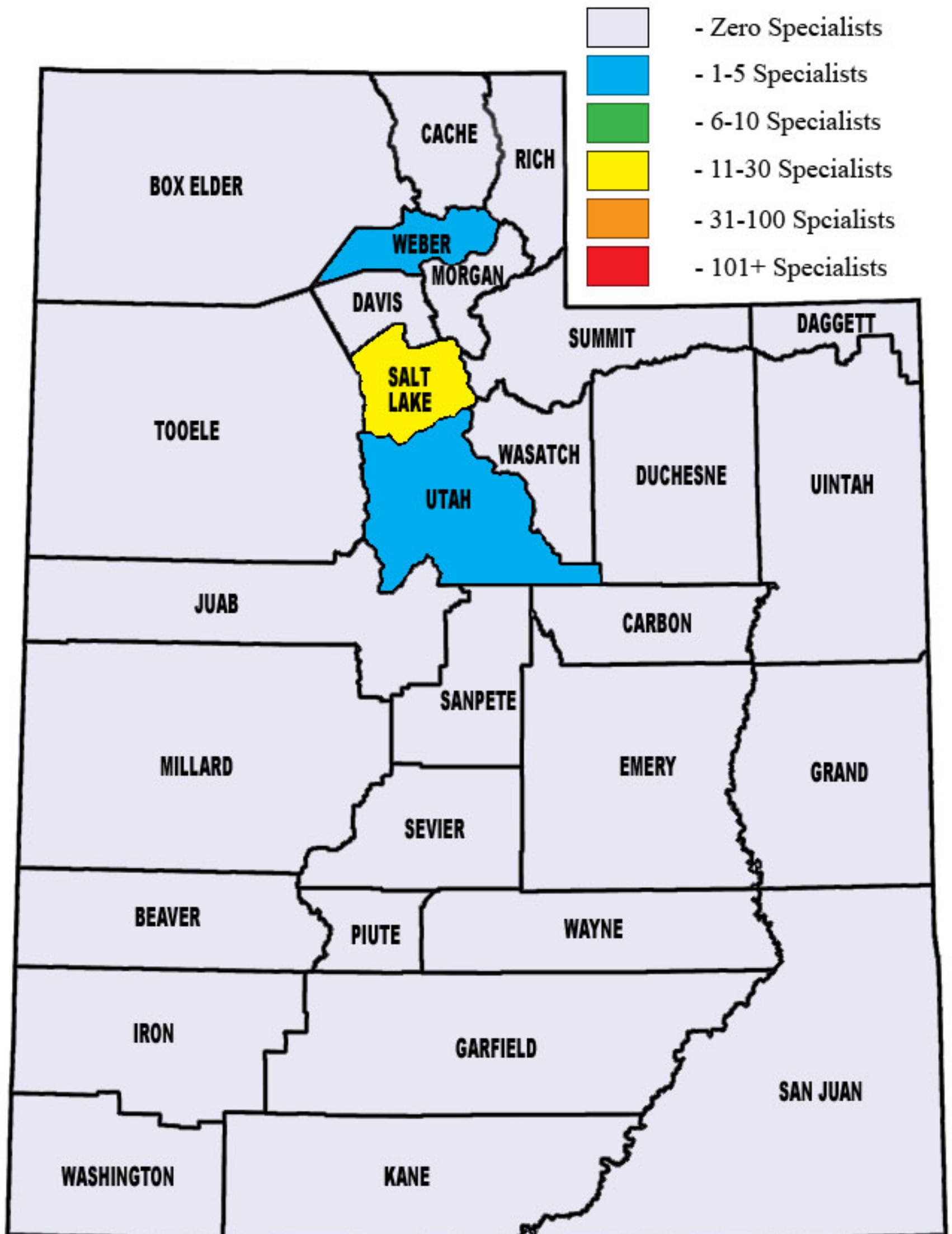
RADIATION ONCOLOGY



Average Number of Patients Seen Per Week

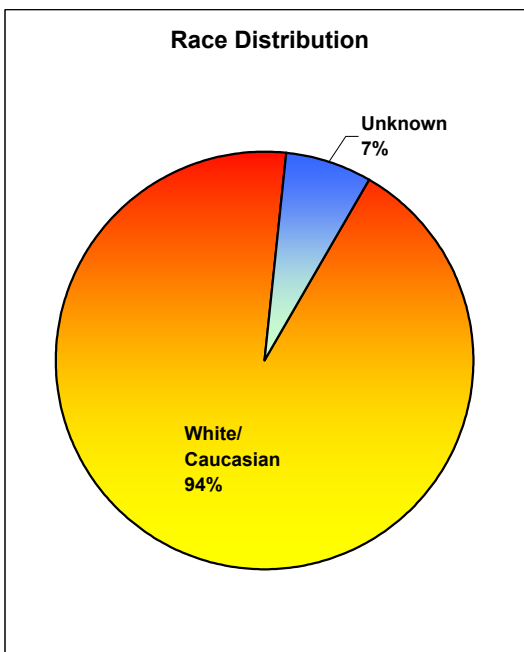
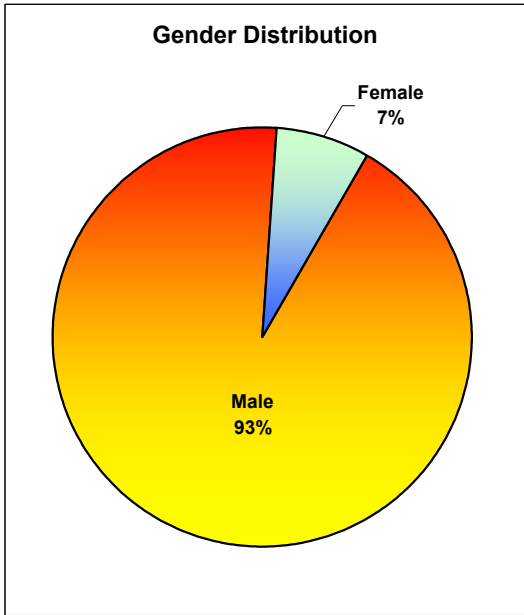
Patient Type	Average Number of Patients Seen Per Week	
	Location	Count
Out-patients	Office	32
	Urgent Care	0
	ER	1
In-patients	Hospital	5
	Nursing Home	0





SPECIALTY PROFILE:

I.M. SUBSPECIALTY - RHEUMATOLOGY



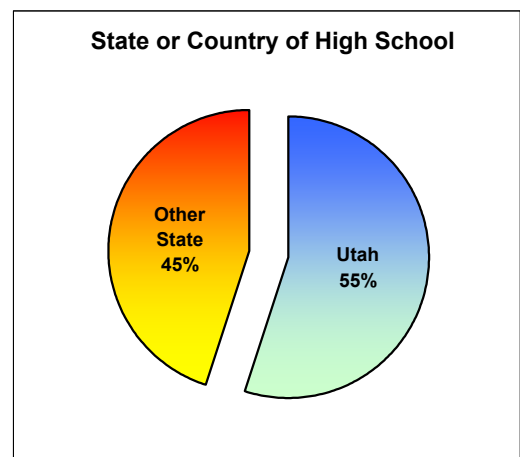
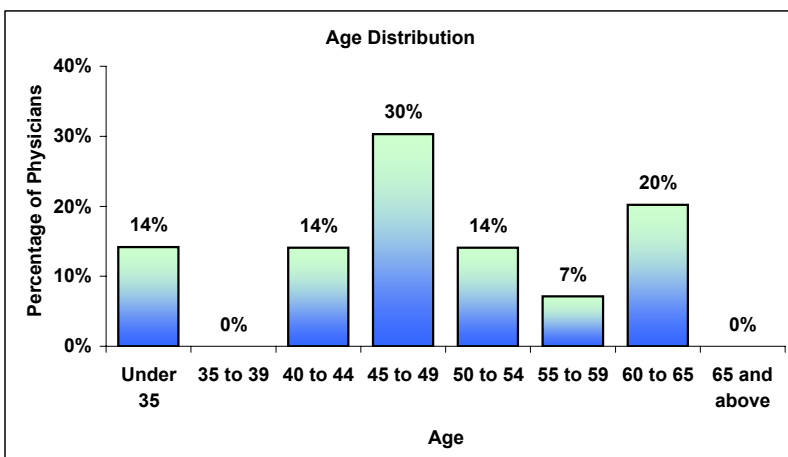
RHEUMATOLOGISTS: 21 (UMEC Estimate)

1. In 1999 the American College of Rheumatology (ACR) administered the National Economic Survey of the rheumatology workforce and concluded that the need for clinical rheumatologists greatly exceeded the supply of trainees. By 2004, the AMA reported that there were 4,187 rheumatologists in the United States for a ratio of 1.43 per 100,000 population. However, the ACR still maintains its position on the rheumatology workforce shortage and asserts that it is expected to worsen in the future without increases in funding for education and training.

2. Utah currently has 21 rheumatologists serving the state for a ratio of 0.89 per 100,000 population. This is significantly below the national ratio of 1.43 which has been deemed to be below optimum levels required for the aging population. Current data show that the existing supply is not enough to serve the state population. In 2003, 81% of Utah rheumatologists reported wait times of 31 days or more for new patients, and 80% had practices that were nearly full.

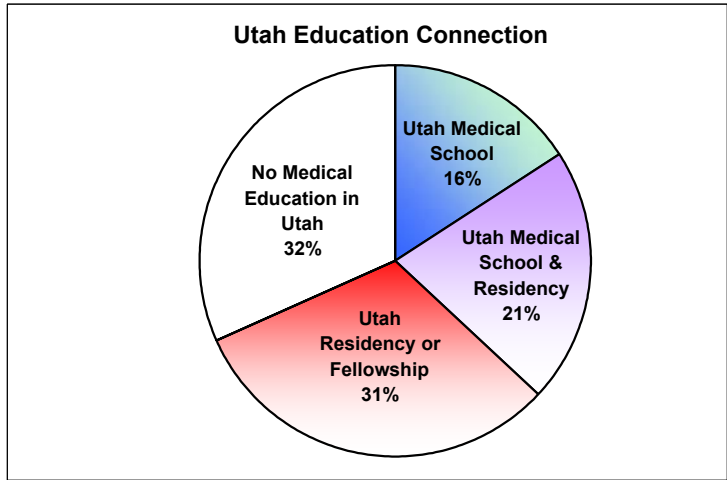
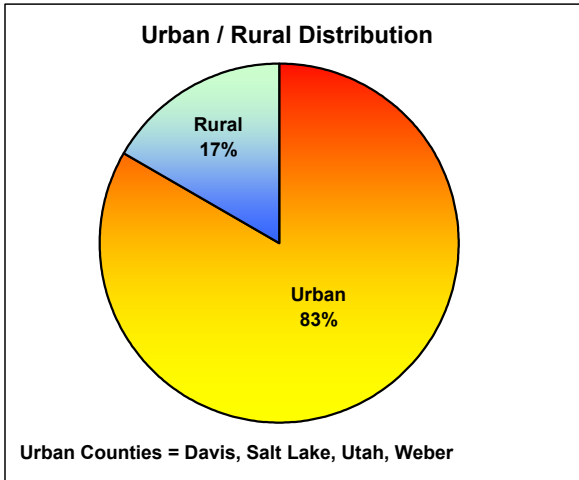
3. To maintain the current capacity, Utah needs to recruit 1 rheumatologist per year. However, data from both the UMEC and the Centers for Disease Control (CDC) suggest that this is not enough to serve the growing number of people with rheumatic diseases in the state. In 2003, approximately 15% of the state population had arthritis which is very close to the national average of 16% (CDC 2003 BRFSS prevalence estimates). Since the percentage of people requiring rheumatology services in Utah resembles that of the nation, it is highly encouraged that the state increase efforts to meet the national ratio even if it is below optimum levels.

4. To bring the ratio of rheumatologists in Utah up to the national average, the state would need to add 11 more providers to the existing workforce, after which this ratio can be maintained by recruiting up to 2 rheumatologists per year. The University of Utah rheumatology fellowship currently trains 2 residents per year and retains approximately 75% its program graduates in Utah. This equates to 3 rheumatologists every 2 years. At this time, it is encouraged that the state temporarily expand the size of this training program to increase the ratio of providers in this specialty. After which, the program can drop back down to its current size and increase efforts to retain more graduates in Utah.



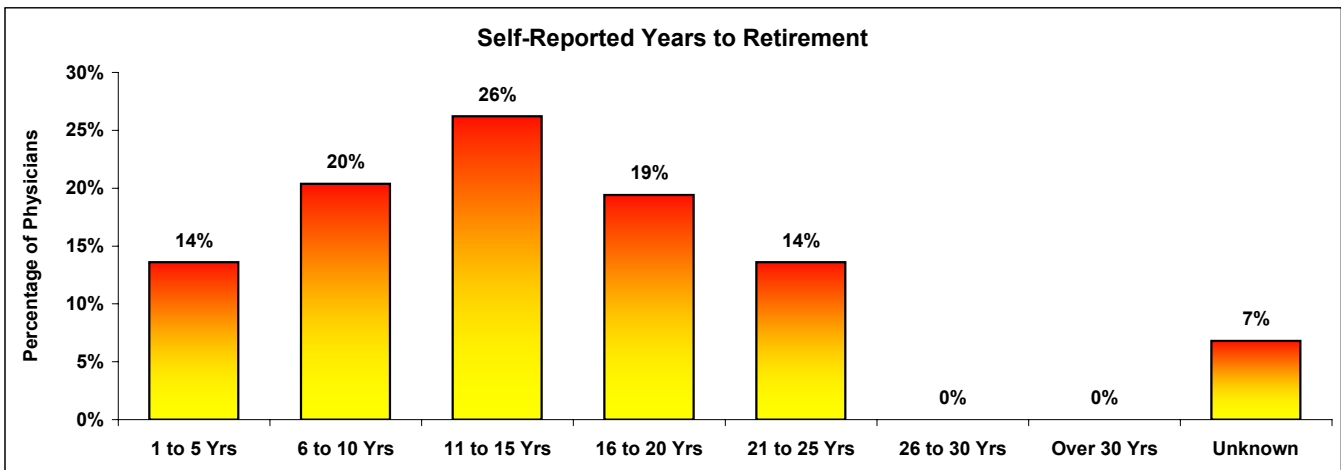
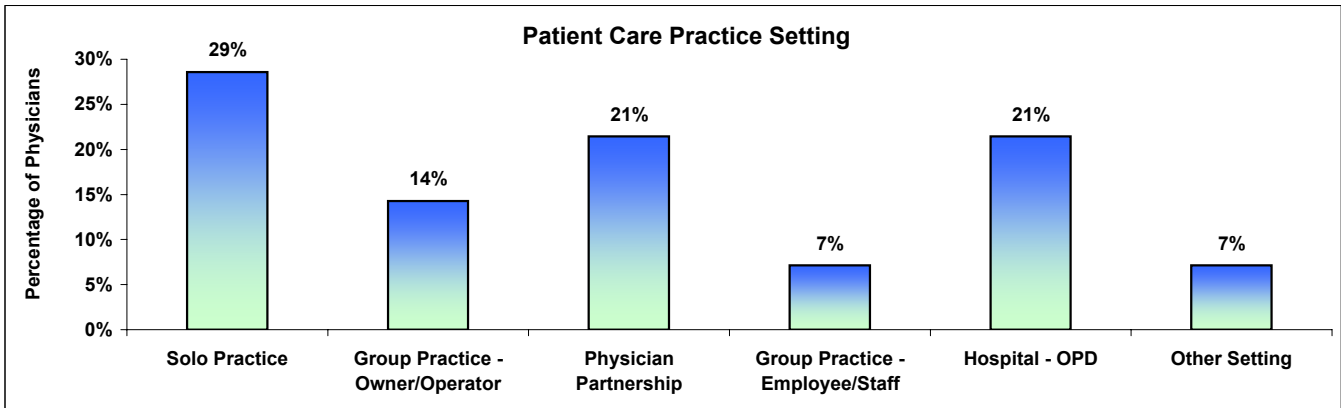
SPECIALTY PROFILE:

I.M. SUBSPECIALTY - RHEUMATOLOGY



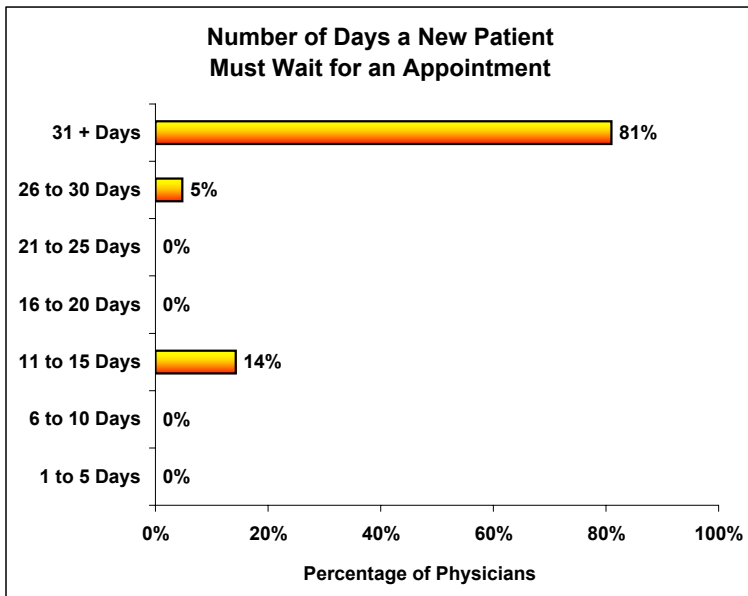
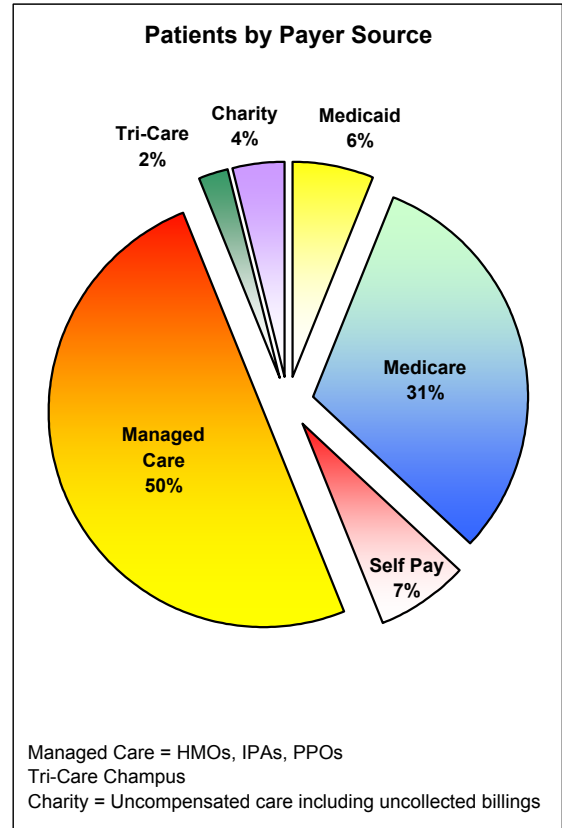
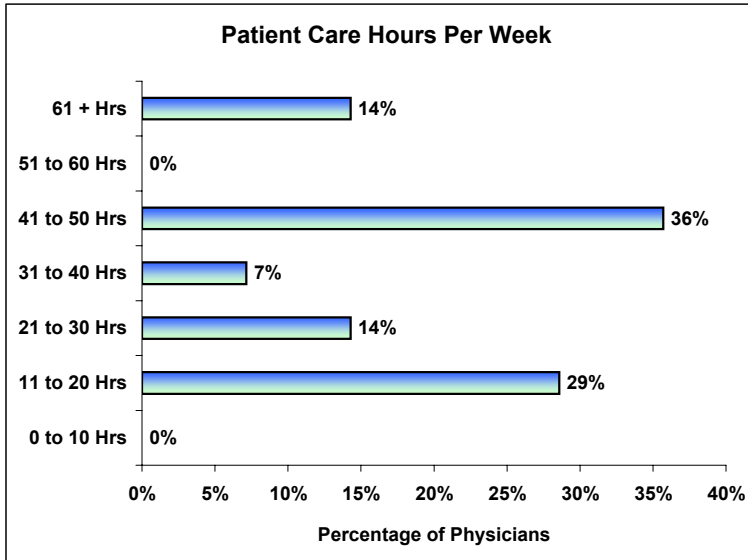
Board Certification of Rheumatologists					
Primary Board Certification			Secondary Board Certification		
			Internal Medicine (General)	Rheumatology	Internal Medicine & Pediatrics
Internal Medicine (General)	13	62%	0	10	0
Rheumatology	8	38%	3	0	1
Total	21	100%			

Gross Annual Earnings		
Mean	Median	Mode
\$161,875	\$150,000	\$150,000



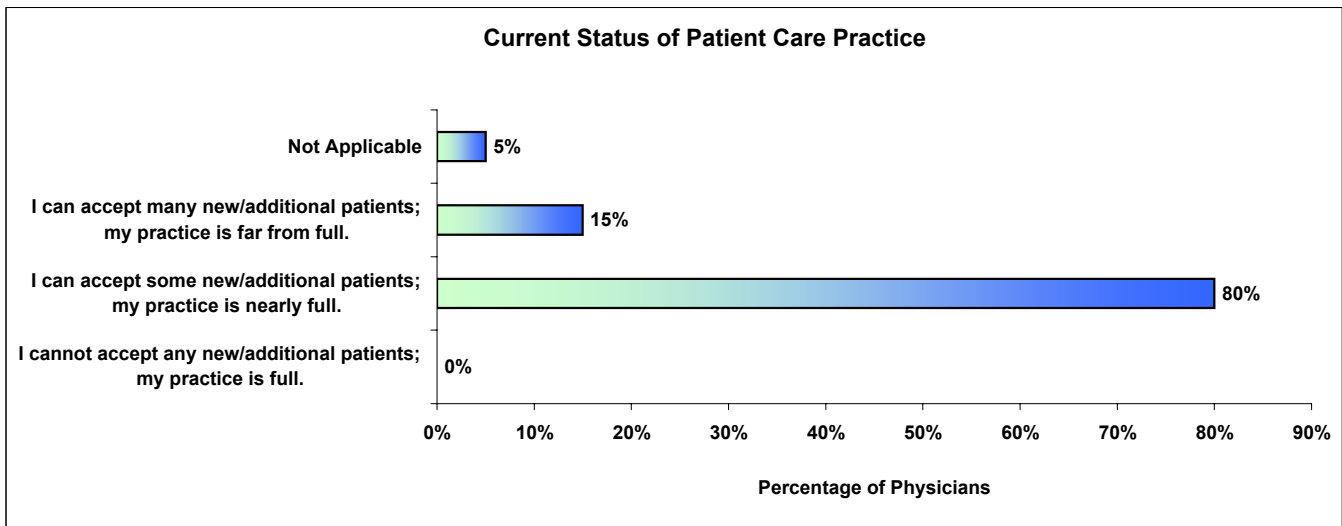
SPECIALTY PROFILE:

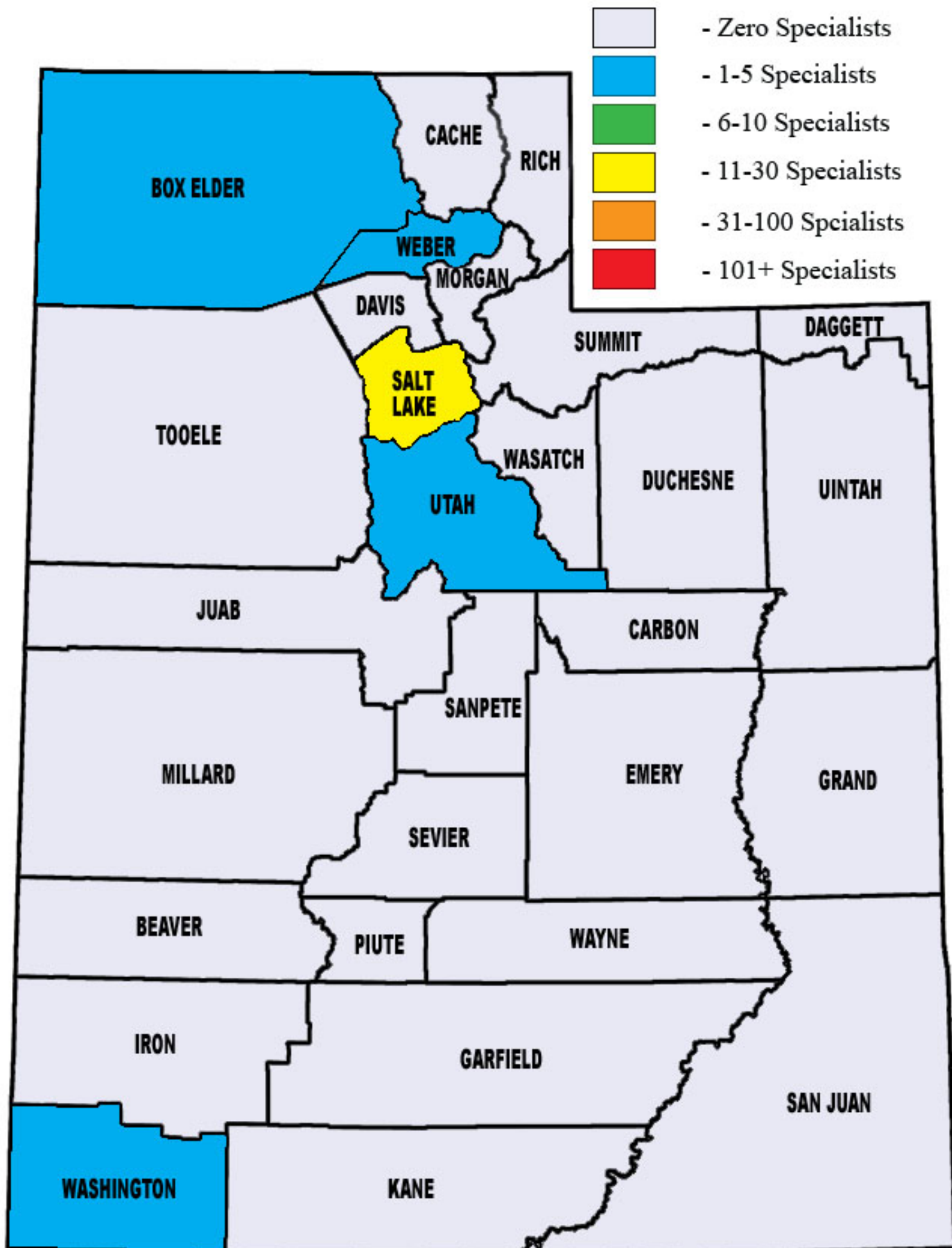
I.M. SUBSPECIALTY - RHEUMATOLOGY

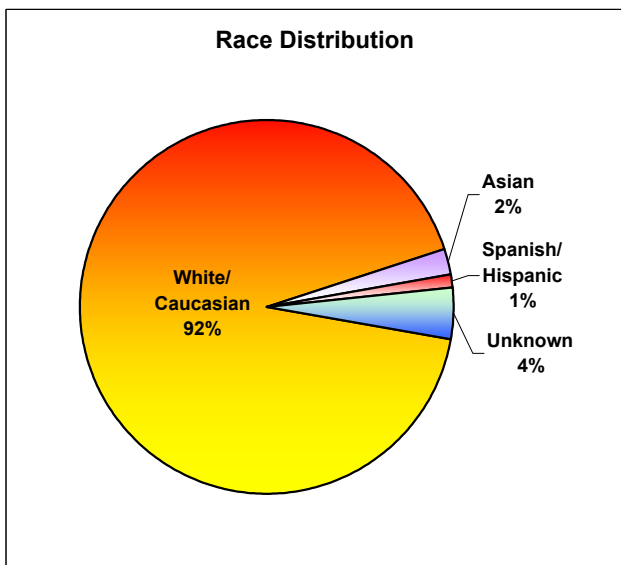
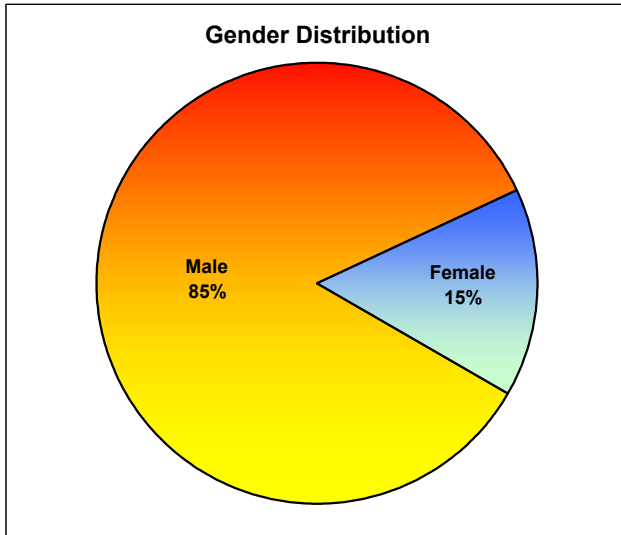


Average Number of Patients Seen Per Week

Patient Type	Average Number of Patients Seen Per Week	
	Setting	Count
Out-patients	Office	81
	Urgent Care	1
	ER	0
In-patients	Hospital	5
	Nursing Home	0

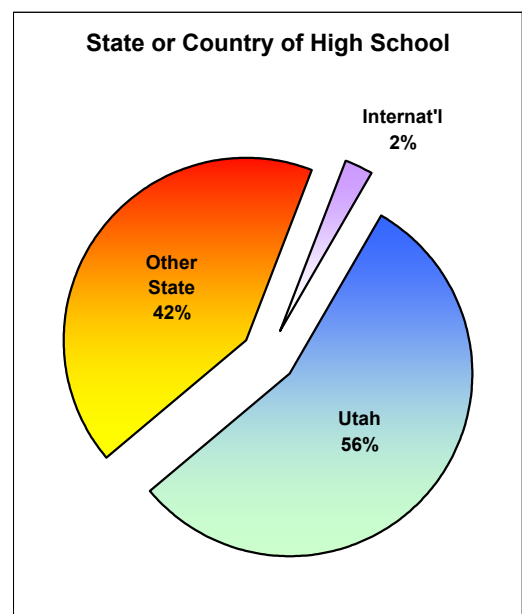
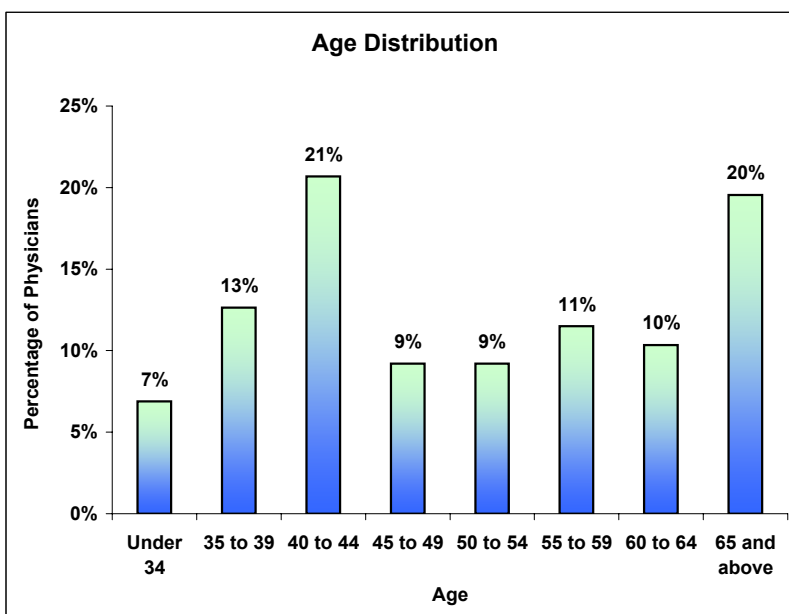






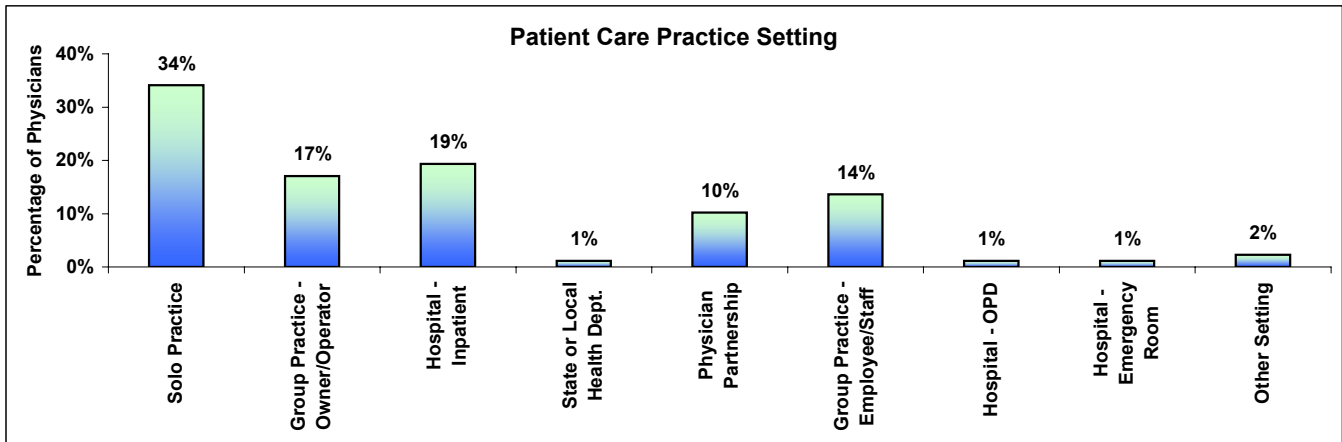
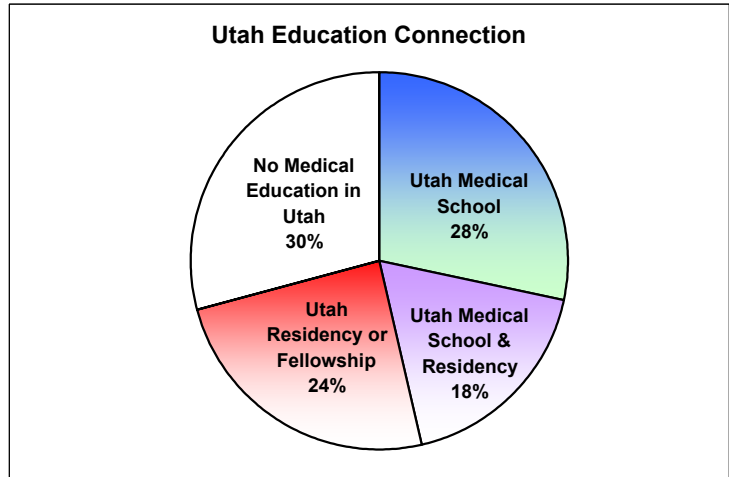
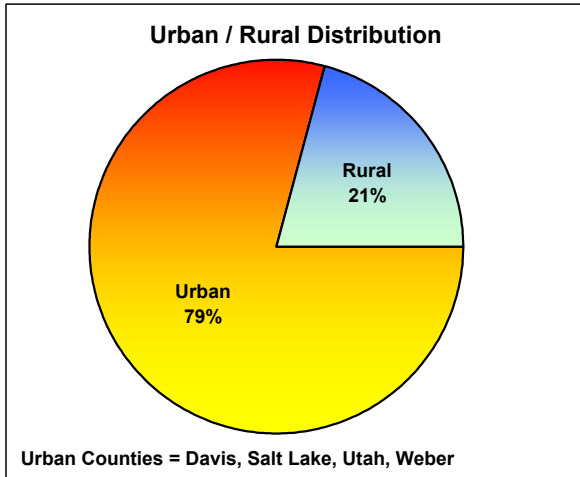
GENERAL SURGERY: 130 (UMEC Estimate)

1. Researchers from the University of California, Los Angeles (UCLA) predict that the demand for general surgery will increase 13% by 2010 and 31% by 2020. Despite these increases, NRMP figures show that the number of residents entering general surgery training has remained flat over the last 10 years.
2. A national shortage of surgeons will adversely affect the population in Utah. The state currently relies heavily upon the national pool due to limited local training capacity.
3. The University of Utah general surgery program currently graduates 5 residents per year, of which, only 25% will end up in general surgery practice. This equates to 1 general surgeon per year with only a 50/50 chance of Utah practice. Conservative estimates show that Utah needs to recruit at least 7 general surgeons per year just to accommodate physician retirement and population growth.
4. The impending shortage of surgeons in Utah has led to discussions on expanding the general surgery residency program at the University of Utah. Current estimates show that there is enough clinical capacity in order to do so. On average, Utah residents see a higher number of cases than their national counterparts.
5. Despite the high clinical volume, there are still many obstacles that currently hinder general surgery program expansion and retention in both urban and rural Utah. For a detailed discussion on those issues, refer to page 24 of this report.



SPECIALTY PROFILE:

GENERAL SURGERY

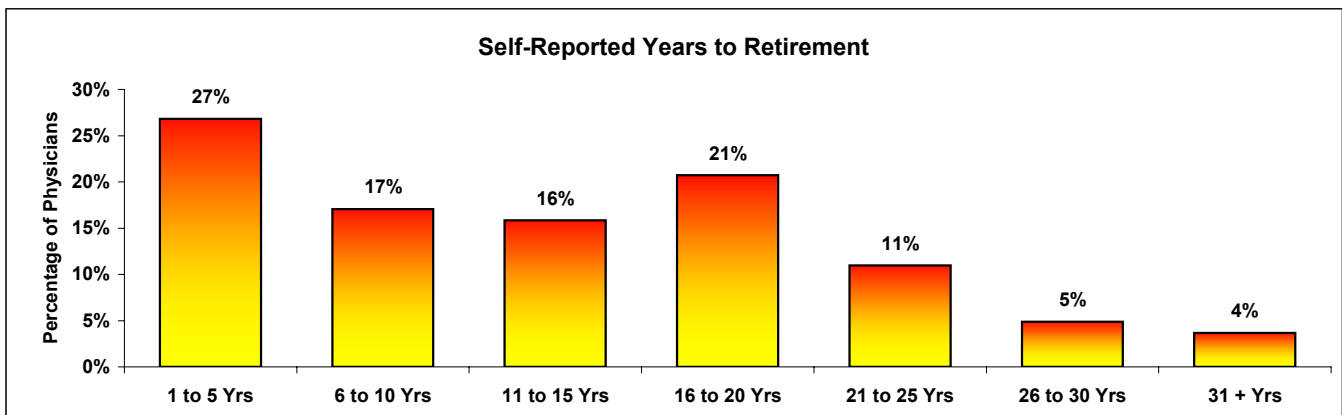


Board Certification of General Surgeons

Primary Board Certification			Secondary Board Certification					
			Dermatology	Emergency Care	Family Practice	Surgery (General)	Surgical Subspecialty	Other Specialty
Surgery (General)	106	93%		3	1		4	1
Family Practice	3	3%	1			1		
Ob/Gyn (General)	3	3%				3		
Plastic Surgery	1	1%				1		
Emergency Care	1	1%						
N =	114	100%						

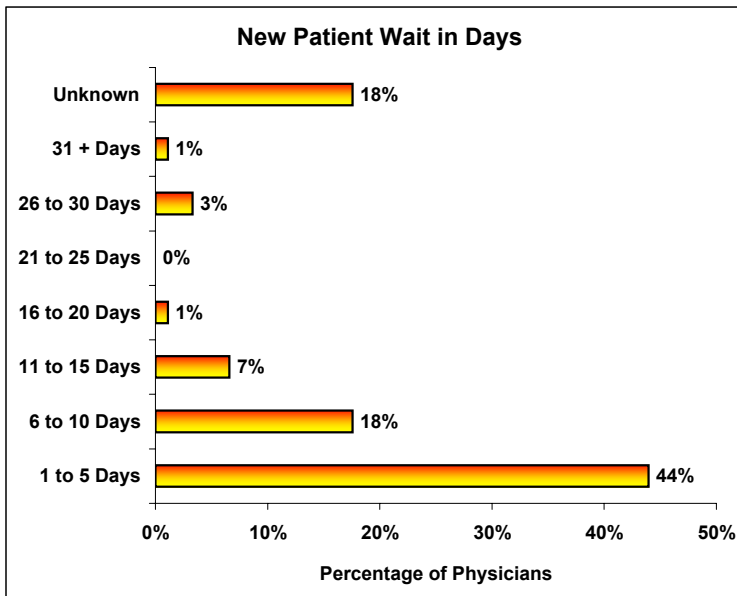
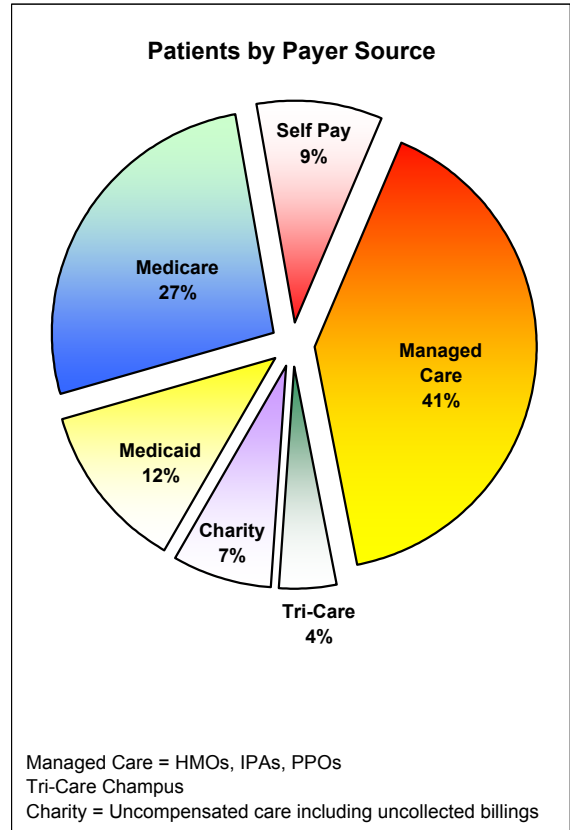
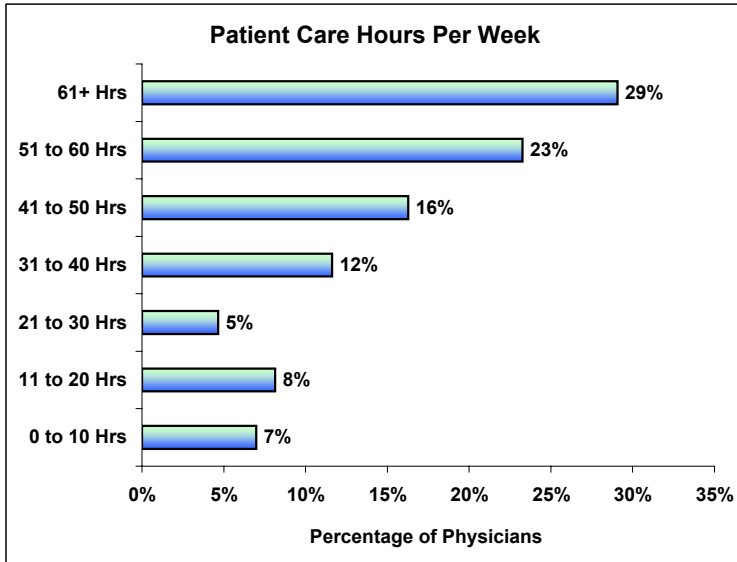
Gross Annual Earnings

Mean	\$207,674
Median	\$200,000
Mode	\$300,000



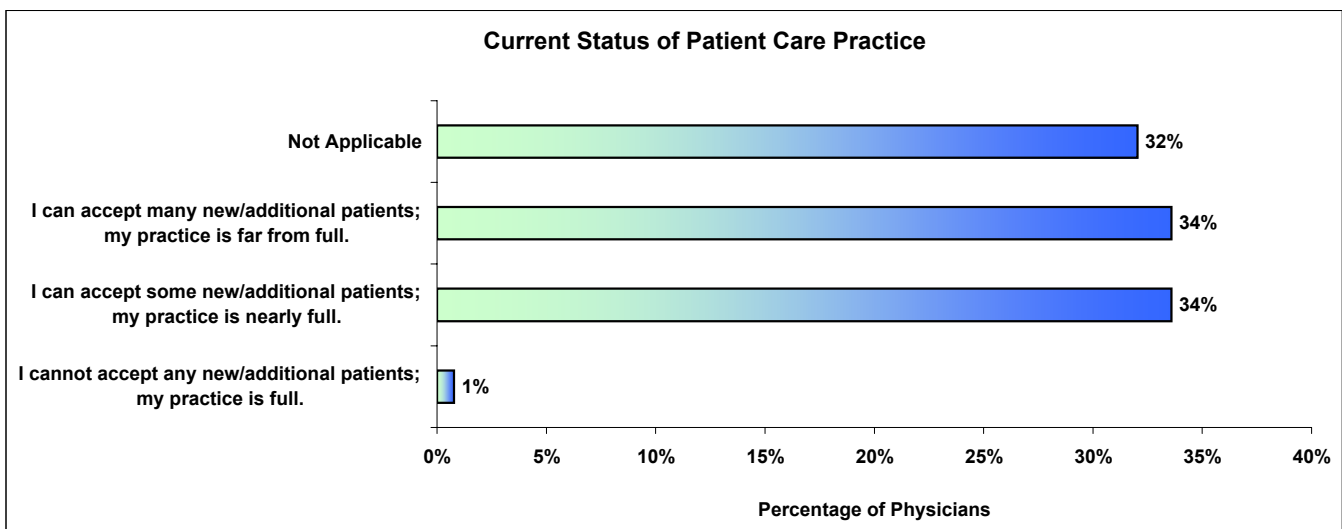
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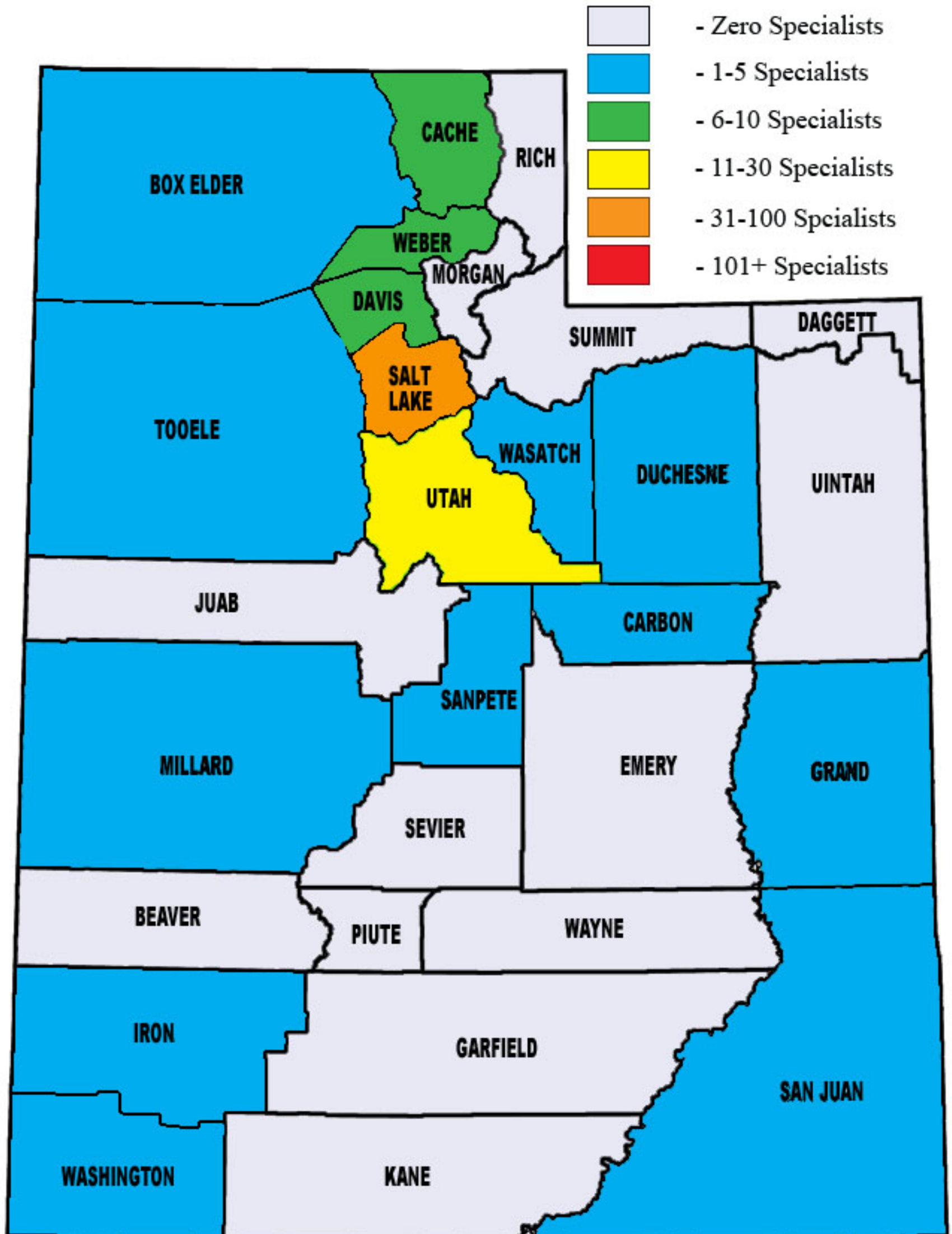
GENERAL SURGERY

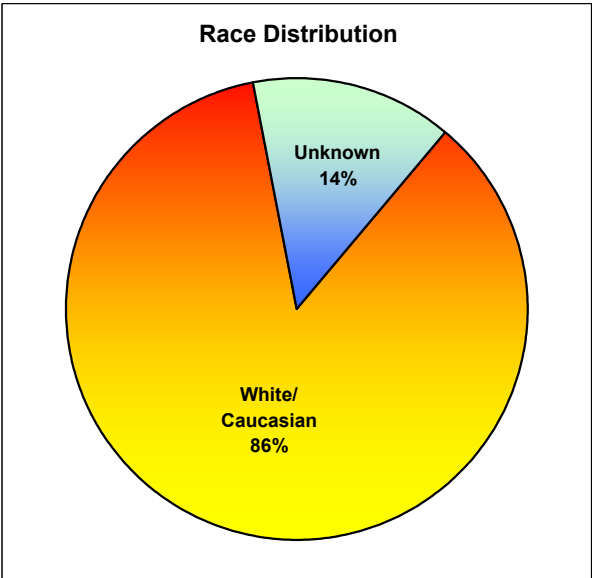
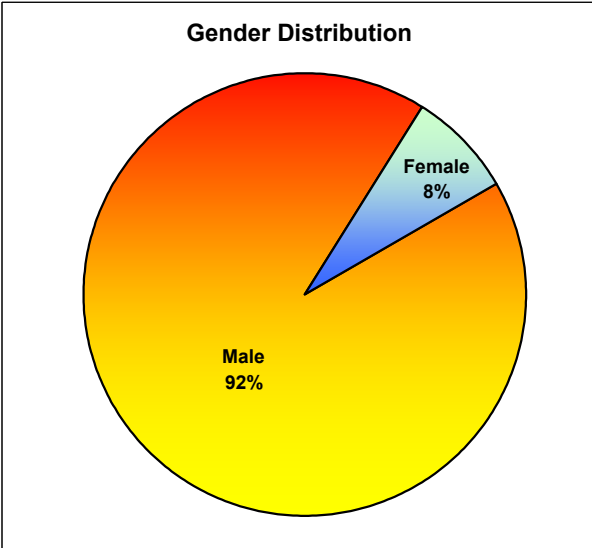


Average Number of Patients Seen Per Week

Out-patients	Office	35
	Urgent Care	1
	ER	4
In-patients	Hospital	13
	Nursing Home	1

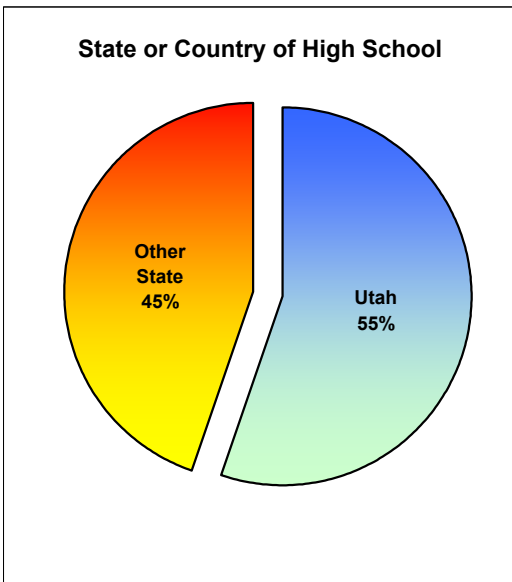
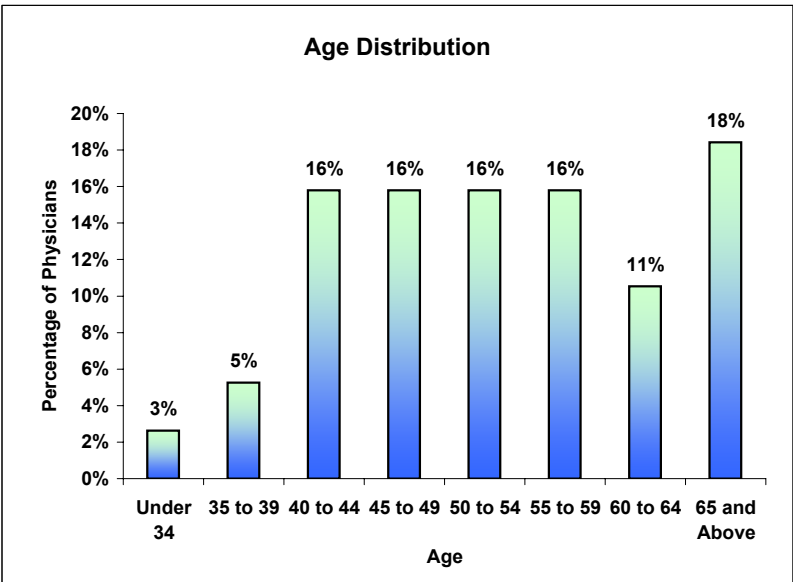


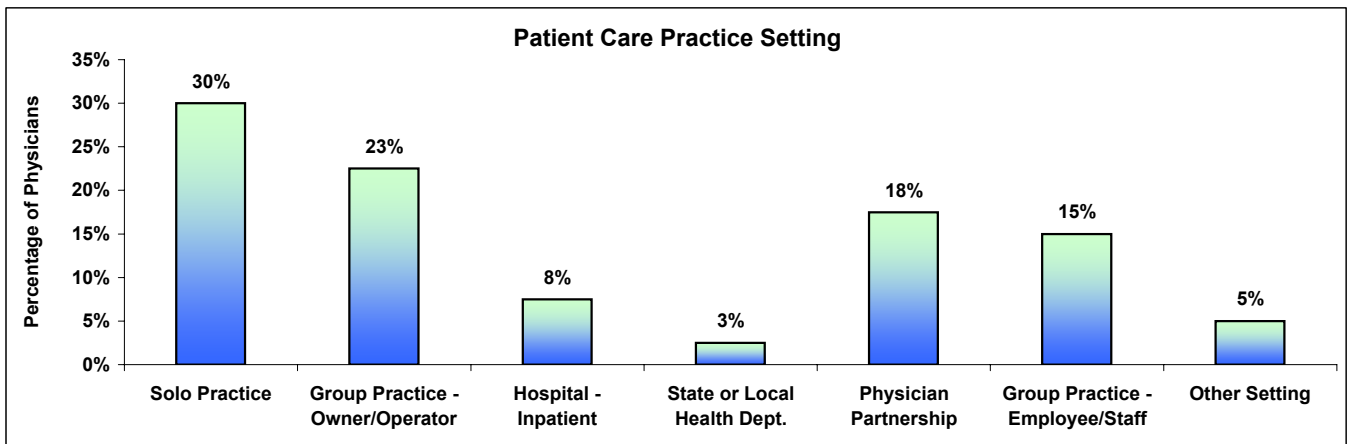
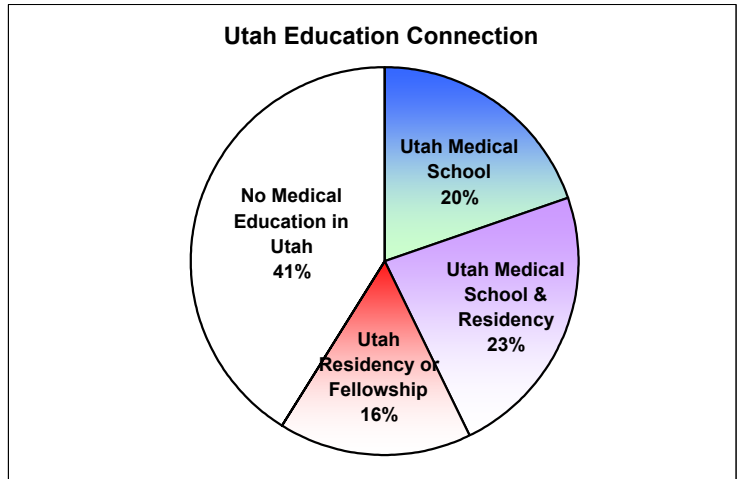
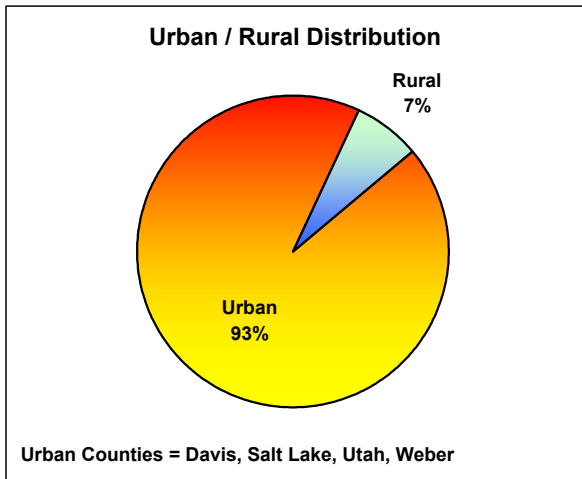




UROLOGISTS: 47 (UMEC estimate)

1. Industry statistics from leading recruitment firms show that urology is among the list of specialties in greatest demand in the U.S. It is expected that the aging of the population will drive demand up even further with increases in urologic surgery projected to be up 35% by 2020.
2. Despite increases in demand, there has been a decrease in the number of residents entering urology training programs. Over the last 10 years, there has been a 38% decrease in the number of first year urology positions offered through the NRMP. Currently there are 245 residents being trained in the U.S., which is enough to replace the number of urologists that will be retiring, but not enough to service the increasing demand of the aging population.
3. The supply of urologists in Utah is as limited as the rest of the nation. Current figures show that there are only 47 urologists actively practicing in the state, or 2 urologists per 100,000 population. This is significantly below the American Urological Association’s (AUA) recommended ratio of 3 per 100,000. To meet the AUA’s sufficiency benchmark, Utah would need to add 24 urologists to the workforce.
4. To maintain current capacity (2 per 100,00) Utah needs to recruit at least 3 urologists per year. However, the state is currently able to retain only 1 Utah graduate every two years. It is highly unlikely that the state will be able to fill the local deficit with national recruits to projected U.S. shortages. Since 1998, Utah has had a net gain of only 2 urologists, and it is anticipated that the gap between supply and demand will become even greater as providers enter retirement over the next few years.



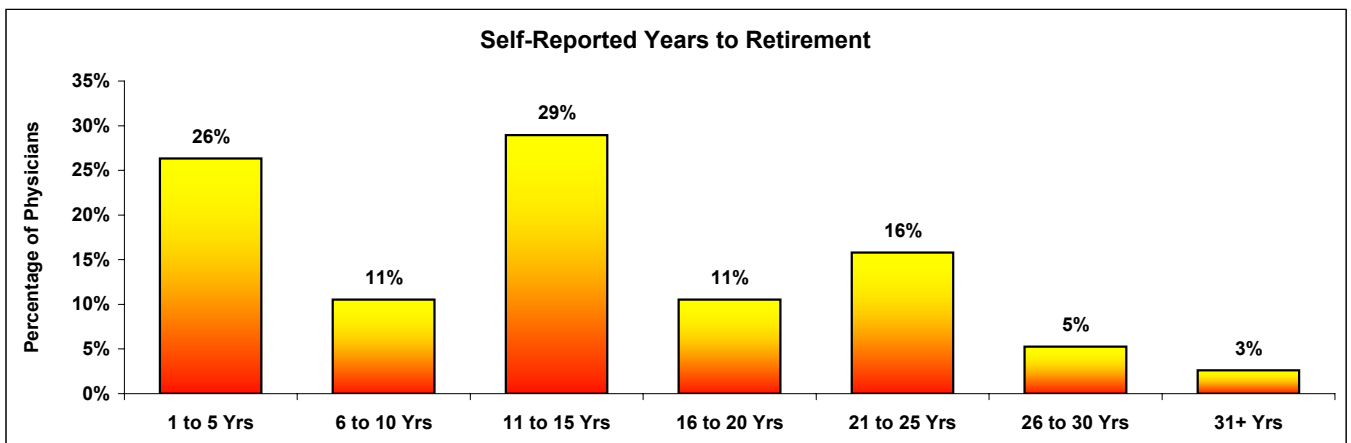


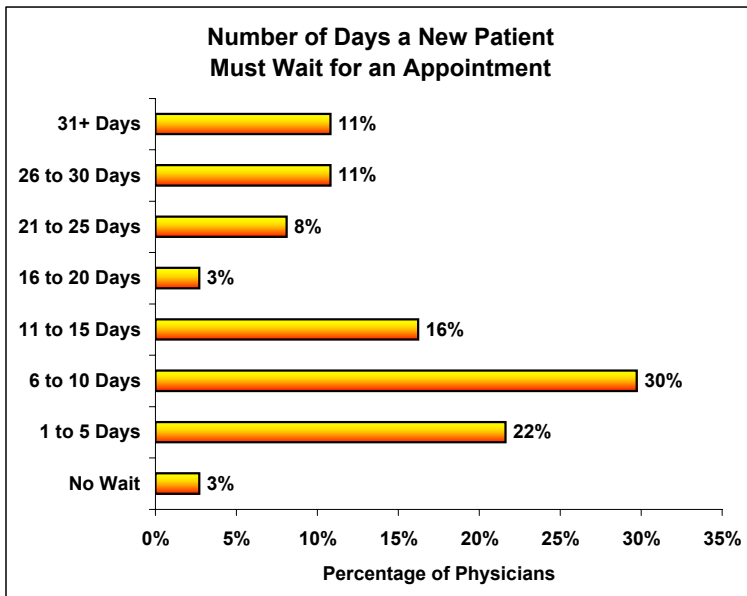
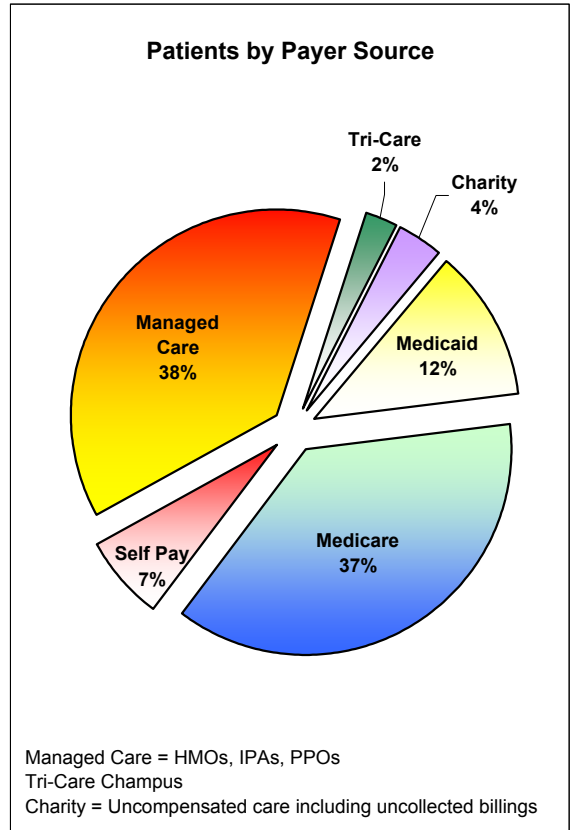
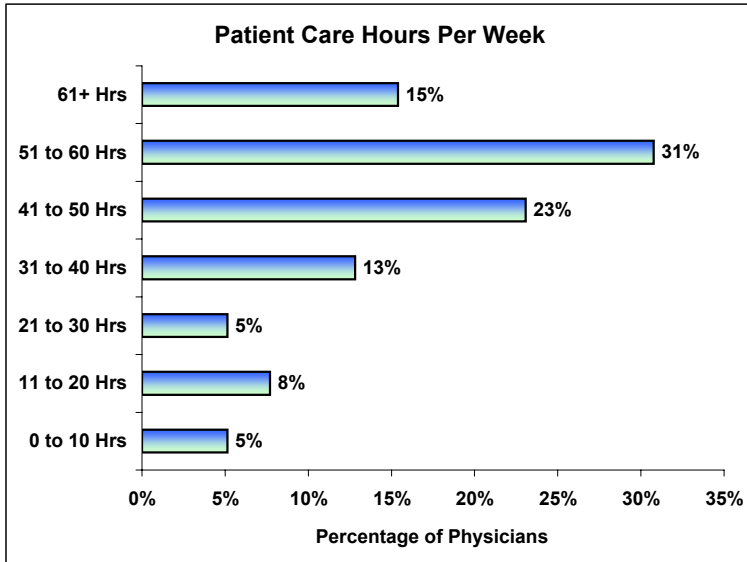
Board Certification of Urologists

Primary Board Certification	Secondary Board Certification	
	Count	Percentage
Urology	47	94%
Hospice & Palliative Medicine	1	3%
Ob/Gyn (General)	1	3%
N =	50	100%

Gross Annual Earnings

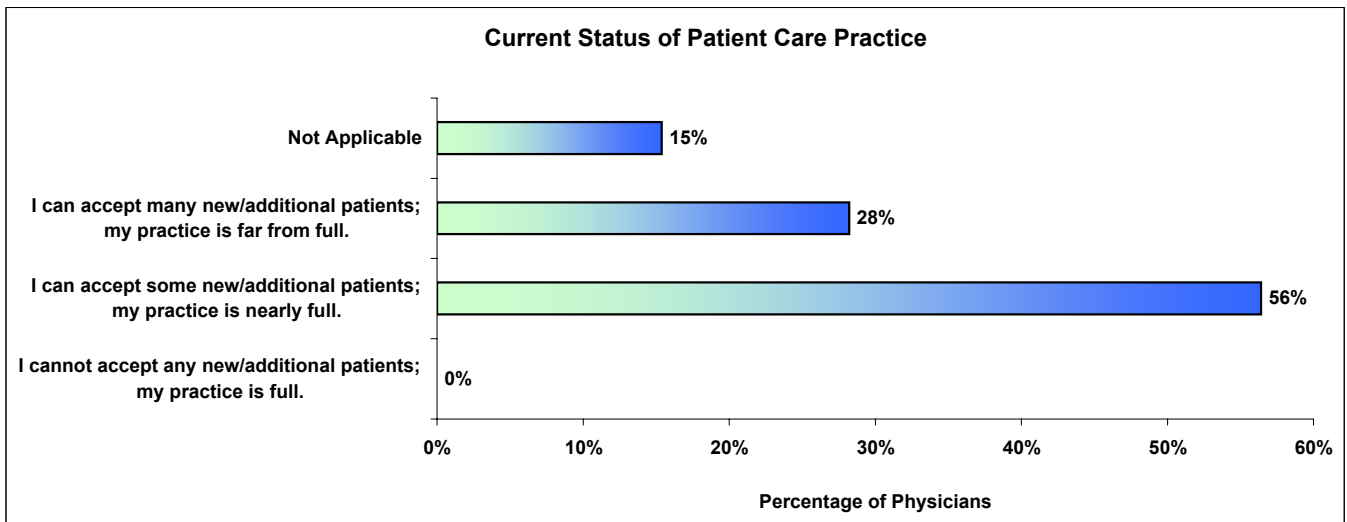
Mean	Median	Mode
\$245,577	\$237,500	\$200,000

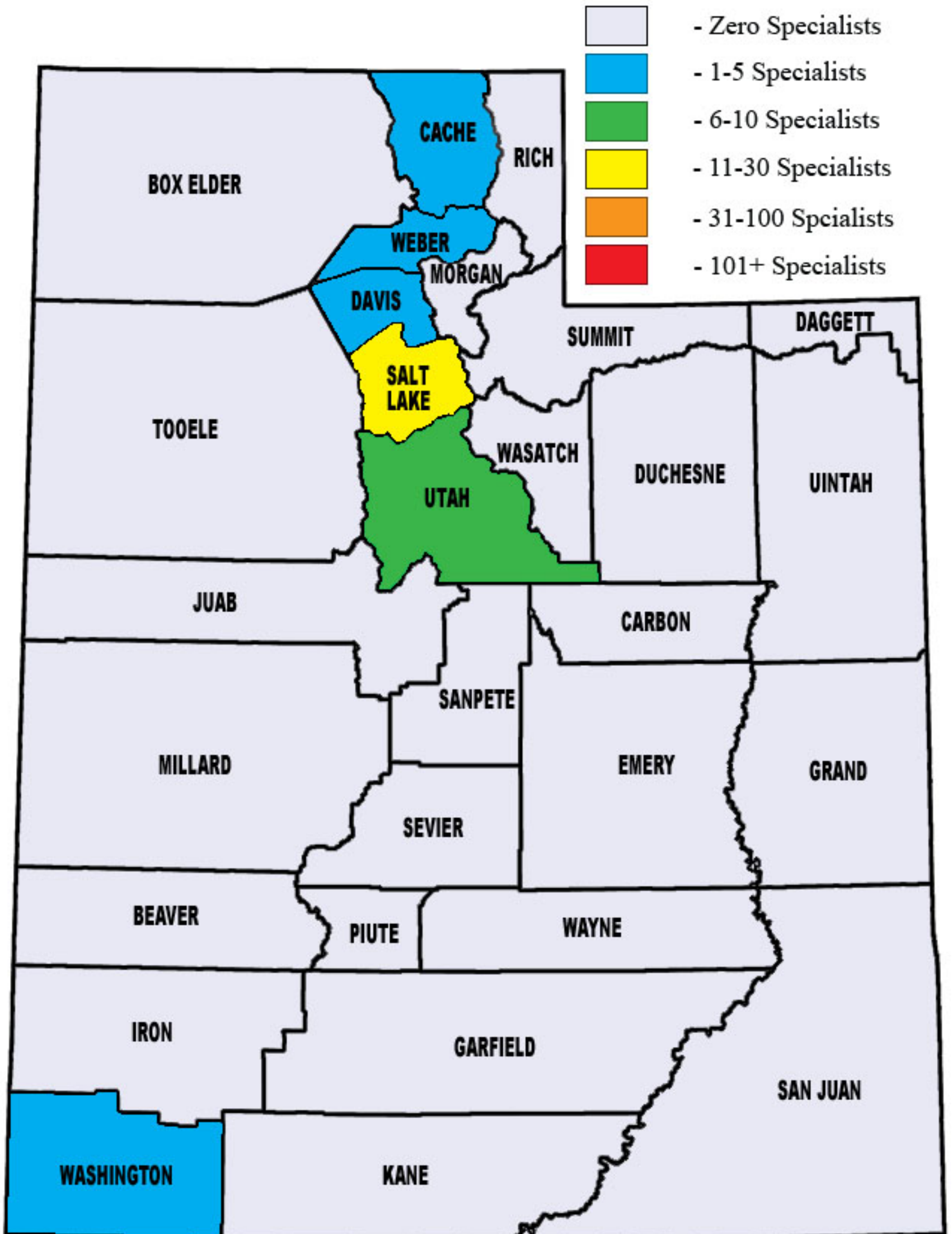




Average Number of Patients Seen Per Week

Out-patients	Office	66
	Urgent Care	1
	ER	2
In-patients	Hospital	6
	Nursing Home	0.15





SPECIALTY PROFILE:**OTHER SPECIALTIES**

Specialty	Number of Physicians
Endocrinology and Metabolism	17
Hospice & Palliative Medicine	7
Internal Medicine: HIV	1
Internal Medicine: Insurance Medicine	1
Internal Medicine: Other	1
Internal Medicine: Pediatrics	20
Internal Medicine: Women's Medicine	1
Nuclear Medicine	4
Surgery: Cardio-Thoracic	11
Surgery: Colon & Rectal	2
Surgery: Hand	6
Surgery: Industrial	1
Surgery: Oculoplastics	1
Surgery: Oncology	1
Surgery: Oral & Maxillofacial	3
Surgery: Orthopedic	1
Surgery: Other	9
Surgery: Pediatric	5
Surgery: Pediatric Orthopedics	1
Surgery: Transplant	1
Surgery: Vascular	8
Surgical: Endoscopy	1
Unspecified	64

APPENDIX E – Utah Healthcare Environment

The size, composition, and distribution of a physician workforce is often the product of the healthcare environment of a particular state. To better understand the 2003 physician workforce data, the UMEC has obtained additional information from external sources on the healthcare environment in Utah. The following section contains data on HMO penetration and Health Professional Shortage Areas (HPSAs) in the state.

State HMO Penetration, 2003		
	United States	23.7%
1	California	48.3%
2	Massachusetts	38.4%
3	Connecticut	38.2%
4	Maryland*	32.2%
5	Pennsylvania	31.7%
6	New Mexico	31.3%
7	New York	30.4%
8	Rhode Island	30.2%
9	Kentucky	29.2%
10	Wisconsin	28.4%
11	District of Columbia	27.9%
12	Colorado	27.2%
13	Michigan	26.7%
14	Minnesota	26.7%
15	Utah	26.6%
16	Florida	25.2%
17	New Jersey	25.2%
18	New Hampshire	23.5%
19	Oregon	22.0%
20	Nevada	20.8%
21	Arizona	19.3%
22	Maine	19.3%
23	Hawaii	18.6%
24	Tennessee	18.6%
25	Ohio	18.0%
26	Virginia*	17.3%
27	Delaware	14.6%
28	Georgia	14.2%
29	Oklahoma	13.3%
30	Washington	13.1%
31	Illinois	12.9%
32	Indiana	12.1%
33	Louisiana	11.8%
34	Texas	11.3%
35	South Dakota	10.8%
36	West Virginia*	9.7%
37	Vermont	9.5%
38	Iowa	9.1%
39	Kansas	8.9%
40	North Carolina	8.9%
41	Nebraska	8.0%
42	Arkansas	7.0%
43	South Carolina	5.8%
44	Montana	5.1%
45	Alabama	3.4%
46	Idaho	2.8%
47	Wyoming	2.1%
48	Mississippi	1.0%
49	North Dakota	0.3%
50	Alaska	0.0%

1. HMO enrollment includes enrollees in both traditional HMOs and Point-of-Service (POS) plans through: group/commercial plans, Medicare, Medicaid, the Federal Employees Health Benefits Program, direct pay plans, supplemental Medicare plans, and unidentified HMO products. State penetration was calculated by InterStudy using state population from the Census Bureau as of July 1, 2003.
*Includes partial enrollment reported for 5 plans serving the District of Columbia.
2. HMO penetration – the percent of a state’s population enrolled in an HMO – varied strikingly across states in 2003, ranging from a low of less than 2% in Alaska (0%), North Dakota (0.3%) and Mississippi (1.0%), to highs of 48.3% in California, 38.4% in Massachusetts and 38.2% in Connecticut. The total U.S. HMO penetration rate was 23.7%.

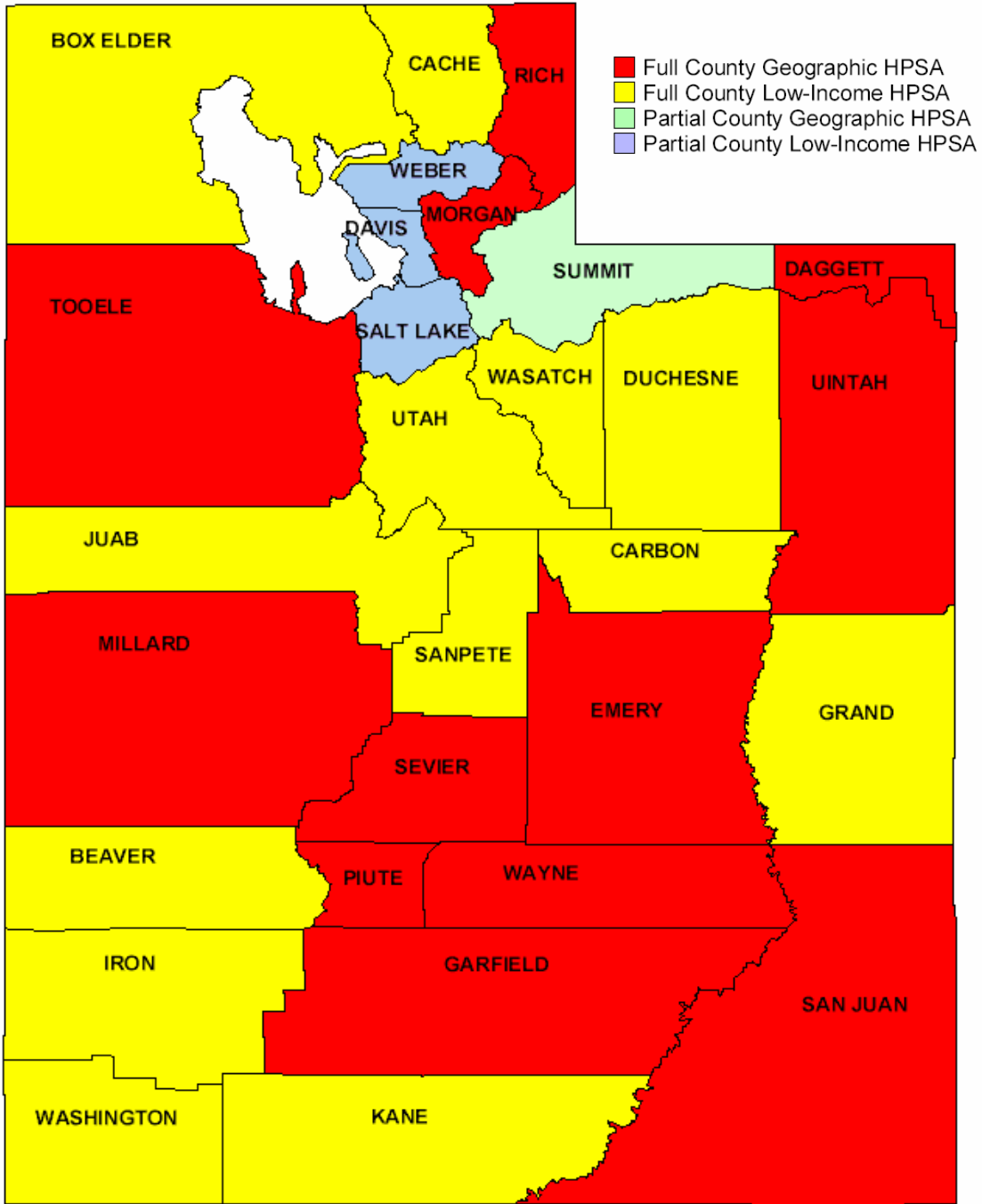
Cited by: Kaiser Family Foundation

Source: InterStudy Publications, The InterStudy Competitive Edge Spring 2004, Part II: HMO Industry Report, April 2004, Table 22, p.46 (state data) and Figure 12, p.47 (total U.S. data), using data as of July 1, 2003.

UTAH PRIMARY CARE HPSAS

By County and Type of HPSA

(MAY 1, 2003)

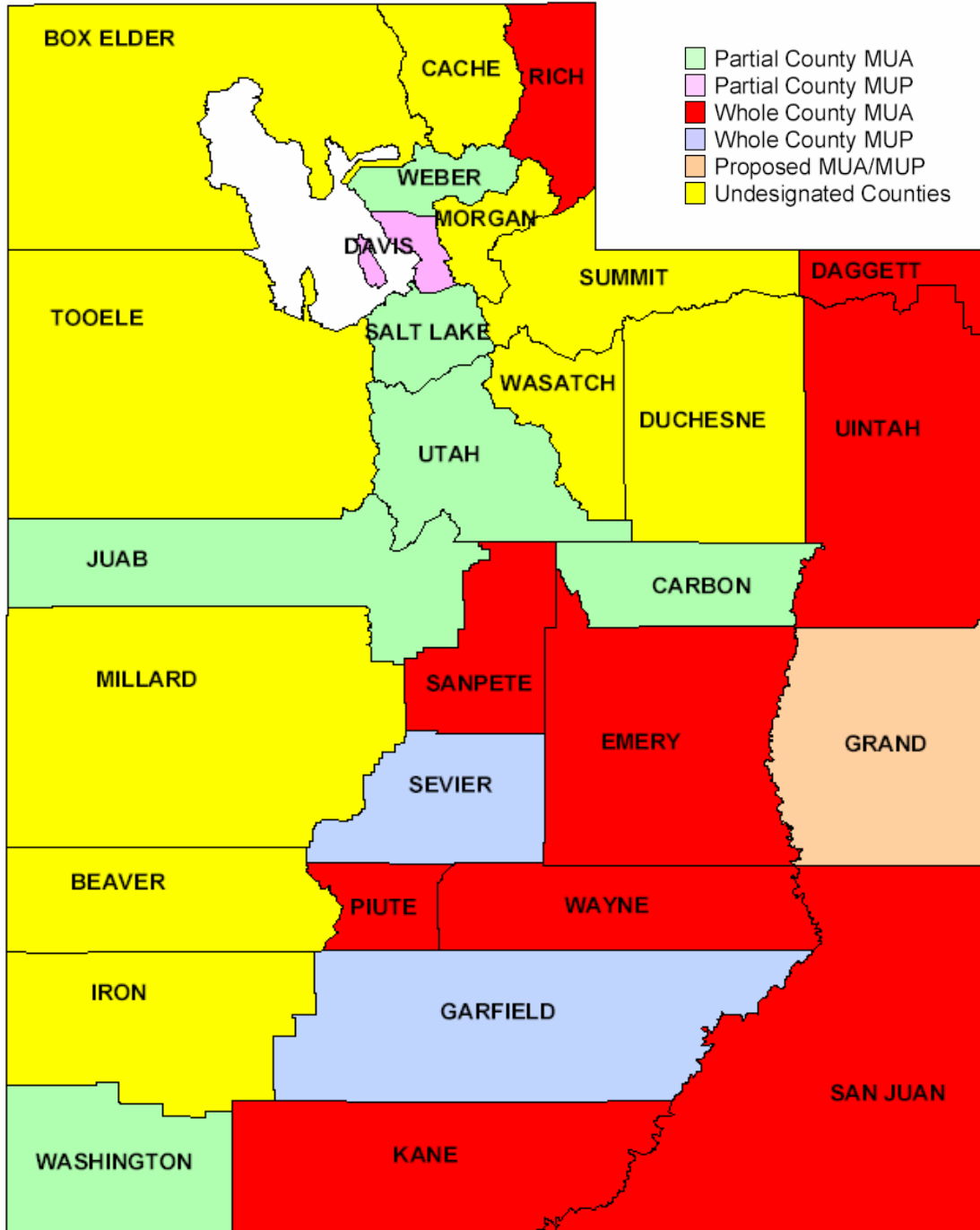


Source: Utah Office of Primary Care and Rural Health

Utah Medically Underserved Areas And Medically Underserved Populations

By County and Type of HPSA

(MAY 1, 2003)



Source: Utah Office of Primary Care and Rural Health

APPENDIX F - References

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